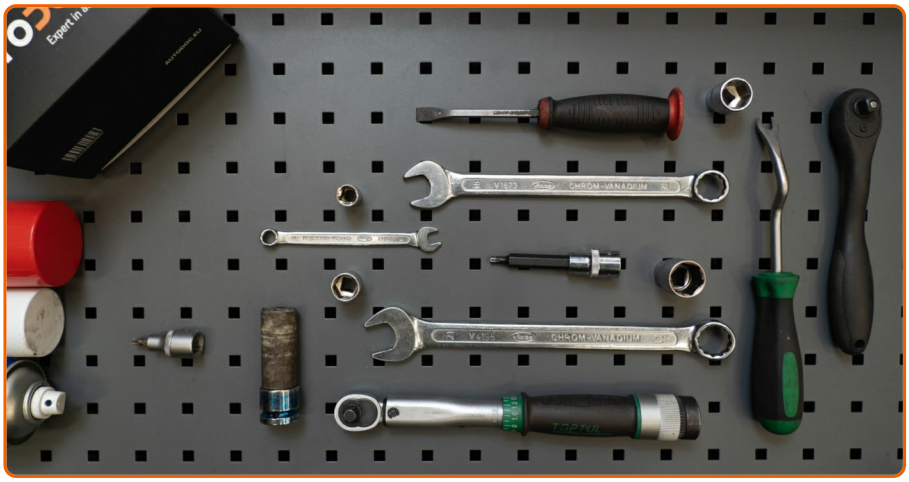
VIDEO TUTORIAL

ⓘ Important!

This replacement procedure can be used for:
BMW 5 (E60) 525 d

The steps may slightly vary depending on the car design.

REPLACEMENT: SUSPENSION STRUT – BMW E60. TOOLS YOU'LL NEED:



- Wire brush
- WD-40 spray
- Brake cleaner
- Copper grease
- Combination spanner #18
- Combination spanner #21
- Torx bit T40
- Drive socket # 13
- Drive socket # 18
- Drive socket # 21
- HEX bit no.H6.
- Torx bit T40
- Wheel impact socket #17
- Ratchet wrench
- Torque wrench
- Tap wrench
- Clip removal tool
- Crow bar
- Hydraulic strut spring compressor
- Hydraulic transmission jack
- Wheel chock

Replacement: suspension strut – BMW E60. AUTODOC recommends:

- Both shock struts of the rear suspension should be replaced simultaneously.
- The replacement procedure is identical for the left and right shock struts of the rear suspension.
- Please note: all work on the car – BMW E60 – should be done with the engine switched off.

CARRY OUT REPLACEMENT IN THE FOLLOWING ORDER:

1

Open the boot lid.

2

Take out the luggage compartment mat.

3

Raise the lower lining of the boot.

4

Detach the boot rear side lining.

5

Remove the plastic clip of the boot front side lining. Use a clip removal tool.

6

Unscrew the fasteners of the boot front side lining. Use Torx T40. Use a ratchet wrench.

7

Remove the boot front side lining.

AUTODOC recommends:

- Replacement: suspension strut – BMW E60. Do not use excessive force when removing the part as this may damage it.

8

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

9

Secure the wheels with chocks.

10

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

11

Raise the rear of the car and secure on supports.

12

Unscrew the wheel bolts.

Replacement: suspension strut – BMW E60. AUTODOC experts recommend:

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

13

Remove the wheel.

14

Disconnect the brake pads wear sensor.

