



How to change front coil
springs on **VOLVO S40 II**
(MS, 544) – replacement
guide

SIMILAR VIDEO TUTORIAL



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

Important!

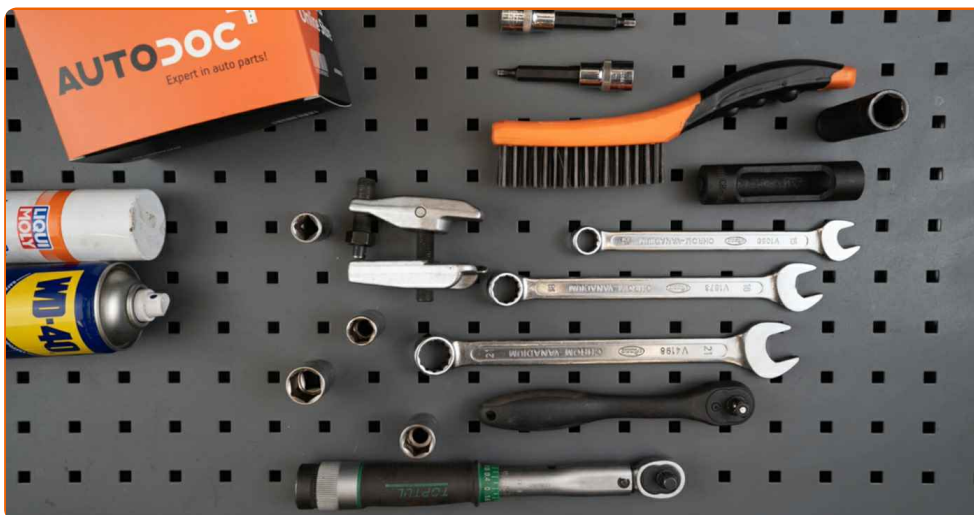
This replacement procedure can be used for:

VOLVO S40 II (MS, 544) 1.6 D2

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: VOLVO V50 (MW, 545) 1.6 D

REPLACEMENT: COIL SPRINGS – VOLVO S40 II (MS, 544). LIST OF THE TOOLS YOU'LL NEED:



- Wire brush
- WD-40 spray
- Copper grease
- Combination spanner #15
- Combination spanner #18
- Combination spanner #21
- Impact socket №13
- Impact socket №15
- Impact socket №18
- Impact socket №21
- HEX bit no.H5.
- HEX bit no.H6.
- Wheel impact socket #19
- Shock absorber socket
- Ratchet wrench
- Torque wrench
- Tap wrench
- Hammer
- Ball joint puller
- Crow bar
- Hydraulic strut spring compressor
- Hydraulic transmission jack
- Fender cover
- Wheel chock

Buy tools

Replacement: coil springs – VOLVO S40 II (MS, 544). AUTODOC recommends:

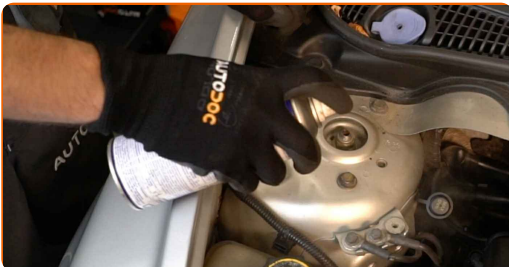
- Both coil springs of the front suspension should be replaced simultaneously.
- The replacement procedure is identical for the left and right coil springs of the front suspension.
- All work should be done with the engine stopped.

REPLACEMENT: COIL SPRINGS – VOLVO S40 II (MS, 544). RECOMMENDED SEQUENCE OF STEPS:

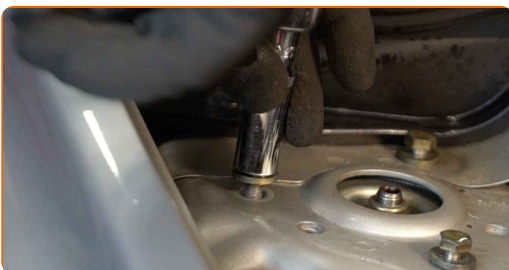
1 Open the bonnet.

