SUSPENSION SYSTEMS
making everyday smoother

• Increased comfort • Better driveability • More safety

OFFROAD
A safe and comfortable journey
Everything under control with suspension systems from VB-Airsuspension

Start the day relaxed
The day starts well; after loading you climb into your vehicle in a relaxed frame of mind.
Away you go, fully loaded, and that’s when the stress levels start to rise. A comfortable and properly working suspension can make all the difference to your working day, so you’re just as relaxed at the end of it as you were in the morning.

It’s therefore very important that your vehicle and its suspension are in good shape.

Hidden, but effective
A good suspension is hidden underneath your vehicle. You can’t see it, but it’s essential if you’re to enjoy a comfortable and safe journey. After all, it’s the mechanical / pneumatic interface between the road and your vehicle.

Increased comfort
Driving on what are usually poor roads or off-road stretches demands a lot of the driver and the vehicle. A good air suspension system minimises noise levels inside the vehicle and ensures a relaxing journey. Goods that are sensitive to shock are transported gently.

Better driveability
The constant ride height guaranteed by VB-FullAir suspension means your vehicle remains stable and responds to steering inputs as you expect. The dual channel control system ensures your vehicle remains level and reduces body roll.

More safety
The (air) suspension systems from VB-Airsuspension improve vehicle stability in crosswinds, when cornering and when evasive action, for example, is necessary.

What you gain:
✓ Constant ride height
✓ Prevents off-centre level
✓ Less body roll
✓ Increased comfort
✓ Better driveability
✓ Increased stability
✓ More safety
✓ Easier loading/unloading
✓ Less damage in transit

- Off-centre level
- Sagging
- Reduced comfort
- Poor driving characteristics
- Less safety
- Loading problems
- Gentle transportation
Driving at the limit

Comfortable and safe driving is very important, particularly in offroad vehicles. An unusual aspect of this type of vehicle is the fact that their loads often vary widely, which in turn is reflected in the requirements placed on the suspension. The weight of the vehicle increases as each item is loaded, while each additional kilo lowers the suspension even more.

Loading up to the maximum permitted total weight (and sometimes even higher) has a corresponding impact on ride comfort and safety. The ground clearance reduces at the same time, something that is not desirable in the case of an off-road vehicle.

Driving dynamics

The suspension fitted to offroad vehicles is designed for the payload; comfort can come a poor second. A whole range of parameters influence the driving dynamics and how a vehicle can be loaded. Loading, in particular, is an important factor in terms of overall safety. The suspension optimisation measures available from VB-Airsuspension improve the personal driving experience by offering various suspension systems and bespoke solutions. Every system provides the best possible driving dynamics and level of safety that it can. You won't recognise your vehicle any more.

Easy loading

The vehicle can be raised or lowered to a specific height at the touch of a button. This makes the vehicle much easier to load and unload.

Letter-Of-Non-Objection (LONO)

VB-Airsuspension products have been developed in conjunction with a variety of vehicle manufacturers. As a result, they meet the manufacturers’ stringent quality requirements. The relevant LONOs of the vehicle manufacturers are available.

Features of VB-FullAir systems

It’s all in hand

VB-FullAir air suspension systems are supplied with a comprehensive control unit to ensure you have all the air suspension functions close at hand.

Versatile

VB-FullAir systems are extremely versatile and offer the highest levels of comfort in every situation.

Memory positions

Manual lifting

Manual lowering
### VB-FullAir

VB-FullAir is a fully automatic (adjustable) solution for suspension problems. The existing leaf- or coil-spring is replaced by a complete air-suspension system (including air springs, shock absorbers, a compressor and an electronic control unit). The air-suspension system filters out road-surface imperfections, hence improving ride comfort. While driving, the vehicle will constantly remain at the ride height set by VB-Airsuspension (during installation). Both the road holding and the stability of the vehicle will be improved, which in turn will enhance safety. When the vehicle is stationary (parking brake applied), it is possible to raise and lower the step height / load platform to facilitate loading and unloading.