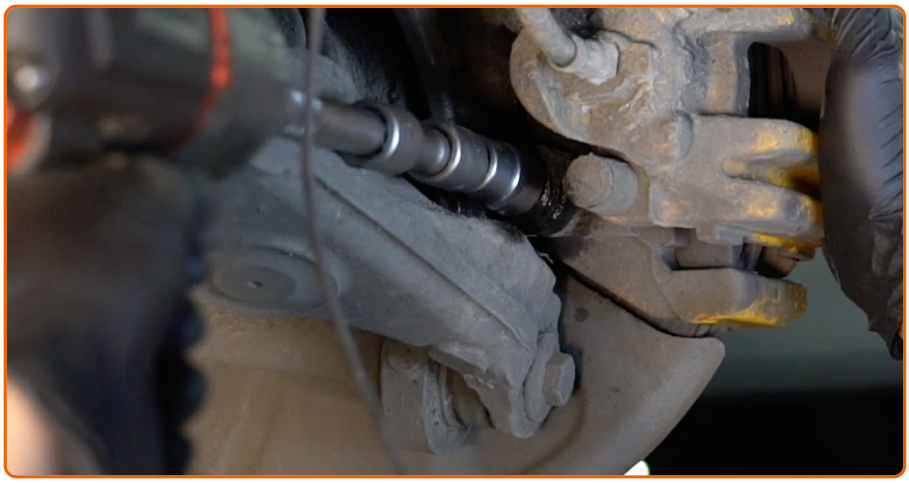
Please note!

- Some cars are not equipped with the brake pad wear sensor.

15

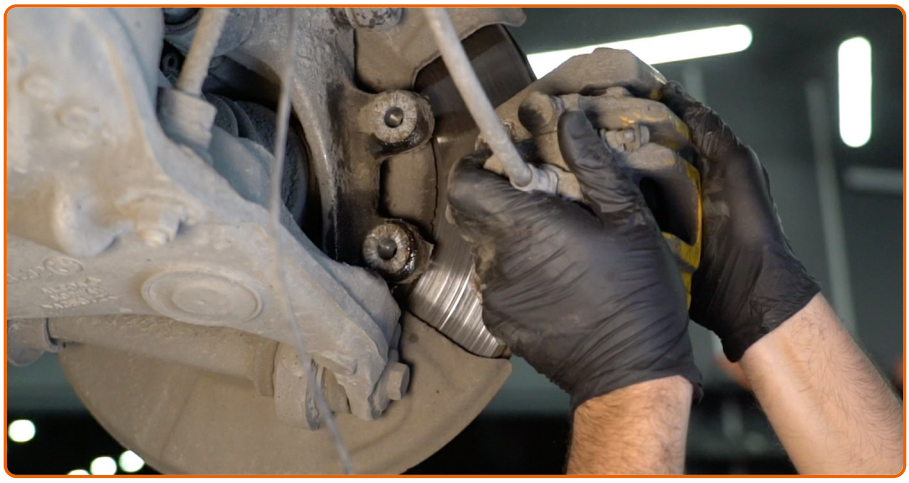
Clean the brake caliper bracket fasteners. Use a wire brush. Use WD-40 spray.

16



Unscrew the caliper bracket fastening. Use a drive socket #18. Use a tap wrench.

17



Remove the brake caliper together with its bracket.

Replacement: suspension strut – BMW E60. Professionals recommend:

- Tie the caliper to the suspension or to the body with a wire without disconnecting from the brake hose to prevent depressurization of the brake system.
- Make sure that the brake caliper is not hanging on the brake hose.
- Don't press the brake pedal after the brake caliper has been removed. As a result, the piston can fall out from the brake cylinder, and brake fluid leakage and depressurization of the system may occur.

18

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

19

Unscrew the arm fastening from the subframe. Use a combination spanner #18 (2 pieces).

20

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

21

Unscrew the lower fastener of the shock absorber strut. Use a combination spanner #18.

22

Disconnect the ABS sensor wiring. Use a crowbar.

23

Clean all joints of the arm. Use a wire brush. Use WD-40 spray.

24

Unscrew the fastener connecting the control arm to the rear knuckle. Use a combination spanner #21. Use Torx T40. Use a ratchet wrench.

25

Remove the fastening bolt.

26

Detach the rear knuckle from the suspension control arm.

27

Unscrew the top fastening of the shock strut mount.

