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1. SINGLE REAR AXLE 1347

1.1 GENERAL

Sealant for differential	
Mating surface and around bolt holes of axle body	Loctite 5910
Sealant for axle shaft	
Mating surface of axle shaft flange	Loctite 5910
Wheel bearings	
Wheel bearing play	0.025 - 0.25 mm
ABS sensor ring	
Axial end play	max. 0.2 mm
Trailing axle lifting height	
Minimum trailing axle lifting height	100 mm
Driven axle caster	
FAG	3.5°
FAS (11/7 ratio)(1)	3.5°
FAS (10/10 ratio)(1)	4°
Other	4.5°

Note:
(1) With a lowered trailing axle

1.2 TIGHTENING TORQUES

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The tightening torques stated in this section are different from the standard tightening torques stated in the overview of the standard tightening torques. Any other threaded connections that are not specified must therefore be tightened to the torque stated in the overview of standard tightening torques.

When attachment bolts and nuts are replaced, it is important that - unless stated otherwise - these bolts and nuts are of exactly the same length and property class as the ones removed.

Differential	
Drive flange attachment nut	1250 Nm(1)
Differential lock cover attachment bolts	
- if M8 8.8	23 Nm
- if M8 10.9	30 Nm
M12 attachment bolts of pinion housing cover	70 Nm(2)
Attachment bolts, differential to axle housing	
- if M16 8.8	195 Nm(2)
- if M16 10.9	260 Nm(2)
Torx plug (level check/filler and drain plug)	85 Nm
Hub	
Lock nut (outer nut)	560 Nm
Axle shaft attachment bolts	
- if M16 8.8	195 Nm
- if M16 10.9	260 Nm
Torx plug, wheel hub	85 Nm

Note:
(1) Secure with Loctite 262
(2) Secure with Loctite 572

1.3 FILLING CAPACITIES

Differential	Minimum caster	Maximum caster
Filling capacity	approx. 21.6 litres	approx. 23.3 litres
Hub		
Oil capacity, per hub	0.9 litres	

2. SINGLE REAR AXLE 1354

2.1 GENERAL

Sealant for differential	
Mating face and around stud bolts of banjo housing	Loctite 5910
Wheel bearings	
Wheel bearing pre-load:	
frictional force without hub seal	30 - 62 N(1)
ABS sensor ring	
Axial end play	max. 0.2 mm
Trailing axle lifting height	
Minimum trailing axle lifting height	100 mm
Driven axle caster	
FAG	3.5°
FAS (11/7 ratio)(2)	3.5°
FAS (10/10 ratio)(2)	4°
FAV	2°
Other	4.5°

Note:
(1) Measured at the circumference of the hub
(2) With a lowered trailing axle

2.2 TIGHTENING TORQUES

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The tightening torques stated in this section are different from the standard tightening torques stated in the overview of the standard tightening torques. Any other threaded connections that are not specified must therefore be tightened to the torque stated in the overview of standard tightening torques.

When attachment bolts and nuts are replaced, it is important that - unless stated otherwise - these bolts and nuts are of exactly the same length and property class as the ones removed.

Differential	
Drive flange attachment nut	1325 Nm(1)
Lock nut of differential lock cylinder	80 Nm
Attachment bolts, differential to axle housing	
- if M16 8.8	195 Nm(2)
- if M16 10.9	260 Nm(2)
Torx plug (level check/filler and drain plug)	85 Nm
Hub	
Hub nut	2125 Nm
Attachment bolts, locking plate	
- if M8 8.8	23 Nm(3)
- if M8 10.9	30 Nm(3)
Planet-gear unit attachment nuts	45 Nm
Hub cap attachment bolts	
- if M8 8.8	23 Nm
- if M8 10.9	30 Nm
Torx plug (level check/filler and drain plug)	85 Nm

Note:
(1) Secure with Loctite 262
(2) Secure with Loctite 572
(3) Secure with Loctite 243

2.3 FILLING CAPACITIES

Differential	
Filling capacities	approx. 16.5 litres
Hub	
Oil capacity, per hub	2.0 litres

3. TANDEM REAR AXLE 1355 T

3.1 GENERAL

Sealants for differential	
Mating face of banjo housing	Loctite 5910
Attachment bolt and nut flanges, differential to axle housing	Loctite 5910
Input shaft bearing house cover	Loctite 5910
Wheel bearings	
Wheel bearing pre-load:	
frictional force without hub seal	30 - 62 N(1)
ABS sensor ring	
Axial end play	max. 0.2 mm
Driven axle caster	
Caster	5°

Note:
(1) Measured at the circumference of the hub

Differential lock adjustment
Selector shaft adjusting screw 0.1 mm under the mating surface of the differential housing with fully engaging claws.

3.2 TIGHTENING TORQUES

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The tightening torques stated in this section are different from the standard tightening torques stated in the overview of the standard tightening torques. Any other threaded connections that are not specified must therefore be tightened to the torque stated in the overview of standard tightening torques.

When attachment bolts and nuts are replaced, it is important that - unless stated otherwise - these bolts and nuts are of exactly the same length and property class as the ones removed.

Differential	
Drive flange attachment nut	1385 Nm(1)
Differential lock cover attachment bolts	
- if M8 8.8	23 Nm
- if M8 10.9	30 Nm
Attachment bolts, differential to axle housing	
- M12 attachment bolts	
- if M12 8.8	75 Nm(2)
- if M12 10.9	110 Nm(2)
- M14 12.9 attachment bolts	200 Nm(2)
Attachment bolts, input shaft bearing cover	50 Nm
Torx plug (level check/filler and drain plug)	85 Nm
Hub	
Hub nut	2125 Nm
Attachment bolts, locking plate	
- if M8 8.8	23 Nm(3)
- if M8 10.9	30 Nm(3)
Planet-gear unit attachment nuts	45 Nm
Hub cap attachment bolts	
- if M8 8.8	23 Nm
- if M8 10.9	30 Nm
Torx plug (level check/filler and drain plug)	85 Nm

Note:
(1) Secure with Loctite 262
(2) Secure with Loctite 572
(3) Secure with Loctite 243

3.3 FILLING CAPACITIES

Differential	
Filling capacity 1st axle	approx. 18.0 litres
Filling capacity 2nd axle	approx. 13.0 litres
Hub	
Oil capacity, per hub	2.0 litres

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4. TRAILING AXLES

4.1 GENERAL

Wheel bearings	
Wheel bearing play	0.025 - 0.25 mm
Hub cap	
Sealant	Loctite 572

4.2 TIGHTENING TORQUES

The tightening torques stated in this section are different from the standard tightening torques stated in the overview of the standard tightening torques. Any other threaded connections that are not specified must therefore be tightened to the torque stated in the overview of standard tightening torques.

When attachment bolts and nuts are replaced, it is important that - unless stated otherwise - these bolts and nuts are of exactly the same length and property class as the ones removed.

