Owner's manual

A719C423Y413200

Item no.: 53000373en

WP SUSPENSION

Dear WP customer,

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 hope you enjoy your bike and have a safe journey 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.
All specifications are non-binding. WP Suspension GmbH specifically reserves the right to modify or delete technical specifications, prices, colors, forms, materials, services, designs, equipment, etc., without prior notice and without providing reasons, to adapt these to local conditions, as well as to stop the production of a particular model without prior notice. WP accepts no liability for delivery options, deviations from figures and descriptions, misprints, and other errors. The models portrayed partly contain special equipment that does not belong to the regular scope of supply.

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This document is valid for:

1390 Super Duke RR Track (A719C423Y413200)

53000373en

15/07/2026

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1.1 Conventions

1.1.1 Icons

✓ Indicates a desired result (e.g. of a work step or a function).

✗ Indicates an undesired result (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.

Indicates information with more details.

Indicates a tip, e.g. to simplify work.

» Indicates the result from a test step.

◀ Indicates the end of an activity, including any rework.

1.1.2 Formatting

Proprietary name	Indicates a proprietary name.
Name ®	Indicates a protected name.
Brand ™	Indicates a brand available on the open market.
Underlined terms	Refer to technical details of the vehicle or indicate technical terms that are explained in the glossary.

1.1.3 Abbreviations

2-pc.	two-part
Part no.	Part number
or	respectively
approx.	circa
etc.	et cetera
poss.	possibly/possible
if necessary	if necessary
cmpl.	complete
min.	at least
no.	number
no fig.	no figure
s.	see
among others	among others/not limited to
and the like	and the like
etc.	et cetera
cf.	compare
e.g.	for example

2.1 Safety instructions

Function of the safety instruction

Safety instruction brings attention to dangers when handling the product. Hazards are classified, named, described, and supplemented with information on how to avoid them.

- If there is a safety instruction before a list of instructions, the danger exists throughout the entire activity.
- If there is a safety instruction immediately before an instruction, the next step presents a danger.

Safety instruction layout

All safety instructions are identified by a signal word and a warning symbol. The combination of signal word and warning symbol determines the degree of danger.

DANGER
Indicates an imminent danger that leads to serious injury or death.

WARNING
Indicates a potentially imminent danger that could lead to serious injury or death.

CAUTION
Indicates a potentially imminent danger that can lead to minor or slight injuries.

NOTE
Indicates a situation that can lead to damage to the product or the product environment.

NOTE
Indicates a situation that can lead to environmental damage.

2.2 Use definition – intended use

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

Note
Only use this chassis component in closed-off areas remote from public road traffic.
Your WP Authorized Center can inform you whether a factory approval for use on public roads may have been issued for your chassis components.
Only use this chassis component in the vehicle for which the chassis component is approved and/or recommended.

2.3 Improper use

The chassis component must only be used as intended.
Improper use can result in danger to people, property and the environment.
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.

2.4 Safe use

DANGER

Danger of accidents A rider who is not fit to ride poses a danger to themself and to others.

– Do not operate the vehicle if you are not fit to ride due to alcohol, drugs, or medication.
– Do not operate the vehicle if you are physically or mentally incapable of doing so.

WARNING

Danger of burns The damper gets 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.

2.5 Work rules

Special tools are required for some work. 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®**) is required. Observe the manufacturer's specific instructions for use.

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

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

2.6 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.

2.7 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 vehicle. 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.

2.8 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.

2.9 Chassis tightening torques

Unless otherwise stated, the tightening torques specified in the operating and repair manual apply for the vehicle.

3.1 Manufacturer's 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 Auxiliary material, operating material

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. An incorrect suspension setting can lead to damage and breakage of chassis components.

Use of the vehicle under difficult conditions, such as dusty environments, heavy rain, high heat or with a heavy load, can lead to increased wear of components such as the air filter, powertrain, brake systems, or suspension components. For this reason, it may be necessary to inspect or replace components before the next scheduled service interval.

The prescribed running-in times and service intervals must be observed, otherwise the long-term durability of the vehicle will be severely impaired.

The relevant mileage or time interval is whichever occurs first.

