



How to change front  
suspension strut on  
**Citroën Berlingo M** –  
replacement guide

## VIDEO TUTORIAL



### Important!

This replacement procedure can be used for:

CITROËN ZX Hatchback (N2) 1.9 D, CITROËN ZX Hatchback (N2) 1.9 TD, CITROËN ZX Hatchback (N2) 1.6 i, CITROËN ZX Hatchback (N2) 1.8 i, CITROËN ZX Estate (N2) 1.9 D, CITROËN ZX Estate (N2) 1.8 i, CITROËN ZX Estate (N2) 1.4 i, CITROËN ZX Estate (N2) 1.9 TD, CITROËN ZX Estate (N2) 1.6 i, CITROËN Berlingo / Berlingo First I Van (M) 1.1 i, CITROËN Berlingo / Berlingo First I Van (M) 1.4 i, CITROËN Berlingo / Berlingo First I Van (M) 1.8 D, CITROËN Berlingo / Berlingo First I (MF, GJK, GFK) 1.4 i, CITROËN Berlingo / Berlingo First I (MF, GJK, GFK) 1.9 D, CITROËN Berlingo / Berlingo First I (MF, GJK, GFK) 1.1 i, (+ 64)

The steps may slightly vary depending on the car design.

REPLACEMENT: SUSPENSION STRUT – CITROËN BERLINGO M. TOOLS YOU MIGHT NEED:



- Wire brush
- WD-40 spray
- Brake cleaner
- Ceramic grease
- Copper grease
- Torque wrench
- Combination spanner #16
- Combination spanner #17
- Drive socket # 13
- Drive socket # 16
- Drive socket # 17
- Drive socket # 36
- 22-mm strut nut socket
- HEX bit No.H6
- Wheel impact socket #19
- Ratchet wrench
- Flat chisel
- Hammer
- Tap wrench
- Pin punch
- Crow bar
- Hydraulic transmission jack
- Fender cover
- Wheel chock

**BUY TOOLS**

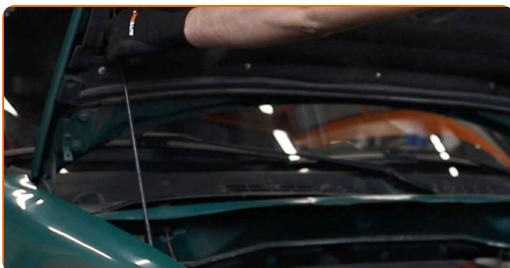
Replacement: suspension strut – Citroën Berlingo M. AUTODOC experts recommend:

- 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 – Citroën Berlingo M – should be done with the engine switched off.

## CARRY OUT REPLACEMENT IN THE FOLLOWING ORDER:

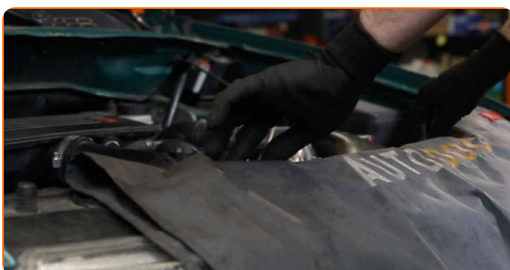
1

Open the bonnet.



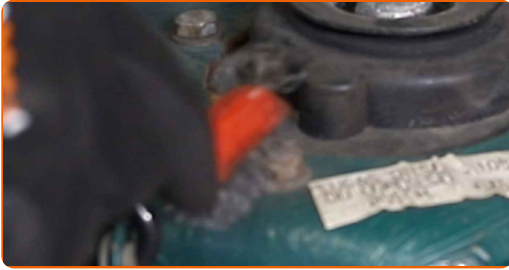
2

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 a wire brush. Use WD-40 spray.



4

Loosen the upper fasteners of the suspension strut. 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

Raise the car.



Replacement: suspension strut – Citroën Berlingo M. Tip:

- If you are using a jack, make sure it rests on a flat surface without any unevenness.
- Be sure to additionally secure the car with jack stands.

8

Unscrew the wheel bolts.



AUTODOC recommends:

- Warning! To avoid injury, hold the wheel while unscrewing the fastening bolts.  
Citroën Berlingo M

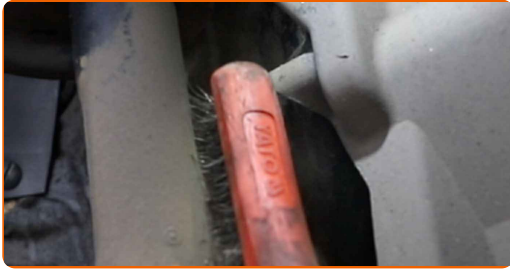
9

Remove the wheel.