Hub of trailing axle 09N075	
Hub lock nut, 09N075	210 Nm
Wheel nuts	700 Nm(1)
Hub of trailing axle 09N220	
Hub lock nut, 09N220	560 Nm
Hub cap attachment bolts	70 Nm
Wheel nuts	700 Nm(1)

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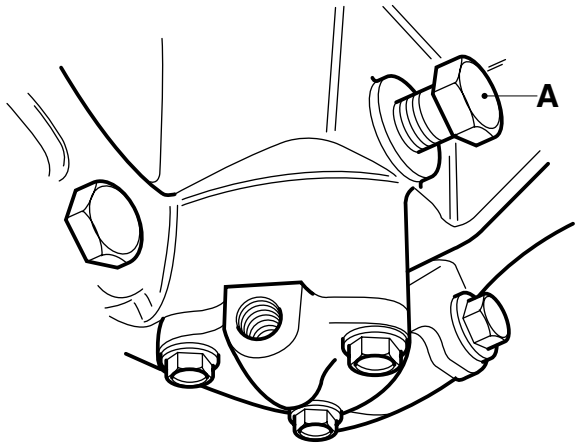
Bearing block

A	Attachment bolts, bearing block to bearing support	
	- if M16 8.8 nut	195 Nm
	- if M16 10.9 nut	260 Nm
B	Pull-rod/push-rod attachment nut	130 Nm
C	Adjusting nut, outer bearing block	90 Nm



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Note:

(1) Retighten after 100 km; if new wheel nuts have been fitted, the wheels need additional retightening after 500 km.

5. HYDRAULIC LIFTING GEAR

5.1 GENERAL

Cut-out pressure, pressure switch	160 bar
Pre-set value, pressure relief valve	180 bar
Maximum admissible system pressure	200 bar
Test pressure, lifting cylinder	220 bar
Delivery pipe while lifting	Line connection B
Delivery pipe while lowering	Line connection A (The characters are printed on the pump unit)
Safety device	Once the trailing axle has been lowered, it can only be lifted again after approx. 2.5 minutes. If the control switch is put into the “lifting” position within approx. 2.5 minutes, the lifting gear will not be activated and the time relay will be reset. In that case you will have to wait about another 2.5 minutes before the trailing axle can be lifted.

5.2 TIGHTENING TORQUES

The tightening torques stated in this section are different from the standard tightening torques stated in the overview of the standard tightening torques. Any other threaded connections that are not specified must therefore be tightened to the torque stated in the overview of standard tightening torques.

When attachment bolts and nuts are replaced, it is important that - unless stated otherwise - these bolts and nuts are of exactly the same length and property class as the ones removed.

Pump unit	
2/2 valve	25 Nm
4/2 valve	25 Nm
Pressure relief valve	30 Nm
Pressure switch	25 Nm
Pump attachment bolts	25 Nm
Engine attachment bolts	17 Nm
Cylinder	
Piston attachment nut	200 Nm

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6. LEADING REAR AXLE 09N044 (FTP-TYPE VEHICLES)

6.1 GENERAL

Wheel bearing play of leading rear axle 09N044	0 mm

6.2 TIGHTENING TORQUES

The tightening torques stated in this section are different from the standard tightening torques stated in the overview of the standard tightening torques. Any other threaded connections that are not specified must therefore be tightened to the torque stated in the overview of standard tightening torques.

When attachment bolts and nuts are replaced, it is important that - unless stated otherwise - these bolts and nuts are of exactly the same length and property class as the ones removed.

Hub nut	100 Nm(1)
Hub cap	500 Nm
U-bolt nut M20, property class 10	553 Nm(2)

Note:
(1) Turn back until split pin can be fitted.
(2) Evenly tighten the two U-bolt nuts alternately.

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1. SINGLE REAR AXLE 1347

1.1 FAULT-FINDING TABLE

FAULT: NOISES IN REAR AXLE AND DRIVE ASSEMBLY	
Possible cause	**Remedy**
Oil level too low	Top up oil
Oil with incorrect viscosity	Drain oil and top up
Loosened attachment bolts or broken differential-lock parts	Drain oil and check drained oil for presence of pieces of metal
Pinion-bearing play	Adjust and/or replace

FAULT: OIL LEAKAGE	
Possible cause	**Remedy**
Oil level too high	Drain oil
Oil with incorrect viscosity	Drain oil and top up
Leaking oil sealing ring	Replace oil sealing ring
Bleeding system blocked	Clean or replace the bleeding system
Oil leakage between the differential housing mating surfaces	Clean mating surfaces and apply new sealing compound

FAULT: DIFFERENTIAL LOCK IS NOT FUNCTIONING	
Possible cause	**Remedy**
No air pressure at engaging cylinder	Check compressed-air system
Defective pneumatic control	Check or replace pneumatic switch
Defective mechanical switch control	Check switch control

FAULT: DIFFERENTIAL-LOCK WARNING LAMP IS NOT FUNCTIONING	
Possible cause	**Remedy**
Switch on cylinder fitted too high	Readjust switch
Switch on cylinder defective	Replace switch
Fault in electrical circuit	Check electrical circuit

FAULT: VIBRATIONS IN THE DRIVE LINE	
Possible cause	**Remedy**
Lifted trailing axle causes excessive in spring-leafed models	- Limit the trailing axle lifting height, see chapter “Inspection and adjustment” - Install a key between the spring assembly and the spring seat, see chapter “Inspection and adjustment”

2. SINGLE REAR AXLE 1354

2.1 FAULT-FINDING TABLE

FAULT: NOISES IN REAR AXLE AND DRIVE ASSEMBLY	
Possible cause	**Remedy**
Oil level too low	Top up oil
Oil with incorrect viscosity	Drain oil and top up
Loosened attachment bolts or broken differential-lock parts	Drain oil and check drained oil for presence of pieces of metal
Pinion-bearing play	Adjust and/or replace

FAULT: OIL LEAKAGE	
Possible cause	**Remedy**
Oil level too high	Drain oil
Oil with incorrect viscosity	Drain oil and top up
Leaking oil sealing ring	Replace oil sealing ring
Bleeding system blocked	Clean or replace the bleeding system
Oil leakage between the differential housing mating surfaces	Clean mating surfaces and apply new sealing compound

FAULT: DIFFERENTIAL LOCK IS NOT FUNCTIONING	
Possible cause	**Remedy**
No air pressure at engaging cylinder	Check compressed-air system
Defective pneumatic control	Check or replace pneumatic switch
Incorrect setting engaging cylinder	Adjust engaging cylinder
Defective mechanical switch control	Check switch control

FAULT: DIFFERENTIAL-LOCK WARNING LAMP IS NOT FUNCTIONING	
Possible cause	**Remedy**
Defective pressure switch	Replace pressure switch
Fault in electrical circuit	Check electrical circuit

FAULT: VIBRATIONS IN THE DRIVE LINE	
Possible cause	**Remedy**
Lifted trailing axle causes excessive in spring-leafed models	- Limit the trailing axle lifting height, see chapter “Inspection and adjustment” - Install a key between the spring assembly and the spring seat, see chapter “Inspection and adjustment”

