



How to change front
strut mount on **BMW**
E39 – replacement guide

VIDEO TUTORIAL



Important!

This replacement procedure can be used for:

BMW 5 Saloon (E39) 520i 2.0, BMW 5 Saloon (E39) 525tds 2.5, BMW 5 Saloon (E39) 523i 2.5, BMW 5 Saloon (E39) 528i 2.8, BMW 5 Touring (E39) 520i 2.0, BMW 5 Touring (E39) 523i 2.5, BMW 5 Saloon (E39) 525td 2.5, BMW 3 Saloon (E46) 318i 1.9, BMW 3 Saloon (E46) 328i 2.8, BMW 3 Saloon (E46) 320d 2.0, BMW 5 Touring (E39) 528i 2.8, BMW 3 Saloon (E46) 323i 2.5, BMW 3 Saloon (E46) 320i 2.0, BMW 5 Saloon (E39) 530d 3.0, BMW 5 Touring (E39) 530d 3.0, (+ 72)

The steps may slightly vary depending on the car design.

REPLACEMENT: STRUT MOUNT – BMW E39. LIST OF THE TOOLS YOU'LL NEED:



- Wire brush
- WD-40 spray
- Brake cleaner
- Copper grease
- Combination spanner #10
- Combination spanner #13
- Combination spanner #18
- Combination spanner #19
- Drive socket # 10
- Drive socket # 13
- Drive socket # 16
- Drive socket # 22
- HEX bit no.H6.
- Wheel impact socket #17
- Ratchet wrench
- Torque wrench
- Flat Screwdriver
- Flat chisel
- Hammer
- Ball joint puller
- Hydraulic strut spring compressor
- Hydraulic transmission jack
- Fender cover
- Wheel chock

BUY TOOLS

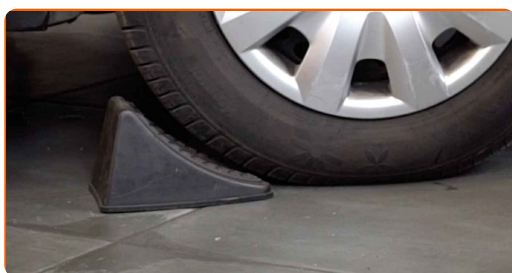
Replacement: strut mount – BMW E39. AUTODOC recommends:

- The replacement procedure is identical for the mounts of the left and right shock struts of the front suspension.
- All mounts of the front shock struts should be replaced simultaneously.
- Be sure to replace all self-locking nuts and bolts during installation.
- Please note: all work on the car – BMW E39 – should be done with the engine switched off.

CARRY OUT REPLACEMENT IN THE FOLLOWING ORDER:

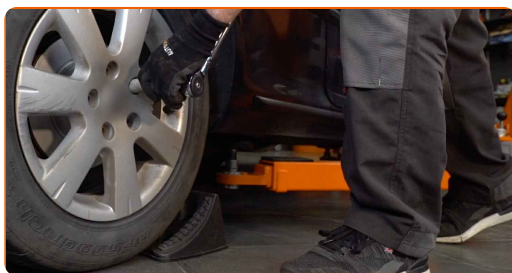
1

Secure the wheels with chocks.



2

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

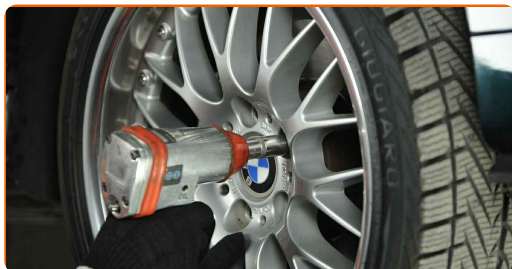


3

Raise the front of the car and secure on supports.

4

Unscrew the wheel bolts.



Replacement: strut mount – BMW E39. Tip:

- To avoid injury, hold up the wheel when unscrewing the bolts.

5

Remove the wheel.

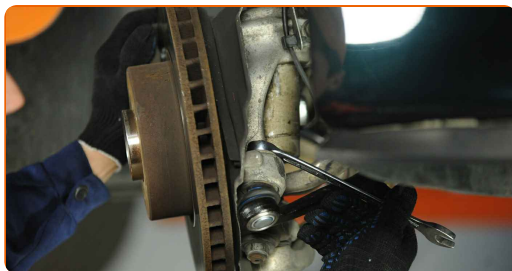


6

Clean the fastener connecting the tie rod end to the steering knuckle. Use a wire brush. Use WD-40 spray.

