



How to change rear coil  
springs on **BMW 1  
Hatchback (E87)** –  
replacement guide

## SIMILAR VIDEO TUTORIAL



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

### **i Important!**

This replacement procedure can be used for:  
BMW 1 Hatchback (E87) 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 (E87). LIST OF THE TOOLS YOU'LL NEED:



- Wire brush
- WD-40 spray
- Brake cleaner
- Copper grease
- Combination spanner #21
- Drive socket # E12
- Drive socket # 21
- Wheel impact socket #17
- Ratchet wrench
- Flat Screwdriver
- Crow bar
- Hydraulic transmission jack
- Wheel chock

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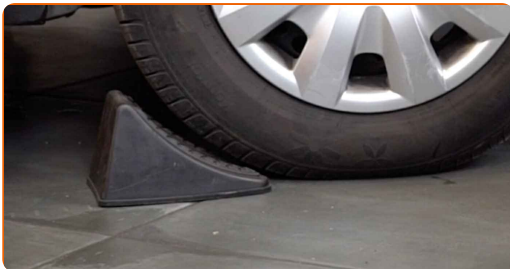
Replacement: coil springs – BMW 1 Hatchback (E87). AUTODOC experts recommend:

- Both coil springs of the rear suspension should be replaced simultaneously.
- The replacement procedure is identical for the left and right coil springs of the rear suspension.
- Please note: all work on the car – BMW 1 Hatchback (E87) – should be done with the engine switched off.

## CARRY OUT REPLACEMENT IN THE FOLLOWING ORDER:

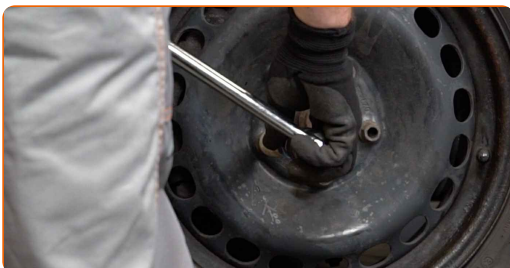
1

Secure the wheels with chocks.



2

Loosen the wheel mounting bolts. Use wheel impact socket #17.



3

Raise the rear of the car and secure on supports.

4

Unscrew the wheel bolts.

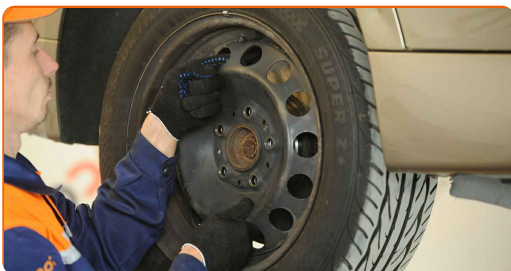


### AUTODOC recommends:

- Warning! To avoid injury, hold the wheel while unscrewing the fastening bolts.  
BMW 1 Hatchback (E87)

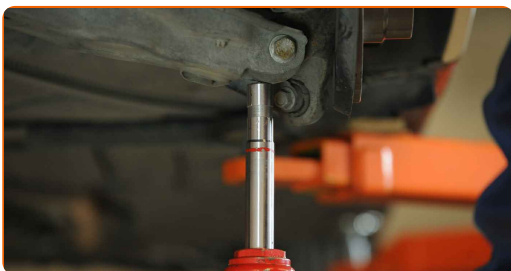
5

Remove the wheel.



6

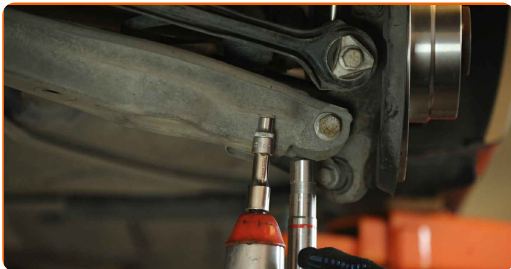
Support the stub axle. Use a hydraulic transmission jack.



7

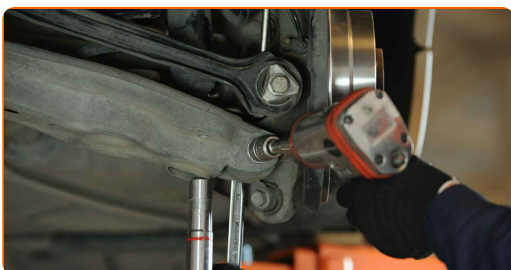
Clean the shock absorber fasteners. Use a wire brush. Use WD-40 spray.

- 8 Unscrew the lower fastener of the shock absorber. Use a drive socket #E12. Use a ratchet wrench.



- 9 Clean the control arm fasteners. Use a wire brush. Use WD-40 spray.

- 10 Unscrew the fastener connecting the control arm to the rear knuckle. Use a combination spanner #21. Use a drive socket #21. Use a ratchet wrench.



- 11 Remove the fastening bolt. Use a flat screwdriver.

- 12 Remove the support from under the stub axle.



### AUTODOC recommends:

- Replacement: coil springs – BMW 1 Hatchback (E87). Lower the transmission jack smoothly, without jerks, to avoid damaging components and mechanisms.

