



## Contents:

- certificate BILSTEIN ridecontrol<sup>®</sup> for multilink rear axle only:
- AUDI A3,S3,RS3, 3-doors, 4- doors, incl. Sportback and Quattro -
- SEAT Leon, 2WD und 4WD, incl.ST -
- SKODA Oktavia, sedan and station wagon, incl. 4x4 -
- SKODA Superb, sedan and station wagon, incl. 4x4 -
- VW Golf VII, incl. 4motion -
- VW Golf VII station wagon, Sportsvan, incl. 4motion -
- VW Touran -
- VW Passat sedan and station wagon, incl. 4motion -
- mounting instruction -



**Before installation please observe the following points:**

- Read all information in this manual carefully.
- All suspension components are fitted and removed acc. to the manufacturer's specifications for fitting and removing, if not otherwise required in these instructions.
- Check that your vehicle type is listed in the certificate as being specified for this kit.
- Check the product for all components before starting installation!
- Check that dimensions and fastening points are comparable between the original and BILSTEIN shock absorbers.
- Remove the negative battery pole.
- Directional references (left, right, front, rear) are always with reference to the driving direction.
- The test vehicles are left- hand drive vehicles.
- The installed location of the BILSTEIN ridecontrol ® is optional. The system components may be located anywhere in the vehicle in accordance to the specifications in the sections about BILSTEIN ridecontrol ® installation.

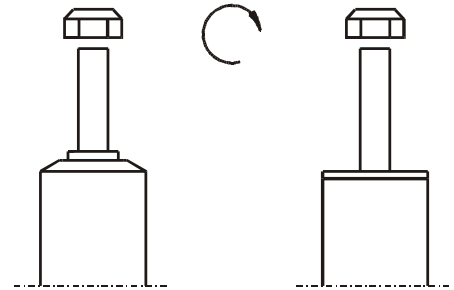
**After installation, please observe the following points:**

- Set the vehicle height by adjusting spring plates and lock nuts on the new dampers. Only use the supplied spanner wrenches.
- All rubber- mounted strut/ damper attachments must not be fully tightened until AFTER the suspension system is loaded (wheels on the ground). Other mounting fasteners (for example brackets) must be securely tightened BEFORE load is placed on the suspension system.
- Because the vehicle has been lowered, freedom of movement (clearance) for all wheel-/ tire- combinations must be checked.
- Connect the negative battery pole.
- After installing the suspension system, caster and camber must be checked and adjusted according to manufacturer's specifications.
- Check and reset load- dependent brake compensator and ABS system according to manufacturer's specifications.
- Check and adjust headlight setting.



All diagrams are generalized and not to scale!  
Brackets, etc. specific to strut are not shown!

list of torques						
	M 8	M 10	M 12	M 14	M 16	Thread
	13	25	45	72	110	Torque Nm
	10	19	34	54	83	Torque ft lb



**Do not use an impact tool to loosen or tighten fasteners due to possible damage to the product.**  
**Self- locking nuts must only be used once!**

## Removal

Place vehicle on a wheel-free car hoist, lift it and remove wheels.

Vehicles equipped **with xenon headlight** the movable element of sensor for the headlamp levelling controller must removed before.



**Pay attention that support wires of brake system are strain-free during removal. Stabilization by suitable means is demanded.**

Remove bottom mount.

Remove top fixing nuts from support bearing.  
**Do not remove central nut at this time!**

Remove complete strut and clamp it in an appropriate strut vice.

Using a suitable spring compressor, compress suspension spring until tension on support bearing is free to move.

Release central nut and remove original mounting parts and coil spring. Please refer to diagram to identify which parts will be replaced with BILSTEIN- supplied components.

## Installation

Assemble BILSTEIN and/ or original mounting parts, as well as the new BILSTEIN spring on the BILSTEIN strut in reverse order to removal.



**IMPORTANT! Spring plates must not be adjusted outside the ranges specified in the certificate!**

The correct mounting position of the suspension springs can be determined by the printing on the springs; install them with the print upright.

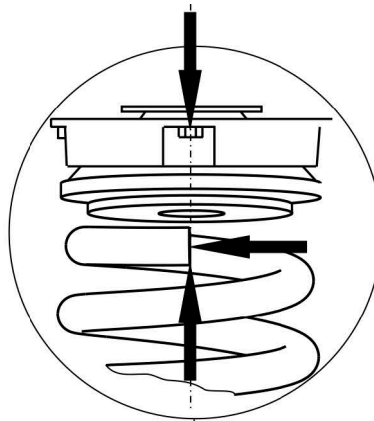


**The top spring runout must be positioned at the highest point of spring plate slope (see page 5).**

Do not reuse original- bumper, since BILSTEIN- strut has built in bump stop.

