



Before fitting, please check carefully whether your car is delivered with *base axle* or with *plus axle* ^{*1}.

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 released 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 cars.

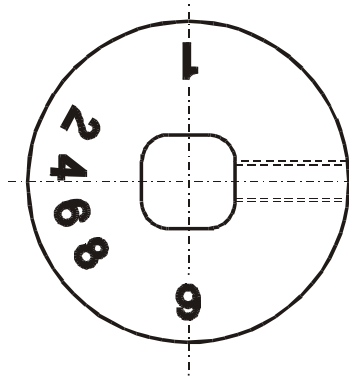
After installation please observe the following points:

- Set the vehicle height by adjusting spring plates and lock nuts on the new dampers. Only use the supplied spanner wrenches.
- 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 aim.
- Because the vehicle has been lowered, freedom of movement for all wheel-/ tire- combinations must be checked.
- 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.
- Connect the negative battery pole.

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

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instruction for force adjustment



position **9** = **soft** (clockwise direction)
 position **1** = **firm** (counter-clockwise direction)

During the adjustment you will hear a positive „click“ at each position of the adjustment.

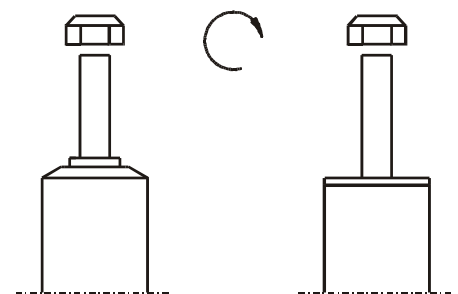
Instruction for the front axle

The adjusting element of the front struts is located at the bottom edge of the strut, covered by a blue plastic cap. That cap must be removed before adjusting. After the adjustment the cap must be replaced again.

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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 chassis hoist, lift it and remove wheels.



The lower control arm must be supported by suitable means!

Remove bottom mount.

Remove top fixing nut from support bearing.
Do not remove centre 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 released.

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

Installing

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



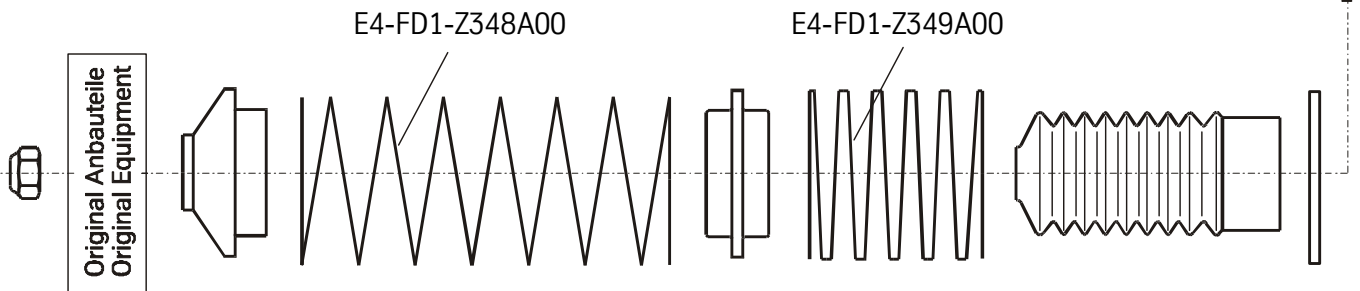
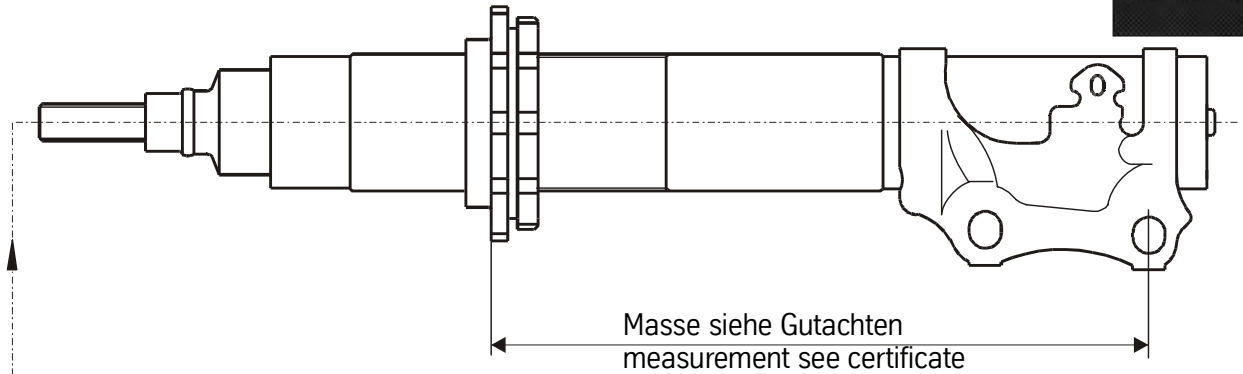
IMPORTANT! Spring plates must not be adjusted outside the ranges specified below!

