

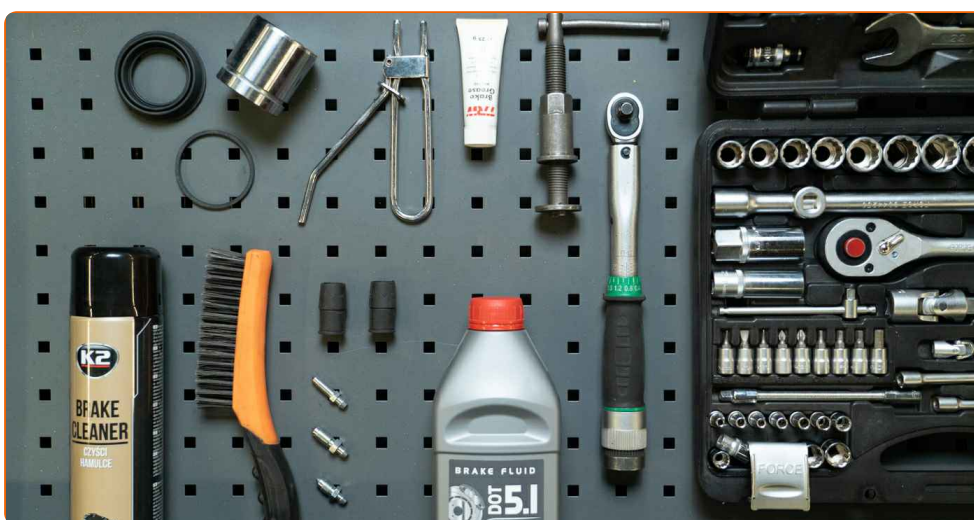


How to change brake
caliper repair kit on a car
– replacement tutorial

VIDEO TUTORIAL



TO CARRY OUT THE REPLACEMENT YOU WILL NEED THE FOLLOWING:



- a repair kit and related brake system components
- a set of suitable tools
- brake cleaner and a brush
- a brake hose clamp
- guide pin grease
- brake fluid suitable for your car
- a brake bleeder kit
- a piston wind back tool
- a torque wrench

BUY TOOLS

AUTODOC recommends

- Look at the design and fasteners of the brake caliper
- Any brake caliper has a piston dust boot and oil seal, which ensure leak-tightness

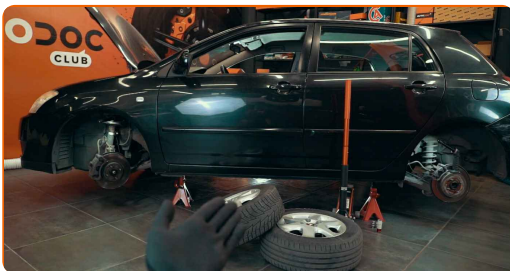
1

To repair a brake caliper, you should access it by lifting the car and removing the wheel



2

Use a car lift or a jack with jack stands and wheel chocks

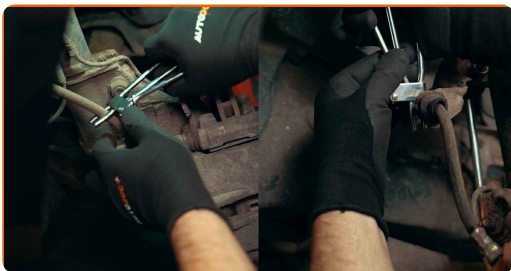


3

Clean the working area, especially where the hose is connected to the caliper, and the fasteners



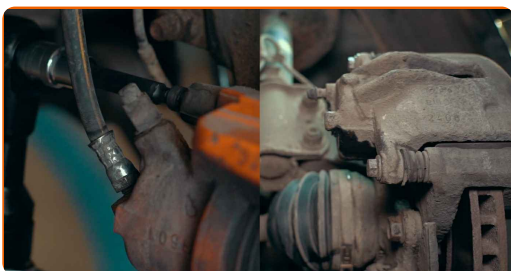
4 Unscrew the brake hose fitting



Important!

