



OPTIMAL[®]
Your profit



Brake repairs made easy

General installation instructions for
disc brake pads and brake discs





OPTIMAL®

Your profit

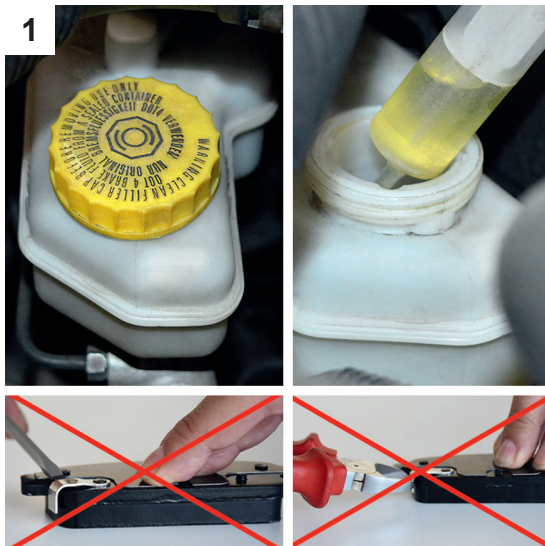
General installation instructions for disc brake pads and brake discs

Disc brakes and brake pads are wear parts of relevance to vehicle safety. For this reason, brake pads and brake discs must be installed correctly. This is the only way to ensure that the brakes function flawlessly.

Each set of OPTIMAL brake pads comes with general installation instructions as well as the following important notes on the installation and maintenance of brake systems.

You can find further information on service and technology on our website:

www.optimal-germany.com



Preparation

Before commencing brake repairs, the vehicle must first be safely raised off the ground and the wheels removed from the relevant axle. The level of brake fluid in the expansion tank must also be checked beforehand. If necessary, sufficient brake fluid must be extracted to prevent it from overflowing when resetting the brake piston.¹⁾

If an electrical wear or warning contact is fitted and is ground or damaged, it must always be replaced.

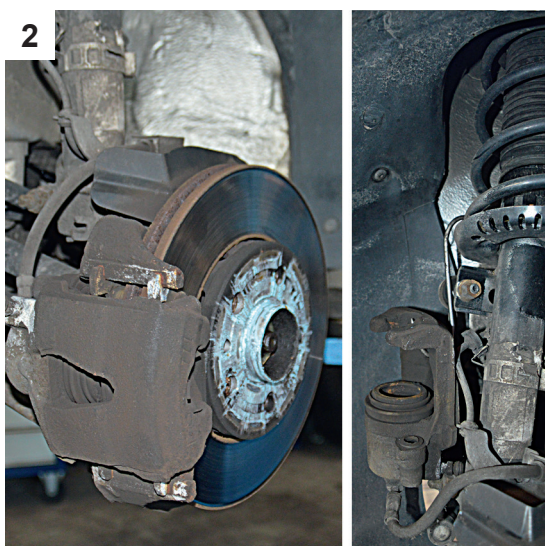
Modifying a fixed wear indicator is not allowed, as the wear on the brake pads will no longer be correctly monitored.

Visual inspection

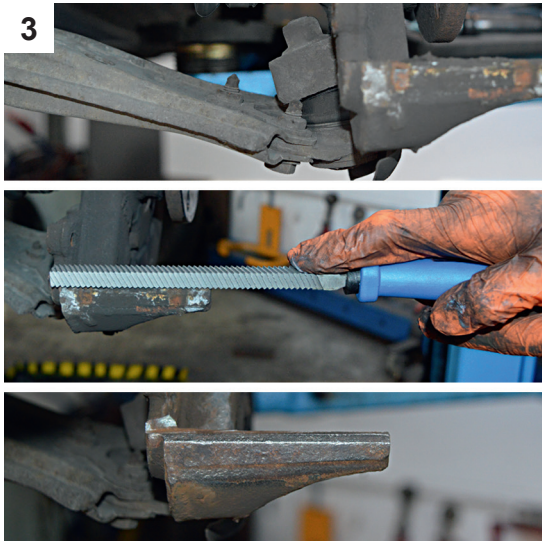
All safety-relevant components in the area of the axle suspension, brake hydraulics, steering system and wheel drive must be checked (where present). Defective components must always be replaced.