3. TANDEM REAR AXLE 1355 T

3.1 FAULT-FINDING TABLE

FAULT: NOISES IN REAR AXLE AND DRIVE ASSEMBLY	
Possible cause	**Remedy**
Oil level too low	Top up oil
Oil with incorrect viscosity	Drain oil and top up
Loosened attachment bolts or broken differential-lock parts	Drain oil and check drained oil for presence of pieces of metal
Pinion-bearing play	Adjust and/or replace

FAULT: OIL LEAKAGE	
Possible cause	**Remedy**
Oil level too high	Drain oil
Oil with incorrect viscosity	Replace oil sealing ring
Leaking oil sealing ring	Clean or replace the bleeding system
Bleeding system blocked	Ontluchting reinigen of vervangen
Oil leakage between the differential housing mating surfaces	Clean mating surfaces and apply new sealing compound

FAULT: DIFFERENTIAL LOCK IS NOT FUNCTIONING	
Possible cause	**Remedy**
No air pressure at engaging cylinder	Check compressed-air system
Defective pneumatic control	Check or replace pneumatic switch
Defective mechanical switch control	Check switch control

FAULT: DIFFERENTIAL-LOCK WARNING LAMP IS NOT FUNCTIONING	
Possible cause	**Remedy**
Switch on cylinder fitted too high	Readjust switch
Switch on cylinder defective	Replace switch
Fault in electrical circuit	Check electrical circuit

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4. HYDRAULIC LIFTING GEAR

4.1 FAULT-FINDING TABLE

FAULT: TRAILING AXLE DOES NOT LIFT, PUMP MOTOR IS NOT RUNNING	
Possible cause	**Remedy**
Time between lowering and lifting < 2.5 minutes, causing the time relay to be constantly reset	After lowering the axle, wait for more than 2.5 minutes before putting the control switch into the “lifting” position
Fault in electrical circuit	Check electrical circuit
Defective pump motor	Replace pump motor

FAULT: TRAILING AXLE DOES NOT LIFT, PUMP MOTOR IS OPERATING BUT IS SWITCHED OFF IMMEDIATELY	
Possible cause	**Remedy**
4/2 valve is not functioning	Check whether the 4/2 valve is activated
The 4/2 and 2/2 valve connectors have been switched	Check the connection using the wire numbers
Piping kinked	Check piping
The pipe connections on the pump unit have been switched	Check pipe connections

FAULT: TRAILING AXLE IS LIFTED PARTIALLY, PUMP MOTOR IS SWITCHED OFF	
Possible cause	**Remedy**
Pressure switch activates at pressure which is too low	Check pressure switch cut-out pressure and replace pressure switch, if necessary
Piping kinked	Check piping
Blocked trailing axle or mechanical linkage of lifting gear	Check the mechanical linkage
In cold weather conditions: oil with wrong viscosity applied	Drain the oil and fill the system with the specified oil

1

FAULT: TRAILING AXLE IS LIFTED PARTIALLY, PUMP MOTOR CONTINUES TO OPERATE	
Possible cause	**Remedy**
Not enough oil in the reservoir	Check oil level and top up, if necessary
Opening pressure of pressure-relief valve too low or valve is leaking	Check the opening pressure of the pressure-relief valve. Adjust or replace the valve
The 4/2 valve is leaking	Check the system pressure and subsequently inspect the 4/2 valve
Insufficient pump delivery due to leakage between pump and valve block, a worn pump or a defective motor	Check the system pressure, the pump and the pump motor

FAULT: PUMP MOTOR CONTINUES TO OPERATE WHILE THE TRAILING AXLE HAS BEEN FULLY LIFTED OR LOWERED	
Possible cause	**Remedy**
Pressure-relief valve setting too low	Check the opening pressure of the pressure-relief valve and adjust the pressure-relief valve
Pressure switch is not functioning	Check the pressure switch and the wiring Replace the pressure switch, if necessary
Fault in electrical circuit	Check electrical circuit

FAULT: TRAILING AXLE DOES NOT LOWER, PUMP MOTOR IS NOT RUNNING	
Possible cause	**Remedy**
Fault in electrical circuit	Check electrical circuit

FAULT: TRAILING AXLE DOES NOT LOWER, PUMP MOTOR IS OPERATING BUT IS SWITCHED OFF IMMEDIATELY	
Possible cause	**Remedy**
2/2 valve is not functioning	Check whether the 2/2 valve is activated
The 2/2 and 4/2 valve connectors have been switched	Check the connection using the wire numbers
Piping kinked	Check piping

FAULT: TRAILING AXLE IS LOWERED QUICKLY, PUMP MOTOR IS NOT OPERATING AND RESERVOIR MAY FLOOD	
Possible cause	**Remedy**
Fault in electrical circuit	Check electrical circuit
Defective pump motor	Repair or replace pump motor

FAULT: TRAILING AXLE IS LOWERED AUTOMATICALLY ONCE LIFTED	
Possible cause	**Remedy**
External oil leakage	Check piping, piping connections, pump unit and cylinders for leakage
2/2 valve or non-return valve of the 2/2 valve improperly sealed	Check pump unit for internal leakage and subsequently inspect the 2/2 valve
Internal leakage of one of the cylinders	Check the cylinders for internal leakage

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1. GENERAL

1.1 DESCRIPTION OF 1347 AXLE

Differential
The 1347 axle is equipped with a differential with a hypoid gear.

A single reduction is applied.
The bevel gear-to-pinion backlash is achieved using adjusting nuts.

The pinion housing can be removed using jack screws.

The pinion bearing is adjusted using filler rings which are placed between the inner bearing races.

Differential lock
The 1347 differential is equipped with a variable differential lock.
The satellite-gear housing flange is fitted with radial toothing at the right. The left side of the selector sleeve is equipped with similar toothing.
The selector sleeve is fitted with splines, similar to the splines in the axle shaft.
At the outside the selector sleeve is fitted with a groove, in which a fork fits which is attached to the selector cylinder.

Operation
If the selector cylinder is pressurized using a pneumatic switch, the toothing of the selector sleeve will shift into the toothing of the satellite-gear housing.
If the selector cylinder is vented via the pneumatic switch, the spring ensures that the lock is deactivated.