10

Clean the fastener that connects the sway bar link to the suspension strut. Use a wire brush. Use WD-40 spray.



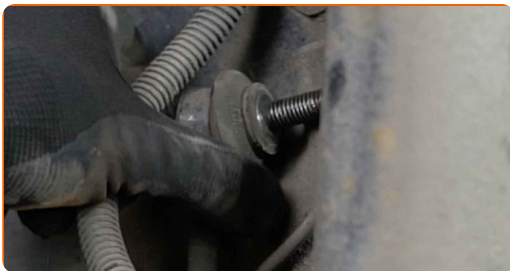
11

Unscrew the fastener connecting the stabilizer link to the shock strut. Use a drive socket #17. Use a ratchet wrench.



12

Remove the stabilizer rod.



13

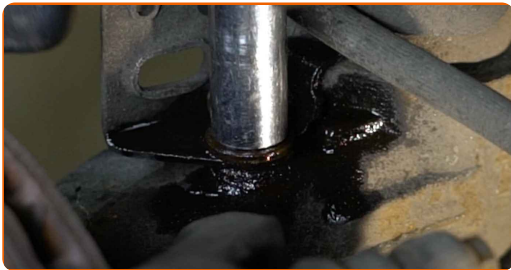
Clean the fastener that connects the brake hose bracket to the suspension strut. Use a wire brush. Use WD-40 spray.





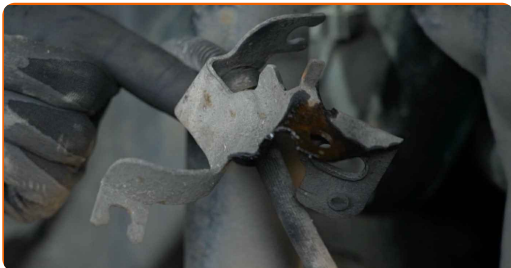
14

Unscrew the fastener that connects the brake hose bracket to the suspension strut. Use a drive socket #13. Use a ratchet wrench.



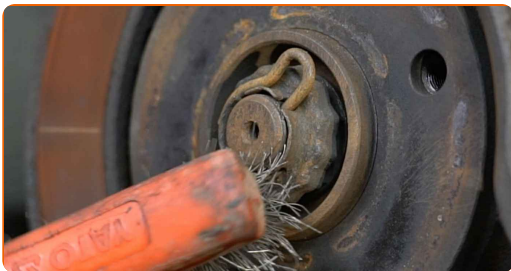
15

Remove the brake hose bracket.



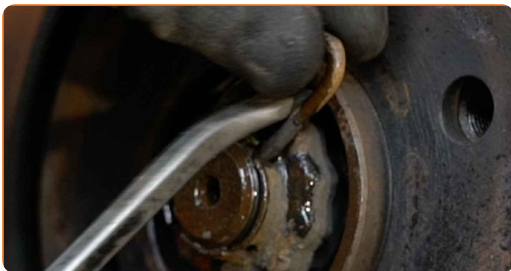
16

Clean the fastener of the driveshaft. Use a wire brush. Use WD-40 spray.



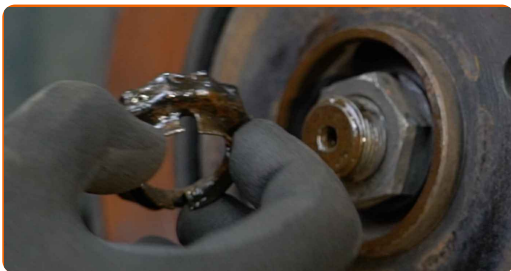
17

Remove the cotter pin. Use a crowbar.



18

Remove the circlip.





19 Unscrew the fastener connecting the drive shaft to the wheel hub. Use a drive socket #36. Use a tap wrench.



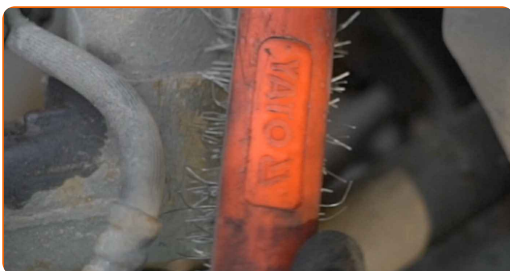
20 Remove the fastening nut.