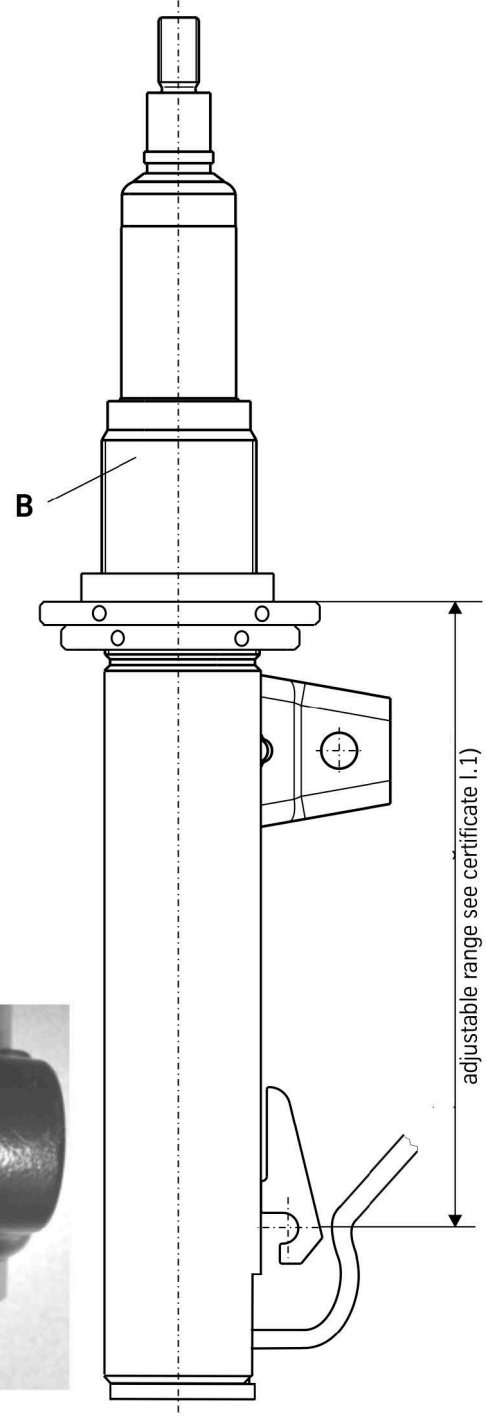
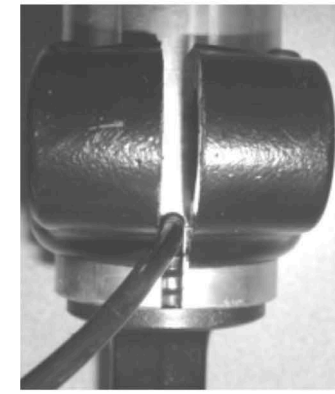
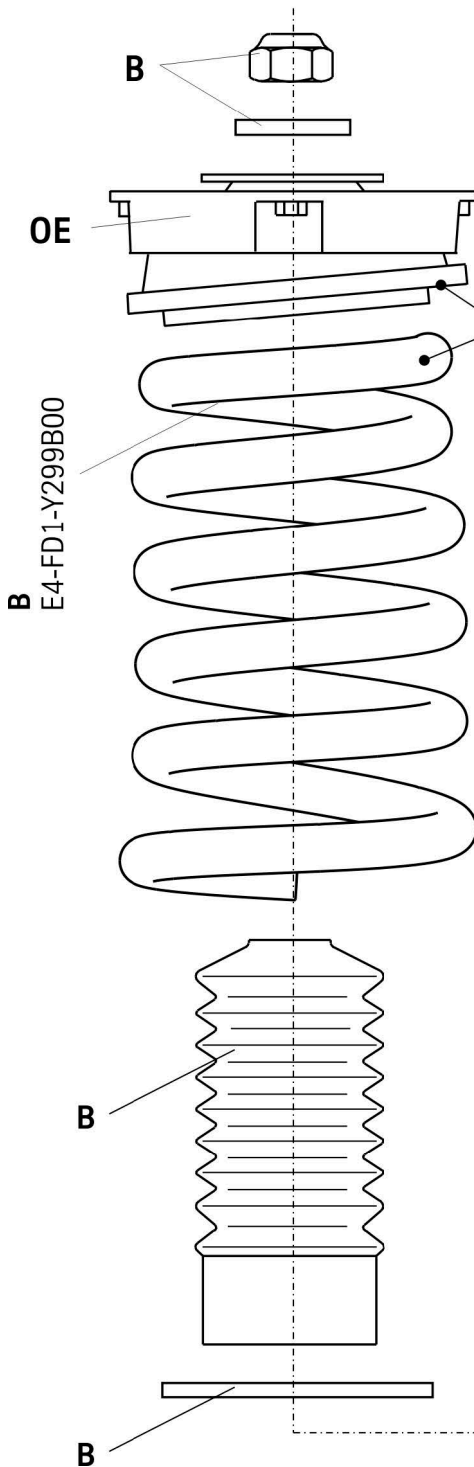
Fit assembled BILSTEIN strut to the vehicle in reverse order to removal. Care must be taken to ensure that the power cable is seated correctly in the wheel-suspension raft ( see photo on page 5).

