Revision: Limits of piston release clearance revised.

Data

Piston release clearance at bar gauge pressure (atü)	5	0.01 – 0.15
	90	0.01 – 0.21

Special Tools

Release clearance measuring instrument for pistons in brake caliper	116 589 26 21 00

Note

The piston (2) release clearance is obtained by the overlap between the piston and the piston seal (3). When the brake is actuated, the forward movement of the piston slightly compresses the piston seal in the ring groove of the caliper. As soon as the hydraulic pressure drops, the seal relaxes and pushes the piston back against the slight static pressure of the brake fluid (difference in level between master cylinder and caliper).

The release clearance is required for pressureless contact of the brake shoe against the brake disc to eliminate any non-permissible heating and wear of the brake shoes in inoperative position of the brake.

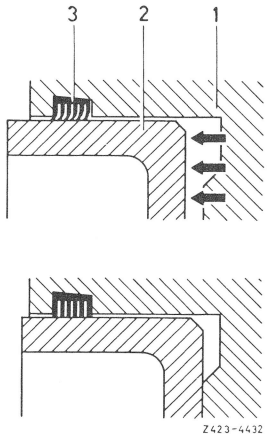

Fig. 1

Diagram of caliper at top in braking position at bottom in inoperative position
1 Caliper
2 Piston
3 Piston seal

Test Procedure

1 Remove brake shoes.

2 Insert gauge block (3) instead of brake shoes into caliper. Then actuate brake pedal several times to move pistons into contact with gauge blocks (Fig. 2).

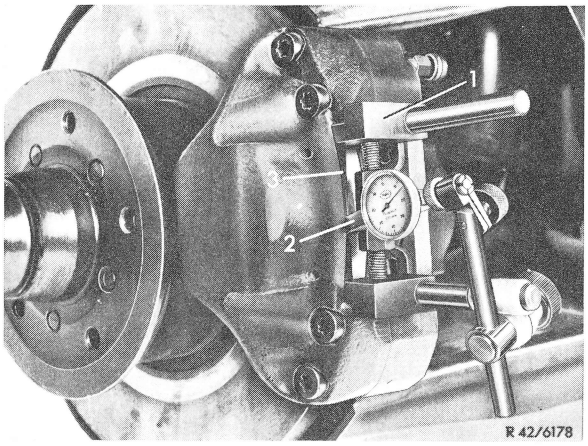

Fig. 2

1 Release clearance measuring instrument
2 Dial gauge
3 Gauge block

3 Connect pressure gauge to caliper.

4 Attach release clearance measuring instrument (1) to caliper (Fig. 2).

5 Position feeler of dial gauge (2) through cutout in gauge block against piston in such a manner that the dial gauge is under a slight preload (Fig. 2).

6 Actuate brake pedal until pressure gauge indicates 5 bar overpressure (atü).

7 Read dial gauge.

8 Release brake pedal so that the pressure drops again to 0.

9 Read dial gauge.

10 Compute release clearance.

Note: The release clearance is the difference between the two values shown on the dial gauge.

11 Measure release clearance again at a line pressure of 90 bar overpressure (atü) (similar to item 6 – 10).

Note: Measure release clearance on both pistons of one caliper.

12 Remove release clearance measuring instrument and gauge block.

13 Disconnect pressure gauge from caliper.

Note: If the release clearance is too low or too high, replace piston seal.

14 Install brake shoes.

15 Bleed brake system and check for leaks.

16 Prior to moving off, actuate brake pedal energetically several times to that the correct clearance between the brake disc and brake shoe is obtained.