21 Loosen the CV axle in the wheel hub. Use a pin punch. Use a hammer.



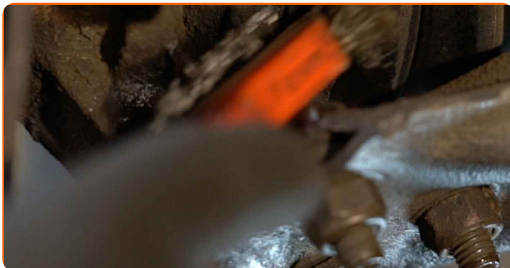
22 Clean the lower fastener connecting the suspension strut to the steering knuckle. Use a wire brush. Use WD-40 spray.



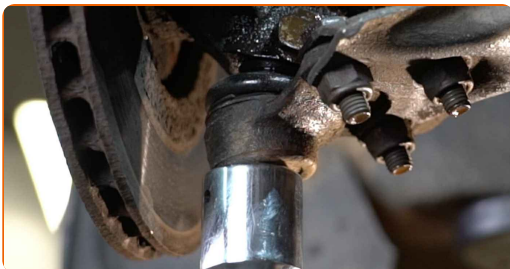
- 23** Unscrew the lower fastener connecting the shock strut to the steering knuckle. Use a combination spanner #16. Use a drive socket #16. Use a ratchet wrench.



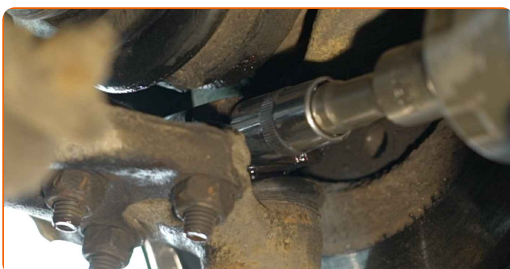
- 24** Clean the fastener connecting the ball joint to the steering knuckle. Use a wire brush. Use WD-40 spray.



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



- 26** Unscrew the ball joint fastening to the steering knuckle. Use a combination spanner #16. Use a drive socket #16. Use a ratchet wrench.



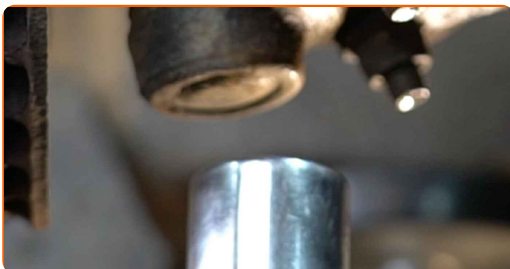
27

Remove the fastening bolt.



28

Remove the support from under the steering knuckle.

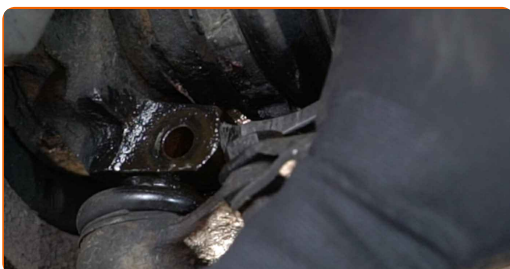


**AUTODOC recommends:**

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

29

Release the fastener that connects the control arm ball joint to the steering knuckle. Use a crowbar. Use a hammer.

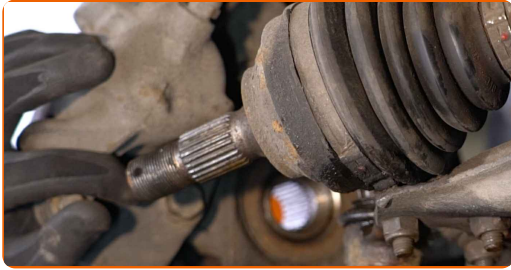


30

Disconnect the ball joint from the steering knuckle. Use a crowbar.



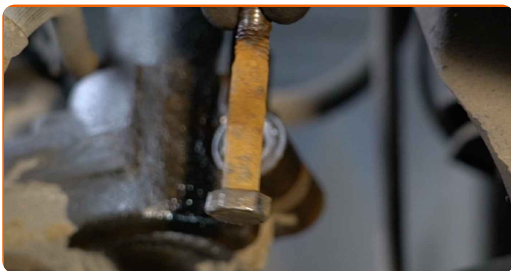
31 Detach the driveshaft from the steering knuckle.



