

# OWNER'S MANUAL

XACT PRO 8950

Art. no. 53000245en





Congratulations on your decision to purchase a WP chassis component. You are now the owner of a state-of-the-art sports chassis that you will continue to enjoy for a long time if you maintain it properly.

We wish you good and safe riding at all times!

The Owner's Manual contained the latest information for this model series at the time of going to print. However, minor differences due to further developments in design cannot be ruled out completely.

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This document is valid for the following models:

XACT PRO 8950 (18.15.0U.07)



# TABLE OF CONTENTS

1	MEANS OF REPRESENTATION.....	3	9.2	Compression damping of the shock absorber.....	14
1.1	Symbols used .....	3	9.3	Shock absorber rebound damping.....	14
1.2	Formats used.....	3	9.4	Adjusting the low-speed compression damping of the shock absorber.....	15
2	SAFETY ADVICE .....	4	9.5	Adjusting the high-speed compression damping of the shock absorber.....	15
2.1	Use definition – intended use .....	4	9.6	Adjusting the low-speed rebound damping of the shock absorber.....	16
2.2	Misuse.....	4	9.7	Adjusting the high-speed rebound damping of the shock absorber.....	17
2.3	Safety advice .....	4	9.8	Measuring the dimension of the rear wheel unloaded.....	17
2.4	Degrees of risk and symbols .....	4	9.9	Checking the static sag of the shock absorber.....	18
2.5	Safe operation.....	5	9.10	Checking the riding sag of the shock absorber.....	19
2.6	Work rules.....	5	9.11	Adjusting the spring preload of the shock absorber.....	19
2.7	Environment.....	5	9.12	Adjusting the riding sag 🏍.....	20
2.8	Owner's Manual .....	5	10	TECHNICAL DATA .....	21
2.9	Correct installation.....	6	10.1	Shock absorber .....	21
2.10	Chassis tightening torques .....	6	11	SUBSTANCES.....	22
3	IMPORTANT NOTES.....	7	12	STANDARDS .....	23
3.1	Manufacturer warranty, implied warranty .....	7	13	LIST OF ABBREVIATIONS .....	24
3.2	Fuel, auxiliary substances.....	7	INDEX.....		25
3.3	Spare parts, accessories .....	7			
3.4	Service .....	7			
3.5	Figures .....	7			
3.6	Customer service.....	7			
4	SERIAL NUMBERS.....	8			
4.1	Shock absorber article number .....	8			
5	PREPARING FOR USE.....	9			
5.1	Advice on preparing for first use.....	9			
6	RIDING INSTRUCTIONS .....	10			
6.1	Checks and maintenance measures when preparing for use.....	10			
7	SERVICE SCHEDULE.....	11			
7.1	Additional information.....	11			
7.2	Required work.....	11			
7.3	Recommended work.....	11			
8	SERVICE WORK ON THE CHASSIS .....	12			
8.1	Raising the motorcycle with a lift stand .....	12			
8.2	Removing standard shock absorber 🏍.....	12			
8.3	Installing the WP PRO COMPONENTS shock absorber 🏍.....	12			
8.4	Removing the motorcycle from the lift stand .....	12			
9	TUNING THE CHASSIS.....	14			
9.1	Checking the basic chassis setting with the rider's weight.....	14			

## 1.1 Symbols used

The meaning of specific symbols is described below.



Indicates an expected reaction (e.g. of a work step or a function).



Indicates an unexpected reaction (e.g. of a work step or a function).



All work marked with this symbol requires specialist knowledge and technical understanding. In the interest of your own safety, have these jobs performed by a WP Authorized Center! There your WP chassis will be treated with the optimum care and attention by specially trained experts using the necessary special tools.



Indicates a page reference (more information is provided on the specified page).



Indicates information with more details or tips.



Indicates the result of a testing step.



Indicates the end of an activity, including potential rework.

## 1.2 Formats used

The typographical formats used in this document are explained below.

**Proprietary name**

Indicates a proprietary name.

**Name<sup>®</sup>**

Indicates a protected name.

**Brand<sup>™</sup>**

Indicates a brand available on the open market.

**Underlined terms**

Refer to technical details or indicate technical terms, which are explained in the glossary.

