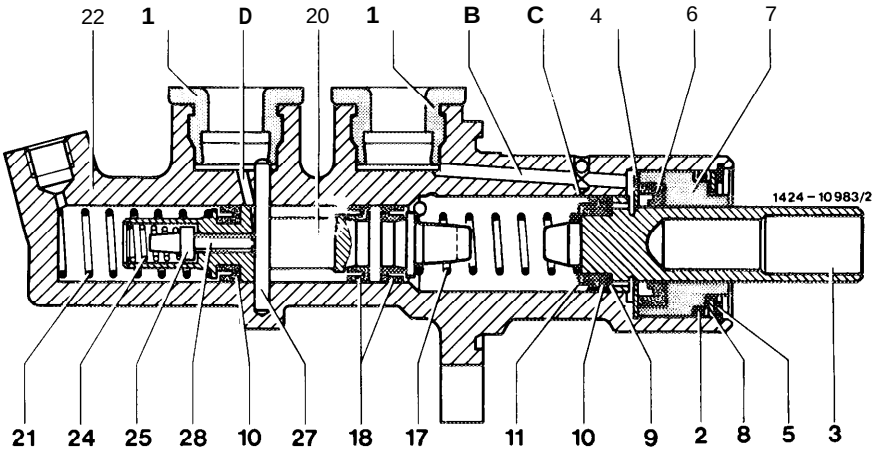
42-005 General information

The tandem main cylinder with central valve is made of light alloy and has no stop screw.

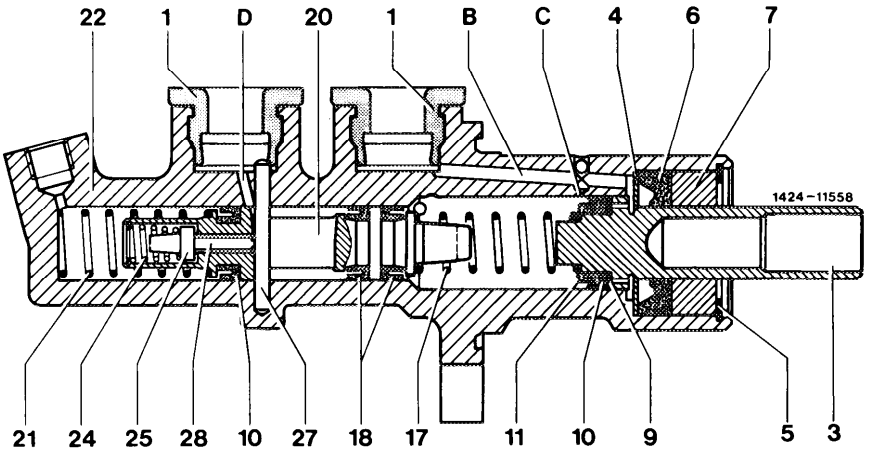
Girling tandem main cylinder

1 Tank plug
2 O-ring
3 Piston (pushrod circuit)
4 Stop washer
5 Locking ring
6 Secondary sleeve
7 Bushing
8 Stop washer
9 Filling disk
10 Primary sleeve
11 Supporting ring
17 Compression spring
18 Separating sleeve
20 Piston (floating circuit)
21 Compression spring
22 Housing
24 Valve spring
25 Valve seal
27 Cyl. pin
28 Valve pin
B Filling bore
C Compensating bore
D Filling and compensating bore



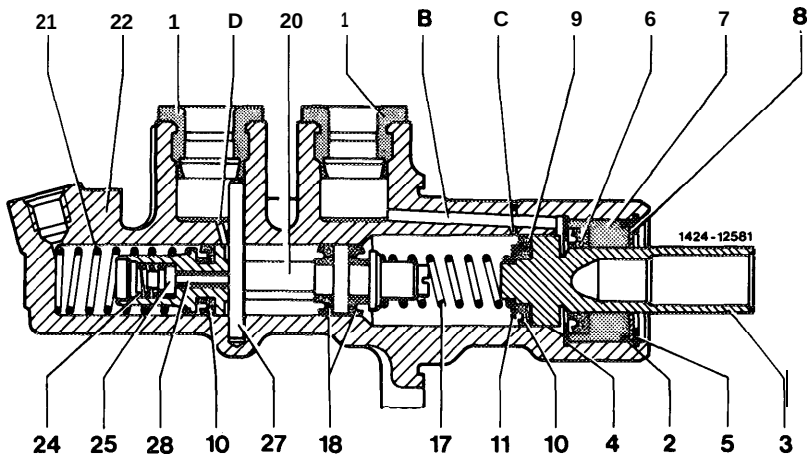
Bendix tandem main cylinder

1 Tank plug
3 Piston (pushrod circuit)
4 Stop washer
5 Locking ring
6 Secondary sleeve
7 Bushing
9 Filling disk
10 Primary sleeve
11 Supporting ring
17 Compression spring
18 Separating sleeve
20 Piston (floating circuit)
21 Compression spring
22 Housing
24 Valve spring
25 Valve seal
27 Cyl. pin
28 Valve pin
B Filling bore
C Compensating bore
D Filling and compensating bore



Teves tandem main cylinder

1 Tank plug
2 O-ring
3 Piston (pushrod circuit)
4 Stop washer
5 Locking ring
6 Secondary sleeve
7 Bushing
8 Stop washer
9 Filling disk
10 Primary sleeve
11 Supporting ring
17 Compression spring
18 Separating sleeve
20 Piston (floating circuit)
21 Compression spring
22 Housing
24 Valve spring
25 Valve seal
27 Cyl. pin
28 Valve pin
B Filling bore
C Compensating bore
D Filling and compensating bore



42-010 Bleeding the brake system or renewing the brake fluid

Brake fluid

Use specified brake fluid only	refer to Specifications for service products, page 331 .O

Important note

Handle brake fluid with care

a) Fill brake fluid only into container from which the fluid cannot be consumed by mistake. **(Fatal dose 100 cc).**

b) Even slight traces of mineral oil will lead to failure of brake system. When brake fluid looks from colorless up to yellow, particular attention is required since in such a case the risk of making a mistake is the highest. If mineral oil is found in brake system or if the presence of mineral oil is suspected, thoroughly flush entire brake system with brake fluid. Also renew main cylinder.

c) Brake fluid is highly **hygroscopic,** that is, it will absorb moisture out of the air, which in turn will lower the boiling point. For this reason, store brake fluid in well sealed storage tanks only.

Note: During its service life, the boiling point of the brake fluid will go down as a result of constant absorption of moisture from the atmosphere. When the brakes are very sharply applied, there is a possibility of vapor lock in brake system.**For this reason, change the brake fluid once a year, if possible, in spring.**

To facilitate inspections, a new sticker naming the year and month of the next fluid change must be glued to brake unit during each change of fluid.

Bleeding

1 When using a bleeding unit, observe operating instructions of pertinent manufacturer.

To remove all air bubbles from tandem main cylinder, be sure to step down fully on brake pedal at least three times while bleeding, with bleed screws of brake pedal opened.

2 When bleeding by "pumping" the brake pedal, close the respective bleeder plug each time prior to releasing the brake pedal, so that no air will enter through the threads of the bleeder plug.

Note: Slowly retract brake pedal, so that enough brake fluid is drawn from expansion tank during piston return stroke.

3 Stop bleeding when clear brake fluid, free of bubbles, emerges from bleed hose.

Attention!
Do not use the pumped out brake fluid again, since it may contain foreign bodies which will then again enter the brake system.

4 Fill expansion tank with brake fluid up to "maximum" mark.

Renewing

5 Pump empty or draw fluid out of expansion tank down to a fluid level of approx. 10 mm.

Attention!
Do not empty expansion tank completely, so that no air can enter the brake system.

a) Renewing the brake fluid with bleeding unit:

Permit approx. 80 cc of brake fluid to flow out at each brake caliper, so that the lines and the pressure cylinders of the brake calipers will also be filled with fresh brake fluid.

b) Renewing the brake fluid without bleeding unit:

Fill expansion tank with fresh brake fluid up to "maximum" mark. Pump old brake fluid of each brake caliper with approx. 10 pump strokes. Top up brake fluid.

Note: For both methods of renewing brake fluid, the brake fluid flowing out through vent hose must be free of bubbles.

42-012 Checking brake lines and brake hoses

Check **brake hoses and brake lines for chafing marks** or other damage e.g. caused by corrosion or road metal. Do not use steel brush, emery cloth, scrapers or similar sharp-edged tools, since otherwise the plastic layer will be damaged. Clean dirty brake lines only within scope of an underfloor wash. Do not clean brake hoses with cleaning compounds containing mineral oil. Remove outside dirt with water. To prevent spraying or preservating compounds containing mineral oil from coming into contact with brake hoses, cover brake hoses prior to repeating preservation.

When installing a new brake hose, observe the following:

1. Install approved brake hoses only.

2. Do not install brake hose in twisted condition. Twisted brake hoses can be straightened by adjusting the hexagon head on the brake hose within the double hexagon of the safety plate.

3. Also install brake hose in such a manner that any possibility of chafing is eliminated. To check, turn steering gear each time completely to righthand and lefthand lock, making sure that each front axle half completes a full up and down stroke. Also check layout of brake hose on rear wheel brake in uppermost and lowermost position of spring link.

Attention!

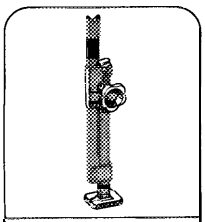
Upon completion of repairs following an accident be sure to check installation of brake hose, since even a minor change of location of holder on frame floor may change the brake hose layout in such a manner that chafing of hose will result.

42-015 Checking the brake system for leaks

Data

	High-pressure test	Low-pressure test
Line test pressure in bar gauge pressure	50-90	3
Duration of test in min.	5	2
Pressure drop of preset value in %	5	0

Special tool



000 589 18 31 00

Conventional tool

Pressure tester	e.g. Teves, D-6000 Frankfurt/M. Order No. 3.9305–1020.4/01

Note

The leak test required for both brake circuits includes a high-pressure test and a low-pressure test.

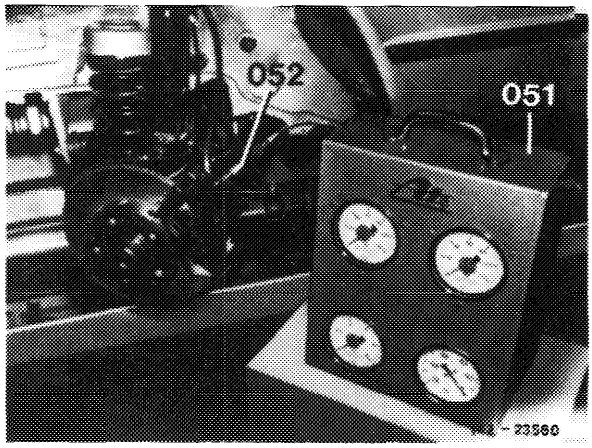
Attention!
In the event of a loss of brake fluid, which cannot be observed visually, check whether brake fluid has entered the brake booster through a leaking secondary seal in tandem main cylinder. If so, proceed as follows:

1. **Do not** remove brake booster.
2. Draw off brake fluid.
3. Change brake booster if there are more than 100 cc of brake fluid in unit.

Note: The flexible diaphragm is resistant to brake fluid, while the reaction disk and the plate valve in control member are not. For this reason, draw off brake fluid only with the brake booster installed. With the brake booster installed, no brake fluid can reach the reaction disk or the plate valve up to 100 cc.

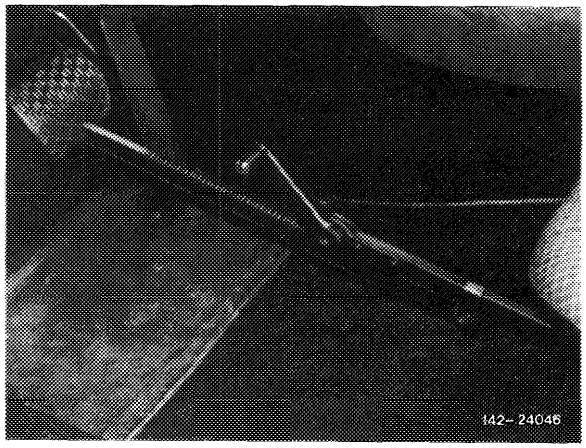
High-pressure test

1 Connect pressure tester (051) to a brake caliper. For this purpose, screw bleeder plug out and screw connection (052) in. Then bleed pressure tester.



2 Run engine at medium speed and establish highest possible vacuum by suddenly releasing accelerator pedal.

3 Depress brake pedal with brake pedal winch until the highest possible line pressure between 50 and 90 bar gauge pressure is obtained, then hold brake pedal in this position.



4 During the 5 minutes test period, the pressure loss should not exceed 5 % of the value set. If the pressure drop is higher, look for leaks and seal.

Low-pressure test

5 Stop engine. Actuate brake pedal until vacuum is exhausted.

6 Set brake pedal winch to a line pressure of approx. 3 bar gauge pressure.

7 The pressure should not drop during a test period of 2 minutes. If a pressure loss is indicated, look for leak and seal.

42-035 Checking warning device in expansion tank

Note

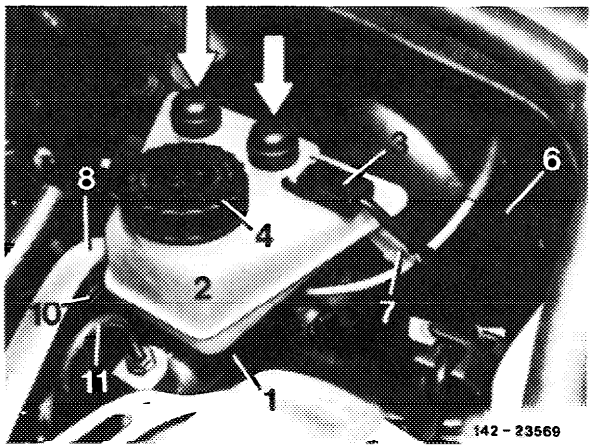
The warning lamp in instrument cluster is a combination lamp, that is, it will light up when:

a) the parking brake is actuated,

b) the brake fluid in one of the chambers in expansion tank is too low.

Checking

Push both contacts (refer to arrow) down one after the other. This will close the contact and the warning lamp should light up. The contact elements cannot be removed.

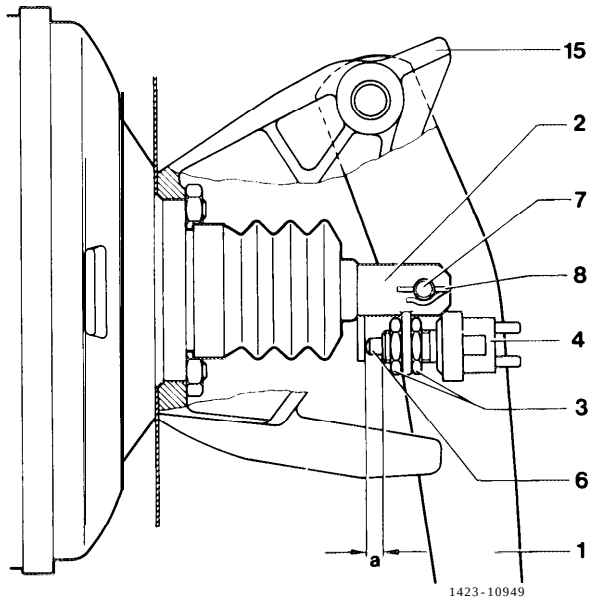


42–040 Checking and adjusting or removal and installation of mechanical stop lamp switch

A. Stop lamp switch 1st version

Checking

1 **The stop lamp should light up at a pedal travel between 3-20 mm, measured to center of pedal plate.**

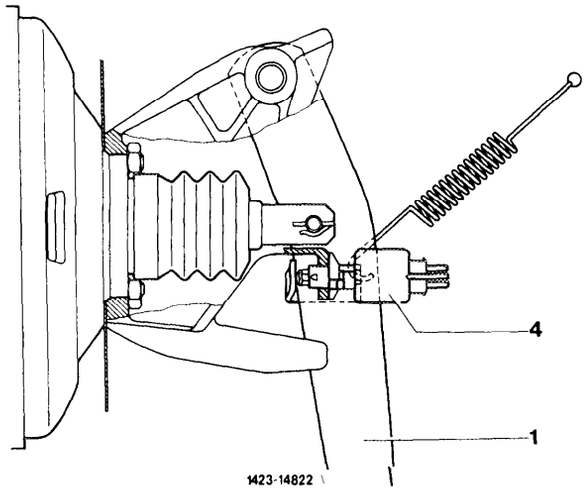


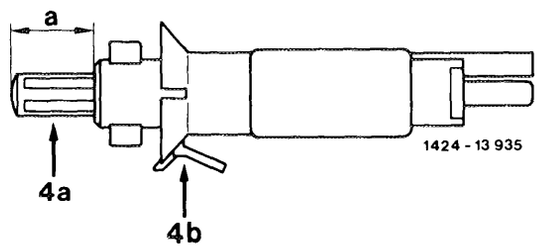
1 Brake pedal
2 Fork head
3 Hex. nut
4 Stop lamp switch
6 Contact button
7 Holder with flange bolt
8 Lock
15 Carrier for brake pedal

Adjusting

2 Adjust stop lamp switch with the two hex. nuts (3), which are simultaneously serving to attach switch (4).

B. Stop lamp switch 2nd version



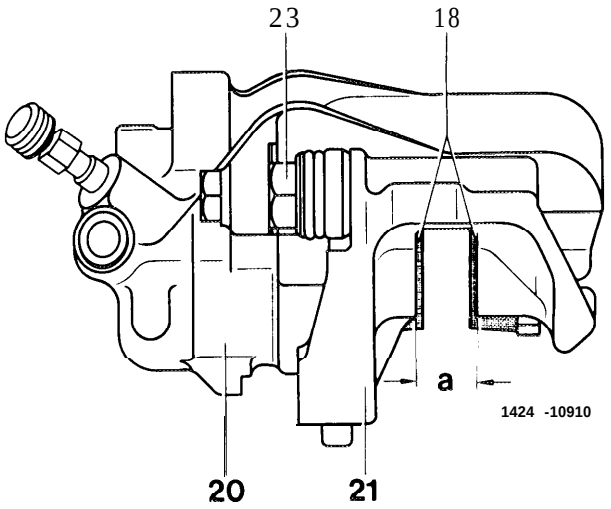


Lock (4b) of stop lamp switch	Push
Stop lamp switch (4)	Rotate and pull out
Actuating pin (4a)	Pull out up to stop. This will provide max. distance ,,a''
Brake pedal(1)	Step down on pedal. Insert switch and turn until lock (4b) engages. Then release brake pedal. Note: The actuating distance is set automatically.

42-I 10 Removal and installation of floating caliper on front axle

Data

Model	201.028/029/ 128	201.022/023/024/ 122/126	201.03
Floating caliper make	Girling	Girling, Teves	Girling
Floating caliper piston dia.	54		
Shaft width for brake pads	95, 15 + 0.15		110 + 0.2
Disk contact width „a"	25.0	15.5	25.0



a Disk contact width
18 Brake pad
20 Cylinder housing
21 Brake carrier
23 Sliding bolt

Tightening torque	Nm
Self-locking hex. head screw for attaching floating caliper to steering knuckle	115

Conventional tool

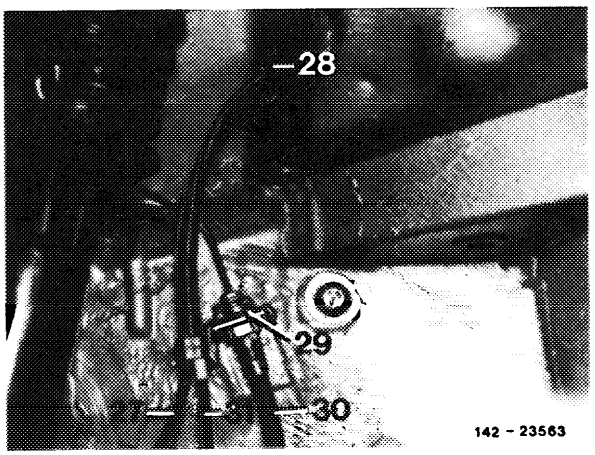
Open double-box wrench 9 x 11	e.g. Hazet, D-5630 Remscheid order no. 612

Note

For loosening and tightening brake lines use conventional double-box wrench only.