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

Fit assembled BILSTEIN strut to the vehicle in reverse sequence of removal.

cable clip
(if necessary, for ABS hose support)





BE5-2804 **mounting instuction for rear axle**

Removal

Place vehicle on a chassis hoist, lift it and remove wheel



The lower control arm must be supported by suitable means!

Remove bottom mount.

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

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

Compress suspension spring until tension on support bearing is released.

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

Installing

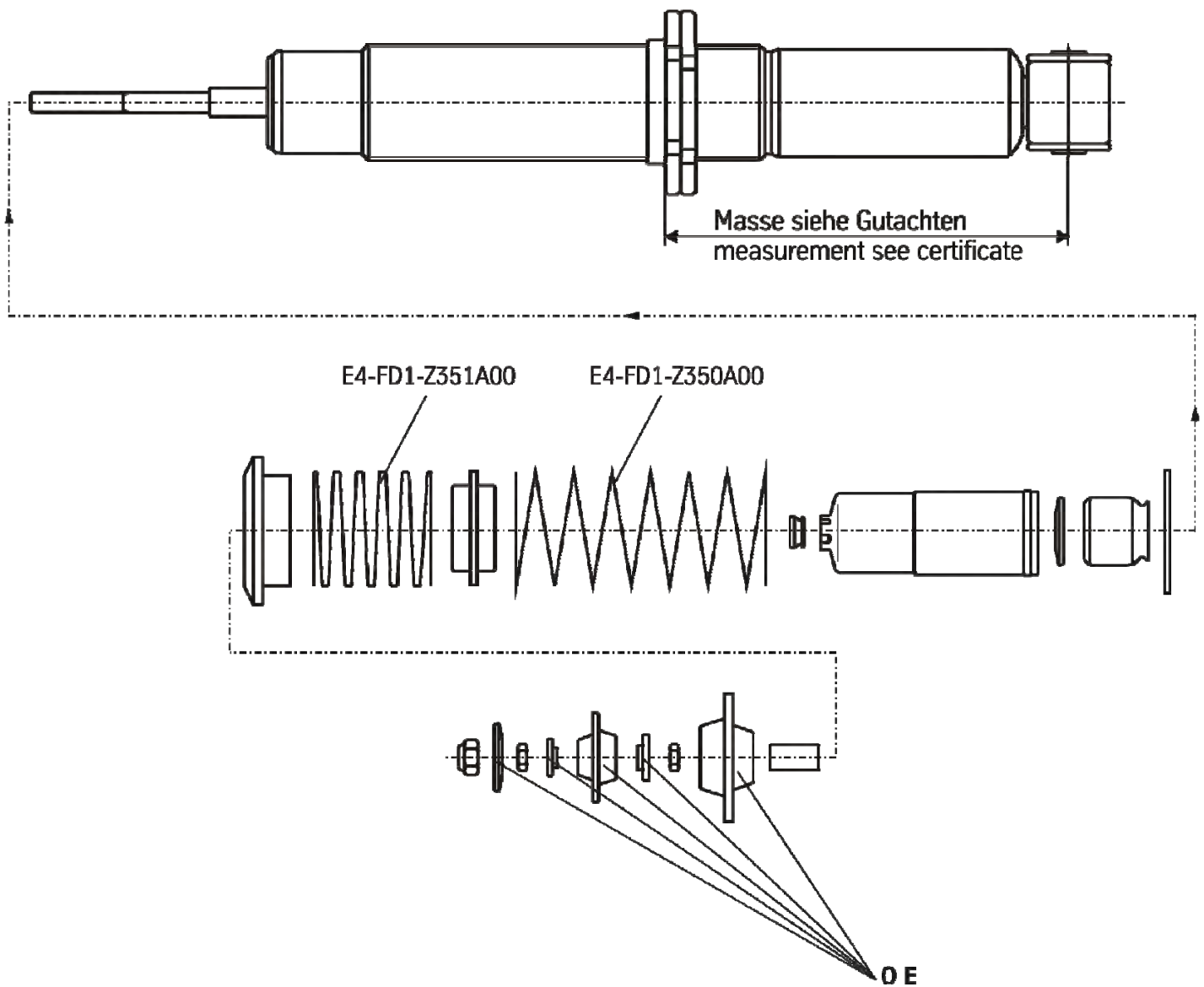
Assemble BILSTEIN and/ or original mounting parts, as well as the new BILSTEIN spring on BILSTEIN shock absorber in reverse sequence of removal.