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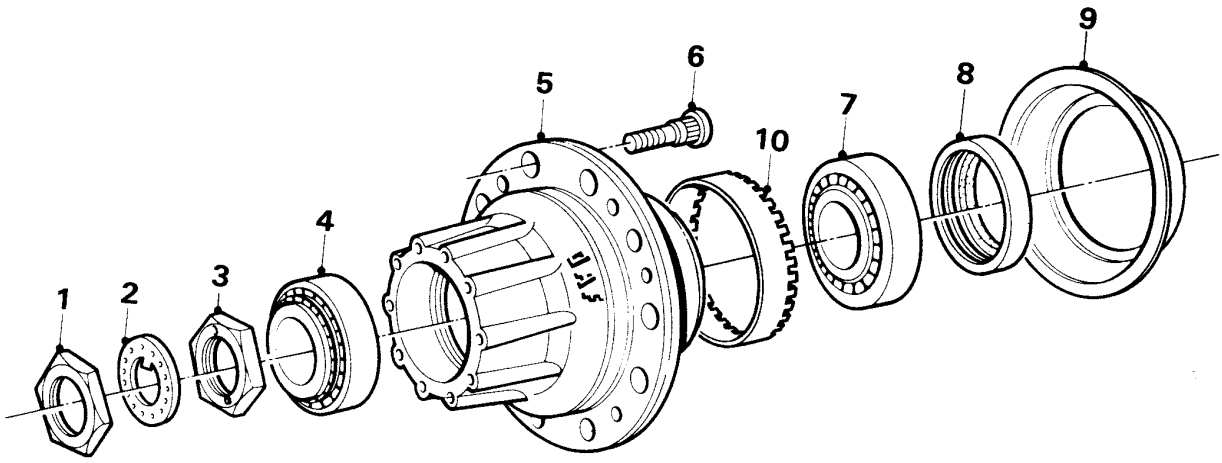
1.2 OVERVIEW DRAWING, WHEEL HUB



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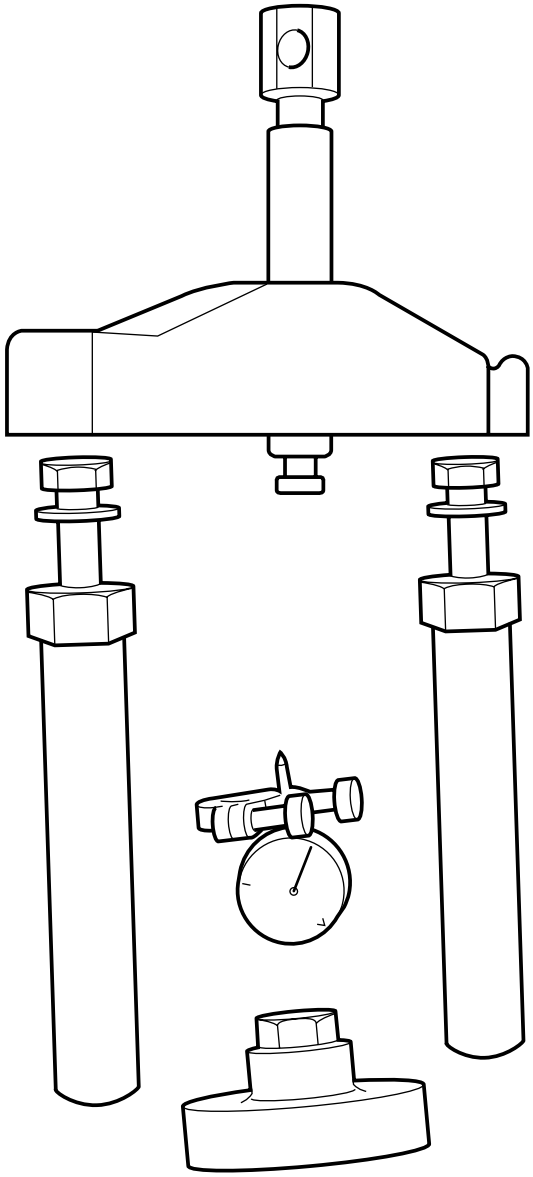
1. Lock nut
2. Circlip
3. Hub nut
4. Bevel roller bearing
5. Hub
6. Wheel stud
7. Bevel roller bearing
8. Unitized seal
9. Grease seal plate
10. Sensor ring

2. INSPECTION AND ADJUSTMENT

2.1 INSPECTION AND ADJUSTMENT, WHEEL BEARING PLAY

Inspection of the wheel bearing play

5. Jack up the rear axle and support the axle on stands.
6. Drain the hub oil, see chapter “Draining and filling”.
7. Remove the axle shafts, see chapter “Removal and installation”.
8. To check the wheel-bearing play use special tool (DAF no. 0535595).
9. Remove two opposite wheel nuts.



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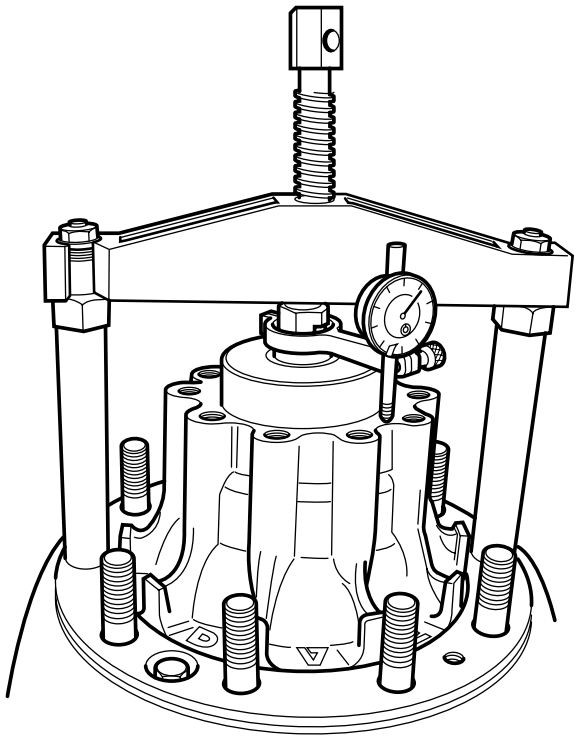
10. Fit the extensions of the special tool to the now vacant wheel studs.
11. Always clean the measuring surface thoroughly and tighten the central nut on the shaft end.
12. Place the dial-gauge holder on the central nut Place the dial gauge so that the stylus abuts the hub.
13. Turn the spindle into the bridge and fit it to the extensions so that the end of the spindle fits into the recess of the central nut. Tighten the bridge with the nuts.



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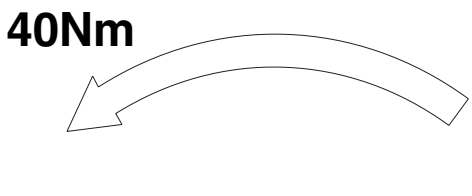
14. Press the hub firmly on to the axle stub by screwing the spindle counter-clockwise, until a tightening torque of 40 Nm is reached.

15. Withdraw the hub by screwing the spindle clockwise, until a tightening torque of 40 Nm is reached.

16. Press the hub firmly on to the axle stub by screwing the spindle counter-clockwise, until a tightening torque of 15 Nm is reached.
Set the dial gauge to “0”.

17. Withdraw the hub by screwing the spindle clockwise, until a tightening torque of 15 Nm is reached.
The value on the dial gauge should equal the technical data, see main group “Technical data”.

