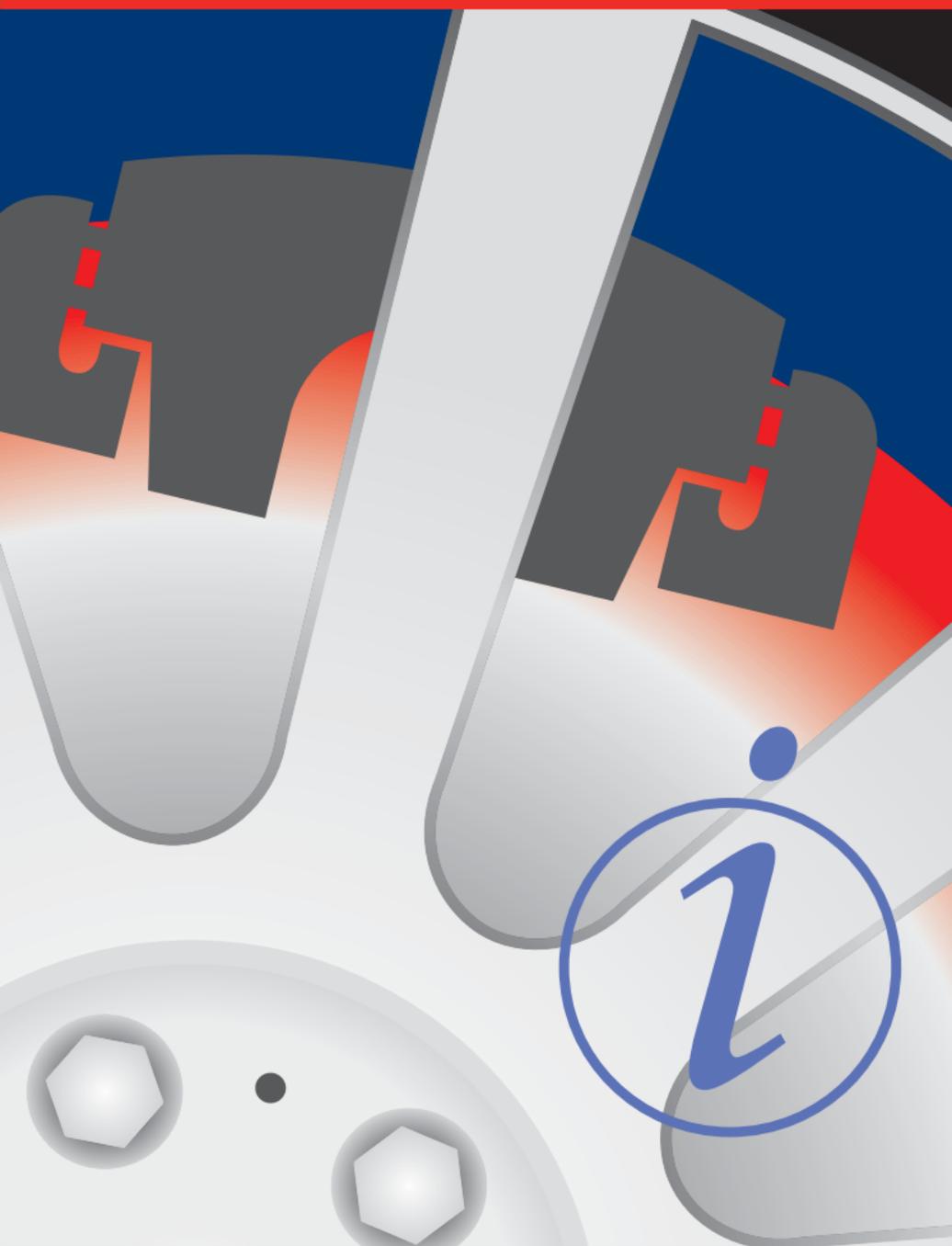


BRAKES



Driver Information

Getting the best from your car

STOPPING – FROM THE START

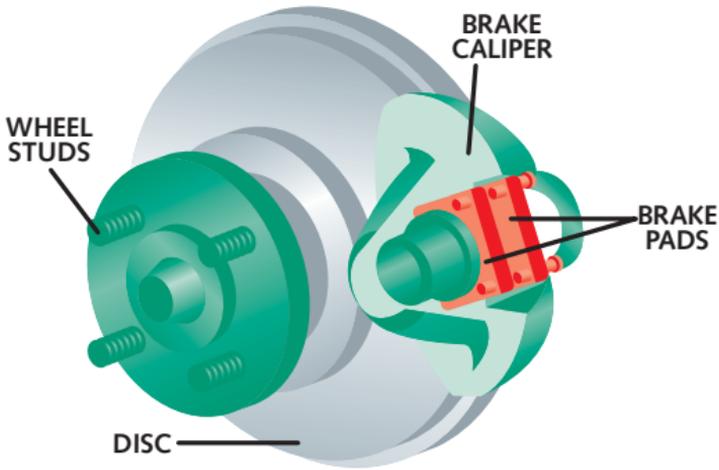


Early brakes used a mechanical system of levers and cables to apply braking friction to the wheels. This was adequate when vehicles didn't move too quickly. For over 60 years however, manufacturers have used hydraulics to transmit braking force and until a new generation of electrical braking systems is safely and reliably introduced, this will remain the case for some time.

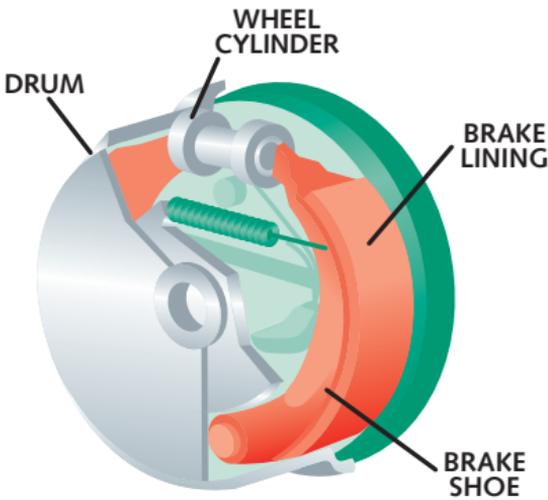
How the modern hydraulic system works

