



How to change front coil  
springs on **MERCEDES-  
BENZ VITO Box (638)** –  
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:

MERCEDES-BENZ VITO Box (638) 108 D 2.3 (638.064, 638.068), MERCEDES-BENZ VITO Box (638) 110 D 2.3 (638.074, 638.078), MERCEDES-BENZ VITO Box (638) 113 2.0 (638.014, 638.094), MERCEDES-BENZ VITO Box (638) 114 2.3 (638.034, 638.094), MERCEDES-BENZ VITO Box (638) 108 CDI 2.2 (638.094), MERCEDES-BENZ VITO Box (638) 110 CDI 2.2 (638.094), MERCEDES-BENZ VITO Box (638) 112 CDI 2.2 (638.094)

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: MERCEDES-BENZ VITO Bus (638) 112 CDI 2.2 (638.194)

**REPLACEMENT: COIL SPRINGS – MERCEDES-BENZ VITO BOX (638). TOOLS YOU MIGHT NEED:**



- Wire brush
- WD-40 spray
- Copper grease
- Combination spanner #16
- Combination spanner #21
- HEX bit No.H6
- Drive socket # 7
- Drive socket # 16
- Drive socket # 21
- Wheel impact socket #17
- Ratchet wrench
- Torque wrench
- Phillips screwdriver
- Tap wrench
- Crow bar
- Microfibre towel
- Hydraulic transmission jack
- Hydraulic strut spring compressor
- Fender cover
- Wheel chock

**Buy tools**

Replacement: coil springs – MERCEDES-BENZ VITO Box (638). AUTODOC experts recommend:

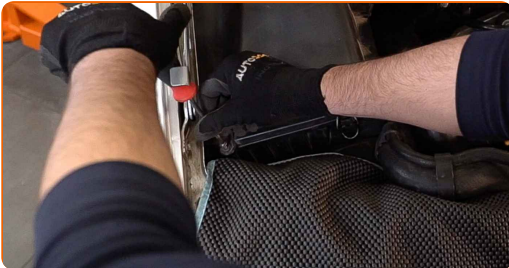
- Both coil springs of the front suspension should be replaced simultaneously.
- The replacement procedure is identical for the left and right coil springs of the front suspension.
- All work should be done with the engine stopped.

## REPLACEMENT: COIL SPRINGS – MERCEDES-BENZ VITO BOX (638). TAKE THE FOLLOWING STEPS:

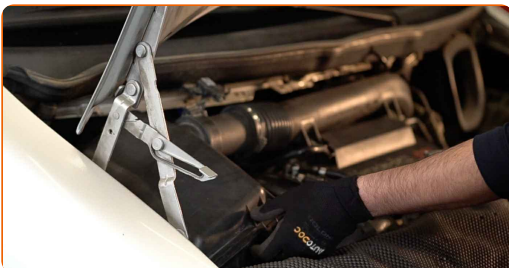
**1** Open the bonnet.

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

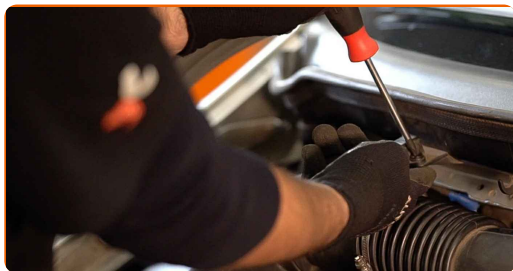
**3** Undo the fastening screws of the air filter cover. Use a Phillips screwdriver.



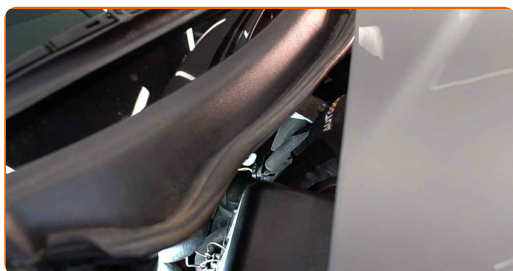
**4** Release the air filter cover clips.



