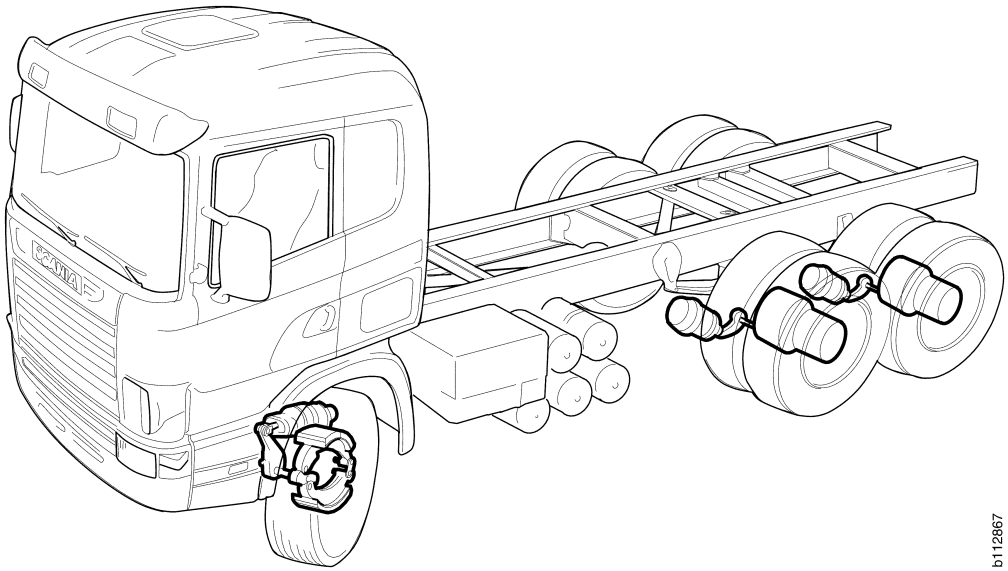
SCANIA

10:02-06

Issue 2.2 **en**

Wheel brake components for drum brakes

Work Description



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Brake chamber

Functional inspection

Depress the brake pedal and check that the push rod does not jam when applied. When you release the brake pedal, the push rod should not jam during release.

Depress the brake pedal and check that air does not leak from the clamp ring or the drain.

Removal and fitting

Specifications

Tightening torque

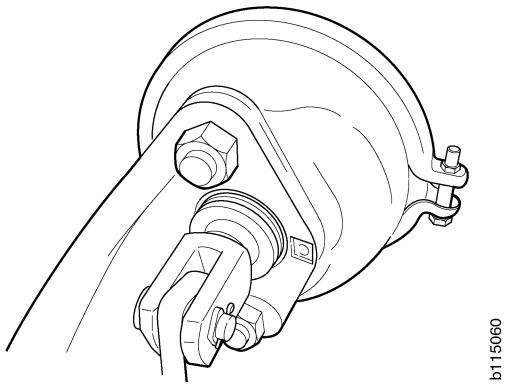
Brake chamber nuts	Wabco 150 - 190 Nm, Bendix 110 - 150 Nm
Clamp, Wabco	8 - 12 Nm
Clamp, Bendix	19 - 22 Nm

Removal

1 Remove the lock bolt between the link yoke and the brake slack adjuster.

2 Remove the compressed air connections.

3 Remove the nuts and the brake chamber.



Fitting

1 Fit the brake chamber, tighten the nuts to

Wabco 150 - 190 Nm
Bendix 110 - 150 Nm

2 Connect the compressed air connections.

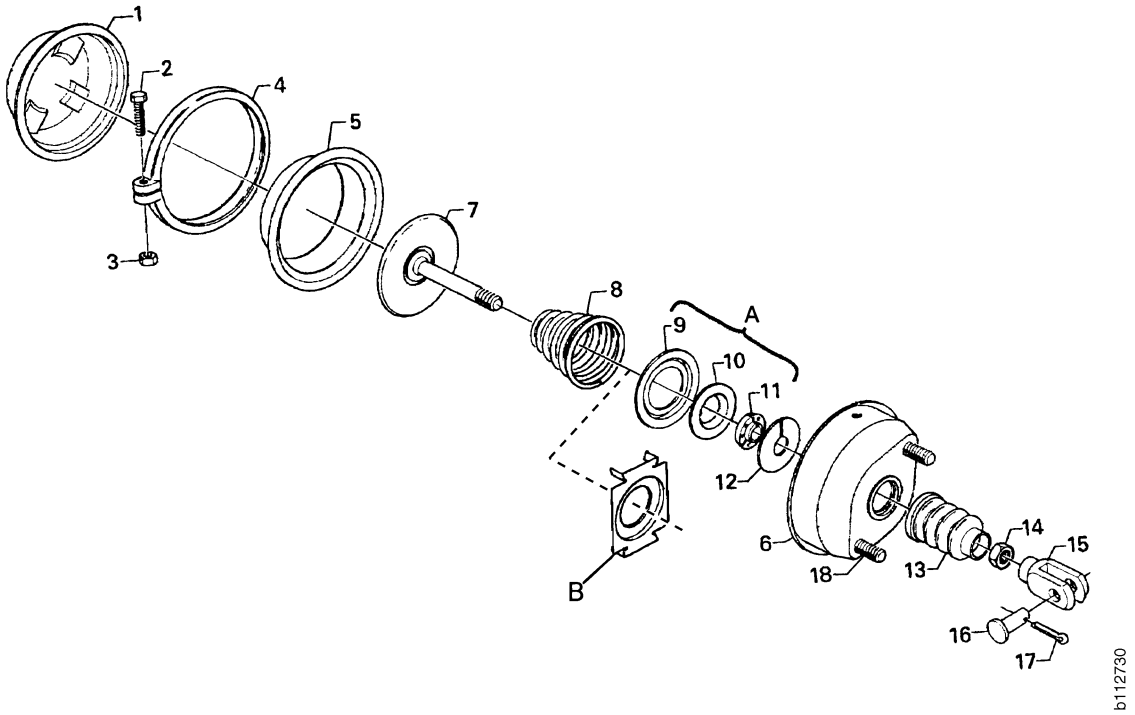
3 Check brake chamber basic settings and stroke. See Main Group 10, Wheel brake components for drum brakes, Brake slack adjusters, Checking push rod basic setting.

4 Fit the lock bolt between the link yoke and the brake slack adjuster.

5 Adjust the brake slack adjuster. See Main Group 10, Wheel brake components for drum brakes, Brake slack adjusters, Adjusting

Replacing diaphragm

Brake chamber



A. Rattle damper

B. Ring, only on brake chambers without rattle dampers

1 Cover

2 Bolt

3 Nut

4 Clamp

5 Diaphragm

6 Chamber

7 Push rod

8 Compression spring

9 Cover

10 Cover

11 Ring

12 Washer

13 Rubber bellows

14 Hexagonal nut

15 Link yoke

16 Clevis pin

17 Split pin

18 Drain hole

Description

1 Mark the positions of the brake chamber halves in relation to each other.

2 Remove the link yoke.

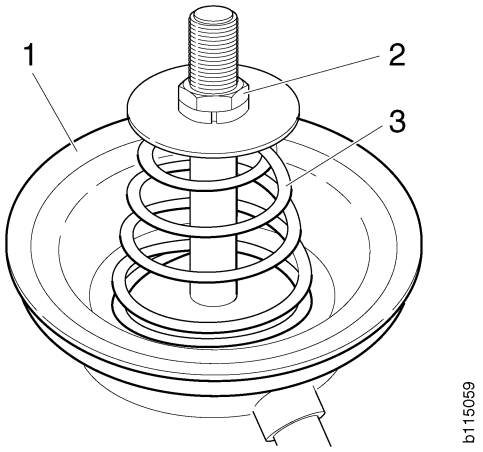
3 Remove the clamp.