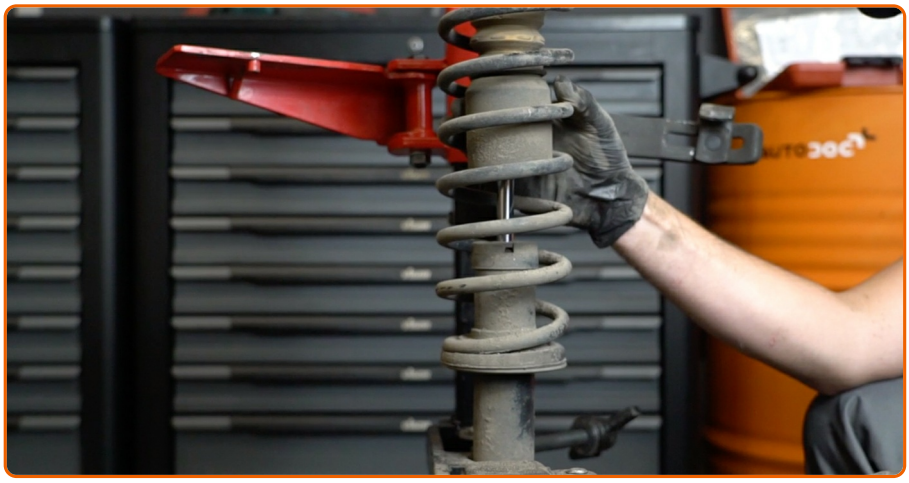
28

Remove the fastening bolt.

29

Remove the suspension strut.

30



Set the shock absorber strut on the spring compressor tool.

Replacement: suspension strut – BMW E60. 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.

31

Compress the spring.

32

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

33

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

34

Remove the top strut mount.

35

Release the coil spring.

36

Remove the spring.

37

Remove the shock absorber dust cap and the bump stop.

38

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

AUTODOC recommends:

- Replacement: suspension strut – BMW E60. Carefully inspect the mount, the boot, and the bump stop of the shock absorber. Replace if necessary.
- Before installing a new shock absorber you should pump it manually 3-5 times.

39

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

40

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

41

Install the spring on the shock absorber.

42

Compress the spring.

43

Install the upper strut mount and the strut mount bearing.

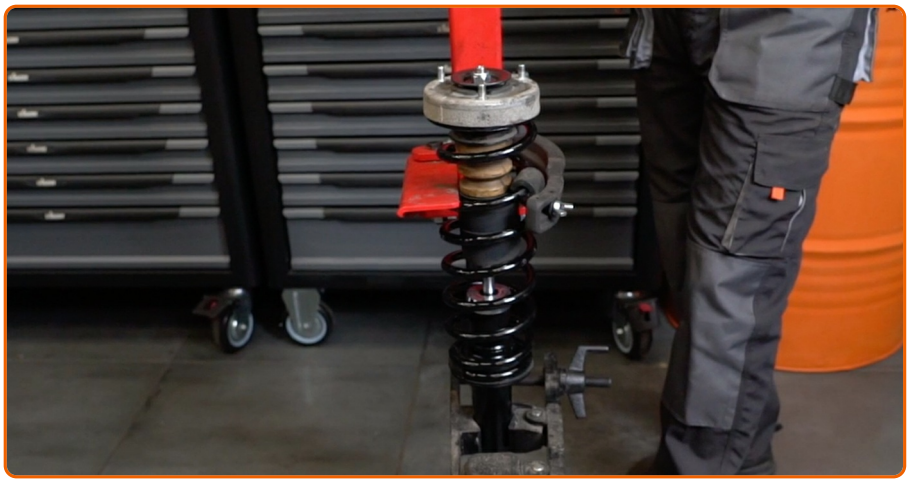
44

Tighten the shock strut piston rod nut. Use HEX No.H6. Use a drive socket #18. Use a torque wrench. Tighten it to 55 Nm torque.

Replacement: suspension strut – BMW E60. AUTODOC experts recommend:

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

45



Decompress the spring.

46

Remove the assembled shock strut.