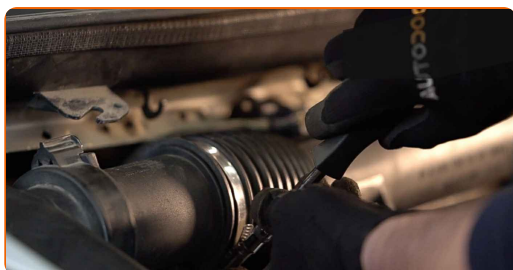
**5** Unscrew the fasteners of the vacuum pressure converter valve. Use a Phillips screwdriver.



**6** Unplug the mass air flow sensor connector.



**7** Detach the air intake hose clamp. Use a drive socket #7. Use a ratchet wrench.



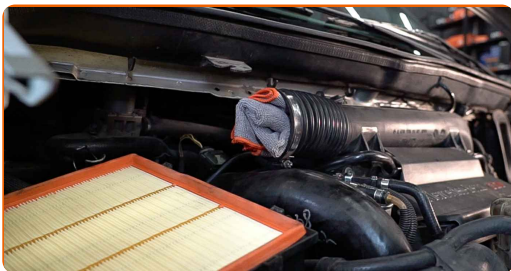
**8** Disconnect the air intake pipe from the air filter housing. Use a crowbar.



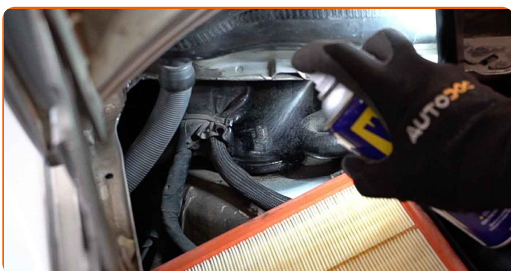
**9** Take off the filter lid.



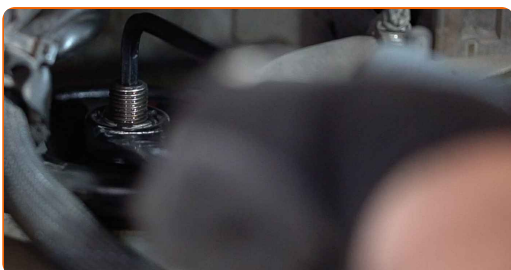
**10** Cover the air intake hose with a microfibre towel to prevent dust and dirt from getting into the system.



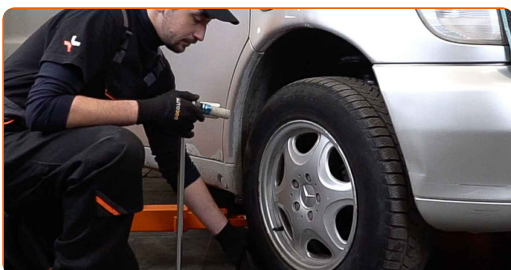
**11** Clean the fasteners of the shock strut upper mount. Use WD-40 spray.



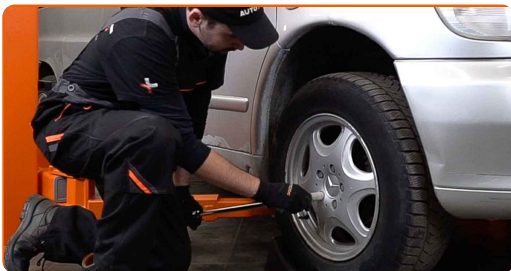
**12** Loosen the upper fastener of the shock strut mount. Use a combination spanner #21. Use HEX No.H6.