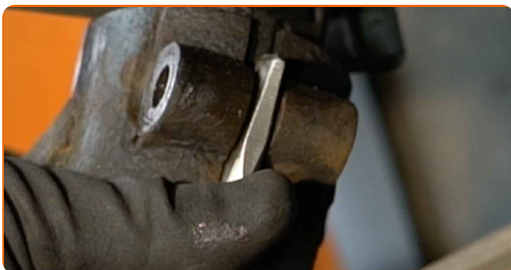
Replacement: suspension strut – Citroën Berlingo M. AUTODOC recommends:

- Make sure that the drive shaft is not unloaded (when the car is jacked).

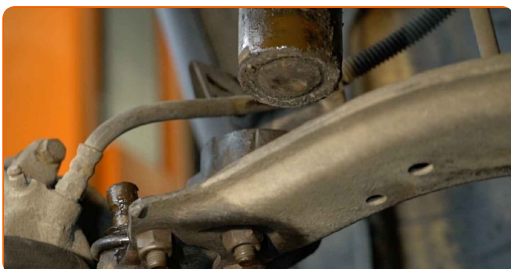
32 Remove the fastening bolt.



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



34 Disconnect the steering knuckle from the shock absorber strut.



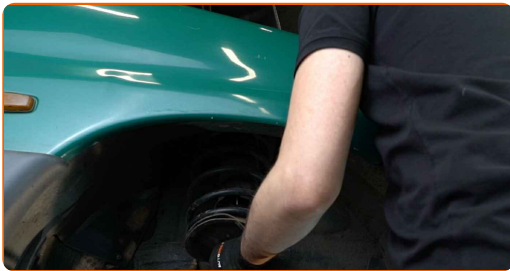
35

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



36

Unscrew the upper fasteners of the shock strut.

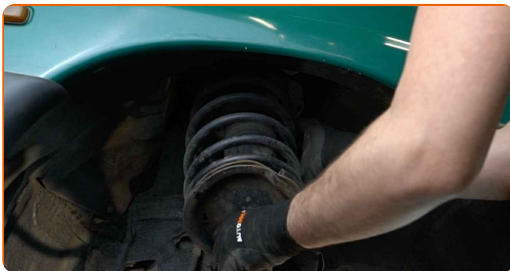


**AUTODOC recommends:**

- Citroën Berlingo M – To avoid injury, hold the suspension strut while unscrewing the fastening bolts.

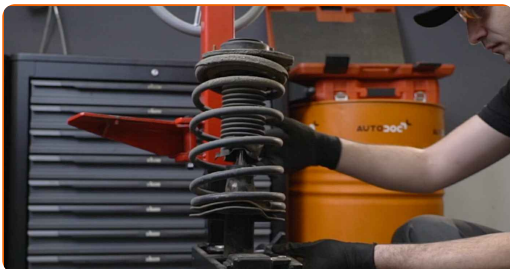
37

Remove the suspension strut.



38

Set the suspension strut on the spring compressor tool.

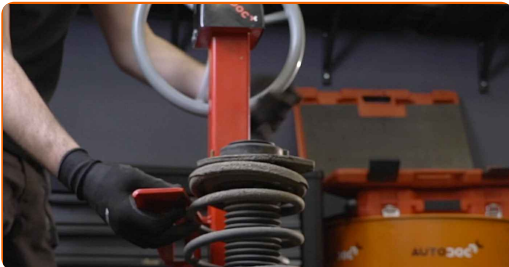


Replacement: suspension strut – Citroën Berlingo M. AUTODOC recommends:

- 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.

39

Compress the spring.



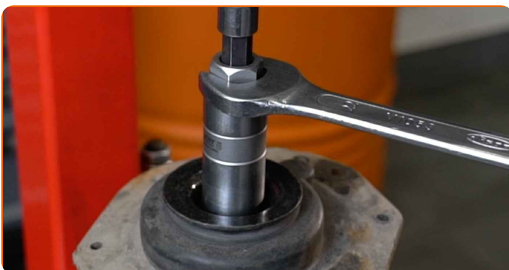
40

Clean the strut piston rod. Use a wire brush. Use WD-40 spray.



41

Remove the strut piston rod nut. Use a 22-mm strut nut socket. Use HEX No.H6. Use a ratchet wrench.