**B =** BILSTEIN Lieferumfang  
Delivered by BILSTEIN



**Achtung - Attention**

**Pay attention to installing position of the spring!**



## **Removal**

Place vehicle on a wheel-free car hoist, lift it and remove wheel



**Pay attention that support wires of brake system are strain-free during removal. Stabilization by suitable means is demanded.**

Remove top and bottom mount.

Remove complete shock absorber and original mounting parts.

## **Installation**

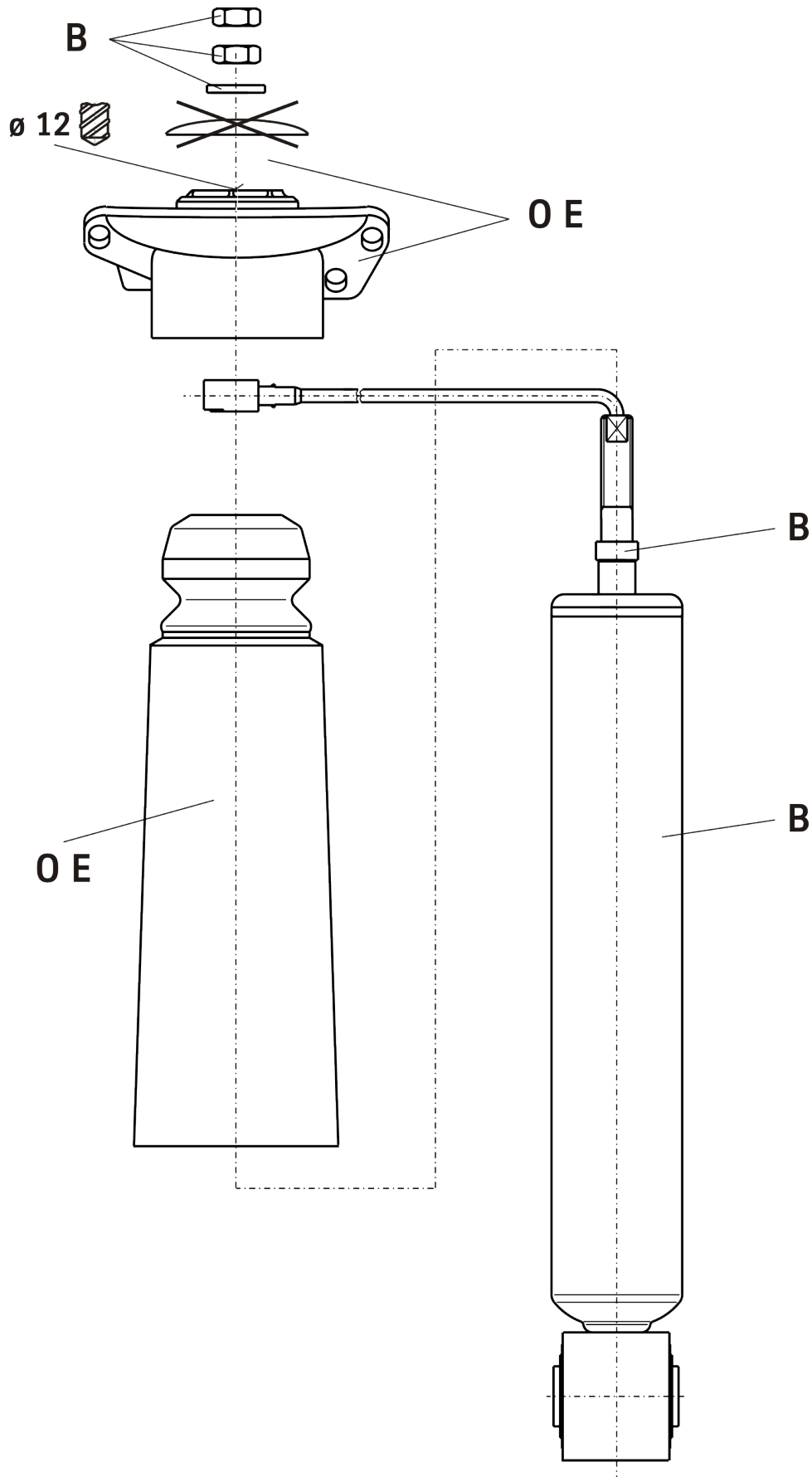
Drill a hole of  $\varnothing$  12 mm into original support bearing ( see "rear axle" sketch).