**13** Secure the wheels with chocks.



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



**15** Raise the front of the car and secure on supports.

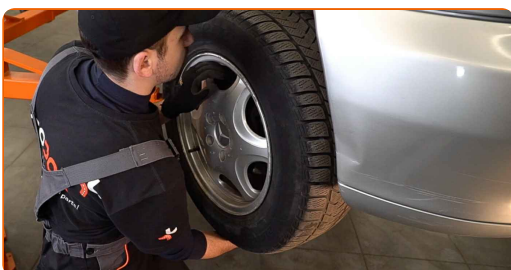
**16** Unscrew the wheel bolts.



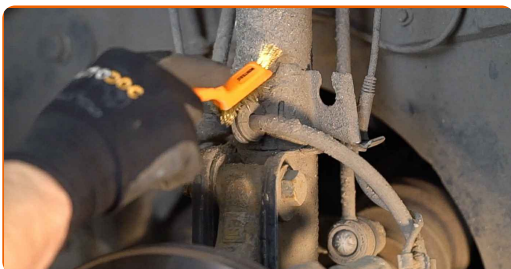
**AUTODOC recommends:**

- Warning! To avoid injury, hold the wheel while unscrewing the fastening bolts.  
MERCEDES-BENZ VITO Box (638)

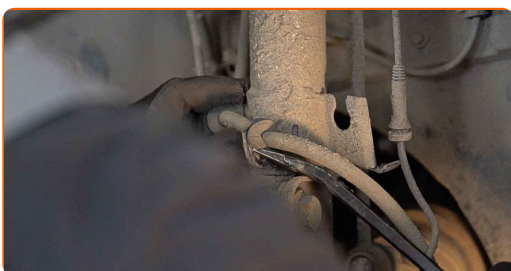
**17** Remove the wheel.



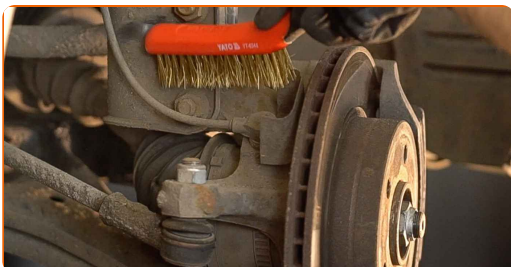
- 18** Clean the fasteners of the ABS sensor and of the brake hose which connect them to the shock strut. Use a wire brush. Use WD-40 spray.



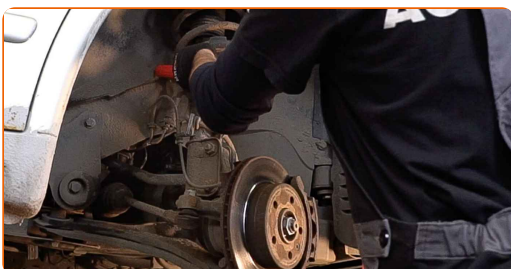
- 19** Disconnect the wiring and the brake hose from the bracket on the shock strut. Use a crowbar.



- 20.1** Clean the fasteners connecting the stabiliser link to the shock strut, and those connecting the shock strut to the steering knuckle.

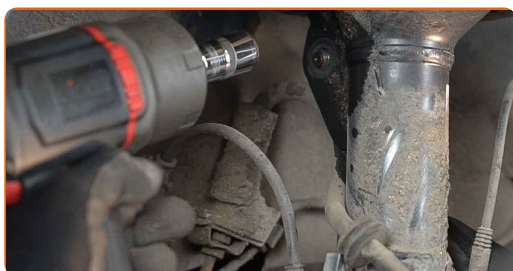


- 20.2** Use a wire brush. Use WD-40 spray.

