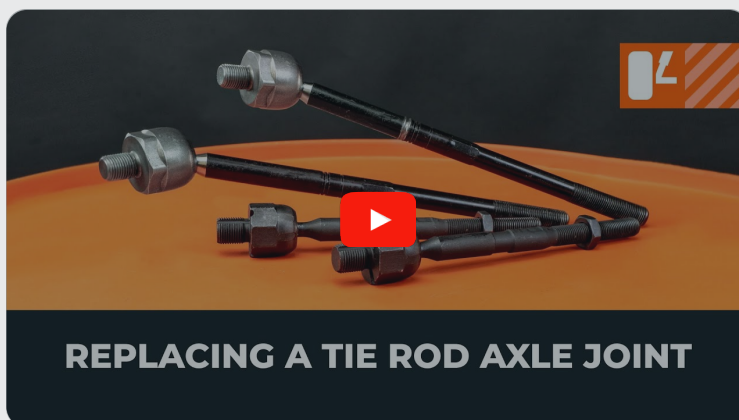




How to change inner tie
rod on a car –
replacement tutorial

VIDEO TUTORIAL



YOU WILL NEED THE FOLLOWING TO CARRY OUT THE REPLACEMENT:



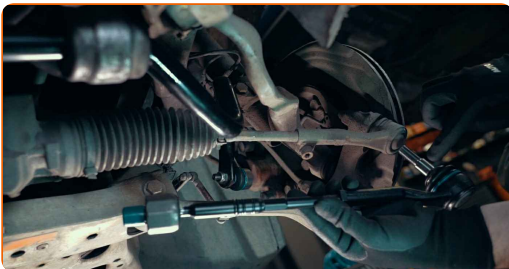
- a set of suitable tools
- a torque wrench
- a ball joint puller
- a measuring tool
- a pipe wrench
- a universal cleaner and a brush
- WD-40 spray
- clic-R collar pliers
- an inner tie rod end wrench

BUY TOOLS

Please note!

- The tie rod is an articulated connecting element of the steering system
- It transmits the force from the steering gear to the steering knuckle
- The tie rod can be supplied either as a separate part or assembled with the tie rod end and dust boot
- The tie rod is part of the steering system and is responsible for the toe-in angle
- The tie rods are installed on both sides
- However, since the components have the same service life, it's recommended to change them as a pair on the axle
- This is also advisable since the wheels have to be aligned after the job is completed

- 1 To detect the failure, you should raise the wheel and rock it back and forth. Free play indicates a faulty tie rod or tie rod end



Replacement of a tie rod assembled with the tie rod end

- The tie rod end is attached to the tie rod, which has a joint that is connected to the steering rack

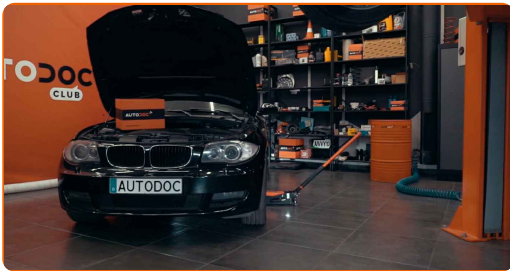
2

To access the tie rod, remove the wheel and turn the steering wheel as far as it will go



3

Also prepare a jack or a car lift

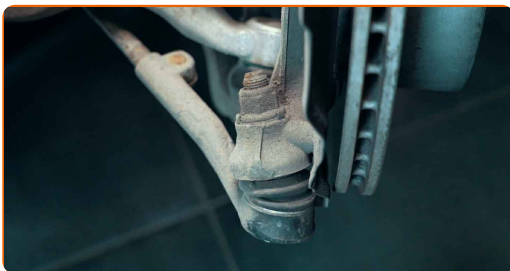


Be careful!