IMPORTANT! Spring plates must not be adjusted outside the ranges specified below!

Fit assembled shock absorber to the vehicle in reverse sequence of removal.

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



OE = Original Anbauteile

IMPORTANT! Spring plates must not be adjusted outside the ranges specified below!

3. VW Golf II; Jetta

Manufacturer	Volkswagen, VW
ABE-/ EG- BE- No.	D186; -/1, -/2
type designation	19E
model	Golf II, Jetta

FRONT		
spring part number	main spring E4-FD1-Z348A00	helper spring E4-FD1-Z349A00
shock absorber part number	VE3-4437 without damping force adjustment or VM3-4423 with damping force adjustment	
Permissible adjustment range	maximum permissible axle load 790 kg (1738 lb) 190 – 205 mm = 15 mm	maximum permissible axle load 840 kg (1848 lb) 200 – 205 mm = 5 mm
* measurement: top edge of spring seat down to the centre of lower bolt of axle support		

REAR		
maximum permissible axle load 740 kg (1628 lb)		
spring part number	main spring E4-FD1-Z350A00	helper spring E4-FD1-Z351A00
shock absorber part number	BE5-2804 without damping force adjustment or BM5-2755 with damping force adjustment	
permissible adjustment range	210 – 235 mm = 10 mm*	
* measurement: top edge of spring seat down to the centre of lower mount hole		

- If vehicle is equipped with a spoiler, lower rear panel and/ or special exhaust system, be aware of reduced slope angle available (be careful of ramps, etc.)
- because of the upsized compression travel at axle 1 and 2 all registered special- wheel/ tire combinations must be checked after modification in reference to the freedom of motion.
critical location: clearance of outer tire sidewall on top of wheel centre, drive shaft and stabilizer.
Until this check is done the vehicle can only be operated with production wheel/ tire combinations.
- ground clearance of tested vehicle: **105 mm**

IMPORTANT! Spring plates must not be adjusted outside the ranges specified below!

2. VW Corrado

Manufacturer	Volkswagen, VW
ABE-/ EG- BE- No.	E664, -/1
type designation	53I
model	Corrado

FRONT	maximum permissible axle load 950 kg (2090 lb)	
spring part number	main spring E4-FD1-Z348A00	helper spring E4-FD1-Z349A00
shock absorber part number	VE3-4437 without damping force adjustment or VM3-4423 with damping force adjustment	
Permissible adjustment range	145 – 165 mm = 20 mm range base- axle	
* measurement: top edge of spring seat down to the centre of upper mount hole		

REAR	maximum permissible axle load 710 kg (1562 lb)	
spring part number	main spring E4-FD1-Z350A00	helper spring E4-FD1-Z351A00
shock absorber part number	BE5-2804 without damping force adjustment or BM5-2755 with damping force adjustment	
permissible adjustment range	210 – 235 mm = 10 mm* range base- axle	
* measurement: top edge of spring seat down to the centre of lower mount hole		

