STEP BY STEP
TO BECOMING AN AIR SUSPENSION PROFESSIONAL.

Understanding important differences and mastering installation: the BILSTEIN B4 air suspension module!

Stay away from the refurbished used parts and non-functional competitor products!
The BILSTEIN B4 air suspension module: uncompromising original-equipmentmanufacturer quality for your vehicle.

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**APPEARANCES ARE DECEIVING.**

There is only one original - the BILSTEIN B4 air suspension module.

Original BILSTEIN B4 air suspension module

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**Air spring bellow:**

**ATTENTION!** In contrast to OEM or BILSTEIN B4 air suspension modules, remanufactured air springs use a cross-ply bellows system, requiring a significantly higher rolling radius, instead of the flexible axial bellow. Since the working chamber remains the same size, the cross-ply bellow is subjected to a significantly higher level of wear – it cannot expand and collapse sufficiently. A cross-ply bellow system does not achieve the same sensitive spring response behavior as a BILSTEIN axial bellows system.

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**Gas-pressure shock absorber:**

**ATTENTION!** In re-manufactured products, only the air spring is replaced; all other parts are reused. This means you have no way of determining how high the mileage of the donor shock absorber was run. With used donor shock absorbers potentially coming from different vehicles, it is possible that the damping force at the individual wheels will differ significantly.

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**Electromagnetic control valve:**

**ATTENTION!** The electromagnetic control valve may have already logged thousands of road miles. There is no way to determine if and how long it will continue working. Only by changing all wear components, including a completely new electromagnetic control module, is full functionality of the entire air suspension system ensured for your vehicle or customer.
Stay away from refurbished parts!

With re-manufactured air suspension modules, it is only the air suspension which gets replaced – the old shock absorber, including the electromagnetic control valve, is maintained 1:1. The operational performance of the shock absorbers is not verifiable, which when replaced, leads to demonstrably worse driving characteristics, and in the event of damage, could mean a risk for you!

The original BILSTEIN B4 air suspension module for the Mercedes-Benz S class W220 in comparison with a refurbished old part, which is offered by a competitor as a re-manufactured air suspension module for the Mercedes-Benz S class W220.
ALL OR NOTHING.

Only the BILSTEIN B4 air suspension module offers the perfect driving feeling for all air suspension systems, as it was on the first day.

Original BILSTEIN B4 air suspension module

Working areas:

ATTENTION! The working areas of the air suspension and the shock absorber do not correspond to the original. The changes to the original construction lead to a significant loss in comfort!

Air spring bellow:

ATTENTION! The air spring bellow does not comply with original equipment: the selected material is not sufficiently elastic. As with the original from BILSTEIN, the comfort level is far from achieved.

Gas-pressure shock absorber:

ATTENTION! The gas-pressure shock absorber does not correspond to the original. A passive twin-tube gas-pressure shock absorber is used without an electromagnetic control valve, unlike the high-performance BILSTEIN mono-tube gas-pressure shock absorber with an electromagnetic control valve applied in the original equipment.

Electromagnetic control valve:

ATTENTION! There is no functioning electromagnetic control valve! The concealed electromagnets affect only one function of the onboard electronics, which are not present: the active air suspension module is replaced with a passive unit. This not only reduces comfort, but above all, poses a safety risk.
Stay away from replacement parts that remove functionality!

With new competitor products, the electro-magnetic control valve often overrides functionality. By installing a cheaper replacement part, you will lose all comfort functions of the suspension and risk compromising safety features!

The original BILSTEIN B4 air suspension module for the Mercedes-Benz S class W220 in comparison with a new competitor product for the Mercedes-Benz S class W220.
When replacing or installing a BILSTEIN B4 air suspension module, the attached installation instructions must be observed. Incorrect installation could lead to irreparable damage to new parts and/or the vehicle.
NOTE 1.
Do not store the BILSTEIN air suspension modules below -15 °C or above 50 °C.
NOTE 2.
Installation and removal may only be carried out by trained personnel in a specialist workshop.
NOTE 3.
The appropriate personal protective equipment (e.g. gloves, safety glasses when working on compressed air systems) must be worn at all times when working on the vehicle.
NOTE 4.
Air suspension modules must always be replaced in pairs (for example: both front axle, or both rear axle modules).
NOTE 5.
Prior to beginning work, check the application of the air suspension module is correct for the vehicle. Verify the expiration date, and where applicable, the indicated minimum dimension in the installation instructions are free of defects.
NOTE 6.
Air suspension modules may have parts, which are specifically left or right. Therefore, check the appropriate association before installing.
NOTE 7.
Prior to beginning, ensure you have all the correct working materials. When replacing air suspension modules, it is imperative to use the vehicle manufacturer’s tools and equipment, and to have another person with you for assistance.
Prior to starting work, check the distance between the fender and the center of the wheel hub (K0 position).
NOTE 9.
Exclusively lift the vehicle using the lifting platform support points specified by the manufacturer. Risk of death from vehicle slippage.
NOTE 10.
Check the whole suspension thoroughly for damage.
Pay particular attention to the suspension bearings.
NOTE 11.

To bleed the air suspension module, exclusively use the corresponding diagnostic device. Always adhere to the vehicle manufacturer’s specifications.
NOTE 12.
Pay particular attention to the specifications regarding the replacement of screws and self-locking nuts, as well as the vehicle manufacturer’s stipulated tightening torque.
NOTE 13.
Caution! Never use power tools for installation (e.g. impact driver).
NOTE 14.
Switch off the ignition, and always remove the key while working on air suspension modules.
NOTE 15.
Always read the enclosed installation instructions before and during the adaptations. Always adhere to the sequence of work steps. Caution: Deviations in retrofitting and/or not following the prescribed steps may result in damage to the vehicle and the air suspension module!
NOTE 16.
When installing the new air suspension module, pay particular attention to the height previously identified height between the centre of the wheel hub and the fender’s lower edge (K0 position). Note that the air suspension module is not installed to its final torque. The screw connections at the support points can only be tightened in the K0 position.
NOTE 17.
To fill the air suspension module, only use the appropriate diagnostic device and abide by the vehicle manufacturer’s specifications.
NOTE 18.
After installation, carry out a leak test. The leak-tightness of the entire system must be guaranteed.
**NOTE 19.**

Lower the vehicle to the ground until the wheels make contact with the floor with the lifting device, then start the engine. Let the engine run for at least two minutes, and whilst the engine is running, subsequently lower the vehicle to the previously determined measurement or to the series height.

Attention! Never lower the vehicle from the lifting platform with a depressurised air suspension module!
NOTE 20.
If applicable, immediately activate the lifting mode of the vehicle. Wait until the vehicle independently lifts from the lifting device. You must only lower completely from the lifting device once the bleed can be guaranteed to be free from defects and sufficient.

Never leave the vehicle without pressure as it could lead to irreparable damage to the air suspension module or vehicle.
NOTE 21.
Always align the axles after working on suspension parts. When necessary, reconfigure the vehicle’s height control.
In the past, independent repair shops have been faced with repairs on old-school steel suspension almost exclusively. This has lead to a fear of the unknown when it comes to working on air suspension modules. There’s no reason to fear technology and air suspension maintenance if you follow a few basic rules. In order to make it easy for repair shops to get started working with air springs, we supply detailed installation instructions and practical installation videos for all components. Check out our YouTube channel.