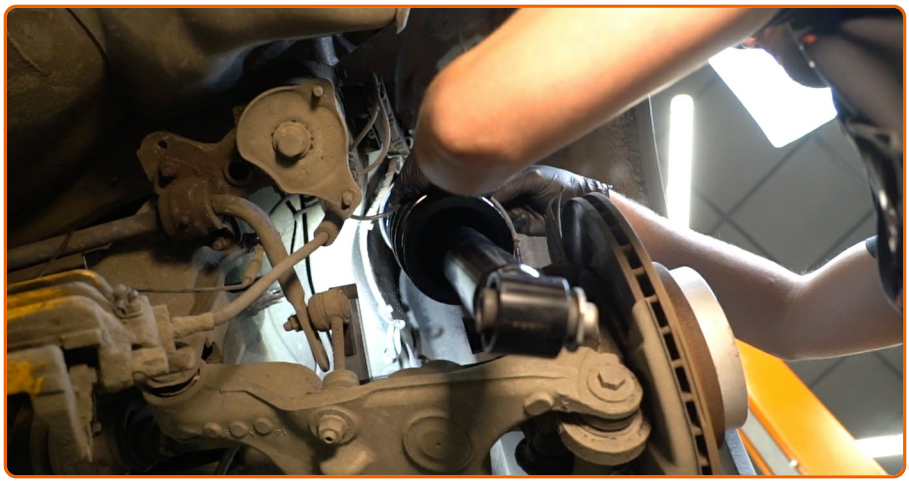
47

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

48

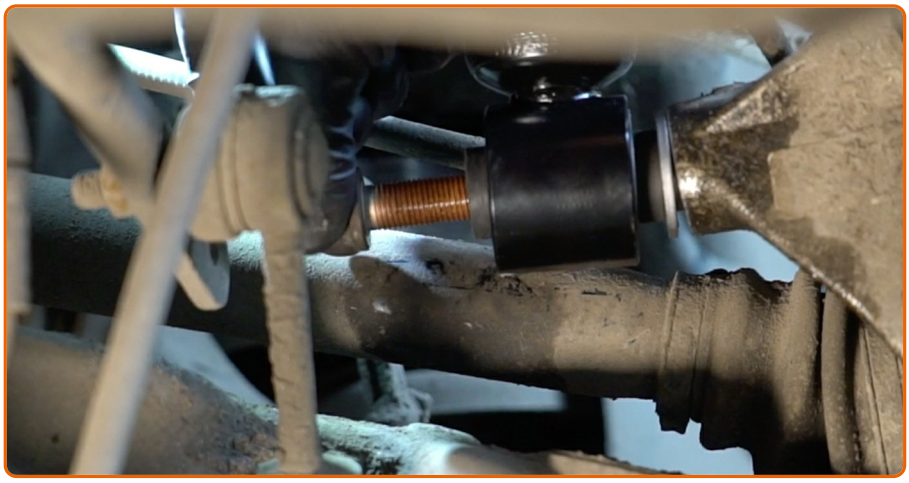
Treat the shock strut rod. Use copper grease.

49



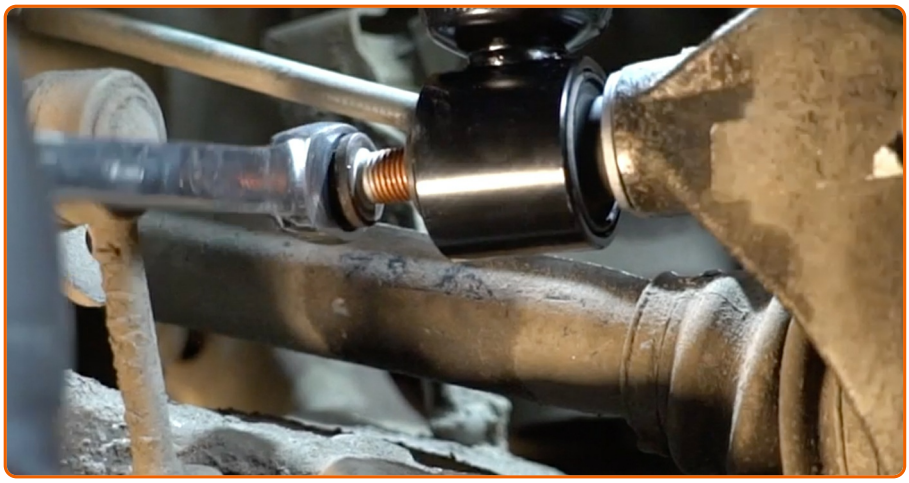
Install the shock strut into the wheel arch.

50



Install the fastening bolt.

51



Screw in the lower fastener of the shock strut. Use a combination spanner #18.