Disassembly

First, the brake caliper is disassembled. To avoid damaging the brake hose, the brake caliper should be suspended to relieve the strain. After that, the brake pads must be removed.

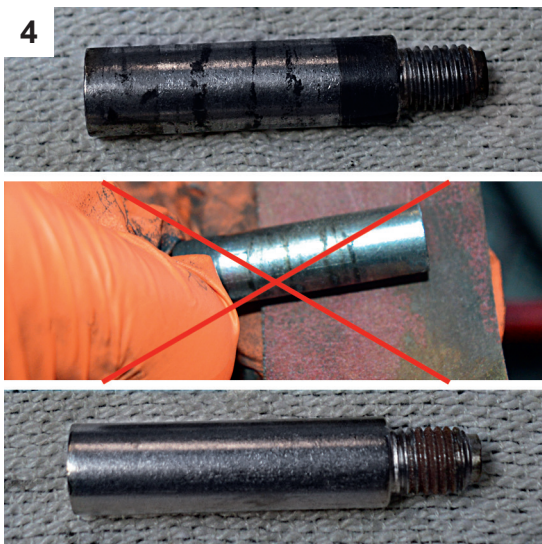


¹⁾ In this regard, the water content of the brake fluid should be checked, as it is hygroscopic. Too much water reduces the boiling point and can lead to the failure of the brake system. The brake fluid should be regularly replaced in accordance with the manufacturer's guidelines and specification.



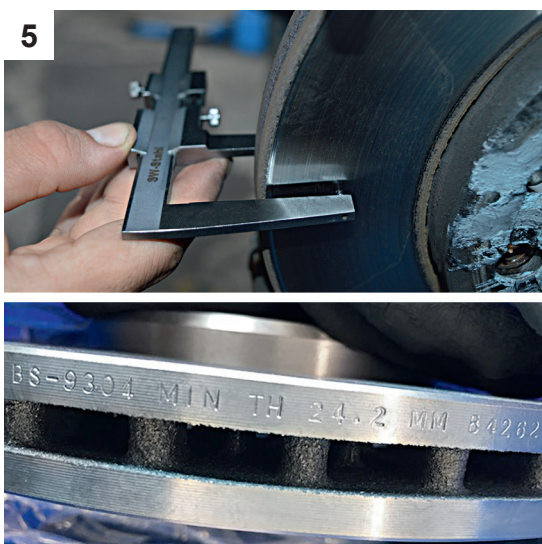
Assessing the brake pad carrier

Next, the contact surfaces of the brake pads must be cleaned of rust and residues. Please use only a suitable tool for this.



Inspecting the guide sleeves of the brake caliper

If corroded, the guide sleeves must be replaced. Please do not modify them under any circumstances! Modification generally results in a widening of the surface, which then often leads to the caliper jamming or becoming sluggish.



Checking the wear on the brake disc

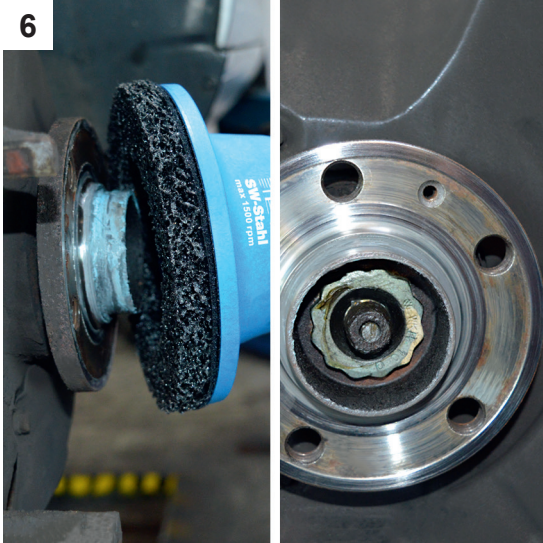
The degree of wear on the brake disc must be checked at several points using a brake disc gage. The thickness must not be less than the legal minimum. If new brake pads are installed on an old brake disc, the brake disc must remain above the legal minimum thickness until the new brake pads have worn out.