4 Separate the brake chamber.

5 Clean and check all parts.

6 Replace diaphragm 1. To replace the rattle damper, if present, carefully unscrew nut 2 and replace the parts.

IMPORTANT! When unscrewing nut 2, some parts may fly out due to tension in spring 3.



7 Assemble the brake chamber.

8 Tighten the clamp.

Spring brake chamber

General

Note: The Parts Department is unable to provide spring brake unit parts. Therefore, a description of the disassembly and assembly of the spring brake unit is not given.

WARNING!

Dismantling the spring brake unit without using a work description is very dangerous due to strong spring tension.

Functional inspection

Depress the brake pedal and check that the push rod does not jam when applied. When you release the brake pedal, the push rod should not jam.

Depress the brake pedal and check that air does not leak from the clamp ring or the drain.

Removal

1 Place chocks in front of and behind at least two wheels.

2 Release the parking brake.

3 Unscrew the release bolt until the parking brake is fully released on the relevant wheel.

WARNING!

By disabling the parking brake in this way, all parking brake function is lost. The vehicle must therefore be prevented from moving before the release bolts are unscrewed.

4 Re-apply the parking brake to the other wheels.

5 Remove the compressed air connections.

6 Remove the lock bolt between the link yoke and the brake slack adjuster.

7 Remove the spring brake chamber.

Fitting

Specifications

Tightening torque

Spring brake chamber nuts	Wabco 150 - 190 Nm Bendix 110 - 150 Nm

1 Ensure that the spring brake chamber release bolt is unscrewed fully.

2 Adjust link yoke setting and lock with the lock nut. See specifications in Main Group 10, Brake slack adjuster, Measuring push rod basic settings.

3 Fit the spring brake chamber, tighten to

Wabco 150 - 190 Nm
Bendix 110 - 150 Nm

and fit the pivot pin to the brake slack adjuster.

4 Screw in the spring brake chamber release bolt so that the parking brake on the relevant wheel is applied.

Note: Use the marks you made on the halves to ensure that the parts are assembled in the correct position in relation to each other.

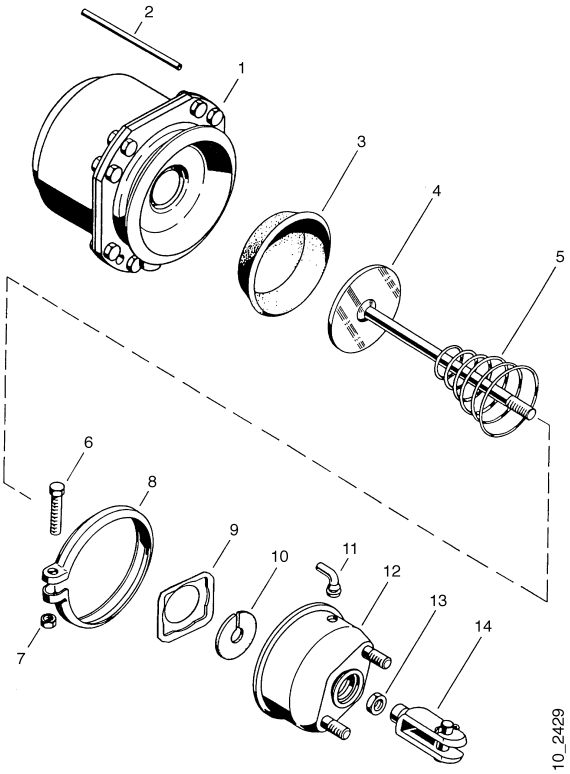
Replacing diaphragm

Specifications

Tightening torque

Clamp bolt	10 -12 Nm

Spring brake chamber



1 Spring brake unit
2 Pipe
3 Diaphragm
4 Push rod
5 Compression spring
6 Bolt
7 Nut
8 Clamp
9 Flange
10 Washer
11 Shaped hose
12 Chamber
13 Nut
14 Link yoke

Description

1 Apply the parking brake.

2 Lock the push rod using a spacer, approx. 50 mm, between the cylinder housing and the link yoke.

3 Place chocks in front of and behind at least two wheels.

4 Release the parking brake.

5 Unscrew the release bolt until the parking brake is fully released on the relevant wheel.

6 Re-apply the parking brake to the other wheels.

7 Mark the spring brake unit in relation to the service brake unit.

8 Remove the ventilation hose from the service brake unit.

9 Undo the clamp. Remove the spring brake unit.

10 Replace the diaphragm and place it on the push rod. Fit the spring brake chamber to the service brake unit.

Note: Use the markings on the parts to ensure that they are assembled in the correct position in relation to each other.

11 Tighten the clamp. Tightening torque 10 - 12 Nm.

12 Fit the ventilation hose and release the parking brake.

13 Screw the release bolt in so that the parking brake on the relevant wheel is applied.

Note: Connect compressed air to the spring brake chamber. This makes it easier to screw the release bolt in and avoid crossing the thread.

14 Remove the locking device from the push rod.

15 Check spring brake chamber function, see Functional inspection.

Disabling the parking brake

If there is no other way to release the parking brake or if it is necessary to tow the vehicle over a long distance, it may be disabled using the release bolt that is in each spring brake chamber.

WARNING!

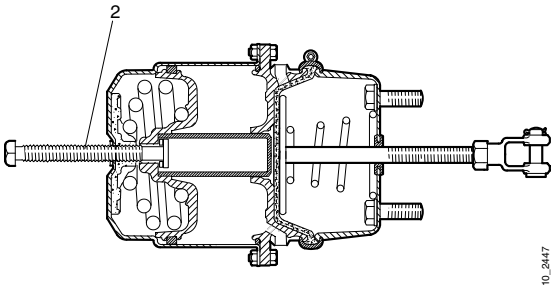
By disabling the parking brake in this way, all parking brake function is lost. The vehicle must therefore be prevented from moving before the release bolts are unscrewed. Use a towing bar when towing.

Description

1 Place chocks in front of and behind at least two wheels.

2 Fix a clear warning note to the steering wheel.

3 Unscrew release bolt 2.



Note: Danger of cross-threading. Take care when using a nut machine and ensure that the bolt is well lubricated.

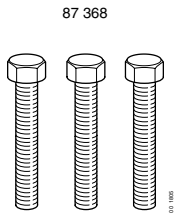
WARNING!

The vehicle is now entirely without parking brakes on the wheels where the release bolt has been unscrewed.

Brake drums

Removal

Special tools

No.	Designation	Illustration	Tool board
87 368	Puller bolt		AM1, D3, B1, AD1

Other tools

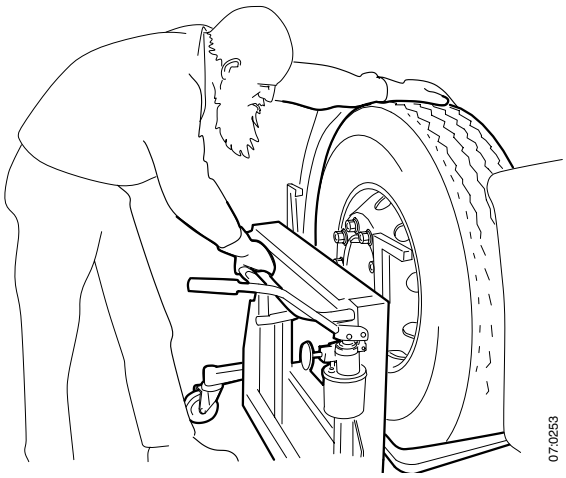
No.	Designation	Illustration	Tool board
587 121	Wheel hoist trolley	-	-

Description

WARNING!