- If vehicle is equipped with a spoiler, lower rear panel and/ or special exhaust system, be aware of reduced slope angle available (be careful of ramps, etc.)
- because of the upsized compression travel at axle 1 and 2 all registered special- wheel/ tire combinations must be checked after modification in reference to the freedom of motion.
critical location: clearance of inner and outer tire sidewall on top of wheel centre, drive shaft and stabilizer.
Until this check is done the vehicle can only be operated with production wheel/ tire combinations.
- wheels/ tires **205/50R15 on 6,5J x 15 ET43** cannot be used any longer. Original wheels/ tires with **ET 33** need wheel spacers of 5 mm with longer wheel bolts (M12 = 6,5 turns/ M14 = 7,5 turns)
- ground clearance of tested vehicle: **105 mm**

IMPORTANT! Spring plates must not be adjusted outside the ranges specified below!

1. VW Golf III, Vento (base axle/ plus axle)

Manufacturer	Volkswagen, VW			
ABE-/ EG- BE- No.	F804	E4*96/79*0068..	G407	e1*96/79*0068..
type designation	1HX0	1H	1EX0	1E
model	Golf 3 (incl. Cabriolet), Vento Base axle and plus axle			

FRONT		
spring part number	main spring E4-FD1-Z348A00	helper spring E4-FD1-Z349A00
shock absorber part number	VE3-4437 without damping force adjustment or VM3-4423 with damping force adjustment	
Permissible adjustment range for maximum permissible axle load 920 kg (2024 lb)	216 – 226 mm = 10 mm* range base- axle (see page 34)	
Permissible adjustment range for maximum permissible axle load 980 kg (2090 lb)	196 – 226 mm = 30 mm* range plus axle (see page 34)	
Permissible adjustment range for maximum permissible axle load 980 kg (2090 lb)	220 – 226 mm = 6 mm* range base- axle (see page 34)	
Permissible adjustment range for maximum permissible axle load 980 kg (2090 lb)	200 – 226 mm = 26 mm* range plus axle (see page 34)	
* measurement:	top edge of spring seat down to the centre of lower mount hole	

REAR	maximum permissible axle load 820 kg (1804 lb)	
spring part number	main spring E4-FD1-Z350A00	helper spring E4-FD1-Z351A00
shock absorber part number	BE5-2804 without damping force adjustment or BM5-2755 with damping force adjustment	
permissible adjustment range	220 – 230 mm = 10 mm* range base- axle (see page 34) 220 – 250 mm = 30 mm* range plus axle (see page 34)	
* measurement:	top edge of spring seat down to the centre of lower mount hole	

- If vehicle is equipped with a spoiler, lower rear panel and/ or special exhaust system, be aware of reduced slope angle available (be careful of ramps, etc.)
- because of the upsized compression travel and changed roominess all registered special- wheel/ tire combinations must be checked after modification in reference to the freedom of motion.
critical location: distance between strut and tire sidewall/ rim flange
Until this check is done the vehicle can only be operated with production wheel/ tire combinations.
- wheels/ tires **205/50R15 on 6,5J x 15 ET43** and **215/40R16 on 7 x 16 ET43** need wheel spacers of 15 mm thickness and the corresponding longer wheel bolts. For freedom of motion it is also necessary to do some body repair work at the outside of the rear wheel house. Smaller production tires needs wheel spacers of 10 mm thickness
- ground clearance of tested vehicle: **110 mm**

Remove shock absorber

Place vehicle on a chassis hoist, lift it and remove wheels.



The lower control arm must be supported by suitable means!

Remove bottom mount.