18. Readjust the wheel-bearing play if a deviating value is measured.



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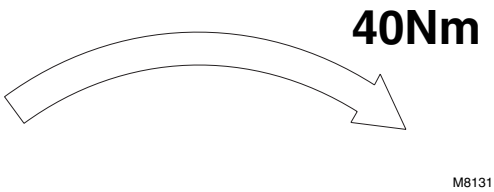

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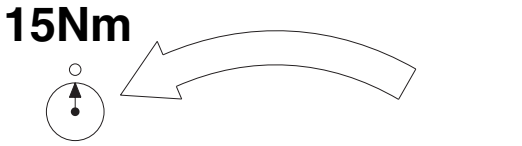

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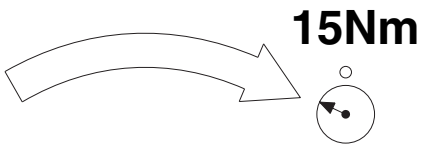

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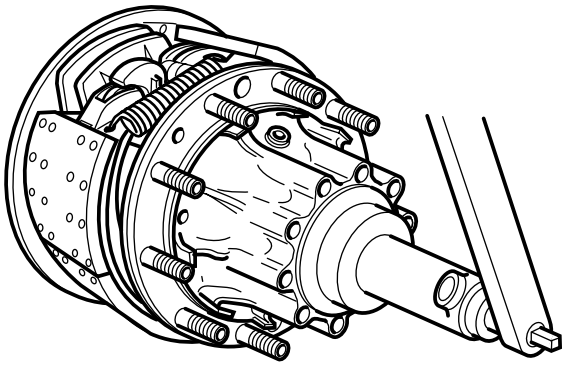
Adjustment of the wheel bearing play

1. Tighten the hub nut using special tool (DAF no. 0694894) to a tightening torque of 100 Nm, while turning the hub.
2. Turn the hub nut counter-clockwise 45° and 60° until the dowel pin of the axle nut falls into one of the holes of the circlip. This way the prescribed wheel-bearing play is achieved.
3. Fit the circlip and the lock nut. Tighten the lock nut to the specified torque using special tool (DAF no. 0694894), see main group “Technical data”.



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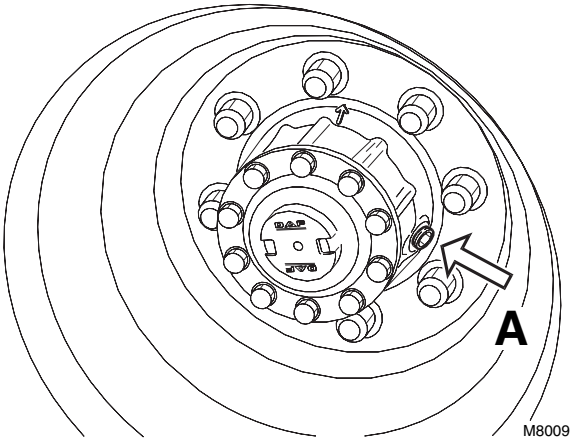
2.2 INSPECTION, HUB OIL LEVELS

To prevent skin injury, avoid unnecessary contact with the drained oil.

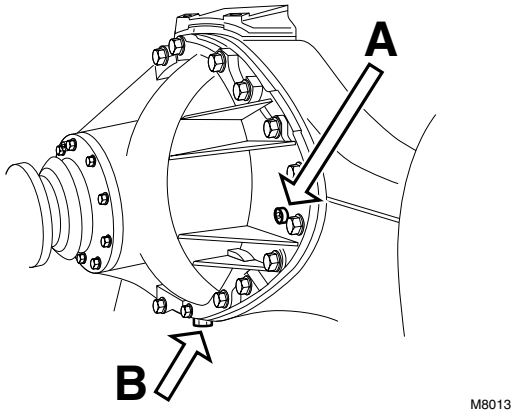
1. Position the vehicle on a level surface.
2. Position the wheels so that the arrow on the hub is pointing facing upwards.
3. Remove the oil-level plug/filler plug A. The oil level should reach the oil-level opening/filler opening.
4. Fit the plug.
   In the case of a Torx plug, use a special Torx wrench (DAF no. 1329422) and the specified tightening torque to fit the plug. See main group “Technical data”.



2.3 INSPECTION, DIFFERENTIAL OIL LEVEL

To prevent skin injury, avoid unnecessary contact with the drained oil.

1. Position the vehicle on a level surface.
2. If installed, lower the trailing axle on a leaf-spring version.
3. Remove the oil-level plug/filler plug A. The oil level should reach the oil-level opening/filler opening.
4. Fit the plug.
   In the case of a Torx plug, use a special Torx wrench (DAF no. 1329422) and the specified tightening torque to fit the plug. See main group “Technical data”.



2.4 INSPECTION, OPERATION OF DIFFERENTIAL LOCK

1. Jack up the rear axle and support the axle on stands.
2. Bring the air system to operating pressure.
3. Engage the differential lock. The warning lamp should now come on.
4. Check whether there is a “rigid” connection between the driven wheels.
5. Disengage the differential lock. The warning lamp must not light up and the “rigid” connection between the driven wheels should be broken.

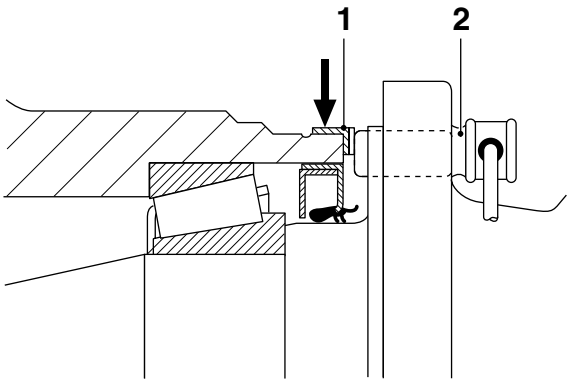
2.5 INSPECTION, HUB AND WHEEL BEARINGS

1. Inspect the bearings for damage at the following points:
   - the raceways of the bearing rollers
   - the bearing cage
   - the running surfaces of the inner and outer race.

   Replace the entire bearing (inner race, bearing cage and outer race), if damage is found.
2. When the outer race of the bearing is loose in the hub or has turned in the hub, the hub should be replaced.
3. Check the axle-stub screw thread, the bearing surfaces of the inner bearing races and the running surface of the oil seal for damage.
4. Check the ABS sensor ring for damage. Replace the ring at even the slightest trace of damage.

2.6 INSPECTION, ABS SENSOR RING

1. Remove the wheel hub, see chapter “Removal and installation”.
2. Check the sensor ring (1) for deposits. Pay special attention to deposits between the teeth of the sensor ring.
   Clean the sensor ring, if necessary.
3. Check the sensor ring (1) for damage. Even the slightest damage can cause a failure.
   If required, replace the sensor ring.
4. If possible, check sensor ring (1) for the maximum admissible axial end play, see main group “Technical data”.
5. Check the sensor (2) for smooth operation.
   If necessary, clean the sensor and apply new grease.



