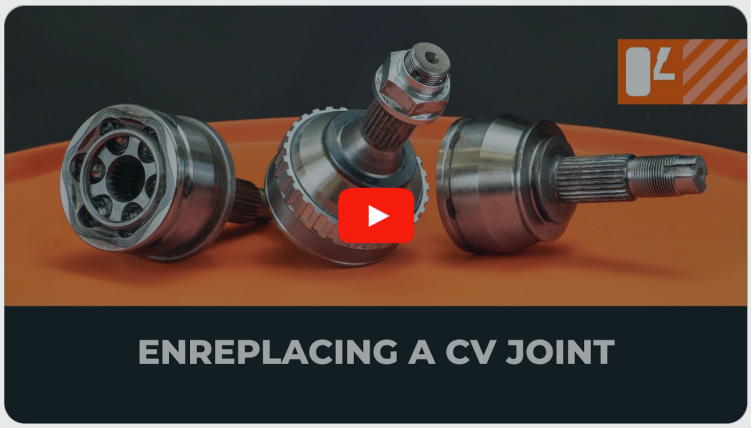
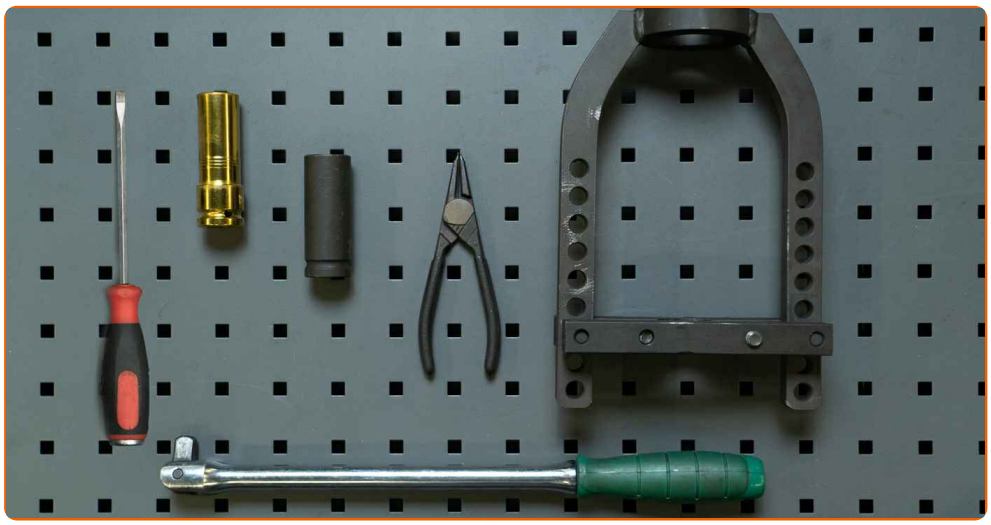
AUTODOC CLUB

How to change CV joint on a car – replacement tutorial

VIDEO TUTORIAL



REQUIRED TOOLS:



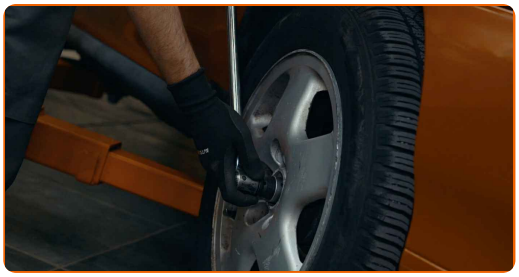
- Flat screwdriver
- Tap wrench
- Wheel impact socket
- Impact socket
- CV joint puller
- Circlip pliers
- Jack
- Line stoppers

BUY TOOLS

Please note!

- CV joint stands for constant velocity joint
- It transmits torque from the differential to the wheel via the CV axle shaft
- Each axle shaft has two CV joints
- One on the wheel end of the shaft and one on the other end, at the gearbox or final drive
- Symptoms of a bad CV joint include play or a clicking noise when pulling away or manoeuvering

1 The fasteners should be loosened while all wheels of the car are on the ground

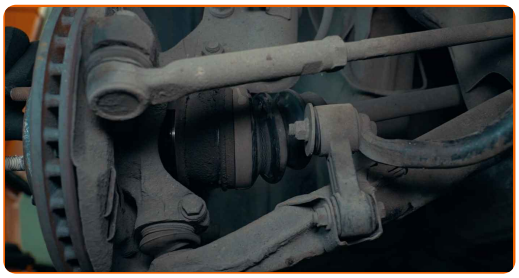


Please note!