Remove and modify original mounting parts acc. to the "rear axle" sketch, complete with BILSTEIN mounting parts and fit on BILSTEIN shock absorber in reverse order to removal.

Fit BILSTEIN shock absorber to the vehicle in reverse order to removal.

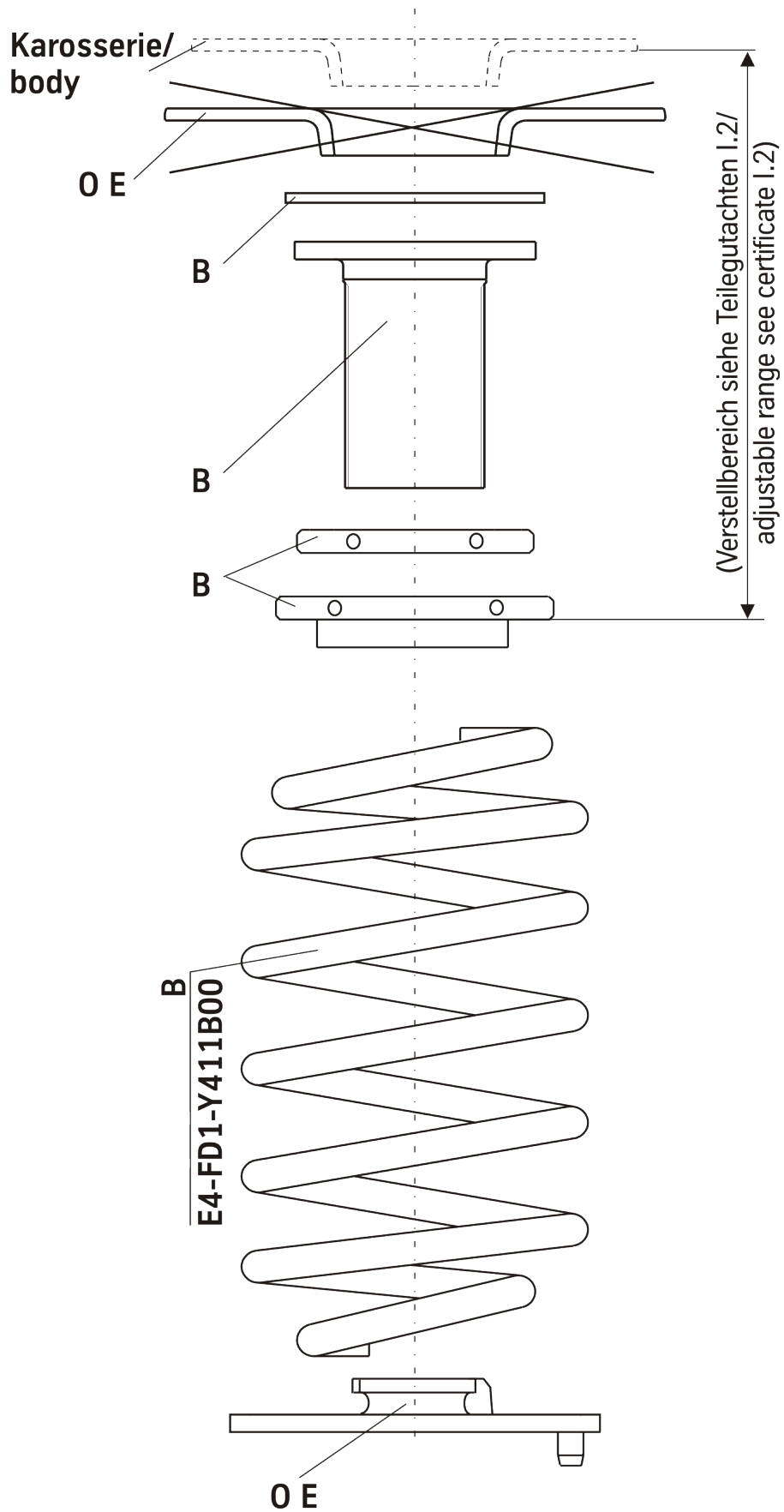
**OE=** Original Anbauteile  
Original Equipment