- Before doing that, pinch the hose with a clamp to prevent brake fluid leakage

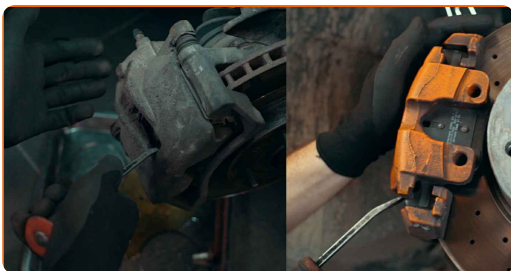
5 Unscrew the brake caliper fasteners



6 If the caliper cannot be detached, insert a suitable tool between its housing and the brake disc

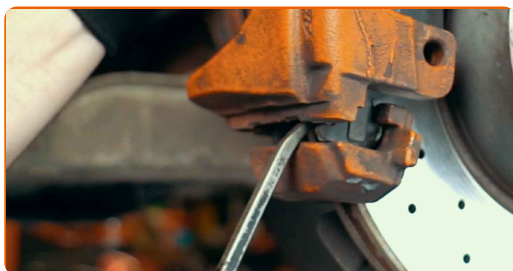


7 Press on the piston with the tool



8

If this doesn't work, pry the caliper housing off, supporting the tool on the caliper bracket



Be careful!

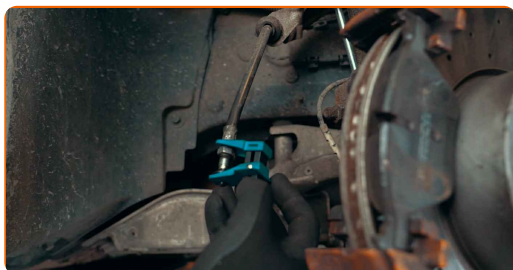
- Do not leave the brake hose clamped for too long to prevent its deformation
- If possible, use a brake line stopper

9

Secure the caliper reliably and prepare a suitable wood block to prevent the piston from shooting out

10

Press the air nozzle to the opening where the brake hose is connected



Important!

- Do not create a fully tight connection
- A little air bleeding will allow you to adjust the force that will push the piston out

11 Supply air intermittently, watching the piston movement



Be careful!

- The piston is going to pop out of its seal abruptly

12 Pry up the boot and slide it off, then demount the piston



Please note!

- The piston might be difficult to remove due to corrosion
- In this case, you can also use the fluid pressure in the system to apply force to the piston

13 Pinch the brake hose and prepare a container to collect the brake fluid



14

Put the caliper in the container and connect the brake hose to it

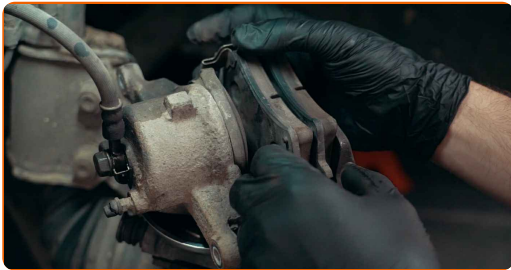


AUTODOC experts recommend:

- To carry out this procedure, you'll need someone to assist you
- One of you will control how far the piston is moving out, and the other will press the brake pedal

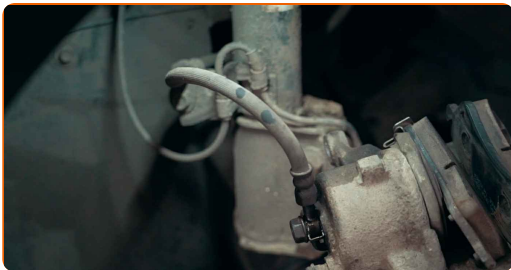
15

Remove the clamp from the hose to allow the brake fluid to work while the pedal is pressed



16

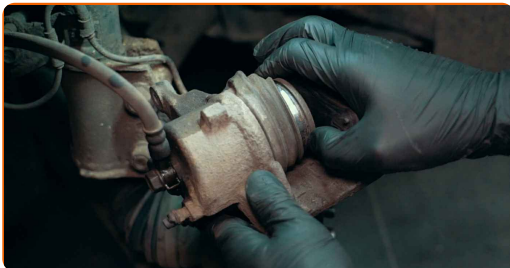
To prevent the piston from popping out abruptly, place the brake pads in front of it



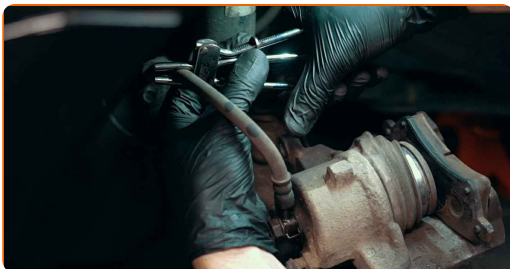
- 17 While pressing the brake pedal, check the brake fluid level in the reservoir. This is necessary to prevent air from getting into the system