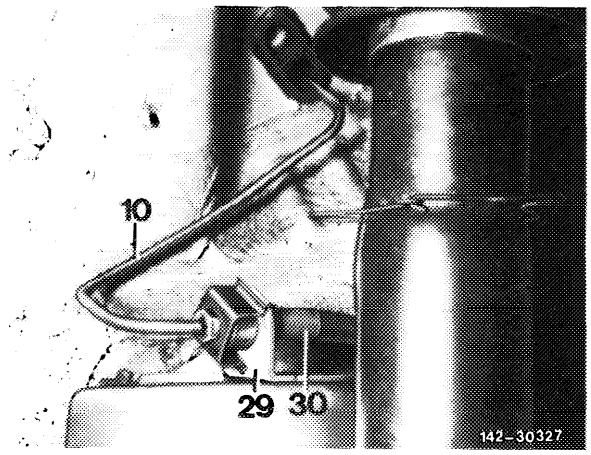
Removal

1 Pump brake fluid out of front brake circuit through an opened vent screw.



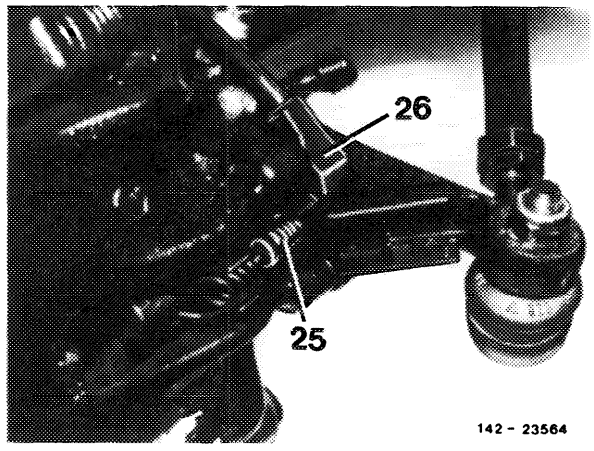
Brake hose layout 1st version

2 L.oosen brake hose (30) on brake line, then close brak e hose and brake line immediately with rubber plug



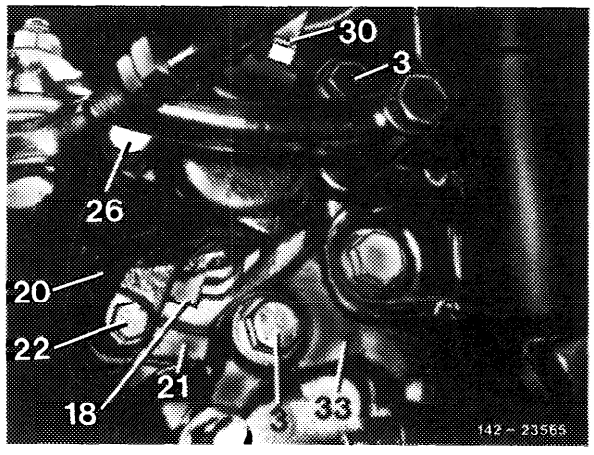
Brake hose layout 2nd version

3 Lift the two holding lugs located laterally on cover of plug connection by means of a screw driver and open cover. Do not use force. Remove cable of clip sensor (25) from plug connection (26) on floating caliper. Do not pull on cable.



4 Loosen plug connection (26) of brake lining wear indicator and brake hose (30) from cylinder housing (20). Close connection of brake hose and on cylinder housing with rubber plug.

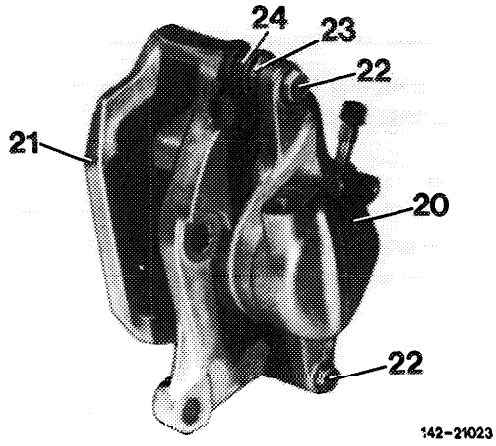
5 Unscrew hex. head screws (3) on brake carrier (21 Then remove floating caliper from steering knuckle (33).

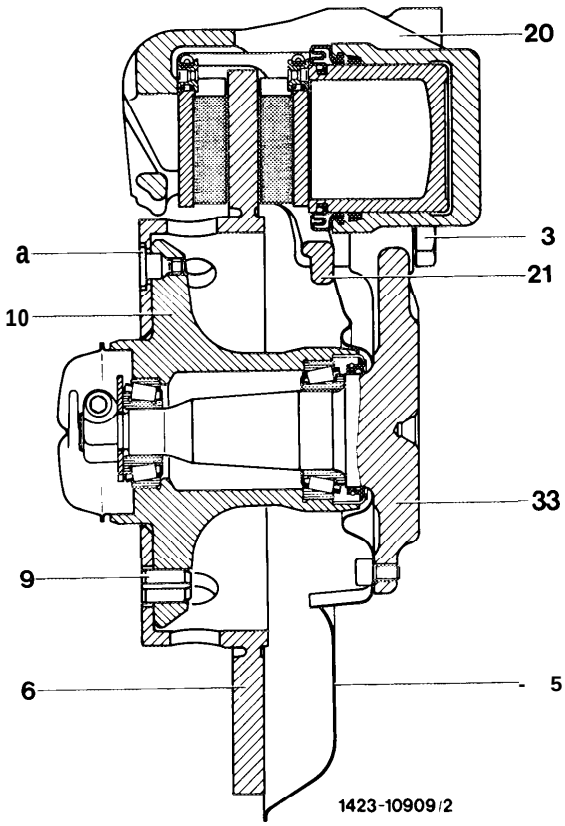


Installation

Attention!
When installing a new floating caliper, note the following: different disk contact width for solid and vented brake disks.

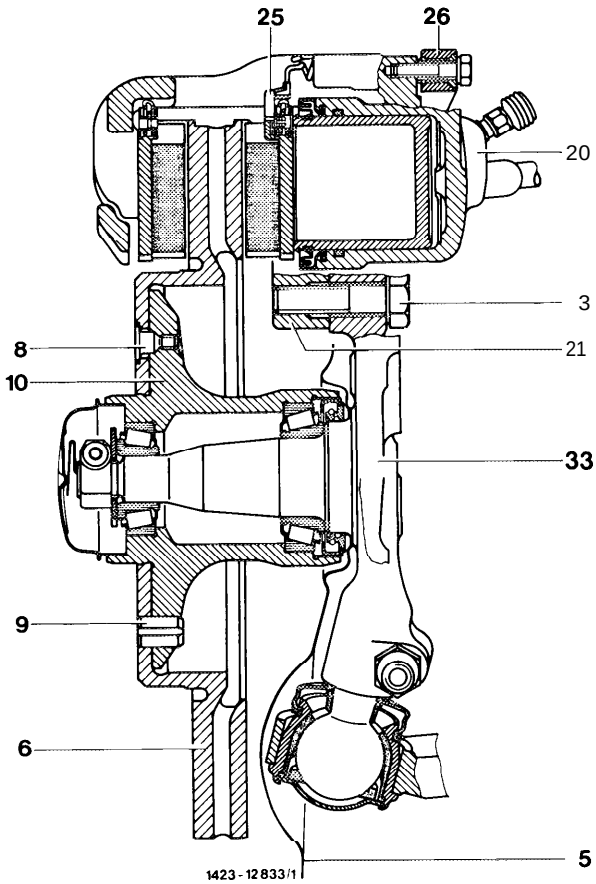
The piston dia. of the floating calipers **of one axle must be the same.** Floating calipers of different manufacturers may be installed on one and the same axle.





Layout with solid brake disk

3 Self-locking hex. head screw
5 Cover plate
6 Brake disk
8 Lock screw
9 Dowel sleeve
10 Front wheel hub
20 Cyl. housing
21 Brake carrier
33 Steering knuckle



Layout with vented brake disk

3 Self-locking hex. head screw
5 Cover plate
6 Brake disk
8 Lock screw
9 Dowel sleeve
10 Front wheel hub
20 Cyl. housing
21 Brake carrier
25 Clip sensor
26 Plug connection
33 Steering knuckle

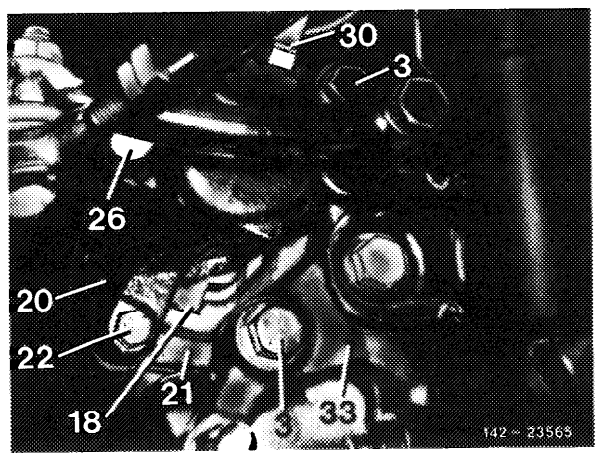
6 Attach floating caliper with new self-locking hex. head screws (3) to steering knuckle (6). Pay attention to perfect installation of brake hose.

Tighten hex. head screws to 115 Nm.

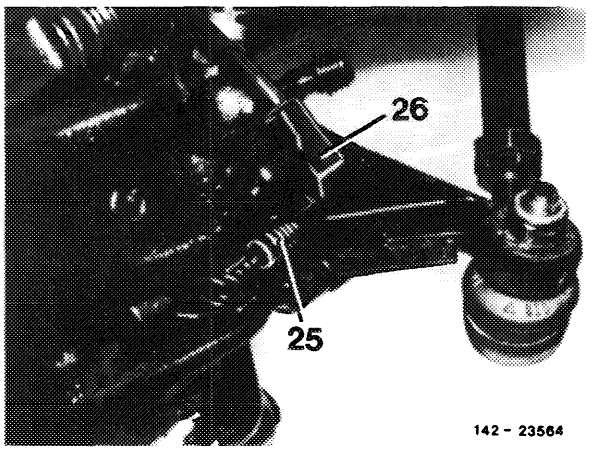
Note: Use self-locking hex. head screws only once.

If the screw-in torque of the new self-locking hex. head screws is very high, clean threads in floating caliper by means of a tap M 12 x 1.5 from residual glue of micro-encapsulated screws.

7 Attach brake hose (30) to cylinder housing (20).

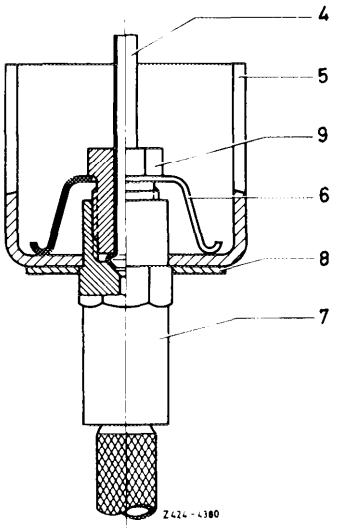


8 Fasten plug connection (26) to cylinder housing (20). Insert cable of slip sensor (25) into plug connection (26).



9 Connect brake line (4) to brake hose (7), making sure that the brake hose is not twisted.

Attention!
Holder (5) has a double hex. locking plate (8). Insert brake hose (7) into locking plate in such a manner that hose will not wipe against any obstacles at the left or right at full steering lock.



4 Brake line
5 Holder on frame floor
6 Brake hose holder
7 Brake hose
8 Locking plate
9 Coupling nut

10 Bleed front wheel brake circuit (42-010).

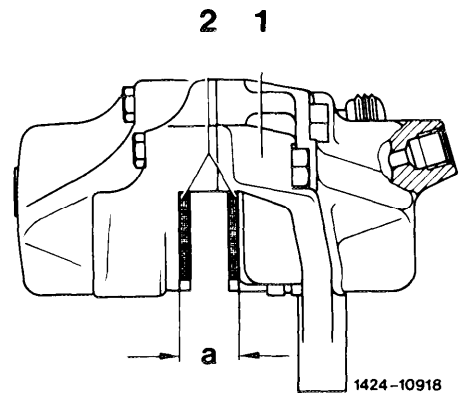
Attention!
Check brake system for leaks!

Upon bleeding, actuate brake pedal energetically several times to obtain the correct clearance between brake disk and brake pad. Then, with the engine running, perform leak test by actuating brake pedal at approx. 200-300 N. The established pressure should be maintained for some time, brake pedal should not permit additional depression. Check all connections for leaks. Top up brake fluid in expansion tank of tandem main cylinder, if required.

42–120 Removal and installation of fixed caliper on rear axle

Data

Fixed caliper make	Bend ix, Teves
Fixed caliper piston dia.	35
Shaft width for brake pads	62 + 0.2
Disk contact width “a”	approx. 12

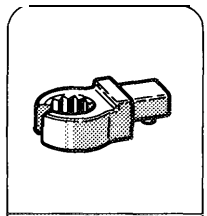


a Disk contact width
1 Fixed caliper
2 Brake pad

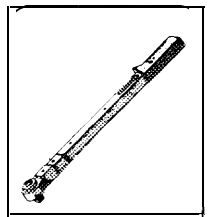
Tightening torques

	Nm
Self-locking hex. head screw for fastening fixed caliper to wheel carrier of rear axle	50
Brake hose to fixed caliper	15

Special tools



000 589 76 03 00



001 589 72 21 00

Conventional tool

Open double box wrench 9 x 11	e.g. Hazet, D-5630 Remscheid order no. 612

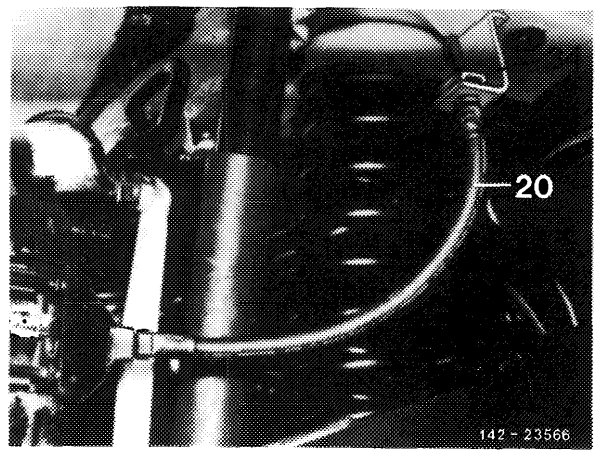
Note

For loosening and tightening brake lines, use conventional open double box wrench or open box wrench element only.

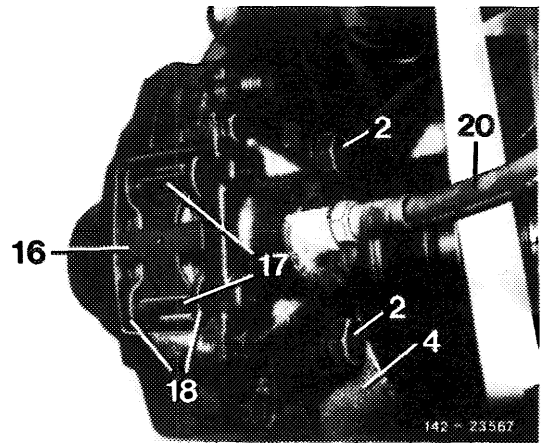
Removal

1 Pump brake fluid out of rear brake circuit through an opened vent screw.

2 Loosen brake hose (20) on holder (34) of frame floor and unscrew from fixed caliper. Close all connections immediately with rubber plugs.



3 Unscrew hex. head screws (2) and remove fixed caliper.

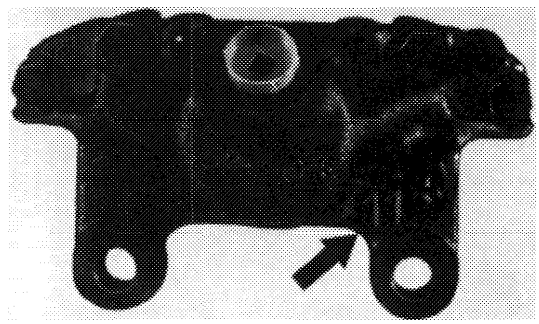


Installation

Attention!
When Installing a new fixed caliper, proceed as follows:

Calipers from different manufacturers may be installed on rear axle. However, the fixed calipers should have the same piston dia.

When replacing a fixed caliper, make sure to install only a fixed caliper approved for the respective model. The fixed caliper for model 201.034 has code number 11 (refer to arrow).



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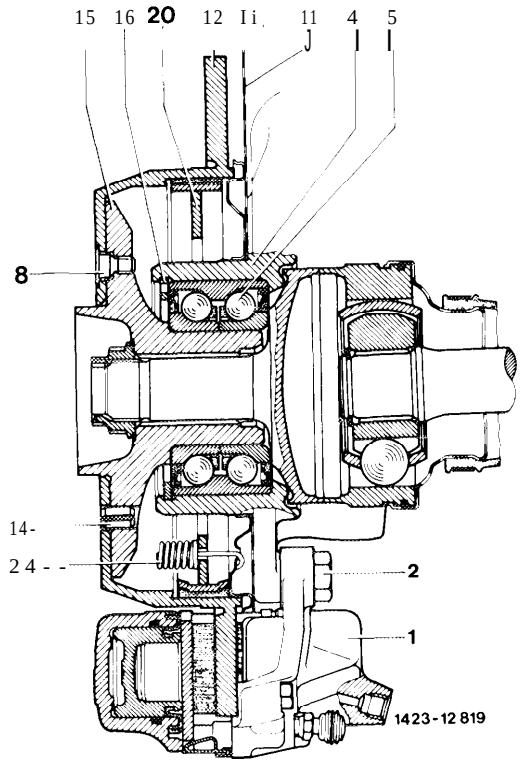
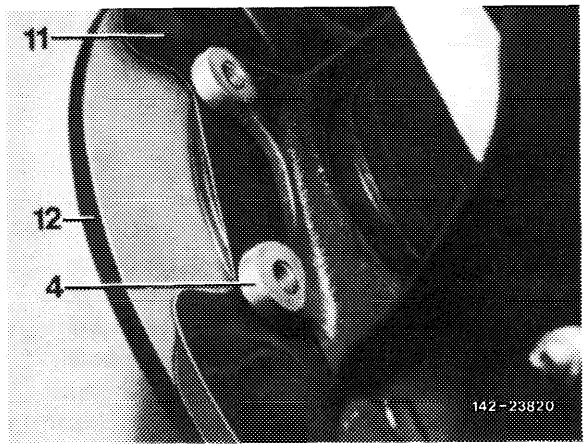


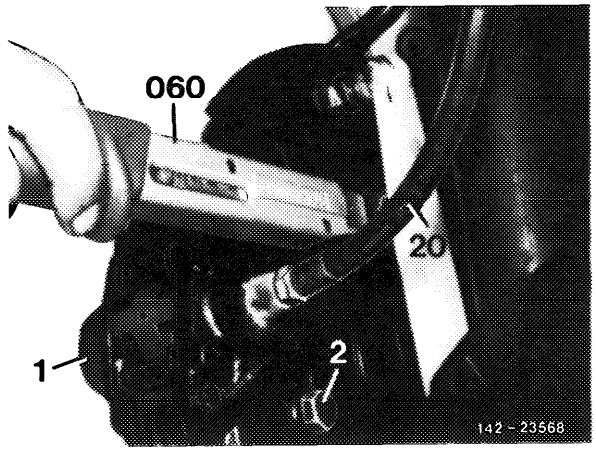
1 Fixed caliper
2 Hex. head screw
4 Wheel carrier
5 Double-row angular ball bearing
8 Lock screw
11 Cover plate
12 Brake disk
14 Fitted pin
15 Rear axle shaft flange
16 Locking ring
20 Brake shoes
24 Pressure spring

4 **Position fixed caliper against wheel carrier** (4). **Screw-in new self-locking hex. head screws (2) and tighten to 50 Nm by means of a torque wrench** (060).

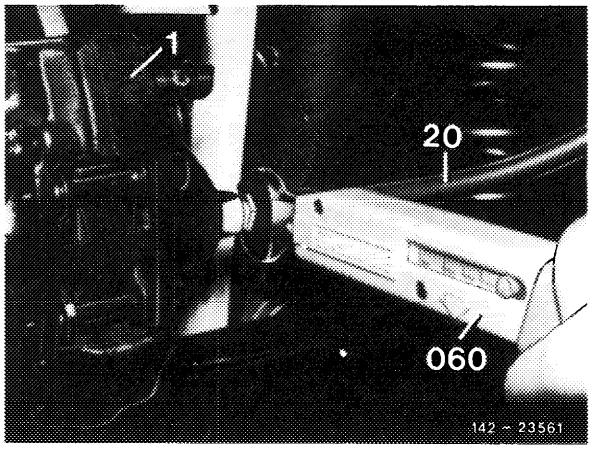
Note: Use self-locking hex. head screws M 10 x 22 only once.