3.5 Figures

Some figures in the manual contain optional extras.

For 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: https://www.wp-suspension.com

4 Serial number

4.1 Shock absorber part number

Shock absorber article number ❶ is located on the top part.

5.1 Notes on preparing for first use

WARNING

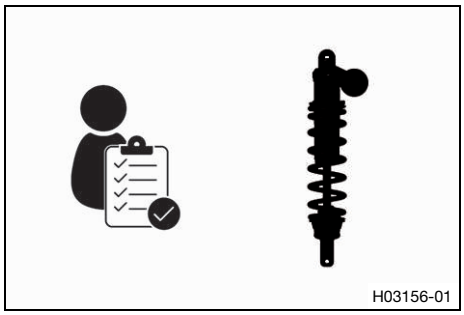
Danger of accidents Modifications to the suspension settings that are not properly coordinated can impair the handling and overload components.

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

– Adjust the high-speed compression damping of the shock absorber. (p. 17)
– Adjust the low-speed compression damping of the shock absorber. (p. 16)
– Adjust the rebound damping of the shock absorber. (p. 18)
– Adjust the preload for the shock absorber. (p. 20)
– Adjust the length of the shock absorber. (p. 21)

6.1 checks and maintenance measures when preparing for use

Note
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 Service schedule

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

	every 20,000 km (12,427.4 mi)	
	after 5,000 km (3,106.9 mi)	
Service the shock absorber.		•
Service the shock absorber.	○	

○ One-time interval
• Periodic interval

8.1 Raising the motorcycle with work stand

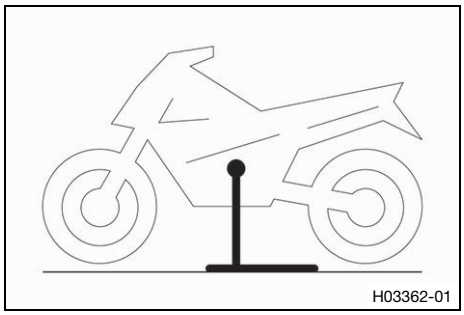
NOTE

Material damage The vehicle may be damaged if parked incorrectly.

Damage can occur if the vehicle rolls away or falls over.

The components for parking the vehicle are designed only for the weight of the vehicle.

– Park the vehicle on a firm and level surface.
– Make sure that nobody sits on the vehicle when it is parked on a stand.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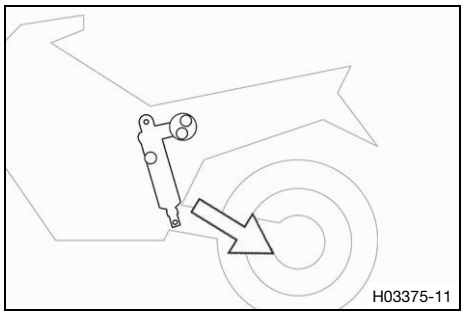
– Lift up the motorcycle according to the repair manual.
  ✓ Neither wheel is in contact with the ground.
– Secure the motorcycle against falling over.

8.2 Removing standard shock absorber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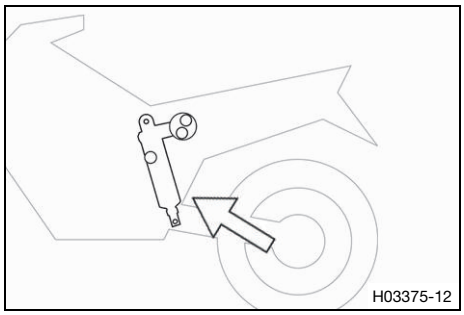
– Remove the standard shock absorber according to the repair manual.

8.3 Installing the WP PRO COMPONENTS shock absorber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– As described in the WP repair manual, the shock absorber must first be converted to fit the Duke.

Note

Improper conversion can result in damage to the vehicle and shock absorber.

– Install the shock absorber according to the repair manual.