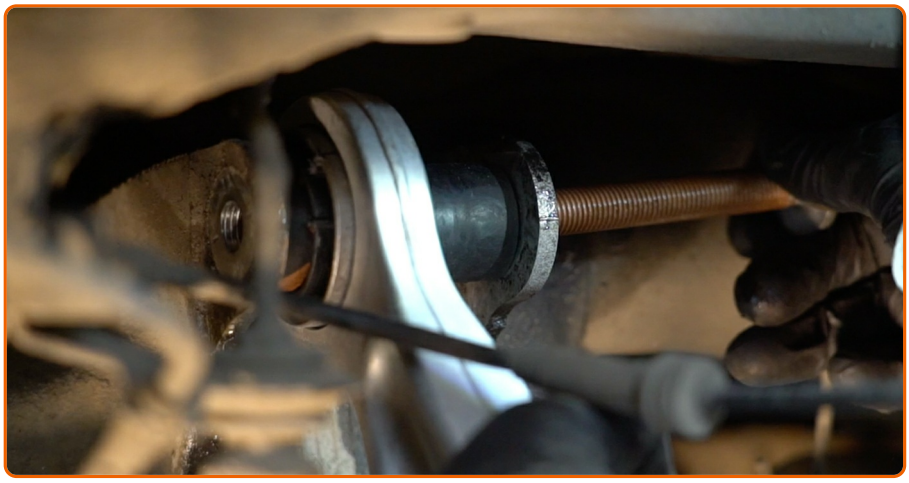
52

Clean the mounting seats and the thread of the suspension arm. Use a wire brush. Use WD-40 spray.

53

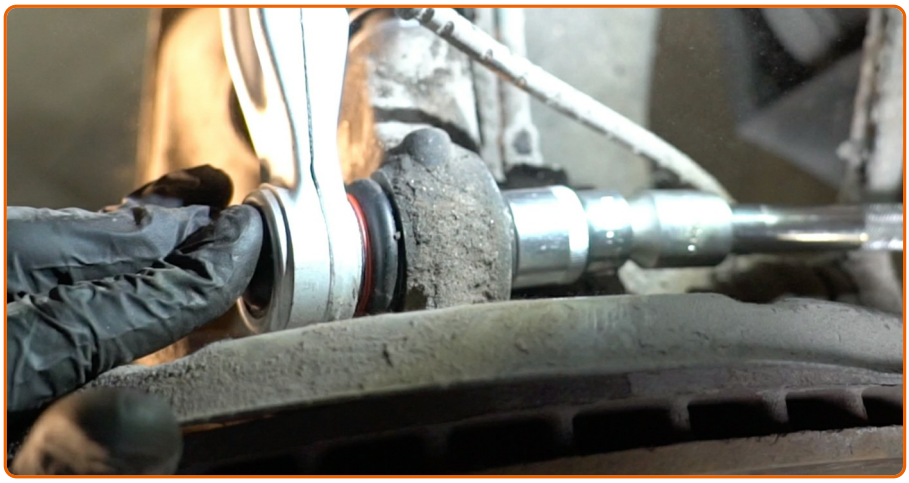
Attach the rear knuckle to the suspension control arm.

54



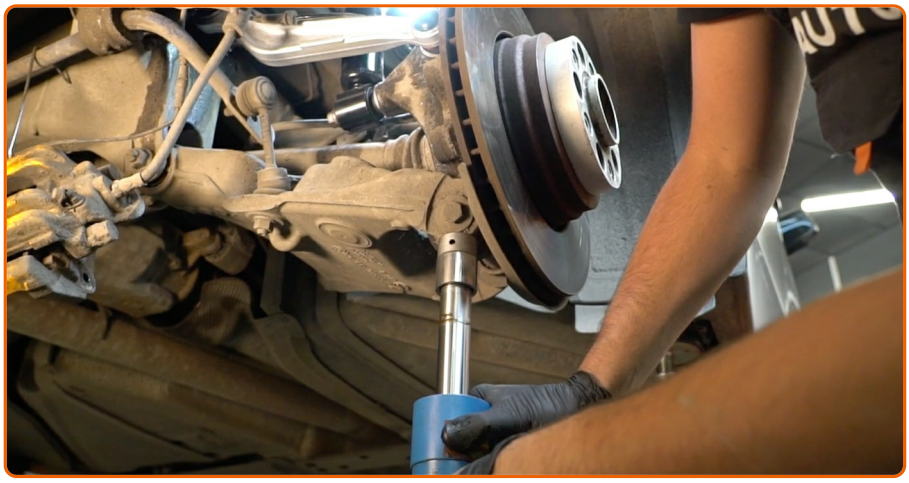
Install the fastening bolt.