**B=** BILSTEIN Lieferumfang  
Delivered by BILSTEIN



**OE**= Original Anbauteile  
Original Equipment

**B**= BILSTEIN Lieferumfang  
Delivered by BILSTEIN





- certificate BILSTEIN ridecontrol<sup>®</sup> for multilink rear axle only:

- AUDI A3,S3,RS3, 3-doors, 4- doors, incl. Sportback and Quattro -
- SEAT Leon, 2WD und 4WD, incl.ST -
- SKODA Oktavia, sedan and station wagon, incl. 4x4 -
- SKODA Superb, sedan and station wagon, incl. 4x4 -
- VW Golf VII, incl. 4motion -
- VW Golf VII station wagon, Sportsvan, incl. 4motion -
- VW Touran -
- VW Passat sedan and station wagon, incl. 4motion -



### Scope of Delivery

1 x control unit ( **ST** )

1 x wiring harness ( **KE** ):

2 m wire, brown, 0,75 mm<sup>2</sup>

2 m wire, red, 0,75 mm<sup>2</sup>

2 m wire, black, 0,75 mm<sup>2</sup>

3 x connectors 0,5- 1,5 mm<sup>2</sup>

3 x splice wire clamps 0,5- 1,5 mm<sup>2</sup>

3 x crimping connectors ø 8,4 mm

3 x crimping connectors ø 6,5 mm

1 x LED- switch ( **T** )

2 x extension cable ( **KV** ) 2,5 m

2 x extension cable ( **KV** ) 4,5 m

20 x tie straps

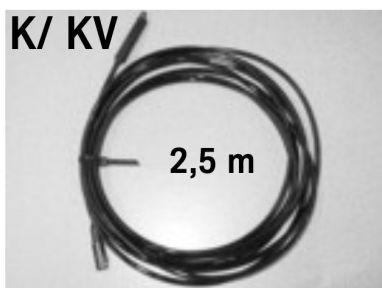


**KE**

+



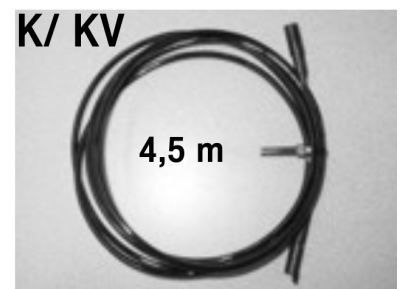
**T**



**K/ KV**

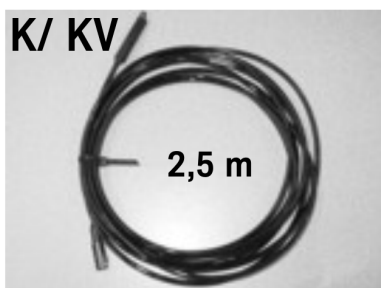
2,5 m

**ST**



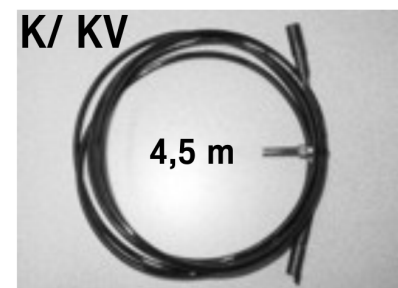
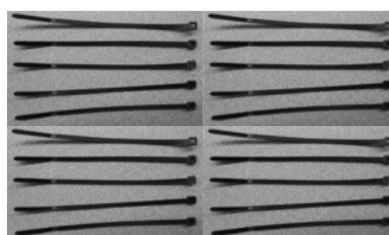
**K/ KV**

4,5 m



**K/ KV**

2,5 m



**K/ KV**

4,5 m

## Preparations for Installing

Remove the plastic cover for cabin ventilation elements at the cowl inside the engine compartment.

Determine location for the BILSTEIN control unit ( **ST** ), LED- switch ( **T** ) and for the cables ( **K** ) ( **ATTENTION!** Location can be different in different vehicles with different equipment).