- The outer CV joint is usually a ball-type joint
- It provides effective torque transmission at large articulation angles and compensates for suspension travel

2 To remove the outer CV joint, you do not need to remove the CV axle, you can just detach it from the wheel hub. As a rule, the CV axle is secured in the hub with a bolt or nut. A cotter pin is also used in some car models

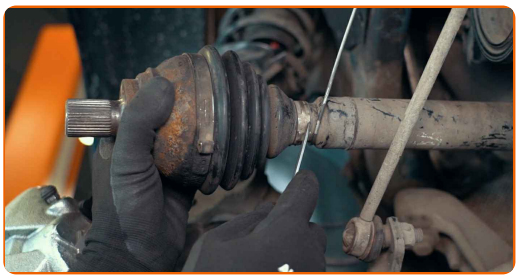
3 Make sure that the CV axle has enough longitudinal travel to allow you to get the CV joint out



4 Knock the CV joint out of the hub by hitting its centre hole

5 Detach the CV joint from the steering knuckle or hub. To do this, you might need to remove the ball joint or detach the steering knuckle from the suspension strut

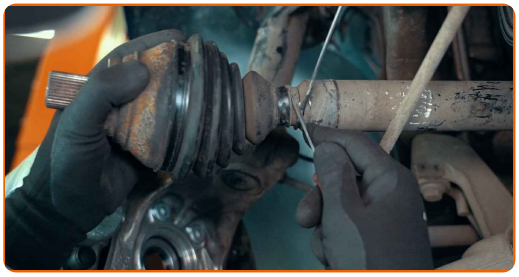
6 Then remove the dust boot clamps



AUTODOC recommends:

- To pull this type of CV joint off the axle shaft, you can use the axle bolt

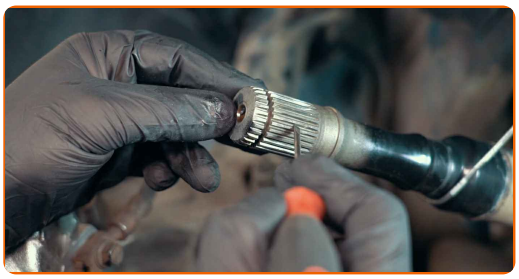
7 Remove the clamps, pry off the dust boot and make sure it is not stuck to the axle shaft



Important!

- The internal components of the CV joint are sealed with a leak-tight dust boot
- It keeps the grease inside and protects the assembly against harmful environmental influences

8 Inspect the splines on the axle shaft. Worn splines can cause play in the joint



Please note!

- To disassemble this type of CV joint, you will need special tools

9 Remove the dust boot clamps

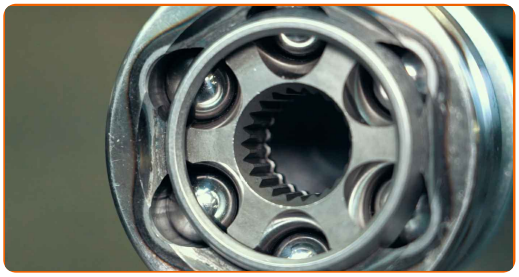
10 Use a puller and the axle nut to remove the CV joint from the axle shaft

11 Remove the dust boot, thrust washer and plastic bushing that limits the articulation angle of the CV joint

The following signs indicate that the CV joint needs to be replaced:

- a worn inner race
- dull spots on the surfaces of the balls
- a worn or corroded cage
- worn or corroded grooves in the housing

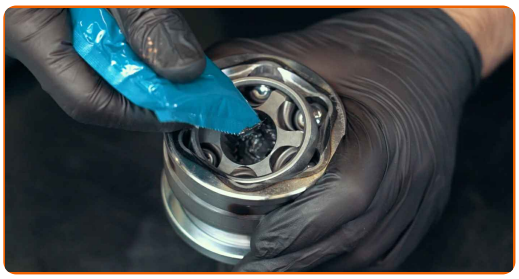
12 Lubricate the new CV joint if there is no factory grease inside it



