

OWNER'S MANUAL

APEX PRO 7746 KTM 890 DUKE R

Art. no. 53000255en



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:
APEX PRO 7746 KTM 890 DUKE R (15.18.0T.91)



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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[®]

Indicates a protected name.

Brand[™]

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. 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.

2.2 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**[®]) 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 in the same way as for the original components and in accordance with the repair manual of the vehicle 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 specified in the operating and repair manual apply for the vehicle.

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

Use of the chassis component under difficult conditions, such on wet 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.

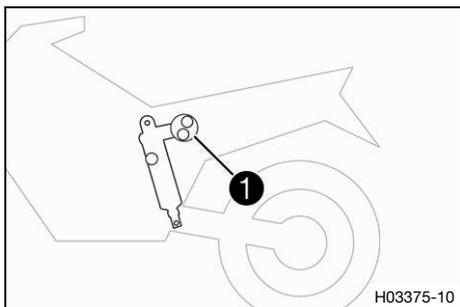
3.6 Customer service

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



Shock absorber article number ① is located on the bottom of the compensating tank.

i **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 low-speed compression damping of the shock absorber. (📖 p. 13)
- Adjust the high-speed compression damping of the shock absorber. (📖 p. 14)
- Adjust the rebound damping of the shock absorber. (📖 p. 15)
- Adjust the spring preload of the shock absorber. 🏹 (📖 p. 15)
- Adjust the length of the shock absorber. 🏹 (📖 p. 16)

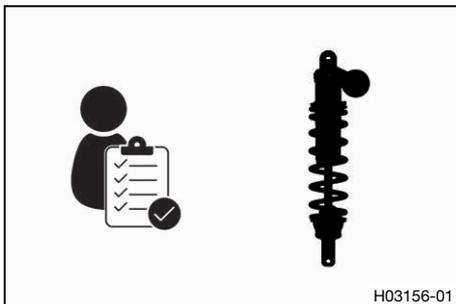


5.2 Checks and maintenance measures when preparing for use



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.



6 SERVICE SCHEDULE

6.1 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.

6.2 Required work

every 20,000 km (12,400 mi)
Perform the shock absorber service. 🛠️

- Periodic interval

6.3 Recommended work

after 5,000 km (3,100 mi)
Perform the shock absorber service. 🛠️

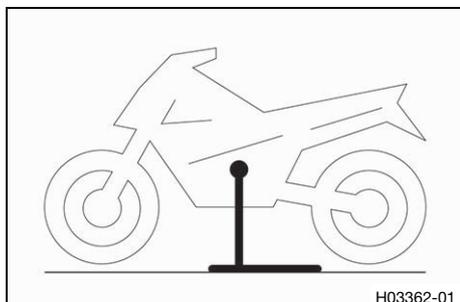
- One-time interval

7.1 Raising the motorcycle with work stand

Note

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

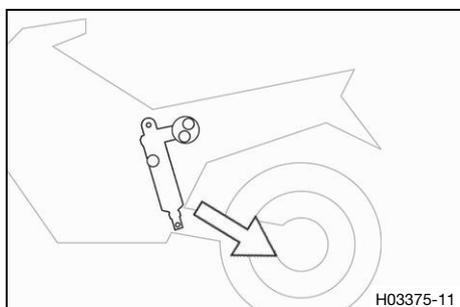
- Park the vehicle on a firm and level surface.



- Lift up the motorcycle according to the repair manual.
- ✓ Neither wheel is in contact with the ground.
- Secure the motorcycle against falling over.



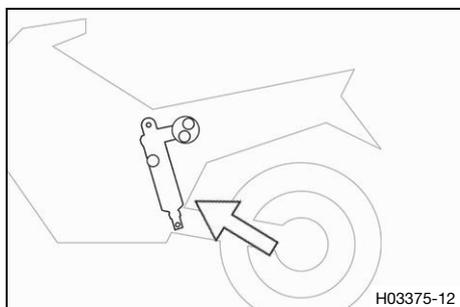
7.2 Removing standard shock absorber ↴



- Remove the standard shock absorber according to the repair manual.



7.3 Installing the WP PRO COMPONENTS shock absorber ↴



- Install the shock absorber according to the repair manual.
- Guideline

To avoid component collisions, route both ground wires of the starter motor and the positive cable of the starter motor under the clutch cable.