If the screw-in torque of the new self-locking hex. head bolts is too high, clean threads in wheel carrier by means of a tap M 10 from residual glue of micro-encapsulated screws.

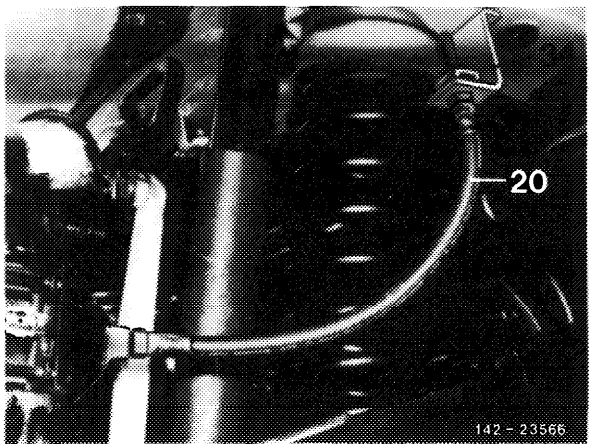




5 Tighten brake hose (20) with special tools torque wrench 001 589 72 21 00 (060) and box wrench element 000 589 76 03 00 to 15 Nm.



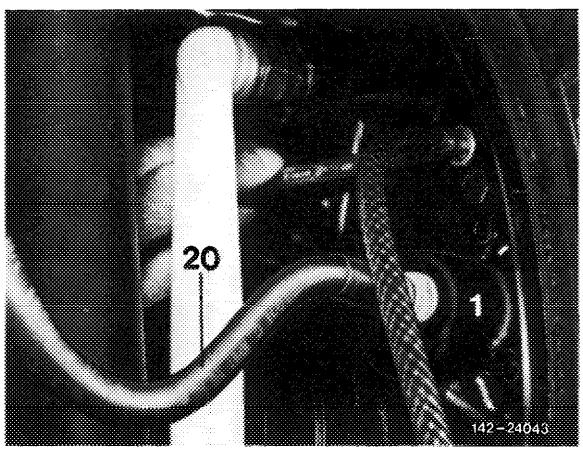
6 Connect brake hose to brake line on holder of frame floor. Pay attention to perfect installation of hose.



7 Bleed rear axle brake circuit (42-010). Use a straight double-box wrench 9 mm for this purpose.

Attention!
Check brake system for leaks!

Upon bleeding, actuate brake pedal energetically several times to obtain the correct clearance betweer brake disk and brake pad. Then, with the engine running, perform leak test by actuating brake pedal at approx. 200-300 N. The established pressure should be maintained for some time, brake pedal should not permit additional depression. Check all connections for leaks. Top up brake fluid in expansion tank of tandem main cylinder, if required.



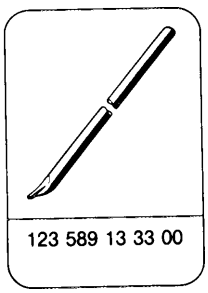
A. Fixed caliper

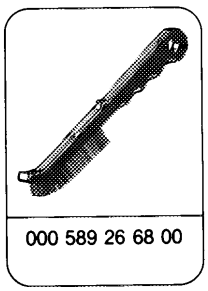
Data

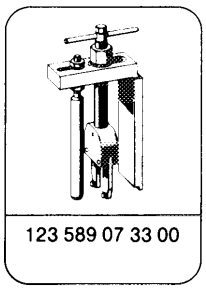
Model	201.02, 201.12	201.03
Fixed caliper dia.	35	
Thickness of brake pad with backing plate for lining	13.5	15.5
Thickness of backing pad for lining	4.5	
Permissible wear of brake lining up to a remaining lining thickness of		2
Width of brake pad max.		61.75
Effective brake surface per axle (cm^2)		88
Thickness of brake disk		9
Wear limit		7.3
Limit dimension during maintenance')		7.6

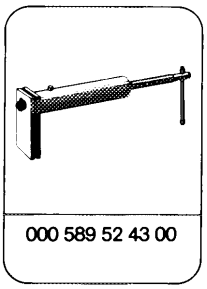
[1]) **Refer to Maintenance Manual Volume 2.**

Special tools


123 589 13 33 00


000 589 26 68 00

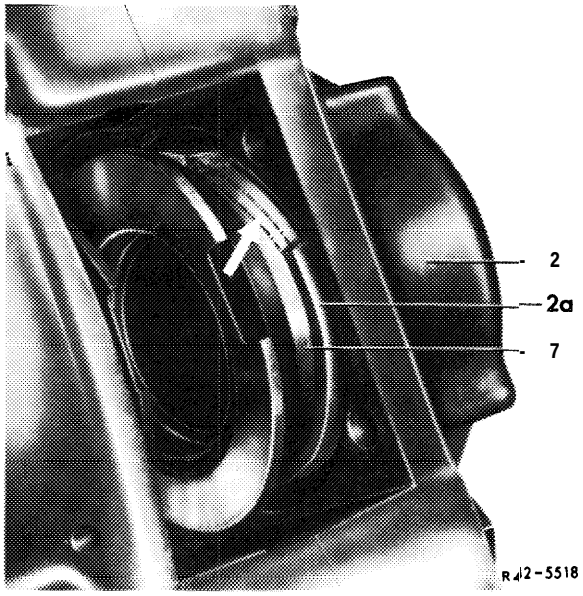

123 589 07 33 00


000 589 52 43 00

Note

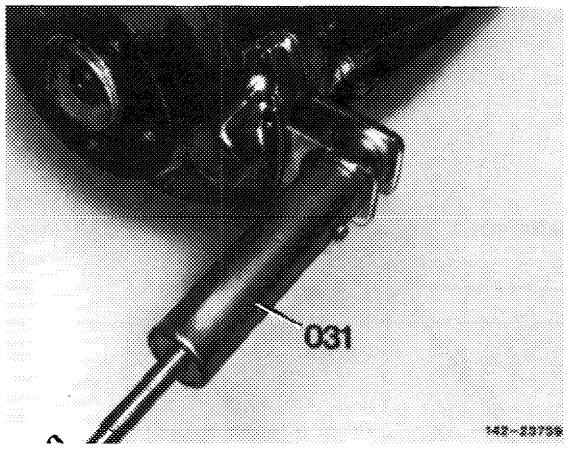
Replace brake pads when the lining is down to 2 mm or when greasy. Use only approved lining grades in sets.

When the brake pads are worn down to the lining backing plate beyond the permissible lining thickness, the fixed caliper may suffer damage since the web (arrow) between the sealing ring groove and the dust cap will fracture and the caliper will then leak.



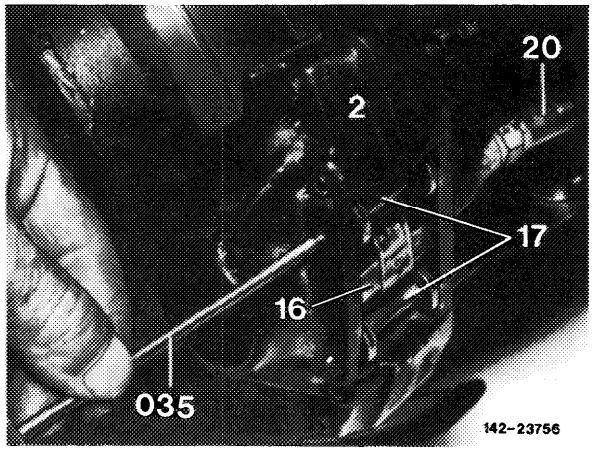
Perform a high and a low-pressure test (42–015) **if brake pads** are excessively worn out.

To prevent canting of piston, pistons may be pushed back to their end position by means of piston resetting device (031) only.

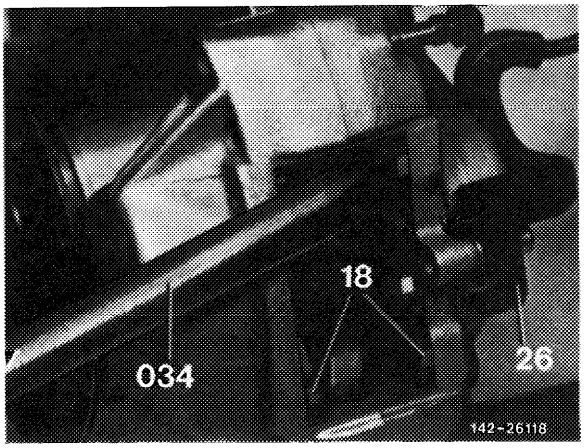


Removal

1 Knock holding pins (17) out of fixed caliper by means of a punch (035). Remove cross spring.



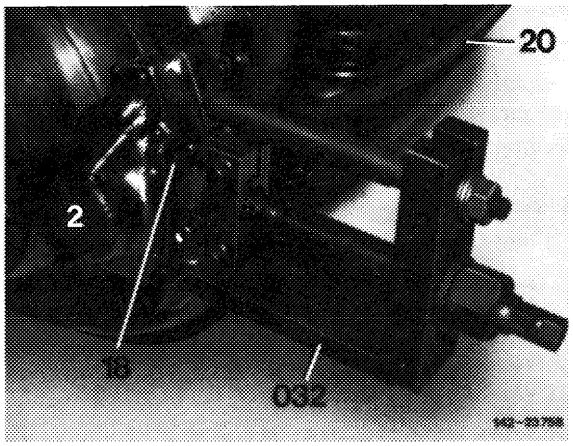
2 Push brake pads (18) out of fixed caliper by means of pushing lever (034).



Note: If brake pad is rusted down, use puller (032) for removal of stuck brake pads.

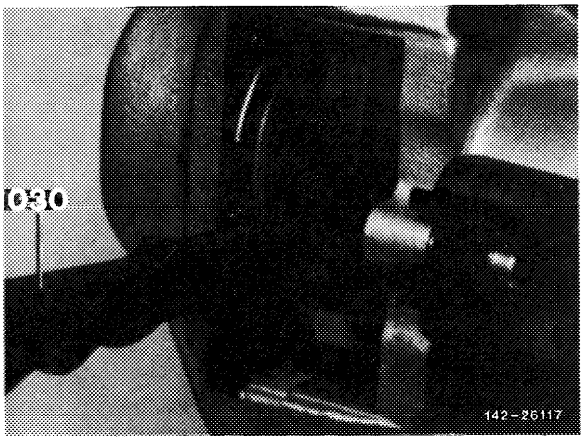
If brake pad wear is high, check pistons for easy operation. If pistons are hard to move, recondition fixed caliper.

Brake disks which are badly contaminated at braking surfaces by deposits from lining (indicated by gray or blue discoloration of brake surfaces) must be cleaned prior to installing new brake pads (42-260).



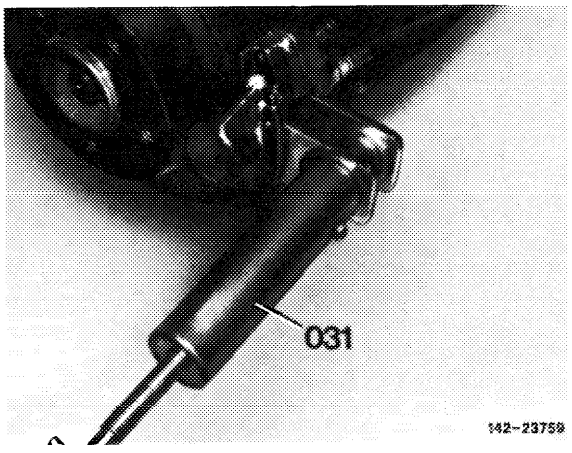
3 Clean guide surface for brake pad in fixed caliper (2) with brake caliper brush (030).

4 Check dust cap for cracks. If dust cap is damaged, remove and disassemble fixed caliper, since penetrating dirt will quickly lead to leaks in fixed caliper.



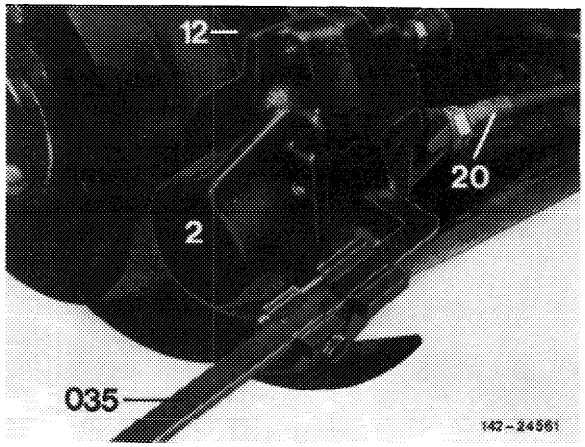
5 To prevent overflowing of expansion tank when the piston is pushed back, draw some brake fluid from expansion tank.

6 Push both pistons back with resetting device (031).



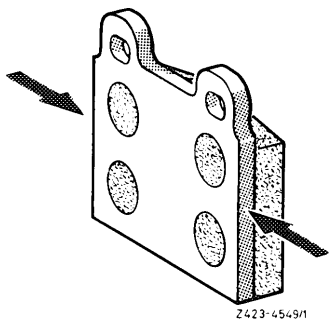
7 Measure thickness of brake disk. To make sure that the wear limit is not below specifications up to next change of brake lining, the dimension should be 0.3 mm above permissible wear limit of 7.3 mm.

8 If dimensions are below permitted test dimension of 7.6 mm, renew brake disk (42-220).



Installation

9 Lightly coat brake pads at spots indicated by arrows in illustration with specified lubricant (refer to table) and insert brake pad into caliper.

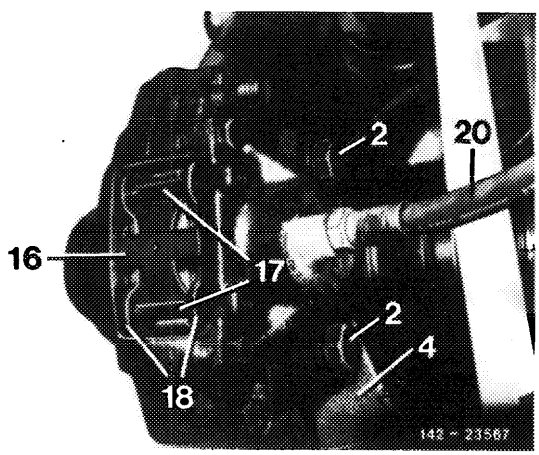


10 Position cross spring (16) and knock holding pin (17) into fixed caliper.

11 Actuate brake pedal several times energetically until firm resistance is felt. Then check level of brake fluid in expansion tank and top up, if required.

Note: New brake pads must be braked-in carefully, that is, the vehicle should be braked several times from 80 to 40 km/h at slight pedal pressure.

Prior to each deceleration, permit brake to cool slightly. Braking to a stop under deceleration should be attempted only with run-in linings.



B. Floating caliper

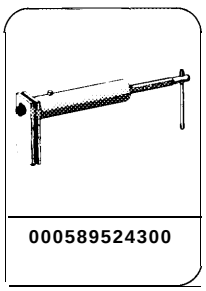
Data

Model	201.028/029 128	201.022/023/024/ 122/126	201.03
Floating caliper piston dia.	**54**		
Thickness of brake pad with backing plate for lining	17.5		19.3
Thickness of backing plate for lining	5.5		6.2
Permissible wear of brake lining up to a remaining lining thickness of	3.5		
Width of brake pad max.	95		110
Effective brake surface per axle (cm^2)	144		176
Thickness of brake disk	22	11	22
Wear limit	19.4	9	19.4
Limit dimension during maintenance[1])	20	9.5	20

[1]) **Refer to Maintenance Manual Volume 2.**

Tightening torque	**Nm**
Self-locking hex. head screw for fastening cylinder housing to brake carrier	35

Special tool



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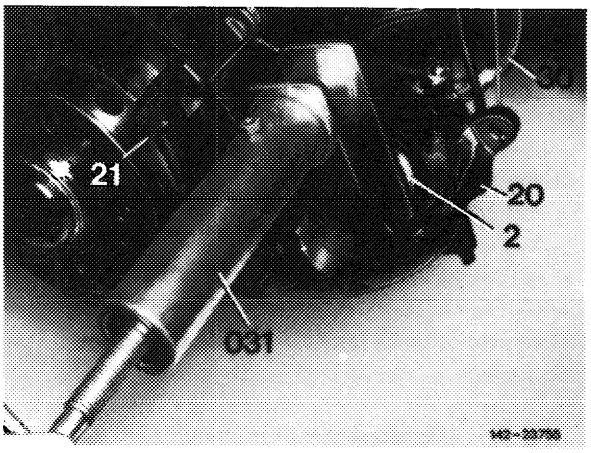
Note

Attention!
On vehicles with modified brake hose layout (brake hose holder on spring dome), 2nd version, **start of 1985, swing cylinder housing upward** for changing brake pad.

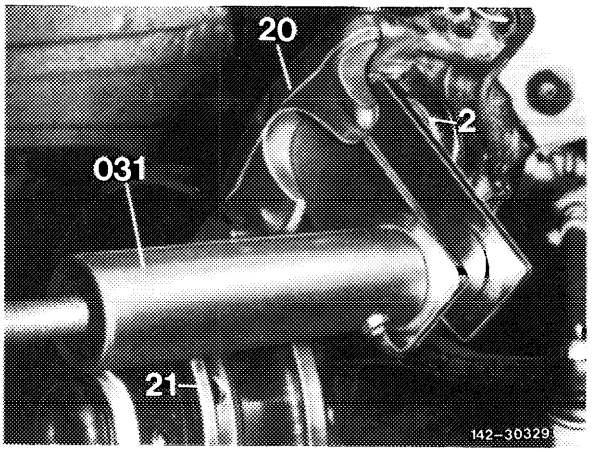
Replace brake pads when the lining is down to 3.5 mm or when greasy. Install only approved lining grades in sets.

Perform a high and a low-pressure test (40-015) if brake pads are excessively worn out.

To prevent canting of piston, piston may be pushed back to their end position by means of piston resetting device (031) only.



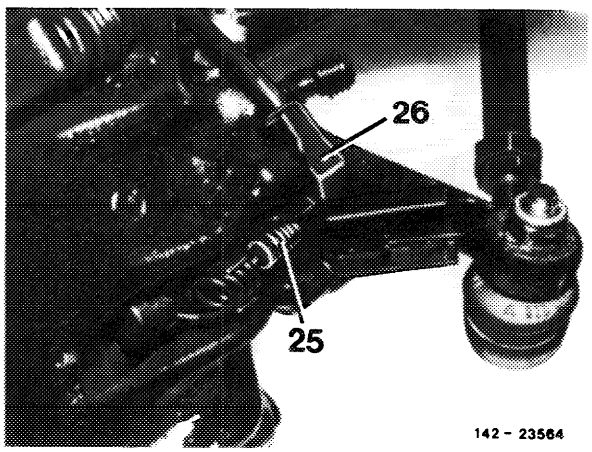
Brake hose layout 1st version



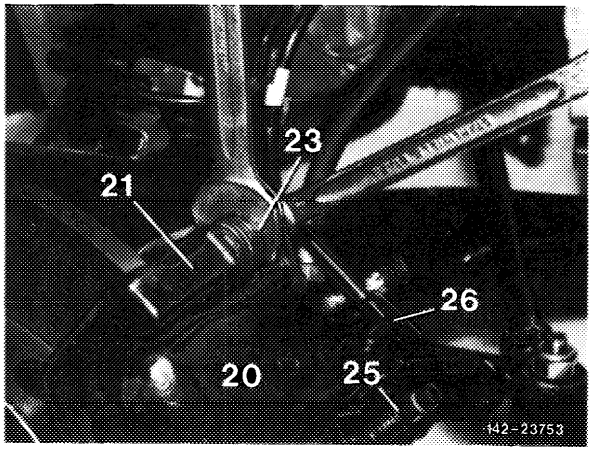
Brake hose layout 2nd version

Removal

1 Lift the two holding lugs attached laterally on cover of plug connection by means of a screw driver and open cover. Do not use force. Remove cable of clip sensor (25) from plug connection (26) on floating caliper and do not pull on cable.