- When using a jack, make sure to use jack stands and wheel chocks

4

Detach the tie rod end from the steering knuckle and then remove the tie rod itself

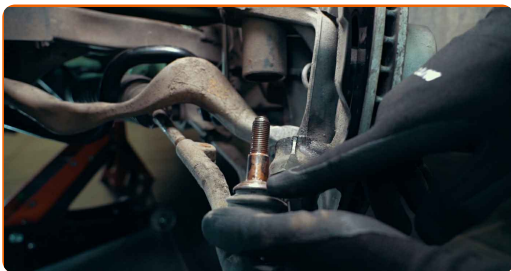


5

Clean the fastener that connects the part to the steering knuckle



6 Remove the tie rod end. Use a special puller if necessary



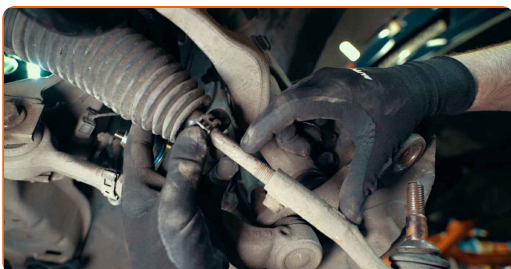
7 To access the fastener on the steering rack shaft, remove the boot clamps and the boot



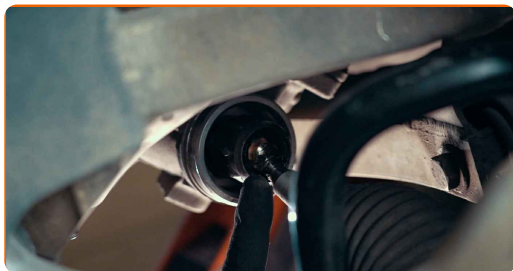
Important!

- The tie rod axle joint, which is attached to the steering rack shaft, is non-adjustable
- Wheel alignment is performed by adjusting the connection between the tie rod and the tie rod end

8 Do not unscrew this connection right away; first measure the distance from the beginning of the threaded portion on the tie rod to the tie rod end



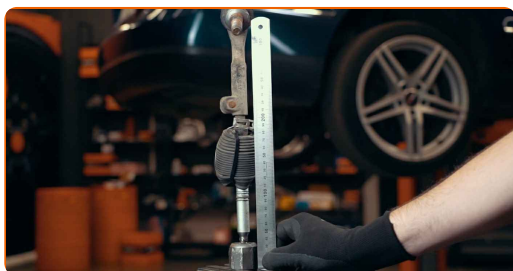
- 9 Before unscrewing the tie rod from the steering rack shaft, return the steering wheel to its original position



Please note!

- This reduces the load placed on the steering rack shaft while unscrewing the tie rod
- Some steering rack shafts have a place on them where they can be secured to minimise the risk of damaging them
- In some cases you may need a pipe wrench, which ensures wide and reliable grip, or a special wrench to unscrew the tie rod

- 10 Measure the tie rod length from the point where the axle joint rests on the steering rack to the centre of the tie rod end's ball joint

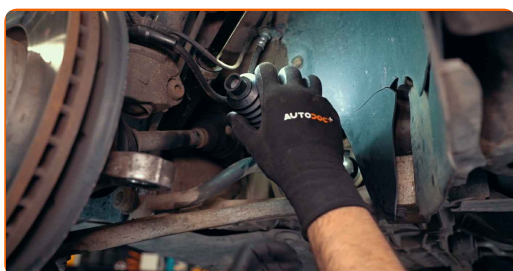


Important!

- The length of the new tie rod end might not be the same as that of the old one
- This distance can be compensated for by screwing in the threaded portion

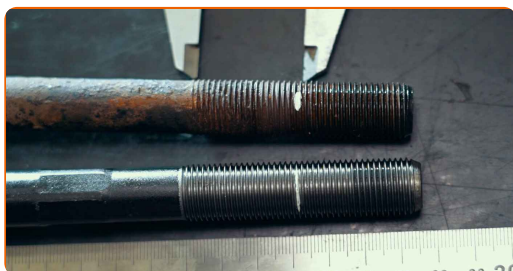
11

When assembling the tie rod with the tie rod end, install a new dust boot kit



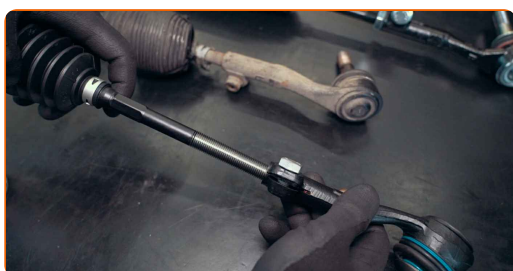
12

or make a mark on the threaded portion of the tie rod, mount it on the rack, and put the boot on

