

Setup data

Shock absorber length	316 mm
Shock absorber stroke	50 mm
Spring pre-load	14 mm
Rebound damping adjuster	14 clicks
Compression damping adj.	12 clicks

Checking sag and ride height

Front suspension

F1. Bike on a stand with the suspension fully extended =

F2. Bike on the ground without rider =

F3. Bike on the ground with rider =

Free sag F1 - F2 =

Ride height F1 - F3 =

Rear suspension

R1. Bike on a stand with the suspension fully extended =

R2. Bike on the ground without rider =

R3. Bike on the ground with rider =

Free sag R1 - R2 =

Ride height R1 - R3 =

Recommendations

F1 - F2: 40 - 50 mm
F1 - F3: 55 - 65 mm

R1 - R2: 20 - 30 mm
R1 - R3: 55 - 65 mm



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Mounting Instructions

Öhlins shock absorber kit
BM 344 for BMW F 650 GS



Öhlins shock absorber 46 ERS

Your Öhlins shock absorber type 46 ERS features the following adjusters:

Rebound damping adjuster

Adjuster wheel on the piston shaft above the end bracket.

Spring pre-load adjuster

Adjustments are made by turning the knob on the hydraulic adjuster. Clockwise for harder adjustment, counter clockwise too release the pre-load.

NOTE!

When delivered the Öhlins shock absorber is dialed to recommended settings for the specific brand and make of the motorcycle. If you have changed the settings, check like this:

The adjusters have a normal right hand thread. Turn the damping adjusters clockwise to fully closed (pos. zero [0]). Turn counter clockwise to open and count the clicks until you reach the recommended number of clicks. See Setup data at last page.

CAUTION!

Do not use too much force, delicate sealing surfaces can be damaged.



⚠ WARNING!

The shock absorber is provided with a separate type reservoir filled with high pressure nitrogen gas. To prevent danger of explosion, study and make certain that you fully understand the following information before handling the shock absorber. The manufacturer cannot be held responsible for damage to property or personal injury that may result from improper handling.

1. Never tamper with or attempt to disassemble the cylinder or the reservoir.

2. Never expose the shock absorber to an open flame or other excessive heat. The shock absorber may otherwise explode due to too high pressure.

3. Be careful not to damage any part of the gas reservoir. A damaged gas reservoir will impair the damping performance or cause malfunction.

4. Take care not to scratch the contact surface of the piston rod of the cylinder; oil could otherwise leak out.

5. Never attempt to remove the plug at the bottom of the nitrogen gas reservoir. Any attempt to remove the plug implies serious danger.

6. When scrapping the shock absorber, follow the instructions for disposal.

Notes

Mounting instructions

1

Put the motorcycle on a stand so the rear wheel is clear of the ground. Make sure it's steadily fixed so it will not fall over.

⚠ WARNING!

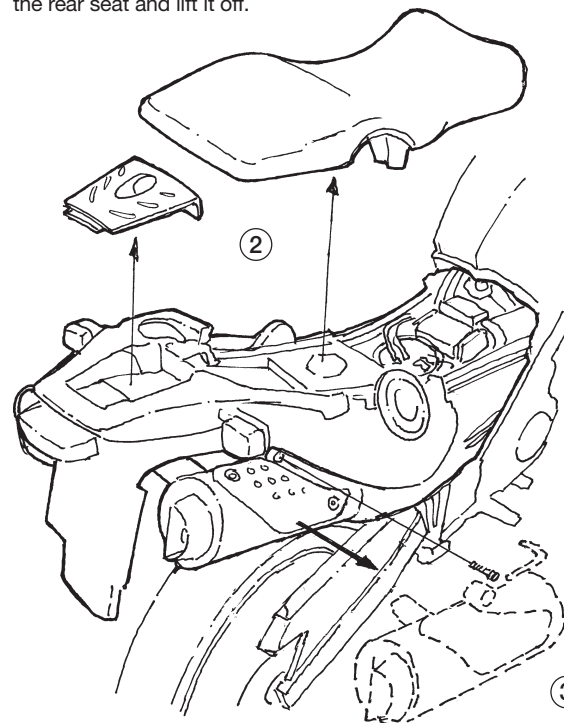
1. It's advisable to have an Öhlins dealer or other qualified person to fit your shock absorber.

2. Instructions in the vehicle service manual are to be followed when changing the shock absorber.

3. When working on a lifted vehicle it must be securely supported to prevent it from falling.

2

Open the toolbox and pull the T-handle to loosen the rear seat and lift it off.



3

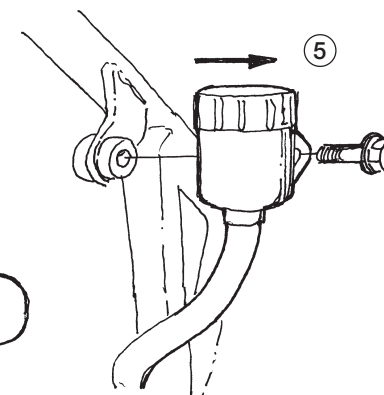
Loosen the screw of the right silencer bracket and remove the right silencer just by pulling it outwards.

4

Loosen the exhaust pipe with a 15mm key and remove the left silencer by pulling it straight rearwards.

5

Loosen the brake fluid reservoir on the right side and let it hang down.