## 2 SAFETY ADVICE

### 2.1 Use definition – intended use

This chassis component is designed and built to withstand the normal stresses and strains of regular racing.



#### Info

Only use this chassis component in closed-off areas remote from public road traffic.  
Only use this chassis component in the vehicle for which the chassis component is approved and/or recommended.

---

### 2.2 Misuse

The chassis component must only be used as intended.

Dangers can arise for people, property and the environment through use not as intended.

Any use of the chassis component beyond the intended and defined use constitutes misuse.

Misuse also includes the use of operating and auxiliary fluids which do not meet the required specification for the respective use.

### 2.3 Safety advice

A number of safety instructions need to be followed to operate the product described safely. Therefore read this instruction and all further instructions included carefully. The safety instructions are highlighted in the text and are referred to at the relevant passages.



#### Info

Various information and warning labels are attached in prominent locations on the product described.  
Do not remove any information or warning labels. If they are missing, you or others may not recognize dangers and may therefore be injured.

---

### 2.4 Degrees of risk and symbols



#### Danger

Identifies a danger that will immediately and invariably lead to fatal or serious permanent injury if the appropriate measures are not taken.



#### Warning

Identifies a danger that is likely to lead to fatal or serious injury if the appropriate measures are not taken.



#### Caution

Identifies a danger that may lead to minor injuries if the appropriate measures are not taken.

#### Note

Identifies a danger that will lead to considerable machine and material damage if the appropriate measures are not taken.

---

## 2.5 Safe operation



### Danger

**Danger of accidents** A rider who is not fit to ride poses a danger to him or herself and others.

- Do not operate the vehicle and use chassis components if you are not fit to ride due to alcohol, drugs or medication.
- Do not operate the vehicle and use chassis components if you are physically or mentally impaired.



### Warning

**Danger of burns** The damper gets very hot when the vehicle is driven.

- Do not touch the damper before it has cooled down.
- Allow the damper to cool down before performing any work.

Only use the chassis component when it is in perfect technical condition, in accordance with its intended use, and in a safe and environmentally compatible manner.

If there are faults, which impair safety, have them immediately remedied in a WP Authorized Center.

Adhere to the information and warning labels on the chassis component.

## 2.6 Work rules

Special tools are necessary for certain tasks. The tools are not a component of the chassis component, but can be ordered using the number in parentheses.

During assembly, use new parts to replace parts which cannot be reused (e.g., seals, seal rings, O-rings).

In the case of certain screws, a thread locker (e.g. **Loctite**<sup>®</sup>) is required. Observe the manufacturer's instructions.

After disassembly, clean the parts that are to be reused and check them for damage and wear. Change damaged or worn parts.

After completing a repair or service work, check the operating safety of the chassis component.

## 2.7 Environment

If you use your chassis component responsibly, you can ensure that problems and conflicts do not occur.

When disposing of used oil, other operating and auxiliary fluids, and used components, comply with the laws and regulations of the respective country.

## 2.8 Owner's Manual

It is important that you read this Owner's Manual carefully and completely before making your first trip. The Owner's Manual contains useful information and many tips on how to operate, handle, and service your motorcycle. This is the only way for you to find out how to set up the chassis component ideally and how to protect yourself from injury.

Keep the Owner's Manual in an accessible place to enable you to refer to it as needed.

If you would like to know more about the chassis component or have questions on the material you read, please contact a WP Authorized Center.

The Owner's Manual is an important part of the chassis component and must be handed over to the new owner if the vehicle is sold.

### 2.9 Correct installation

Correct installation analogously to original components and in accordance with the instructions of the vehicle manufacturer is essential for ensuring maximum safety and functionality. It is therefore strongly recommended that you have the chassis component installed at a WP Authorized Center.

### 2.10 Chassis tightening torques

Unless otherwise stated, the tightening torques that apply are those in the vehicle manufacturer's instructions.



### **3.1 Manufacturer warranty, implied warranty**

The work prescribed in the service schedule must be carried out in a WP Authorized Center only, since otherwise no warranty claims will be recognized. Damage or secondary damage caused by tampering with and/or conversions on the chassis component are not covered by the manufacturer warranty.

