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Dear Valued Customer,

Thank you for your purchase of **SHW Performance** brake discs. We pride ourselves in offering quality discs that are 100% manufactured in our OEM factories in Germany. We are confident that our brake discs will exceed your expectations and give you confidence at every stop. In order to guarantee functional and operational safety, the following assembly instructions must be observed:

I. General instructions / requirements

- Brake discs are safety components!**
The replacement of brake discs and the necessary work on other brake system components may only be carried out by **authorized mechanics**.
Incorrect handling may lead to complete failure of the brake system.
The package contents are not intended for installation by the end user!
- Ensure that the products are correctly assigned to the relevant vehicle (type, year of construction, engine, fixtures).
- SHW Performance** lightweight compound brake discs can simply replace the original brake disc, because all its functionally relevant characteristics are the same as those of the original brake disc. Additional, adapting elements, parts and components are not required.
- SHW Performance** lightweight compound brake discs consist of several components. **When the wear limit is reached, replace the entire brake disc. It is not permissible to replace and disassemble individual components.**
- Always replace brake discs in pairs or per axle.
- Always use new brake pads.
We recommend OES or SHW Performance approved brake pads that have been tested interacting with the brake discs and therefore guarantee optimum friction and delay performance as well as comfortable braking.
- It is essential to replace brake discs when they show the following signs of wear:
 - heavy corrosion
 - deep grooves
 - uninterrupted cracks in the brake surface sides / in the brake surface
 - excessive run out
 - wear limit reached (stamped into the outside diameter of the brake surface or on the brake hub on **SHW Performance** lightweight compound brake discs)
- Using an aluminum or steel hub means that particular care must be paid when handling a **SHW Performance** lightweight compound brake disc. **SHW Performance** lightweight compound brake disc may no longer be used after falling down or other severe mechanical impacts. The brake discs must be stored in the original sealed bag or minimum in a dry location and must not show any corrosion before installation due to damage of the coating. Also should the contact of the brake discs with aggressive media and acids be avoided.
 - (Please see picture 8, 10, 11 and 12)
- Otherwise, observe the relevant stipulations of the vehicle manufacturer!

II. Preparatory measures

- Remove the worn brake discs and pads. When doing so do not apply heavy force and use suitable tools and the special tools provided. (please see picture 1)
- Clean the contact surface and centering projection of the wheel hub using suitable tools and environmentally friendly agents. The surfaces must be completely clean (metallically bright), burr-free and free of corrosion residues (please see picture 2)!
Kindly ensure that the bottom of the hub of the brake disc is free from contamination and corrosion.
- Check the contact surface for run out
 - Use a dial gauge / precision dial gauge with an articulated magnetic stand
 - Guideline value < 0.03 mm (measured on the outside diameter of the wheel hub, please see picture 3).
- Check the contact surface for flatness
 - Use a hairline gauge
 - No gap is permissible (please see picture 3)
- Check all components of the brake and steering system (brake caliper, pistons, guide and sealing elements, wheel bearings, steering transmission and wheel suspension parts) for wear and / or damage. Replace components if necessary (please see picture 4 and 5).

III. Installation

- During installation, do not apply force and use suitable tools and the special tools provided (please see picture 1).
- Position the **SHW Performance** lightweight compound brake discs dry on the wheel hub and if available secure it with the centering projection (depending on the type).
For all **SHW Performance** discs there is no need to remove the corrosion protection applied at the factory!

ATTENTION: SHW Performance lightweight compound brake discs:
Do not use any grease or paste or something else (please see picture 6A). A thin layer of oil spray can be applied for an easier dismantling (please see picture 6B).

- SHW Performance** lightweight compound brake discs:
Tighten the centering / retaining screw(s) with the stipulated torque as specified in the workshop manual.
Check the brake surface for run out
 - Use a dial gauge / precision dial gauge with an articulated magnetic stand
 - Permissible deviation < 0.05 mm (measured 10 mm from the outside diameter of the brake surface)

Note: The total run out of the wheel hub if available drive shaft and brake disc is measured here (please see picture 7)!

- Tighten the wheel bolts / wheel nuts with the stipulated torque as specified by the manufacturer and in accordance with the operating instructions (please see picture 8).