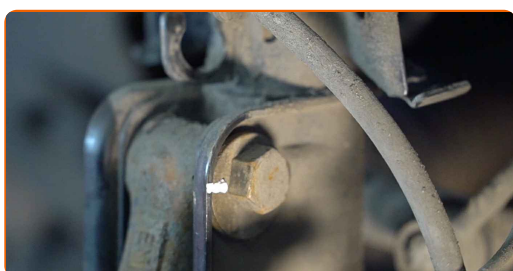




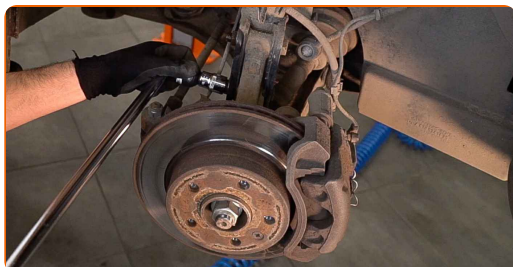
- 21** Unscrew the nut and remove the stabilizer rod from the shock strut. Use a combination spanner #16. Use a drive socket #16.



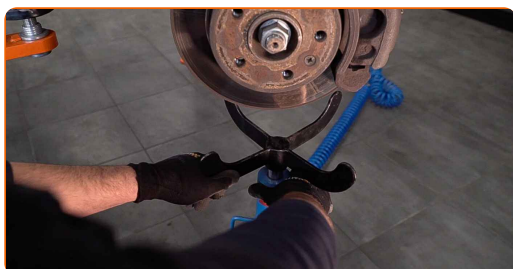
- 22** Make a mark on the camber adjustment bolt.



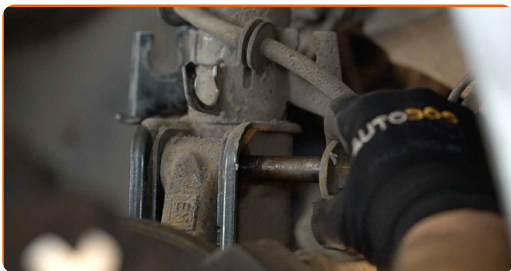
- 23** Unscrew the lower fastener connecting the shock strut to the steering knuckle. Use a combination spanner #21. Use a drive socket #21. Use a tap wrench.



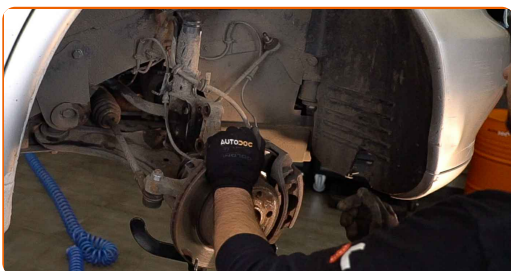
- 24** Prop up the steering knuckle. Use a hydraulic transmission jack.



**25** Remove the fastening bolts.



**26** Disconnect the steering knuckle from the shock absorber strut.



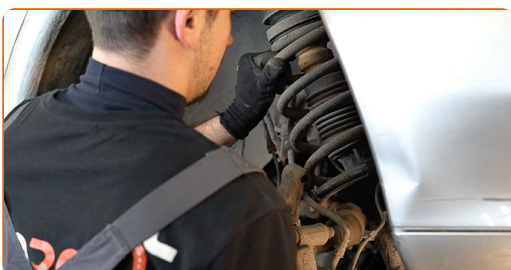
**27** Unscrew the top fastening of the shock strut mount.



**AUTODOC recommends:**

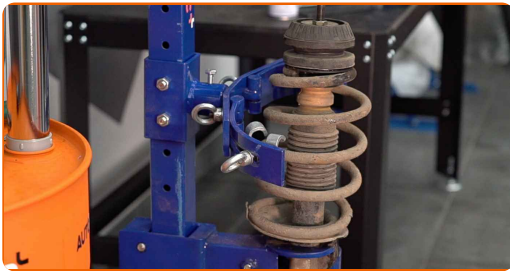
- MERCEDES-BENZ VITO Box (638) – To avoid injury, hold the suspension strut while unscrewing the fastening bolts.

**28** Remove the suspension strut.



**29**

Set the shock absorber strut on the spring compressor tool.