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

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

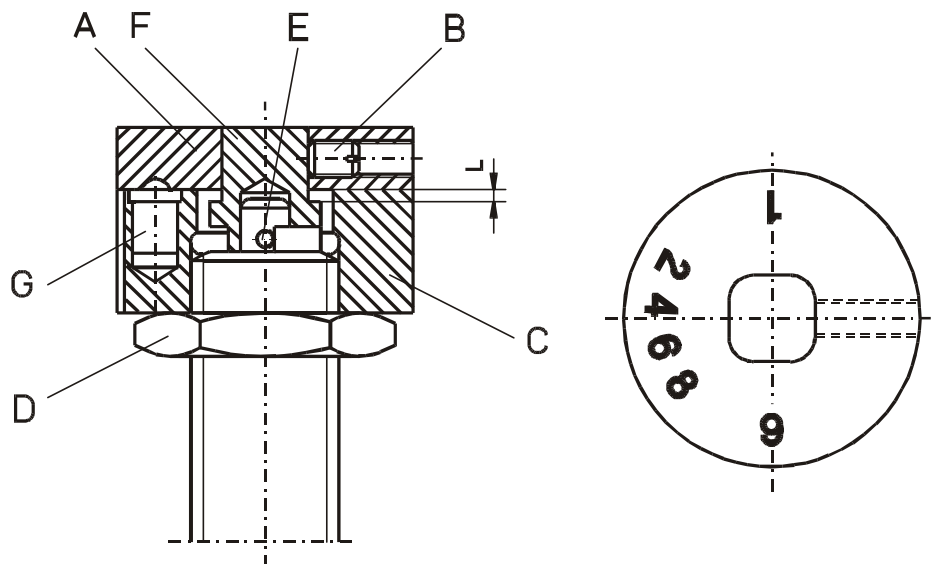
Using a suitable spring compressor, compress suspension spring until tension on support bearing is released.

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

B16- 9 step- pin adjustment

The preassembled adjustment unit must be removed before the shock absorber installation can be completed.

- A- Verstelleiche adjusting head
- B- Gewindestift set screw
- C- Verstellkopf adjusting head
- D- Kontermutter M12x 1 lock nut
- E- Verstellstift adjusting pin
- F- Anschlag mit 4- kant- Zapfen square rod stop
- G- federndes Druckstück m. Kugel spring- loaded detent ball



position **9** = **soft** (clockwise direction)
position **1** = **firm** (counter- clockwise direction)



Disassembly B16

The adjusting knob (A) must be positioned on 9 (see sketch).

Loosen the set screw (B) by an 1,5 mm hex key and remove the adjusting plate.

Hold the adjusting head (C) with an appropriate tool (SW 21 spanner), and loosen the lock nut (D; SW 17).

Now the adjusting head and lock nut can be removed, to install the shock absorber.

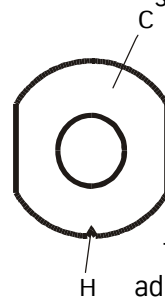
The installation of the shock absorbers must be done according to the mounting instructions.

Improper installation will render the adjustment function inoperative!!

Assembly B16

The square rod stop (F) must be turned in clockwise direction fully to its stop (soft).

Assemble first the lock nut, then the adjusting head. Do not thread the top of the adjusting head (C) past the stop at the bottom edge of the square section (F). A gap (L) of 0 to 1 mm is necessary!



Orient the score mark (H) on adjusting head in the centre of any of the four sides of the square rod stop. Then lock the parts together by screwing the lock nut up to the adjuster head.

The adjusting knob (A) must be placed flat on the adjusting head, so that the spring-loaded detent ball (G) is slightly preloaded. During adjustment the ball must snap with a positive „click“ into the notches on the lower side of the knob.

Position 9 must be positioned directly above the score mark on the adjusting head (C). Then tighten the set screw (B).

The adjusting knob (A) should move easily and with distinct „clicks“ at each adjustment position. If not, disassemble the adjuster mechanism and reassemble according to the instructions