55



Screw in the fastener that connects the control arm to the rear knuckle. Use a drive socket #21. Use a ratchet wrench.

56



Support the stub axle. Use a hydraulic transmission jack.

57

Tighten the fastener connecting the suspension arm to the rear knuckle. Use a drive socket #21. Use a torque wrench. Tighten it to 72 Nm torque.

58

Tighten the arm fastening to the subframe. Use a combination spanner #18. Use a drive socket #18. Use a torque wrench. Tighten it to 80 Nm torque.

59

Tighten the lower fastening of the shock absorber. Use a drive socket #18. Use a torque wrench. Tighten it to 75 Nm torque.

60

Remove the support from under the stub axle.

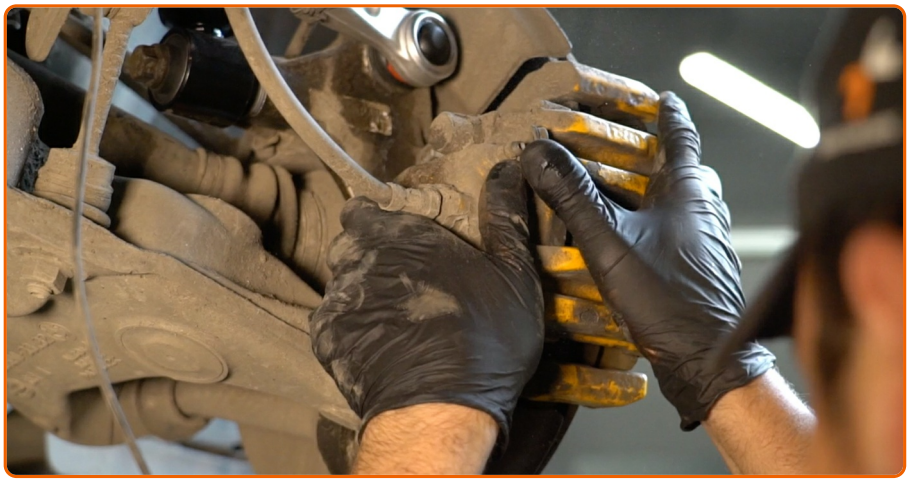
AUTODOC recommends:

- Replacement: suspension strut – BMW E60. Lower the transmission jack smoothly, without jerks, to avoid damaging components and mechanisms.

61

Connect the ABS sensor wiring.

62



Install the brake caliper together with its bracket.

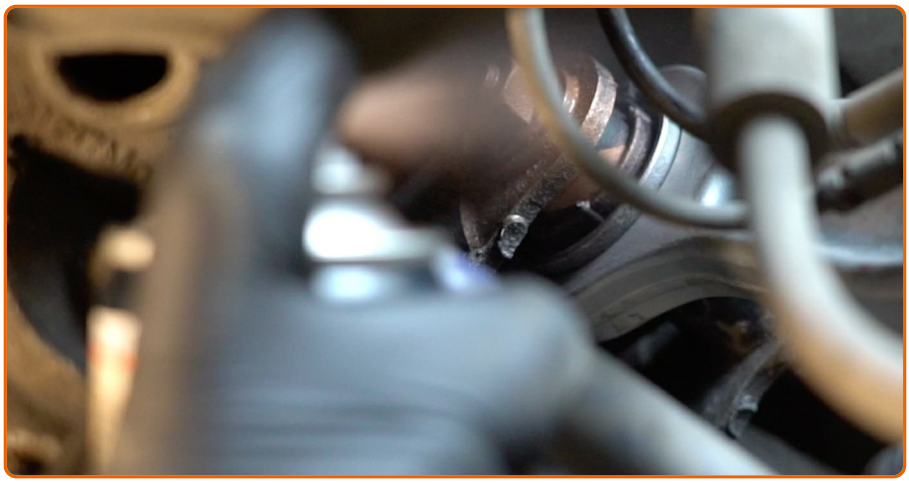
63

Tighten the brake caliper bracket. Use a drive socket #18. Use a torque wrench. Tighten it to 75 Nm torque.