8.4 Removing the motorcycle from the work stand

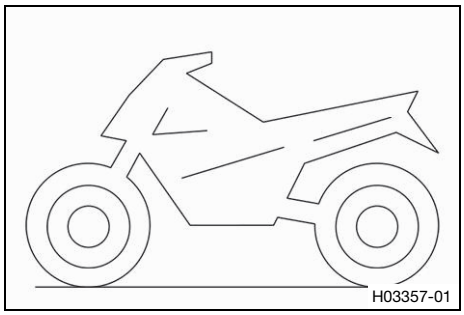
NOTE

Material damage The vehicle may be damaged if parked incorrectly.

Damage can occur if the vehicle rolls away or falls over.

The components for parking the vehicle are designed only for the weight of the vehicle.

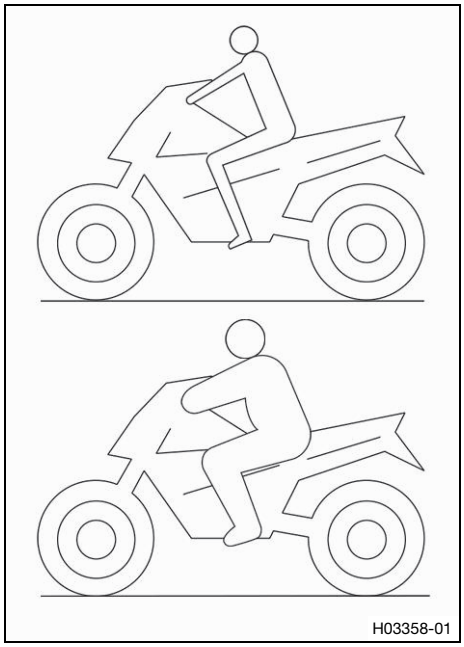
– Park the vehicle on a firm and level surface.
– Make sure that nobody sits on the vehicle when it is parked on a stand.



– Remove the motorcycle from the work stand according to the repair manual.
– Remove the work stand.

9 Tuning the chassis

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



– For optimal motorcycle riding characteristics and to avoid damage to forks, shock absorbers, swingarm, 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.

Standard rider weight	75 kg … 85 kg (165.3 lb … 187.4 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 for by adjusting the preload, but in the case of large weight differences, the springs must be replaced.

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, for example, has an effect when riding over an asphalt edge: the rear wheel suspension compresses quickly.

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

These two ranges can be adjusted separately, although the transition between high-speed and low-speed is floating. As a result, changes in the high-speed range affect the compression damping in the low-speed range and vice versa.

9.3 Adjusting the low-speed compression damping of the shock absorber

CAUTION

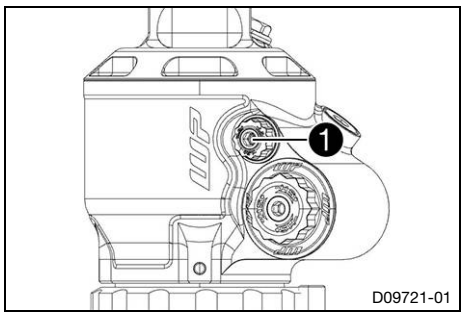
Risk of injury Parts of the shock absorber will move erratically if the shock absorber is detached incorrectly.

The shock absorber is filled with highly compressed nitrogen.

– Please follow the description provided.

Note

The low-speed compression adjuster takes effect during slow to normal compression of the shock absorber.



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

Note
The low-speed adjuster is adjuster **LS**.

– Turn adjusting screw 1 counterclockwise.

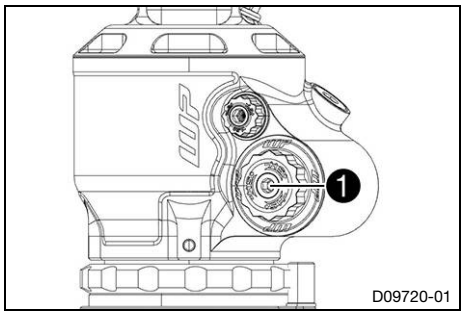
High-speed compression damping	
Rain	12 turns (4,320°)
Standard	6 turns (2,160°)
Pro rider	3 turns (1,080°)

Note
Turn clockwise to increase the damping; turn counterclockwise to reduce the damping.