AUTODOC experts recommend:

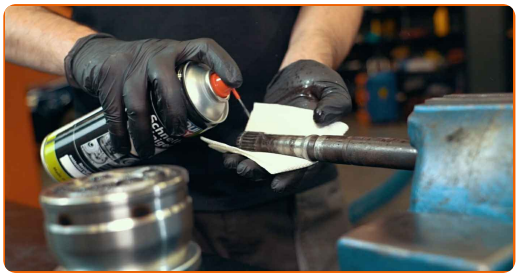
- Please note that the lubricants for the inner and outer CV joints have different compositions

13 Apply most of the grease to the inside of the CV joint



14 Tilt the joint in different directions to distribute the lubricant evenly

15 Degrease the CV boot's mounting seat on the axle shaft



16 Slide the dust boot further along the shaft, away from its mounting seat so that it does not get in the way while you are assembling the CV joint

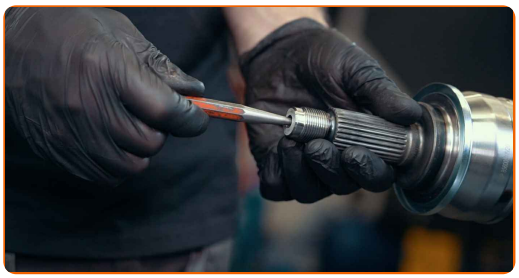
17 Install the circlip

18 Place the CV joint on the end of the axle shaft

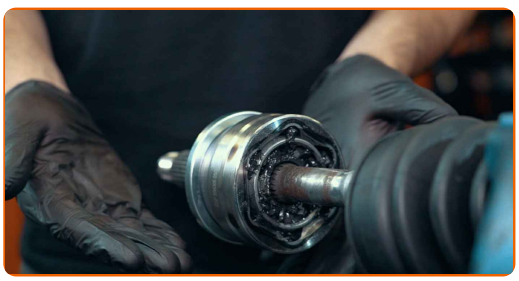
19 Make sure that the CV joint and the axle shaft are aligned

20 Apply force to the joint's housing using an extended driver

21 Or hit the centre hole using a punch



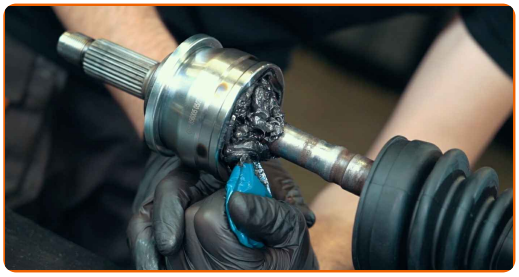
22 Continue doing so until the circlip is in the correct position



Please note!

- When correctly seated, a small amount of axial play in the joint is acceptable

23 Apply the remaining grease to the CV joint



24 Prevent the grease from getting on the dust boot's mounting seat, otherwise the boot will not be secure

25 Carefully install the dust boot on its mounting seat

26 Check that it fits tightly around the CV joint housing

Caution!

- The dust boot should not rotate

27 Make sure that the clamps are positioned correctly and properly aligned

28 To avoid damaging the dust boot, do not overtighten the clamps

Please note!

- In most cases, you may need a special tool to tighten the clamps

29 Check that the dust boot is seated properly

30 Turn the boot inside out to avoid smearing it with grease when installing the CV joint

31 To install a different type of CV joint, proceed as follows: Fit the thrust washer and plastic bushing

32 Install the circlip

33 Adjust the position of the circlip so that it can be compressed by the internal part of the joint when you apply force to it

34 Align the splines and place the CV joint on the end of the axle shaft

35 Push the CV joint till it gets past the circlip and install the joint

36 To avoid damage, never hit the splines

37 Apply force to the housing via a sleeve or driver

38 Make sure that no grease has got on the dust boot's mounting seat and degrease it if necessary

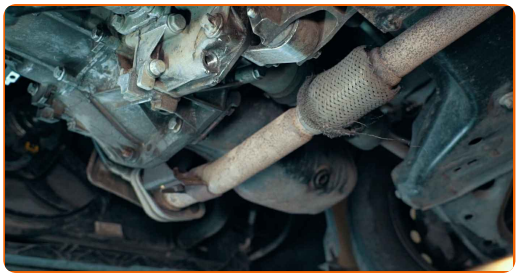
39 Put on the dust boot carefully

40 Check that the clamps and boots are positioned correctly

Please note!