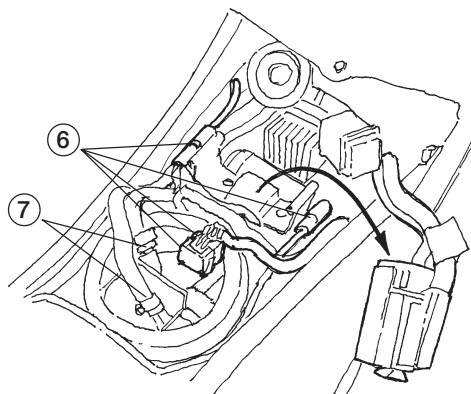


6

Remove the control box and all electric connections (4 pcs) and let the loose wiring hang out to the right side of the motorcycle.

CAUTION!

When removing the fuel tank it must be emptied or contain very small amounts of fuel. Otherwise it will flow over when the fuel lines are loosened.

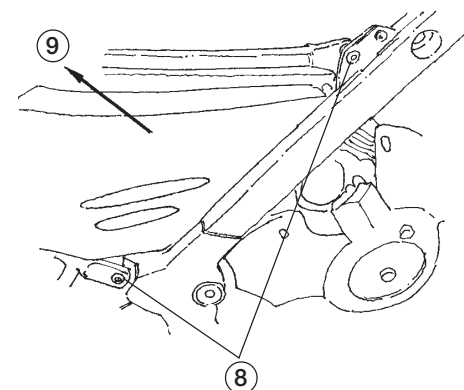


7

Loosen the two fuel lines.

8

Loosen the four bolts holding the rear subframe unit.



9

Lift the rear unit backwards, upwards and remove it from the motorcycle.

10

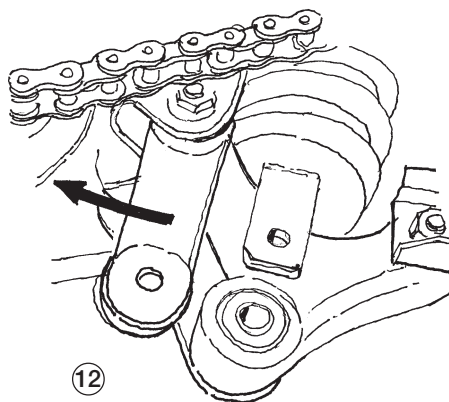
Remove the original reservoir by loosening the two o-rings of the bracket.

11

Loosen and remove the original hydraulic pre-load adjuster and the bracket.

12

Loosen the lower bracket of the right droplink and pull it backwards, so the lower shock absorber mount is reachable.



13

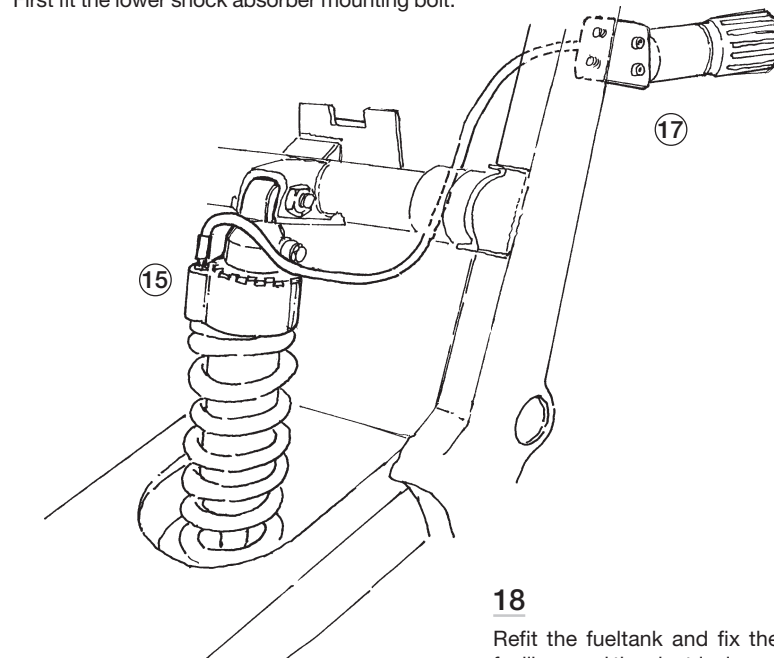
Loosen the lower shock absorber mounting bolt to release the shock absorber from the triangle link.

14

Loosen the upper shock absorber mounting bolt and remove the shock absorber by lifting it upwards.

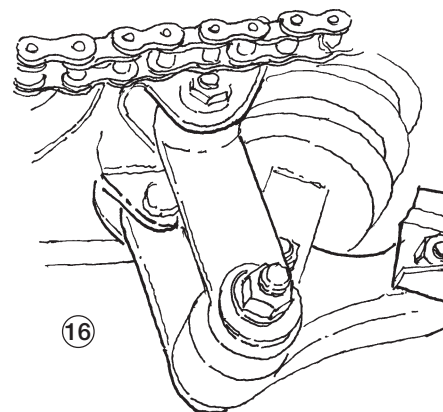
15

Fit the Öhlins shock absorber in reverse order. First fit the lower shock absorber mounting bolt.



16

Then fit the upper shock absorber mounting bolt and tighten. Bring the droplink back in position again and fit the pivot bolt and nut.



17

Attach the new pre-load adjuster bracket to frame and attach the hose with the tie-rod provided.

18

Refit the fuel tank and fix the bolts. Refit the fuel lines and the electrical connections. Refit the control box.

19

Put the brake fluid reservoir back in position.

20

Refit first the left and then the right silencer.

21

Put the seat back in position and lock it. Close the toolbox lid.

NOTE!

Make sure that all bolts are tightened to the correct torque and that nothing fouls or restricts movement of the shock absorber when the suspension is being fully compressed or extended.

22

Continue your work according to the Owners Manual, section adjustments.