9.4 Adjusting the high-speed compression damping of the shock absorber

CAUTION
Risk of injury Parts of the shock absorber will move erratically if the shock absorber is detached incorrectly.
The shock absorber is filled with highly compressed nitrogen.
– Please follow the description provided.

Note
The high-speed compression adjuster takes effect during fast compression of the shock absorber.



– Turn adjusting screw 1 clockwise as far as it will go.

Note
The high-speed adjuster is adjuster **HS**.

– Turn adjusting screw 1 counterclockwise.

High-speed compression damping	
Rain	12 turns (4,320°)
Standard	6 turns (2,160°)
Pro rider	3 turns (1,080°)

Note
Turn clockwise to increase the damping; turn counterclockwise to reduce the damping.

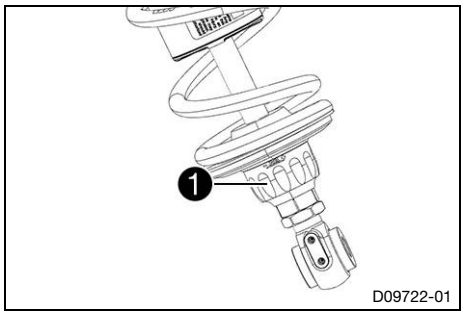
9.5 Adjusting the rebound damping of the shock absorber

CAUTION

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

The shock absorber is filled with highly compressed nitrogen.

– Please follow the description provided.



– Turn rebound adjuster ❶ clockwise up to the last perceptible click.

Note

The rebound adjuster **RB** ❶ is located at the foot of the shock absorber.

– Turn rebound adjuster ❶ counterclockwise.

Rebound damping	
Rain	21 clicks
Standard	18 clicks
Pro rider	15 clicks

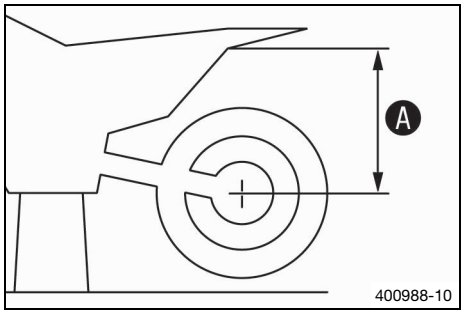
Note

Turn clockwise to increase the damping; turn counterclockwise to reduce the damping.

9.6 Measuring the dimension of the unloaded rear wheel

Preparatory work

– Raise motorcycle with work stand. (p. 14)



Main work

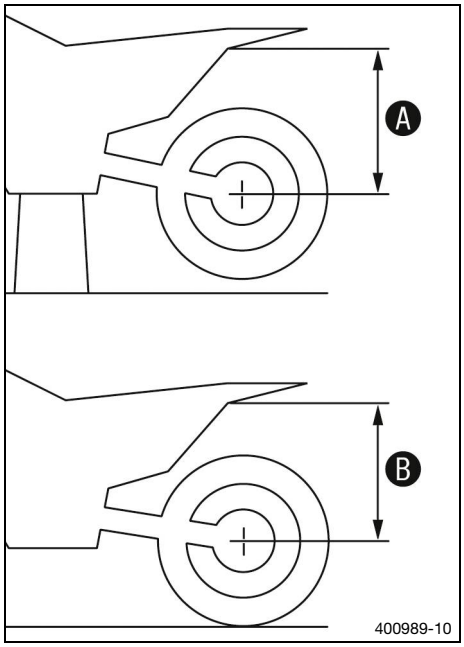
– Measure the vertical distance between the rear axle and a fixed point such as a marking on the side cover.

– Note the value as dimension Ⓐ.

Reworking

– Remove the motorcycle from the work stand. (p. 15)

9.7 Checking the static sag of the shock absorber



– Measure dimension Ⓐ of rear wheel unloaded. (p. 18)
– Hold the motorcycle upright with aid of an assistant.
– Measure the distance between rear axle and fixed point again.
– Note the value as dimension Ⓑ.