Install shock absorber

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

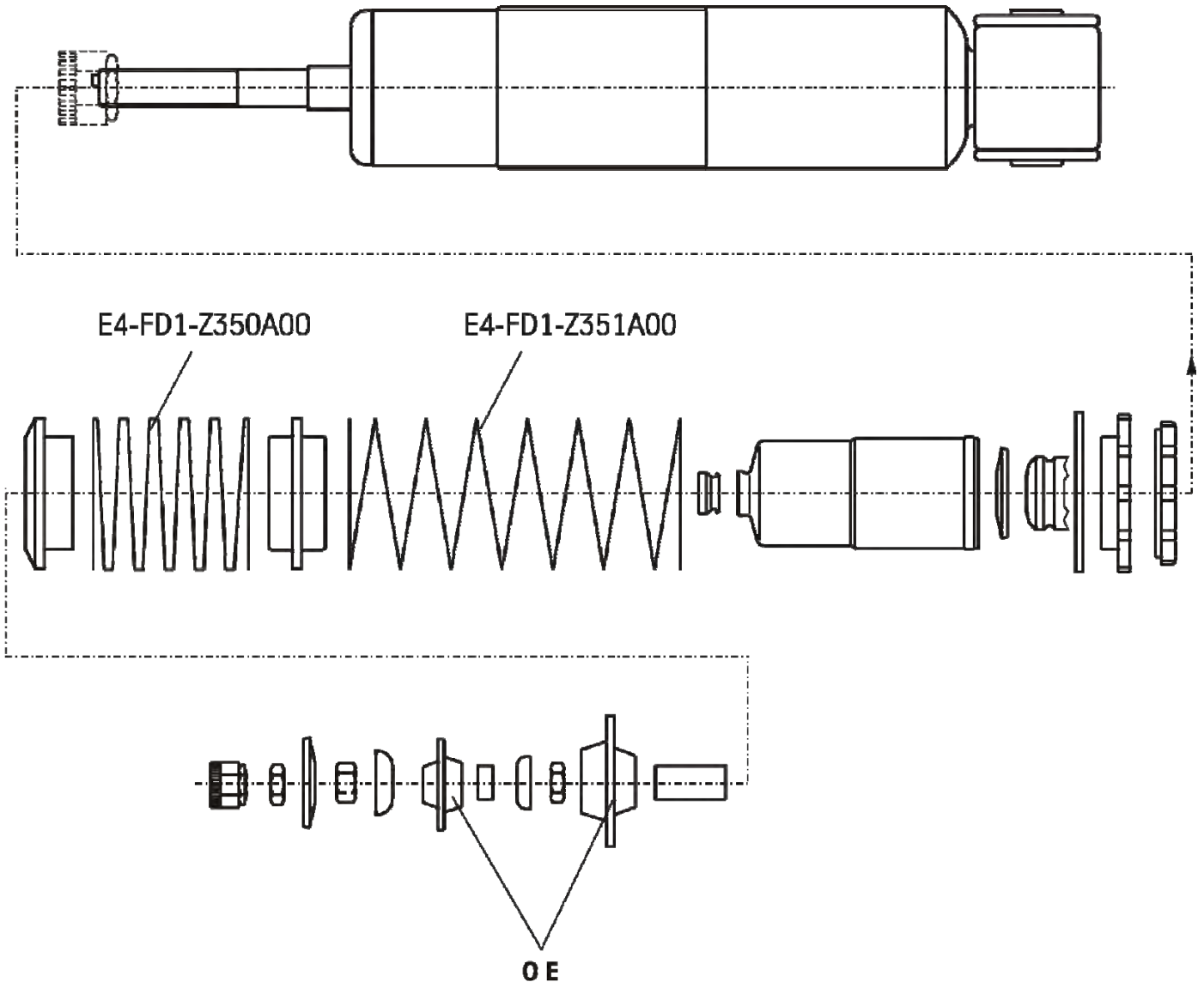


IMPORTANT! Spring plates must not be adjusted outside the ranges specified below!

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

Fit assembled shock absorber to the vehicle in reverse sequence of removal.

Finally tighten the top and bottom fixing mount after the vehicle has been lowered to the ground.



In certain cases, the fitment of the front axle struts can vary due to the introduction of technical changes. In all cases, steps must be taken to establish whether the vehicle in question is equipped with base axle or plus axle.

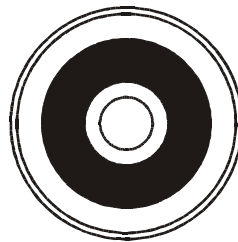
The difference between the two is explained below:

base axle: The strut top insulator, located on the spring tower and visible when the bonnet is open, is covered by a plastic cap. The top insulator has no reinforcing ribs.

plus axle: The top insulator is not covered. It has star shaped reinforcing ribs.

Plan view of top insulator

Basisachse/ Base axle >



Plusachse/ Plus axle >