Possible locations are:

### **ST**

Outside right, next to the glove compartment ( cover must remove; see pic.1)



### **T**

Free area of dashboard. Take care that the distance to driver's position is correct! Switch must be accessible to driver when operating the vehicle. Front, at central armrest.

### **K**

Along existing body holes inside engine bay. Ensure that there is enough free clearance for installation and there are no existing wires/ instruments nearby.

**ST** can be installed in a non-visible location, because there is no need for access after installation; **make sure that the type approval number ( e1\*... ) is readable for TÜV approval or technical inspection!**

For installation of **T** a drilled hole of min.  $\varnothing$  18,5 mm / 0.73" is necessary.

Take care that all cables do not contact sharp or hot panels. If possible use existing empty conduits.

Select connecting points that there is no influence on electronic system. Error messages and malfunction may result.

Routing and fastening of cables can be done with tie straps along existing wiring harness. Do not coil extra long cables, as there is danger of self- induction.



## Installing

( The control unit for our test vehicle was positioned inside passenger compartment)

Remove the cover below dashboard. Fasten the BILSTEIN control unit by using supplied hook and loop fastener right next to the glove compartment – ports upwards.

Connect BILSTEIN control unit ( **ST** ) and wiring harness ( **KE** ) by using the plug ( **SV** ).

Connect the terminals ( batt.+, batt.-, ignition ) directly with battery pole (batt.+, batt.-) of fuse box ( **SK** ) inside passenger compartment by using delivered cable lugs. Finally all cables must protected with appropriate cover.

Each terminal is marked for easy identification as follows:

KL 15 ignition	KL 30 batt.+	KL 31 batt.-
wire (black)	wire (red)	wire (brown)

Check all terminals to avoid short-circuit or defective connection by using a tester before connecting.

Fasten wires by using delivered tie straps.

Fix the LED button in the previous- made hole in the dashboard or in the center console and secure it with the lock nut from rear side. Guide the cable with the connector ( **SV** ) for the LED button below the dashboard to the button. Connect the plug connection between LED button and cable harness and fix the cable.

This is the identification of the cables for connection to the struts / shocks ( **FB** ):

front left - VL/ FL -

front right - VR/ FR -

rear left - HL/ RL -

rear right - HR/ RR -

Guide the cable for VL from BILSTEIN control panel through the body opening (right beside of ventilation) into the engine compartment, below the plastic cover (cover below the windshield), lead to the left side of the vehicle and through existing openings to the strut. Connect to the protruding cable end of the strut and fix it sufficiently. If necessary use the supplied extension cables ( **KV** 2,5 m).

Guide the cable for VL from BILSTEIN control panel through the body opening (right beside of ventilation) into the engine compartment. Lead through existing openings to the strut. Connect to the protruding cable end of the strut and fix it sufficiently.



Guide both cables for the rear from BILSTEIN control panel, along the previously opened footboard at passenger side, along the wiring harness to the backside.

The cable for the right shocks lead directly into the wheelhouse through existing body openings to the shock. Connect to the protruding cable end of the shock and fix it sufficiently.

Guide the cable for the left shock absorber behind the rear bench seat to the left side of the vehicle. Thence, lead directly into the wheelhouse through existing body openings to the shock. Connect to the protruding cable end of the shock and fix it sufficiently. If necessary use the supplied extension cables ( KV 4,5 m).

### **Operation**

The BILSTEIN ridecontrol ® is controlled by the LED- switch ( T ).

You can select between two settings – „Comfort“ and „Sport“.

The base setting is „Comfort“, with the BILSTEIN ridecontrol ® switched off.

Push the LED- switch to switch the system on (firm) The outer race and a spot in the middle of the switch illuminates blue.

Push the LED- switch again to switch the BILSTEIN ridecontrol ® off (soft).

### **Error Analysis**

The LED switch assists you in case problems occur.