**13** Pull down the suspension control arm. Use a crowbar.

**14** Remove the spring.



**15** Clean the coil spring mounting seats. Use a wire brush. Use WD-40 spray.



**16** Pull down the suspension control arm. Use a crowbar.

**17** Install the spring.



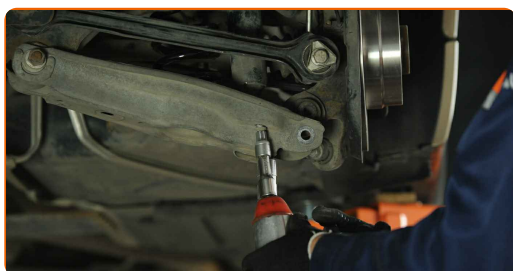
Replacement: coil springs – BMW 1 Hatchback (E87). Tip from AUTODOC experts:

- Make sure that the coil spring is correctly positioned in its mounting seats.

- 18 Support the stub axle. Use a hydraulic transmission jack.



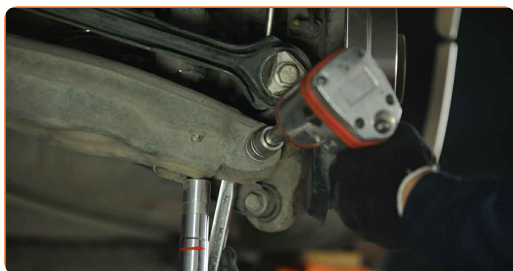
- 19 Tighten the lower fastener of the shock absorber. Use a drive socket #E12. Use a torque wrench. Tighten it to 47 Nm torque.



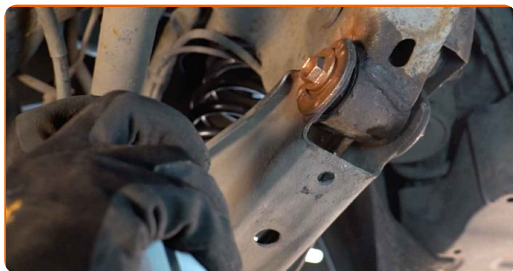
- 20 Treat the shock absorber fasteners. Use copper grease.

- 21 Install the fastening bolt. Use a flat screwdriver.

- 22 Tighten the fastener connecting the suspension arm to the rear knuckle. Use a combination spanner #21. Use a drive socket #21. Use a torque wrench. Tighten it to 100 Nm torque.



- 23 Treat the rear knuckle fasteners. Use copper grease.



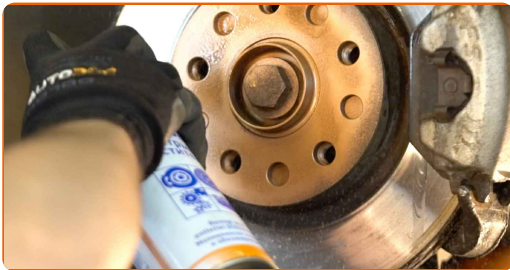


24 Remove the support from under the stub axle.

### AUTODOC recommends:

- BMW 1 Hatchback (E87) – Do not lower the transmission jack sharply to avoid damaging components and mechanisms of the car.

25 Treat the surface where the brake disc contacts the wheel rim. Use copper grease.



26 Clean the brake disk surface. Use a brake cleaner.

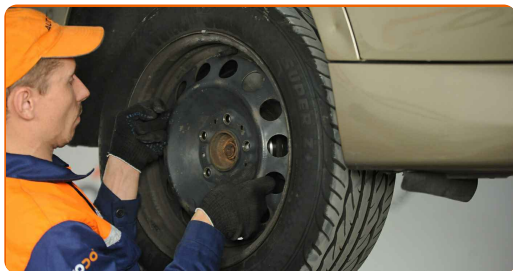


### AUTODOC recommends:

- Replacement: coil springs – BMW 1 Hatchback (E87). After applying the spray, wait a few minutes.

27

Install the wheel.

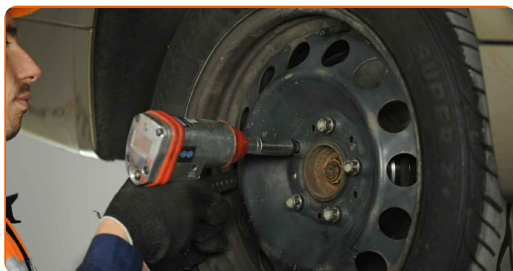


### AUTODOC recommends:

- Warning! To avoid injury, hold the wheel while screwing in the fastening bolts on the car. BMW 1 Hatchback (E87)

28

Screw in the wheel bolts. Use wheel impact socket #17.



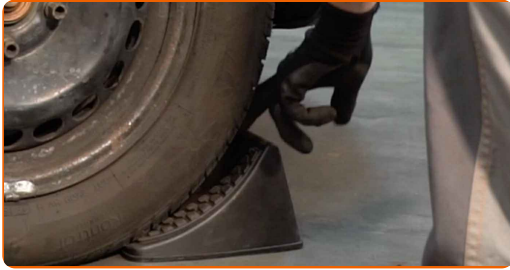
29

Lower the car and working in a cross order, tighten the wheel bolts. Use wheel impact socket #17. Use a torque wrench. Tighten it to 120 Nm torque.



30

Remove the jacks and chocks.



**WELL DONE!** 

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