2 Use a fender protection cover to prevent damaging paintwork and plastic parts of the car.

3 Clean the fasteners of the shock strut upper mount. Use WD-40 spray.



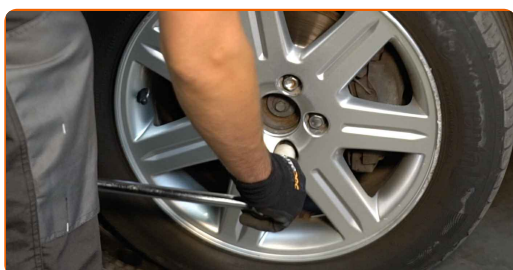
4 Loosen the upper fastener of the shock strut mount. Use a drive socket #13. Use a ratchet wrench.



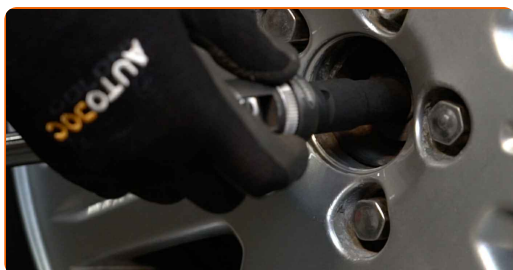
5 Secure the wheels with chocks.



6 Loosen the wheel mounting bolts. Use wheel impact socket #19.

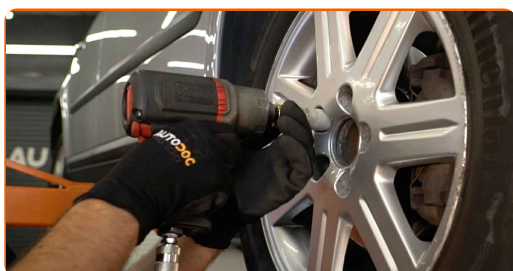


7 Loosen the fastener of the driveshaft. Use a drive socket #13. Use a tap wrench.



8 Raise the front of the car and secure on supports.

9 Unscrew the wheel bolts.



AUTODOC recommends:

- Important! Hold the wheel while unscrewing the fastening bolts. VOLVO S40 II (MS, 544)

10

Remove the wheel.



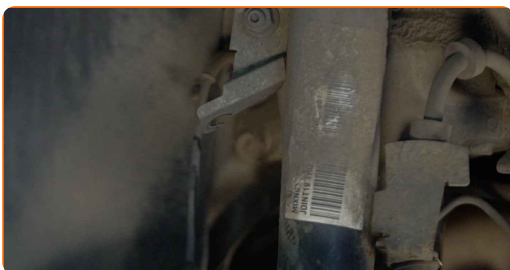
11

Remove the fastening bolt.



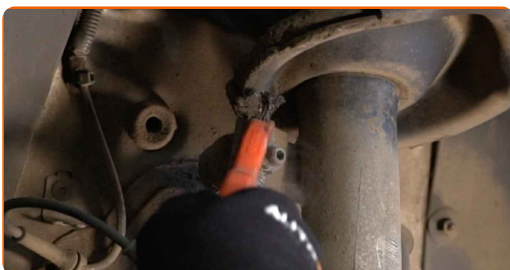
12

Disconnect the ABS sensor cable fastener.



13

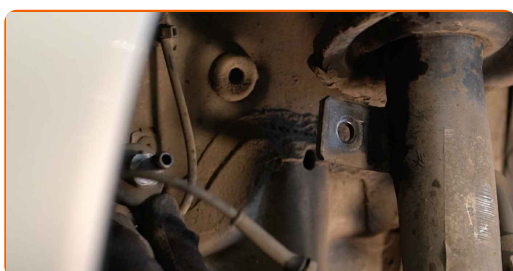
Clean the stabiliser link fasteners. Use a wire brush. Use WD-40 spray.



- 14** Unscrew the fastener connecting the stabilizer link to the shock strut. Use a combination spanner #15. Use HEX No.H5. Use a ratchet wrench.



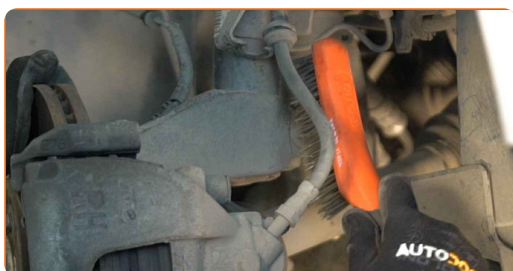
- 15** Remove the stabilizer rod.