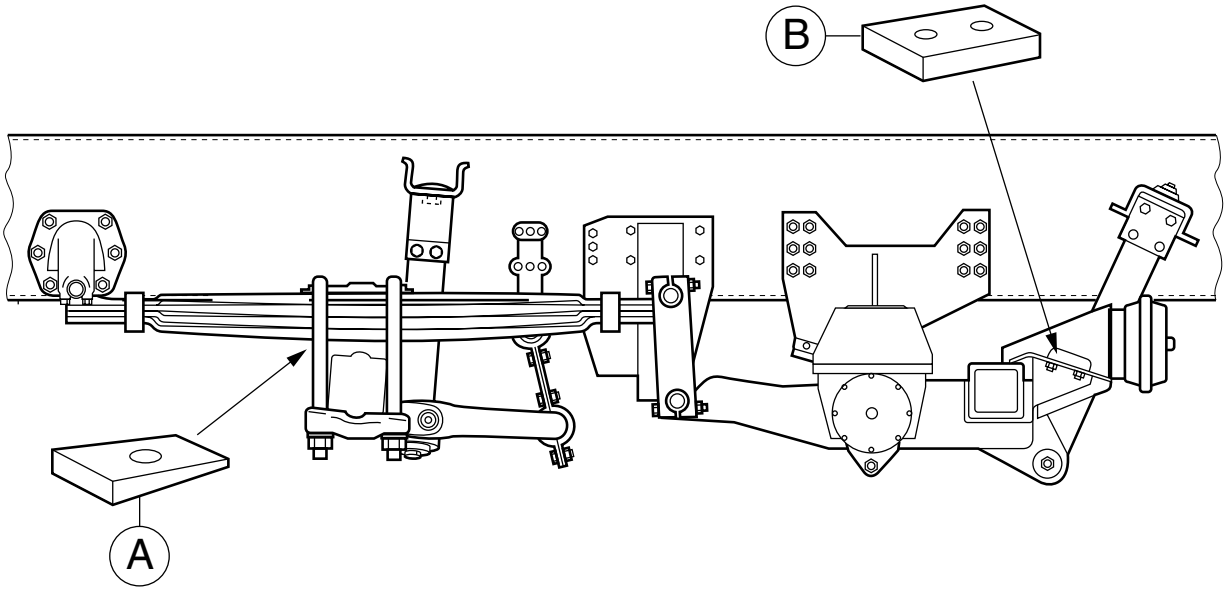
S7 00 134

2.7 INSPECTION AND ADJUSTMENT, CASTER

Inspection of the caster

1. Place the vehicle on a level surface.
2. Make sure that the axle load is nominal with the trailing-axle on the ground.
3. Remove the drive axle from the differential.
4. Position a protractor on the drive flange and measure the axle caster relative to the chassis side member. See main group “Technical data” for the specified caster.

Adjustment of the caster, spring-leafed trailing axle

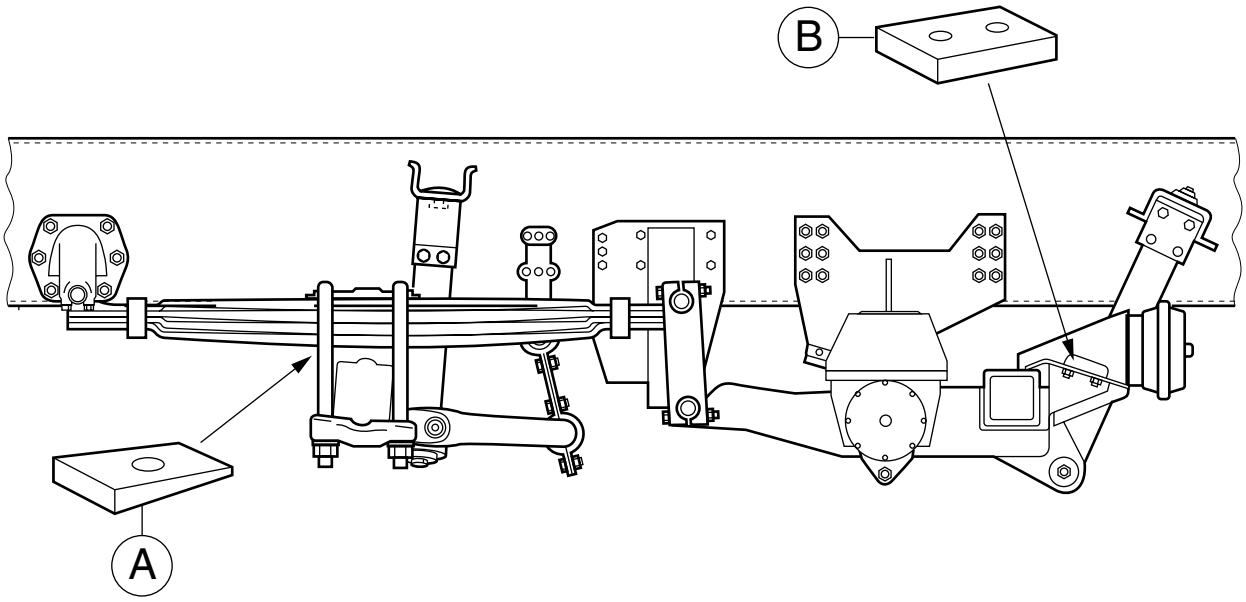


A8 00 292

Note:
Decreasing the lifting height of the trailing axle will reduce the caster. See main group “Technical data” for the minimum lifting height of the trailing axle.

1. Position block (B) underneath the bump stop. This block can be made in your own workshop.
2. Position the bump stop.
3. If the resulting adjustment is insufficient, the drive axle caster must be adjusted.

Adjustment of the caster, driven-axle



A8 00 292

1. Jack up the chassis until the driven axle is loose.

   Note:
   Make sure that both the chassis and the axle are supported correctly using stands.

2. Loosen the U-bolt nuts, so that the right key can be installed at position (A).

3. Tighten the U-bolt nuts on both sides alternately to the specified tightening torque.

4. Check the caster once again.

2

3. REMOVAL AND INSTALLATION

3.1 REMOVAL AND INSTALLATION, ENTIRE REAR AXLE

Removing the entire rear axle

1. Block the front wheels using chocks.
2. Slacken the central bolt of the spring-brake cylinder as far as possible.
3. Apply the parking brake.
4. Remove the air lines and wiring.
5. Remove the drive shaft from the drive flange.
6. Loosen the shock absorbers on the bottom.
7. Loosen the control rod of the load-sensing valve.
8. Support the vehicle securely with stands under the chassis side members.
9. Remove the axle suspension/axle guide. Take the necessary precautions to prevent the axle from toppling when removing the axle suspension/axle guide.
10. If possible, the entire rear axle with wheels should be rolled from under the vehicle.

