

## 42–150 Replacement of piston seal on front axle fixed caliper

### A. 2-piston fixed caliper

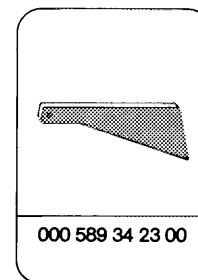
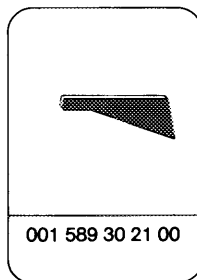
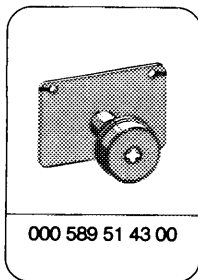
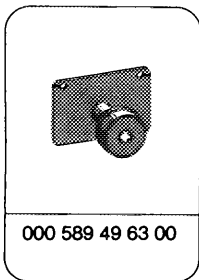
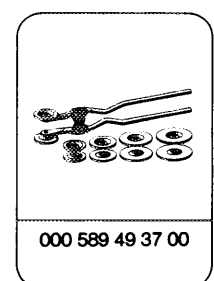
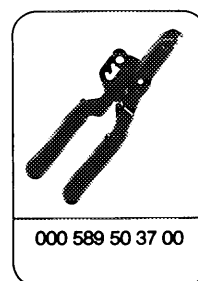
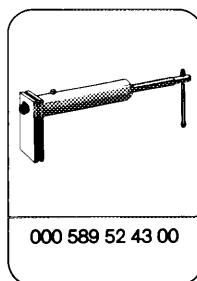
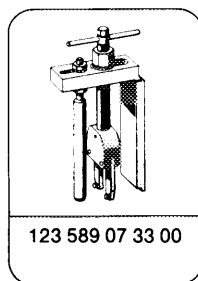
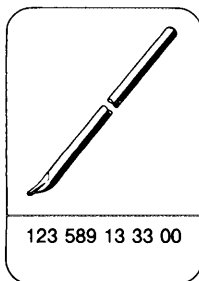
#### Data

Fixed caliper make	Teves		Bendix	
	Teves	Bendix	Teves	Bendix
Housing dia.	56.99 57.04		59.99 60.04	
Shaft width for brake pads	77 + 0.15		90 + 0.15	

#### Lubricant

ATE brake cylinder paste

#### Special tools



#### Conventional tool

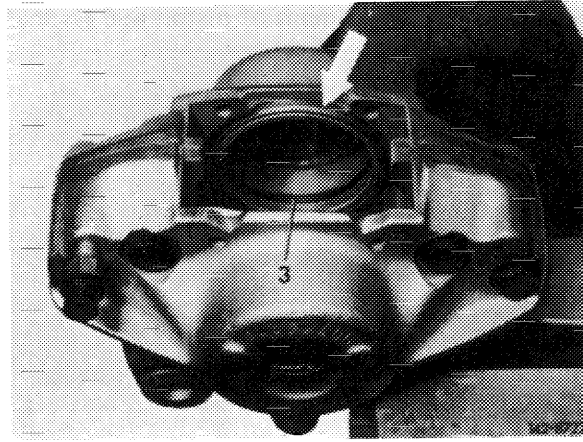
Open double box wrench 9 x 11 mm

e.g. made by Hazet, D-5630 Remscheid  
order no. 612

## Note

Do not separate the two halves of the fixed caliper since the fastening bolts are tightened to a definite torque by the manufacturer.

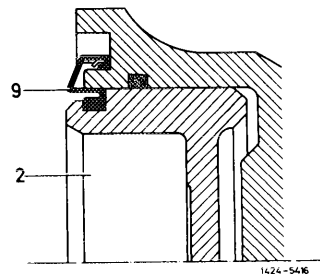
When renewing piston seal in Bendix fixed caliper, make sure that during removal of dust cap the pressed-on ring is not pushed off (refer to arrow). The ring is not available as a spare part. If the ring is corroded, experience has shown that the cylinder bore is also damaged. In such a case, replace complete fixed caliper.



