Performance-Gewindefahrwerke

Performance Coilover Kits

Kit-Nr.: **84 1500 118 453 & 84 1500 118 456**

Für folgende Fahrzeuge / For the following vehicles:

Audi A3 (8P), VW Golf (1K/1KP), VW Touran (1T), VW Passat (3C), VW Jetta (1KM), VW Eos (1F), Seat Altea/Toledo (5P), Seat Leon (1P), Skoda Octavia (1Z)

Inhalt:

- TÜV- Teilegutachten
- Dämpfkraftverstellung
- Einbauanleitung & Montagehinweise

Contents:

- German TÜV certificate
- adjustment damping force
- **mounting instruction & mounting advice**


Installation Instruction ZF Sachs Race Engineering GmbH (ZF SRE)

Before you start installation work, please read the following carefully:

- Ensure that the TÜV certificate matches the vehicle specifications (front and rear axle weights, vehicle identification number (VIN) etc...)
- The suspension components must match the suspensions application specifications (springs and shock/struts identification numbers).
- The instructions have to be strictly observed.

<u>General notes</u>

Important general product and user information about original ZF Sachs Race Engineering GmbH (ZF SRE) suspension kits

ZF SRE suspension components are designed for sports-oriented driving, and generally feature progressive characteristic curves. The resulting drop in the vehicle's center of gravity is usually termed "lowering". The lowering values specified by the TÜV (German Technical Inspection Agency) refer to the difference between the vehicle height listed in its registration document and the height from the ground to the upper edge of the roof following successful installation. To make sure your measuring values are consistent, please take into account the influences of the wheel/tire combination, shock absorber type and condition, and fuel level, as well as the previous standing height tolerances. Because of these potential external effects on the dimensions, we cannot assume any guarantee for the degree of lowering.

ZF SRE makes many different suspension components, and some of them are very similar to others. If you install and use components in vehicles for which they are not designed, serious damage and personal injury may result. Before installation, therefore, compare the TÜV certificate and the vehicle documentation to determine whether all references are correct and this ZF SRE kit is the right one for your vehicle.

This also applies to wheels and tires that have not been authorized by the manufacturer. Carefully read the information about vehicle type and model in our TÜV certificate and type lists. If there is any doubt as to whether a product is suitable for your vehicle, contact your ZF SRE dealer or a qualified (authorized) workshop.

Important installation information about original ZF SRE suspension kits

Non-professional installation and removal of ZF SRE suspension components can lead to material damage and personal injury. Therefore we recommend that you have these components installed by a qualified vehicle workshop with the necessary equipment.


ZF SRE suspension components should not be installed by private individuals.

When suspension components are removed or installed, the vehicle should be elevated on a lift platform. If for whatever reason the vehicle is raised with a jack, it is essential to secure it against rolling.

Please note the following when removing and installing components:

- All damaged parts must be replaced.
- Make sure to re-install all removed parts – if not replaced by new ZF SRE components – and check for proper installation at least two times.
- Self locking nuts must only be used once and have to be replaced!

Following removal and installation, check and/or readjust the following:

- Freedom of motion for the wheel/tire combination
- Wheel and axle alignment values
- Braking systems and the associated control systems

If these elements are not tested and adjusted, the system conditions can fail and lead to serious damage.
Installing ZF SRE suspension components will change your vehicle's handling properties – so drive slowly and carefully at first until you become accustomed to the new properties. To prevent damage and injury, please note the following:

- Do not overload your vehicle. Always comply with and never exceed the wheel loads specified by the manufacturer.
- Avoid unusual, aggressive driving maneuvers with excessive demands (racing events, etc.)
- Comply with and do not exceed all legally specified speed limits.
- Avoid driving on unpaved roads or off-road. In low-speed zones, slow down to accommodate special features (speed bumps, etc.), taking into account your vehicle's lower ground clearance.

