



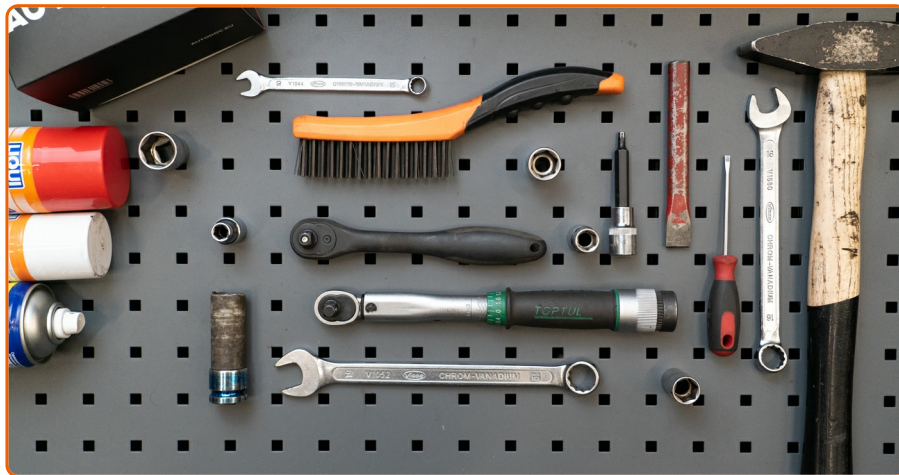
VIDEO TUTORIAL

Important!

This replacement procedure can be used for:
BMW X3 (E83) 2.0 sd, BMW X3 (E83) xDrive 20 d

The steps may slightly vary depending on the car design.

REPLACEMENT: SUSPENSION STRUT – BMW X3 E83. LIST OF THE TOOLS YOU'LL NEED:



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

Replacement: suspension strut – BMW X3 E83. Tip from AUTODOC experts:

- Both shock struts of the front suspension should be replaced simultaneously.
- The replacement procedure is identical for the left and right shock struts of the front suspension.
- Please note: all work on the car – BMW X3 E83 – 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: suspension strut – BMW X3 E83. AUTODOC recommends:

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

5



Remove the wheel.

6



Detach the brake hose from the shock strut. Use a flat screwdriver.

7



Disconnect the ABS sensor wiring. Use a flat screwdriver.

8

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

9



Unscrew the fastener connecting the stabilizer link to the shock strut. Use a combination spanner #19. Use a drive socket #16. Use a ratchet wrench.

10



Remove the stabilizer rod.

11

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

12



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

13



Remove the fastening bolt.

14

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

15

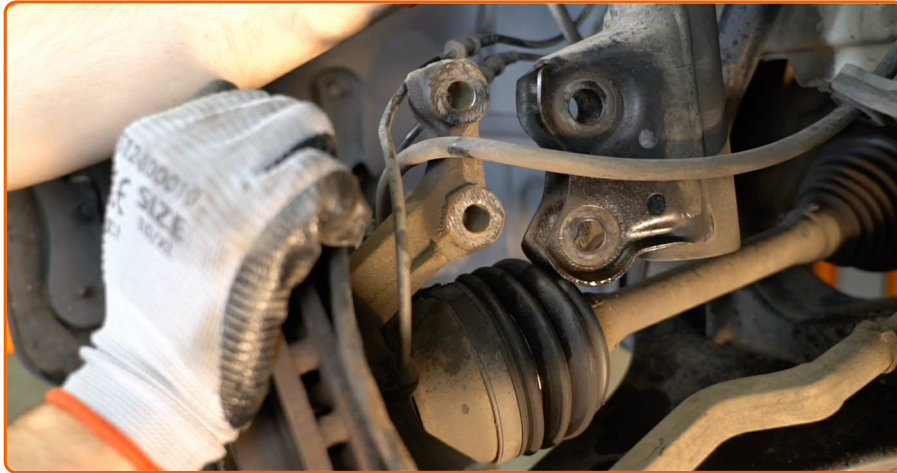


Unscrew the fasteners of the headlight levelling sensor. Use a combination spanner #10. Use a drive socket #10. Use a ratchet wrench.

16

Disconnect the headlight levelling sensor.

17



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

18



Disconnect the steering knuckle from the shock absorber strut. Use a hammer.

Replacement: suspension strut – BMW X3 E83. AUTODOC experts recommend:

- Make sure that the steering knuckle is supported.

19

Lower the car.

20



Open the bonnet.

21



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

22

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

23



Unscrew the top fastening of the shock strut mount. Use a drive socket #13. Use a ratchet wrench.

AUTODOC recommends:

- Important! Hold the suspension strut while unscrewing the fastening bolts. BMW X3 E83

24



Remove the suspension strut.