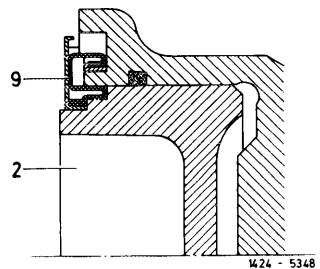
## Removal

- 1 Remove brake pads (42–160).
- 2 Force dust cap (9) from housing by means of a screwdriver.

Teves version

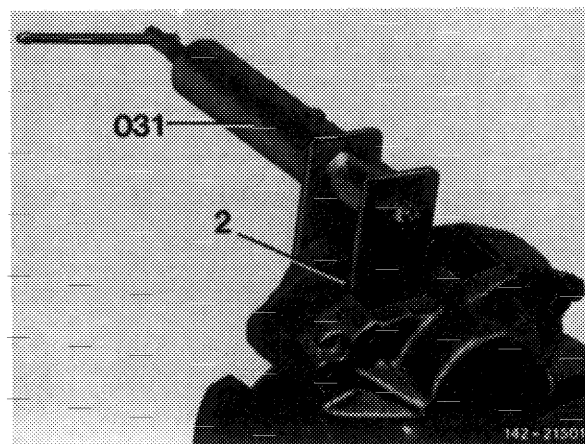


Bendix version



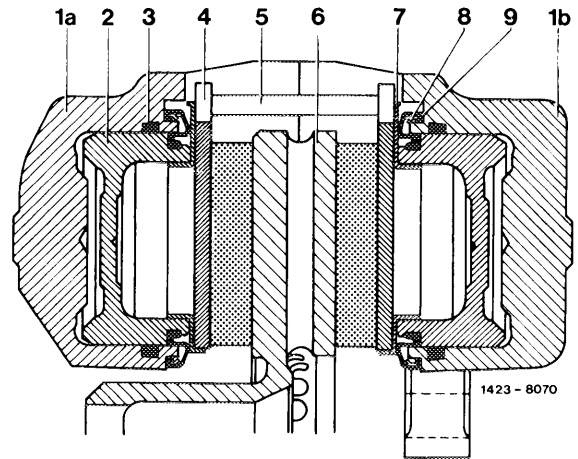
- 3 Hold piston (2) in place in fixed caliper by means of resetting device (031). Then carefully press out opposite piston with compressed air.

**Note:** If the pistons are rusted down, install a new fixed caliper.



4 Remove piston seal (3) from groove of cylinder bore.

- 1a Outer fixed caliper half
- 1b Inner fixed caliper half
- 2 Piston
- 3 Piston seal
- 4 Brake pad
- 5 Holding pin
- 6 Brake disc
- 7 Heat shield
- 8 Clamping ring
- 9 Dust cap



### Inspection and repair

5 Push heat shield (7) away from piston.

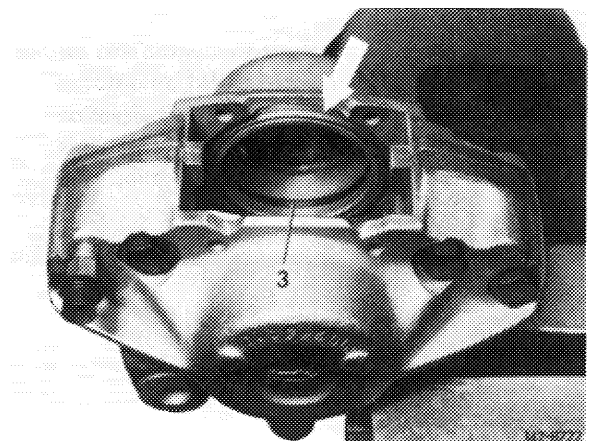
6 Remove deposits on piston with a soft brass wire brush or a rough cleaning cloth. Do **not** work on piston with polishing or emery cloth, since this might damage the chrome plated surface. Replace piston, if chrome surface is damaged.