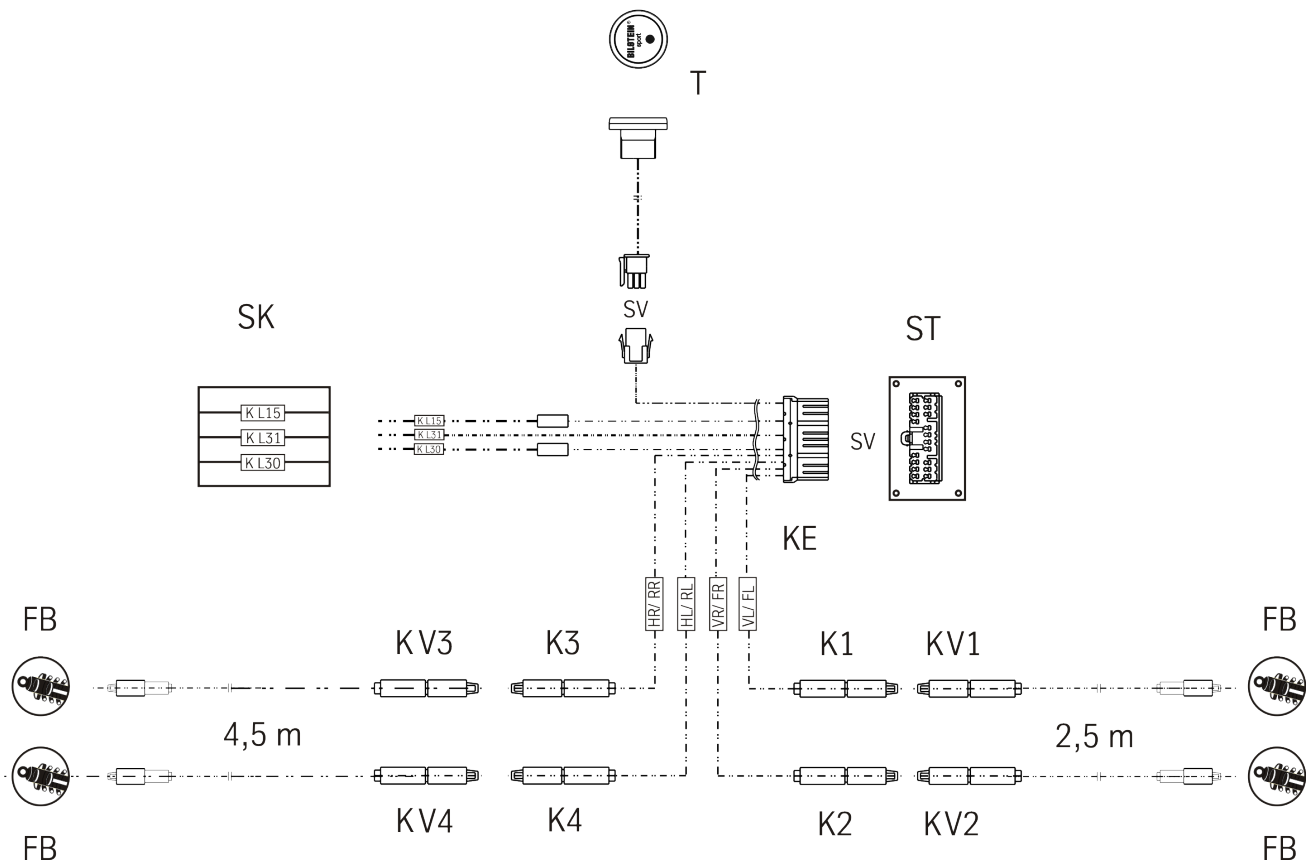
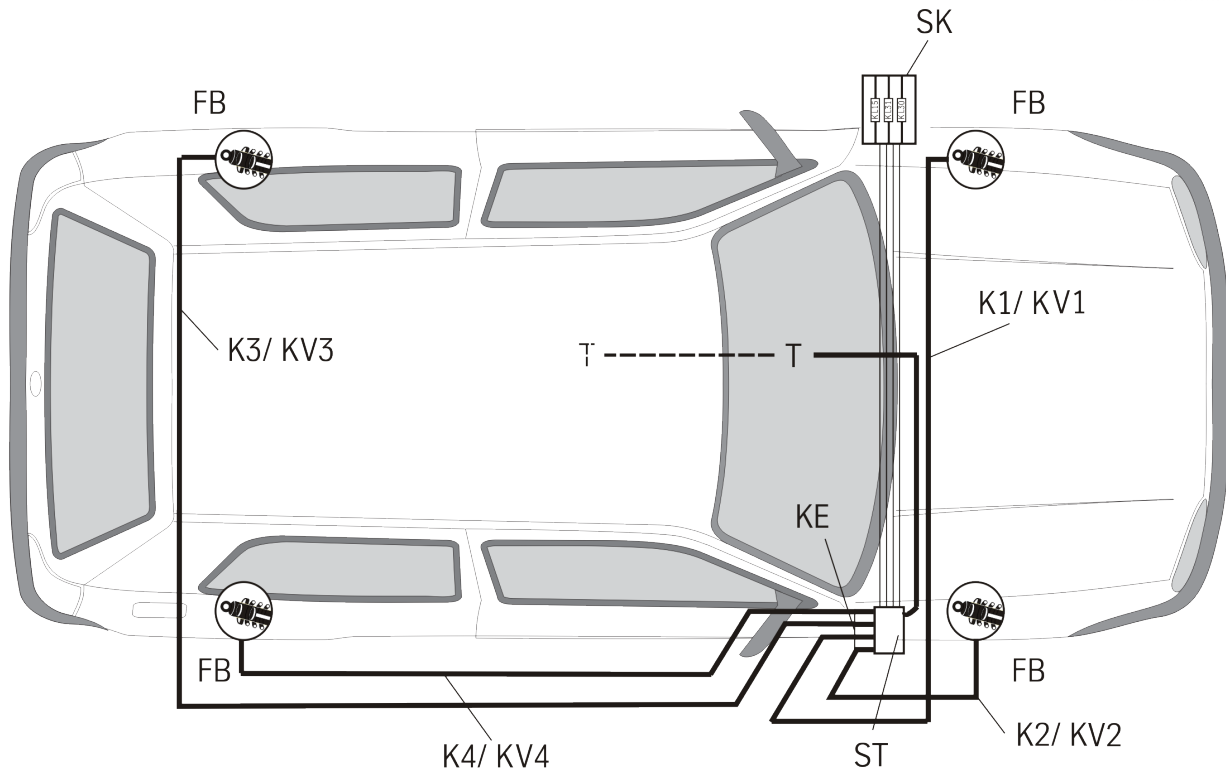
A blink code, visualized by the spot in the middle of the switch, indicates which problem is preventing an optimal function of the system.