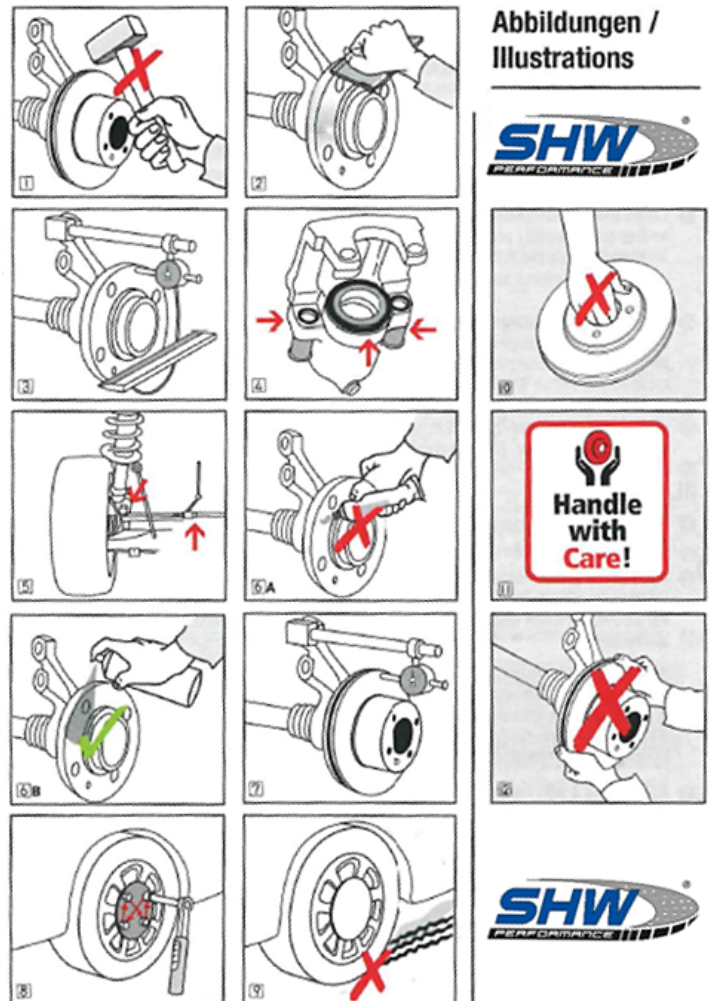
IV. Recommended running-in

As authorized mechanics please inform also your customer.

- Run-in on sections of road that allow the following driving maneuvers to be performed safely and in accordance with the traffic rules.
- Running-in causes the brake disc to heat up gradually without a thermal shock and serves to adapt the friction surfaces of the brake disc and pads to each other.
- Please perform 15 braking operations by braking in about 3 seconds from 100 km/h to 50 km/h. Then carry out another 15 braking operations with braking within about 3 seconds from 100 km/h to 25 km/h. Between the single braking actions the brake disc should cool down by the airstream for about 3 minutes. Therefore please avoid any stopover during the above mentioned running-in procedure with 30 braking maneuvers.
- Please note: Avoid strong and sudden braking for the first 300 km after changing the brake discs (please see picture 9)!**

SHW Performance warrants to the original purchaser of this product that the product will be free from manufacturing defects in workmanship and materials for a period of twelve months from the date of the original purchase. This warranty does not apply to: (i) any damage to the product due to misuse, mishandling or abuse or resulting from a car accident, (ii) products not used in accordance to **SHW Performance**'s instructions or recommendations and installation instructions, (iii) products installed by anyone other than an authorized mechanic, (iv) normal wear and tear or problems with any noise or vibration, (v) brake vibration suffered due to uneven rotor thickness wear after incorrect installation of brake rotors, (vi) products damaged in transit to the purchaser, (vii) any products that were customized, (viii) any products manufactured by any third party. An accurate mounting and checking of runout on brake rotors is paramount at installation and in spite of necessary warnings many mechanics still see fit to ignore this warning and make no effort whatsoever to check rotor runout. This leads to brake vibration and is not a warrantable condition.

If this product is deemed warrantable, **SHW Performance** will, upon its confirmation of such defects, at its sole option/discretion and as the purchaser's sole and exclusive remedy, repair or replace such defective product. The purchaser must contact the authorized distributor from which the **SHW Performance** disc rotors were purchased and provide a description of the defective product (including digital pictures if needed), along with the original purchase documentation as validation of warranty coverage. Defective products must be returned to the authorized distributor with all shipping charges prepaid. This limited warranty is non-transferrable. This warranty is made expressly in lieu of all other warranties. Neither **SHW Performance** nor any of its affiliates makes any other warranties whatsoever, and **SHW Performance** hereby expressly disclaims all other warranties, whether express, implied or statutory, and whether written or oral, including, without limitation, warranties of merchantability or fitness for a particular purpose or warranties arising from course of dealing, usage or trade practice.



Abbildungen / Illustrations