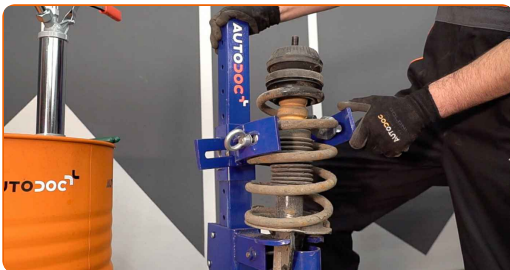


Replacement: coil springs – MERCEDES-BENZ VITO Box (638). Tip from AUTODOC experts:

- 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.

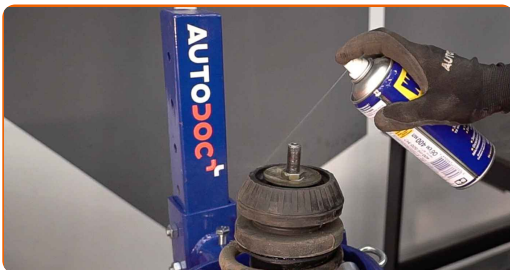
**30**

Compress the spring.

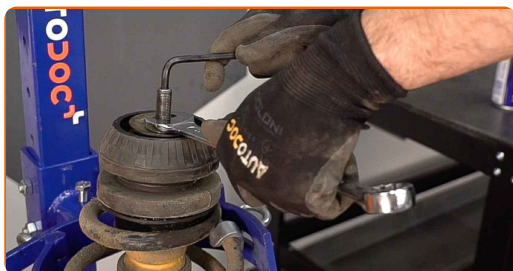


**31**

Clean the shock absorber rod. Use WD-40 spray.



**32** Remove the strut piston rod nut. Use a combination spanner #21. Use HEX No.H6.



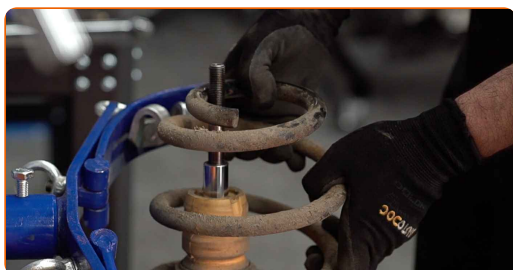
**33** Remove the top strut mount.



**34** Release the coil spring.



**35** Remove the spring.



**AUTODOC recommends:**

- Replacement: coil springs – MERCEDES-BENZ VITO Box (638). Carefully inspect the mount, the boot, and the bump stop of the shock absorber. Replace if necessary.

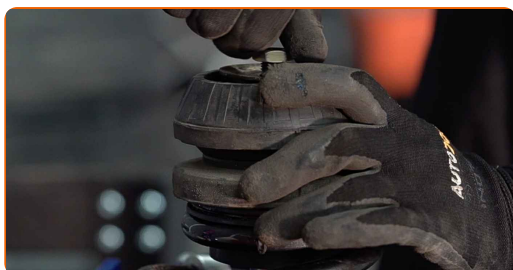
**36** Install the spring on the shock absorber.



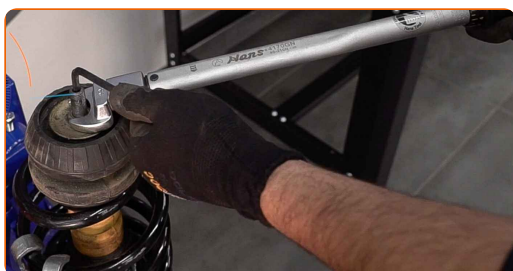
**37** Compress the spring.



**38** Install the upper strut mount and the strut mount bearing. Use a crowbar.



**39** Tighten the shock strut piston rod nut. Use a combination spanner #21. Use HEX No.H6. Use a torque wrench. Tighten it to 66 Nm torque.