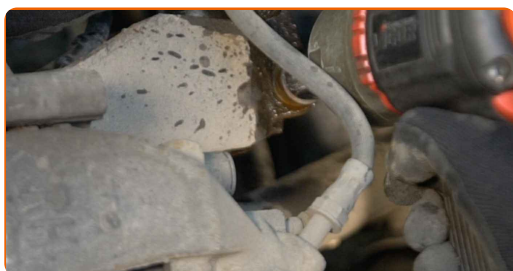
- 16** Detach the brake hose from the shock strut. Use a crowbar.



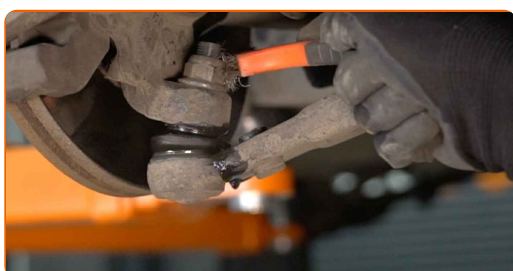
- 17** Clean the fasteners connecting the shock strut to the steering knuckle. Use a wire brush. Use WD-40 spray.



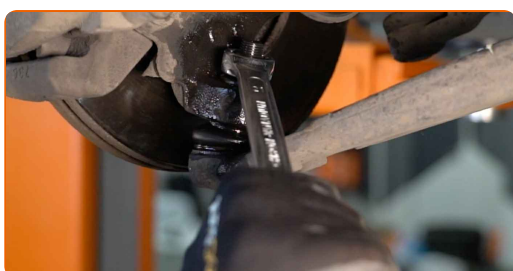
- 18 Unscrew the lower fastener connecting the shock strut to the steering knuckle. Use a drive socket #15. Use a ratchet wrench. Use a tap wrench.



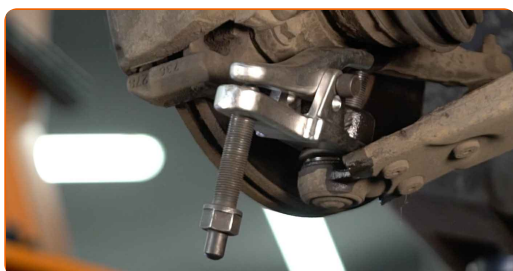
- 19 Clean the fastener that connects the ball joint to the steering knuckle. Use a wire brush. Use WD-40 spray.



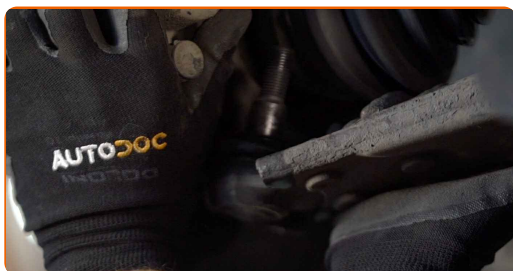
- 20 Unscrew the ball joint fastening to the steering knuckle. Use a combination spanner #21.



- 21 Disconnect the ball joint from the steering knuckle. Use a ball joint puller. Use a hammer.



22 Disconnect the lower arm from the steering knuckle.



23 Remove the drive shaft.



24 Prop up the steering knuckle. Use a hydraulic transmission jack.



25 Release the lower fastener connecting the shock strut to the steering knuckle. Use a special drive socket to remove the shock absorber. Use a ratchet wrench.



26 Remove the fastening bolt.



27 Disconnect the steering knuckle from the shock absorber strut.



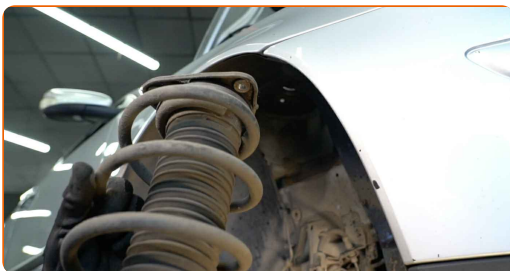
28 Unscrew the top fastening of the shock strut mount.



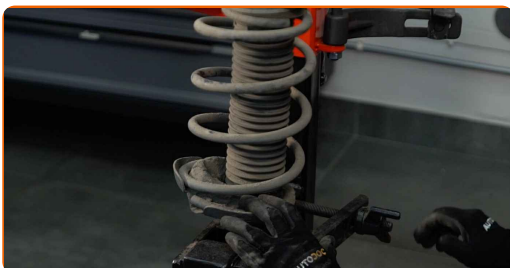
Replacement: coil springs – VOLVO S40 II (MS, 544). Tip from AUTODOC experts:

- To avoid injuries, hold the shock strut when undoing the fastening bolts.