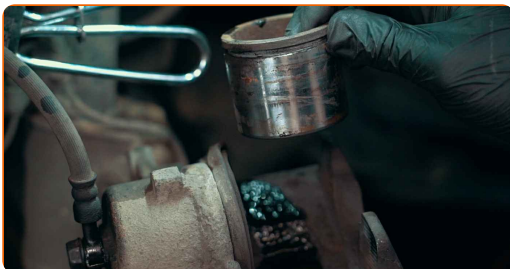
- 18 When you hear a distinctive sound or see traces of brake fluid, check whether the piston can be removed easily



- 19 Pinch the brake hose to prevent brake fluid from leaking



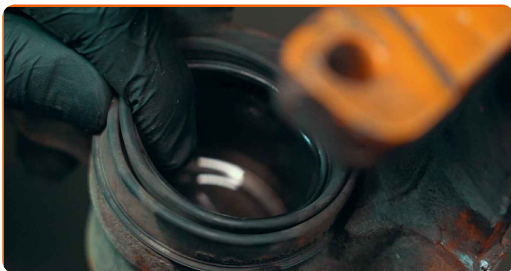
- 20 Remove the brake pads, extract the piston, and disconnect the caliper



- 21 Check the condition of the piston and caliper



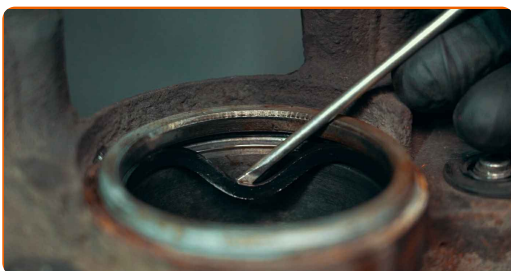
22 Examine the way the dust boot is attached to the caliper housing



Please note!

- It might be secured with a retaining ring or simply fitted into the mounting seat
- For more reliable fastening the dust boot may have a metal base

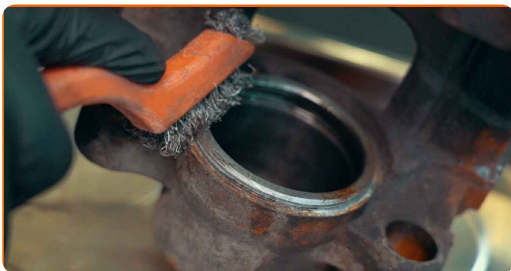
23 Remove the seal located between the caliper housing and the piston



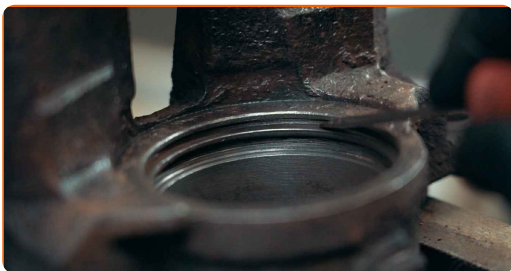
24 Dismantle all the parts included in the repair kit, like guide pins and their fasteners and dust boots



25 Clean the brake caliper body and all mounting seats



26 If the dust boot is fitted inside the component, clean its mounting seat thoroughly



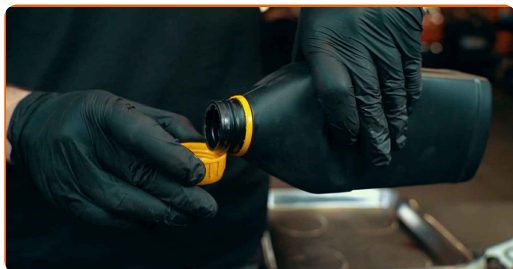
Important!