OPTIMAL®

Your profit

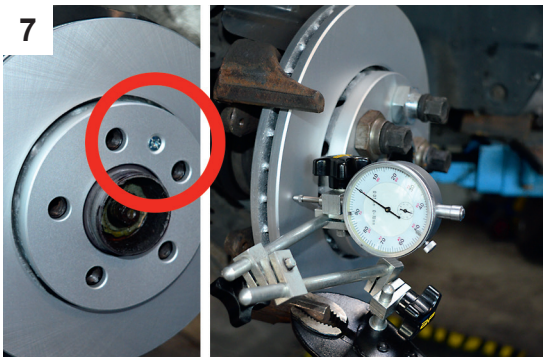
6



Careful cleaning of / rust removal from the plane-parallel contact surface of the wheel hub

Pay attention to careful cleaning with suitable tools. An angle grinder or other tools that remove material must not be used.

7



Installing the brake disc

When installing the brake disc, it must be fixed with a holding screw and the screw tightened to the specified torque. The screw is only an installation aid. Overtightening can produce tension in the brake disc on the wheel hub. In general, the lateral runout of the new brake disc should be checked in accordance with the manufacturer's specifications.

Installation of directional brake discs

① Please note: For directional brake discs, the correct installation position (location) must be ensured to prevent damage due to overheating.

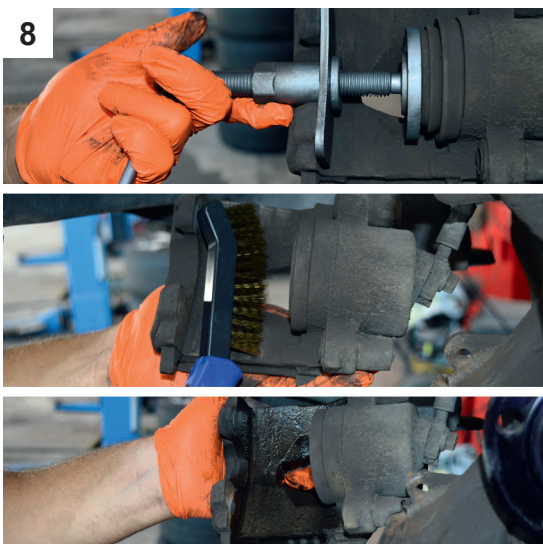


Left side - OPT BS-8898C



Right side - OPT BS-8896C

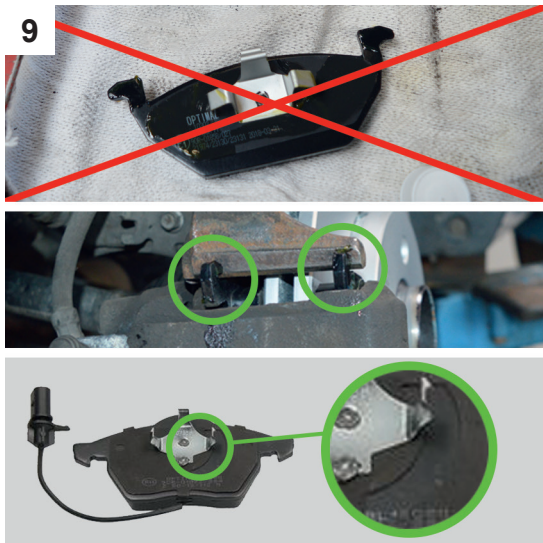
8



Installing the brake pads

Next, the sleeve on the brake piston must be checked for damage and, if necessary, the brake caliper replaced. The brake piston must be pushed back with a suitable tool to avoid canting. For vehicles on which the parking brake ("handbrake") acts on the brake caliper, the manufacturer's specifications must be followed to prevent improper feedback of the brake piston from destroying the brake caliper. The brake caliper must now be properly cleaned again.