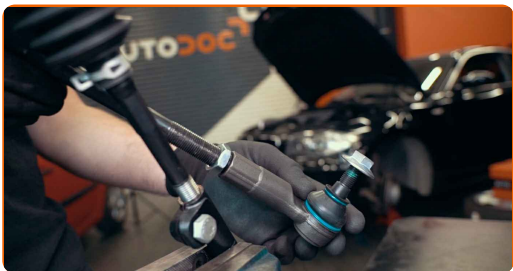


13

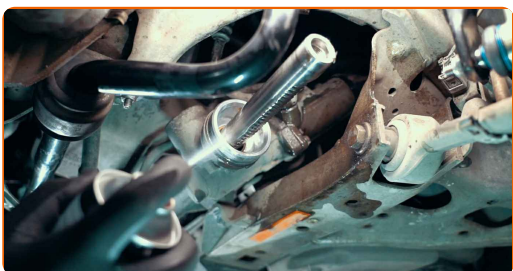
Install the tie rod end and treat the connections with an anti-corrosion agent



14 Secure the tie rod end on the tie rod with a bolt or a lock nut



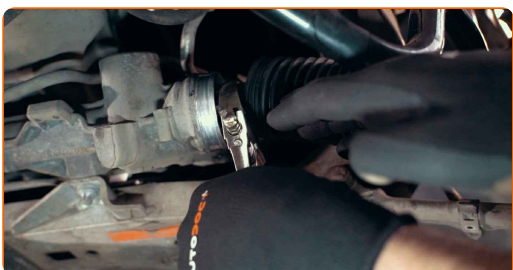
15 Before installing the new component, clean the steering rack shaft of old lubricant and apply some new



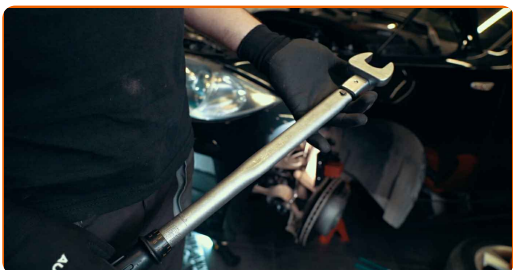
16 Apply some threadlocker to the threaded portion and screw in the new tie rod



17 Be sure to use new fasteners



18 Tighten all fasteners to the torque recommended by the car manufacturer

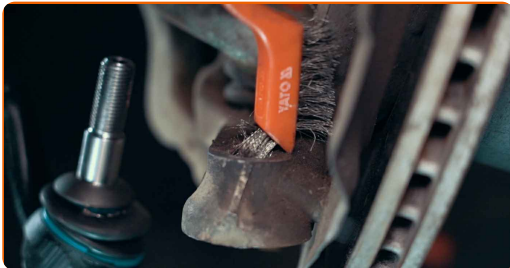


AUTODOC recommends:

- Make sure that the mounting seats of the boot are free of lubricant
- Otherwise it might not be reliably secured

19

Clean the mounting seat of the tie rod end's ball stud in the steering knuckle



Replacement of a tie rod as a separate part

- In this case there is no need to remove the tie rod end from the steering knuckle,
- since the tie rod rotates in the axle joint and can be unscrewed from the tie rod end.

20

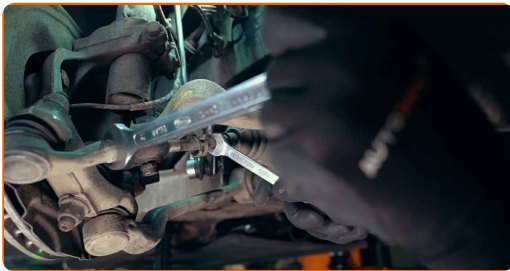
Measure how far the tie rod is screwed into the tie rod end. You will need to know this length when fitting a new component



21 Also, before unscrewing the tie rod, loosen the boot fastener



22 Unscrew the tie rod, having first secured the tie rod end



Be careful!