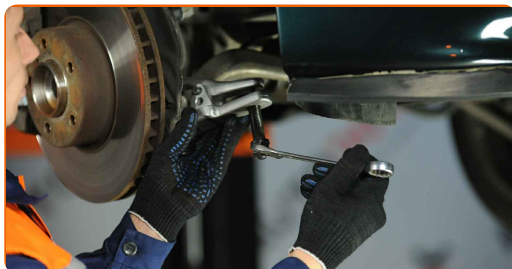
7

Unscrew the end fastening nut to the steering knuckle. Use a combination spanner #19.



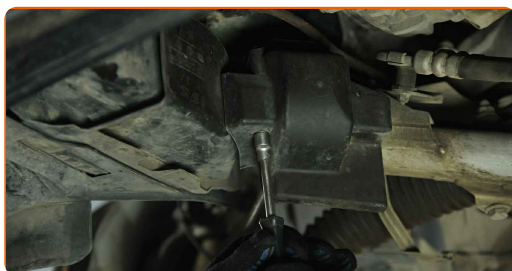
8

Disconnect the tie rod end from the steering knuckle. Use a ball joint puller.



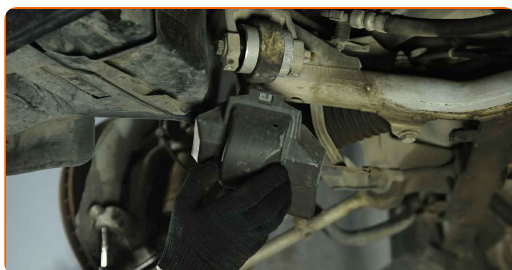
9

Unscrew the fasteners of the control arm plastic cover. Use a drive socket #10. Use a ratchet wrench.



10

Remove the control arm plastic cover.

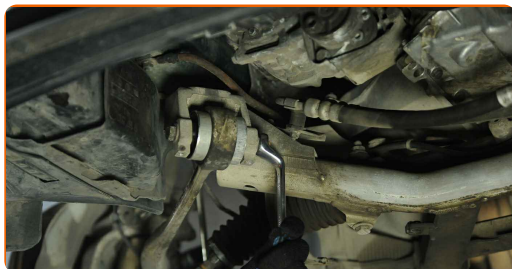


11

Clean the fasteners connecting the control arm to the subframe. Use a wire brush. Use WD-40 spray.

12

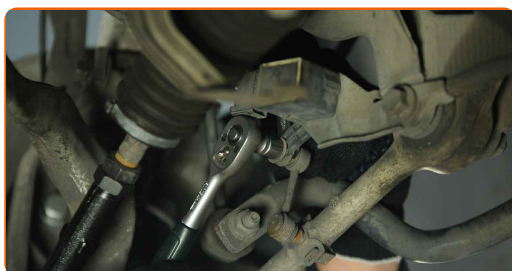
Loosen the front fastener of the control arm. Use a combination spanner #18 (2 pieces).



13

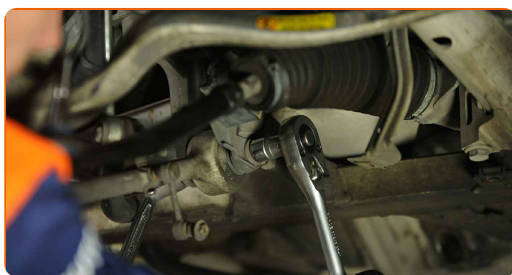
Clean the fasteners of the headlight levelling sensor. Use a wire brush. Use WD-40 spray.

- 14** Unscrew the fasteners of the headlight levelling sensor. Use a combination spanner #10. Use a drive socket #10. Use a ratchet wrench.



- 15** Disconnect the headlight levelling sensor.

- 16** Unscrew the rear fastener connecting the control arm to the subframe. Use a combination spanner #18. Use a drive socket #16. Use a ratchet wrench.



- 17** Remove the rear fastener of the control arm.

- 18** Unscrew the fastener of the stabiliser link bracket. Use a drive socket #16. Use a ratchet wrench.

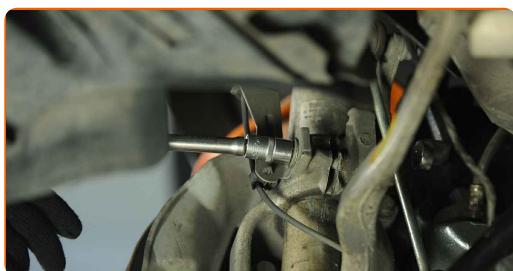


- 19** Remove the fastening bolt.