42 Remove the top strut mount.



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

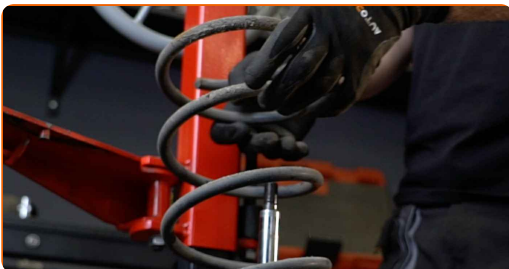


**AUTODOC recommends:**

- Replacement: suspension strut – Citroën Berlingo M. Carefully inspect the mount, the boot, and the bump stop of the shock absorber. Replace if necessary.

44 Release the coil spring.

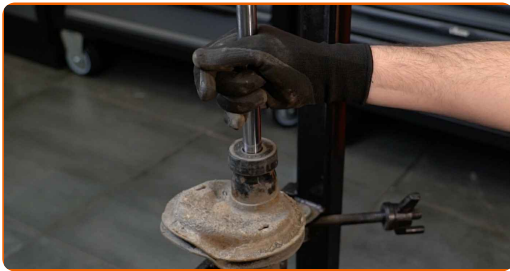
45 Remove the spring.





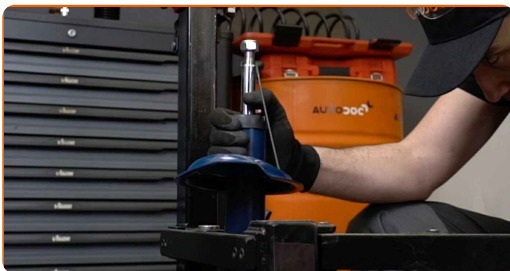
46

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



47

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

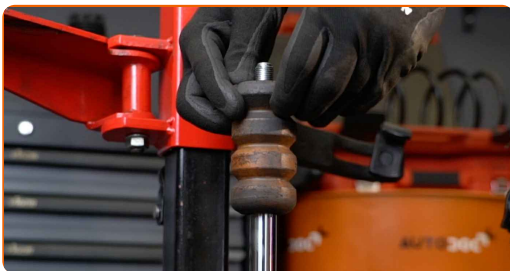


**AUTODOC recommends:**

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

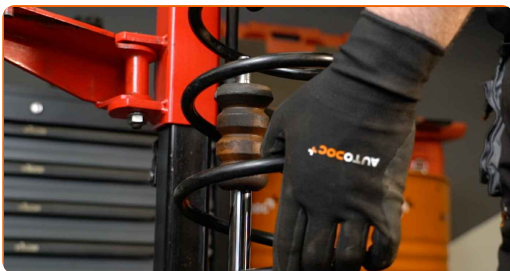
48

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

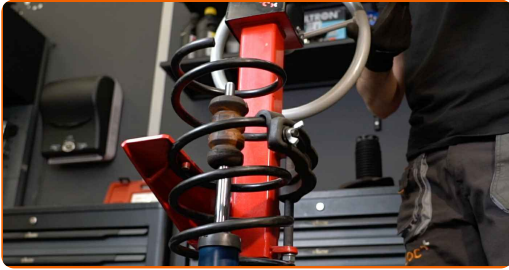


49

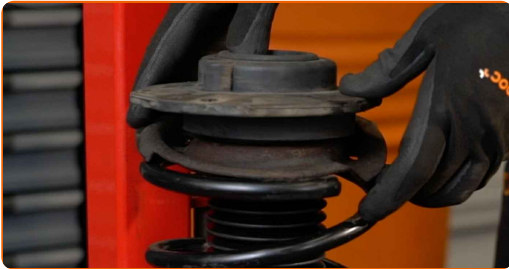
Install the spring on the shock absorber.



50 Compress the spring.



51 Install the upper strut mount and the strut mount bearing.



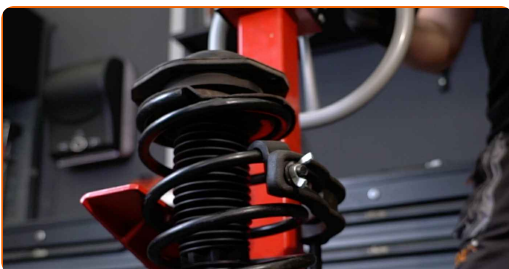
52 Tighten the shock strut piston rod nut. Use a 22-mm strut nut socket. Use HEX No.H6. Use a torque wrench. Tighten it to 50 Nm torque.