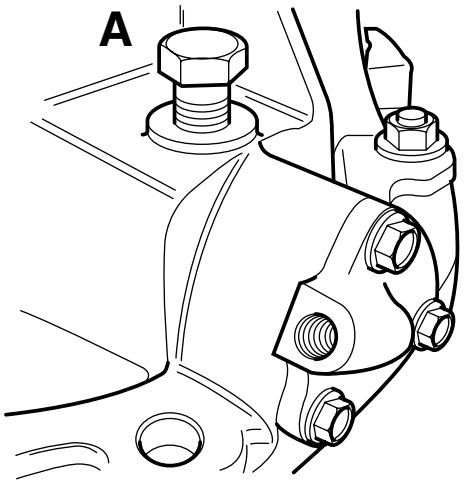
Installation of the entire rear axle

1. Install the entire rear axle with wheels under the vehicle.
2. Install the axle suspension/axle guide.
3. Install the control rod of the load-sensing valve.
   Note:
   Check the adjustment of the load-sensing valve after you have installed the rear axle.
4. Install the shock absorbers.
5. Fit the drive shaft to the drive flange.
6. Connect the electrical wiring and fit the air pipes.
7. Fasten the central bolt of the spring-brake cylinder.

3.2 REMOVAL AND INSTALLATION, AXLE SHAFTS

Removal of the axle shafts

1. Jack up the rear axle and support the axle on stands.
2. Activate the differential lock and install the special tool (DAF no. 1329447) at the location of the switch as in (A).
3. Drain the hub oil, see chapter “Draining and filling”.



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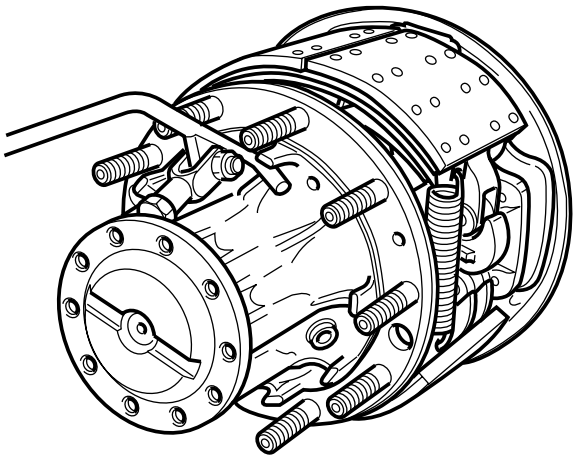
4. Remove the axle-shaft attachment bolts.
5. Remove the axle shaft, if necessary using special tool (DAF no. 0694980).

Installation of the axle shafts

1. Install the axle shaft using a sealing compound and tighten the attachment bolt of the axle shaft to the specified tightening torque, see main group “Technical data” for the specified caster.
2. Fill the hub with oil, see chapter “Draining and filling”.
3. Remove the special tool from the differential lock and fit the switch again.



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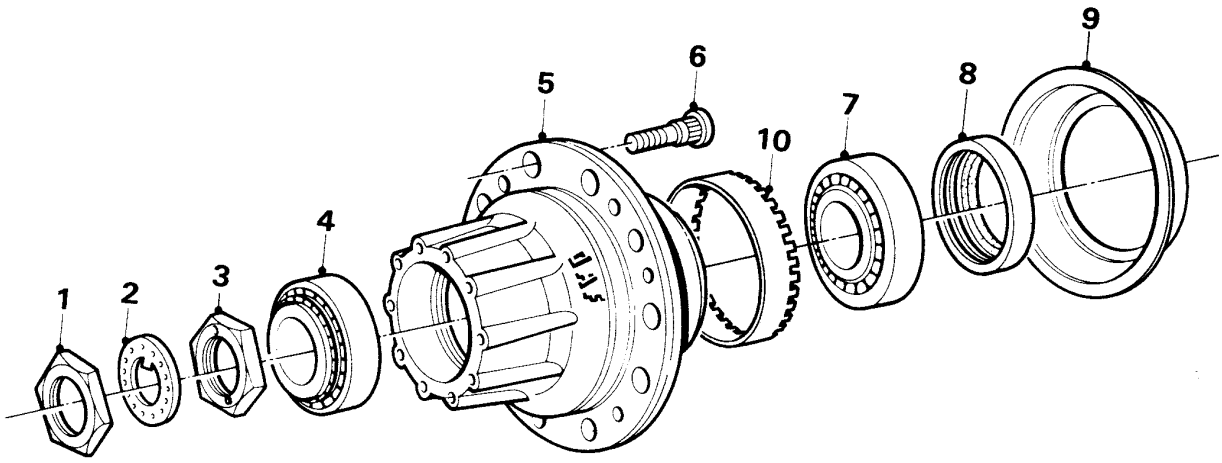
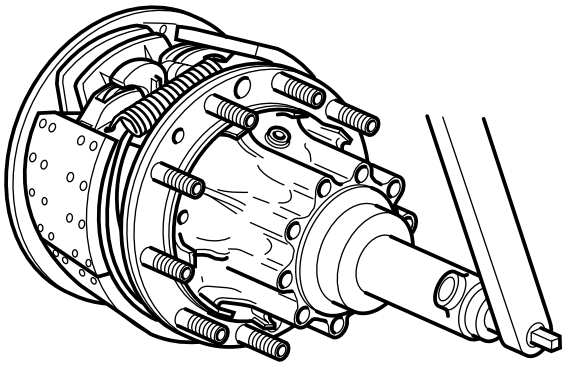
3.3 REMOVAL AND INSTALLATION, WHEEL HUB



W 8 07 049

Removal of the wheel hub

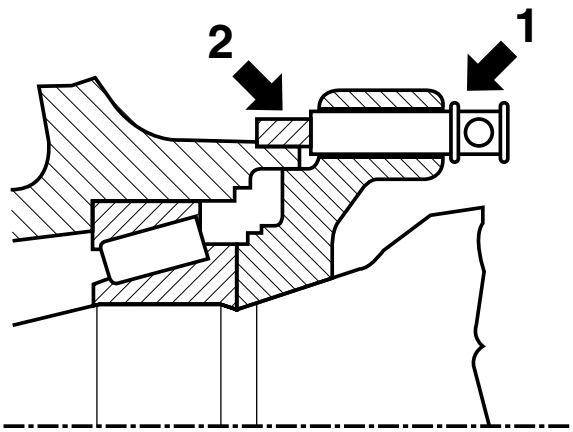
1. Jack up the rear axle and support the axle on stands.
2. Remove the wheels.
3. Release the brakes.
4. Remove the brake drum.
5. Remove the axle shaft.
6. Remove the lock nut (1) using the special tool (DAF no. 0694894).
7. Remove the circlip (2).
8. Remove the hub nut (3) using special tool (DAF no. 0694894).
9. Remove the wheel hub from the axle end.
10. Replace the wheel hub oil seal.



