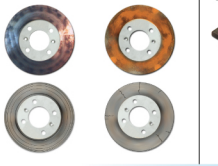
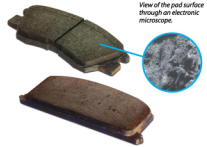
Eroded Discs

Continuous downhill braking or high speed hard braking causes extreme temperature differences which could lead to cracks. Corrosion of a brake disc may also be caused by malfunction of hydraulic parts, LCRV *(Load Conscious Regulating Valve)*/PRCV *(Pressure Conscious Regulating Valve)* problems, soft use of braking system and low car mileage. ***Check the surface of the disc for even-textured. Faulty brake discs as shown have to be changed as an axle set!***



Extremely Heated Pads

Extremely heated pads are the result of aggressive driving *(whereby the brakes are consistently strongly applied)* or a malfunction of the caliper normally caused by corroded sliding systems and/or corroded pistons. Pads that are light brown or grey/white around the edge are usually connected with short-term overheated conditions. Should any one pad of an axle be worn below 3 mm then a complete axle set must be fitted. ***Brake pads as shown below have to be changed as axle set!***



Never Alter Brakes Pads Structure

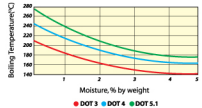
New pads should never be altered to fit a worn out brake disc or a dirty carrier. Alteration will reduce the pad working area and causes mechanical and thermal overload. Noise generation and stickiness in slot may also be the result of these alterations. These effects will further reduce brake efficiency, increase wear and raise noise occurrence.

Never modify any brake component!

Brake Fluid and Grease

Functional and noiseless braking is built on correct mechanical and its accompanying hydraulic function. The use of our special engineered Bendix grease ensures the best function of the brake system. ***Change brake fluid regularly to enhance your safety, the ABS (Anti-Lock Braking Systems) system life and your clutch system life.***

Dot 3, Dot 4 and Dot 5.1 are colourless to amber and always follow manufacturers recommendations and check boiling point of the brake fluid with a brake fluid tester, during each car inspection.



Routine Caliper Check

For a standard check of a caliper do test both the mechanical and hydraulic function of all the caliper parts. Split dust covers lead to corrosion on pistons causing sticking pistons which leads to judder, noise or malfunction of brake. Sticking brake pads are often the reason for noise occurrence, judder and/or overheated brakes.

Leaking pistons causes a loss of brake fluid with a complete loss of brake performance and destroy the friction material. Guide pins have to move easily and wheel hubs, centre rings of disc should be free of corrosion or damage otherwise judder could occur. Hand brake cable must move freely.
If there is any doubt about parts reliability replace with new ones.

Overhauling the Caliper

Carried out for the overhaul of the calipers or carriers for both sides on the axle. When replacing seals and dust covers, the complete car kit must be fitted using only the grease supplied for assembly.

Avoid non-approved grease as it can lead to seal damage and brake failure! All parts must be in perfect condition, if in doubt always use a new housing assembly!

Bendix

Put your foot down with confidence

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COMPREHENSIVE BRAKE CHECK FOR THAT COMPLETE SAFETY PRECAUTION

Doing it right is always safer than doing it fast

Preventing Judder

Speed sensitive vibrations during braking could come from a runout of the disc because a brake disc mounted on the hub runout on the hub would produce this behaviour and be noticed by driver as pedal vibration.

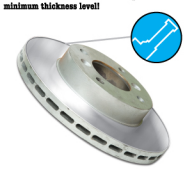
Bendix recommends that you measure the runout of the hub and match it with the runout of the brake disc. The deepest part of the hub should be combined with the highest part of the disc.

On certain cars sometimes the only solution is to machine the brake disc directly on the hub. If the runout of the hub is too large it must be replaced."Max" permissible runout: Disc < 0.1 mm Hub < 0.02 mm.