**AUTODOC recommends:**

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

53 Decompress the spring.



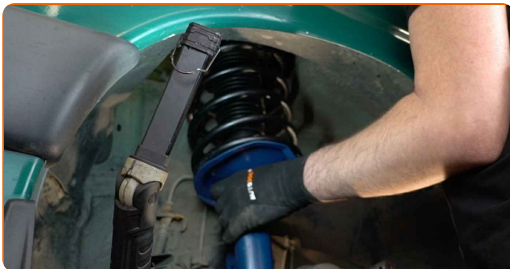
54 Treat the shock strut rod. Use copper grease.



55 Clean the mounting seats of the shock strut. Use a wire brush. Use WD-40 spray.



56 Install the shock strut into the wheel arch.



57 Secure the upper fasteners of the shock strut. Do not tighten it.

**AUTODOC recommends:**

- Citroën Berlingo M – To avoid injury, hold the suspension strut while screwing in the fastening bolts.

**58** Clean the fastener that connects the suspension strut to the steering knuckle. Use a wire brush. Use WD-40 spray.



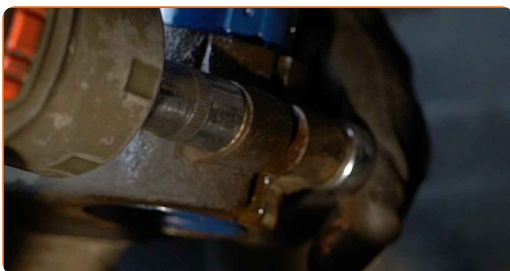
**59** Fix the shock absorber strut on the steering knuckle.



**60** Install the fastening bolt.



**61** Screw in the fastener that connects the shock strut to the steering knuckle. Use a combination spanner #16. Use a drive socket #16. Use a ratchet wrench.



**62** Remove the support from under the steering knuckle.

AUTODOC recommends:

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

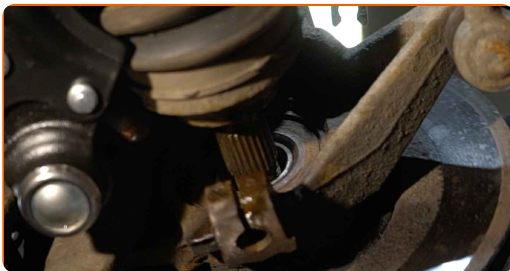
63

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



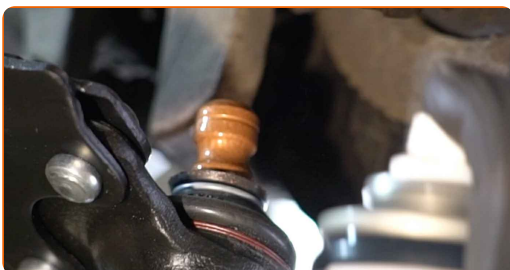
64

Install the steering knuckle on the CV axle.



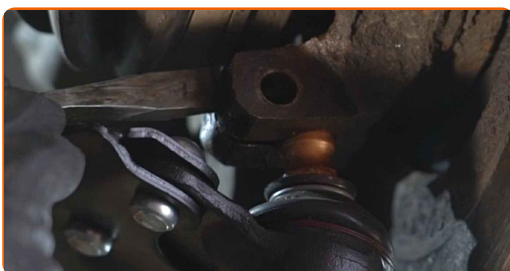
65

Treat the ball joint fastener. Use copper grease.

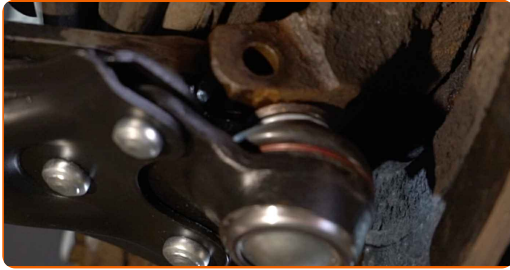


66

Release the fastener that connects the control arm ball joint to the steering knuckle. Use a flat metal-working chisel. Use a hammer.