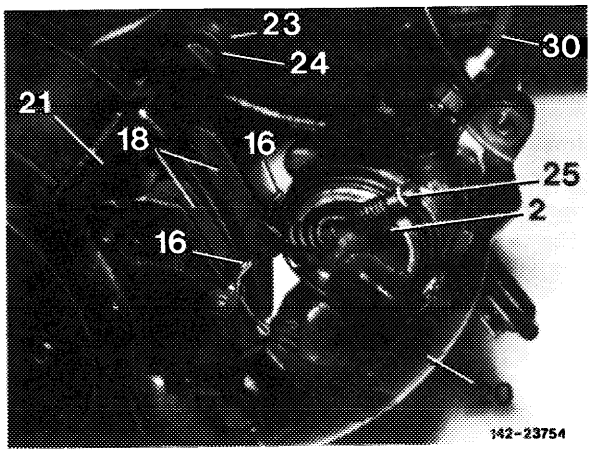


2 Unscrew upper hex. head screw while applying counterhold to sliding bolt (23).



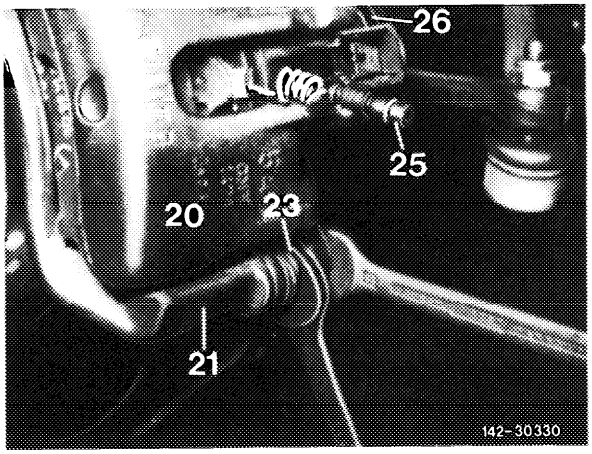
Brake hose layout 1st version

3 Swing cylinder housing (20) in downward direction and connect to torsion bar by means of a suitable hook. Remove both brake pads (18) from brake carrier (21).



Brake hose layout 1st version

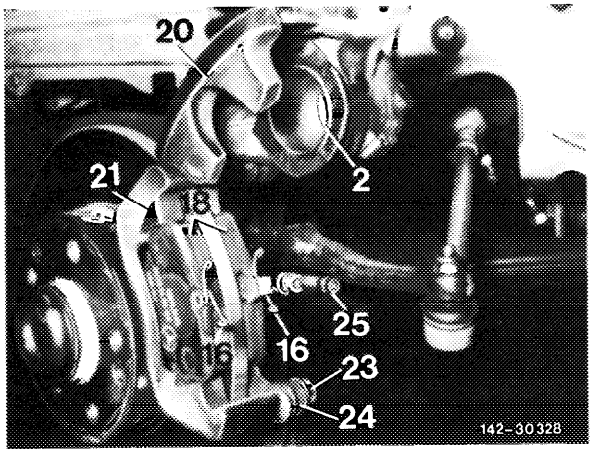
4 Unscrew lower hex. head screw while applying counterhold to sliding bolt (23).



Brake hose layout 2nd version

5 Swing cylinder housing (20) upward and hang up on wheelhouse with a suitable hook. Remove both brake pads (18) from brake carrier (21).

Attention!
After swinging cylinder housing in upward direction, make sure that the sliding bolts are not distorted. Never use cylinder housing for the purpose of changing the steering lock.

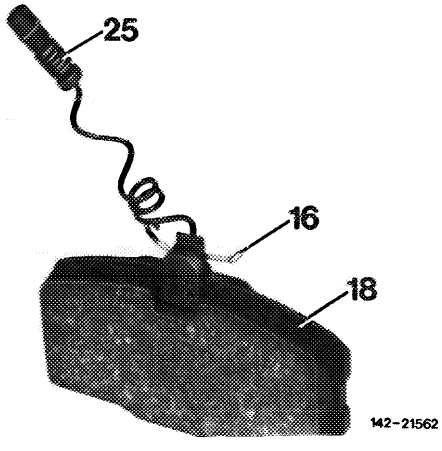


Brake hose layout 2nd version

6 Pull clip sensor (25) out of lining backup plate.

Note: On floating caliper wear limit indicator is on inner brake pad only.

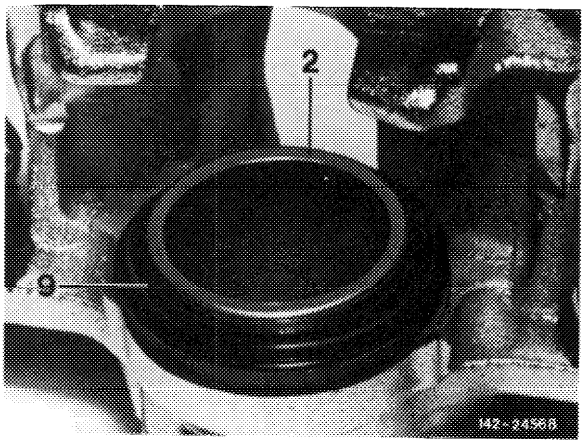
Attention!
Renew clip sensor on which the insulating layer of contact plate has been rubbed through or where damage on a part of sensor including line insulation shows up.



Note: If high brake pad wear shows up, check piston and slide bolt for easy operation. If piston is hard to move, recondition floating caliper.

Brake disks which are badly contaminated at braking surfaces by deposits from lining (indicated by gray or blue discoloration of brake surfaces), must be cleaned prior to installing new brake pads (42-260).

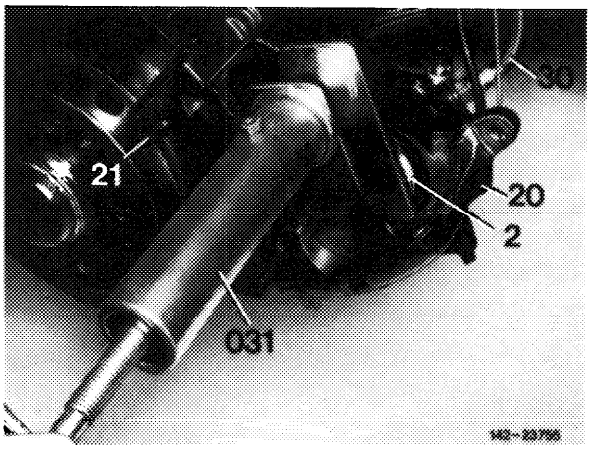
7 Clean contact surface of brake pads in brake carrier.



8 Check dust cap (9) for cracks. If dust cap is damaged, remove and disassemble floating caliper, since penetrating dirt will quickly lead to leaks in floating caliper.

9 To prevent overflowing of expansion tank when the piston is pushed back, draw some brake fluid from expansion tank.

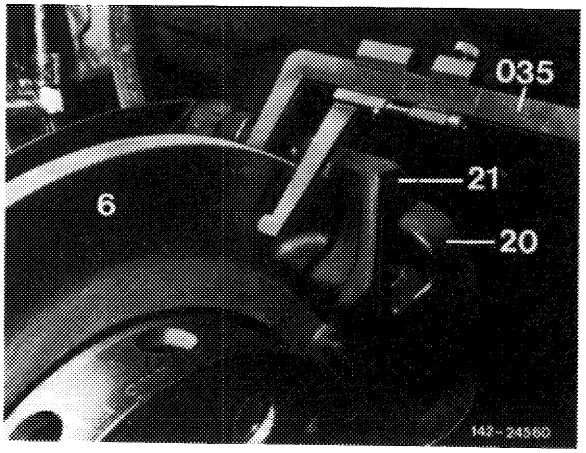
10 Push piston (2) back with resetting device (031).



11 Check air shafts of vented brake disks for contamination and clean air shafts, if required.

12 Measure thickness of brake disks. To make sure that up to next change of brake lining the wear limit is not less than specified, pay attention to limit dimension (refer to Data).

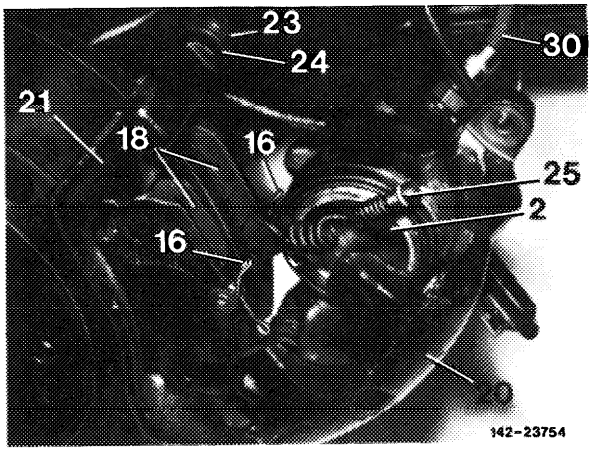
13 If the limit dimension is less than specified, renew brake disk (42–220).



Installation

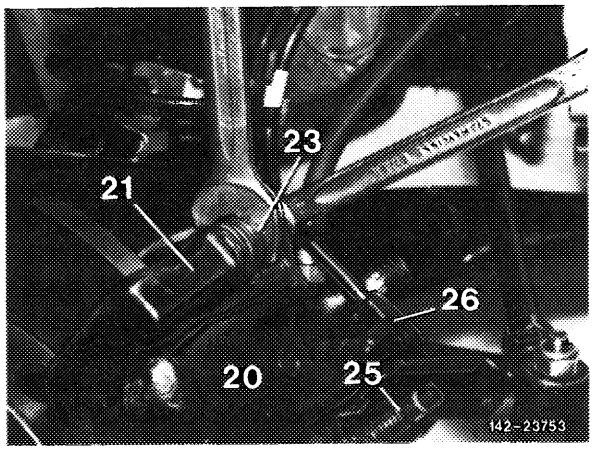
14 Insert both brake pads (18) into brake carrier (21) making sure that the spring clamp (16) is in parallel with upper edge of lining.

15 Insert clip sensor (25) into inner brake pad.



16 Fasten cylinder housing (20) with a new self-locking hex. head screw to brake carrier (21), while applying counterhold to sliding bolt (23). Tightening torque 35 Nm. Check bellows (24) for damage.

Note: Use self-locking hex. head screws only once.



17 Wind up cable of clip sensor (25) in spiral-shape and insert into plug connection (26) on floating caliper. Close cover of plug connection.

18 Operate brake pedal several times energetically until firm resistance is felt. Then check level of brake fluid in expansion tank and top up, if required.

Note: The new brake pads must be braked-in carefully, that is, brake vehicle several times from 80 to 40 km/h at low pedal pressure.

Prior to each deceleration, permit brake to cool slightly. Braking to a stop at high deceleration should be attempted only with run-in linings.

42–220 Removal and installation of brake disk on front axle

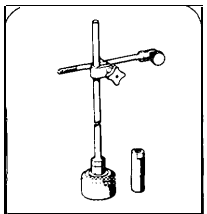
Data

Model	201.022/023/024 122/126	201.028/029 128	201.03
Thickness of brake disk	11	22	
Limit dimension during maintenance')	9.5	20	
Wear limit	9	19.4	
Brake disk dia.	262 ± 0.2		284 ± 0.2
Fitted bore dia.	67.07 67.00		
Lateral runout	max. 0.12		

[1]) Refer to Maintenance Manual Volume 2.

Tightening torque	Nm
Hex. head screw for fastening floating caliper to steering knuckle	115
Lock screw for fastening brake disk to front wheel hub	10

Special tools



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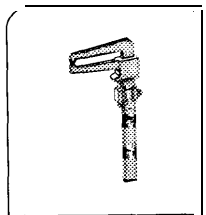

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Conventional tool

Dial gauge A 1 DIN 878	e.g. Mahr, D-7300 Esslingen order no. 810

Note

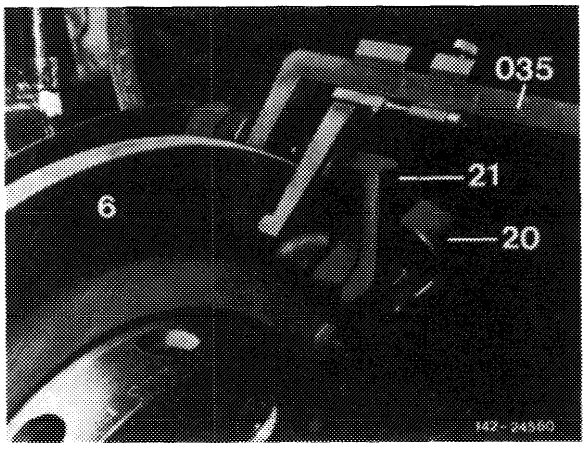
When checking brake disk, proceed as follows:

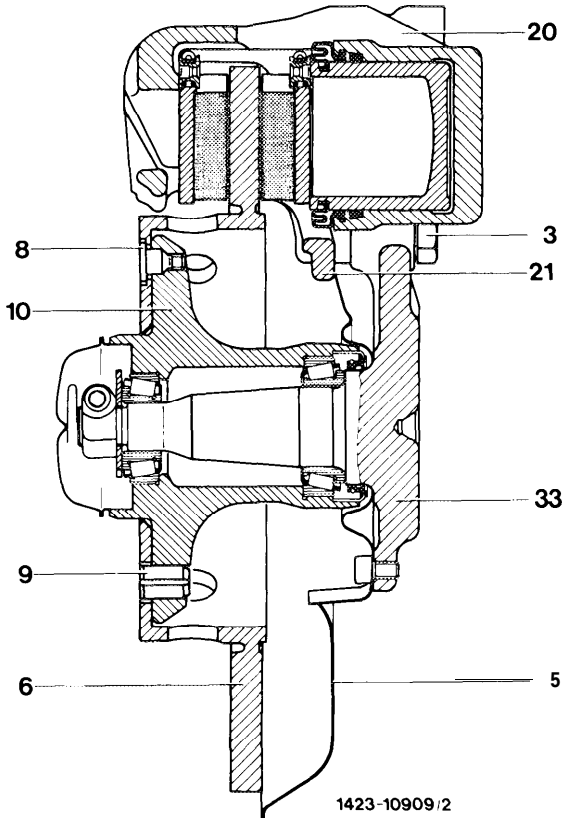
a) Measure thickness of brake disk between cover plate and floating caliper, or with brake pads removed, in shaft by means of slide gauge.

b) **Check visually.**

Vented brake disks with hairline cracks up to 25 mm length, caused by excessive stress, need not be renewed,

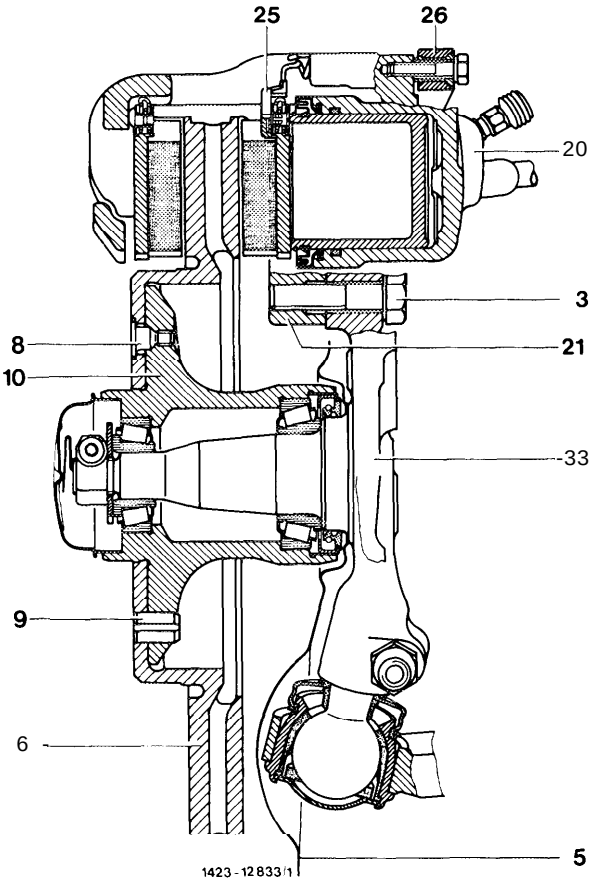
Brake disks with ruptured cracks, with score marks deeper than 0.15 mm and at end of wear limit, must be renewed.





Layout with solid brake disk

3 Self-locking hex. head screw
5 Cover plate
6 Brake disk
8 Lock screw
9 Clamping sleeve
10 Front wheel hub
20 Cylinder housing
21 Brake carrier
33 Steering knuckle



Layout with vented brake disk

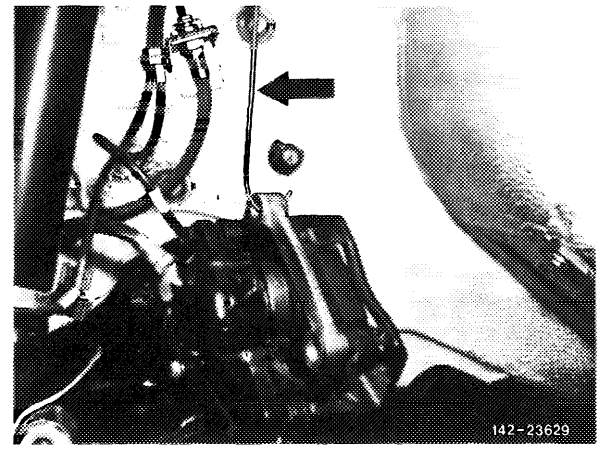
3 Self-locking hex. head screw
5 Cover plate
6 Brake disk
8 Lock screw
9 Clamping sleeve
10 Front wheel hub
20 Cylinder housing
21 Brake carrier
25 Clip sensor
26 Plug connection
33 Steering knuckle

Removal

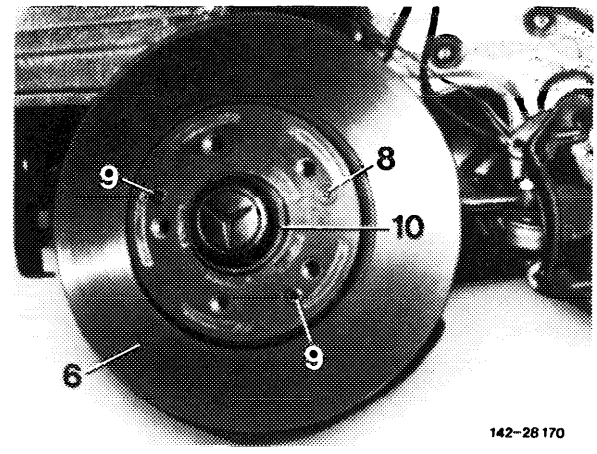
1 Unscrew hex. head screws (3) and remove floating caliper from steering knuckle (33).

2 Hang up floating caliper including brake hose in wheelhouse by means of a suitable hook.

Note: The hook is self-made. Brake hose should not undergo tensile stress.



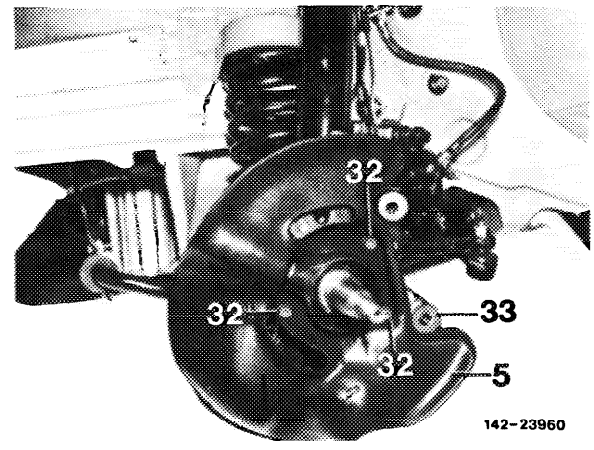
3 On vented brake disk and starting September 1984 on solid brake disk, unscrew lock screw (8) first, then remove brake disk (6) from wheel hub (10).



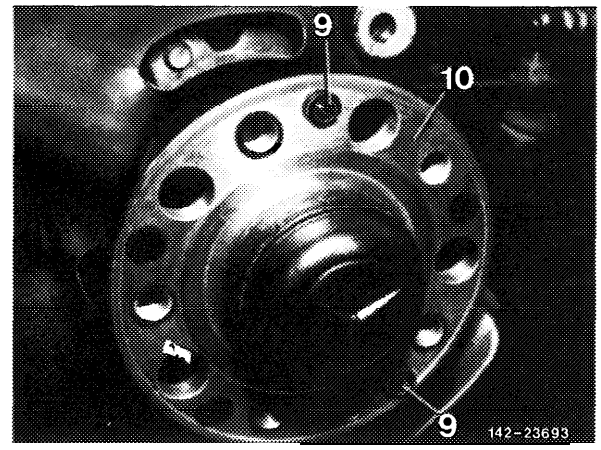
Installation

Note: Prior to installation of brake disk, remove rust, if any, on flange of brake disk and front wheel hub. Make sure that there is no burr at fitting point of brake disk. Check attachment of cover plate.