64

Connect the brake pads wear sensor.

65



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

66

Clean the wheel rim mounting seat. Use a wire brush.

67

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

68

Clean the brake disk surface. Use a brake cleaner.

AUTODOC recommends:

- After applying the spray, wait a few minutes.

69

Install the wheel.

Replacement: suspension strut – BMW E60. Tip:

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

70

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

71

Lower the car.

72

Tighten the upper fastener of the shock absorber strut mount. Use a drive socket #13. Use a torque wrench. Tighten it to 38 Nm torque.

73

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

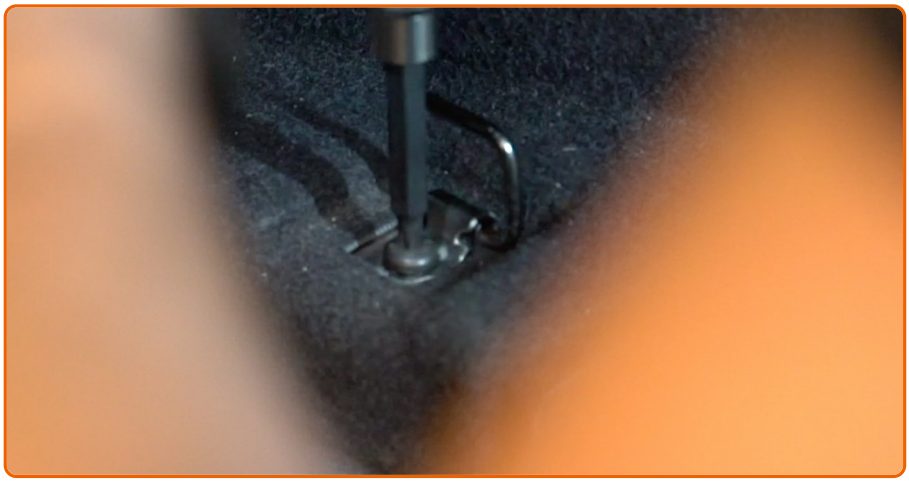
74

Install the boot front side lining.

75

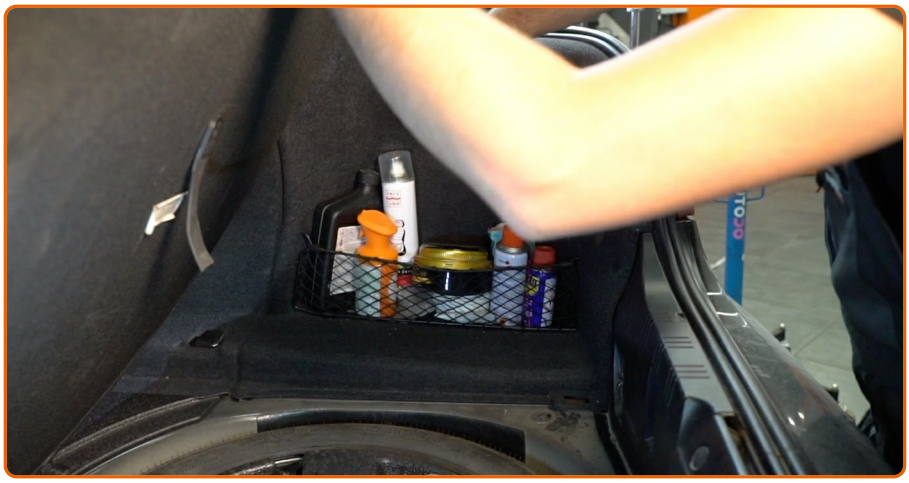
Install the plastic clip of the boot front side lining.