29 Remove the suspension strut.



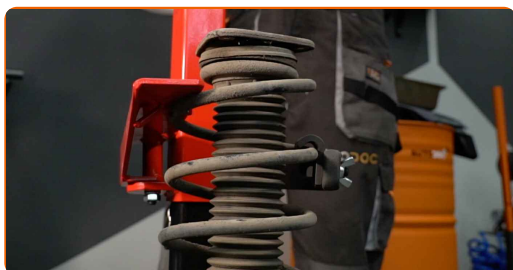
30 Set the shock absorber strut on the spring compressor tool.



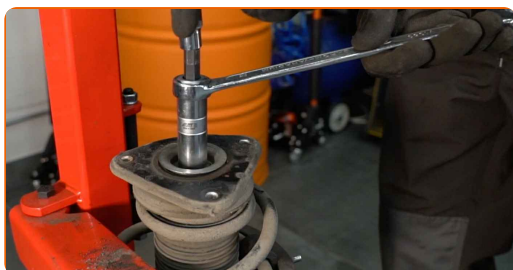
Replacement: coil springs – VOLVO S40 II (MS, 544). Tip:

- 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.

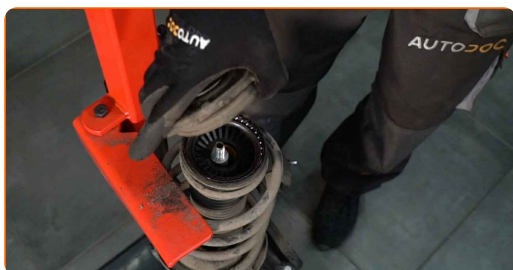
31 Compress the spring.



32 Remove the strut piston rod nut. Use a drive socket #18. Use HEX No.H6. Use a ratchet wrench.



33 Remove the top mount of the shock absorber strut together with the mount bearing.



34 Remove the shock absorber dust cap and the bump stop.



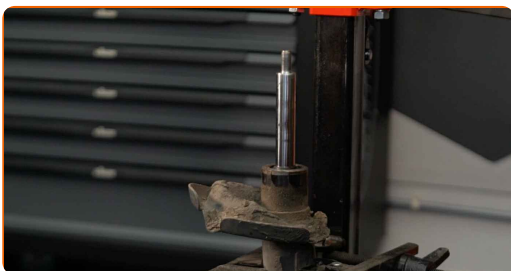
AUTODOC recommends:

- Replacement: coil springs – VOLVO S40 II (MS, 544). Carefully inspect the mount, the boot, and the bump stop of the shock absorber. Replace if necessary.

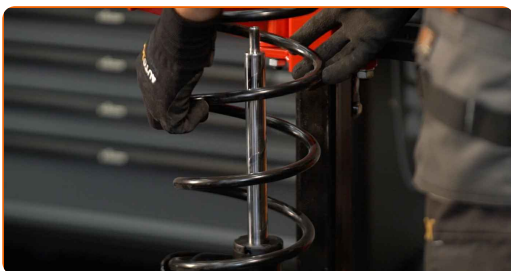
35 Release the coil spring.



36 Remove the spring.



37 Install the spring on the shock absorber.



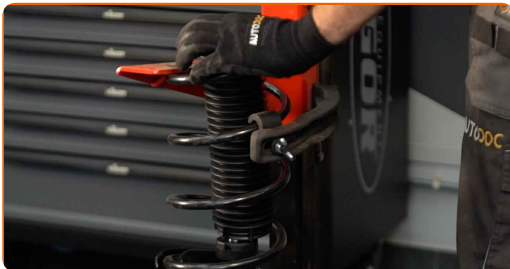
38

Compress the spring.



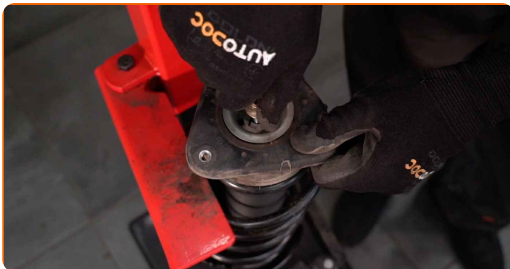
39

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



40

Install the upper strut mount and the strut mount bearing.



