

Wheel cylinders

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Function



A wheel cylinder is a component of a hydraulic drum brake.

The wheel cylinder must force apart the brake shoes and press them against the brake drum. This generates friction and the wheel is decelerated. This happens every time the driver presses on the brake pedal. Pressing on the brake pedal generates a hydraulic pressure in the master brake cylinder which is transmitted to the wheel cylinder in the brake fluid via the brake lines. In the wheel cylinder, the hydraulic pressure acts on the pistons, which then exert mechanical pressure on the brake shoes.

Components

It comprises a housing made from made from grey cast iron or – in the case of newer models – aluminium, which is more lightweight. Other components of a wheel cylinder are:

- one or two pistons,
- sleeves,
- compression springs,
- gaskets,
- protective caps and
- the bleeder valve.

Safety



The wheel cylinder is a safety-relevant vehicle part. It should be checked regularly as part of regular service and maintenance to ensure that it is perfect working order. When the brake shoes or the brake drums are replaced, it is advisable to replace the wheel cylinder at the same time. This will avoid follow-up repairs having to be made soon after.

A damaged wheel cylinder will

- impair braking performance
- and lead to loss of brake fluid.
- In the worst-case scenario, it can cause the total failure of the drum brake or even a complete brake circuit.

Therefore, should a driver notice a drop in braking effect, the vehicle should be taken to a specialist garage immediately.

Only trained specialists are permitted to install wheel brake cylinders. The manufacturer's installation instructions must be followed.

Depreciation

Wheel cylinders do not need special maintenance in order for the vehicle to maintain its value. It is just important to observe prescribed service and maintenance intervals, in particular those for replacing brake fluid. As part of regular service and maintenance, the garage will check the drum brake for wear and effectiveness. If a wheel cylinder or other parts of the drum brake have to be replaced, only high-quality production components should be used. They must also be installed correctly. These two considerations are vital for optimum brake performance and also help the vehicle retain its value.

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