Replacement brake disks are protected against corrosion by means of nitro cellulose paint. Prior to installation, these brake disks must be cleaned with a solvent. Make sure that safety rules are observed.



4 Place brake disk on front wheel hub (10). Make sure that the two dowel sleeves (9) are perfectly seated in brake disk cup. Mount lock screw (8) and tighten to 10 Nm.



5 Fasten floating caliper with new self-locking hex. screws (3) to steering knuckle (33). Pay attention to perfect installation of brake hose (42–100).

Tighten hex. head screws to 115 Nm.

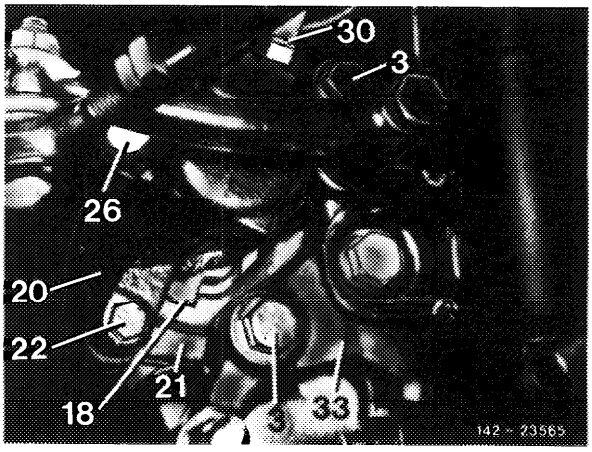
Note: Use self-locking hex. head screws only once.

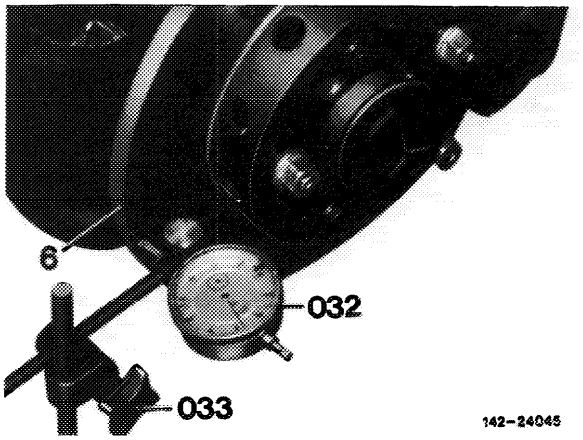
If the tightening torque of the new self-locking hex. head screws is very high, clean threads in floating caliper with a tap M 12 x 1.5 from residual glue of micro-encapsulated screws.

Prior to moving off, actuate brake pedal several times energetically to obtain the correct clearance between brake disk and brake pad. Then top up brake fluid supply in expansion tank of tandem main cylinder.

Note: If during the test drive (mainly after driving around a bend) a different pedal travel shows up, check wheel bearing end play of front wheel hubs and adjust, if applicable (33-300).
If required, measure lateral runout of brake disk at outer dia.

If lateral runout of brake disk is too high, displace brake disk on front wheel hub. Renew brake disk, if required.





42-228 Removal and installation of brake disk on rear axle

Data

Thickness of brake disk	9
Limit dimension during maintenance[1]	7.6
Wear limit	7.3
Disk dia.	258 ± 0.2
Fitted bore dia.	67.07 / 67.00
ID for parking brake	164 + 0.2
Lateral runout	max. 0.15

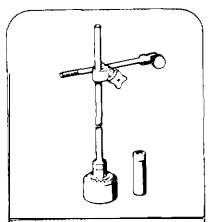
[1] **Refer to Maintenance Manual Volume 2.**

Lubricants

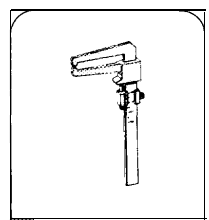
Molykote-Paste U	Molykote-Paste G Rapid	Liqui-Moly-Paste 36

Tightening torque	Nm
Hex. head screw for attaching fixed caliper to wheel carrier of rear axle	50
Lock screw for fastening brake disk to rear axle shaft flange	10

Special tools



363 589 02 21 00



126589001900

Conventional tool

Dial gauge A 1 DIN 878	e.g. Mahr, D-7300 Esslingen order no. 810

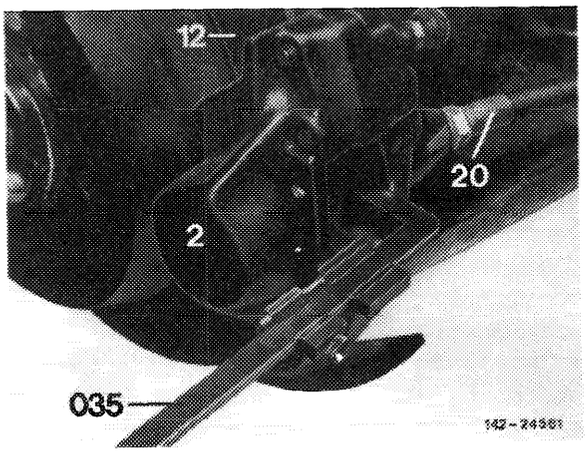
Note

When checking brake disk, proceed as follows:

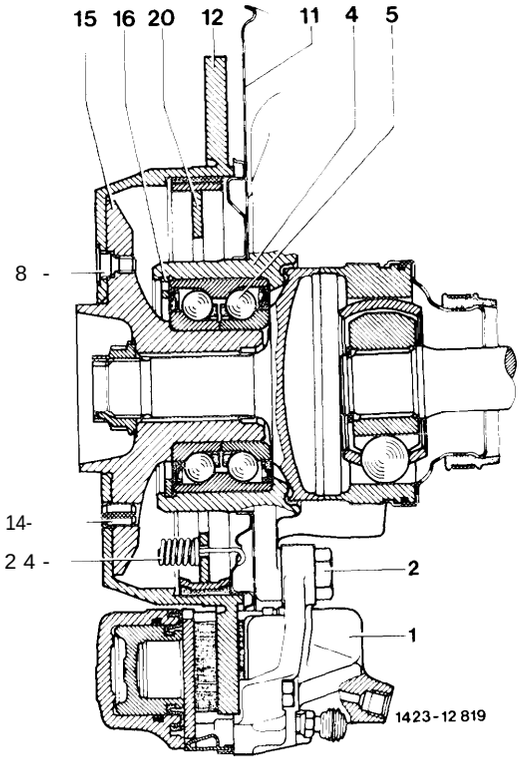
a) Measure thickness of brake disk between cover plate and caliper or with brake pads removed, in lining shaft with slide gauge.

b) Check visually.

If cracks are larger (not measurable), with score marks deeper than 0.5 mm and when attaining wear limit, renew brake disks.

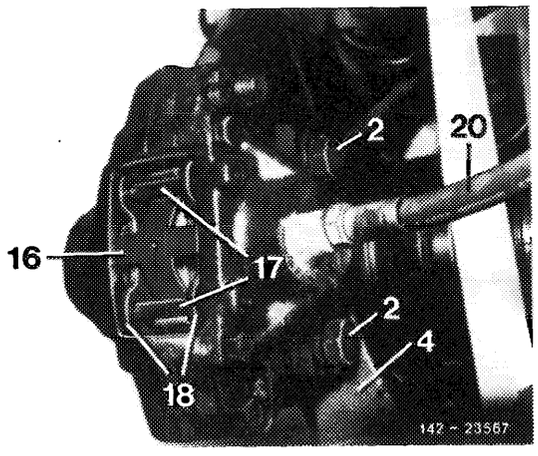


Removal



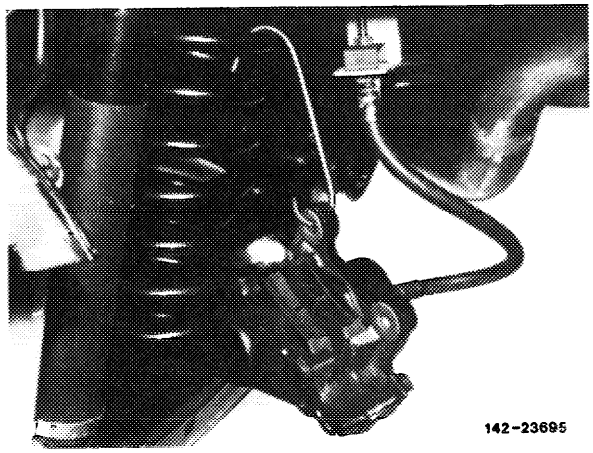
1 **Fixed caliper**
2 Self-locking hex. head screw
4 Wheel carrier
5 Two-row angular ball bearing
8 Lock screw
11 Cover plate
12 Brake disk
14 Fitted pin
15 Rear axle shaft flange
16 Locking ring
20 Brake shoes
24 Pressure spring

1 Unscrew hex. head screws (2) and remove fixed caliper from wheel carrier (4).



2 Hang up fixed caliper including brake hose with a suitable hook on spring.

Note: The hook is self-made. Do **not expose brake hose to tensile stress.**



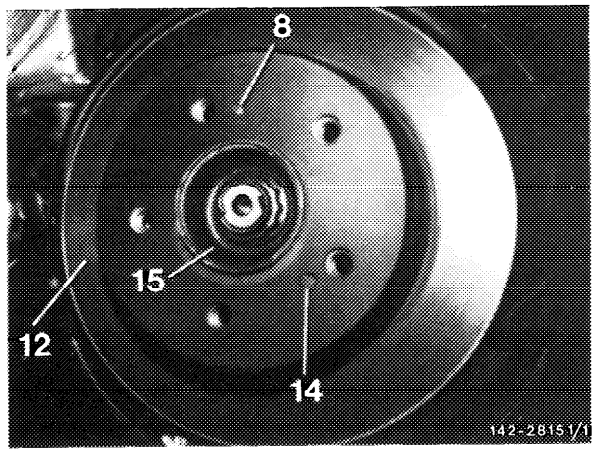
3 With lock screw (8) installed, unscrew this screw first, then remove brake disk (12) from rear axle shaft flange (15).

Loosen stuck brake disks by light blows with a plastic hammer from seat of rear axle shaft flange. Make sure that the parking brake is completely released.

Installation

4 Coat fitted seat of rear axle shaft flange with a heat-resistant long-term lubricant (Molykote-Paste "U", Molykote-Paste G Rapid, Liqui-Moly-Paste 36), so that the brake disk can be easily removed from rear axle shaft flange later on.

Note: Spare brake disks are protected against corrosion by means of nitro-cellulose paint. For this reason, these brake disks should be cleaned with a solvent prior to installation. Make sure that safety rules are observed.

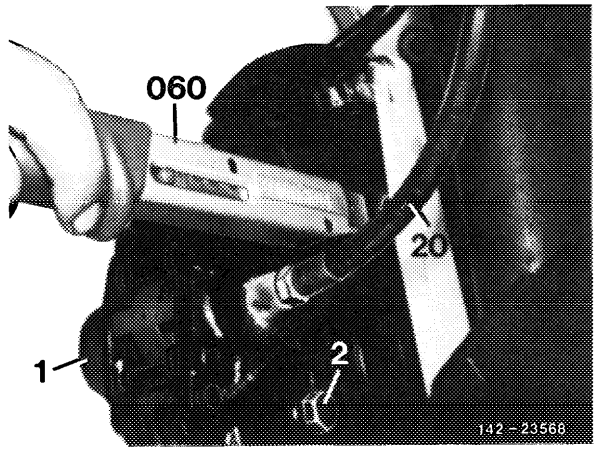


5 Place brake disk (12) on rear axle shaft flange. Make sure that the dowel pin (14) is correctly entering brake disk. Screw in lock screw (8) and tighten to 10 Nm.

6 Attach caliper with new self-locking hex. head screws to wheel carrier. Tighten hex. head screws to 50 Nm (42–120).

Note: Use self-locking hex. head screws M 10 x 22 only once.

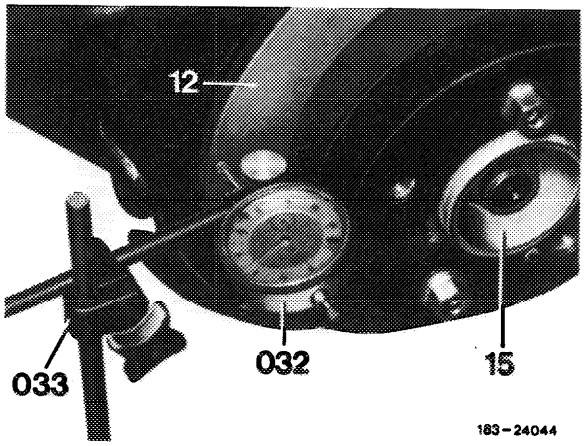
If the screw-in torque of the new self-locking hex. head screws is very high, clean threads in wheel carrier with a tap M 10 from residual glue of micro-encapsulated screws.



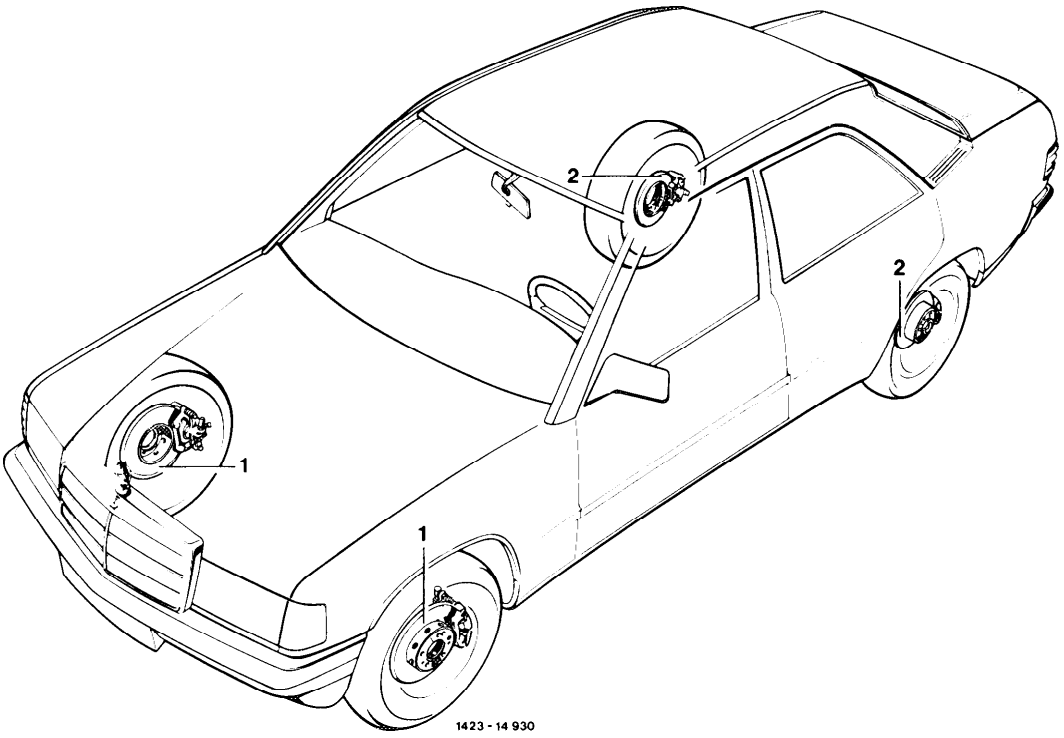
Attention!
Prior to moving off, actuate brake pedal several times energetically, to obtain the correct clearance between brake disk and brake pad. Then top up brake fluid supply in expansion tank of tandem main cylinder.

Note: If during a trial run (mainly after driving around bends) a different pedal travel is observed, measure lateral runout of brake disk at OD. Simultaneously, check rear axle shaft flanges for vertical and lateral runout (35-130).

If lateral runout of brake disk is too high, renew brake disk.

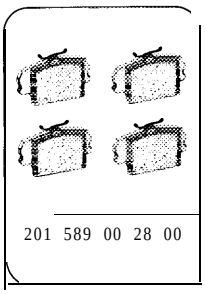


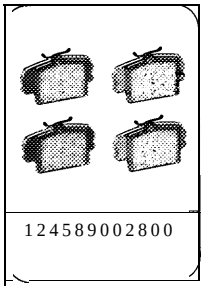
42–260 Cleaning brake disks

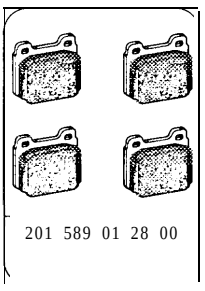


1 Brake disks of front axle	Cleaning pads 201 589 00 28 00 (95 mm wide) Cleaning pads 124 589 00 28 00 (110 mm wide)
2 Brake disks of rear axle.	Cleaning pads 201 589 01 28 00

Special tools







Note

When cleaning brake disks while driving, always provide only one axle with cleaning pads. Do not actuate brake in jerks, to make sure that the emery cloth cannot be pulled from cleaning pads.

Owing to their low speed and the resulting inadequate cleaning effect, drum-type and brake dynamometers are unsuitable for cleaning purposes.

Front axle

1 Remove brake pads (42—160).

2 Install cleaning pads 201 589 00 28 00 or 124 589 00 28 00 (050) on front axle only.

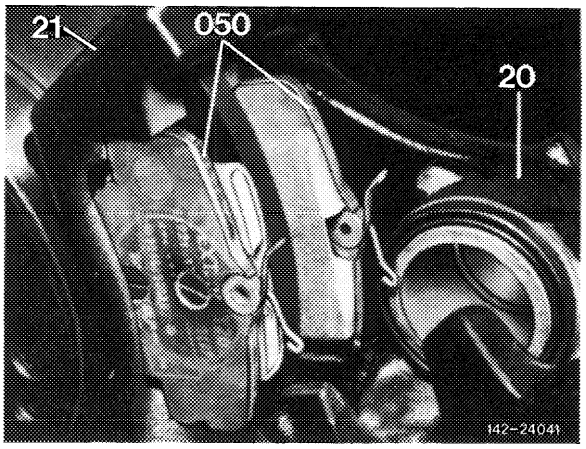
3 Clean brake disks,

a) Drive respective wheel with a suitable drive unit (e.g. finish balancer made by Hofmann) and press cleaning pads several times against brake disk under slight foot pressure against brake pedal.

b) Drive vehicle at a speed of approx. 30 km/h for a distance of 300 m while pressing cleaning pads several times quickly against brake disks under a slight foot pressure of approx. 50 N.

4 Remove cleaning pads.

5 Install brake pedals (42-160).

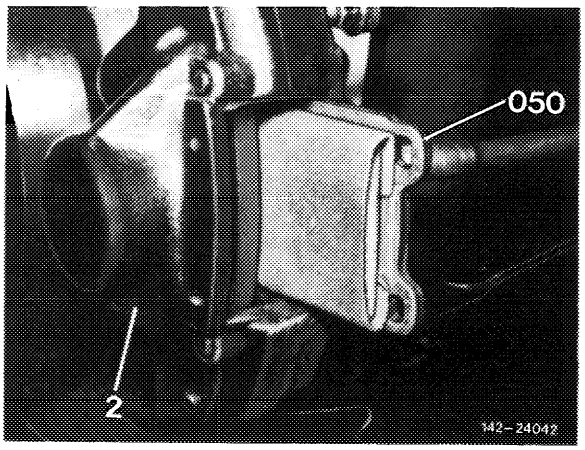


Rear axle

6 Remove brake pads (42-160).

7 Install cleaning pads 201 589 01 28 00 (050) at rear axle only.

Drive vehicle at a speed of approx. 30 km/h for a distance of 300 m while stepping against brake pedal at a low pedal pressure of approx. 50 N to force the cleaning pads for a short moment against the brake disks.



Attention!
With the vehicle jacked up, the rear wheels should never be driven by the engine or by means of another drive unit.