Danger when working under vehicle! Use a lifting device when lifting off the brake drum.

1 Remove the wheel. Use wheel hoist trolley 587 121.

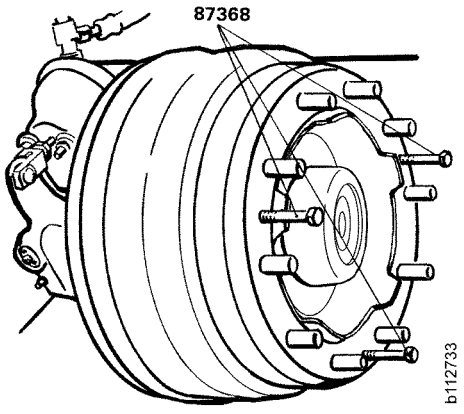


2 Wheels with spring brake chambers: Unscrew the release bolt in the spring brake chamber so that the brake drum can be rotated manually.

3 Adjust the slack adjuster so that there is maximum clearance between the brake shoes and the brake drum.

4 If present, remove the fixing bolts between the brake drum and hub.

5 Fit three release bolts 87 368 and pull off the brake drum. Use a lifting device on the brake drum.



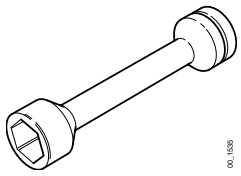
Fitting

Specifications

Tightening torque

Wheel nut	600 Nm
Fixing bolts, brake drum - hub	10 -20 Nm

Special tools

No.	Designation	Illustration	Tool board
98 661	Torque socket	98661 	AD1, MT1

Description

1 Fit the brake drum, use a lifting device.

2 Fit the fixing bolts between the brake drum and hub. Use copper paste and tighten to 10 - 20 Nm. If there are no fixing bolts present, see Fitting brake drum bolts.

3 Fit the wheel and tighten the lubricated nuts to 600 Nm. Use a torque wrench or nut runner with torque socket 98 661.

4 Set the slack adjuster, see Main Group 10, Wheel brake components for drum brakes, Brake slack adjusters.

Checking brake drum

Wear

Specifications

General

Nominal diameter	412.75 mm
Diameter for oversize liners	417 mm
Max. diameter when machining	419 mm
Scrapping limit	421 mm
Surface quality during machining	Ra 2.5
Max. crack width	1.5 mm

Wear patterns

The considerable heat release generated during braking may cause certain changes in the wear surface of the brake drum.

A wear pattern featuring measurably deep scratches, a fine meshed network of evenly spread thermal cracks (cracking) such as single minor hard spots, is not justification for replacing the brake drum.

Figure A shows a wear pattern with measurable scratches and minor hard spots due to overheating.

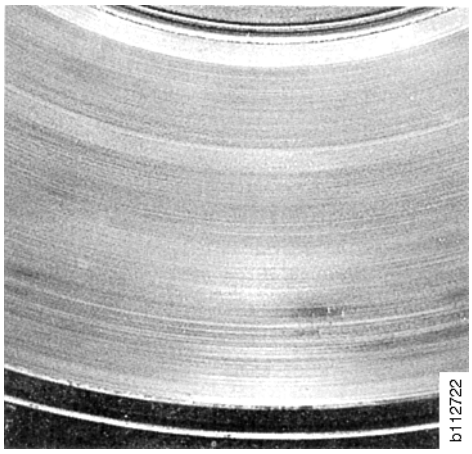


Figure A. Brake drum with hard spots due to overheating.

Figure B shows the same brake drum after an additional 700 instances of normal braking from 70 to 0 km/h with a fully laden vehicle.

The figures show that braking without overheating causes the hard spots to partially disappear and that brake drum wear pattern improves.

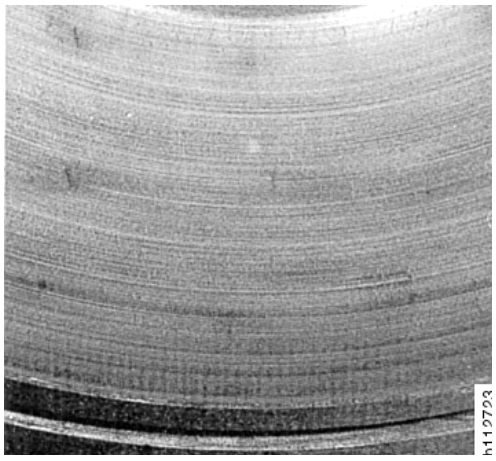


Figure B. The same brake drum after a further 700 instances of braking.

Careful attention must be paid to a wear pattern with considerable crack formation, particularly in the hard spots (see figure C). Heat tension in the material rapidly deepens crack formation.

In the hard spots, the material has become martensite and, as a result of this change, has lost its material strength and expanded. A hard spot is an elevation in the wear surface of the brake drum.

During braking, the hard spots in the brake drum become considerably overloaded and overheated and the resulting shrinking stresses give rise to rapid crack growth.

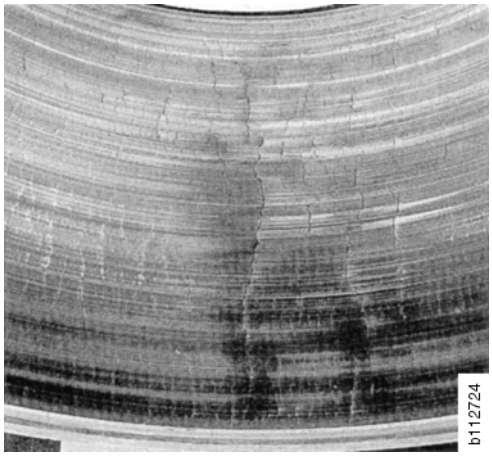


Figure C.

Figure D shows brake drum wear surface after an additional 700 normal braking instances.

Crack formation is now so deep that there is considerable danger of drum failure.

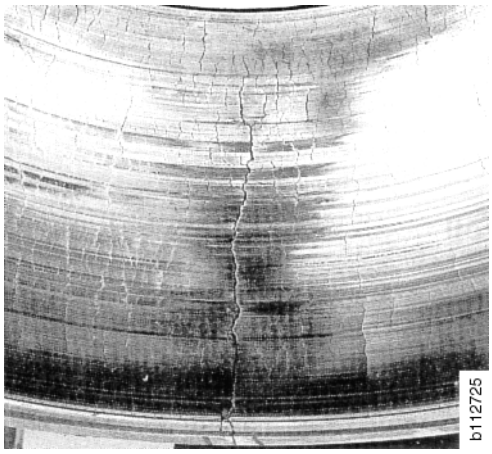


Figure D.

When assessing whether it is appropriate to replace brake drums, see wear pattern E which is a borderline case. This drum is acceptable provided it is ground.

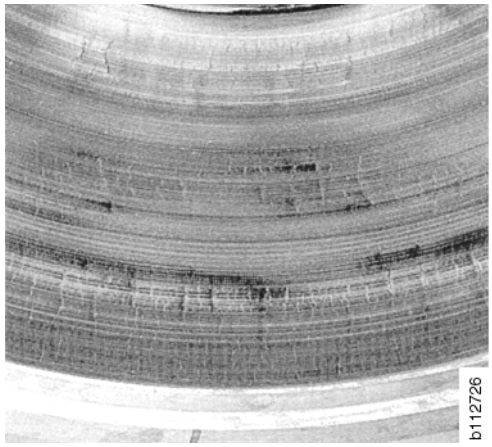


Figure E.

Replace and scrap brake drums with wear patterns as shown in figures F and G. Do not turn or grind these brake drums.