### **3.2 Fuel, auxiliary substances**

The fuel and auxiliary substances specified in the Owner's Manual must be used in accordance with the specifications.

### **3.3 Spare parts, accessories**

For your safety, only use spare parts and accessory products that are approved and/or recommended by WP and have them installed in a WP Authorized Center. WP accepts no liability for other products and any resulting damage or loss.

Certain spare parts and accessory products are specified in parentheses in the descriptions. Your WP Authorized Center will be pleased to advise you.

### **3.4 Service**

A prerequisite for perfect operation and prevention of premature wear is that the service, care, and tuning work is properly carried out as described in the Owner's Manual. Incorrect adjustment and tuning of the chassis and suspension can lead to damage and breakage of components.

Use of the chassis component under difficult conditions, such as on sand or on wet and muddy surfaces, can lead to considerably more rapid wear. For this reason, it may be necessary to inspect or replace parts before the next scheduled service.

It is imperative that you adhere to the stipulated service intervals. If you observe these exactly, you will ensure a much longer service life for your chassis component.

### **3.5 Figures**

The figures contained in the manual may depict special equipment.

In the interest of clarity, some components may be shown disassembled or may not be shown at all. It is not always necessary to disassemble the component to perform the activity in question. Please follow the instructions in the text.

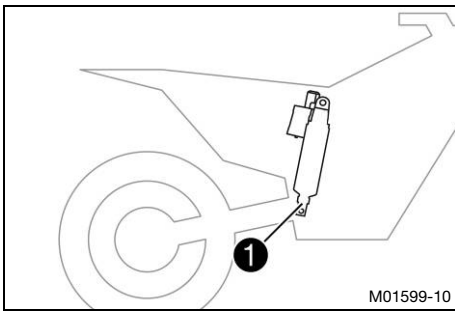
### **3.6 Customer service**

If you have any questions about your chassis component or WP, your WP Authorized Center will be pleased to advise you.

A list of WP Authorized Centers can be found on the WP website.

International WP Suspension website: <http://www.wp-suspension.com>

## 4.1 Shock absorber article number



The shock absorber article number **1** is stamped on the base of the shock absorber.



### Info

The shock absorber article number consists of an eight-figure number with a single letter in the sixth position.

## 5.1 Advice on preparing for first use



### Warning

**Danger of accident** Modifications to the suspension setting may seriously alter the handling characteristic.

Extreme modifications to the suspension setting may cause a serious deterioration in the handling characteristic and overload components.

- Only make adjustments within the recommended range.
- Ride slowly to start with after making adjustments to get the feel of the new handling characteristic.

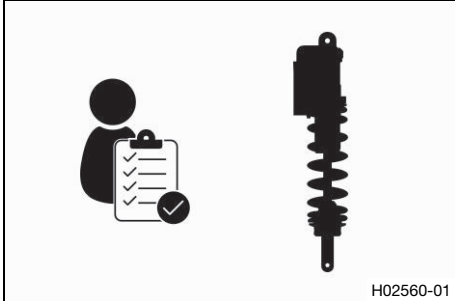
- Adjust the chassis component for yourself before using it for the first time.



## 6.1 Checks and maintenance measures when preparing for use

### **i** Info

Before every use, check the condition of the chassis component and ensure that it is safe to operate. The chassis must be in perfect technical condition when it is being operated.



- Check chassis component for damage.

## 7.1 Additional information

Any further work that results from the required work or from the recommended work must be ordered separately and can be invoiced separately.  
 Different service intervals may apply in your country, depending on the local operating conditions.