8 Remove cleaning pads.

9 Install brake pads (42—160).

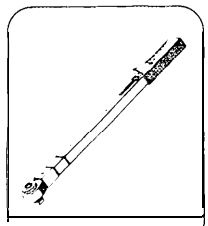
42-310 Removal and installation of stepped tandem main cylinder

Data

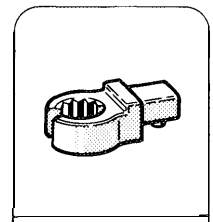
Model			201.023/024/028 122/126	201.029/034/128
Cylinder dia.	Pushrod circuit	Inch	7.8	15/16
		mm	22.20	23.81
	Floating circuit	Inch	11/16	3/4
		mm	17.46	19.05

Tightening torques	Nm
Hex. nuts for fastening main cylinder to brake unit	15
Coupling nut of brake line on main cylinder	10

Special tools



001 589 72 21 00



000 589 75 03 00

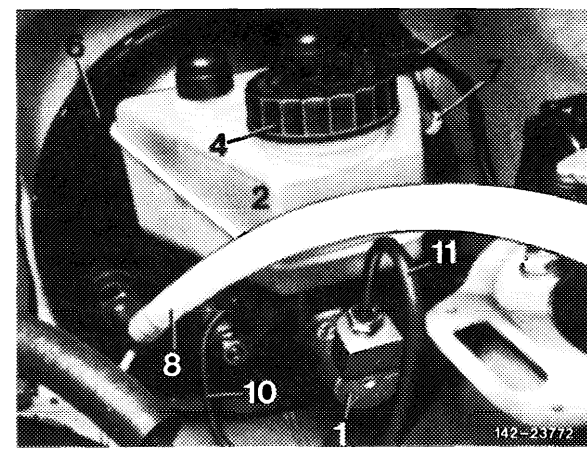
Conventional tool

Open double-box wrench 9 x 11 mm	e.g. Hazet, D-5630 Remscheid order no. 6 12

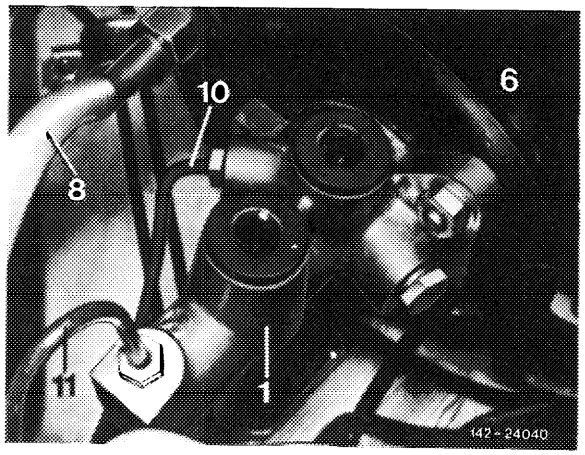
Note

During removal and installation of tandem main cylinder note the following:

Push brake line (11) slightly sideways. Remove and install tandem main cylinder in axial direction to push rod in brake carrier. Do not tilt tandem main cylinder, since-otherwise the push rod will be forced out of its axial position and may brake out of holding lugs on control member.



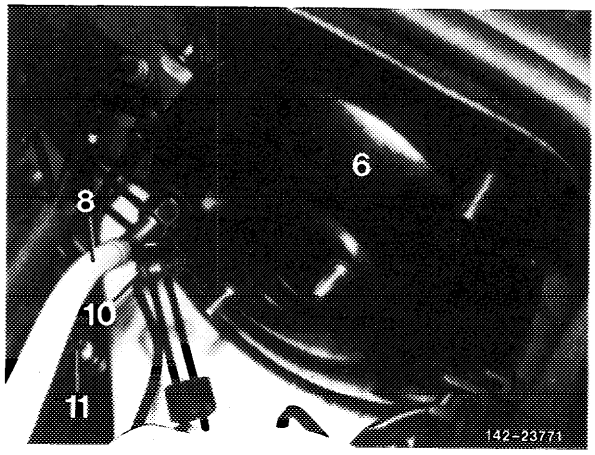
For loosening and tightening brake lines use conventional open double-box wrench or open box wrench element only.



Removal

1 Pump out brake fluid via an open bleeder plug of front axle and rear axle brake circuit. Make sure that all chambers of expansion tank are drained.

2 Loosen plug connection (3) on contact element of warning device, lifting holding lugs with a small screw driver for this purpose. On vehicles with manual transmission, remove connecting hose on connection (7) to master cylinder.



3 Remove expansion tank from tandem main cylinder.

4 Disconnect brake lines to front and rear wheel brake on tandem main cylinder.

Immediately close all brake lines with rubber caps and connections on tandem main cylinder with blind plugs.

5 Loosen tandem main cylinder on brake unit and remove, paying attention to sealing ring located in groove in flange of tandem main cylinder.

Attention!

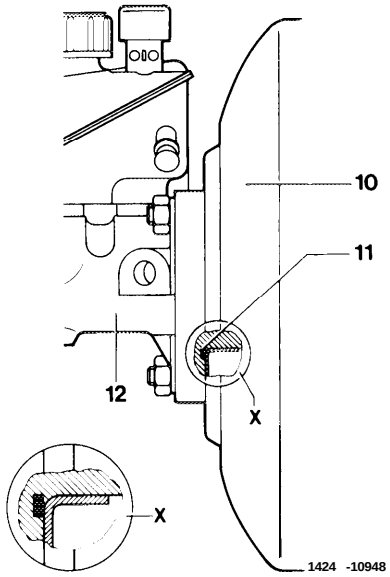
In the event of a loss of brake fluid, which cannot be observed visually, check whether brake fluid has entered the brake booster through a leaking secondary seal in tandem main cylinder. If so, proceed as follows:

1. Do not remove brake booster.

2. Draw off brake fluid.

3. Change brake booster if there are more than 100 cc of brake fluid in unit.

Note: The flexible diaphragm is resistant to brake fluid, while the reaction disk and the plate valve in control member are not. For this reason, draw off brake fluid only with the brake booster installed. With the brake booster installed, no brake fluid can reach the reaction disk or the plate valve up to 100 cc.



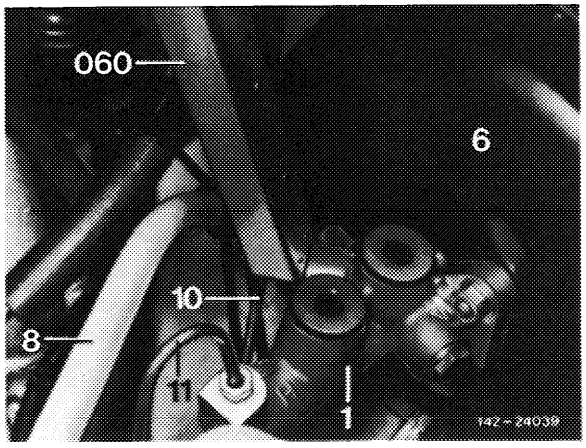
Installation

Attention!
Always renew sealing ring between tandem main cylinder and brake booster, since the connection must be **absolutely** sealtight.

6 Insert sealing ring (11) into groove of tandem main cylinder **(12)** and fasten main cylinder to brake unit (10). Tighten hex. nuts to 15 Nm.

7 Connect brake lines on tandem main cylinder. For this purpose, use torque wrench 001 589 72 21 00 with open box end element 000 589 75 03 00.

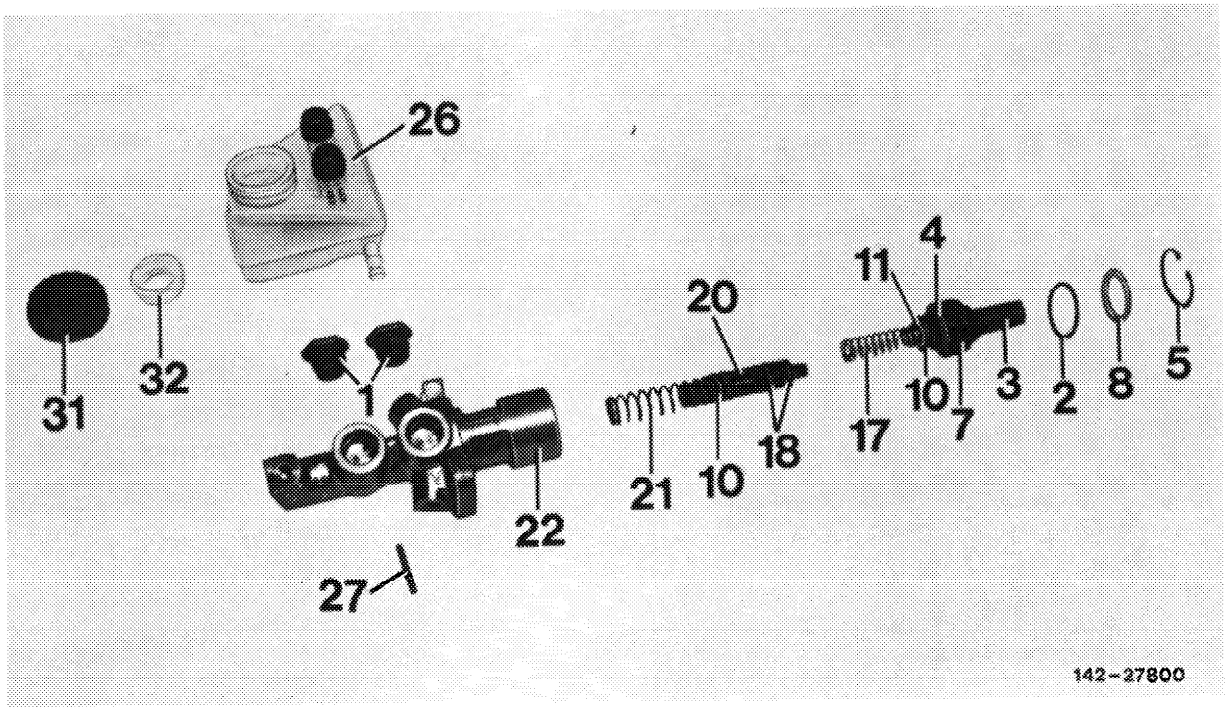
Tightening torque 10 Nm.



8 Install expansion tank and fill with brake fluid. Make sure that all chambers are completely filled with brake fluid.

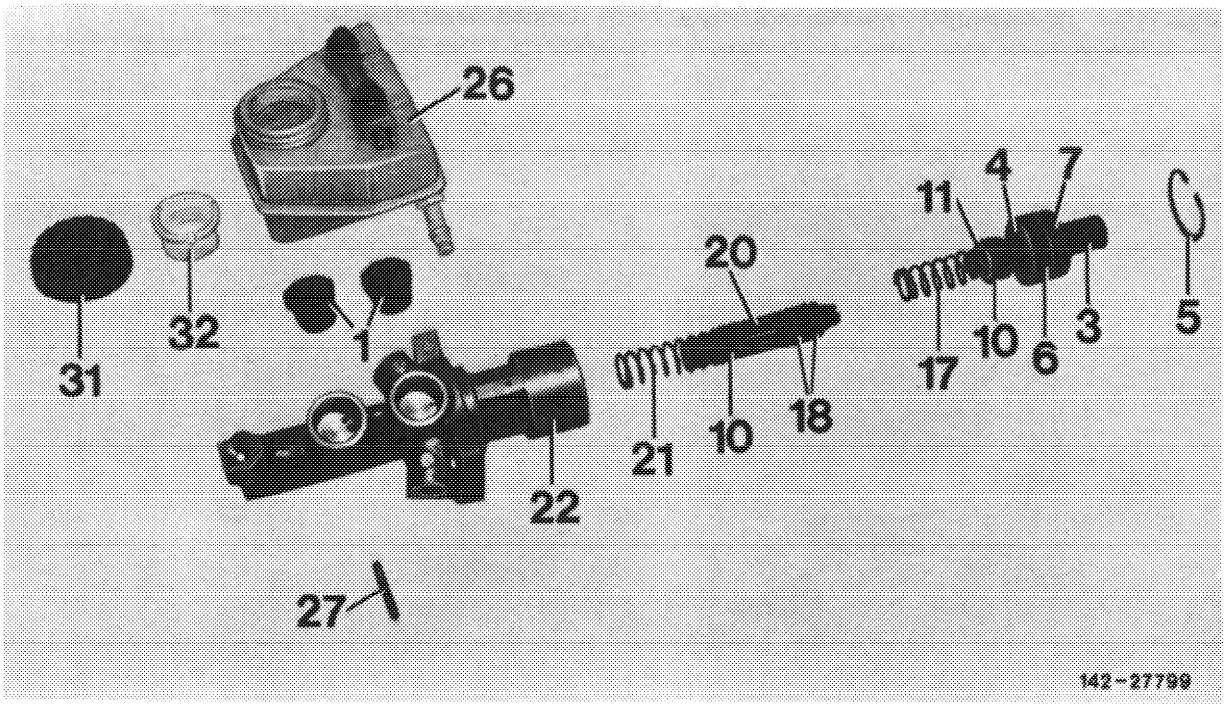
9 Connect plug connection on contact element of warning device.

10 Bleed brakes and check for leaks (42-010 and 42–015).



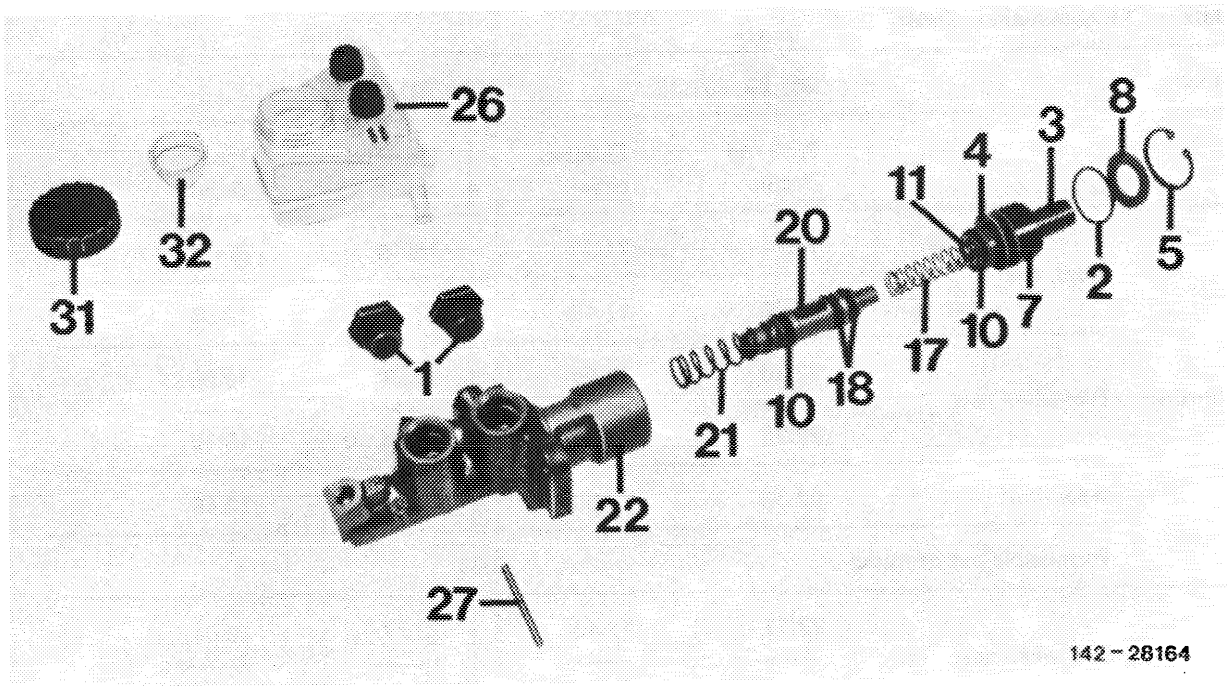
Girling tandem main cylinder

1	Tank plug	
2	O-ring.	Renew
3	Piston (push rod circuit)	Renew
4	Stop washer	
5	Locking ring	**Pay** attention to correct seat
7	Bushing	Renew
8	Stop washer	
10	Primary sleeve	Renew
11	Supporting ring	
17	Compression spring	**Renew**
18	Separating sleeve	Renew
20	Piston (floating circuit)	Renew
21	Compression spring	Renew
22	Housing	Pay attention to score marks
26	Expansion tank	Clean
27	Cyl. pin	
31	Cover	
32	Strainer	**Clean**



Bendix tandem main cylinder

1	Tank plug	
3	Piston (push rod circuit)	Renew
4	Stop washer	
5	Locking ring	Pay attention to correct seat
6	Secondary sleeve	Renew
7	Bushing	Renew
10	Primary sleeve	Renew
11	Supporting ring	
17	Compression spring	Renew
18	Separating sleeve	Renew
20	Piston (floating circuit)	Renew
21	Compression spring	Renew
22	Housing	Pay attention to score marks
26	Expansion tank	Clean
27	Cyl. pin	
31	Cover	
32	Strainer	Clean



Teves tandem main cylinder

1	Tank plug	
2	O-ring.	Renew
3	Piston (push rod circuit)	Renew
4	Stop washer	
5	Locking ring	Pay attention to correct seat
7	Bushing	Renew
8	Stop washer	
10	Primary sleeve	Renew
11	Supporting ring	
17	Compression spring	Renew
18	Separating sleeve	Renew
20	Piston (floating circuit)	Renew
21	Compression spring	Renew
22	Housing	Pay attention to score marks
26	Expansion tank	Clean
27	Cyl. pin	
31	Cover	
32	Strainer	Clean

Data **Tandem main cylinder**

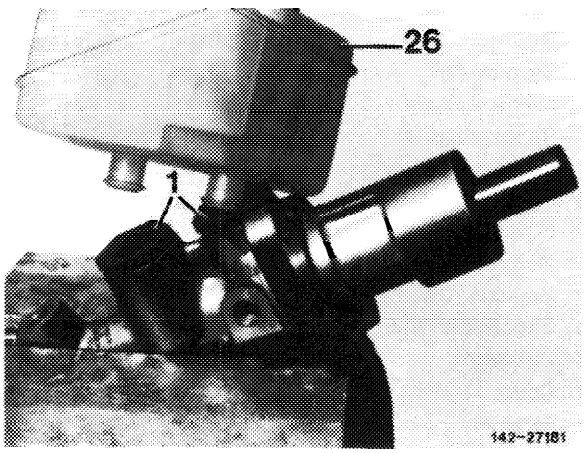
Model			201.02, 201.12		201.03	
			Push rod circuit	Floating circuit	Push rod circuit	Floating circuit
Housing	Nom. dia.	Inch	7/8	11/16	15/16	3/4
		mm	22.20	17.46	23.81	19.05
	Dia. when new		22.20 — 22.26	17.45 — 17.50	23.81 — 23.86	19.05 — 19.10
	Wear limit		22.30	17.56	23.92	19.16
	Permissible out-of-round		0.03			
Piston	Dia. when new		22.17 — 22.12	17.43 — 17.35	23.77 — 23.72	19.01 — 18.96
	Wear limit		22.05	17.33	23.66	18.90
	Clearance		0.02-O. 15			
	Stroke		17	15	16.8	16.2

Note

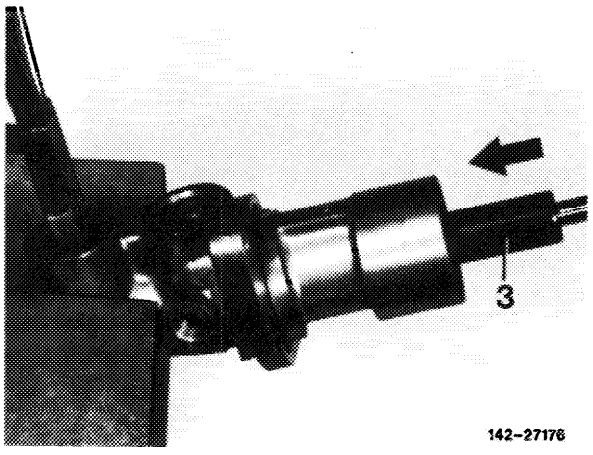
Repair sets and housings from different manufacturers can be optionally used.

Disassembly

1 Pull expansion tank and then tank plug out of tandem main cylinder.

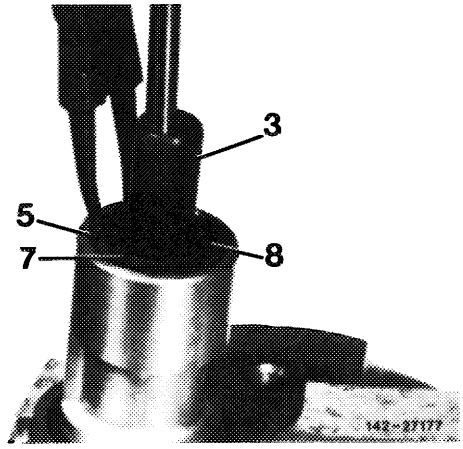


2 Slightly push in piston (3) by means of a mandrel and pull cyl. pin (27) out of housing with suitable pliers.



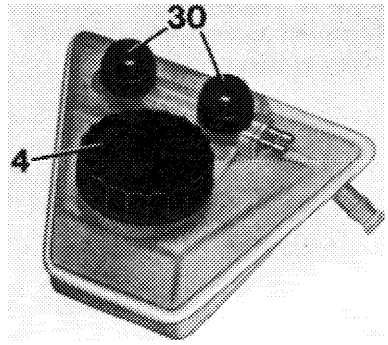
3 Take locking **ring** (5) out of housing, then remove piston (3) together with secondary sealing pack out of housing.