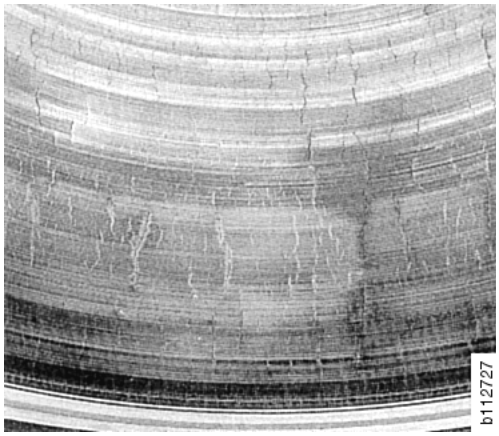


Figure F.

Turn or grind worn or oval brake drums and drums with hard spots that do not have worse crack formation.

Check brake drum ovality either with the drum fixed on the hub or in a brake drum lathe.

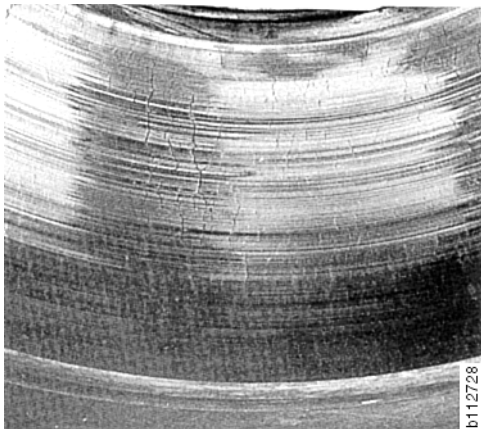


Figure G.

Checking ovality and radial run-out

WARNING!

Danger when working under vehicle!
Place the vehicle on stands.

Specifications

Tolerances

Maximum permissible ovality	0.12 mm
Maximum permissible radial run-out	0.20 mm

Tightening torque

Wheel nuts	600 Nm

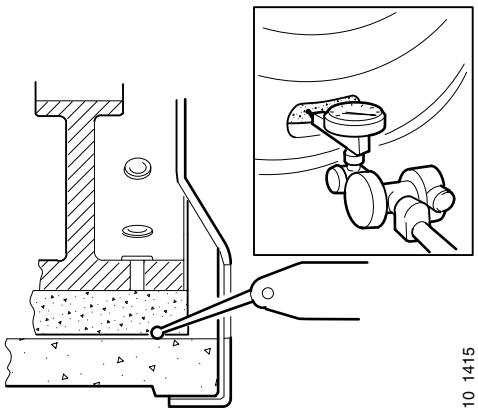
Other tools

No.	Designation	Illustration	Tool board
587 121	Wheel hoist trolley	-	-

Description

1 Remove one of the inspection lids and fit a dial gauge to a magnetic base.

Note: It may be necessary to cut away part of the brake lining in order to allow the tip of the rocker indicator to contact the wear surface of the brake drum.



Control measuring brake drum

2 Mark the wheel bolts 1, 2 etc.

3 Place the measurement tip on the wear surface of the brake drum and turn the drum. Read off measurements for the wheel bolts (10 measurements) and note the values in the Brake drum test report. Mark the rim in relation to the brake drum so that it fits back into the same position on the drum.

4 Remove the wheel. Use wheel lift 587 121.

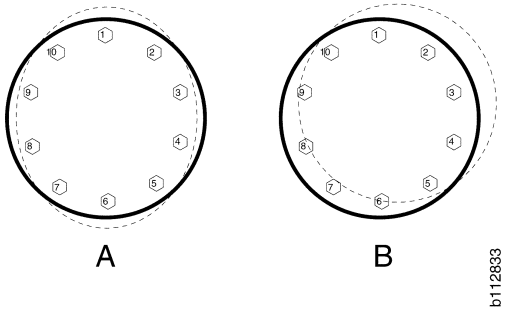
5 Carefully clean between the hub and the drum.

6 Fit the brake drum using the wheel bolts, tighten to 600 Nm.

7 Re-measure drum ovality and run-out when the wheel is removed. Enter the measurement values in the Brake drum test report.

8 Carefully clean the surfaces between the drum and rim. Screw on the rim as per instructions. Measure and enter the values in the Brake drum test report.

9 By making a drawing of the shape of the drum after taking measurements, it is easy to determine if there is any ovality or run-out. Compare the measurements with the permitted deviations shown in the table. If ovality exceeds specified limits, the fault is either in the hub, brake drum or rim.



A. Ovality

B. Radial run-out

Ovality may be caused by:

- The wheel has not been fitted according to Scania instructions, i.e. either the parking brake has not been released, the contact surfaces have not been cleaned or wheel tightening instructions have not been followed.
- The rim is faulty. This may be determined by analysing the measurements. If ovality increases when the rim is attached, the rim must be replaced.
- If the vehicle has been driven with an oval brake drum, this must be lathe turned or replaced as it has become deformed. For this reason, you must take immediate action against vibrations associated with wheel replacement. If you turn the drum, it must be removed from the hub and lathe turned separately.

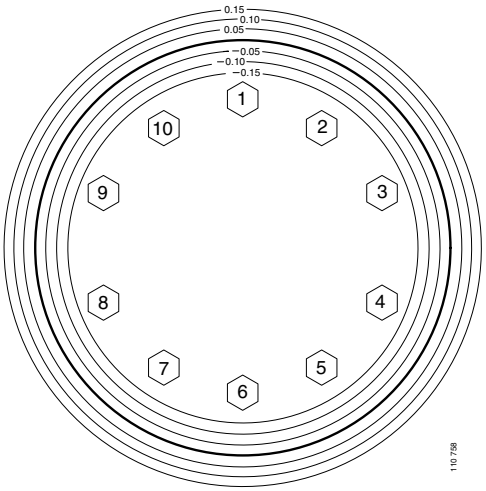
Note: Turning the drum out whilst on the hub will produce vibrations during the next wheel change!

- During laquering or painting, paint has ended up on the contact surfaces between hub, drum and rim. When fitting the wheel it is important that these surfaces are completely free from dirt and paint.

Brake drum test report

Dealer	Chassis number	Vehicle type		Del. date
	Odometer reading	Date	WO no.	Axle type
Brake drum placement	LH		RH	

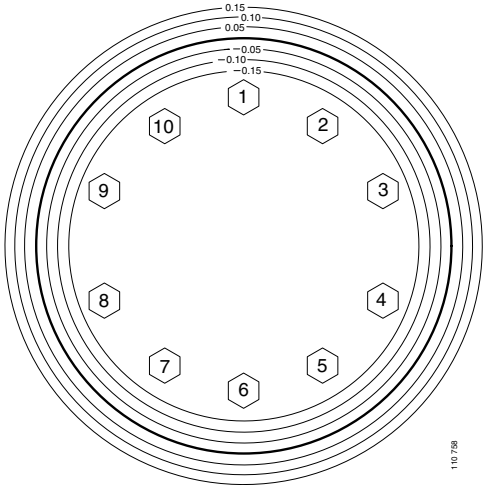
Brake drum from start



Radial run-out/ovality

1		2		3		4		5	
6		7		8		9		10	

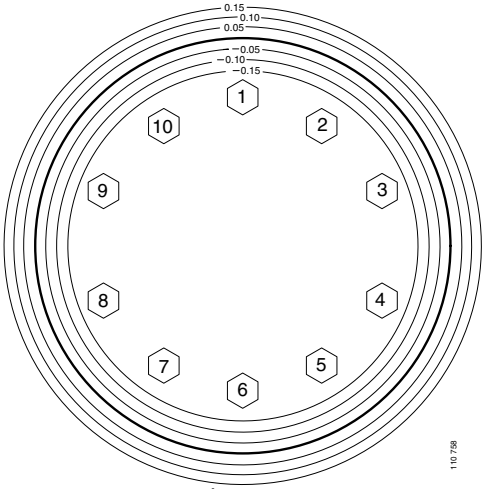
Brake drum with wheel removed



Radial run-out/ovality

1		2		3		4		5	
6		7		8		9		10	

Brake drum with wheel fitted



Radial run-out/ovality

1		2		3		4		5	
6		7		8		9		10	

Notes:

Machining brake drums

Turning a single brake drum

IMPORTANT! The fault will not be rectified if the drum has been turned whilst attached to the hub! A drum that has been turned in this way loses its roundness when it is removed. This means that the drum must either be turned or replaced during the next rim replacement. Scania will not settle claims in cases where the drum has been turned in this way.

