



How to change rear coil
springs on **Mini R50, R53**
– replacement guide

VIDEO TUTORIAL



Important!

This replacement procedure can be used for:

MINI Hatchback (R50, R53) 1.6 One, MINI Hatchback (R50, R53) 1.6 Cooper, MINI Hatchback (R50, R53) 1.4 D One, MINI Hatchback (R50, R53) 1.4 One D

The steps may slightly vary depending on the car design.

REPLACEMENT: COIL SPRINGS – MINI R50, R53. TOOLS
YOU MIGHT NEED:



- Wire brush
- WD-40 spray
- Copper grease
- Combination spanner #19
- Drive socket # 13
- Drive socket # 21
- HEX bit No.H6
- Wheel impact socket #17
- Ratchet wrench
- Torque wrench
- Tap wrench
- Hydraulic transmission jack
- Hydraulic strut spring compressor
- Wheel chock

BUY TOOLS

Replacement: coil springs – Mini R50, R53. Tip from AUTODOC:

- 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.
- All work should be done with the engine stopped.

REPLACEMENT: COIL SPRINGS – MINI R50, R53. TAKE THE FOLLOWING STEPS:

1

Secure the wheels with chocks.



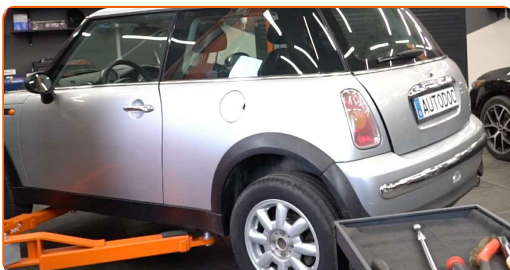
2

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.
Mini R50, R53

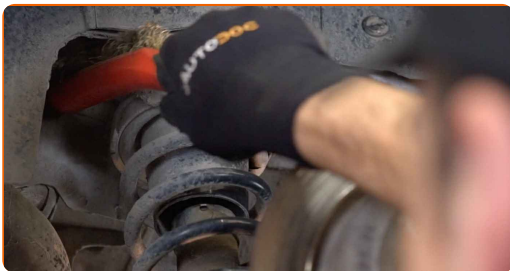
5

Remove the wheel.



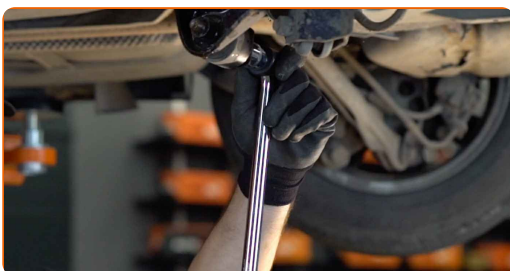
6

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



7

Unscrew the lower fastener of the shock absorber strut. Use a drive socket #21. Use a ratchet wrench. Use a tap wrench.



8

Disconnect the wiring and the brake hose from the bracket on the shock strut.



9

Unscrew the upper fastening of the shock absorber strut. Use a drive socket #13. Use a ratchet wrench.

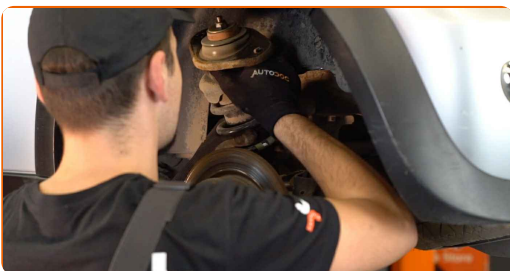


AUTODOC recommends:

- Mini R50, R53 – To avoid injury, hold the suspension strut while unscrewing the fastening bolts.

10

Remove the suspension strut.



11

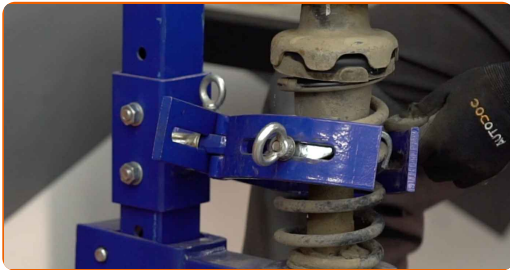
Set the shock absorber strut on the spring compressor tool.



Replacement: coil springs – Mini R50, R53. AUTODOC experts recommend:

- 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.

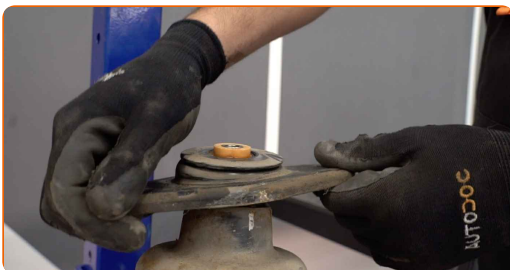
12 Compress the spring.



13 Remove the strut piston rod nut. Use HEX No.H6. Use a combination spanner #19. Use a ratchet wrench.



14 Remove the shock absorber mount, boot and bump stop.



AUTODOC recommends:

- Replacement: coil springs – Mini R50, R53. Carefully inspect the mount, the boot, and the bump stop of the shock absorber. Replace if necessary.