7 Check cylinder bores of fixed caliper for wear. Replace complete fixed caliper if bores are scored or rusted. Remove small, minor rust spots in bore with polishing cloth, heavier rust spots in front of piston seal groove with fine emery paper (380 to 500 grain).

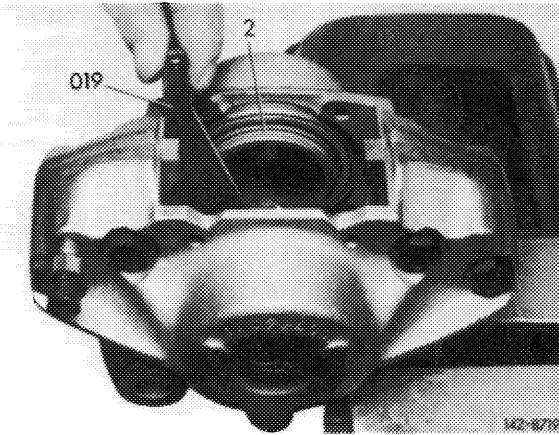
### Installation

8 Coat new piston seal (3) slightly with ATE brake cylinder paste and insert into groove of cylinder bore.

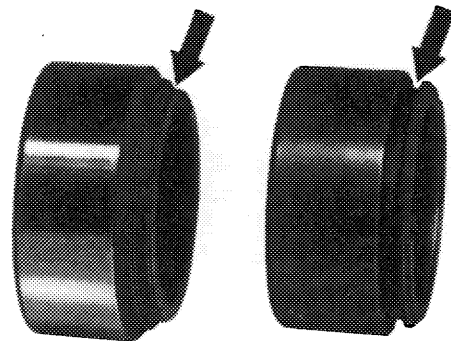
**Note:** When reconditioning Bendix (Bx) fixed caliper, make sure of a tight and correct seat of pressed-on ring (refer to arrow).



9 Insert piston (2) into bore of fixed caliper. Then check position of piston in fixed caliper with piston gauge (019).



**Note:** When installing pistons, note different piston versions.

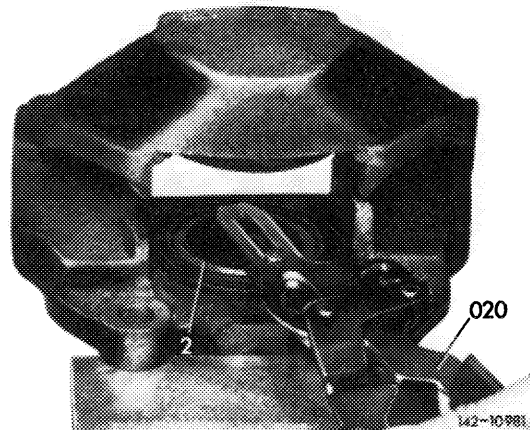


Left:  
Bendix (Bx piston)

Right:  
Teves piston

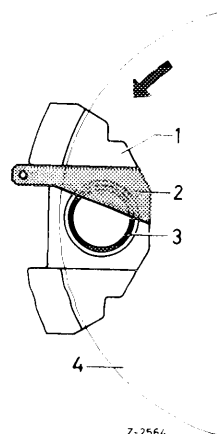
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10 Move piston (2) into correct position with piston pliers (020), if required.



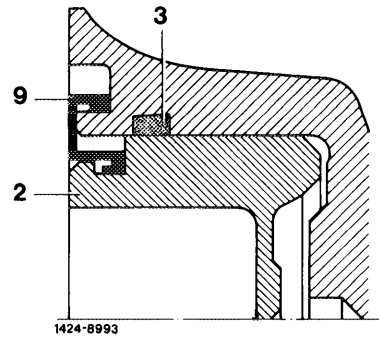
**Attention!**

Install piston in such a manner that with fixed caliper installed the elevation (marked black) on piston is pointing downwards. While braking, this elevation will cause a one-sided contact of brake pads. This in turn will reduce a trend towards squealing.