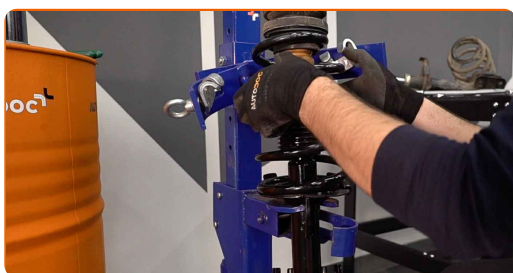
**AUTODOC recommends:**

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

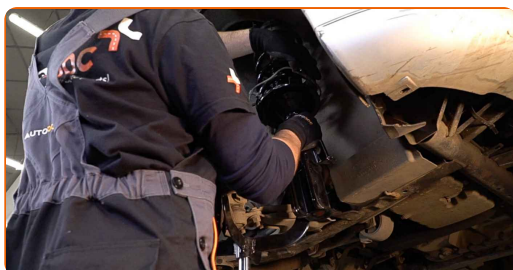
**40** Decompress the spring.



**41** Remove the assembled shock strut.



**42** Install the shock strut into the wheel arch.



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

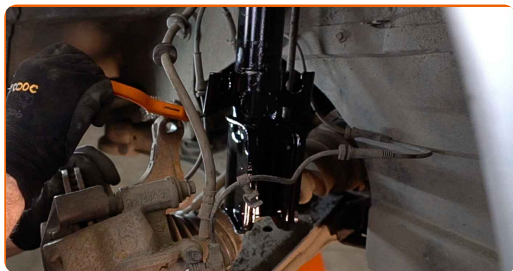


Replacement: coil springs – MERCEDES-BENZ VITO Box (638). AUTODOC experts recommend:

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

44

Treat the shock strut mounting seat on the steering knuckle. Use a wire brush.



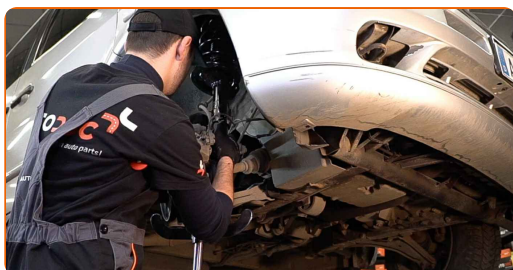
45

Treat the steering knuckle fasteners. Use WD-40 spray.



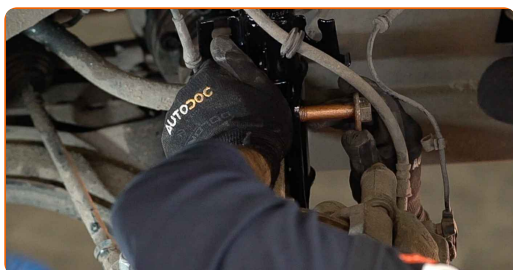
46

Fix the shock absorber strut on the steering knuckle. Use a crowbar.



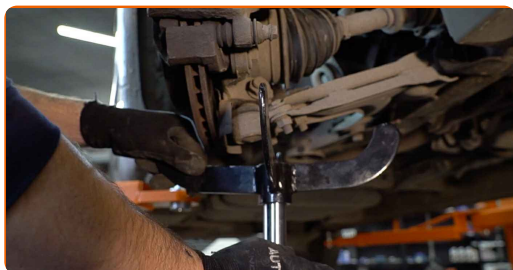
47

Install the fastening bolts.



48

Remove the support from under the steering knuckle.



**AUTODOC recommends:**

- MERCEDES-BENZ VITO Box (638) – Do not lower the transmission jack sharply to avoid damaging components and mechanisms of the car.