Note: Listen whether a rattle can be heard when the lathe tool comes into contact with larger and deeper hard spots. If you hear a rattle, replace the brake drum.

Specifications

General

Nominal diameter	412.75 mm
Diameter for oversize liners	417 mm
Maximum diameter when machining	419 mm.
Scrapping limit	421 mm
Surface quality during machining	Ra 2.5

Fitting brake drum bolts

Specifications

Tightening torque

Fixing bolts	10 -20 Nm

In order to avoid dirt, dust or paint coming in contact with the contact surface between the brake drum and wheel hub, the brake drum should remain on the hub during wheel dismantling and suchlike. Brake drum bolts are fitted from chassis numbers SÖ1240250, SN4393400 and SA9032550 onwards. To fit to older vehicles, do the following:

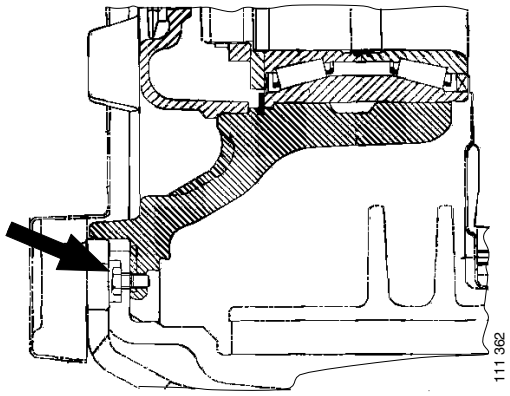
1 Remove wheel and brake drum.

2 Replace the existing brake drum with a brake drum with pre-drilled holes.

3 Clean the contact surfaces between the brake drum, hub and rim.

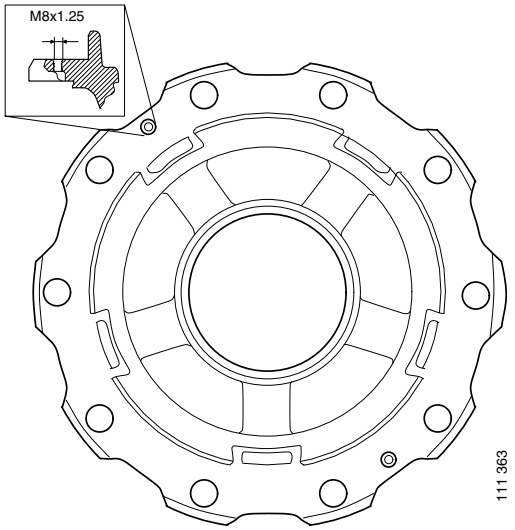
4 Fit the new brake drum on the hub and mark the position of the holes.

Note: Drill the holes in the part of the hub where wall thickness is greatest.



5 Drill two holes in the hub. Thread the holes to a dimension of M8x1.25.

6 Use copper paste on the bolts and fit the drum to the hub. Tighten to 10 -20 Nm.

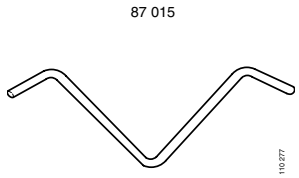


Drilling and threading two holes in the wheel hub.

Brake shoes

Removal

Special tools

No.	Designation	Illustration	Tool board
87 015	Assembly tool		B1

Description

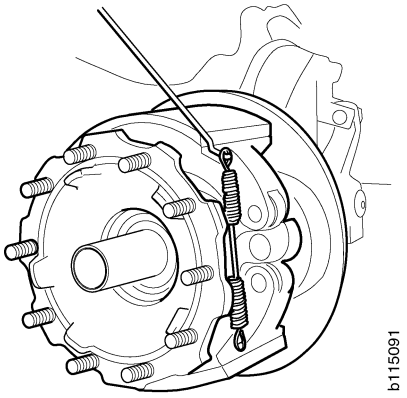
1 Clean the brake drum and brake shoes.

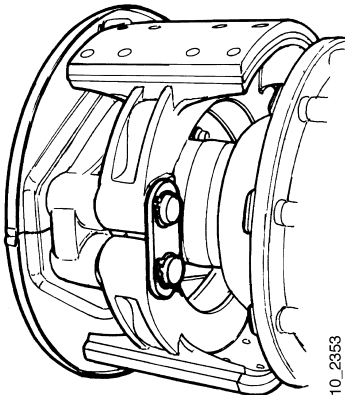
2 Remove the return spring using tool 87 015 or a small crowbar.

3 Remove lock rings, the washer and O-rings on the anchor bolts.

4 Open out the brake shoes and pull them off the anchor bolts. On certain vehicles, it may be necessary to turn the hub so that the brake lining bearing fits in between wheel bolt heads in order to be able to pull off the shoes.

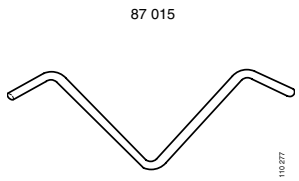
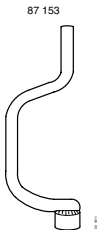
5 Remove the inner O-rings on the anchor bolts.





Fitting

Special tools

No.	Designation	Illustration	Tool board
87 015	Assembly tool		B1
87 153	Mandrel		B1

Description

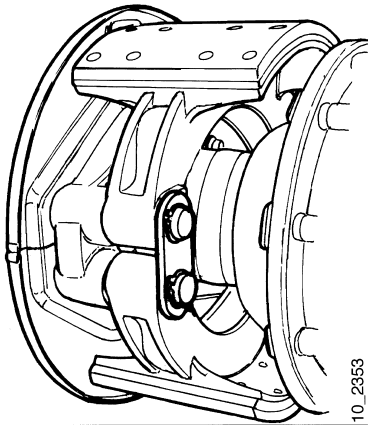
1 Check the pressure roller, see Checking

2 Fit new O-rings on the anchor bolts.

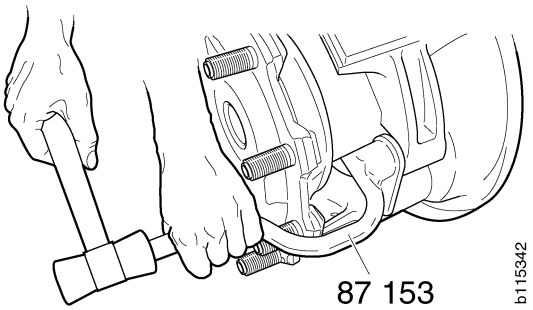
3 Grease the anchor bolts or brake shoe bushing. Use grease 329 481.