The foot pedal in your car is directly linked to a piston in the master cylinder of your braking system. When you press on the foot pedal, the piston creates pressure in the hydraulic fluid which flows through the pipe work connected to all the wheel cylinders. This pressure is transmitted to the disc brake calipers or drum brake shoes, forcing the friction pad and shoe linings into contact with a disc or drum braking surface. The friction created at this surface slows down and stops the vehicle.

DISCS AND DRUMS – THE STOPPING POWER



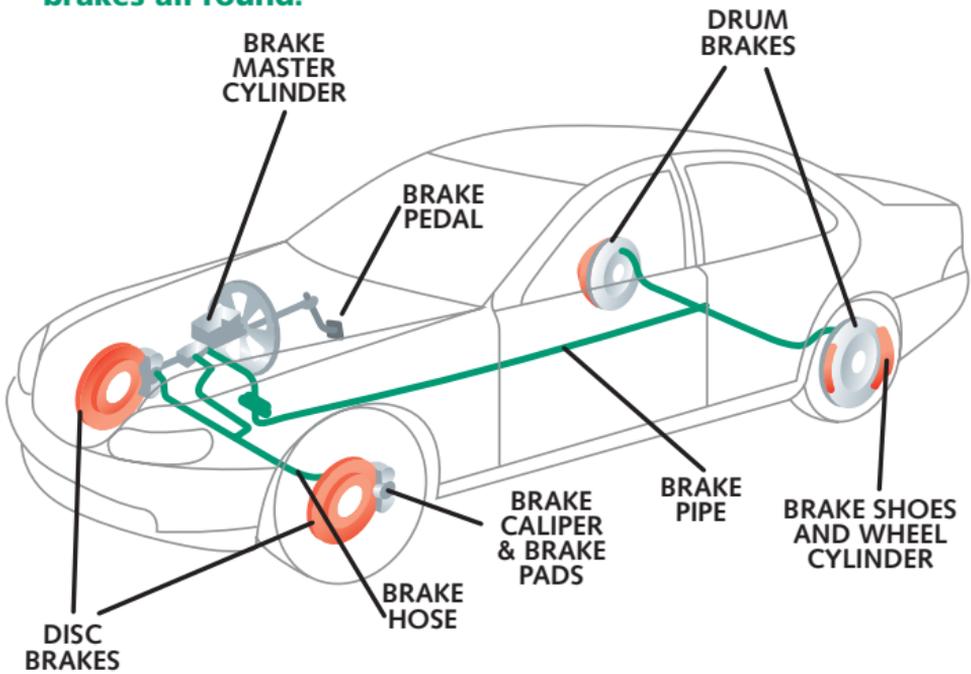
Disc brakes consist of a brake disc rotating as part of the wheel, against either side of which two brake pads are squeezed by brake calipers. Pressure is transmitted to the pistons in the calipers from the application of the foot pedal by hydraulic fluid.