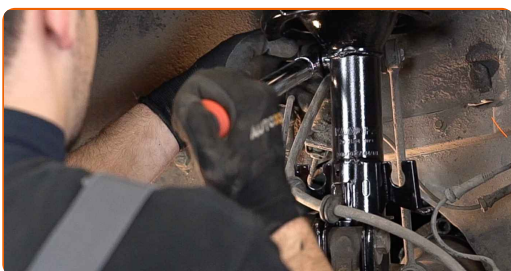
**49**

Tighten the lower fasteners connecting the shock strut to the steering knuckle. Use a drive socket #21. Use a combination spanner #21. Use a torque wrench. Tighten it to 190 Nm torque.



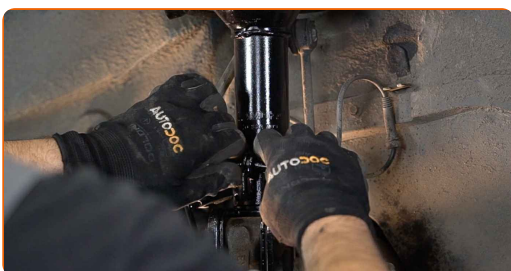
**50**

Secure the stabilizer link on the suspension strut. Use a combination spanner #16. Use a drive socket #16. Use a torque wrench. Tighten it to 62 Nm torque.



**51**

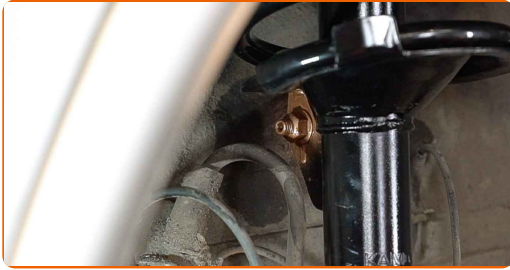
Connect the fastener of the ABS sensor cable to the shock absorber strut. Fasten the brake hose on the strut.





52

Treat the shock strut fasteners. Treat all joints of the arm. Use copper grease.



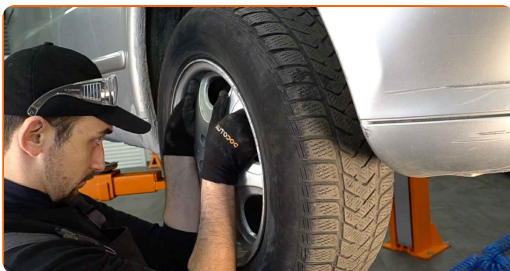
53

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



54

Install the wheel.



**AUTODOC recommends:**

- Warning! To avoid injury, hold the wheel while screwing in the fastening bolts on the car. MERCEDES-BENZ VITO Box (638)

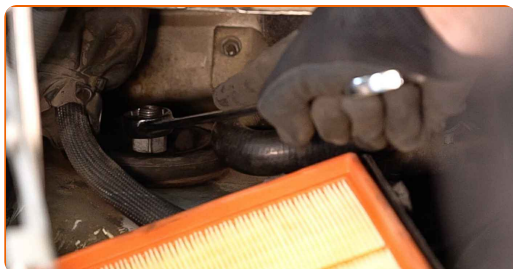
**55** Screw in the wheel bolts. Use wheel impact socket #17.



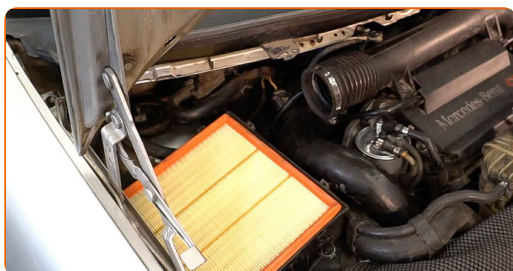
**56** Lower the car and working in a cross order, tighten the wheel bolts. Use a torque wrench. Tighten it to 175 Nm torque.



**57** Tighten the upper fastener of the shock absorber strut mount. Use a combination spanner #21. Use HEX No.H6. Use a torque wrench. Tighten it to 66 Nm torque.