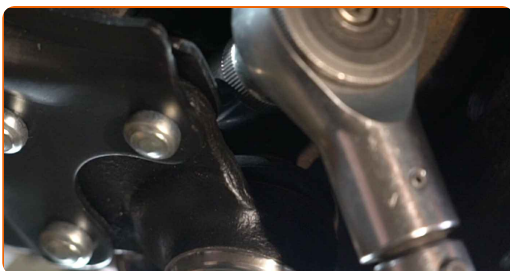
**67** Connect the ball joint to the steering knuckle.



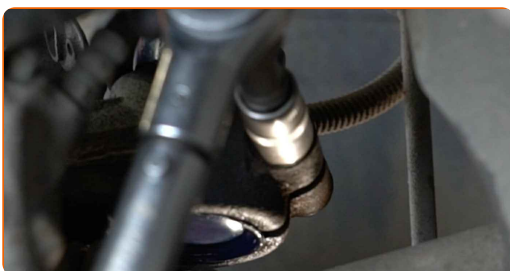
**68** Install the fastening bolt.



**69** Tighten the fastener connecting the ball joint to the steering knuckle. Use a combination spanner #16. Use a drive socket #16. Use a torque wrench. Tighten it to 40 Nm torque.



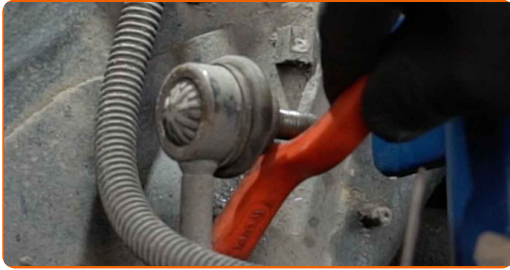
**70** Tighten the lower fasteners of the suspension strut. Use a combination spanner #16. Use a drive socket #16. Use a torque wrench. Tighten it to 55 Nm torque.





71

Clean the sway bar link fastener. Use a wire brush. Use WD-40 spray.



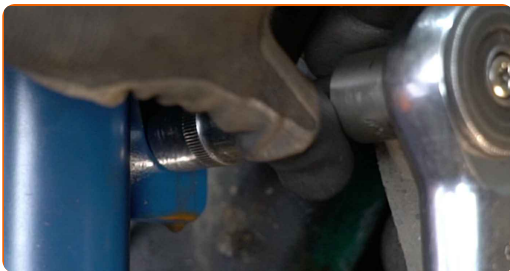
72

Install the transverse stabilizer link.



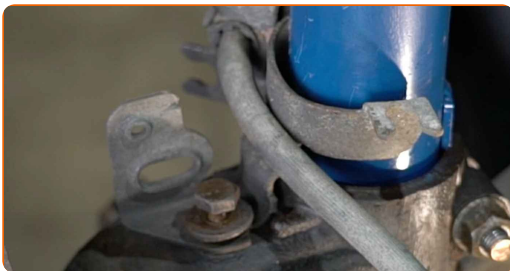
73

Tighten the fastener connecting the stabilizer link to the shock strut. Use a combination spanner #17. Use a torque wrench. Tighten it to 40 Nm torque.



74

Install the brake hose bracket.





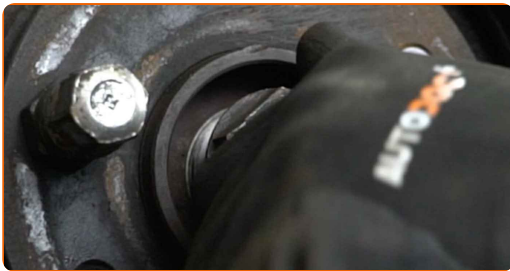
**75** Tighten the fastener that connects the brake hose bracket to the suspension strut. Use a drive socket #13.



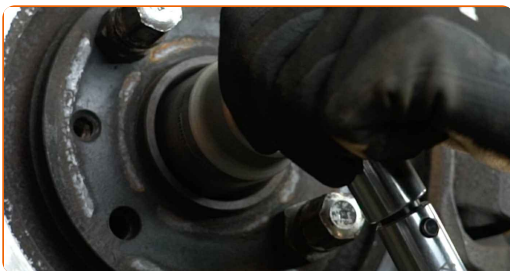
**76** Install the fastening nut.