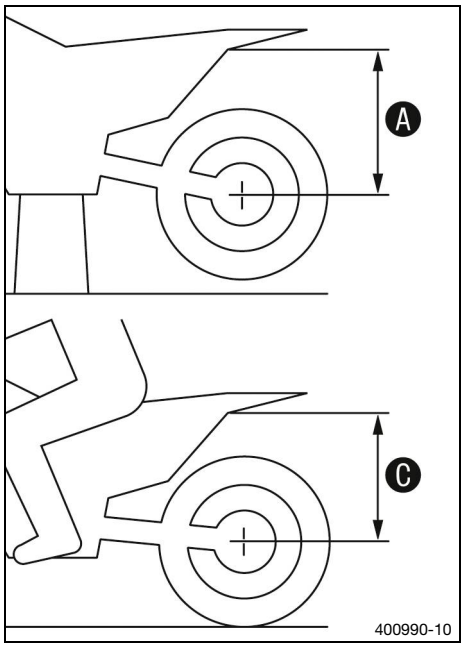
Note
The static sag is the difference between measurements Ⓐ and Ⓑ.

– Check the static sag.

Static sag	12 mm (0.47 in)

» If the static sag is more or less than the specified value:
– Adjust the preload for the shock absorber. (p. 20)

9.8 Checking the rider sag of the shock absorber



– Measure dimension Ⓐ of rear wheel unloaded. (p. 18)
– With another person holding the motorcycle, the rider, wearing full protective clothing, sits on the seat in a normal seating position (feet on footpegs) 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 Ⓒ.

Note
The rider sag is the difference between measurements Ⓐ and Ⓒ.

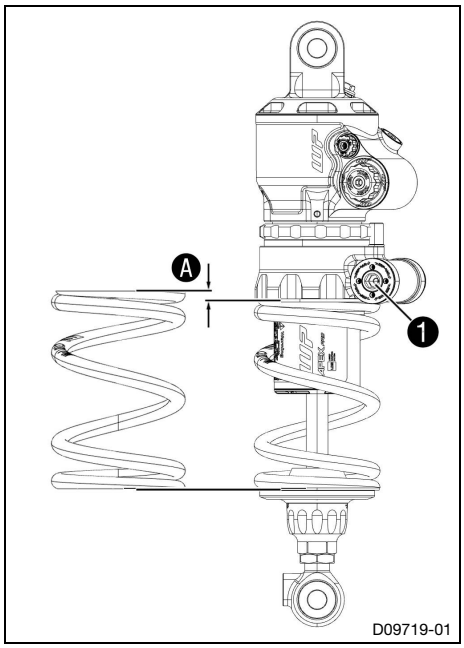
– Check the riding sag.

Riding sag	35 mm (1.38 in)

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

9.9 Adjusting the preload for the shock absorber

CAUTION
Risk of injury Parts of the shock absorber will move erratically if the shock absorber is detached incorrectly.
The shock absorber is filled with highly compressed nitrogen.
– Please follow the description provided.



Preparatory work
– Raise motorcycle with work stand. (p. 14)

Main work
– Turn screw ❶ on **Preload Adjuster** counterclockwise as far as it will go.
– In order to adjust preload Ⓐ, turn screw ❶ clockwise.

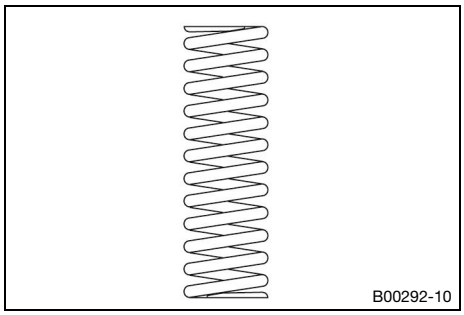
Preload	
Rain	12 mm (0.47 in)
Standard	14 mm (0.55 in)
Pro rider	14 mm (0.55 in)

Note
One turn of the screw is equivalent to 0.5 mm (0.02 in) of the preload.

Reworking
– Remove the motorcycle from the work stand. (p. 15)

9.10 Adjusting the rider sag

Preparatory work
– Remove the shock absorber. (p. 14)
– After removing the shock absorber, clean it thoroughly.



Main work

– Select and mount a suitable spring.

