

## SIMILAR VIDEO TUTORIAL



This video shows the replacement procedure of a similar car part on another vehicle

### **Important!**

This replacement procedure can be used for:

BMW 1 Hatchback (E81) 120d 2.0, BMW 1 Hatchback (E81) 130i 3.0, BMW 1 Hatchback (E81) 118i 2.0, BMW 1 Hatchback (E81) 120i 2.0, BMW 1 Hatchback (E81) 118d 2.0, BMW 1 Hatchback (E81) 116d 2.0

The steps may slightly vary depending on the car design.

This tutorial was created based on the replacement procedure for a similar car part on: BMW 3 Saloon (E90) 318i 2.0

## REPLACEMENT: COIL SPRINGS – BMW 1 HATCHBACK (E81). LIST OF THE TOOLS YOU'LL NEED:



- Wire brush
- WD-40 spray
- Brake cleaner
- Copper grease
- Combination spanner #13
- Combination spanner #15
- Combination spanner #18
- Combination spanner #22
- Drive socket # 13
- Drive socket # 17
- Drive socket # 18
- Drive socket # 21
- Torx bit T45
- Wheel impact socket #17
- Ratchet wrench
- Torque wrench
- Flat chisel
- Hammer
- Flat Screwdriver
- Hydraulic strut spring compressor
- Hydraulic transmission jack
- Fender cover
- Wheel chock

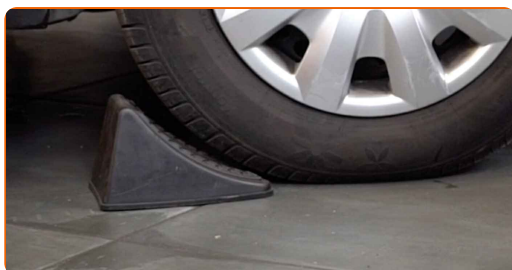
**Buy tools**

### Replacement: coil springs – BMW 1 Hatchback (E81). AUTODOC recommends:

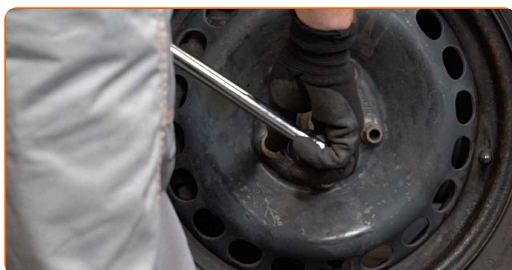
- Both coil springs of the front suspension should be replaced simultaneously.
- The replacement procedure is identical for the left and right coil springs of the front suspension.
- Please note: all work on the car – BMW 1 Hatchback (E81) – should be done with the engine switched off.

## CARRY OUT REPLACEMENT IN THE FOLLOWING ORDER:

- 1** Secure the wheels with chocks.



- 2** Loosen the wheel mounting bolts. Use wheel impact socket #17.



- 3** Raise the front of the car and secure on supports.

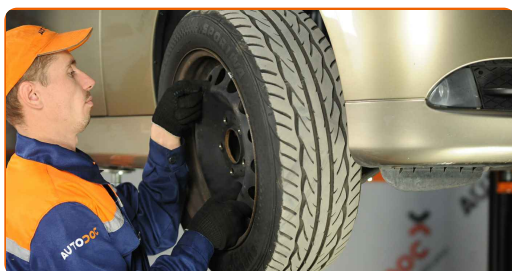
**4** Unscrew the wheel bolts.



### AUTODOC recommends:

- Warning! To avoid injury, hold the wheel while unscrewing the fastening bolts.  
BMW 1 Hatchback (E81)

**5** Remove the wheel.



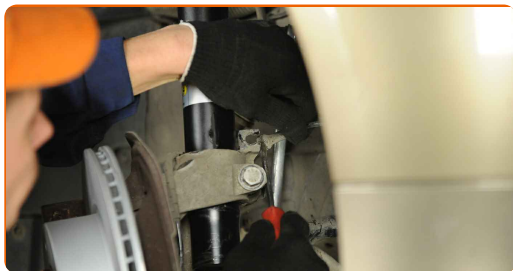
**6** Clean the stabiliser link fasteners. Use a wire brush. Use WD-40 spray.

**7** Unscrew the fastener connecting the stabilizer link to the shock strut. Use a combination spanner #15. Use a drive socket #17. Use a ratchet wrench.



**8** Remove the stabilizer rod.

- 9 Disconnect the ABS sensor wiring. Use a flat screwdriver.

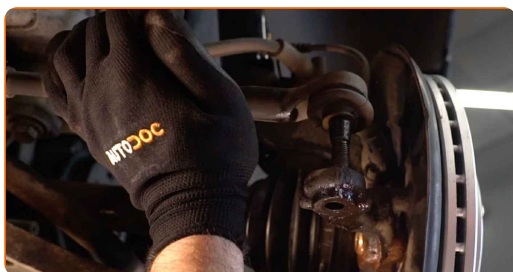


- 10 Clean the fastener connecting the tie rod end to the steering knuckle. Use a wire brush. Use WD-40 spray.

- 11 Unscrew the end fastening nut to the steering knuckle. Use a combination spanner #22. Use Torx T45. Use a ratchet wrench.

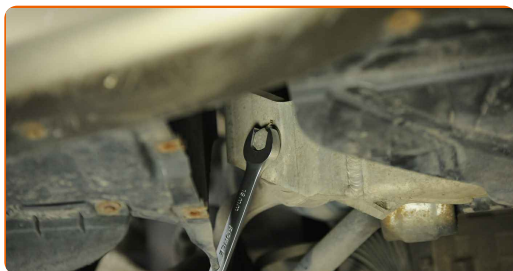


- 12 Disconnect the tie rod end from the steering knuckle.