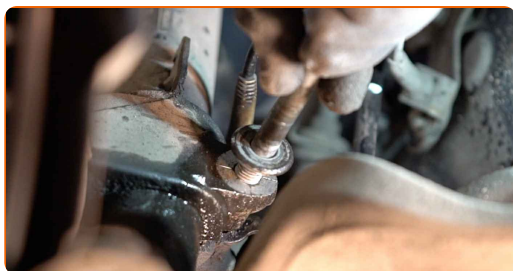
20 Clean the fasteners connecting the shock strut to the steering knuckle. Use a wire brush. Use WD-40 spray.



21 Unscrew the lower fastener connecting the shock strut to the steering knuckle. Use a combination spanner #18. Use a drive socket #16. Use a ratchet wrench.



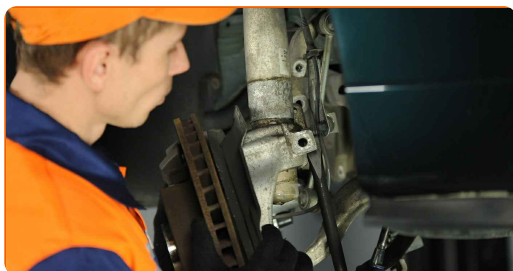
22 Remove the fastening bolt.



23 Remove the bracket from the shock absorber strut.

24 Release the lower fastener connecting the shock strut to the steering knuckle. Use a flat metal-working chisel. Use a hammer.

25 Disconnect the steering knuckle from the shock absorber strut.



Replacement: strut mount – BMW E39. AUTODOC experts recommend:

- Make sure that the steering knuckle is supported.

26 Install the rear fastener of the control arm.

27 Lower the car.

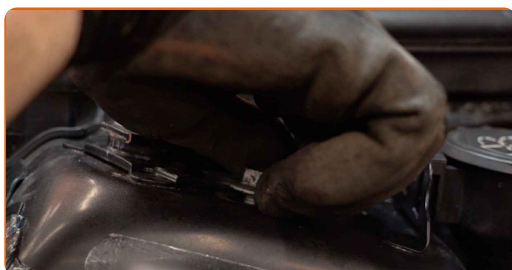
28 Open the bonnet.



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



30 Clean the fasteners of the shock strut upper mount. Use a wire brush. Use WD-40 spray.



- 31** Unscrew the top fastening of the shock strut mount. Use a combination spanner #13. Use a drive socket #13. Use a ratchet wrench.



AUTODOC recommends:

- Important! Hold the suspension strut while unscrewing the fastening bolts. BMW E39

- 32** Remove the suspension strut.

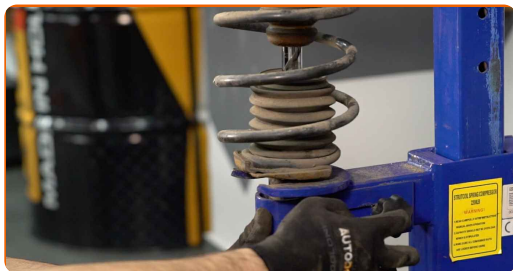


- 33** Set the shock absorber strut on the spring compressor tool.

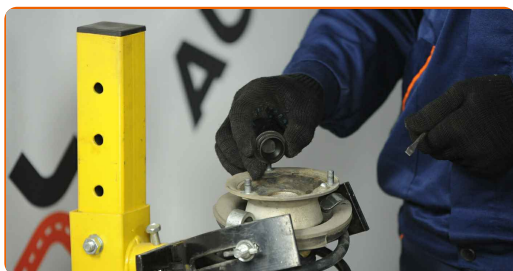
Replacement: strut mount – BMW E39. Tip from AUTODOC experts:

- 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.

34 Compress the spring.



35 Remove the shock strut mount cap. Use a flat screwdriver.



36 Treat the shock strut rod. Use a wire brush. Use WD-40 spray.



37 Remove the strut piston rod nut. Use a drive socket #22. Use HEX No.H6. Use a ratchet wrench.



38 Remove the top strut mount.



Replacement: strut mount – BMW E39. Professionals recommend:

- Examine the shock absorber dust cap and the bump stop. Replace them if necessary.