25

Set the shock absorber strut on the spring compressor tool.

Replacement: suspension strut – BMW X3 E83. Tip from AUTODOC:

- 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.

26



Compress the spring.

27



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

28



Remove the strut piston rod nut. Use a drive socket #22. Use a ratchet wrench.

29



Remove the top strut mount. Use HEX No.H6.

30



Release the coil spring.

31



Remove the spring.

32



Remove the shock absorber dust cap and the bump stop.

AUTODOC recommends:

- Replacement: suspension strut – BMW X3 E83. Carefully inspect the mount, the boot, and the bump stop of the shock absorber. Replace if necessary.

33



Remove the old shock absorber from the hydraulic coil spring compressor.

Replacement: suspension strut – BMW X3 E83. Professionals recommend:

- Before installing a new shock absorber you should pump it manually 3-5 times.

34



Install the new shock absorber on the hydraulic coil spring compressor.

35



Install the dust sleeve and the bump stop on the new shock absorber.

36



Install the spring on the shock absorber.

37



Compress the spring.

38

Install the upper strut mount and the strut mount bearing. Use HEX No.H6.

39



Tighten the shock strut piston rod nut. Use a drive socket #22. Use a torque wrench. Tighten it to 65 Nm torque.

Replacement: suspension strut – BMW X3 E83. Tip:

- 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.

Replacement: suspension strut – BMW X3 E83. Tip from AUTODOC experts:

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

44



Tighten the upper fastener of the shock absorber strut mount. Use a drive socket #13. Use a torque wrench. Tighten it to 37 Nm torque.

45

Remove the fender protection cover.

46



Close the hood.

47



Raise the front of the car and secure on supports.

48

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

49



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

50



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

51

Remove the support from under the steering knuckle.

AUTODOC recommends:

- Replacement: suspension strut – BMW X3 E83. Lower the transmission jack smoothly, without jerks, to avoid damaging components and mechanisms.

52

Install the fastening bolt.

53



Tighten the lower fasteners connecting the shock strut to the steering knuckle. Use a combination spanner #16. Use a drive socket #18. Use a torque wrench. Tighten it to 80 Nm torque.

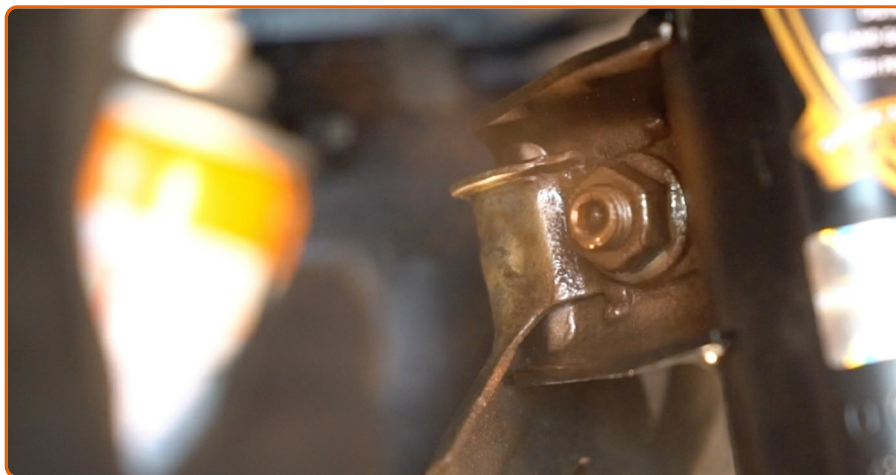
54



Install the transverse stabilizer link.

55

Tighten the fastener connecting the stabilizer link to the shock strut. Use a combination spanner #19. Use a drive socket #16. Use a torque wrench. Tighten it to 60 Nm torque.

56


Treat the shock strut fasteners. Use copper grease.

57


Fasten the brake hose on the strut.

58



Connect the ABS sensor wiring.

59

Reconnect the headlight levelling sensor.