- When unscrewing the tie rod, check that the steering knuckle is not turned so much that it damages the brake hose or wiring harness

23 Check the steering rack shaft for axial and radial play

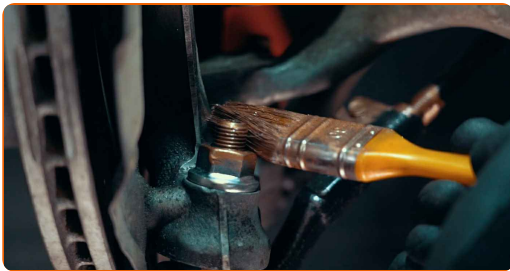


Please note!

- When the steering wheel is being turned, air should be able to escape freely from the boot
- Otherwise the boot may be damaged or torn off
- Some designs have a lock tab washer between the steering rack shaft and the tie rod
- After the axle joint is tightened, it is bent to prevent the tie rod from unscrewing
- There's a special mounting seat on the tie rod for securing the boot.

24

Treat the components with an anti-corrosion agent

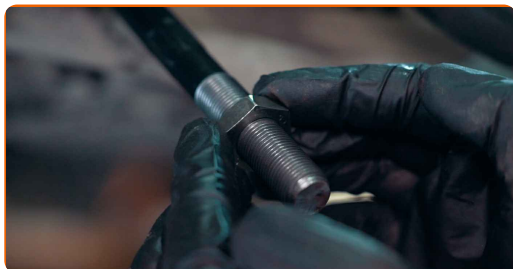


Caution!

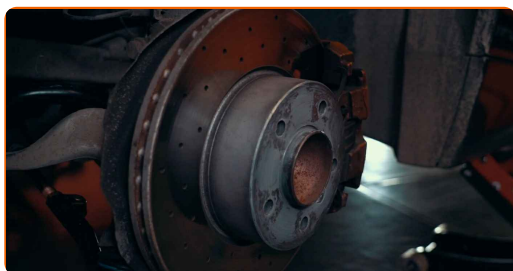
- When using a torque wrench with extension, there is a deviation in the tightening torque
- In that case, set the torque wrench to an average value.

25

Screw on the lock nut, using your mark as reference, and install the tie rod end

**26**

Make sure that the surface the wheel is mounted on is clean and smooth to prevent wheel imbalance

**27**

Treat the surface with an anti-corrosion agent

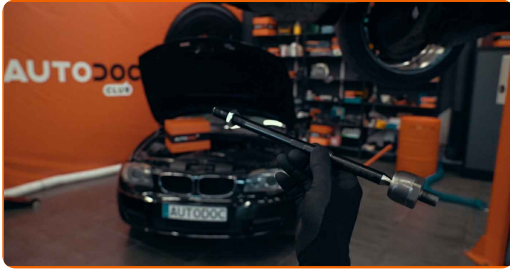
**28**

Clean the working surface of the brake disc



29

After replacing the tie rod, be sure to align the wheels using a special alignment machine



AUTODOC – TOP QUALITY AND AFFORDABLE CAR PARTS ONLINE

AUTODOC MOBILE APP: GREAT DEALS AND CONVENIENT SHOPPING



+ AUTODOC

GET IT ON
 **Google Play**

Download on the
 **App Store**

Download

A GREAT SELECTION OF SPARE PARTS FOR YOUR CAR

INNER TIE ROD: A WIDE SELECTION

DISCLAIMER:

The document contains only general recommendations that may be useful for you when you perform repair or replacement work. AUTODOC shall not be liable for any loss, injury, damage of property occurring in the repair or replacement process due to incorrect use or misinterpretation of the provided information.

AUTODOC shall not be liable for any possible mistakes and uncertainties in this guide. The information provided is for information purposes only and cannot replace advice from specialists.

AUTODOC shall not be liable for incorrect or hazardous usage of equipment, tools and car parts. AUTODOC strongly recommends to be careful and observe the safety rules when performing repair or replacement works. Remember: usage of low quality auto parts does not guarantee you the appropriate level of road safety.

© Copyright 2023 – All the contents of this website, in particular texts, photographs and graphics, are protected by copyright. All rights, including reproduction, publication, editing and translation rights, are reserved by AUTODOC SE.