

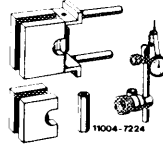
42-140 Checking piston release clearance in caliper

Data

Release clearance of pistons at	5	0.01-0.15
	90	0.01-0.21

Special tool

Measuring instrument for release clearance of brake pistons



116 589 26 21 00

Conventional tool

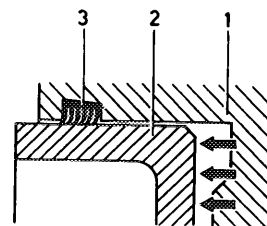
Pressure tester

e.g. made by ATE, D-6000 Frankfurt/M
order No. 3.9305-02004

Note

The piston release clearance is obtained by the overlap between the piston and the piston seal. 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 main cylinder - caliper).

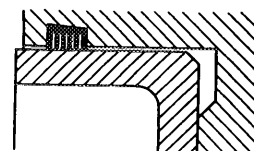
This release clearance is required for pressureless contact of the brake pad against the brake disc to eliminate any non-permissible heating and wear of the brake pads in inoperative position of the brake.



Diagrammatic view of caliper

at top in braking position at bottom in rest position

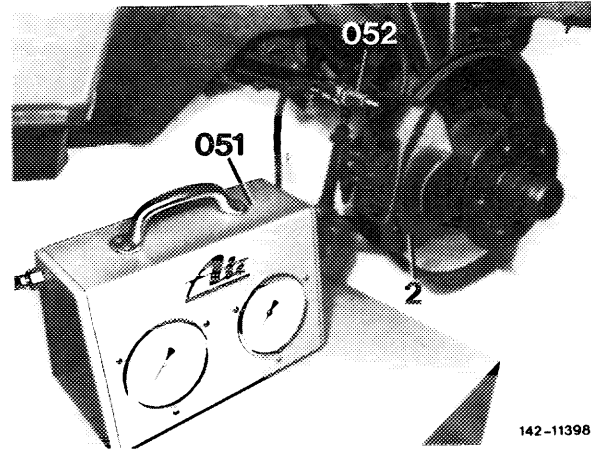
- 1 Caliper
- 2 Piston
- 3 Piston seal



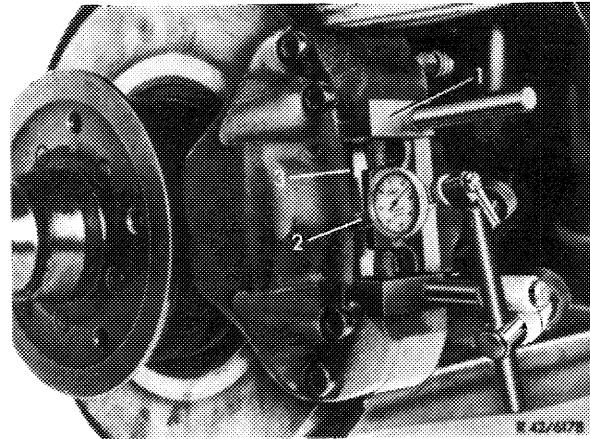
Z423-4432

Test procedure

- 1 Remove brake pads.
- 2 Insert measuring pads instead of brake pads into caliper. Then actuate brake pedal several times so that the pistons can move against measuring pads.
- 3 Connect pressure gauge (051) to caliper.



- 4 Attach measuring instrument for release clearance (1) to caliper.
- 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.
- 6 Actuate brake pedal until pressure gauge shows a pressure of 5 bar.
- 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 Repeat measuring release clearance at a line pressure of 90 bar (similar to item 6–10).

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

- 12 Remove measuring instrument for release clearance and measuring pads.
- 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 provide the correct clearance between brake disc and brake pad.