## 7.2 Required work

<b>Every 40 operating hours</b>
Service the shock absorber. 🛠️

- Periodic interval

## 7.3 Recommended work

<b>After 20 operating hours</b>
Service the shock absorber. 🛠️

- One-time interval

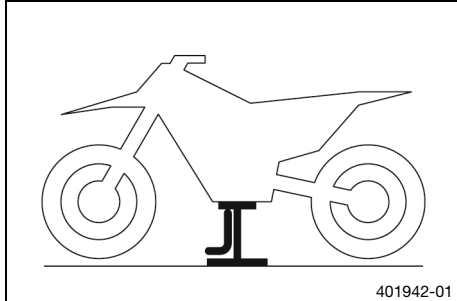
# 8 SERVICE WORK ON THE CHASSIS

## 8.1 Raising the motorcycle with a lift stand

### Note

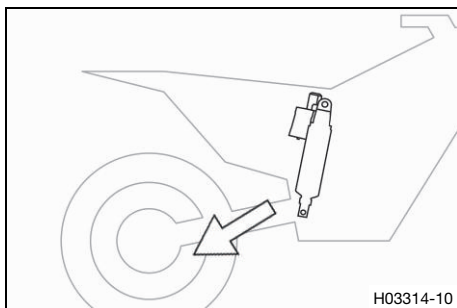
**Danger of damage** The parked vehicle can roll away or fall over.

- Park the vehicle on a firm and level surface.



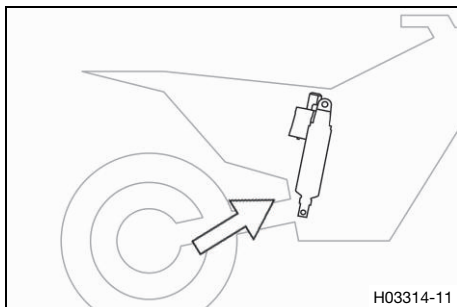
- Raise the motorcycle in accordance with the instructions of the vehicle manufacturer.
  - ✓ Neither wheel is in contact with the ground.
- Secure the motorcycle against falling over.

## 8.2 Removing standard shock absorber ↴



- Remove the standard shock absorber as per the instructions of the vehicle manufacturer.

## 8.3 Installing the WP PRO COMPONENTS shock absorber ↴



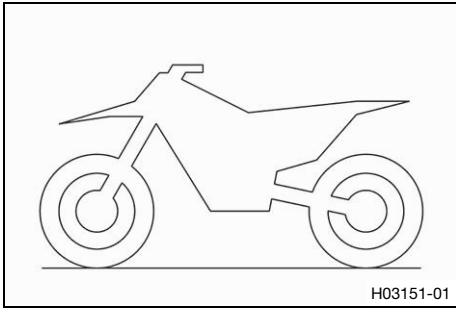
- Install the shock absorber in accordance with the instructions of the vehicle manufacturer.

## 8.4 Removing the motorcycle from the lift stand

### Note

**Danger of damage** The parked vehicle can roll away or fall over.

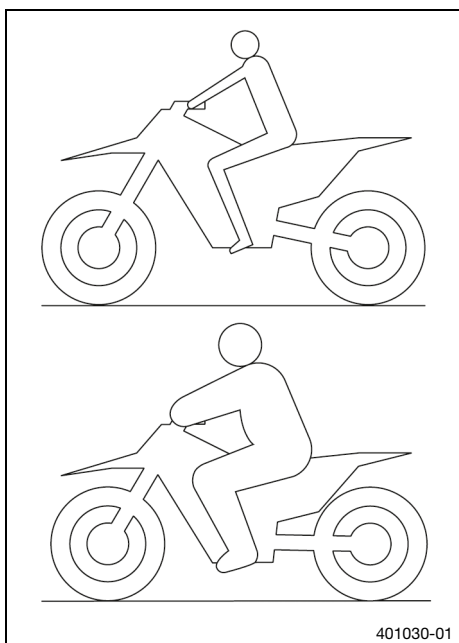
- Park the vehicle on a firm and level surface.



- Remove the motorcycle from the lift stand as per the instructions of the vehicle manufacturer.
- Remove the lift stand.



## 9.1 Checking the basic chassis setting with the rider's weight



401030-01

- For optimal motorcycle riding characteristics and to avoid damage to forks, shock absorbers, link fork and frame, the basic settings of the suspension components must match the rider's weight.
- This chassis component is factory set to a standard rider's weight.

Guideline

Standard rider weight	
TC 125	55 ... 65 kg (121 ... 143 lb.)
TC 250, FC 250/350/450	75 ... 85 kg (165 ... 187 lb.)

- If the rider's weight is above or below this range, the basic setting of the suspension components must be adjusted accordingly.
- Small weight differences can be compensated by adjusting the spring preload, but in the case of large weight differences, the springs must be replaced.