Info

The short ground wire between the starter motor and the frame can be rotated by 180° if necessary.



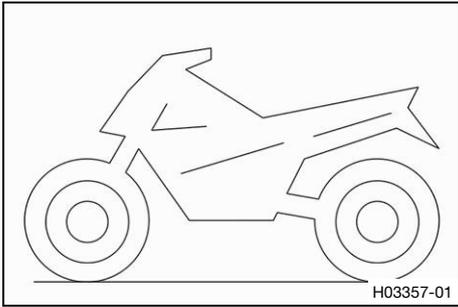
7.4 Removing the motorcycle from the work stand

Note

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

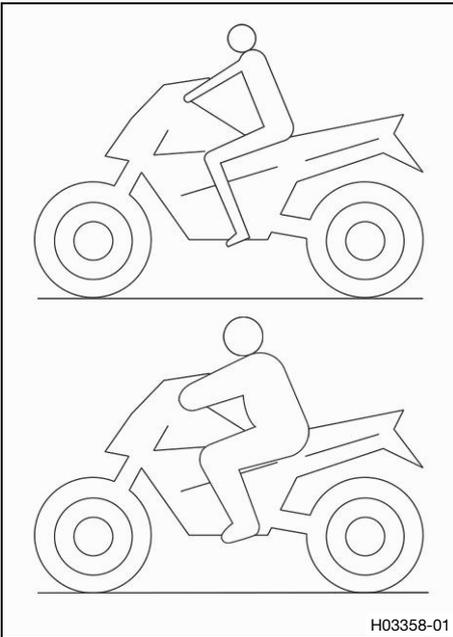
- Park the vehicle on a firm and level surface.

7 SERVICE WORK ON THE CHASSIS



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

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



- 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	75 ... 85 kg (165 ... 187 lb.)
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- 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.



8.2 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 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.

8.3 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.

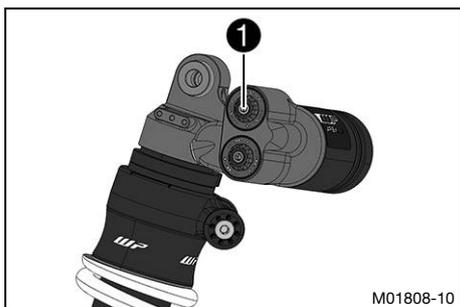
The shock absorber is filled with highly compressed nitrogen.

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



Info

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



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

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

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

Guideline

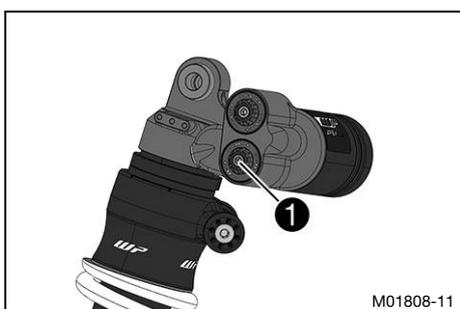
Low-speed compression damping	
Comfort	15 clicks
Standard	12 clicks
Sport	10 clicks

i Info
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

8.4 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.)

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



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

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

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

Guideline

High-speed compression damping	
Comfort	15 clicks
Standard	12 clicks
Sport	10 clicks