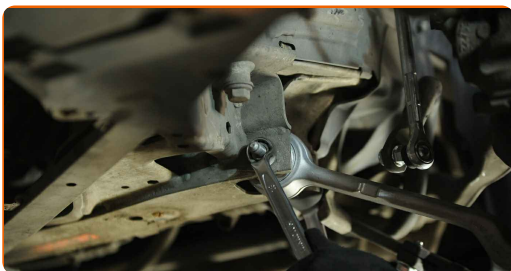


- 13 Clean the fasteners connecting the control arm to the subframe. Use a wire brush. Use WD-40 spray.

- 14 Loosen the front fastener of the control arm. Use a combination spanner #18.



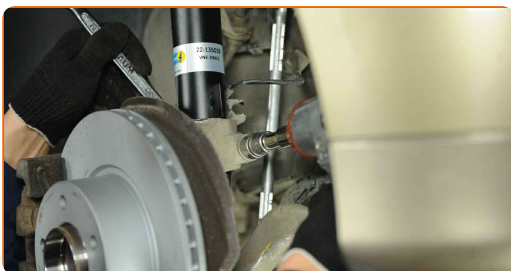
- 15 Unscrew the rear fastener connecting the control arm to the subframe. Use a combination spanner #18 (2 pieces).



- 16 Remove the rear fastener of the control arm.

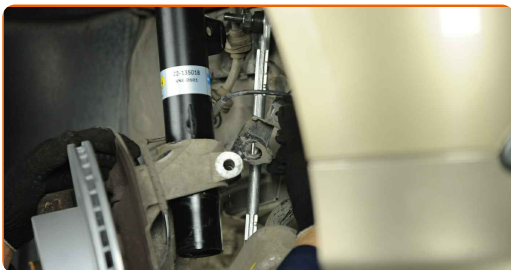
- 17 Clean the fasteners connecting the shock strut to the steering knuckle. Use a wire brush. Use WD-40 spray.

- 18 Unscrew the lower fastener connecting the shock strut to the steering knuckle. Use a combination spanner #18. Use a drive socket #18. Use a ratchet wrench.

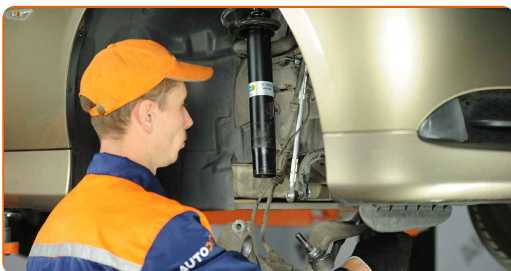


- 19 Remove the fastening bolt.

- 20 Release the lower fastener connecting the shock strut to the steering knuckle. Use a flat metal-working chisel. Use a hammer.



- 21 Disconnect the steering knuckle from the shock absorber strut.





Replacement: coil springs – BMW 1 Hatchback (E81). Tip from AUTODOC experts:

- Make sure that the steering knuckle is supported.

- 22 Lower the car.
- 23 Open the bonnet.
- 24 Use a fender protection cover to prevent damaging paintwork and plastic parts of the car.
- 25 Clean the fasteners of the shock strut upper mount. Use a wire brush. Use WD-40 spray.
- 26 Unscrew the top fastening of the shock strut mount. Use a combination spanner #13. Use a drive socket #13. Use a ratchet wrench.



AUTODOC recommends:

- Important! Hold the suspension strut while unscrewing the fastening bolts. BMW 1 Hatchback (E81)

- 27 Remove the suspension strut.



28

Set the shock absorber strut on the spring compressor tool.



Replacement: coil springs – BMW 1 Hatchback (E81). Tip from AUTODOC experts:

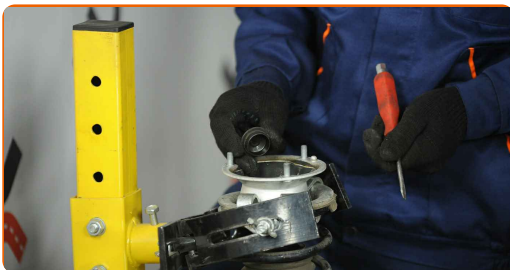
- Note that when using a spring compressor, spring coils need to be securely gripped, compressing the spring on the opposite sides.
- Ensure the correct position of the spring in the retainer.
- Make sure that the spring coils tightly entered the lock handles.

29

Compress the spring.

30

Remove the shock strut mount cap. Use a flat screwdriver.



31

Treat the shock strut rod. Use a wire brush. Use WD-40 spray.





32

Remove the strut piston rod nut. Use a drive socket #21. Use a ratchet wrench.



33

Release the coil spring.

34

Remove the top strut mount. Use a flat screwdriver.



35

Remove the shock absorber dust cap and the bump stop.



### AUTODOC recommends:

- Replacement: coil springs – BMW 1 Hatchback (E81). Carefully inspect the mount, the boot, and the bump stop of the shock absorber. Replace if necessary.

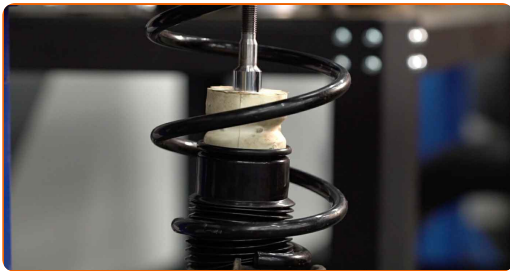
**36** Remove the spring.



**37** Install the spring on the shock absorber.



**38** Install the boot and a bump stop onto the shock absorber.



**39** Compress the spring.

**40** Install the upper strut mount and the strut mount bearing. Use a flat screwdriver.