### **i** Info

This product is suitable for several vehicles. Contact a WP Authorized Center for any necessary conversions.

## 9.2 Compression damping of the shock absorber

The compression damping of the shock absorber is divided into two ranges: high-speed and low-speed. High-speed and low-speed refer to the compression speed of the rear wheel suspension and not to the vehicle speed.

The high-speed compression adjuster has an effect, for example, when landing after a jump: the rear wheel suspension compresses quickly.

The low-speed compression adjuster has an effect, for example, when riding over long ground swells: the rear wheel suspension compresses slowly.

These two ranges can be adjusted separately, although the transition between high-speed and low-speed is gradual. Thus, modifications in the high-speed range affect the compression damping in the low-speed range and vice versa.

## 9.3 Shock absorber rebound damping

The rebound damping of the shock absorber is divided into two ranges: high-speed and low-speed. High-speed and low-speed refer to the rebound suspension speed of the rear wheel and not to the vehicle speed.

The high-speed compression adjuster has an effect, for example, on the rebound of the rear wheel after a jump and on the traction: the rear wheel rebounds quickly.

The low-speed compression adjuster affects the overall vehicle balance.

These two ranges can be adjusted separately, although the transition between high-speed and low-speed is gradual. Consequently, modifications in the high-speed range affect the rebound in the low-speed range and vice versa.



## 9.4 Adjusting the low-speed compression damping of the shock absorber



### Caution

**Risk of injury** Parts of the shock absorber will move around if the shock absorber is detached incorrectly.

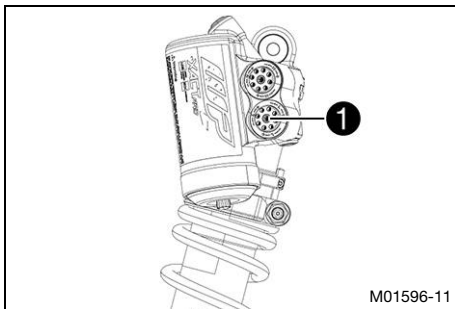
The shock absorber is filled with highly compressed nitrogen.

- Please follow the description provided. (Your WP Authorized Center will be pleased to assist you.)



### Info

The effect of the low-speed compression adjuster can be seen in slow to normal compression of the shock absorber.



- Turn adjusting screw ① clockwise with a hexagon socket wrench up to the last perceptible click.



### Info

The low-speed adjuster is the lower adjuster L.

- Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

#### Guideline

Low-speed compression damping	
TC 125	12 clicks
TC 250, FC 250/350/450	15 clicks



### Info

Turn clockwise to increase damping; turn counterclockwise to reduce damping during slow to normal compression.

This product is suitable for several vehicles.

Contact a WP Authorized Center for any necessary conversions.



## 9.5 Adjusting the high-speed compression damping of the shock absorber



### Caution

**Risk of injury** Parts of the shock absorber will move around if the shock absorber is detached incorrectly.

The shock absorber is filled with highly compressed nitrogen.

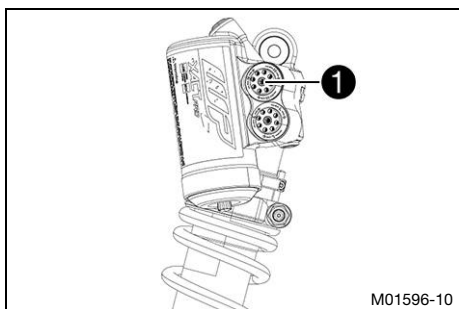
- Please follow the description provided. (Your WP Authorized Center will be pleased to assist you.)



### Info

The effect of the high-speed compression adjuster can be seen in fast compression of the shock absorber.

# 9 TUNING THE CHASSIS



- Turn adjusting screw **1** clockwise with a hexagon socket wrench up to the last perceptible click.