- Some pistons have a factory-applied anti-corrosion coating and are usually a uniform dark colour
- The working surface of the piston must be smooth and free of corrosion and damage

27 If there are any defects, replace the piston



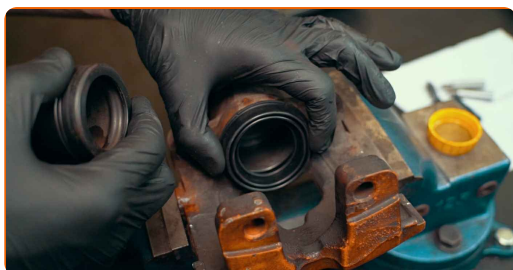
28 Before reassembling, prepare a small amount of new brake fluid



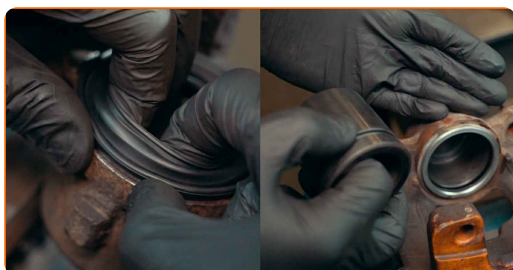
29 If the dust boot is located on the outside of the caliper housing, first put it on the piston



30 Then insert the piston into the caliper housing and install the dust boot

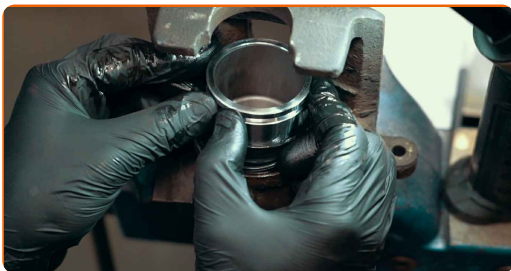


31 If the dust boot is mounted on the inside, install it first



32

Next, install the piston

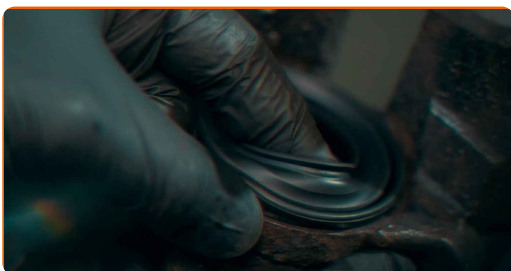


Caution!

- Proceed with caution so as not to damage the parts

33

Install the dust boot and make sure it is fitted tightly into the mounting grooves



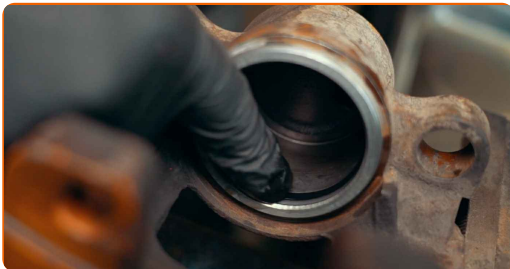
Important!

- Do not use any lubricant when installing the dust boot as this might make mounting more difficult
- Lubrication will be required during the piston installation step

34 Lubricate the piston and fit the dust cover on it



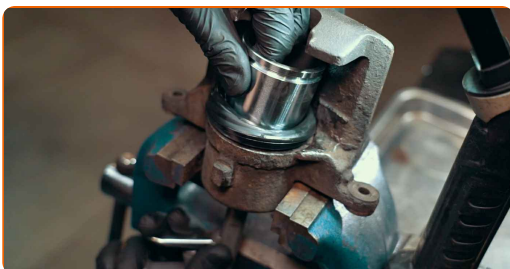
35 Apply some lubricant on the seal



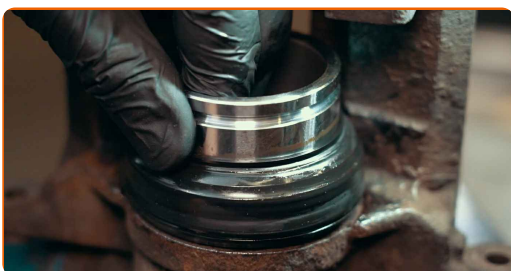
Please note!

- The process of installing the dust boot on the piston can be quite complicated, and in some cases you may need an assistant
- Spread the dust boot evenly while inserting the piston into the caliper housing

36 If you don't have an assistant, use compressed air



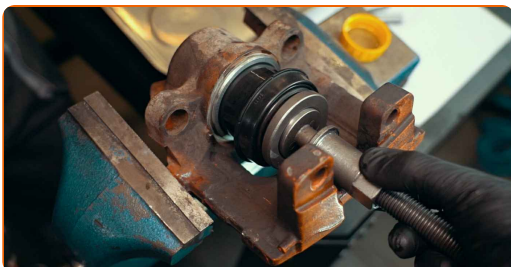
- 37** Blow compressed air from below while mounting the piston. The air will expand the dust boot, making it easier to install