These ZF SRE suspension parts are only for use in road-authorized vehicles that meet all legal regulations. We advise explicitly against using them for any other purpose. Otherwise serious material damage and personal injury may result.


Front axle

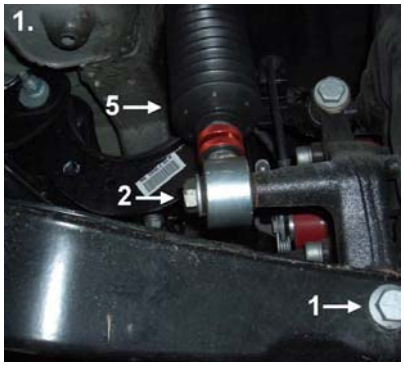
- **Please note**: Before installation, determine whether the suspension strut Ø is 50 or 55 mm.
- Elevate vehicle and remove wheels.
- **Please note**: If the vehicle has an automatic headlight leveling control system, you may have to detach the connection between the regulating device and the axle to prevent damage.
- Remove screws from ABS cable holder and brake hose.
- Unscrew and remove bolt from ball neck head (2) of the stabilizer strut.
- Unscrew nut and remove screw (3).

- Pull steering knuckle down (Note: You may need to use a suitable pre-tensioner to pre-load the original spring, or you may need to detach the drive shaft from the transmission).
- Remove the three screws from the upper dome bearing (4) and pull the suspension strut down and out.
- Pretension original spring and remove support bearing.
- Place support bearing and pressure bearing on the pre-assembled ZF SRE suspension strut and screw together. Please note the parts list on page 29.
- For installation, follow the same steps but in reverse order.
- Adjust the lower spring cap height (distance between the end of the threaded sleeve and the spring cap's upper edge)

- **Authorized axle load:** **Up to max. 1200 kg**
- **Permissible adjustment range:** **15 mm bis 30 mm**



Rear axle



- Elevate vehicle and remove wheels.
- **Please note**: If the vehicle has an automatic headlight leveling control system, you may need to detach the control unit from the axle to prevent damage.
- Secure the track control arm with the lift or suitable instrument, and remove screw (1). **Please note**: The spring force acts on the track control arm. Lower the track control arm to relieve pressure on the spring and remove it.
- Undo and remove screws (2, 3, and 4).
- Remove shock absorber (5) with upper attachment.
- When disassembling the shock absorber, refer to the parts list on page 4.
- For installation, follow the same steps but in reverse order.
- Adjust the spring cap height (distance between the upper edge of the spring and the original spring bearing, figure 3, scale X).
- Tighten attachment screws (1 and 2) when the vehicle springs are compressed.

- **Authorized axle load:** **Up to max. 1100 kg**
- **Permissible adjustment range:** **12 mm bis 40 mm**



Parts list

Front Axle

1. OE-Dome bearing
2. Nut
3. Suspension strut with spring cap and counter ring
4. OE-Support bearing / upper spring cap
5. Front-axle spring

Rear Axle

1. OE-Support bearing
2. Rear-axle shock absorber
3. Height adjustment
4. Rear-axle spring

Danger:

- Always follow the latest accident prevention regulations (not applicable for North America) for each step to prevent any serious bodily harm or injury.
- We recommend the use of a vehicle hoist or lift when installing the suspension. If a lift is not available and jacking equipment is used, make sure that the vehicle is secured with commercial wheel blocks and jack stand to ensure safety.
- The suspension components may only be installed by trained technical personnel using the proper tools.
- The General Installation instructions, as well as the Technical Inspectorate (German TÜV) documents must be read BEFORE attempting installation.
- Never use impact wrenches or guns to install or remove shock absorber piston hardware.
- Never disassemble or cut open shock absorbers and/or shock absorber inserts. They contain oil under pressure. Danger of explosion!
- Before driving on public highways, carry out the work steps after installation.
- The suspension regulation (when available) needs to be disabled through an authorized dealer.
- Please take care in any case that fittings (for example fittings of shock absorber housings or fittings of the lower control arm in the housing of the wheel bearing) are free of dust and oil. (see manufacturer guideline)