**i Info**  
The high-speed adjuster is upper adjuster **H**.

- Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

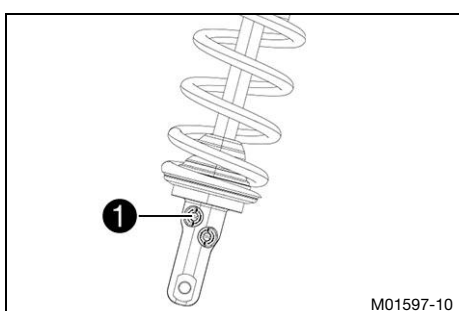
**Guideline**

High-speed compression damping	
TC 125	30 clicks
TC 250, FC 250	40 clicks
FC 350/450	32 clicks

**i Info**  
Turn clockwise to increase damping; turn counterclockwise to reduce damping during fast compression.  
This product is suitable for several vehicles.  
Contact a WP Authorized Center for any necessary conversions.

## 9.6 Adjusting the low-speed rebound damping of the shock absorber

**⚠ Caution**  
**Risk of injury** Parts of the shock absorber will move around if the shock absorber is detached incorrectly.  
The shock absorber is filled with highly compressed nitrogen.  
- Please follow the description provided. (Your WP Authorized Center will be pleased to assist you.)



- Turn adjusting screw **1** clockwise up to the last perceptible click.

**i Info**  
The low-speed adjuster is adjuster **REB**.

- Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

**Guideline**

Low-speed rebound damping	
TC 125/250, FC 250/350	20 clicks
FC 450	18 clicks



### Info

Turn clockwise to increase the damping; turn counterclockwise to reduce the damping at a slow rebound speed.

This product is suitable for several vehicles. Contact a WP Authorized Center for any necessary conversions.



## 9.7 Adjusting the high-speed rebound damping of the shock absorber

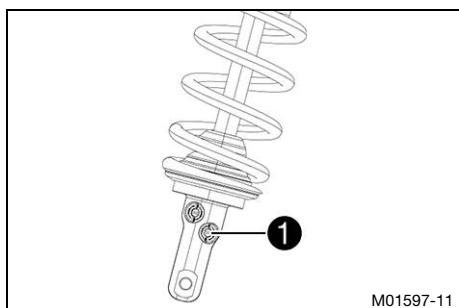


### Caution

**Risk of injury** Parts of the shock absorber will move around if the shock absorber is detached incorrectly.

The shock absorber is filled with highly compressed nitrogen.

- Please follow the description provided. (Your WP Authorized Center will be pleased to assist you.)



- Turn adjusting screw ❶ clockwise up to the last perceptible click.



### Info

The high-speed adjuster is adjuster **TXN**.

- Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

#### Guideline

High-speed rebound damping	40 clicks
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### Info

Turn clockwise to increase the damping; turn counterclockwise to reduce the damping at a fast rebound speed.

This product is suitable for several vehicles. Contact a WP Authorized Center for any necessary conversions.

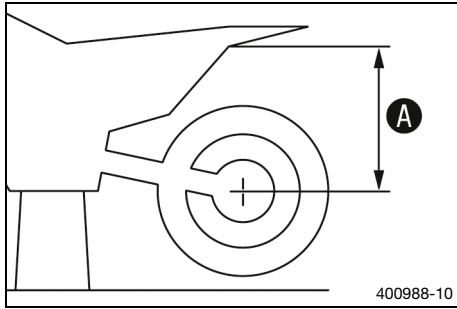


## 9.8 Measuring the dimension of the rear wheel unloaded

### Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 12)

## 9 TUNING THE CHASSIS



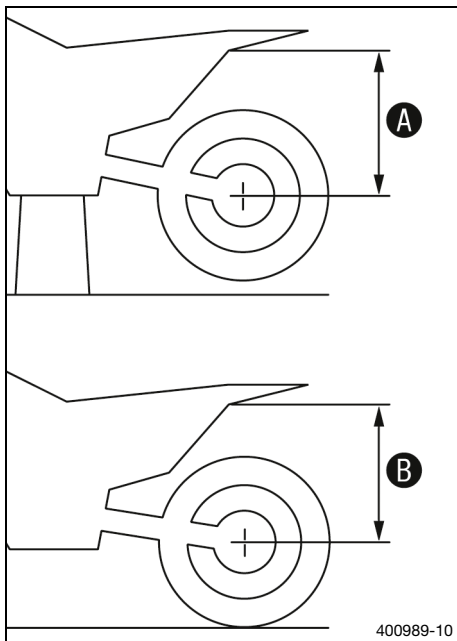
### Main work

- Measure the vertical distance between the rear axle and a fixed point such as a marking on the side cover.
- Note the value as dimension **A**.