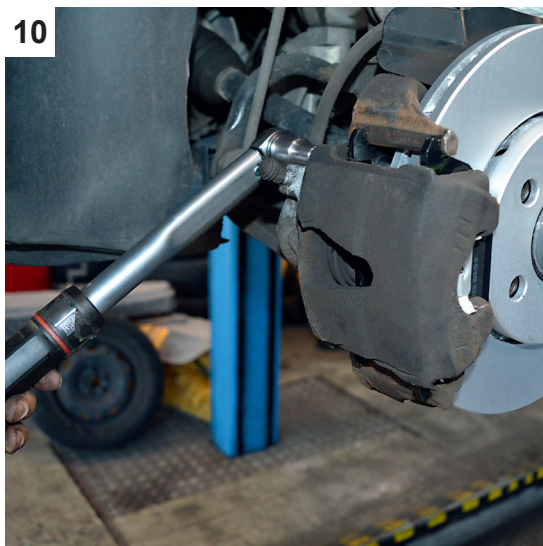
① Please note: On vehicles with an electrical parking brake, hill start assist or SBC brake, the manufacturer's specifications must be followed to avoid improper work on the brake system from resulting in malfunctions or personal injury.



Greasing the contact surfaces

A metal-free, heat-resistant, long-life lubricant must be applied to the contact surfaces of the brake system. On brake pads with an “anti-noise” coating or anti-noise shims, the back plate must not be greased. Only the contact surfaces on the pad carrier are greased here.

- ① Please note: For directional brake pads, the correct installation position (location) must be ensured to prevent squeaking noises and uneven wear.



Installing the brake caliper

When installing the brake caliper, the fastening bolts and guide sleeves must be tightened to the torque specified by the manufacturer. The wheels must then be reinstalled and tightened to the torque specified by the manufacturer.



Final activities

After installation, the following points must be observed and followed:

- ▶ Depress the brake pedal several times
- ▶ Check the brake fluid level
- ▶ Perform a functional check on a brake test bench
- ▶ Go on a test drive
- ▶ Draw the customer’s attention to changes in brake performance, if necessary



OPTIMAL®

Your profit

General information

When installing brake discs and brake pads, all parts should always be carefully cleaned. Furthermore, the corresponding points in the area of the guide shafts for the brake pad must always be lubricated. That also applies to the bearing points of the brake pads. To this end, use high temperature-resistant, metal-free and non-conductive pastes (no copper pastes) which are also suitable for ABS vehicles.

Replace all components that are defective according to the guidelines of the vehicle, system and brake manufacturers.

Avoid technical difficulties and complaints by following the enclosed leaflets for OPTIMAL brake components.

Important notes:

- ▶ Repairs to the brake system must be performed by specialists.
- ▶ Always follow the instructions of the brake and vehicle manufacturer for maintenance and repairs.
- ▶ On vehicles with electrohydraulic brakes, brakes pads and brake fluid must never be changed at the same time.

OPTIMAL Automotive GmbH

OPTIMAL Automotive GmbH has been producing and selling high-quality spare car parts for more than 27 years. The company's products range from wheel bearing kits, steering and suspension parts, shock absorbers, and brake systems to rubber-metal parts, water pumps, and belt tensioner kits. Driven by passion and enthusiasm, the company has always regarded its employees as its main asset. At OPTIMAL, cooperating fairly with business partners and using resources carefully are equally as important as providing high-quality products and outstanding service.

With the widest range of wheel bearing kits, TÜV-certified steering and suspension parts, and completely pre-assembled suspension struts, OPTIMAL Automotive GmbH is the number one provider of these products. OPTIMAL's parts are sourced from international production partners, original equipment manufacturers, and quality suppliers. Our fully automated warehouse enables parts to be delivered quickly and on time.

All products comply with European and international standards for the aftermarket, such as the manufacturing and quality standards IATF 16949:2016, QS 9000, and ISO 9001:2015.

[Photos: OPTIMAL AG & Co. KG]

WBM-502DE



OPTIMAL®
Your profit

OPTIMAL Automotive GmbH
Alfred-Kuehne-Strasse 3
85416 Langenbach / Germany
Munich Airport Logistics Park

Tel.: +49 (0) 8761 72 06 - 0
Fax: +49 (0) 8761 72 06 - 121
www.optimal-germany.com
info@optimal-germany.com



GERMANY
SPAIN
BELGIUM
ENGLAND
TURKEY
ECUADOR
ASIA