39

Clean the mounting seat of the shock strut mount. Use a wire brush. Use WD-40 spray.

40

Treat the fasteners of the shock strut mount. Use copper grease.



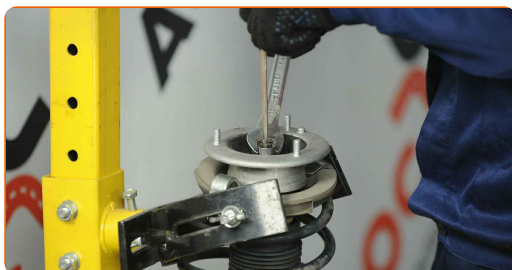
41

Install a new top shock strut mount.



42

Tighten the shock strut piston rod nut. Use a drive socket #22. Use HEX No.H6. Use a torque wrench. Tighten it to 64 Nm torque.



Replacement: strut mount – BMW E39. AUTODOC recommends:

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

43

Install the shock strut mount cap.

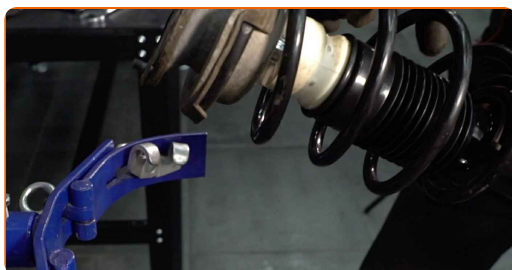


44

Decompress the spring.

45

Remove the assembled shock strut.



46

Install the shock strut into the wheel arch.



47

Screw the top fastening of the shock strut mount.



AUTODOC recommends:

- Important! Hold the suspension strut while screwing in the fastening bolts. BMW E39

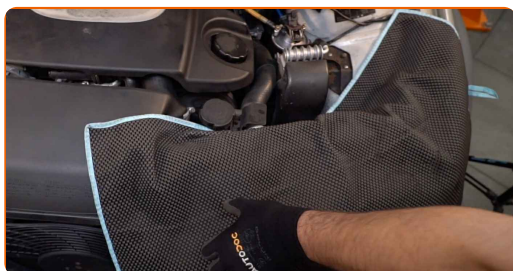
48

Tighten the upper fastener of the shock absorber strut mount. Use a combination spanner #13. Use a drive socket #13. Use a torque wrench. Tighten it to 24 Nm torque.



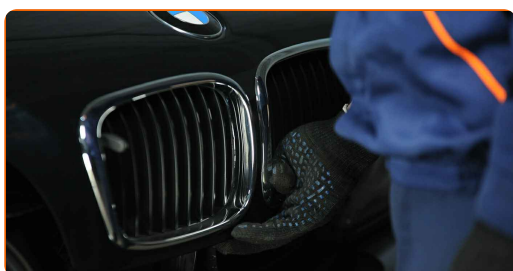
49

Remove the fender protection cover.



50

Close the hood.



51

Raise the front of the car and secure on supports.

52

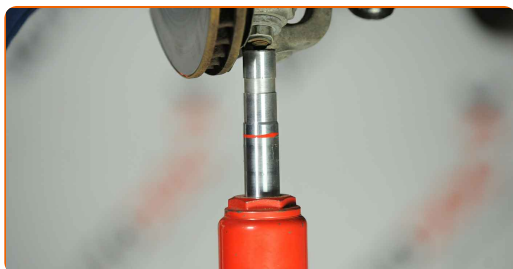
Remove the rear fastener of the control arm.

53 Fix the shock absorber strut on the steering knuckle.



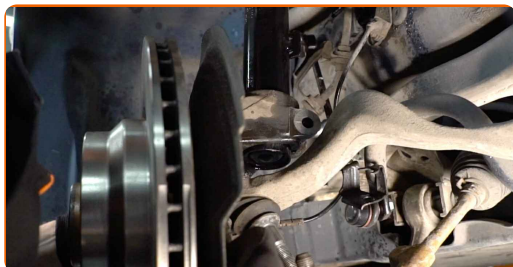
54 Install the rear fastener of the control arm.