### Finishing work

- Remove the motorcycle from the lift stand. (📖 p. 12)

### 9.9 Checking the static sag of the shock absorber



- Measure dimension **A** of rear wheel unloaded. (📖 p. 17)
- Hold the motorcycle upright with aid of an assistant.
- Measure the distance between rear axle and fixed point again.
- Note the value as dimension **B**.



#### Info

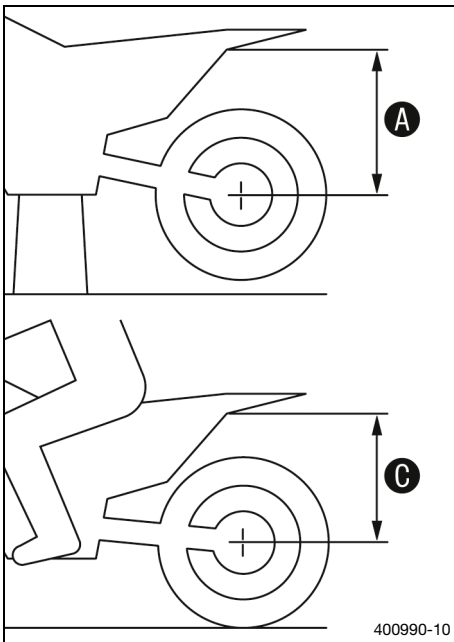
The static sag is the difference between measurements **A** and **B**.

- Check the static sag.

Static sag	38 mm (1.5 in)
------------	----------------

- » If the static sag is less or more than the specified value:
  - Adjust the spring preload of the shock absorber. (📖 p. 19)

## 9.10 Checking the riding sag of the shock absorber



- Measure dimension **A** of rear wheel unloaded. (📖 p. 17)
- With another person holding the motorcycle, the rider, wearing full protective clothing, sits on the seat in a normal sitting position (feet on footrests) and bounces up and down a few times.
  - ✓ The rear wheel suspension levels out.
- Another person now measures the distance between the rear axle and the fixed point.
- Note the value as dimension **C**.



### Info

The riding sag is the difference between measurements **A** and **C**.

- Check riding sag.

Riding sag	105 mm (4.13 in)
------------	------------------

- » If the riding sag differs from the specified measurement:
  - Adjust the riding sag. (📖 p. 20)

## 9.11 Adjusting the spring preload of the shock absorber

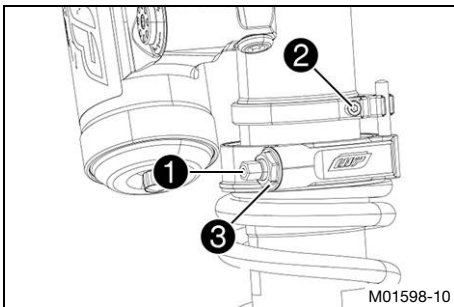


### Caution

**Risk of injury** Parts of the shock absorber will move around if the shock absorber is detached incorrectly.

The shock absorber is filled with highly compressed nitrogen.

- Please follow the description provided. (Your WP Authorized Center will be pleased to assist you.)



- Measure the full spring length while it is under tension and note down the value.
- Measure the total spring length while the spring is not under tension.



### Info

For this step, the spring needs to be removed.

- Tighten the spring to the specified dimension by turning screw **1**.

Guideline

Do not loosen screw <b>2</b> and fitting <b>3</b> .	
Spring preload	
TC 125/250	8 mm (0.31 in)
FC 250/350/450	6 mm (0.24 in)

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**i** **Info**

The spring preload is the difference between the relaxed spring length and the tensioned spring length. Depending on the static sag and/or the riding sag, it may be necessary to increase or decrease the spring preload.