i Info
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

8.5 Adjusting the rebound damping of the shock absorber

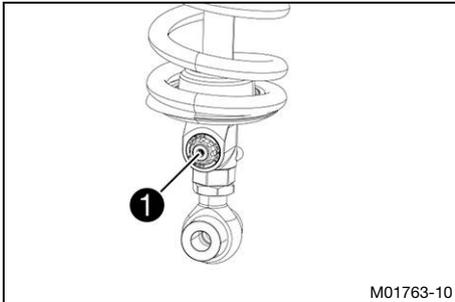


Caution

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

Guideline

Rebound damping	
Comfort	18 clicks
Standard	15 clicks
Sport	13 clicks



Info

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



8.6 Adjusting the spring preload of the shock absorber ↴



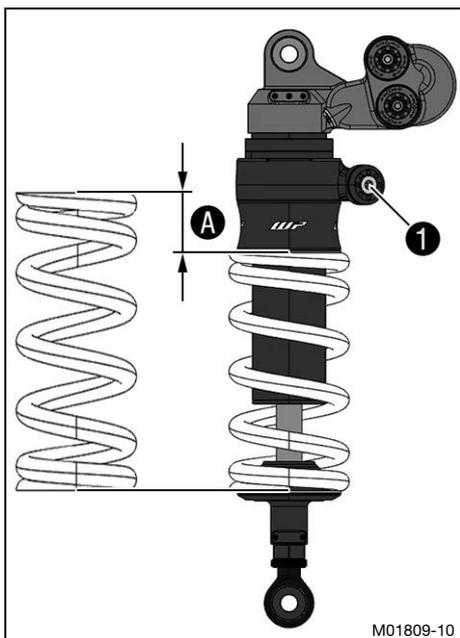
Caution

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.)

8 TUNING THE CHASSIS



- Turn screw ① on the Preload Adjuster all the way counter-clockwise.
- In order to adjust preload A, turn screw ① clockwise.

Guideline

Spring preload	
Comfort	7 mm (0.28 in)
Standard	8 mm (0.31 in)
Sport	8 mm (0.31 in)

i Info
One turn of the screw is equivalent to 1 mm (0.04 in) of the preload.

8.7 Adjusting the length of the shock absorber ↗

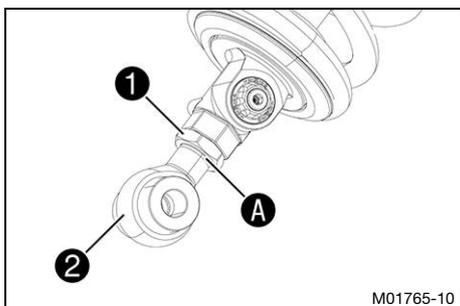


Caution

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.)



Condition

The shock absorber is removed.

- Loosen nut ①.



Warning

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.

Guideline

Turn the support out no further than until notch A is fully visible after completing the work.

Make the adjustment in small steps.



Info

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

- Tighten nut ①.

Guideline

Nut for shock absorber length adjustment	M16x1	25 Nm (18.4 lbf ft)
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Info

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.



9.1 Shock absorber

Shock absorber article number	15.18.0T.91
Shock absorber	WP SuspensionAPEX PRO 7746
Low-speed compression damping	
Comfort	15 clicks
Standard	12 clicks
Sport	10 clicks
High-speed compression damping	
Comfort	15 clicks
Standard	12 clicks
Sport	10 clicks
Rebound damping	
Comfort	18 clicks
Standard	15 clicks
Sport	13 clicks
Spring preload	
Comfort	7 mm (0.28 in)
Standard	8 mm (0.31 in)
Sport	8 mm (0.31 in)
Spring rate	
Weight of rider: 55 ... 65 kg (121 ... 143 lb.)	130 N/mm (742 lb/in)
Weight of rider: 65 ... 75 kg (143 ... 165 lb.)	140 N/mm (799 lb/in)
Weight of rider: 75 ... 85 kg (165 ... 187 lb.)	150 N/mm (857 lb/in)
Weight of rider: 85 ... 95 kg (187 ... 209 lb.)	160 N/mm (914 lb/in)
Weight of rider: 95 ... 105 kg (209 ... 231 lb.)	170 N/mm (971 lb/in)
Spring length	170 mm (6.69 in)
Gas pressure	10 bar (145 psi)
Fitted length	390 mm (15.35 in)
Shock absorber fluid (📖 p. 19)	SAE 2.5

9.2 Shock absorber tightening torques

Nut for shock absorber length adjustment	M16x1	25 Nm (18.4 lbf ft)
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Shock absorber fluid (SAE 2.5) (50180751S1)**Standard/classification**

- SAE (📖 p. 20) (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.

PA	Preload adjuster	Device on the suspension components that enables the adjustment of the spring preload
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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

A	
Accessories	7
Auxiliary substances	7
B	
Basic chassis setting	
rider's weight, checking with	13
C	
Correct installation	6
Customer service	7
E	
Environment	5
F	
Figures	7
Fuel, oils, etc.	7
I	
Implied warranty	7
Intended use	4
M	
Manufacturer warranty	7
Misuse	4
Motorcycle	
work stand, raising with	11
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O	
Owner's Manual	5
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