### VB-SemiAir

VB-SemiAir enables the suspension to be adjusted manually within certain limits. On a vehicle with leaf springs, an air spring is fitted between the chassis and rear axle. This air spring supports the existing leaf spring. VB-SemiAir is supplied as a dual chamber system, but the air springs are not connected to each other. Making use of a dual chamber system allows left and right to be separately adjusted, enabling the vehicle to be levelled, even when it is loaded unequally. VB-SemiAir therefore has two inflation valves/switches.

This basic system is the starting point for the modification and improvement of the suspension on your vehicle. Each basic VB-SemiAir system contains all necessary parts to allow fitment to the particular make and model.

### AUTO LEVEL

A perfectly horizontal plane at the touch of a button: made possible by the integrated digital level.

### OFF ROAD

The vehicle is raised to the maximum possible height to achieve ground clearance on uneven terrain.

### MEMORY FUNCTION

For the individual, freely programmable height position of the suspension.

<table>
<thead>
<tr>
<th>Feature</th>
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VB-SpecialParts

Stabilisers

A stabiliser ensures that the vertical movements made by one wheel are (to a lesser degree) also made by the same wheel on the other side of the vehicle. This will lessen the amount of body-roll in corners and reduce crosswind sensitivity. A (heavy duty) stabiliser is particularly recommended for vehicles with a high centre of gravity.

Shock absorbers

Fitting heavy duty shock absorbers will ensure that the vehicle movements, in relation to the road surface, are absorbed more effectively. The vehicle will return to its correct driving position sooner after each movement. Vehicles with soft suspension are generally found to be comfortable but often demonstrate unstable road holding. By fitting heavy duty shock absorbers, the stability and hence the ride comfort/driving characteristics will improve.

VB-CoilSpring

Fitting reinforced coil springs is a non-adjustable solution for suspension problems. A helper spring or replacement coil spring is used on vehicles that already have coil springs. An auxiliary coil spring is fitted next to the existing leaf springs. These reinforced springs will normally ensure that the vehicle returns to its original ride height (if not higher), thus increasing the suspension travel and improving stability.

This solution is often used for vehicles that are consistently heavily laden or which need higher ground clearance.

Information

Products for our Pick Up range

<table>
<thead>
<tr>
<th>Kit</th>
<th>Axle</th>
<th>Remark</th>
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VB-Airsuspension, where service comes first

With partners in more than 50 countries, VB-Airsuspension operates an extensive network of authorised VB dealerships and service partners. For fitting, service and advice, there’s always an expert in your area.

Low-maintenance

VB-Airsuspension air suspension systems are low-maintenance systems that will provide you with many troublefree miles of driving pleasure. In the unlikely event that you encounter a problem, we’ll be there to help.

Modification | Increasing ride height | Levelling off-centre loads | Reducing vehicle roll | Improving ride comfort | Improving vehicle handling
--- | --- | --- | --- | --- | ---
VB-FullAir Full air suspension | ✔ | ✔ | ✔ | ✔ | ✔
VB-SemiAir Semi air suspension | ✔ | ✔ | ✔ | ✔ | –
VB-CoilSpring Reinforced springs | ✔ | – | ✔ | ✔ | –
VB-SpecialParts Reinforced stabilisers | – | ✔ | ✔ | – | –
VB-SpecialParts Reinforced shock absorbers | – | – | ✔ | ✔ | –

lemen Jansen, team captain and driver of the VW Amarok during the 2013 Dakar Rally.

The suspension is superb. No faults at all, despite some really hard stages. It didn’t give us a single problem! Something else worth mentioning is that the ride was pretty comfortable. I didn’t feel as tired after this 10,000 km thrash as I did on earlier Dakar rallies! We were carrying quite a lot of ballast, truth be told we had far too much weight on board, but the suspension made the car very stable and it felt relaxed”;

Low-maintenance

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VB-Airsuspension is one of the few European manufacturers to produce a comprehensive range of different types of (air) suspension system, from semi air suspension systems and reinforced coil springs to complete full air suspension systems.

We provide solutions for customers with various vehicle types, such as ambulances, car transporters, motorhomes, etc. Now you can see why more and more commercial vehicle body manufacturers specify VB-Airsuspension systems for their vehicles.