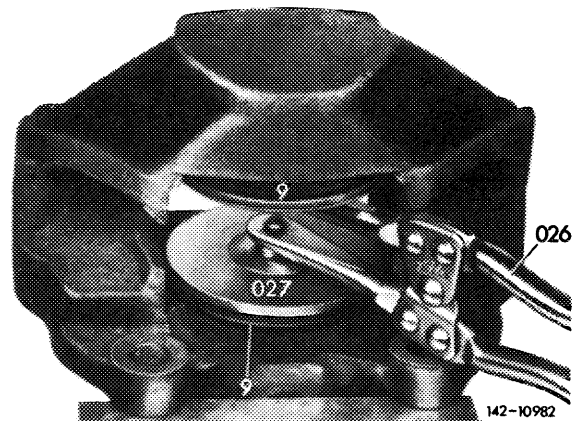


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11 On Teves fixed caliper, mount dust cap (9) on piston (2) and position against collar of fixed caliper.



12 Place dust cap (9) on collar of fixed caliper by means of pliers (026) and pertinent discs (027).

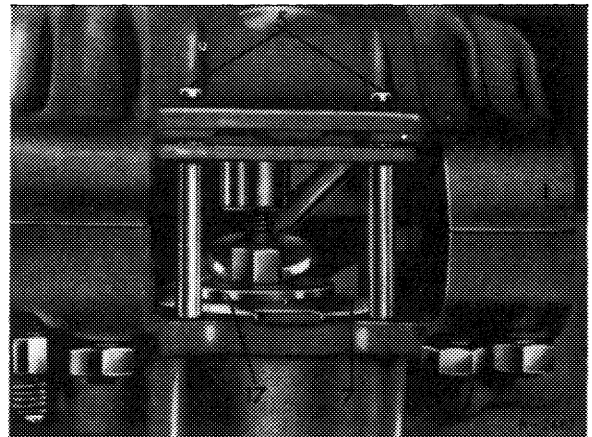


13 Insert heat shield (7) into piston with the recess in the shield fitting accurately into the elevation of the piston.

14 Place insertion device (17) into fixed caliper and press heat shield into piston.

**Attention!**

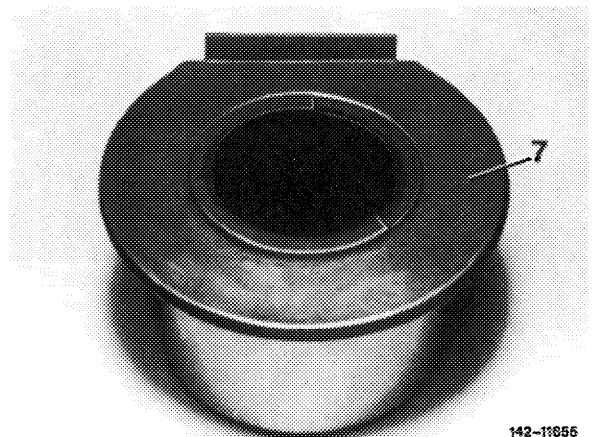
The elevation on the piston should project at least 0.1 mm beyond heat shield. The heat shields for the inner and the outer piston are different.



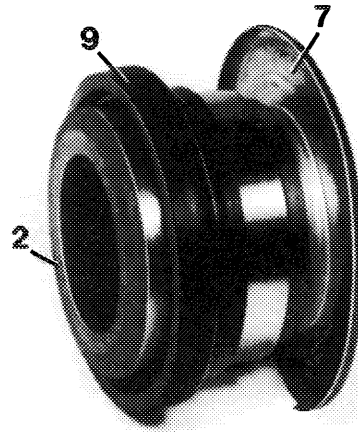
15 On Bendix fixed caliper, press heat shield (7) on piston according to piston position.