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

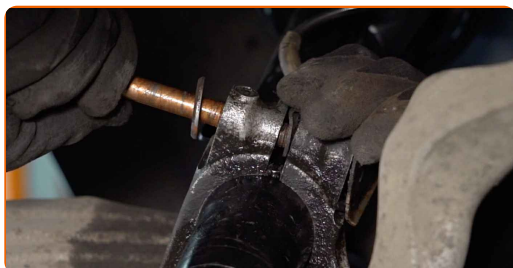


56 Install the fastening bolt.

57 Install the bracket onto the shock absorber strut.

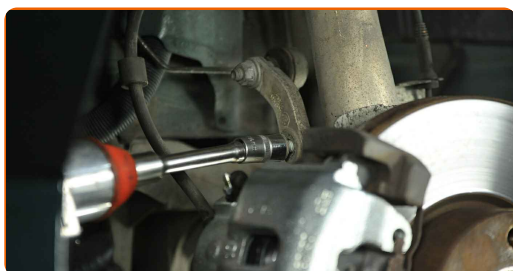


58 Install the fastening bolt.



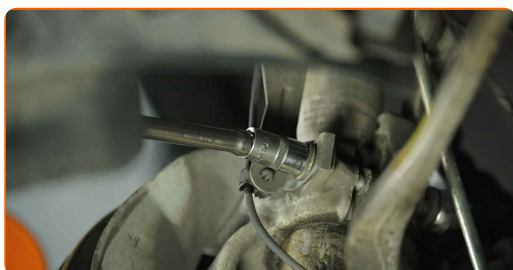
59

Tighten the fastener of the stabiliser link bracket. Use a drive socket #16. Use a ratchet wrench. Use a torque wrench. Tighten it to 60 Nm torque.



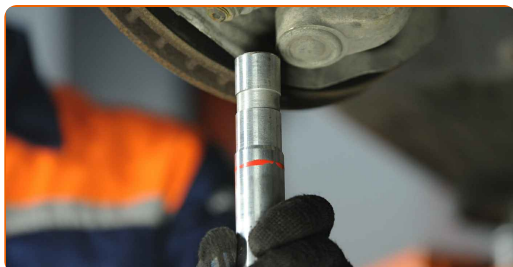
60

Tighten the lower fasteners connecting the shock strut to the steering knuckle. Use a combination spanner #18. Use a drive socket #16. Use a torque wrench. Tighten it to 81 Nm torque.



61

Remove the support from under the steering knuckle.



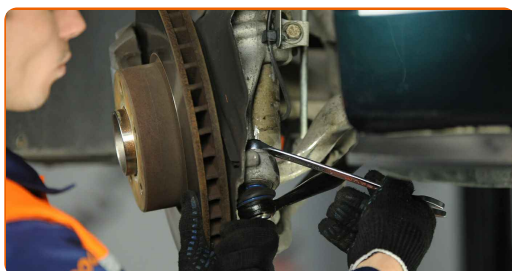
AUTODOC recommends:

- Replacement: strut mount – BMW E39. Lower the transmission jack smoothly, without jerks, to avoid damaging components and mechanisms.

62

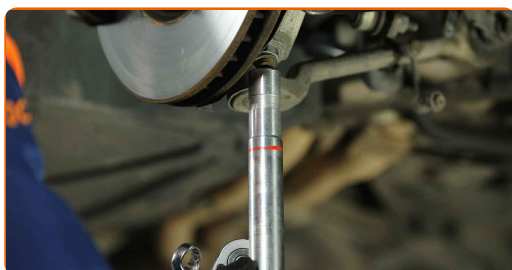
Connect the tie rod end to the steering knuckle.

- 63** Tighten the fastening nut connecting the tie rod end to the steering knuckle. Use a combination spanner #19. Use a torque wrench. Tighten it to 65 nm torque.

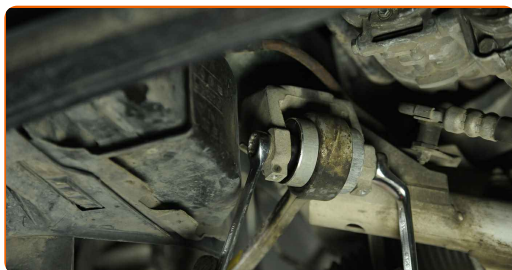


- 64** Screw the rear fastener connecting the control arm to the subframe. Use a combination spanner #18. Use a drive socket #16. Use a ratchet wrench.

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

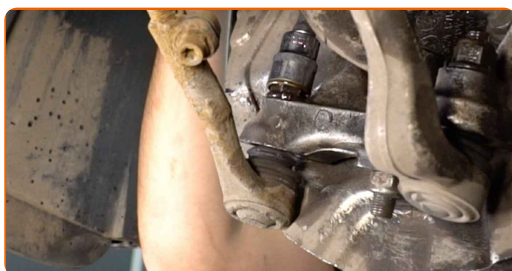


- 66** Tighten the rear fastener of the control arm. Use a combination spanner #18. Use a drive socket #16. Use a torque wrench. Tighten it to 110 Nm torque.



