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DESCRIPTION OF HYDRAULIC BRAKES

General

The function of the hydraulic brake is based on Pascal's law, which says: Pressure applied to a given area of a fluid enclosed in a vessel is transmitted undiminished to every equal area of the vessel.

In order to make use of the displacement of weight occuring during braking action, the front wheels of the car are equipped with Duplex brakes, while the rear wheels feature Simplex brakes.

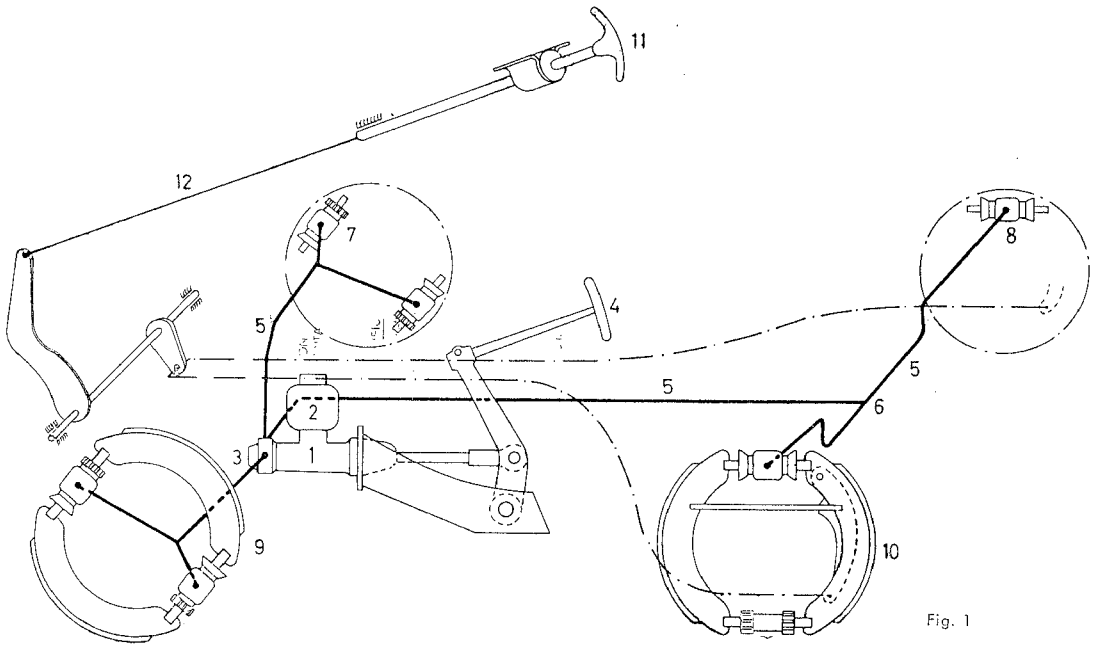

Fig. 1

Schematic Drawing of Brake System

1 Master cylinder
2 Fluid reservoir
3 Stop light switch
4 Brake pedal
5 Brake line
6 Distributor
7 Single-action front wheel brake cylinder
8 Double-action rear wheel brake cylinder
9 Front wheel brake
10 Rear wheel brake
11 Parking brake handle
12 Parking brake cable

The brake system consists of:

Master cylinder where hydraulic pressure is produced.

Wheel brake cylinder acts directly against the brake shoes, forcing them against the drums.

Fluid reservoir maintains constant volume of brake fluid.

Hydraulic lines distribute fluid from master cylinder to wheel brake cylinders. Flexible hoses are employed from brake lines to moving parts.

The master cylinder and each of the 4 front wheel brake cylinders are equipped with one operating piston and the rear wheel brake cylinders with two opposed pistons. All pistons are protected against pressure and fluid loss by rubber pressure seals, rubber caps are provided to keep out dirt.

Operation

When the brake pedal is depressed, the brake push rod activates the piston in the master cylinder. The movement of the piston introduces equal pressure into all brake lines and subsequently activates pistons in the wheel brake cylinders, moving them outward, whereupon the piston rod forces the brake shoes against the brake drum.

The contact pressure of the brake shoes onto the brake drums is increased by the action of the advancing brake shoes. The transverse support of the brake shoes at the readjusting screws ensures an even wear of the brake linings.

As the pressure on the brake pedal is increased, the contact pressure of the brake shoes exerted onto the brake drums rises. Returning of the brake shoes to their initial position is effected by the return springs which are attached at an oblique angle, at the same time forcing the pistons of the wheel brake cylinders to return to their initial position.