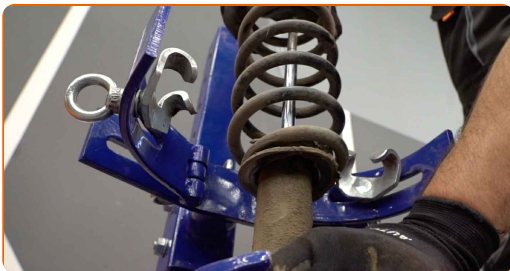
15

Release the coil spring.



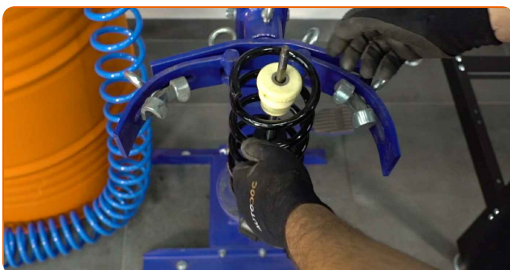
16

Remove the spring.



17

Install the spring.



18

Compress the spring.



19 Install the boot and a bump stop onto the shock absorber.

20 Install the upper strut mount and the strut mount bearing.



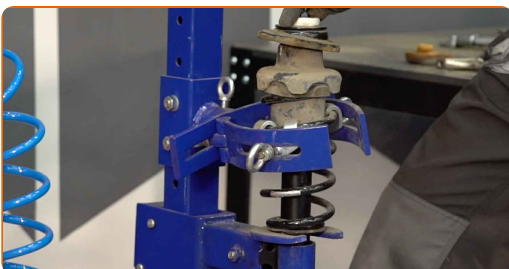
21 Tighten the shock strut piston rod nut. Use HEX No.H6. Use a combination spanner #19. Use a torque wrench. Tighten it to 30 Nm torque.



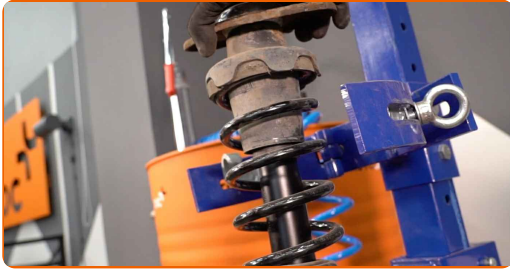
Replacement: coil springs – Mini R50, R53. Tip from AUTODOC:

- Ensure the correct position of the spring in the retainer.

22 Decompress the spring.



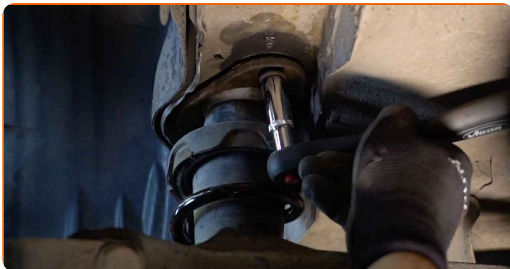
23 Remove the assembled shock strut.



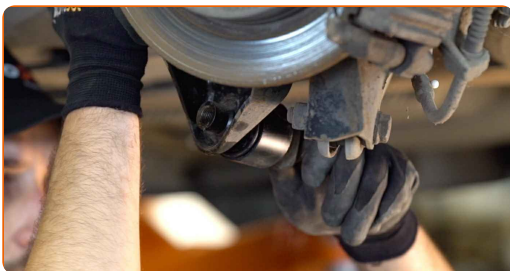
24 Install the shock strut into the wheel arch.



25 Tighten the shock strut top mount. Use a drive socket #13. Use a torque wrench. Tighten it to 56 Nm torque.



26 Install the lower fastener of the shock strut.

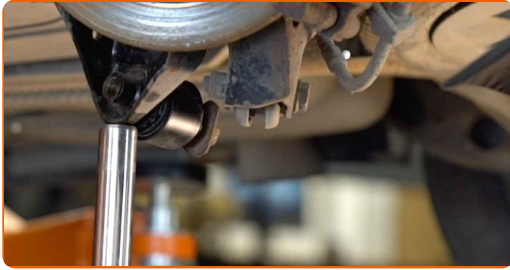


AUTODOC recommends:

- Mini R50, R53 – To avoid injury, hold the suspension strut while screwing in the fastening bolts.

27

Support the arm. Use a hydraulic transmission jack.



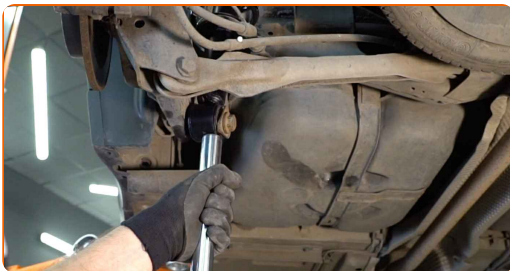
28

Tighten the lower fastening of the shock absorber. Use a drive socket #21. Use a torque wrench. Tighten it to 140 Nm torque.



29

Remove the support from under the rear arm.



AUTODOC recommends:

- Replacement: coil springs – Mini R50, R53. Lower the transmission jack smoothly, without jerks, to avoid damaging components and mechanisms.

30

Clean the wheel rim mounting seat. Use a wire brush. Treat the contacting surface. Use copper grease.



31

Install the wheel.



AUTODOC recommends:

- Warning! To avoid injury, hold the wheel while screwing in the fastening bolts on the car. Mini R50, R53

32

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



33

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 110 Nm torque.

**34**

Remove the jacks and chocks.

WELL DONE! 👍

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