4 Press the brake shoes onto the anchor bolts and fit new O-rings on top of the shoes.

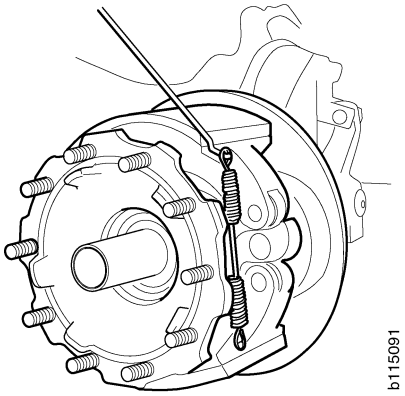
5 Fit the washer and the retaining rings, use retaining ring pliers.



6 Tap the retaining rings into position using mandrel 87 153.



7 Always replace the return spring when replacing brake linings. Fit the return spring using tool 87 015 or by using a small crowbar.



Checking

Check that the pressure roller on the brake shoe can rotate by applying a relatively large manual force. It is important that the O-rings remain around the pressure roller. If the pressure rollers rotate freely, replace the O-rings.

Check the bearings on the anchor bolts. Replace the bearings if they are worn.

Reconditioning

Replacing roller

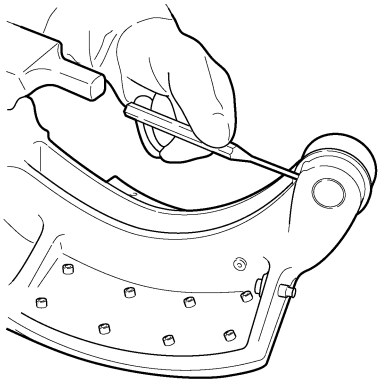
1 Tap out the pin from the shaft.

2 Tap out the shaft.

3 Replace the roller. Check the bearings and replace them if necessary.

4 Carefully tap the shaft back, ensuring that the hole for the pin is in the correct position.

5 Tap in the pin.

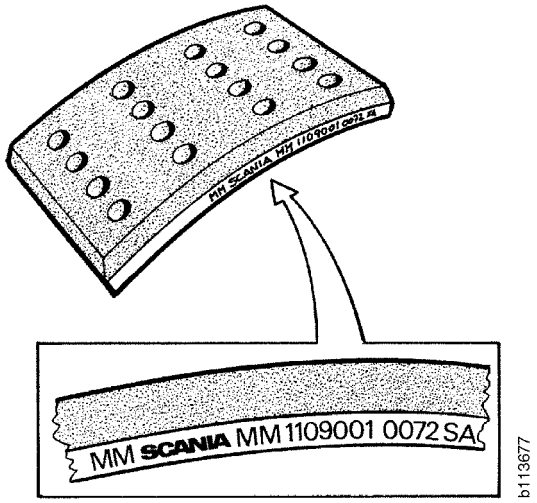


Brake linings

Checking stamping

Brake linings can be identified through a letter code. The letter code is stamped on the side of the lining and this can be checked by looking through one of the inspection covers in the brake shields.

In addition to the letter code, the Scania logo, part number, date and supplier code is also stamped.



Example of brake lining marking

Measuring brake lining thickness

Specifications

Minimum thickness

Standard lining (drum diameters up to 417 mm)	8 mm
Oversize lining	10 mm

Description

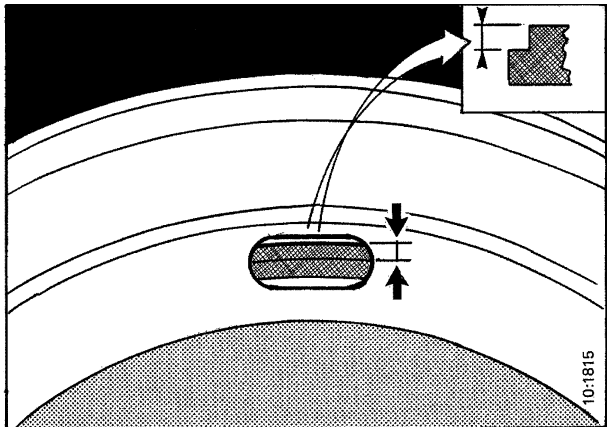
There are inspection covers at the top and the bottom of the brake shield.

1 Apply the parking brake.

2 Move the inspection cover to one side and lift out and pull away the cover at the other end.

3 Brake lining thickness must not be below 8 mm (10 mm for oversize linings).

4 Check the thickness against the indicator line.



Wear indicator

Replacing brake linings

Description

Specifications

Brake linings

Thickness, standard	19 mm
Thickness, oversize	21 mm
Rivet force	18 kN

The same type of brake lining should be used on all axles and these should be the same size on each axle. Otherwise the braking effect will be uneven.

Always replace the return spring when replacing brake linings.

1 Remove the wheels on the relevant axle, use a lifting device.

2 Remove the brake drum, see Main Group 10 Wheel brake components for drum brakes, Brake drums.

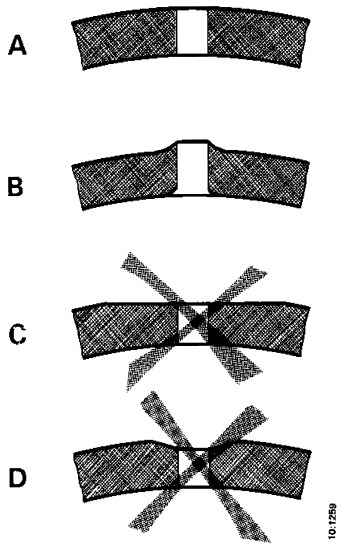
3 Remove the brake shoes, see Main Group 10 Wheel brake components for drum brakes, Brake shoes.

4 Remove the brake lining by drilling away the rivets.

5 Wash the brake shoes and blow them dry with compressed air.

6 Check the brake shoes.

- In order to avoid brake screech, it is important to ensure that contact between the brake lining and the brake shoe is correct.
- Ensure that the brake shoes are free from loose rust before riveting the new brake linings.
- Grind down any unevenness in the brake shoe, eg. burrs by the rivet holes. Do not grind so far as to give rise to a hollow or flat surface.



A No machining required
B Burrs by rivet hole
C, D Grinding done incorrectly

7 Rivet the new linings using a riveting machine and rivet mandrel that corresponds to the size of the rivets. Alternatively, you could pop rivet the lining, see Pop riveting brake linings.

IMPORTANT! When riveting using conventional methods, it is important to use the correct rivet force. Incorrect rivet force can lead to brake screech or cause the lining to come away from the brake shoe.
Rivet force should be 18 kN. Begin riveting in the centre of the lining and continue out towards the ends. Check that the lining is in contact with the brake shoe.

8 Fit the brake shoes, see Main Group 10 Wheel brake components for drum brakes, Brake shoes.

9 Fit the brake drum, see Main Group 10 Wheel components for drum brakes, Brake drums.

10 Fit the wheel, use the lifting device.

11 Adjust the arm, see Main Group 10 Wheel components for drum brakes, Brake slack adjusters.

12 Run in the new brake lining, see Running in brake linings.

Pop riveting brake linings

Other tools

No.	Designation	Illustration	Tool board
587 542	Pop rivet equipment	-	-
587 543	Collet for pop rivet equipment	-	-
1 325 279	Pop rivet	-	-

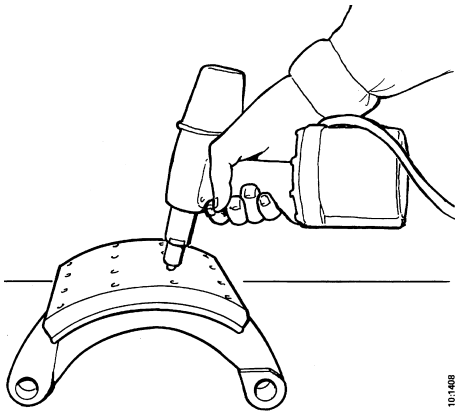
Description

IMPORTANT! Riveting may only be done once the shoes have been removed from the vehicle in order to avoid leaving rivet remains in the wheel brakes.