Spring rate	
Weight of rider: 65 kg … 75 kg (143.3 lb … 165.3 lb)	82 N/mm (468.2 lb_f/in)
Weight of rider: 75 kg … 85 kg (165.3 lb … 187.4 lb)	86 N/mm (491.1 lb_f/in)
Weight of rider: 85 kg … 95 kg (187.4 lb … 209.4 lb)	92 N/mm (525.3 lb_f/in)

Note

The spring rate is shown on the outside of the spring.

Smaller weight differences can be compensated by changing the spring preload.

Reworking

– Install the shock absorber. (p. 14)
– Check the static sag of the shock absorber. (p. 19)
– Check the rider sag of the shock absorber. (p. 19)
– Adjust the rebound damping of the shock absorber. (p. 18)

9.11 Adjusting the length of the shock absorber

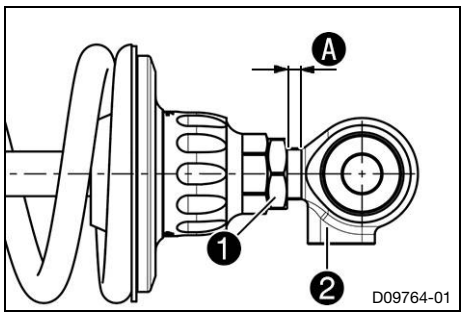
CAUTION

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

The shock absorber is filled with highly compressed nitrogen.

– Please follow the description provided.

Condition: Shock absorber is removed



– Loosen nut 1.

CAUTION

Danger of accidents The shock absorber can come loose from the support if it is not adjusted correctly.

– Only make the adjustment within the described range.

– In order to adjust the length, turn support 2.

Make the adjustment in small steps.

Condition

\+ Data recorder is mounted.

Set the recording in whole revolutions only.

Note
One turn of the support is equivalent to 1 mm (0.04 in) of length adjusted.

– The following values are possible for Ⓐ, based on the original installation length.

Length setting range	−4.5 mm … 5.5 mm (−0.177 in … 0.217 in)
Installation position	360 mm (14.17 in)

Note
Shock absorber may only be shortened in conjunction with standard exhaust system. Otherwise, a collision may occur.

The shock absorber may only be extended by 2 mm in conjunction with the standard bell crank.

– Tighten nut ❶.

Lock nut	
M16×1	25 Nm (18.4 ft·lb$_f$)

The support must be precisely aligned with the upper fitting of the shock absorber, otherwise the shock absorber will become wedged when it is installed.

10.1 Shock absorber

10.1.1 Technical data for the shock absorber

Shock absorber part number	A719C423Y413200

Shock absorber	**WP suspension**
Low-speed compression damping	
Rain	12 clicks
Standard	6 clicks
Pro rider	3 clicks
High-speed compression damping	
Rain	12 turns (4,320°)
Standard	6 turns (2,160°)
Pro rider	3 turns (1,080°)
Rebound damping	
Rain	21 clicks
Standard	18 clicks
Pro rider	15 clicks
Preload	
Rain	12 mm (0.47 in)
Standard	14 mm (0.55 in)
Pro rider	14 mm (0.55 in)
Spring rate	
Weight of rider: 65 kg … 75 kg (143.3 lb … 165.3 lb)	82 N/mm (468.2 lb_f/in)
Weight of rider: 75 kg … 85 kg (165.3 lb … 187.4 lb)	86 N/mm (491.1 lb_f/in)
Weight of rider: 85 kg … 95 kg (187.4 lb … 209.4 lb)	92 N/mm (525.3 lb_f/in)
Spring length	130 mm (5.12 in)
Gas assisted	10 bar (145 psi)
Static sag	12 mm (0.47 in)
Riding sag	35 mm (1.38 in)
Installation position	360 mm (14.17 in)

Shock absorber oil	
Shock absorber oil (50180751S1) (SAE 2.5) 📖 (p. 25)	Fill to the maximum mark

10.1.2 shock absorber tightening torques

Lock nut M16×1	25 Nm (18.4 ft·lb$_f$)

A Operating supplies

Shock absorber oil

Order details

- 50180751S1

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