41

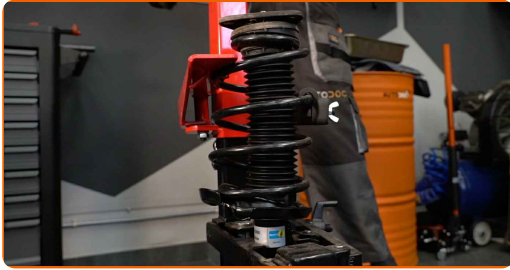
Tighten the shock strut piston rod nut. Use HEX No.H6. Use a drive socket #18. Use a torque wrench. Tighten it to 50 Nm torque.



Replacement: coil springs – VOLVO S40 II (MS, 544). Tip from AUTODOC experts:

- Check to make sure the spring is positioned correctly. Avoid its misalignment.

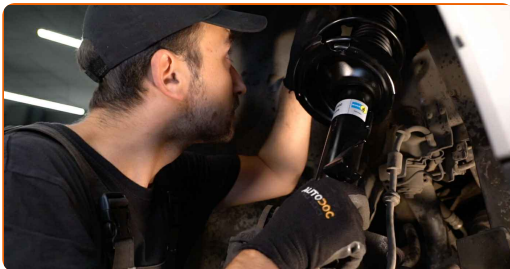
42 Decompress the spring.



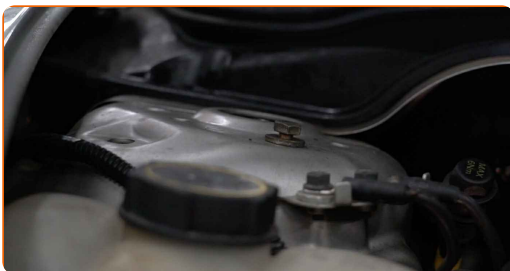
43 Remove the assembled shock strut.



44 Install the shock strut into the wheel arch.



45 Screw the top fastening of the shock strut mount. Do not tighten it.



AUTODOC recommends:

- Important! Hold the suspension strut while screwing in the fastening bolts.
VOLVO S40 II (MS, 544)

46

Treat the shock strut mounting seat on the steering knuckle. Use a wire brush. Use WD-40 spray.



47

Fix the shock absorber strut on the steering knuckle.



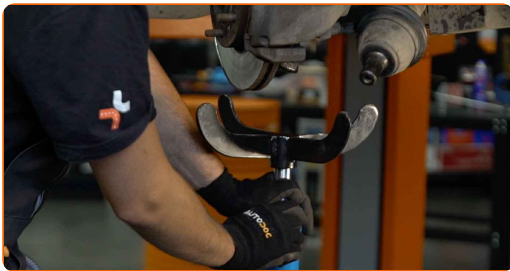
48

Install the fastening bolt. Use a drive socket #15.



49

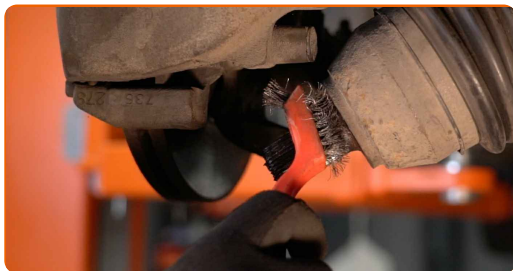
Remove the support from under the steering knuckle.



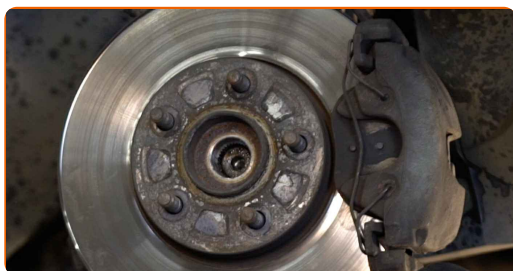
AUTODOC recommends:

- VOLVO S40 II (MS, 544) – Do not lower the transmission jack sharply to avoid damaging components and mechanisms of the car.

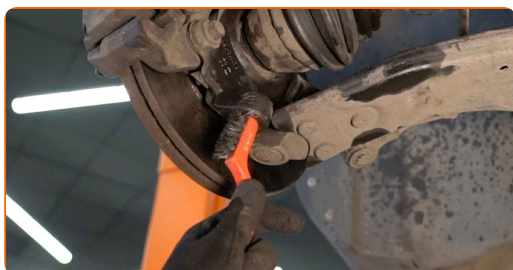
50 Clean the splines of the drive shaft CV joint. Use a wire brush. Use WD-40 spray.



