

## SIMILAR VIDEO TUTORIAL



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

### **Important!**

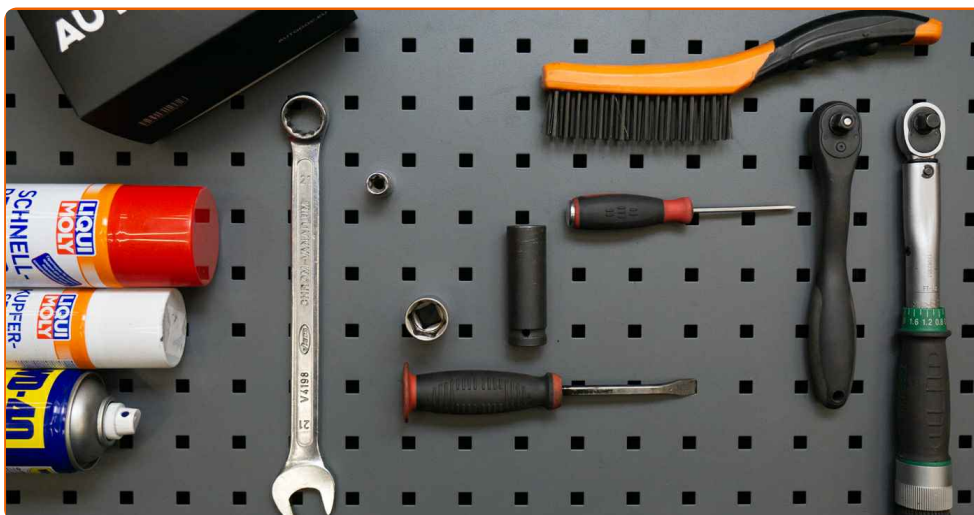
This replacement procedure can be used for:

BMW 1 Hatchback (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

**Buy tools**

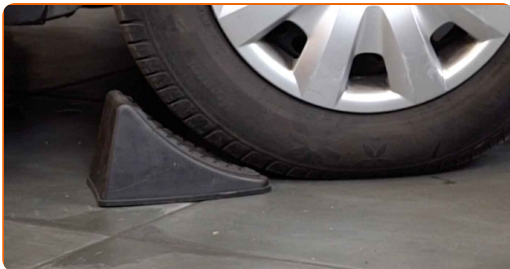
Replacement: coil springs – BMW 1 Hatchback (E87). AUTODOC experts recommend:

- 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:

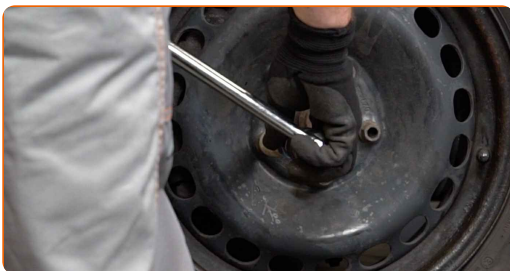
1

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.

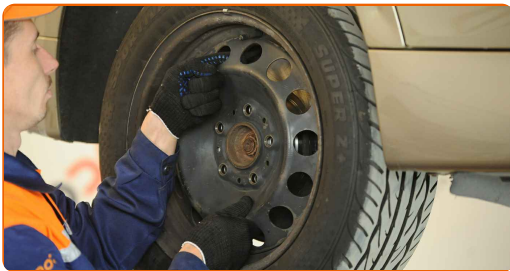


### AUTODOC recommends:

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

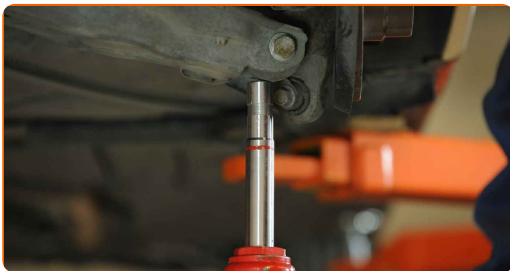
5

Remove the wheel.



6

Support the stub axle. Use a hydraulic transmission jack.

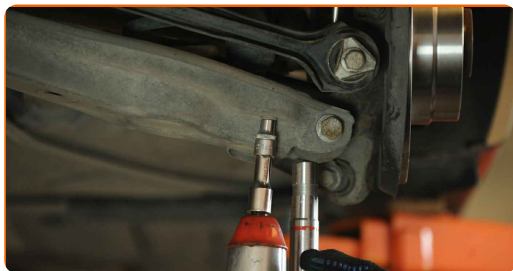


7

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.

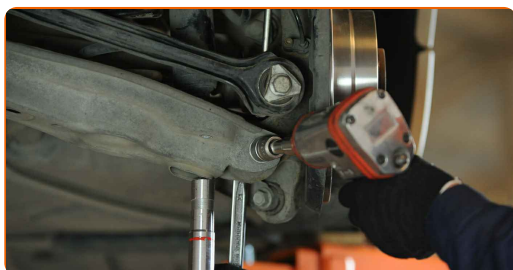


9

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.