Instructions for Use:

- When adjusting the vehicle height, make sure that the threads are clean and free of debris. After initial cleaning, move the perch by 10 mm (0.4 Inches) downwards, and then clean the area that you desire to adjust the perch (up or down).
- During height adjustments on separate shock and spring systems, remove the perch from the vehicle to adjust the height.
- After adjusting the vehicle height, repeat steps.
- In the area of the piston rod and the sealing package of the new and used damper might be oil and grease collected.
- This could either be caused by using a special black grease during assembling the washer or due to accumulation of streak oil. Further more oil is used during assembling the cartridge and rod guide. There is no reason of worrying about and damage, as in this area also dust and dirt used to be collected.

Mounting Specifications:

- The suspension components may only be installed by trained technical personnel using the proper tools.
- We recommend the use of a vehicle hoist or lift when installing the suspension. If a lift is not available and jacking equipment is used, make sure that the vehicle is secured with commercial wheel blocks and jack stands to ensure safety.
- **Caution:** If the vehicle is equipped with ride height sensors, they should be removed before removal of struts or dampers, otherwise damage may occur.
- The struts should be removed as specified by manufacturer's instructions.
- Install the suspension components in the vehicle as specified by the vehicle manufacturers in their document.
- Manufacturer recommended tools for removal of the original struts, or a suitable spring compressor, must be used in order to remove most factory mounted suspension systems.
- Mount the complete suspension system as described on the following pages.
- Never use impact drivers to install nuts on the piston rods as permanent damage may occur. It is imperative that you do not damage the piston rod surface, through use of pliers etc., as the smallest damage will result in seal damage, and will not e covered under warranty.
- Stay within the lowering range specified in the table.
  Example: With a specified range of 30-70 mm (1.2-2.8 Inches), 50 mm (2.0 Inches) is your height adjustment range.
- Except as noted, all torque values must comply with manufacturer recommended specifications.
- After assembly and installation is complete, the vehicle should be rolled onto level ground. Once on level ground, measure the vehicle height and adjust to the customer's requirements, within the prescribed lowering range. **Caution:** Wheel hub center-wheel arch maximum measurement in the table of page 21 must not be exceeded! Also take into account minimum road clearances specified in the table (only valid for Germany!).
- **Caution**: It is common for the vehicle suspensions to settle by an additional 5-10 mm (0.2-0.4 Inches)


- Examine the clearance between the tires and the suspension over the full range of motion of the wheel. The minimum clearance between the suspension and the tire is 5 mm (0.2 Inches). If this clearance is less than 5 mm (0.2 Inches), wheel spacers may be necessary. With strut designs that are located close to the wheel, but that have no steering functions, use 100 mm (3.9 Inches) spacers on diagonally opposed wheel (e.g. front right, rear left). In this position, you must be able to achieve the minimum clearance required. You can also check the clearance between tire and body. **Caution:** With torsion beam trailing arm axles, this method is not sufficient. The wheel must be under full load as well as test driven to properly calculate the clearances of 5 mm (0.2 Inches) from any other components.
- The geometry of the suspension needs to be adjusted according the regulations of the vehicle manufacturer. If a value cannot be reached due to the difference in the height, a optimal value next to the tolerance range of the vehicle manufacturer needs to be adjusted.
- All components that are controlled by vehicle ride height (e.g. headlights, brake bias regulator etc.) must be adjusted as specified by the vehicle manufacturer instructions and procedures.
- For vehicles with ESP, DSC or EPC your new suspension components may cause an engine fault code to appear. This is only temporary as the vehicle electronics adjust to the new components/height. On some models this will end after driving approximately 5km (3-5 miles), or through turning the steering wheel from full left to full right. On other models, this must be reset through the factory diagnostic port by a qualified technician.