51 Install the drive shaft.



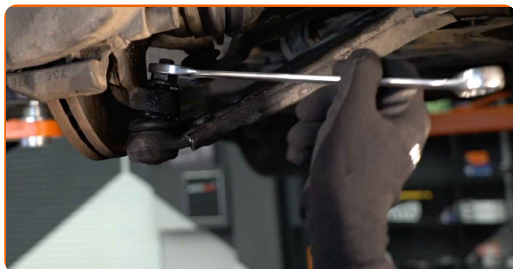
52 Clean the ball joint mounting seat. Use a wire brush. Use WD-40 spray.



53 Connect the ball joint to the steering knuckle. Connect the lower arm to the steering knuckle.

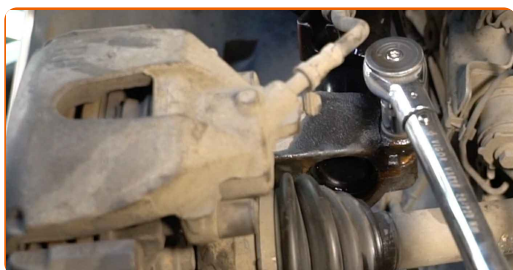


54 Tighten the ball joint fastener. Use a combination spanner #21. Use a torque wrench. Tighten it to 70 Nm torque.

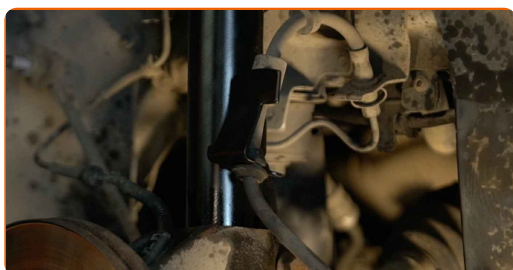


55 Screw in the fastener that connects the shock strut to the steering knuckle. Use a combination spanner #18. Use a drive socket #21. Use a ratchet wrench. Use a tap wrench.

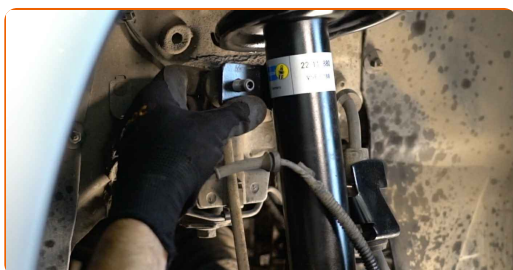
56 Tighten the lower fasteners connecting the shock strut to the steering knuckle. Use a drive socket #15. Use a torque wrench. Tighten it to 90 Nm torque.



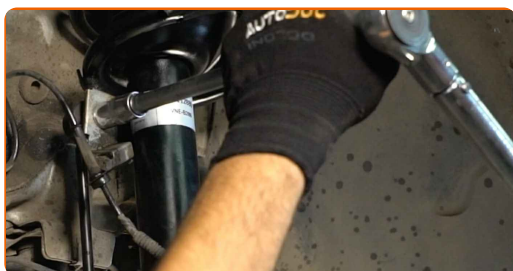
57 Fasten the brake hose on the strut.



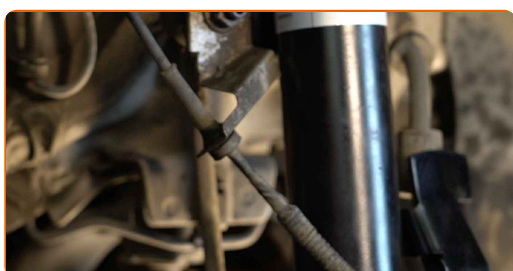
58 Install the transverse stabilizer link.



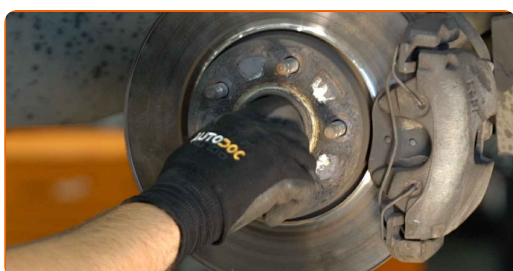
- 59** Tighten the fastener connecting the stabilizer link to the shock strut. Use a combination spanner #15. Use HEX No.H5. Use a torque wrench. Tighten it to 60 Nm torque.