Blink duration and pause between the blinks is 1 sec. After a 3 sec. pause the blink code starts again.

In case of error message or power failure for any other reason, the BILSTEIN ridecontrol ® is set to “Sport” automatically.

Code	Error	solutions		Sollwerte/ Control input
Kein/ none	no blink, system out of order		check fuse	
			check voltage KL15 (ignition voltage) and KL30 (battery voltage)	6,8 - 16 Volt
			check KL31 (ground)	
1	system power supply		check fuse	
			check voltage KL15 (ignition voltage) and KL30 (battery voltage)	6,8 - 16 Volt
			check KL31 (ground)	
2	shock absorber front left fault.		visually check cable/ plugs	
			disconnect plugs between wiring harness and extension cables VL/ FL. Check plugs of extension cable for continuity.  Resistance high = open circuit in system  Resistance low = short circuit in system	5,6 ±0,4 Ohm
			same check as above, at plugs between extension cable and strut	5,6 ±0,4 Ohm
3	shock absorber front right fault.		visually check cable/ plugs	
			disconnect plugs between wiring harness and extension cables VR/ FR. Check plugs of extension cable for continuity.  Resistance high = open circuit in system  Resistance low = short circuit in system	5,6 ±0,4 Ohm
			same check as before, at plugs between extension cable and strut	5,6 ±0,4 Ohm
4	shock absorber rear left fault.		visually check cable/ plugs	
			disconnect plugs between wiring harness and extension cables HL/ RL. Check plugs of extension cable for continuity.  Resistance high = open circuit in system  Resistance low = short circuit in system	5,6 ±0,4 Ohm
			same check as before, at plugs between extension cable and strut	5,6 ±0,4 Ohm

5	shock absorber rear right fault		visually check cable/ plugs disconnect plugs between wiring harness and extension cables HR/ RR. Check plugs of extension cable for continuity. Resistance high = open circuit in system Resistance low = short circuit in system	5,6 ±0,4 Ohm
			same check as before, at plugs between extension cable and strut	5,6 ±0,4 Ohm
6	internal controller error		<b>Please contact your BILSTEIN Service Partner!</b>	
7	Control Unit ( LED button) fault		Disconnect plugs of LED- switch and control unit. Check continuity among cables.	
			KL 15 ignition current vs. yellow	100 Ohm
			KL 15 ignition current vs. green	∞ Ohm
			KL 15 ignition current vs. grey	∞ Ohm
		KL 15 ignition current vs. KL 31	∞ Ohm	



**Legende 1**

KL 15 Zündung
Kabel (schwarz)

KL 30 + Pol
Kabel (rot)

KL 31 - Pol
Kabel (braun)

KL 15 ignition
wire (black)

KL 30 batt.+
wire (red)

**1<sup>st</sup> legend**

KL 31 batt.-
wire (brown)