Pop riveting is faster than conventional riveting. In addition, you obtain a precise rivet force, which is determined by the rivet.

1 Remove the lining, clean and check the brake shoes, see Replacing brake linings.

2 Rivet the new linings.



Pop riveting brake linings

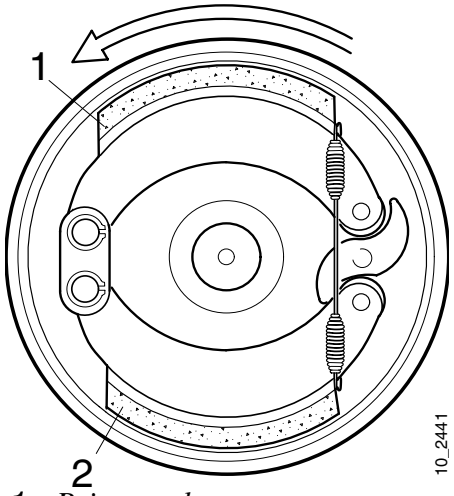
IMPORTANT! After riveting, you must remove the remaining part of the rivet pin using a 3 mm mandrel, otherwise the rivet may come loose and cause damage.

Running in brake linings

After replacing brake linings, which should always be done concurrently on all wheels on the same axle, they should be run in.

When utilising full braking effect, the new linings take up the majority of the total vehicle braking effect. This is because:

- The alignment of the new brake linings to the brake drum is not perfect, which may give rise to localised heat causing hard spots in the brake drum or lining overheating.
- The servo effect caused by the direction of rotation of the wheel increases the force of the contact between the primary shoe and the brake drum.



1 Primary shoe

2 Secondary shoe

The brake shoes in relation to the direction of rotation of the brake drum.

Brake eccentric shafts

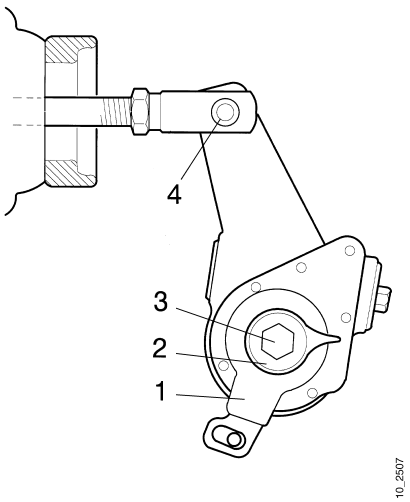
Brake eccentric shafts, front, rear and tag axles

Removal

1 Remove the hub. See the description for the relevant wheel hub in Main Group 9.

2 Remove the brake shoes, see Main Group 10, Wheel brake components for drum brakes, Brake shoes.

3 Remove pivot pin 4 and bolt 3. Undo the nut to guide arm 1. Remove the brake slack adjuster. The brake eccentric shaft must be tapped out a little on the LH side of the drive shaft.



1 Guide arm
2 Wear indicator
3 Bolt
4 Pivot pin

4 Clean the brake eccentric shaft to prevent debris from entering the bushings and tap it out using a soft mallet.

5 Remove the sealing rings. Destroy the sealing rings if necessary.

Fitting

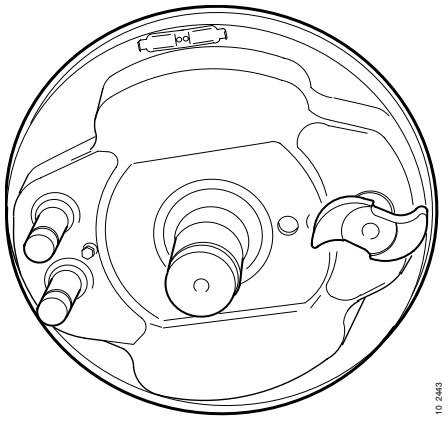
Specifications

Tolerances

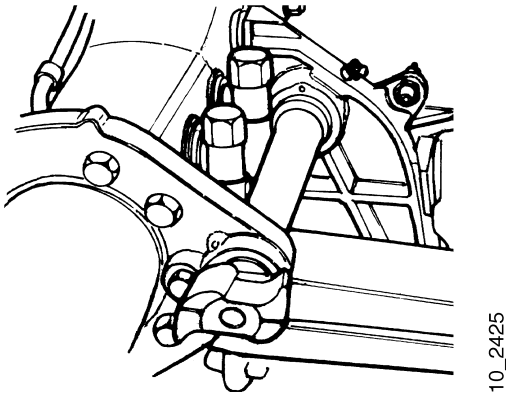
Maximum movement	1.5 mm

1 Replace bushings and seals, see Replacing sealing rings and bushings.

2 Lubricate the bushings with grease and press in the brake eccentric shaft. Turn the eccentric shaft so that it is in a horizontal position.



Fitting the brake eccentric shaft to the front axle



Fitting the brake eccentric shaft to the rear and tag axles

3 Fit the hub. See the description for the relevant wheel hub in Main Group 9.

4 Fit the brake slack adjuster to the brake eccentric shaft so that the arrow on the adjuster shows the direction it will move during braking. See Main Group 10, Wheel brake components, Brake slack adjusters.

5 Fit the wear indicator and the bolt. With new brake linings, the arrow on the indicator should point horizontally.

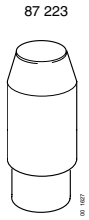
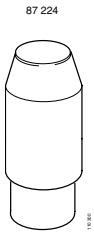
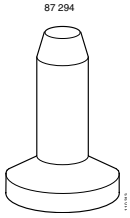
Replacing sealing rings and bushings

Specifications

Tightening torque

Bearing bracket bolts	210 Nm

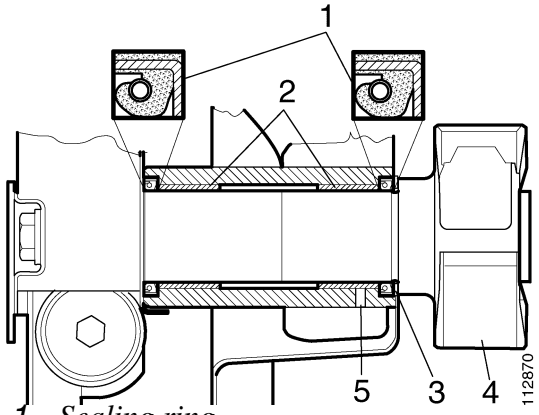
Special tools

No.	Designation	Illustration	Tool board
87 223	Mandrel		B1
87 224	Mandrel		B1
87 294	Mandrel		AD/AS3, G3

Replacement on front axle

1 Remove the brake shield.

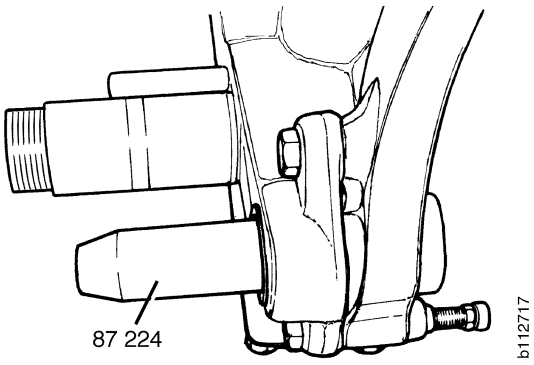
2 Remove the sealing rings using a screwdriver. Destroy the sealing rings if necessary.