Drum brakes use brake shoes which make contact with the inside of a rotating brake drum, attached as part of the wheel. When the brake pedal is applied, hydraulic fluid transmits the pressure in the system this time to pistons in wheel cylinders which force the shoe into contact with the drum.

When the vehicle is in parking mode, the hand brake usually operates a cable which levers the rear shoes onto the drum so preventing the vehicle from rolling.

Many vehicles will have a combination of disc brakes to the front wheels and drum brakes to the rear, although high performance and executive cars often have disc brakes all round.



Fluid – the vital link

Brake fluid has a hard life! Not only must it be non-compressible so that virtually instantaneously it transmits force from the brake pedal to all the wheels, it must also lubricate pistons and rubber parts in the system. It has to do this at pressures over 1000 psi and under temperatures within the system that can vary by up to 500°C.

The big problem for brake fluid is contamination. Inevitably, contaminants do get into the system and the fluid has to absorb and hold them in suspension to prevent corrosion and blockage. In addition it is hygroscopic which leads to the most significant form of contamination. Hygroscopic means it absorbs moisture from the air which over time lowers its boiling point. This can lead to vapourisation and a serious effect on braking performance.

Defect symptoms

As a driver, you may become aware of a number of things happening with your vehicle which could suggest problems ahead in the braking system.

Expert checks – all part of the service

At your XPart AutoService centre we train our technicians to the highest manufacturers' standards. So any concerns you have with your vehicle can be quickly and expertly checked and rectified.

As a safety critical system your brakes are of the utmost importance. We will check them with extreme care and advise on any aspect of performance that may lead to future problems. If anything needs replacing, we will always use quality parts and will always provide a competitive quotation in advance. Work is only undertaken on your instruction.

Your car is safe with us – and so will you be.

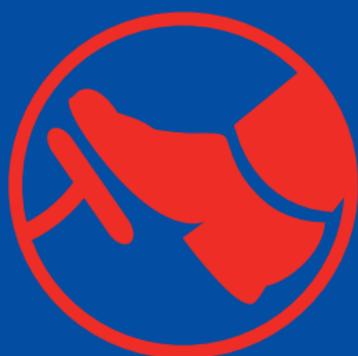
If your car is due for service or you would like an expert brake check, talk to our service receptionist. They can advise on the right course of action depending on age and mileage of the vehicle.



Noise

A grinding sound when the brakes are applied.

Squeaking or a squeal when the brakes are applied or which might occur without brake application.



Pedal feel

A push or pressure coming back on the brake pedal against your foot.

A soft spongy feel to the pedal application.

A "hard" pedal but poor braking performance.

Excessive travel on the brake pedal.



Erratic vehicle behaviour

The car pulls to one side or the other under braking.

A wheel locks and skids under braking.

The handbrake has to be pulled on a long way to hold the vehicle, especially on hills.

Delivering your kind of service...

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- Latest workshop technology and equipment
- Quality parts used

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- Immediate diagnostic checks available
- Fast appointments convenient to you
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- While-you-wait service
- Scheduled and tailored servicing and repair

