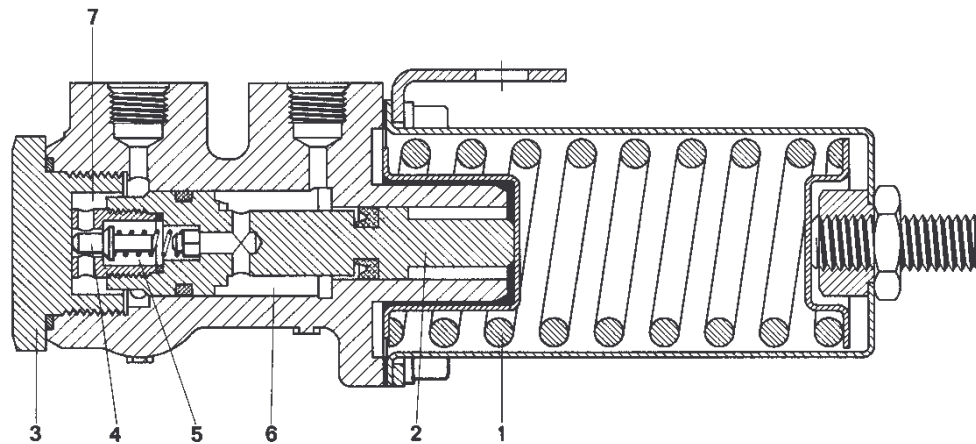


## BRAKE PRESSURE REGULATOR

While braking the brake pressure in the brake line is transmitted uniformly to the front and rear brake calipers. As the brake line pressure increases, a point is reached where the brake pressure regulator prevents this uniform pressure distribution. It limits the pressure to the rear brakes. This increases the road holding ability of the car during hard brake application.

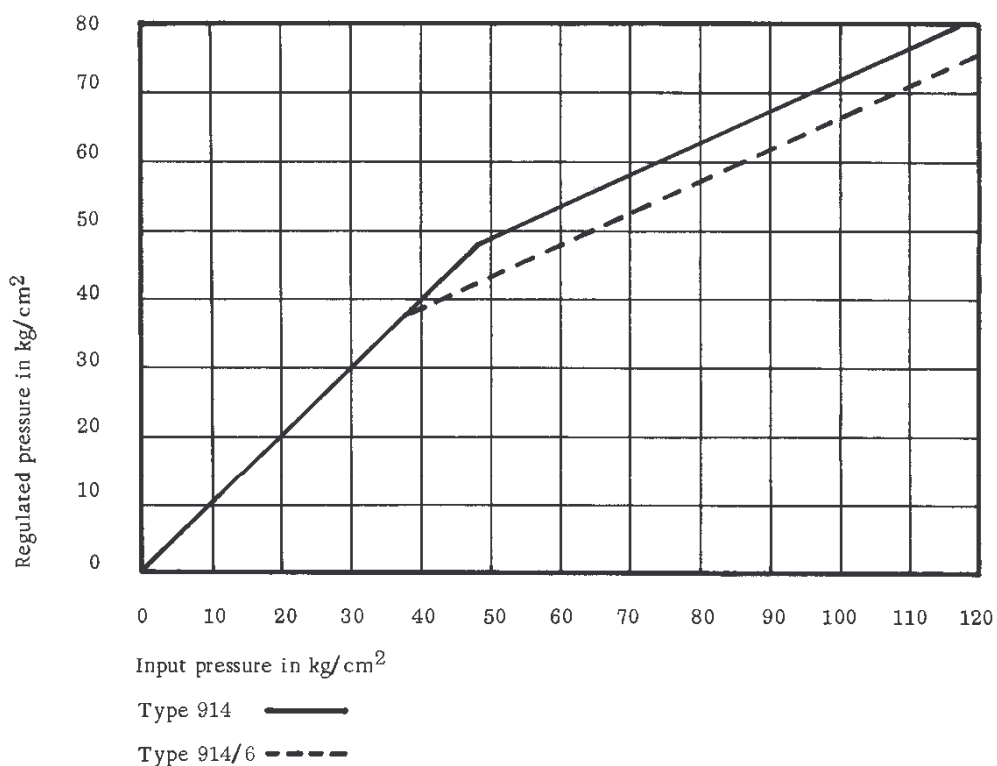


## Operation

The brake pressure regulator consists of a stepped piston under spring pressure in which a spring loaded check valve is installed. The pressure from the master cylinder is exerted on an annular surface on the part of the piston facing the large spring. The regulated pressure acts on the check valve end of the piston. When the regulator is inoperative, at a line pressure of less than  $37 \text{ kg/cm}^2$  (525 psi) the pressure in the brake line together with the spring (1) forces the stepped piston (2) against the plug (3). With the piston in this position, the end of the check valve (4) bears against the plug, the check valve opens against the spring pressure and the pressure from the master cylinder can continue via the pressure chamber (6) and the chamber (7) to the wheel cylinders. If the line pressure increases to above the regulating point, the pressure acting on the piston surface in chamber (7) becomes greater than the pressure exerted on the smaller annular surface of the piston in chamber (6). The piston then moves away from the plug and the check valve (4) closes, thus preventing the pressure to the rear wheel brake cylinder from increasing. If the pressure in the brake line to the regulator and, therefore, also the pressure in the chamber (6) increases still further, the force of the large spring, together with the increases pressure, is sufficient to push the piston toward the left again against the plug and the check valve opens once more. This movement repeats itself continually over the whole regulating range.

Pressure regulation is governed by the ratio of the surface differential between the annular surface in chamber (6) and the total piston surface in chamber (7).

The changeover point at which control begins is at  $48.0 \text{ kg/cm}^2$  (683 psi), and can be adjusted by changing the preload of the regulator spring (in vehicle Type 914/6 the changeover pressure is at  $37.0 \text{ kg/cm}^2 = 526 \text{ psi}$ ).



When the pressure to the regulator drops, the stepped piston is pushed against the large spring (1) by the higher pressure behind the regulator. At the same time, the pressure in chamber (7) opens the check valve (4) and the pressure in the rear brake circuit drops completely. The stepped piston then moves to the left again into its original position.