

Drum Brake

Drum brakes are primarily used at the rear axle of small and compact class vehicles.

Function

Drum brakes have been around for almost as long as the automobile itself and are still fitted today in a modified and more sophisticated form in modern cars. The term drum brake describes the design principle: namely, an enclosed cylindrical structure.

Drum brake components

A drum brake comprises the following components:

- Brake drum
- Brake shoes
- Wheel cylinder
- Anchor plate
- Adjuster
- Return springs
- Fastening and actuating elements

The brake drum is fixed to the wheel and turns with it. On braking, the wheel cylinder forces the fixed brake shoes apart and presses them against the brake drum, thus slowing it down. When the brake is released, the return springs move the brake shoes back to their original position.

Advantages of a drum brake

A drum brake

- Is an enclosed system and so not affected by dirt
- Can easily be integrated into the parking brake
- Is durable and has a long service life
- Is inexpensive
- Stops brake dust escaping to the outside thanks to its encapsulated design

Drum brake linings also do not become "glazed" as quickly as disc brake pads. "Glazing" refers to the hardening of the lining or pad material when subjected to low load, as is the case with frequent short journeys and low speeds for example. Firmer braking action usually removes the "glazed" coating and the lining or pad regains its full capacity. Another advantage of the drum brake is its self-servo action, which increases the braking force. This means that less effort is required on braking.

Disadvantages of a drum brake

As with all technical developments, drum brakes also have their disadvantages:

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- Drum brakes can only withstand low thermal loads and are extremely sensitive to variations in the coefficient of friction. They are thus only suitable for use at the rear axle of low-power/low-weight vehicles (up to middle class).
 - Brake performance can seriously deteriorate at high temperatures (fading).
 - Lining and drum replacement is a time-consuming business.

Safety

The brake drum is one of the most important vehicle systems when it comes to safety. It is relatively low-wear and has a long service life. A specialist workshop should be consulted immediately if deterioration in the braking action of a drum brake becomes noticeable. Drum brakes are only to be replaced by qualified personnel. The manufacturer's installation instructions must be observed when doing so.

Depreciation

Motorists need not concern themselves with the maintenance of drum brakes. Workshops check the level of wear and the action of drum brakes as part of vehicle inspection. The following aspects must be heeded to ensure optimum braking action and vehicle value retention:

- Only top quality replacement parts should be used if individual components have to be renewed.
- Replacement parts must be expertly fitted.



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