**Attention!**

The elevation on the piston should project at least 0.1 mm beyond heat shield.



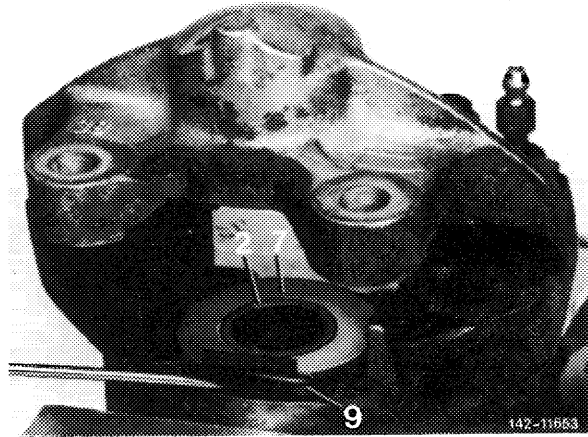
16 Place dust cap (9) on piston (2).



142-11654

17 Use blunt installation needle to mount dust cap (9) on collar of fixed caliper. Then push piston completely back until dust cap (9) is perfectly seated on piston collar.

18 Install brake pads into fixed caliper (42-160).



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## B. 4-piston fixed caliper

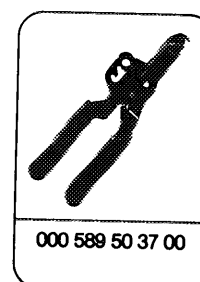
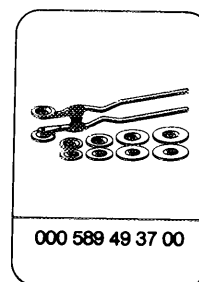
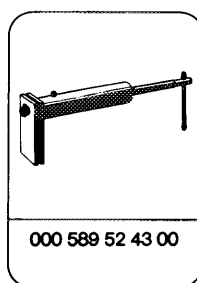
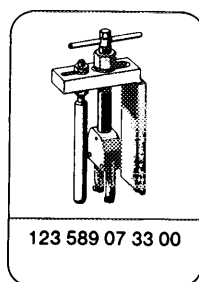
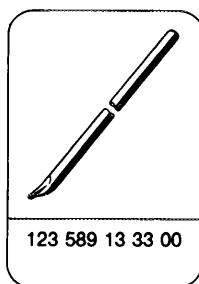
### Data

Fixed caliper make	Teves
Housing dia.	39.98
	40.03
Shaft width for brake pads	90 + 0.15

### Lubricant

ATE brake cylinder paste

### Special tools



### Conventional tool

Open double box wrench 9 x 11

e.g. Hazet, D-5630 Remscheid  
Order No. 612

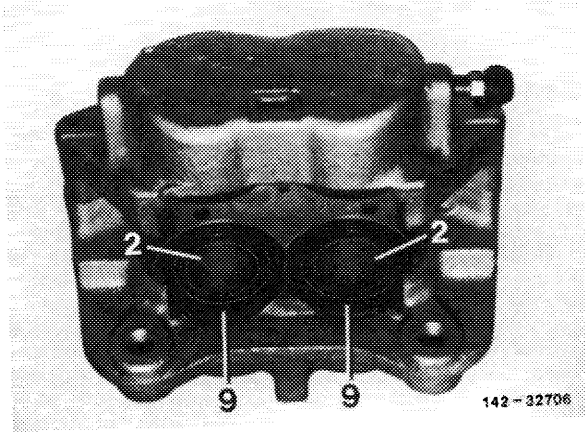
### Note

Do not separate the two halves of the fixed caliper from each other, since the fastening screws have been tightened to a given torque by the manufacturer.

