

Check Valve

A further part of the automatically balancing master cylinder is the double-action check valve, which serves to control the fluid and pressure balance as specified. If there is a vacuum in the system, the small inner valve (valve cap) responds even to very small variations and allows the required amount of fluid to flow from the fluid reservoir via the by-pass port and the cylinder pressure chamber into the system (see fig. 4 b).

Vice versa, if the pressure in the brake system is too high, the check valve is lifted from its seat, so that the excessive fluid may flow into the reservoir (see fig. 4 c).

If the brake pedal is depressed, the fluid reaches the lines by movement of the master cylinder piston via the check valve, when the brake pedal is released, the fluid returns. The check valve is loaded by a pressure spring, which gives the fluid system some preload. This ensures that the system remains completely filled and that the pressure applied to the brake pedal is transmitted to the braking elements without lost motion.

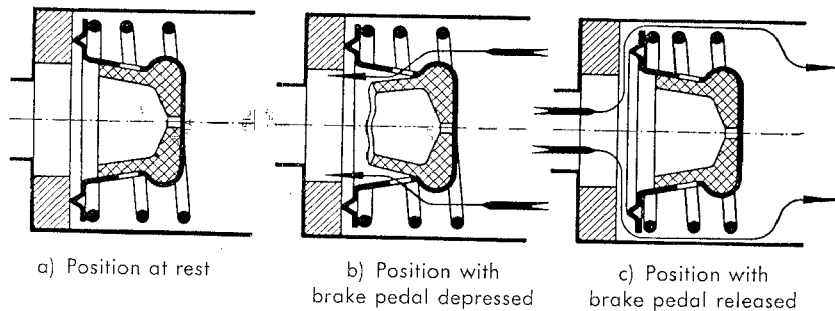


Fig. 4

Main Piston Cup

In order to prevent air from being aspirated when releasing the brake pedal, there is an annular space behind the main piston cup at the piston skirt, so that fluid can additionally flow into the system through the bores in the piston via the washer and the main piston cup provided with grooves, if the piston rapidly returns. If therefore a rapid return of the piston causes a vacuum in the master cylinder, this will never permit air to be drawn in, but additional brake fluid will always be supplied from the rear piston space.

Secondary Piston Cup

Sealing of the annular reservoir towards outside is effected by the secondary piston cup. The combined action of by-pass port, doubleaction check valve, and main piston cup will ensure a completely automatic charge control, compensate for any variations and prevent air from entering, which would jeopardize the effectiveness of the brakes.

Attention!

Assembled master and wheel brake cylinders, as well as rubber mouldings (cups, dust boots, check valves, etc.) and brake hoses must be stored cool and dry and should be protected from dust. If brake parts of rubber are stored for too long a period, they may get unserviceable. Make sure, therefore, that assembled master and wheel brake cylinders, which have been in storage for more than 6 months, are disassembled, cleaned and checked prior to installation. Rubber mouldings should not be stored for more than 12 months, brake hoses are limited to 18 months' storage time.

Important!

When exchanging a master cylinder, care should be taken to ensure that the inner cyl. master is .75" (19.05 mm).