Brake Disc Thickness Requirements

Before renewing the pads always ensure the general cleanliness of the brake disc plate and housing before measuring the minimum thickness of the disc.
In case of complains of brake judder, always measure the disc runout and DTV*(Disc Thickness Variation)* where the maximum permissible DTV is 0.015mm.

Never use discs if the thickness dip below the minimum thickness level!



Clean Carrier is Vital

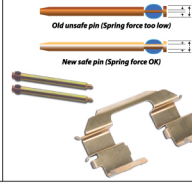
In order to carry out this task effectively it is advisable to remove the brake pads and clean carrier, use a wire brush and Bendix brake cleaner, take care not to damage any of the rubber components. You must not rework the carrier instead of correct cleaning.

Do not use a file for this cause clearances from the pad abutments to be increased resulting in a "clanking" or "rattling" noise on braking.

Never modify any brake component!

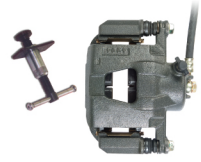
Pad Fitting Kits

Worn fitting components could lead to noise occurrence, unequal and disproportionate wear on the brake pads, a risk of damaging the disc or an unequal brake effect, which reduces brake stability and safety. Bendix recommends to always install new pad fitting kits which ensures the best quality. Old unsafe pin *[spring force too low]*, new safe pin *[spring force OK]*



Colette with Parking Brake

Before installing new brake pads, clamp off the flexible brake hose and undue the bleed screw, wind back the piston into the housing until it is fully retracted. Then tighten the bleed screw. [Use a suitable tool for this task] Then turn the piston back out one half-turn. Remove the tool. Ensure the dust cover is not trapped between the piston and the housing, and that the inner lip of the dust cover is located in the piston groove.



Guide Pins

Some sliding calipers are equipped with two different guide pins. To ensure the smooth action of the guide pins and therefore reliable functioning of the caliper, it is essential to tighten the guide pins screws in the sequence the vehicle manufacturers' guideline prescription. Correct operation of the caliper depends on the free sliding action of the guide pins in the carrier. Always check the guide pins, guide pin sleeves in the carrier and the dust covers. Lubricate the guide pins with the correct type of grease only. If there is any doubt about reliable function, always replace with new parts!

Benefits of Checking the Whole Brake System

It protects you and your customers as you will find faults before they become a safety problem and you will find the reasons behind the brake problems.

Check brake pipes and pipes connectors for leakage

Take care that the pipes do not contact the chassis, this can cause damage leading to corrosion.

Check brake hoses for leakage, bubbles or ridged surface

An internally cracked hose is sometimes not visible and can cause problems with the behaviour of the vehicle during braking.

Check brake fluid level in the reservoir

A low level is an indication that worn brake pads or leak is in the brake system. Never top up before the problem is solved.

Check caliper and connection for leakage

Check wheel cylinders and connection for leakage.
Check pressure reducing valve for leakage.
Check bleed nipples for leakage.

Safety Note!

In the interest of safety and optimal system functionality, Bendix recommends that all maintenance and repair work must be carried out by an experienced fitter/mechanic, trained to a high degree of competence relating to the vehicles and components in question and in accordance with the vehicle manufacturer's guidelines.

Brake components are safety related parts, and should only be installed by trained specialists. In case of incorrect or improper installation of the product Bendix does not accept any legal responsibility.

Never apply the brake pedal or parking brake when brake components are removed from the vehicle as damage may be caused to the system.

Final Work Steps

Bring the brake pads in their operation position by pressing the brake pedal down [half of normal pedal travel] several times until there is resistance. Check the brake fluid level, and top up to "max" mark if necessary.

Brake Test Bench Check:

- Brake force front axle ***[max. difference - 25%]***
- Brake force rear axle
- Brake force handbrake ***[max. difference - 30%]***
- Pressure reduction valves [load rear axle]
- Noise
- Pedal behaviour
- Brake release

In order to bed the brake pads to the brake disc and ensure performance and endurance, drivers must be instructed to avoid heavy braking or sustained periods with the brakes applied, for the first 200km after installing new pads.