4 Knock out complete piston for floating circuit by means of light blows against housing.



5 Unscrew closing cover (4) and remove strainer.

Note: The contact element (30) cannot be removed.



142-23958

Checkup

6 Clean all parts thoroughly with new brake fluid, making sure that all residue is flushed out of housing and expansion tank.

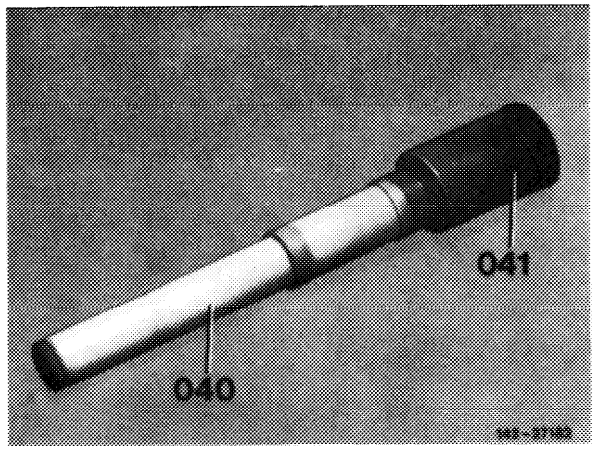
7 Check bore in housing for score marks and damage.

Do not refinish scored or damaged housings.

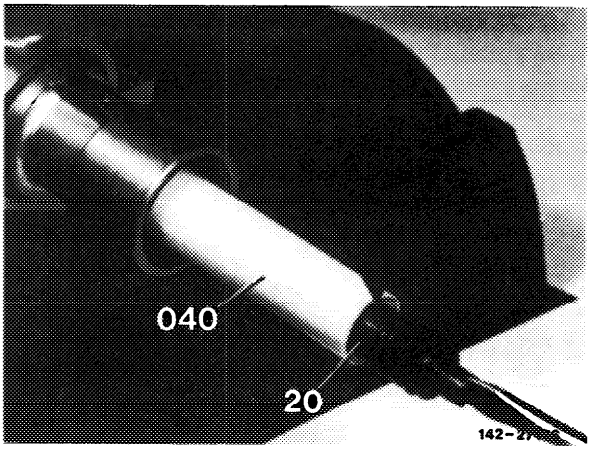
Assembly

8 Slightly rub bore of housing with brake cylinder paste.

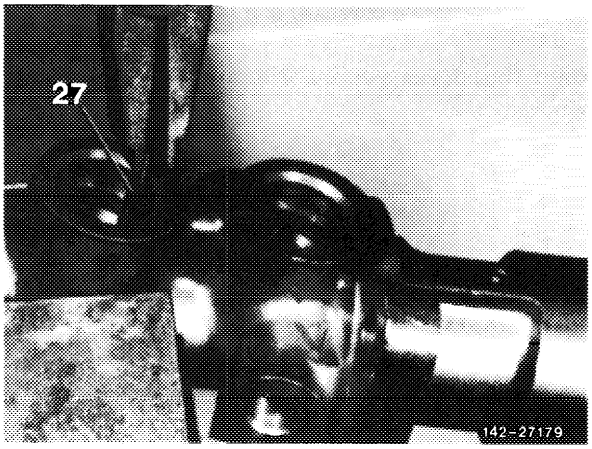
9 Separate packing sleeves. Remove sealing pack and piston for push rod circuit from sleeve (041).



10 Clamp housing slightly tilted with bore in downward direction. Slip sleeve (040) together with floating piston by means of a screwdriver up to stop into housing. Make sure that the guide slot in piston (refer to arrow) is vertical. Position of piston can be corrected as required with screwdriver.

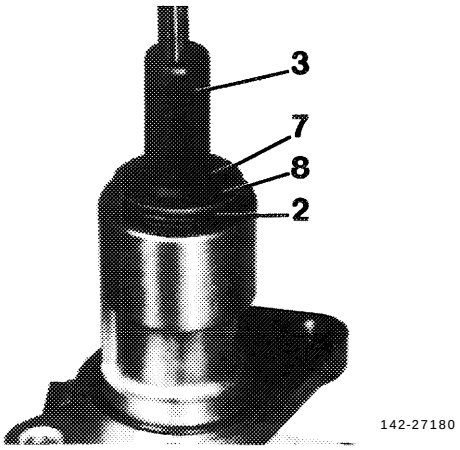


11 Hold piston in place with mandrel. Slip cyl. pin (27) with chamfer first into bore up to stop. The cyl. pin should project no more than 2-3 mm. Remove mandrel and sleeve.

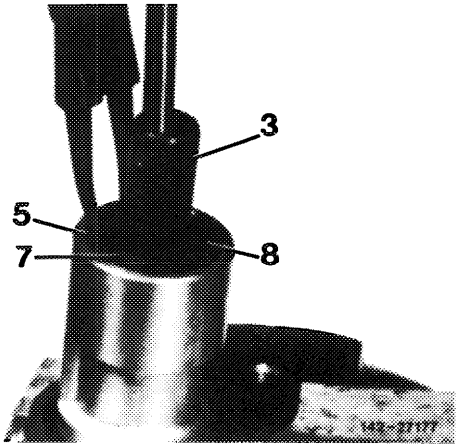


12 Clamp tandem main cylinder in such a manner that the cylinder bore is pointing upward.

13 Introduce secondary seal pack together with push rod piston into cylinder housing and push downward by means of mandrel.



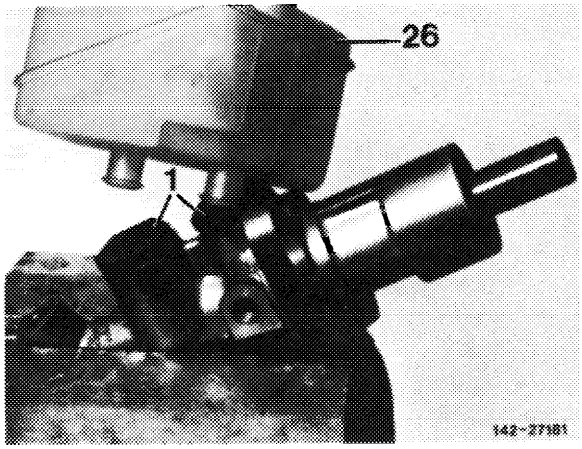
14 Hold piston in place and mount locking ring (5). Make sure that the ring is correctly seated in groove of housing.



15 Clamp tandem main cylinder in horizontal position. Insert straliner into tank and screw on closing cover.

16 Rub tank plug (1) lightly with brake cylinder paste and push into housing.

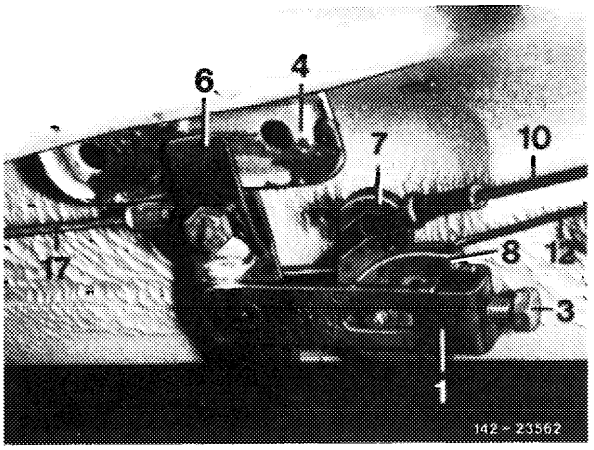
17 Insert expansion tank (26) first with one pipe connection into housing, rotate by 180° and then push second pipe connection into housing. Make sure of perfect seat.



42-510 Removal and installation of parking brake lever

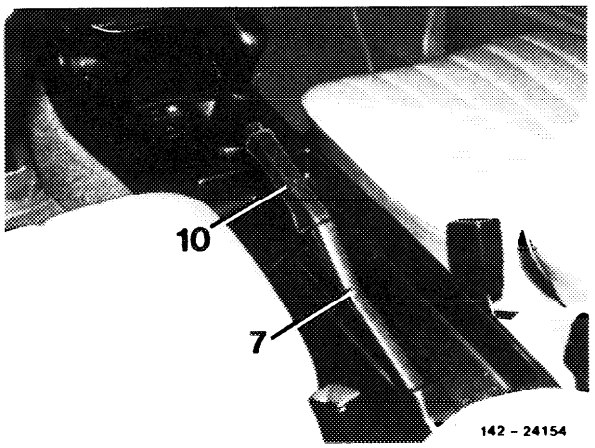
Removal

1 Disconnect return spring (12) on cable control compensation.



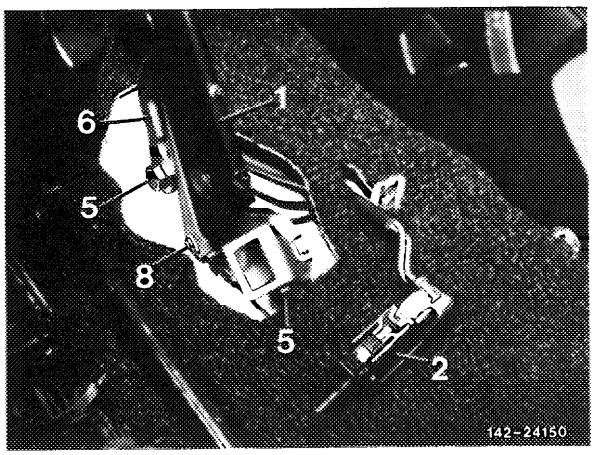
2 Pull-off handle (10) and remove lining (7) from lever.

3 Remove center console.

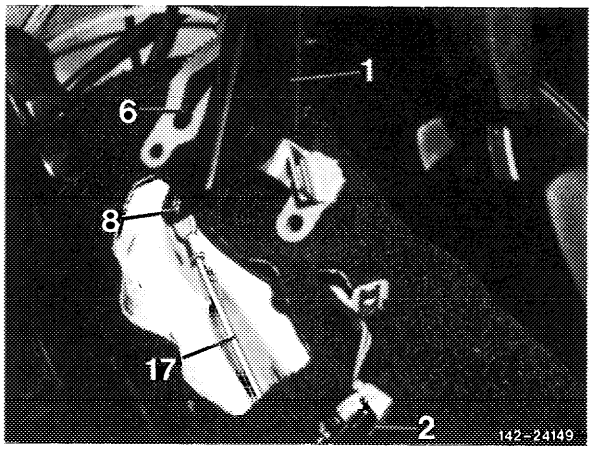


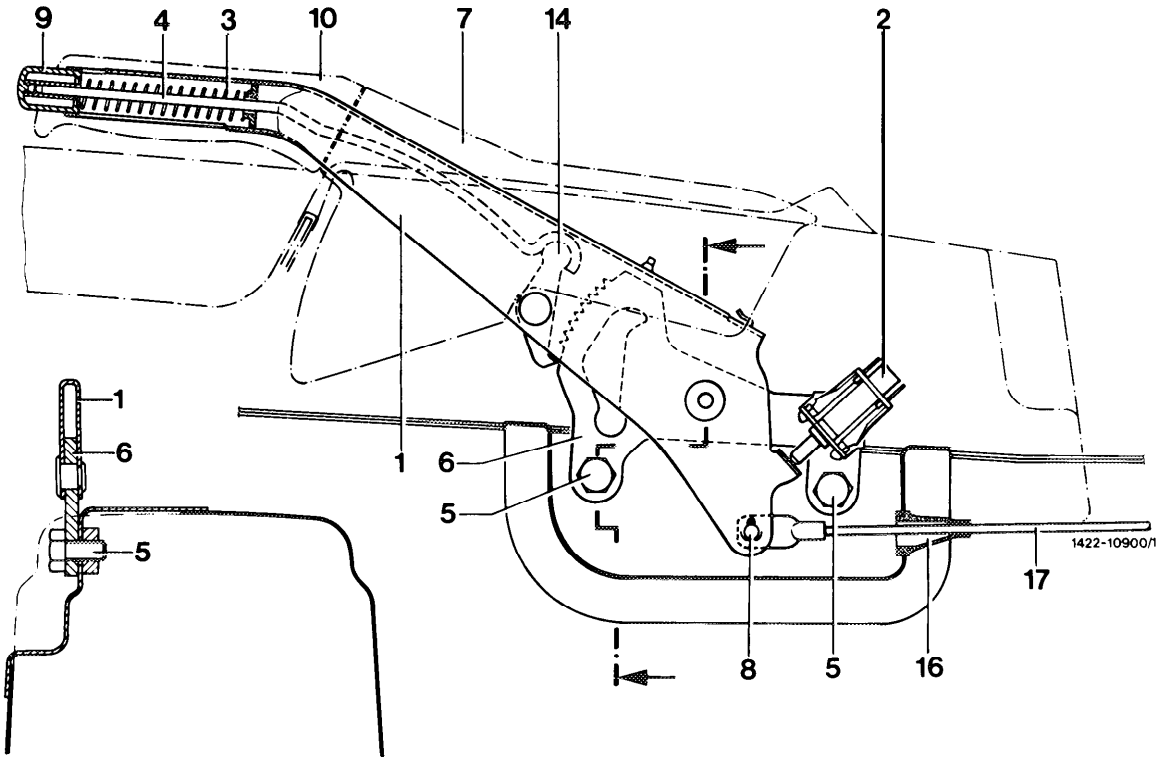
4 Remove switch for warning lamp (2).

5 Loosen hex. screws (5) and remove lever (1).



6 Remove flange bolt (8) and take off brake cable (17).





1 Lever
2 Switch
3 Spring
4 Pawl rod
5 Hex. head screw
6 Detent curve
7 Lining
8 Flange bolt
9 Push button
10 Handle
14 Locking pawl
16 Rubber grommet
17 Front brake cable

7 Attach brake cable (17) with flange bolt (8) to lever (1). Cotter flange bolt.

8 Fasten lever (1) with both hex. head screws (5) to propeller shaft tunnel.

9 Install switch for warning lamp (2).

10 Install center console.

11 Install lining (7) and handle (10).

12 Attach return spring (12) to cable control compensation.

13 Adjust parking brake (42–540).

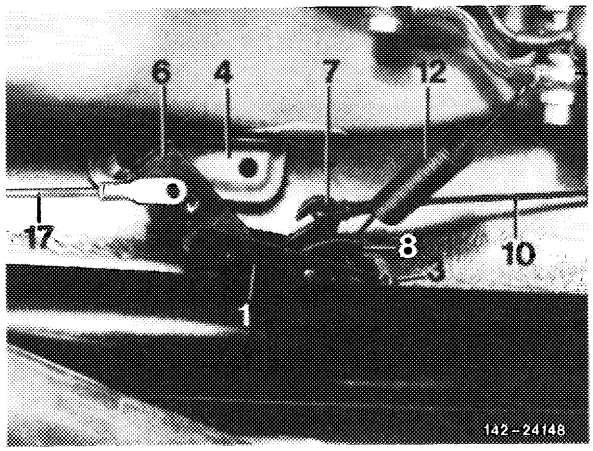
Removal

1 Disconnect return spring (12) on cable control compensation.

2 Unscrew hex. head screw by means of which the brake cable (17) is fastened to intermediate lever (6) and remove brake cable.

3 Remove lever of parking brake (42–510).

4 Loosen brake cable (17) on lever (1) and pull out toward the rear through frame floor.



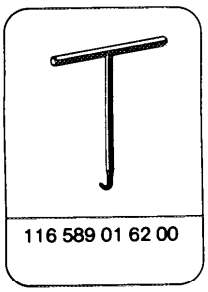
Installation

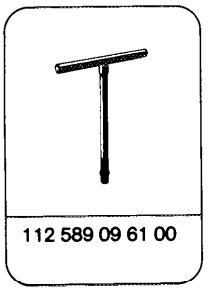
5 Guide brake cable (17) through frame floor and insert rubber grommet into frame floor.

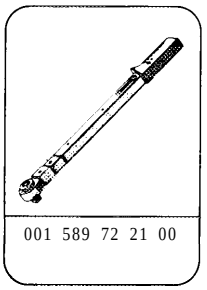
For further installation proceed vice versa.

6 Adjust parking brake (42–540).

Special tools







Removal

1 Remove brake shoes of parking brake (42–530).

2 Unscrew hex. head screw (25) from wheel carrier (4) and remove brake cable control (10).

3 Disconnect return spring (12) from holder (14).

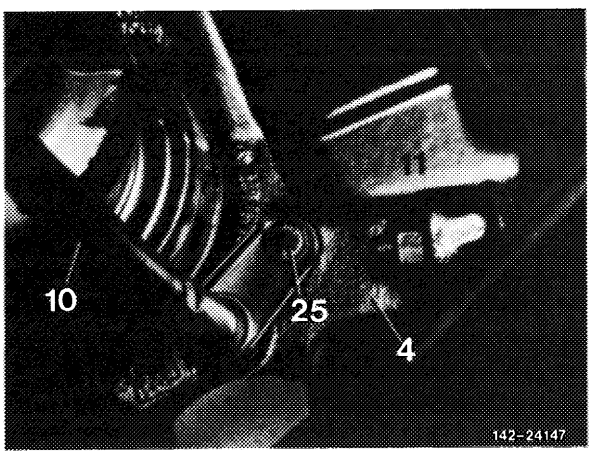
4 Screw back adjusting screw (3) of adjusting bracket (1).

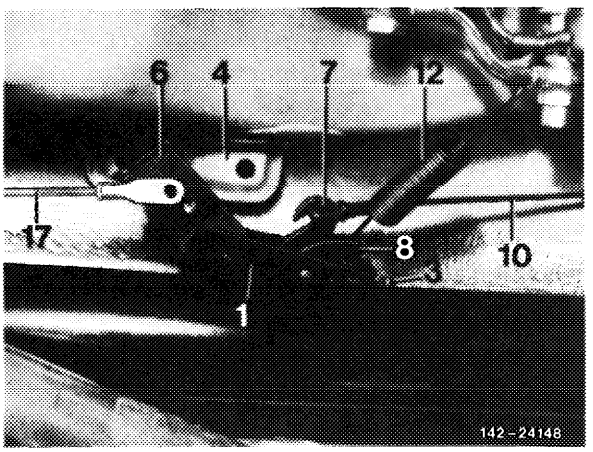
5 Remove front brake cable (17) from intermediate lever (6).

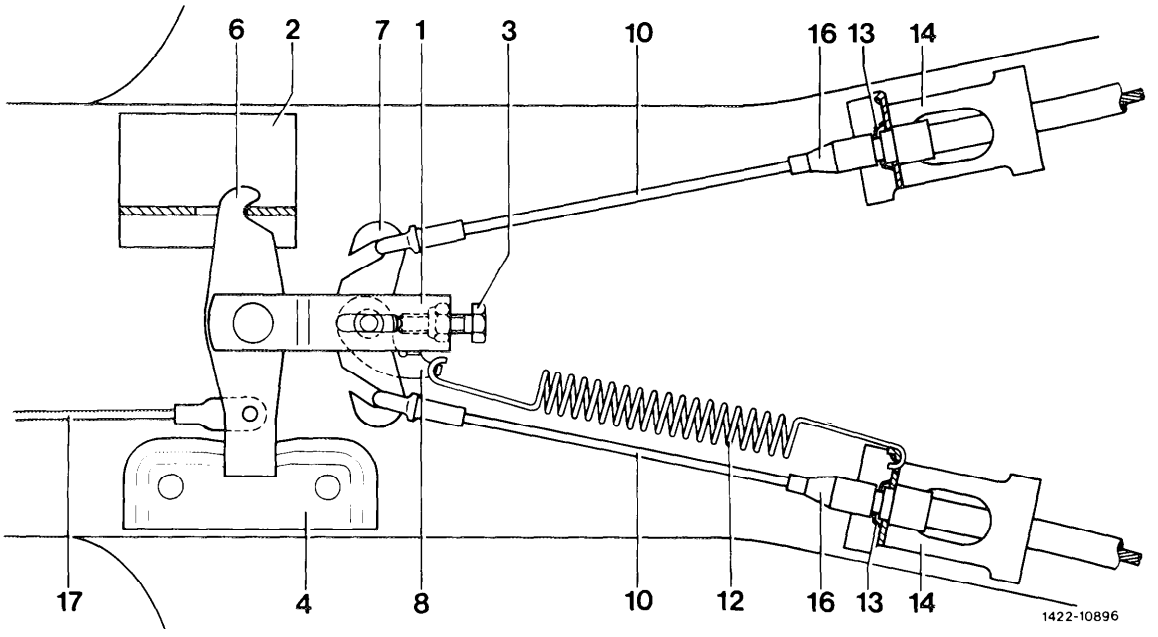
6 Disconnect intermediate lever (6) on bearing of frame floor (2).