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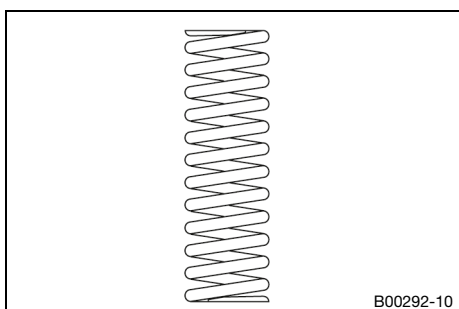
## 9.12 Adjusting the riding sag ↗

**Preparatory work**

- Remove the shock absorber. ↗ (📖 p. 12)
- After removing the shock absorber, clean it thoroughly.

**Main work**

- Choose and mount a suitable spring.



---

**i** **Info**

The spring rate is shown on the outside of the spring. Smaller weight differences can be compensated by changing the spring preload. Suitable springs are available from a WP Authorized Center.

---

**Finishing work**

- Install the shock absorber. ↗ (📖 p. 12)
  - Check the static sag of the shock absorber. (📖 p. 18)
  - Check the riding sag of the shock absorber. (📖 p. 19)
  - Adjust the low-speed rebound damping of the shock absorber. (📖 p. 16)
  - Adjust the high-speed rebound damping of the shock absorber. (📖 p. 17)
-

**10.1 Shock absorber**

Shock absorber article number	18.15.0U.07
Shock absorber	XACT PRO 8950
Low-speed compression damping	
TC 125	12 clicks
TC 250, FC 250/350/450	15 clicks
High-speed compression damping	
TC 125	30 clicks
TC 250, FC 250	40 clicks
FC 350/450	32 clicks
Low-speed rebound damping	
TC 125/250, FC 250/350	20 clicks
FC 450	18 clicks
High-speed rebound damping	40 clicks
Spring preload	
TC 125/250	8 mm (0.31 in)
FC 250/350/450	6 mm (0.24 in)
Gas pressure	
FC 350	10 bar (145 psi)
Static sag	38 mm (1.5 in)
Riding sag	105 mm (4.13 in)
Fitted length	477 mm (18.78 in)
Shock absorber fluid (📖 p. 22)	SAE 2.5

## Shock absorber fluid (SAE 2.5) (50180751S1)

### Standard/classification

- SAE (📖 p. 23) (SAE 2.5)

### Guideline

- Use only oils that comply with the specified standards (see specifications on the container) and that exhibit the corresponding properties.



**SAE**

The SAE viscosity classes were defined by the Society of Automotive Engineers and are used for classifying oils according to their viscosity. The viscosity describes only one property of oil and says nothing about quality.

## 13 LIST OF ABBREVIATIONS

Art. no.	Article number
ca.	circa
cf.	compare
e.g.	for example
etc.	et cetera
i.a.	inter alia
no.	number
poss.	possibly

<b>A</b>	
Accessories	7
Auxiliary substances	7
<b>B</b>	
<b>Basic chassis setting</b>	
rider's weight, checking with	14
<b>C</b>	
Correct installation	6
Customer service	7
<b>E</b>	
Environment	5
<b>F</b>	
Figures	7
Fuel, oils, etc.	7
<b>I</b>	
Implied warranty	7
Intended use	4
<b>M</b>	
Manufacturer warranty	7
Misuse	4
<b>Motorcycle</b>	
lift stand, raising with	12
lift stand, removing from	12
<b>O</b>	
Owner's Manual	5
<b>P</b>	
<b>Preparing for use</b>	
advice on preparing for first use	9
checks and maintenance measures when preparing for use	10
<b>R</b>	
<b>Riding sag</b>	
adjusting	20
<b>S</b>	
Safe operation	5
Service	7
Service schedule	11
<b>Shock absorber</b>	
article number	8
high-speed compression damping, adjusting	15
high-speed rebound damping, adjusting	17
installing the WP PRO COMPONENTS version	12
low-speed compression damping, adjusting	15
low-speed rebound damping, adjusting	16
riding sag, checking	19
spring preload, adjusting	19
standard version, removing	12
static sag, checking	18
Spare parts	7
<b>T</b>	
<b>Technical data</b>	
chassis tightening torques	6
shock absorber	21
<b>U</b>	
Use definition	4
<b>W</b>	
Work rules	5



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06/2020