- 38** Carefully place the piston in its mounting seat and push it slightly until it contacts the seal



- 39** While continuing to push the piston carefully, insert it into the housing. Use a special brake caliper piston wind back tool

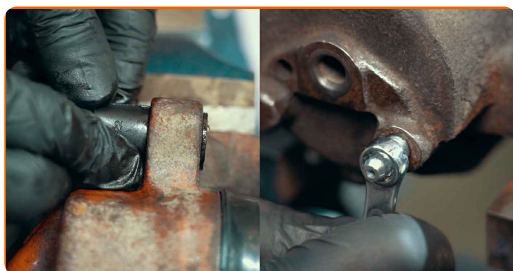


Be careful!

- Avoid misalignment to prevent the piston from jamming and damaging the seal

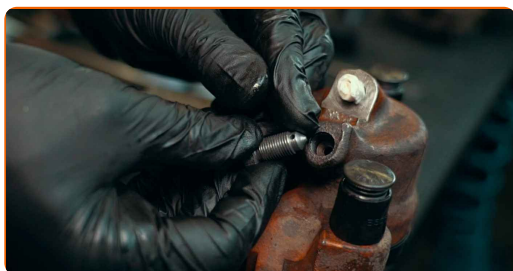
40

Reinstall all the elements that were removed



41

Check that the tapered seat of the bleeder screw in the caliper housing is free of corrosion and damage

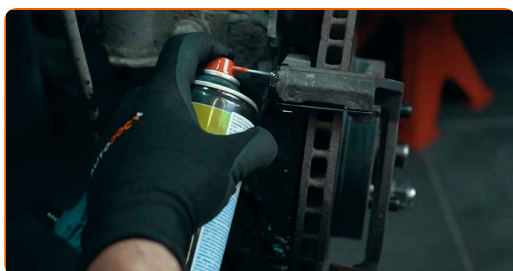


Please note!

- If the brake caliper is badly damaged and using a repair kit won't help, you can always buy a new caliper
- Repair kits often include guide pins and guide pin boots

42

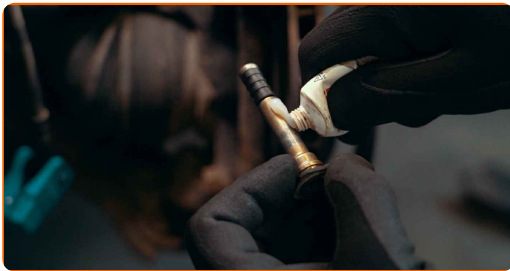
As the mating surface of the guide pins is inside the bracket, it must be cleaned thoroughly



43 After cleaning the mounting seats of the guide pins, install new boots. In most cases, they snap easily into place



44 Apply a small amount of special grease to the guide pins and install them



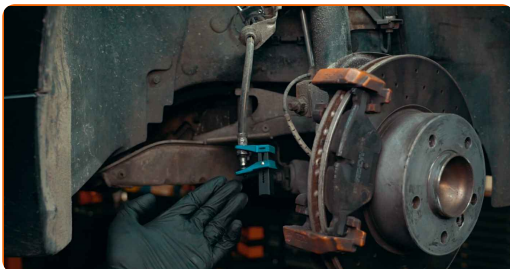
Be careful!

- Do not use excessive amounts of lubricant as this will prevent the guide pins from working properly

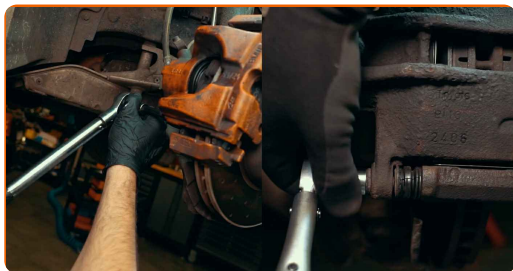
45 Check the condition of the brake discs and pads and replace them if necessary



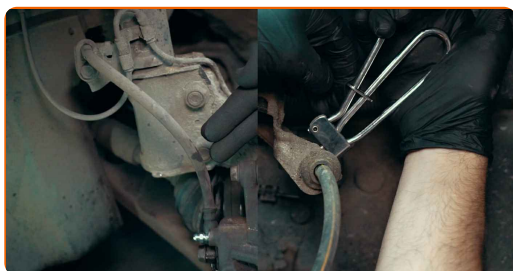
46 Make sure that all connections are clean