7 Disconnect brake control (10) from compensating lever (7).

8 Remove spring clamp (13), remove cable control (10) from holder (14).







1 Adjusting bracket
2 Bearing on frame floor
3 Adjusting screw
4 Guide for intermediate lever
6 Intermediate lever
7 Compensating lever
8 Spring clip
10 Rear brake cable control
12 Draw spring
13 Spring clamp
14 Holder for rear brake cable control
16 Rubber grommet
17 Front brake cable control

Installation

Note: During reinstallation, make sure that the rubber grommets (16) are not damaged, so that no dirt can enter cable guide.

9 Pay attention to perfect installation of brake cable control in rubber grommet of holder on rear axle carrier.

10 Fasten brake cable control to wheel carrier (4).

11 Attach brake cable control to compensating lever (7). Secure brake cable control to holder (14) by means of spring clamp (13).

12 Connect intermediate lever (6) and install front brake cable (17). Attach return spring (12).

13 Install brake shoes (42–530).

14 Adjust parking brake (42–540).

42-530 Removal and installation of brake shoes of parking brake

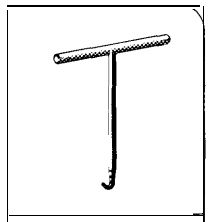
Data

Brake shoe dia.	164-0.2
ID of brake disk	164 + 0.2
Brake shoe width	20

Lubricants

Molykote-Paste U	Molykote-Paste G Rapid	Liqui-Moly-Paste 36

Special tools



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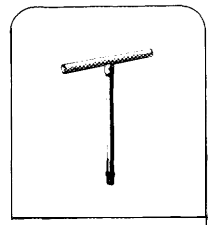

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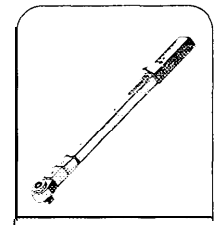
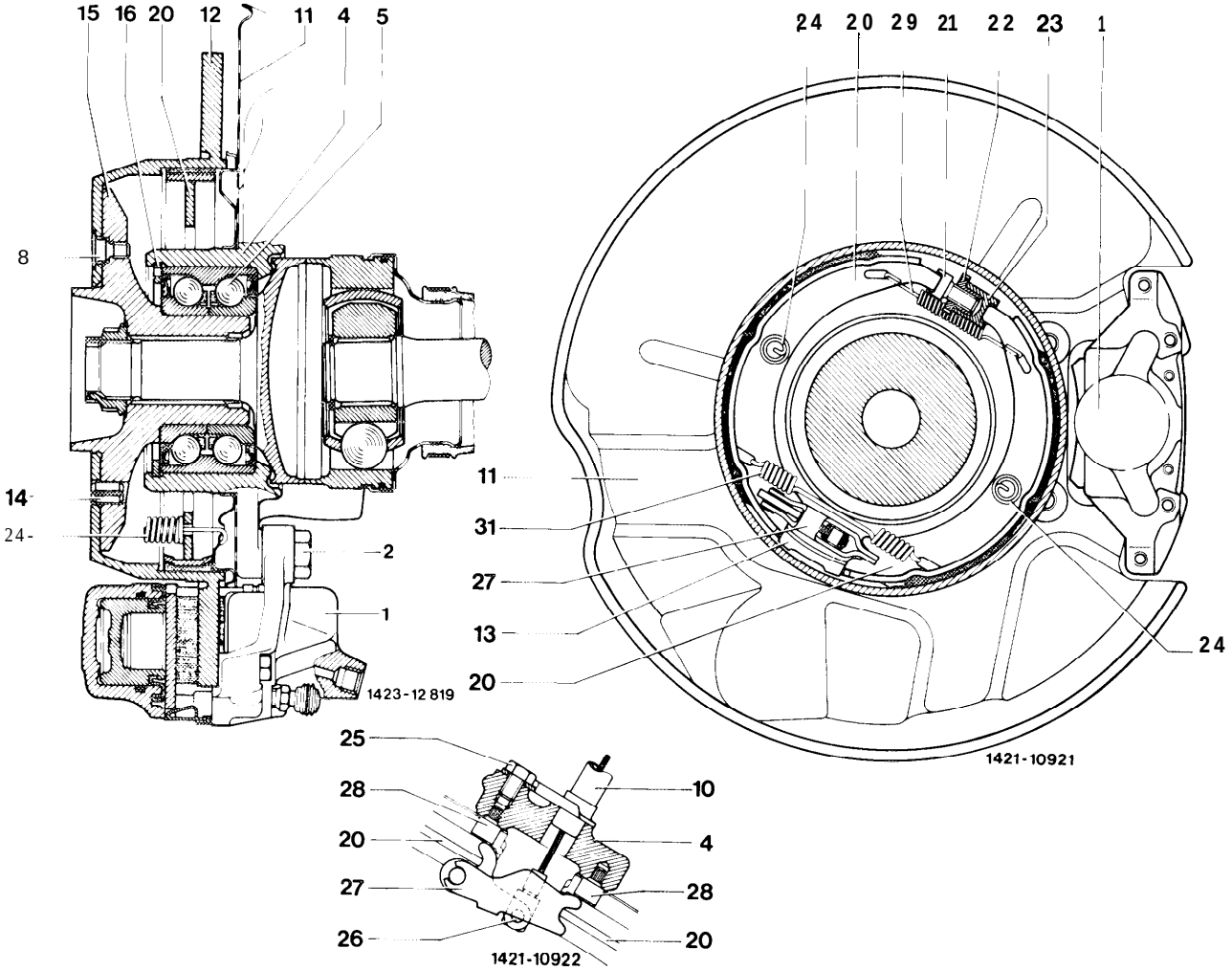


001 589 72 21 00



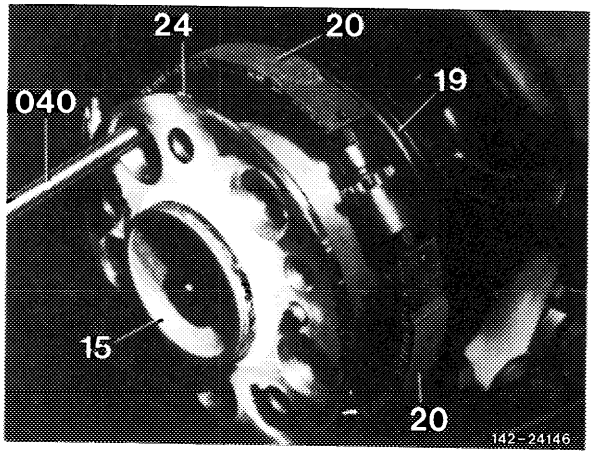
	Fixed caliper	11	Cover plate	22	Adjusting wheel
2	Hex. head screw	12	Brake disk	23	Pressure sleeve
4	Wheel carrier	13	Brake carrier	24	Pressure spring
5	Two-row angular ball bearing	14	Fitted pin	25	Hex. head screw
8	Locking screw	15	Rear axle shaft flange	26	Bolt
10	Brake cable control	16	Locking ring	27	Expanding lock
		20	Brake shoes	28	Supporting bolt
		21	Thrust piece	29	Upper return spring
				31	Lower return spring

Removal

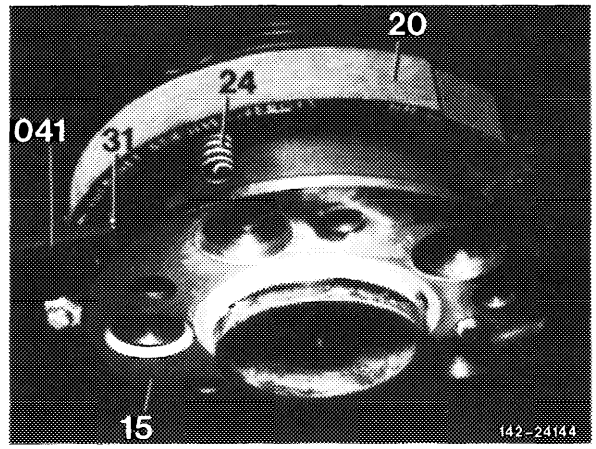
1 Remove brake disk (42–228).

2 Turn rear axle shaft flange (15) in such a manner that one hole faces spring (24). Then compress spring slightly with installer 112 589 09 61 00 (040), turn tool by approx. 90°, disconnect spring from cover ring (19) and remove,

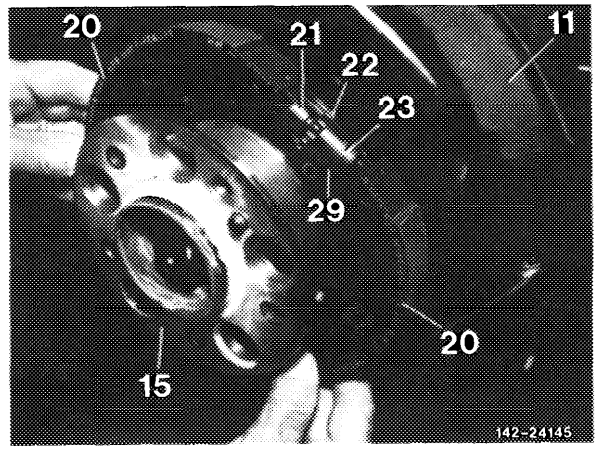
3 Also remove spring on other brake shoe.



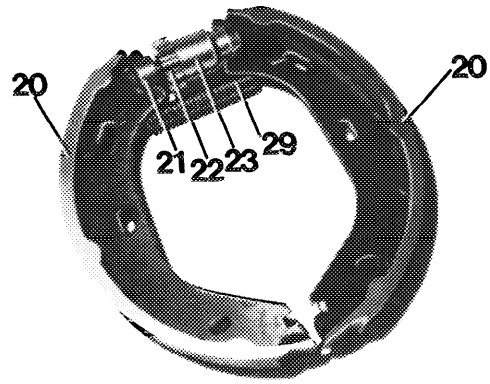
4 Disconnect return spring (31) with remover and installer 116 589 01 62 00 (041) from brake shoes (20).



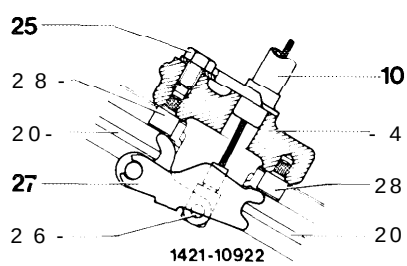
5 Pull both brake shoes (20) apart until they can be removed over rear axle flange (15).



6 Disconnect return spring (29) from brake shoes (20) and remove adjusting device (21 to 23).



7 Push bolt (26) out of expanding lock (27) and remove expanding lock from brake cable control (10).



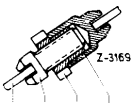
3 Wheel carrier
10 Brake cable control
20 Brake shoes
25 Hex. head screw
26 Bolt
27 Expanding lock
28 Hex. socket screw

Installation

8 Coat all bearing and sliding surfaces on expanding lock with specified lubricant (refer to table), fasten brake cable control (10) to expanding lock (27) with bolt (26). Then push expanding lock toward cover ring (19).

9 Coat threads of thrust piece (21) and cylindrical portion of adjusting wheel (22) with specified lubricant (refer to table). Assemble adjusting device and turn completely back.

20 Brake shoes
21 Thrust piece
22 Adjusting wheel
23 Pressure sleeve

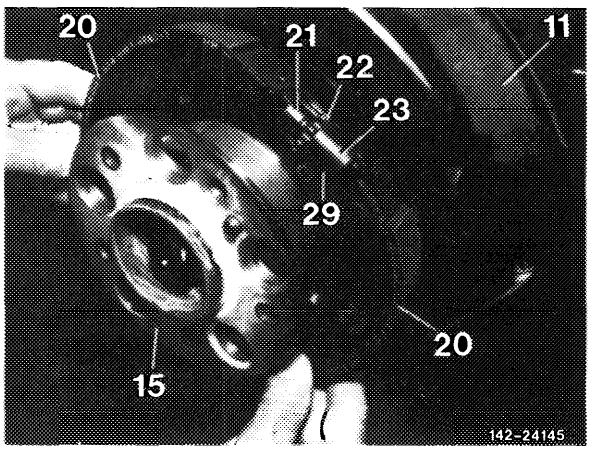


20 21 22 23

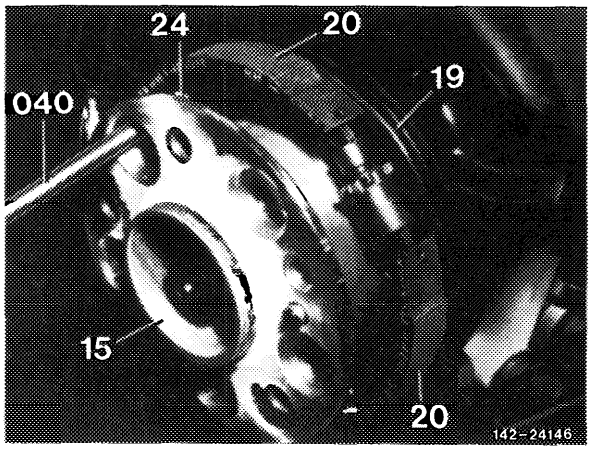
10 insert adjusting device (21 to 23) into both brake shoes in such a manner that the adjusting wheel (22) is pointing forward.

11 Connect return spring (29) to both brake shoes.

12 Pull brake shoes (20) apart, insert over rear axle shaft flange (15) and connect to expanding lock.



13 Insert spring (24) laterally into brake shoe (20). Introduce installer 112 589 09 61 00 (040) through a hole of rear axle shaft flange (15), then compress spring slightly, turn by 90" and connect to cover ring (19). Make sure that the spring is correctly connected.



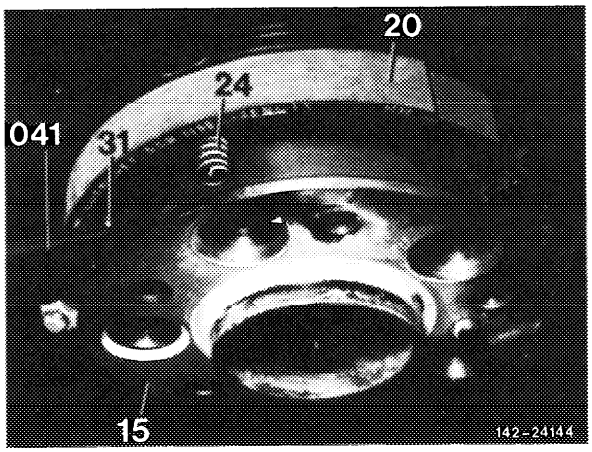
14 Connect spring (31) with small eye to brake shoes.

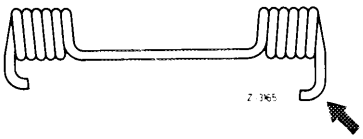
Note: The eyes of the return spring are of different size. For large eye refer to arrow.

15 Connect remover and installer 116 589 01 62 00 (041) to large eye of return spring (31), then connect return spring to other brake shoes (20).

16 Install brake disk (42-228).

17 Adjust parking brake (42-540).





42–540 Readjusting or adjusting brake shoes of parking brake

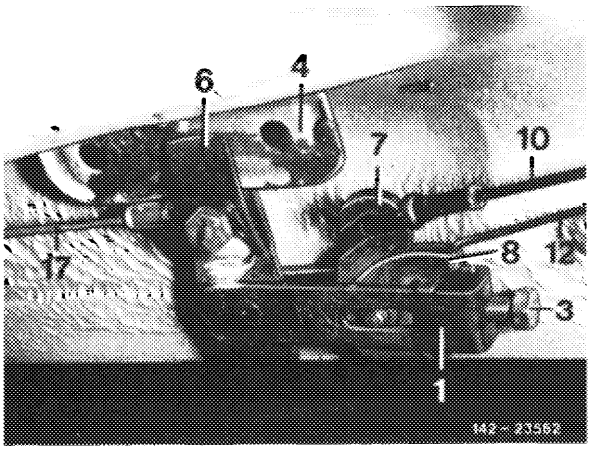
Data

	Up to April 1984	As of April 1984	As of February 1987
Total ratio of parking brake up to expanding lock outlet	1:25.2		
Number of detents on detent sector	8		12
Number of detents required for locking parking brake at medium energy of approx. 170 N	2 - 3		
Number of detents until effect of parking brake begins	1		
Number of teeth on adjusting wheel	8	15	

Note

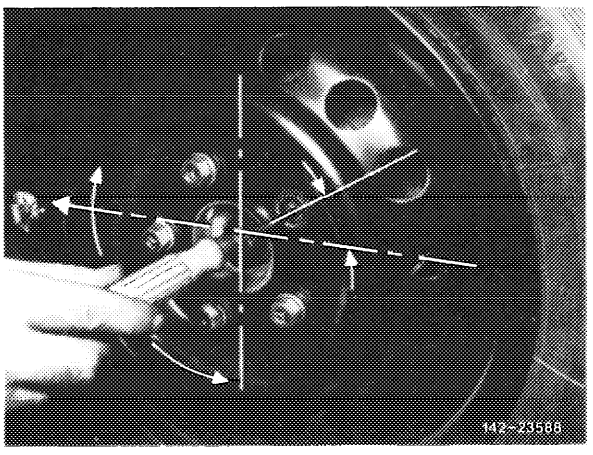
Readjust parking brake if the lever can be tightened by more than 2 detents (of a total of 8 or 12), without obtaining a braking effect.

1 Completely loosen adjusting screw (3) Make sure that expanding locks are not preloaded.

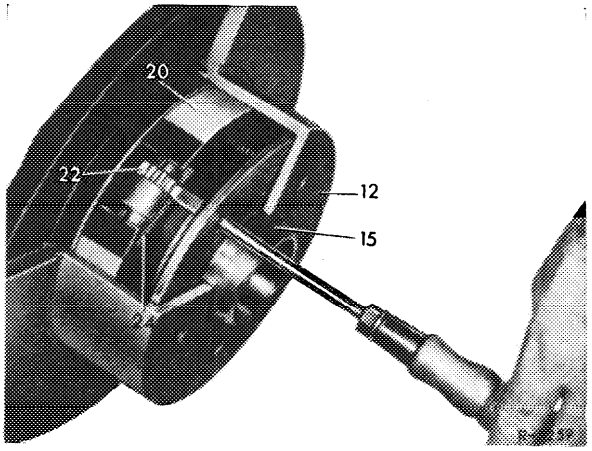


2 At rear axle left and right unscrew one spherical collar screw each.

3 Jack up vehicle and first turn one wheel in such a manner that the screw hole out of which the spherical collar screw has been screwed, points approx. 45" in rearward upper direction.



4 Insert screwdriver (size 4.5 mm) through hole of disk wheel, brake disk (12) and rear axle shaft flange (15) into adjusting wheel of readjusting device (22) and turn adjusting wheel by means of pertinent movements until wheel can no longer be turned. Then turn back adjusting wheel with 8 teeth for approx. 2-3 teeth, adjusting wheel with 15 teeth for approx. 5-6 teeth, i.e. enough until the wheel can be turned absolutely unrestricted.



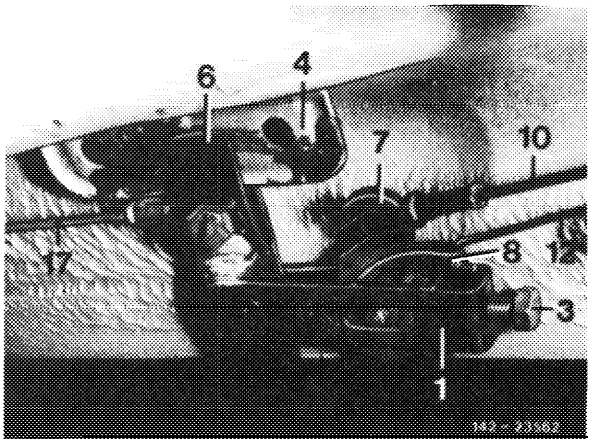
Attention!
Adjusting position of screwdriver for adjusting brake shoes:

Lefthand side: from below in upward direction.

Righthand side: from top in downward direction.

5 Screw in adjusting screw (3) until the brake cables are no longer sagging.

6 Actuate parking brake several times energetically at approx. 400 N.



7 Rotate adjusting screw (3) in adjusting bracket (1) until the lever can be tightened for one tooth at an energy of approx. **90-l 20 N.**