60



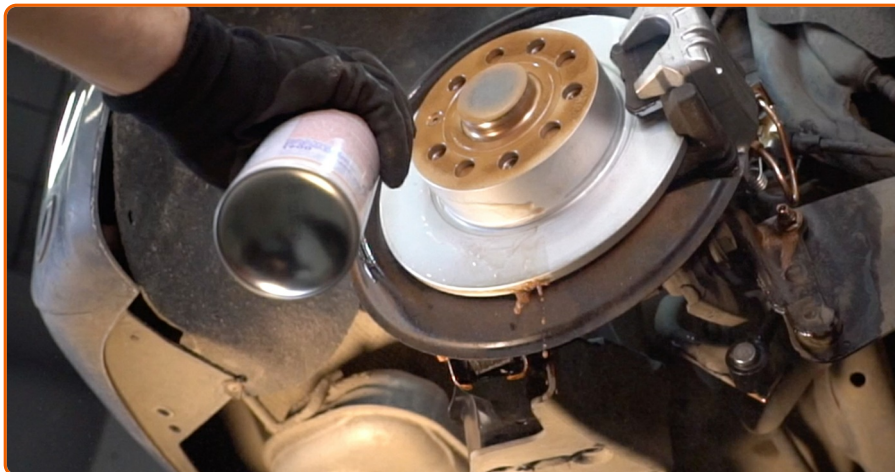
Tighten the fasteners of the headlight levelling sensor. Use a combination spanner #10. Use a drive socket #10. Use a torque wrench. Tighten it to 7 Nm torque.

61



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

62



Clean the brake disk surface. Use a brake cleaner.

AUTODOC recommends:

- Replacement: suspension strut – BMW X3 E83. After applying the spray, wait a few minutes.

63



Install the wheel.

Replacement: suspension strut – BMW X3 E83. AUTODOC recommends:

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

64



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

65



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.

66



Remove the jacks and chocks.

**DID YOU FIND THESE INSTRUCTIONS
HELPFUL?**

YES

NO



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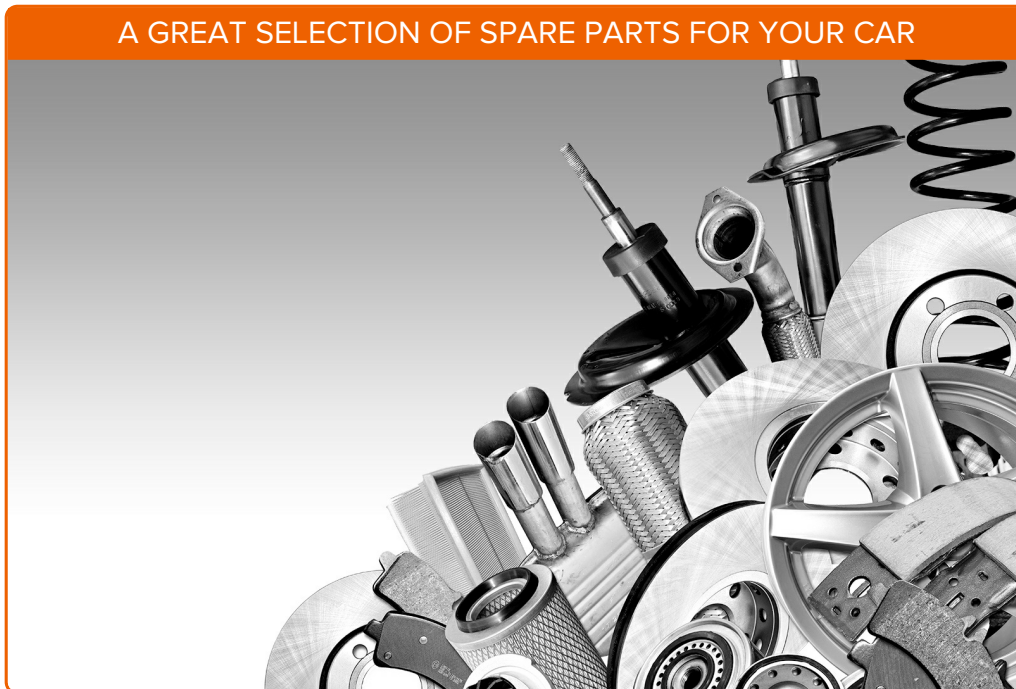
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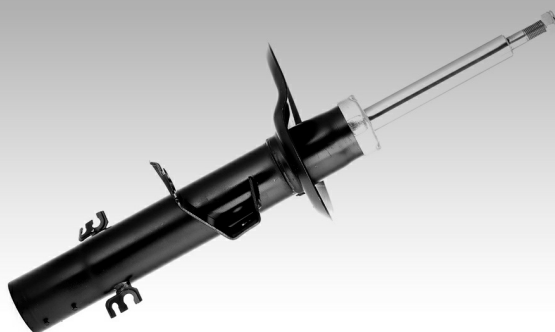
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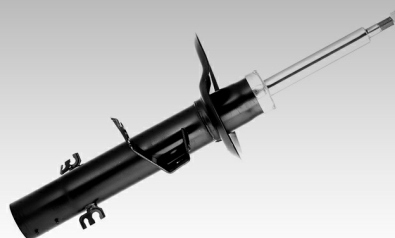
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