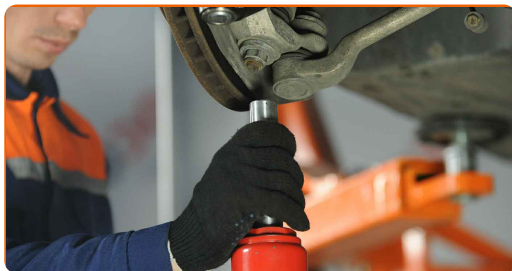
- 67** Tighten the front fastener connecting the control arm to the subframe. Use a combination spanner #18 (2 pieces). Use a torque wrench. Tighten it to 110 nm torque.

- 68** Treat all joints of the arm. Use copper grease.



69

Remove the support from under the steering knuckle.

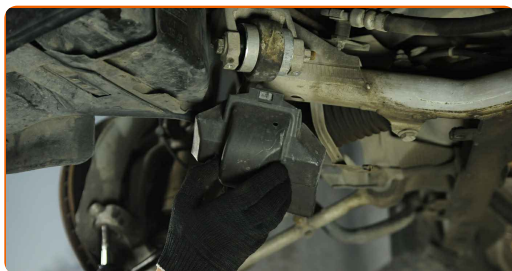


Replacement: strut mount – BMW E39. Tip from AUTODOC experts:

- Lower the hydraulic transmission jack smoothly, without jerks, to avoid damaging assemblies and mechanisms.

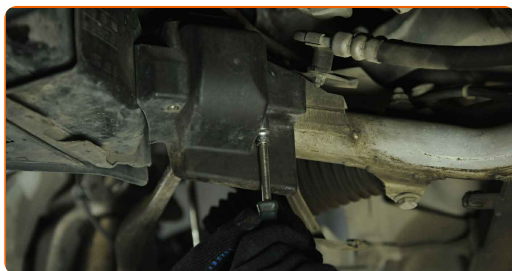
70

Install the control arm plastic cover.



71

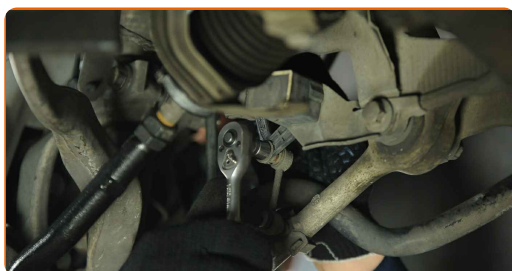
Screw the fasteners of the control arm plastic cover. Use a drive socket #10. Use a ratchet wrench.



72

Reconnect the headlight levelling sensor.

- 73** Tighten the fasteners of the headlight levelling sensor. Use a combination spanner #10. Use a drive socket #10. Use a torque wrench. Tighten it to 7 Nm torque.



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



- 75** Clean the brake disk surface. Use a brake cleaner.

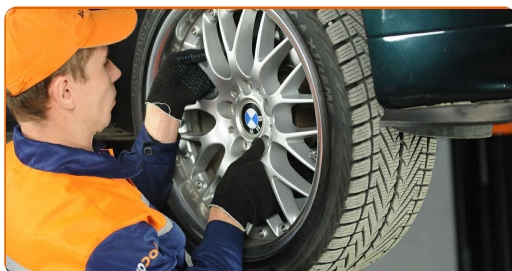


AUTODOC recommends:

- Replacement: strut mount – BMW E39. After applying the spray, wait a few minutes.

76

Install the wheel.



AUTODOC recommends:

- To avoid injury, hold up the wheel when screwing in the fastening bolts.

77

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

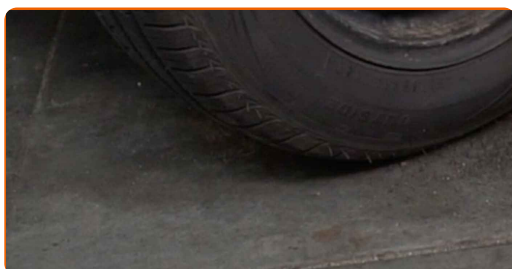


78

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.

79

Remove the jacks and chocks.



WELL DONE! 

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