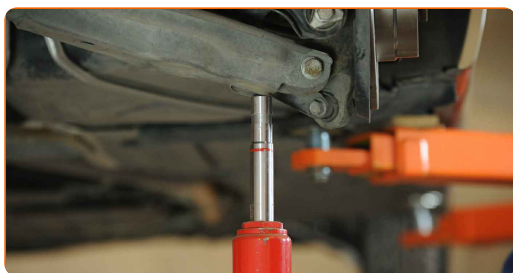


11

Remove the fastening bolt. Use a flat screwdriver.

12

Remove the support from under the stub axle.



### AUTODOC recommends:

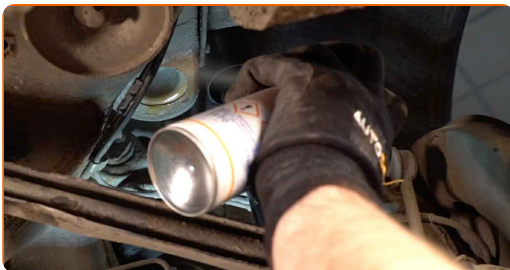
- Replacement: coil springs – BMW 1 Hatchback (E87). Lower the transmission jack smoothly, without jerks, to avoid damaging components and mechanisms.

**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.



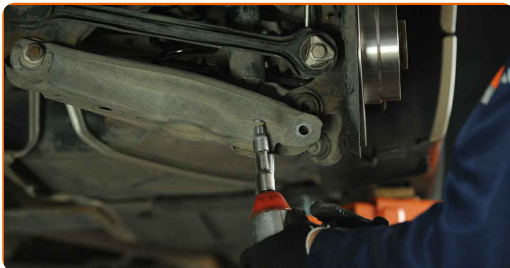
Replacement: coil springs – BMW 1 Hatchback (E87). Tip from AUTODOC experts:

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

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



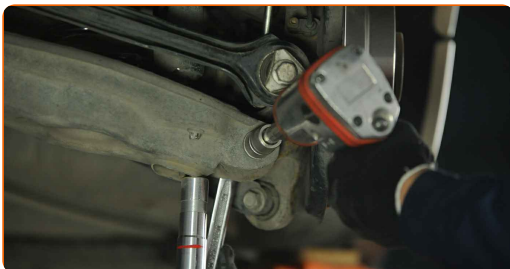
- 19** Tighten the lower fastener of the shock absorber. Use a drive socket #E12. Use a torque wrench. Tighten it to 47 Nm torque.



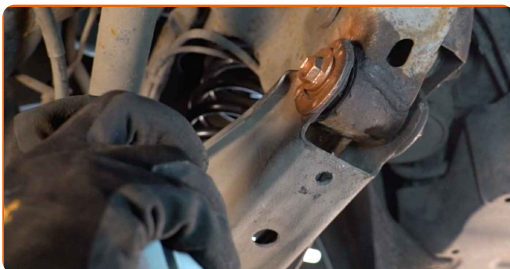
- 20** Treat the shock absorber fasteners. Use copper grease.

- 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.



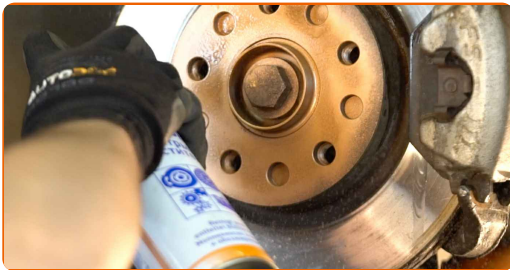


**24** Remove the support from under the stub axle.

#### 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.



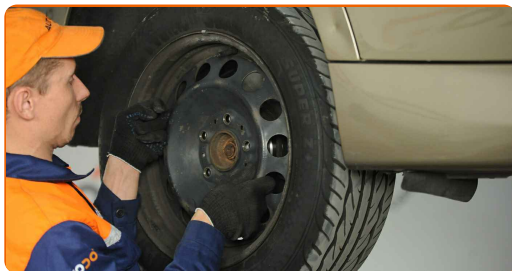
#### AUTODOC recommends:

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



27

Install the wheel.

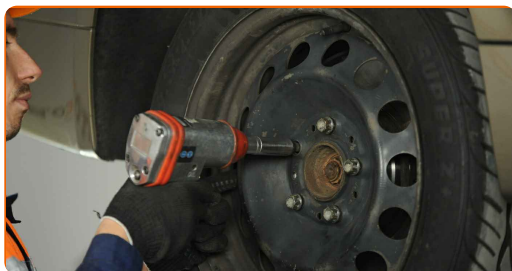


### AUTODOC recommends:

- 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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