- 60** Connect the fastener of the ABS sensor cable to the shock absorber strut.

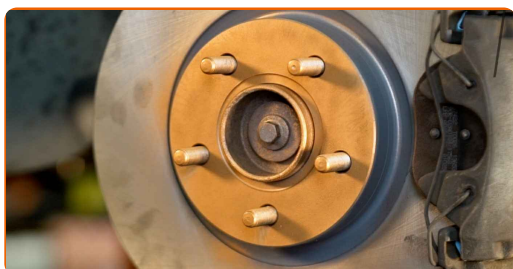


- 61** Install and tighten the drive shaft bolt. Use a drive socket #13.



- 62** Treat the shock strut fasteners. Use copper grease.

- 63** Treat the surface where the brake disc contacts the wheel rim. Use copper grease.



64

Clean the brake disk surface. Use a brake cleaner.

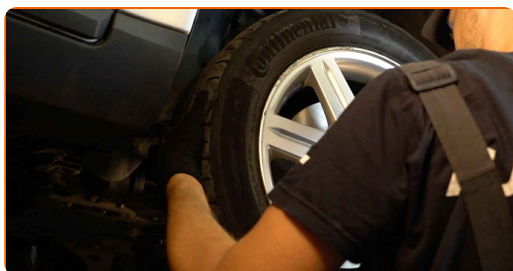


Replacement: coil springs – VOLVO S40 II (MS, 544). Professionals recommend:

- After applying the spray, wait a few minutes.

65

Install the wheel.

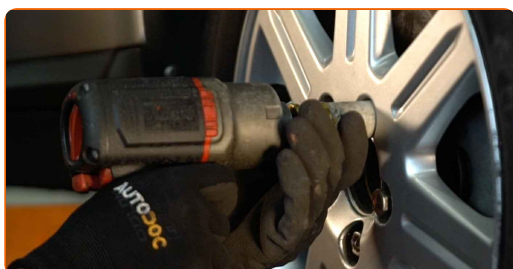


AUTODOC recommends:

- Warning! To avoid injury, hold the wheel while screwing in the fastening bolts on the car. VOLVO S40 II (MS, 544)

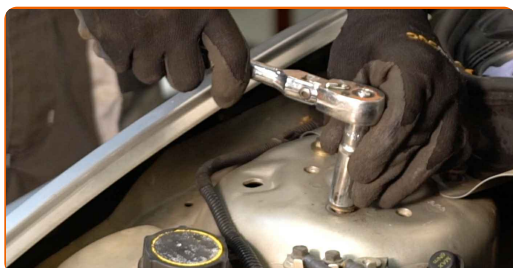
66

Screw in the wheel bolts. Use wheel impact socket #19.

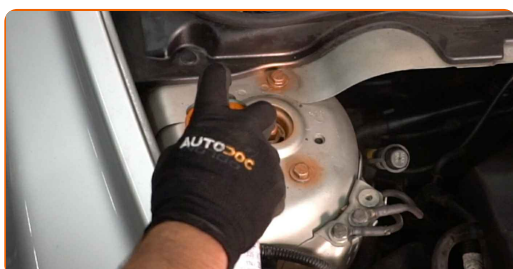


67 Lower the car.

68 Tighten the upper fastener of the shock absorber strut mount. Use a drive socket #13. Use a torque wrench. Tighten it to 30 nm torque.



69 Treat the shock strut fasteners. Treat the shock strut rod. Use copper grease.



70 Tighten the bolt connecting the drive shaft to the wheel hub. Use a drive socket #13. Use a torque wrench. Tighten it to 35 Nm torque.+90°



AUTODOC recommends:

- Important! Be sure to use new fasteners.

71

Tighten the wheel bolts using a criss-cross pattern. Use a torque wrench. Tighten it to 110 Nm torque.

**72**

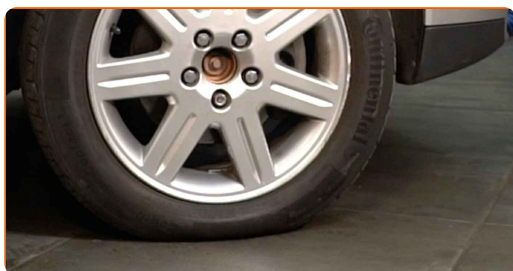
Remove the fender protection cover.

73

Close the hood.

74

Remove the jacks and chocks.



WELL DONE! 

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