76



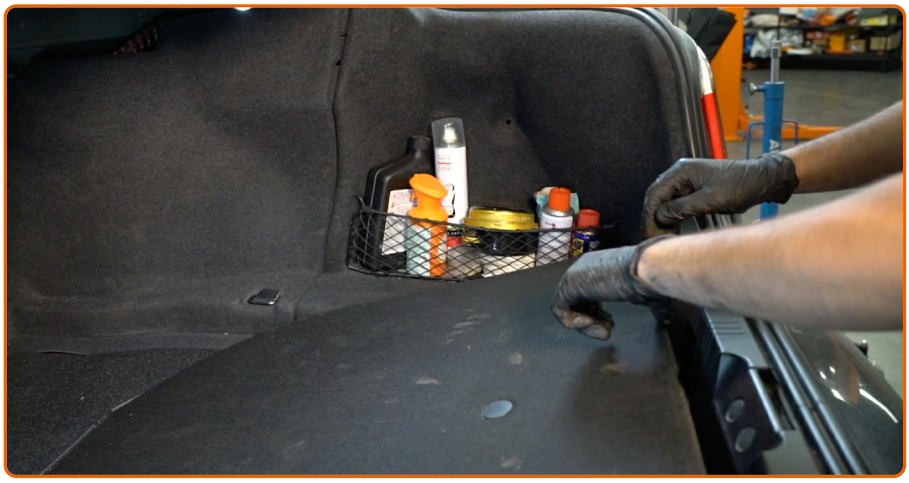
Screw the fasteners of the boot front side lining. Use Torx T40. Use a ratchet wrench.

77



Install the boot rear side lining.

78



Put down the lower lining of the boot.

79

Put back the luggage compartment mat.

80

Close the lid of the luggage compartment.

81

Tighten the wheel bolts using a criss-cross pattern. Use wheel impact socket #17. Use a torque wrench. Tighten it to 120 Nm torque.

82

Remove the jacks and chocks.

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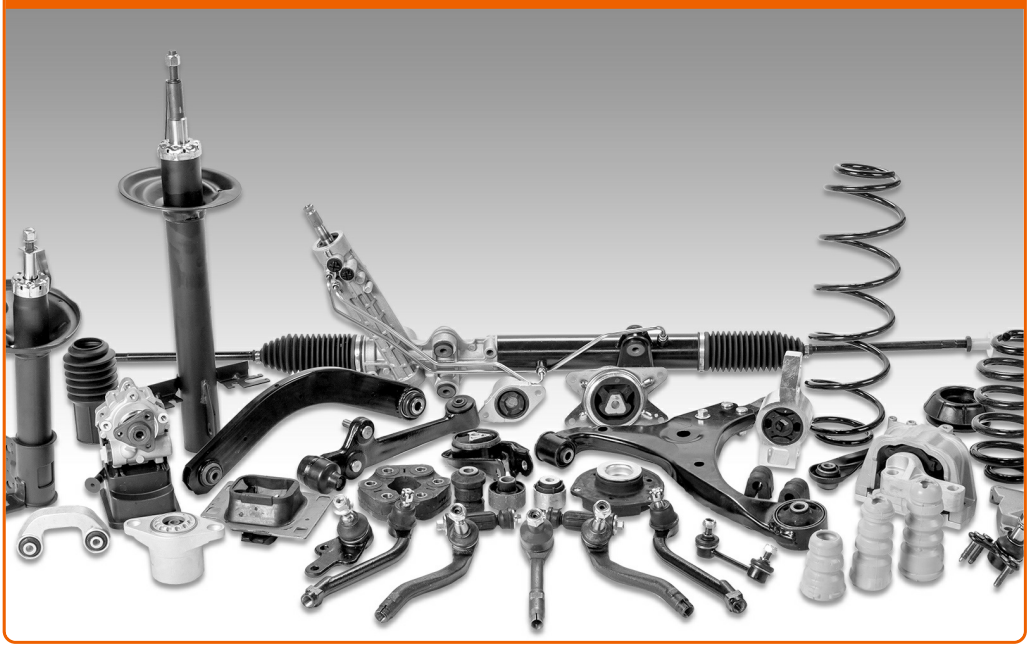

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