1 Sealing ring
2 Bushing
3 Seal washer
4 Brake eccentric shaft
5 Overflow hole

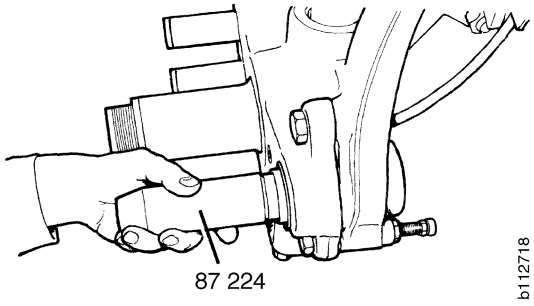
3 Tap out the bushings using mandrel 87 224.

4 Clean the eccentric holes before fitting new bushings.

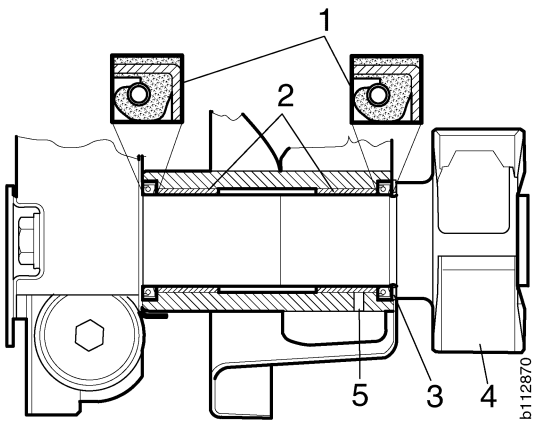


5 Fit new bushings and tap them in using mandrel 87 224. Tap in a bushing from each side so that there is a lubricating gap between them.

6 Check and clean the overflow hole.



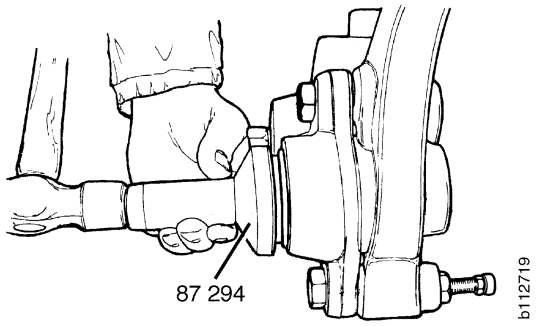
7 Use new sealing rings, fill them with grease and turn them to the correct position.



1 Sealing ring
2 Bushing
3 Seal washer
4 Brake eccentric shaft

8 Tap in the sealing rings using mandrel 87 294.

Note: Turn the sealing rings to the correct position.



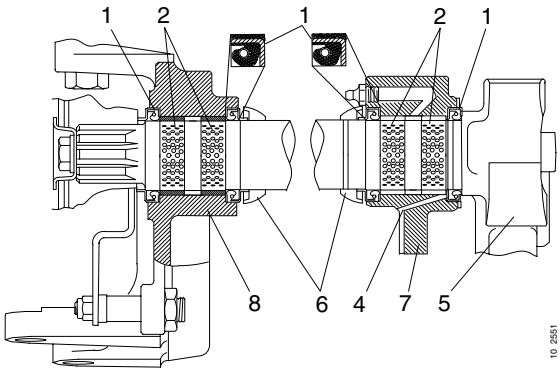
9 Fit the brake shield.

Replacement on rear and tag axles

1 Remove the brake eccentric shaft, see Removing.

2 Remove the brake shield.

3 Remove the seals from the brake bracket. Destroy the sealing rings if necessary.



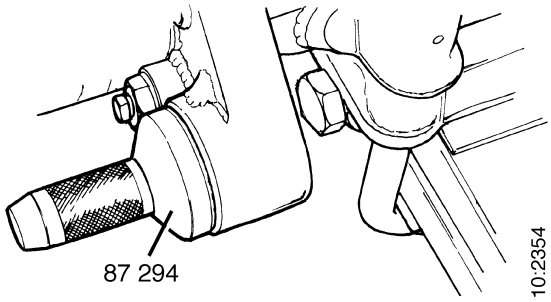
1 Sealing ring
2 Bushing
4 Overflow channel
5 Brake eccentric shaft
6 Sealing ring
7 Brake chamber bracket
8 Bearing bracket

4 Tap out the bushings using mandrel 87 223.

5 Clean the eccentric holes before fitting new bushings.

6 Tap in new bushings from the outside, use mandrel 87 223. Ensure that they end up in the correct position.

7 Tap in the outer sealing ring from the outside using mandrel 87 294.



8 Tap in the inner sealing ring using mandrel 87 223.

9 Loosen the air connections from the brake chamber.

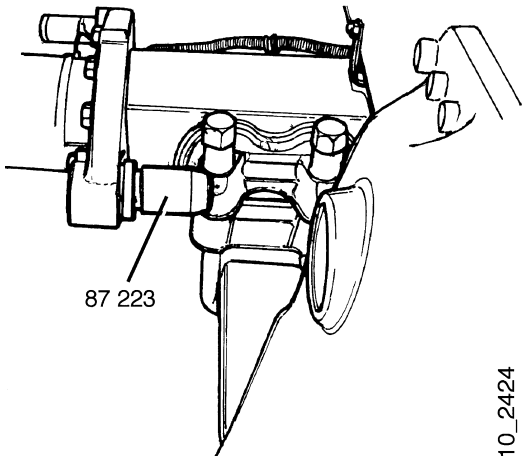
10 Remove the brake chamber.

11 Remove the bearing bracket.

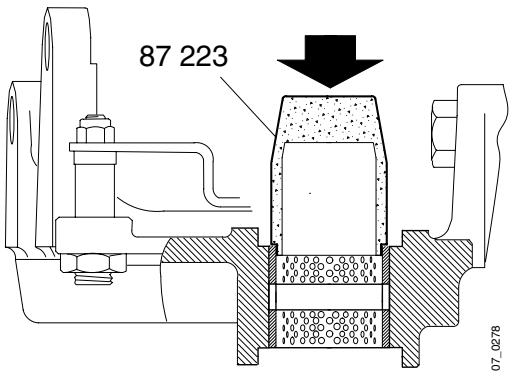
12 Remove the sealing rings using a screwdriver.

13 Tap out the bushings using mandrel 87 223.

14 Clean the eccentric holes before fitting new bushings.

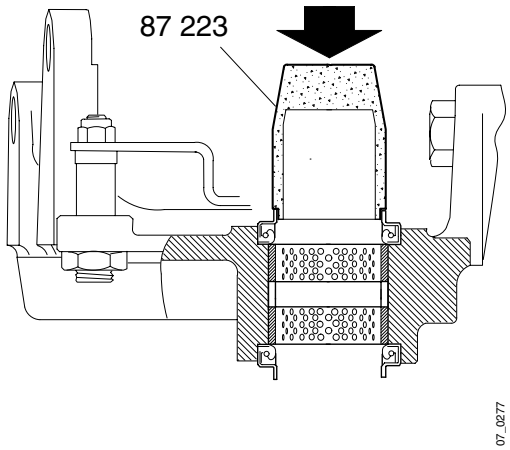


15 Tap in new bushings using mandrel 87 223.



Removing and fitting bushings

16 Fit new sealing rings using mandrel 87 223. Fill the sealing rings with grease.



Fitting sealing rings

17 Fit the bearing bracket. Do not tighten the bolts.

18 Lubricate the bushings in using grease and press or tap in the brake eccentric shaft using a soft hammer. Remember the washer and the sealing rings between the brake bracket and the bearing bracket.

19 Tighten the bearing bracket bolts. Tightening torque 210 Nm.

20 Fit the brake chamber and compressed air connections.

21 Fit the brake shield.