**77** Screw the nut of the drive shaft.



**78** Tighten the drive shaft nut. Use a drive socket #36. Use a torque wrench. Tighten it to 320 Nm torque.



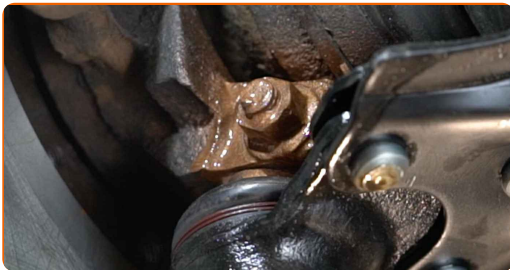
79

Restake the fastener of the driveshaft. Use a flat metal-working chisel. Use a hammer.



80

Treat the ball joint fastener. Treat the fastener that connects the suspension strut to the steering knuckle. Treat the fastener that connects the sway bar link to the suspension strut. Use copper grease.



81

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



82

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



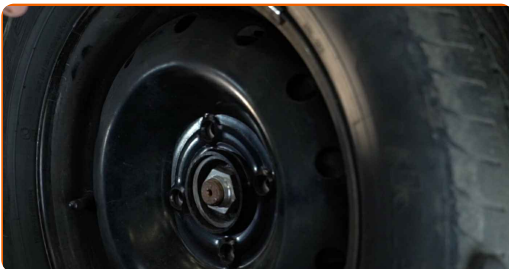
- 83** Clean the brake disk surface. Use a brake cleaner.



**AUTODOC recommends:**

- Replacement: suspension strut – Citroën Berlingo M. After applying the spray, wait a few minutes.

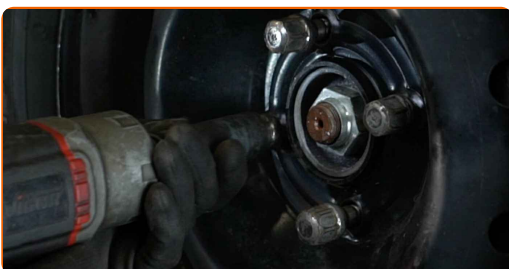
- 84** Install the wheel.



**AUTODOC recommends:**

- Warning! To avoid injury, hold the wheel while screwing in the fastening bolts on the car. Citroën Berlingo M

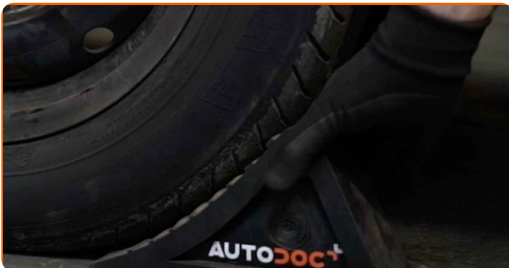
- 85** Screw in the wheel bolts. Use wheel impact socket #19.



- 86** Lower the car and working in a cross order, tighten the wheel bolts. Use wheel impact socket #19. Use a torque wrench. Tighten it to 90 Nm torque.



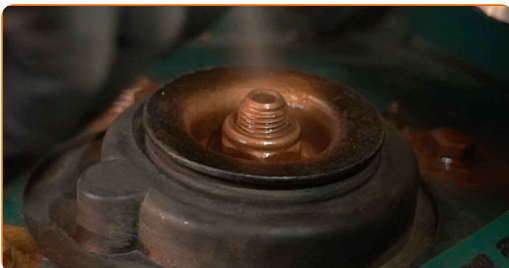
- 87** Remove the jacks and chocks.



- 88** Tighten the upper fasteners of the shock strut. Use a drive socket #13. Use a torque wrench. Tighten it to 45 Nm torque.

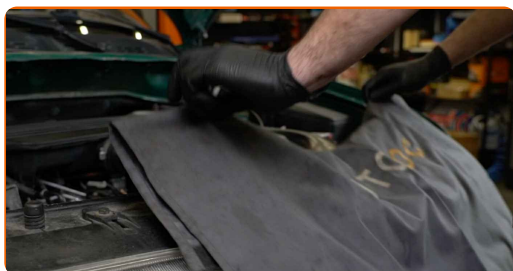


- 89** Treat the shock strut fasteners. Use copper grease.



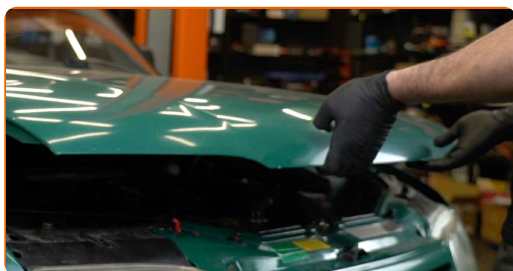
90

Remove the fender protection cover.



91

Close the hood.

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