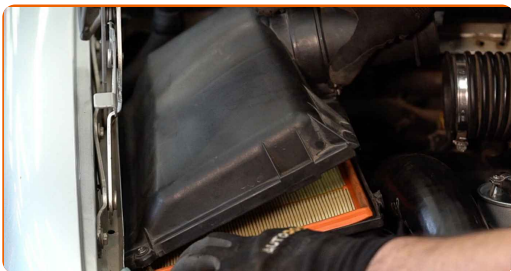


**58** Remove the cloth.

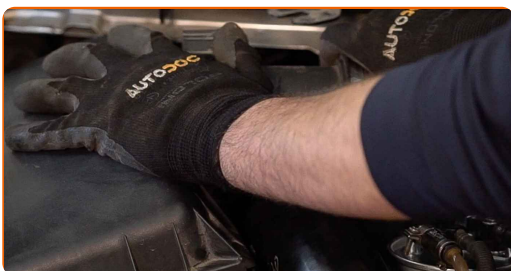


**59**

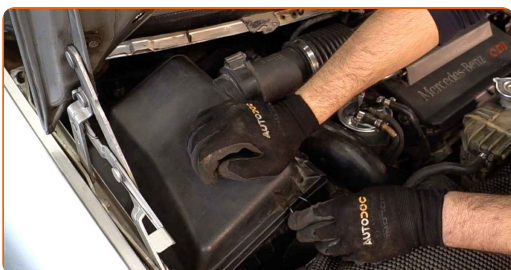
Reinstall the air filter cover. Fasten it.

**60**

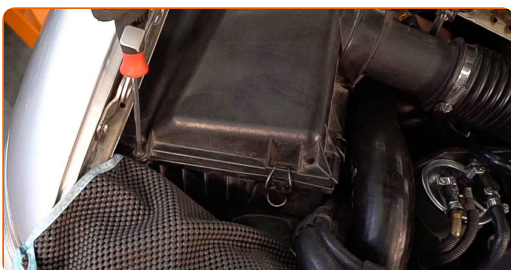
Connect the air intake pipe to the air filter housing.

**61**

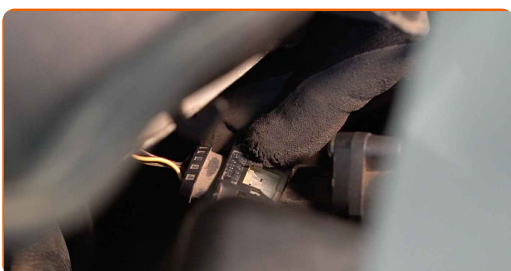
Press the air filter cover clips into place.

**62**

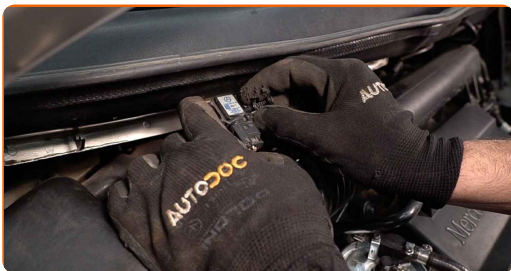
Screw in the fastening screws of the air filter cover. Use a Phillips screwdriver.

**63**

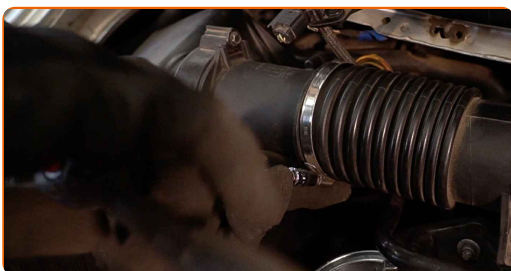
Plug in the mass air flow sensor connector.



64 Screw in the fasteners of the vacuum pressure converter valve.



65 Fasten the clamp on the air intake hose. Use a drive socket #7. Use a ratchet wrench.



66 Remove the fender protection cover.

67 Close the hood.

68 Remove the jacks and chocks.



**WELL DONE!** 

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