- The inner CV joint is designed as a tripod with rollers that have a bearing inside
- The rollers move back and forth along the grooves inside the housing
- This compensates for suspension travel and ensures consistent power transmission

41 To remove the inner CV joint, it is often necessary to dismount the entire CV axle

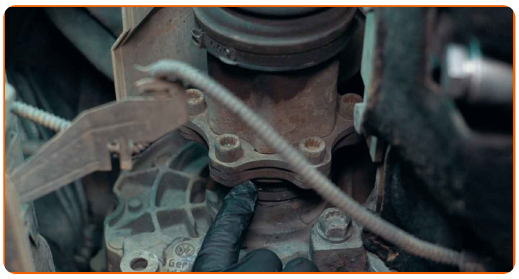


Important!

- Replacing the inner CV joint, which is inserted into the gearbox or final drive, requires draining the transmission fluid
- The inner CV joint can be bolted to a flange on the gearbox
- Assemblies which have their own splined shaft are inserted directly into the gearbox

42 Next, remove the axle shaft by evenly applying pressure to the CV joint's housing using a suitable tool

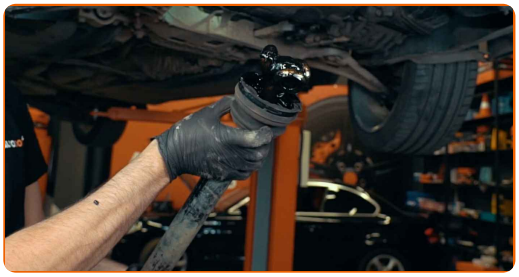
43 If the axle shaft has a flange connection, unscrew the CV joint housing fasteners



AUTODOC recommends:

- To prevent the CV axle from turning, use an air or electric impact wrench to remove the fasteners
- If you do not have one, secure the CV axle with a crowbar
- You can also lock it in place with the brake disc

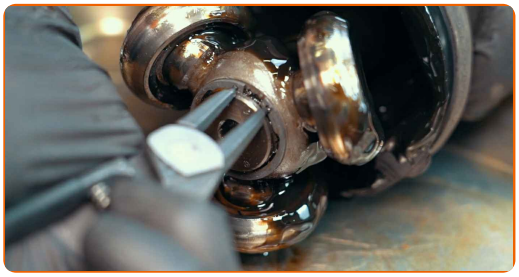
44 Take off the larger clamp and remove the axle shaft from the inner CV joint housing



Important!

- Please note that the tripod is not installed in the housing, but on the axle shaft

45 Remove the circlip that secures the tripod to the axle shaft



AUTODOC recommends:

- To remove the tripod from the axle shaft, you might need to use a puller

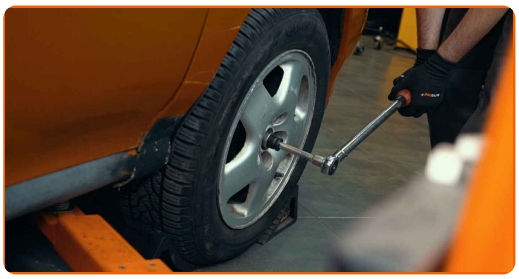
46 Align the recesses inside the dust boot with the rollers on the tripod so that it can be inserted freely into the CV joint housing

47 Reassemble all the components that you dismounted previously in reverse order

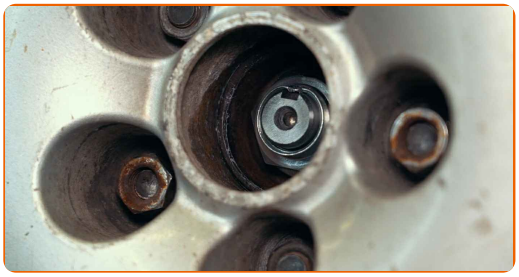
48 Tighten the fasteners to the manufacturer's recommended torque

49 If the transmission fluid was drained during the replacement, refill the transmission with a fluid that is suitable for the vehicle

50 Tighten the fastener that attaches the CV axle to the wheel hub



51 Install the cotter pin if the car has one



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