## Removal

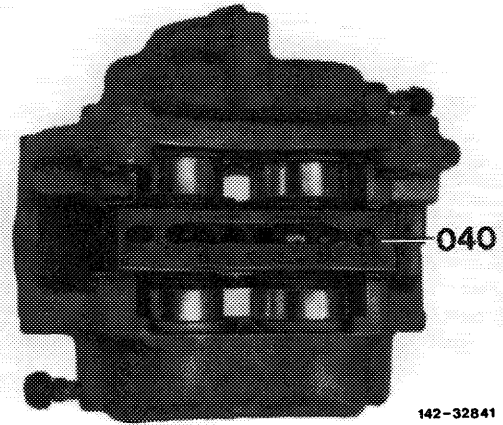
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- 1 Remove brake pads (42-160).
- 2 Force dust cap (9) from housing by means of a screwdriver.



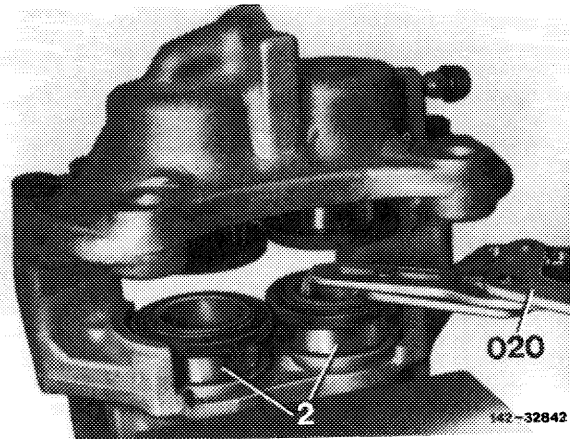
- 3 Insert metal segment (040), 22 mm thick, into fixed caliper, then press out pistons (2) carefully up to stop by means of compressed air.

**Note:** The metal segment may be a part taken from a brake disk.

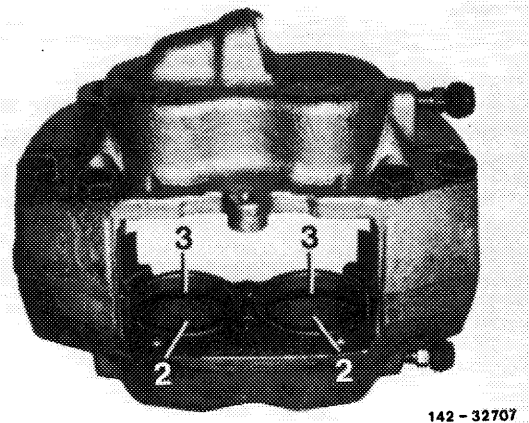


- 4 Remove metal segment. Remove piston (2) by means of rotary movements with piston-turning pliers (020).

**Note:** If the pistons are rusted down, install a new fixed caliper.



- 5 Remove piston seal (3) from groove of cylinder bore.





## Checking and reconditioning

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6 Remove deposits on piston with a soft brass wire brush or with a rough cleaning rag. Do not handle piston with polishing or emery cloth, since this will damage the chrome-plated surface. If chrome layer shows evidence of damage, replace piston.

7 Check cylinder bores of fixed caliper for wear. If bores are showing score marks or are rusted, replace complete fixed caliper. Remove slim, slightly rusty spots in bore with polishing cloth, larger rust spots in front of groove for piston seal with fine emery paper (grain 380 to 500).

## Installation

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8 Rub new piston seal (3) lightly with ATE brake cylinder paste and insert into groove of cylinder bore.

9 Insert piston (2) into bore of fixed caliper. Mount dust cap (9) on piston (2) and position against flange of fixed caliper.

10 With pliers (026) and the respective plates (027) press dust cap (9) on flange of fixed caliper.

11 Install brake pads into fixed caliper (42–160).