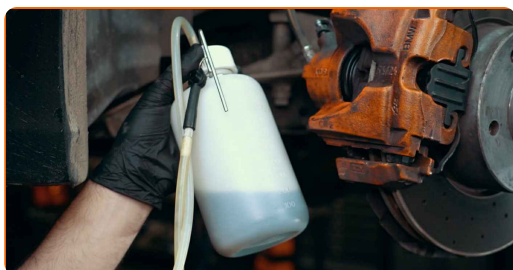
47 Tighten the fasteners with a torque wrench to the manufacturer's recommended torque



48 Loosen the bleeder screw and remove the clamp from the hose to allow the brake fluid to flow into the caliper



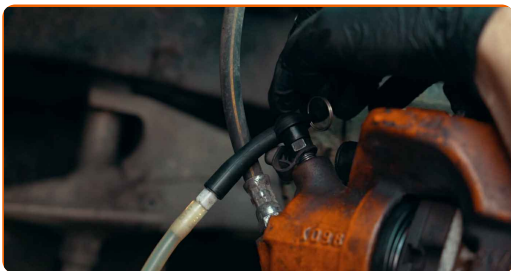
49 Bleed the brake system so that the fluid displaces air from the brake caliper



AUTODOC recommends:

- Use special equipment and follow the car manufacturer's recommendations

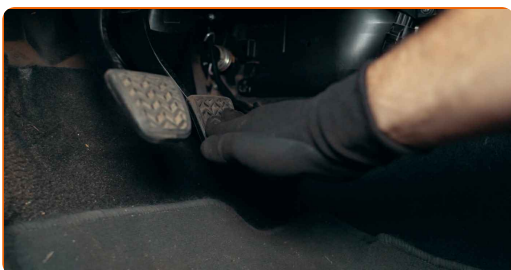
50 Connect a brake bleeder device to the bleeder screw



51 The check valve in the device prevents air from getting back into the system when the brake pedal is released



52 Press the brake pedal to pump the brake fluid



53 Fill the brake caliper with fluid by pushing the air out through the bleeder screw



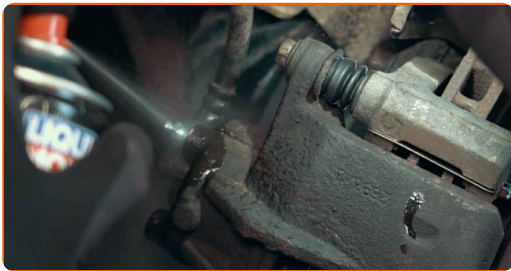
Important!

- Check that there are no air bubbles left in the brake hoses

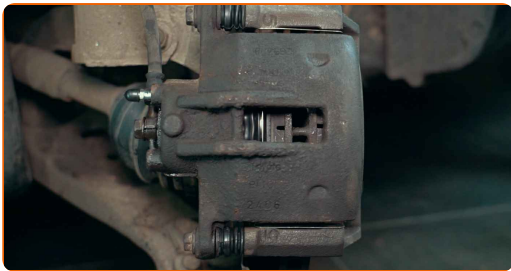
54 Tighten the bleeder screw and disconnect the equipment



55 Remove any traces of brake fluid from the surface of the component



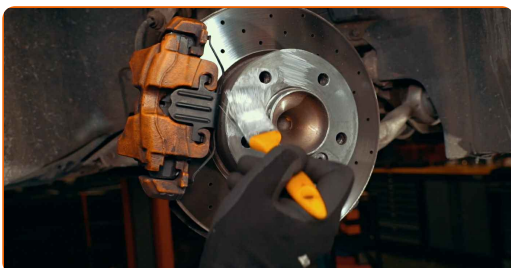
56 Make sure the system is leak-tight by pressing the brake pedal several times in a row



AUTODOC recommends:

- Check that the surface of the brake disc or wheel hub that will contact the wheel is smooth and clean

57 Treat the surface with an anti-corrosion agent



58

Clean the working surface of the brake disc

**59**

Tighten the wheel fasteners one by one in a criss-cross pattern

**60**

Press the brake pedal several times until you feel significant resistance

61

Check the brake fluid level in the reservoir and adjust if necessary



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BRAKE CALIPER REPAIR KIT: A WIDE SELECTION

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