A800148

Installation of the wheel hub

1. Oil the axle stub and the inner and outer bearing and slide the wheel hub over the axle stub. Use the outer bearing as a guide.
2. Fit the hub nut and adjust the wheel-bearing play, see chapter “Checking and adjusting”.
3. Push the sensor (1) against the sensor ring (2), if the vehicle is equipped with ABS. While the vehicle is being driven, the air gap between the sensor and the sensor ring is adjusted automatically.
4. Fit the axle shaft.
5. Fit the brake drum.
6. Put the wheels back on.
7. Adjust the brakes.



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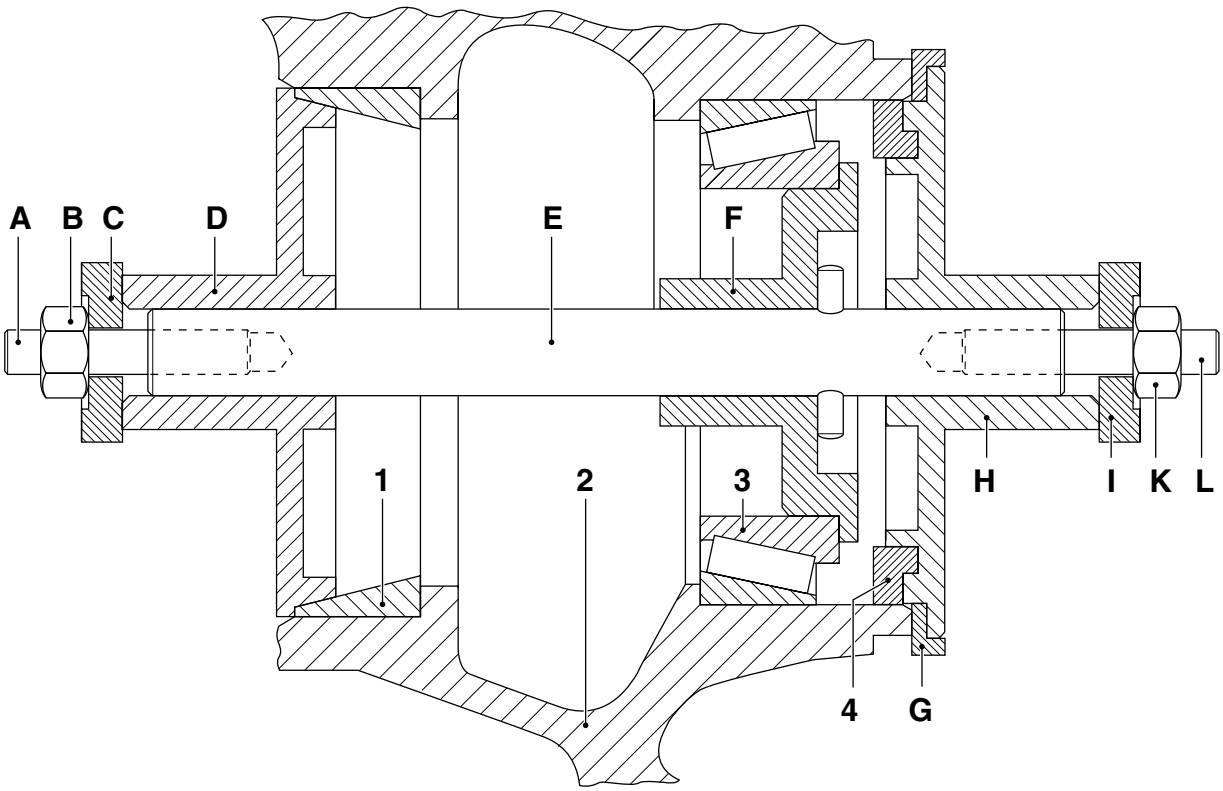
3.4 REMOVAL AND INSTALLATION, HUB OIL SEAL



S7 00 180

Removal of the hub oil seal

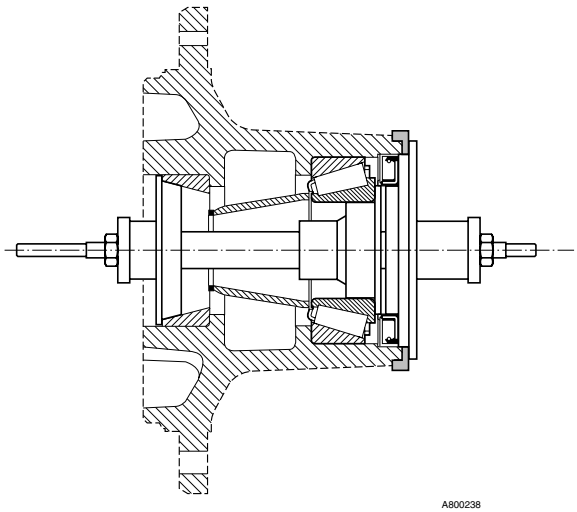
1. Remove the wheel hub.
2. Remove the hub oil seal.

Installation of the hub oil seal

1. Check the oil-seal chamber (4) in the hub (2) for damage.
2. For the installation of the hub oil seal (4) use special tool (DAF no. 1240036).
3. The special tool is assembled as follows: screw the threaded ends (A and L) into the centring spindle (E).
   The shorter threaded end (L) is fitted on the side where the pin is inserted into the centring spindle (E).
4. Slide the appropriate centring flange (F) over the centring spindle (E).

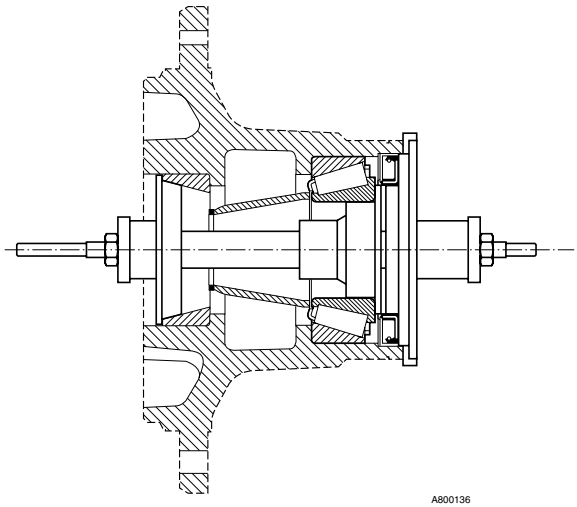
5. Install the inner wheel bearing (3). Slide the centring axle (E) with the centring flange (F) into the hub (2).
6. Press the centring flange (F) into the inner wheel bearing (3).
7. Slide the appropriate centring flange (D) over the centring spindle (E).
8. Fit the lock plate (C) and the nut (B) onto the centring spindle (E).
9. Align the centring flange (D) on the outer race of the outer wheel bearing and hand-tighten nut (B) (max. 20 Nm). The centring axle (E) should be free from play in the hub (2).

Versions equipped with ABS
Install the draw-in flange (H) without the dummy sensor ring, if the hub (2) **is** equipped with an ABS sensor ring.

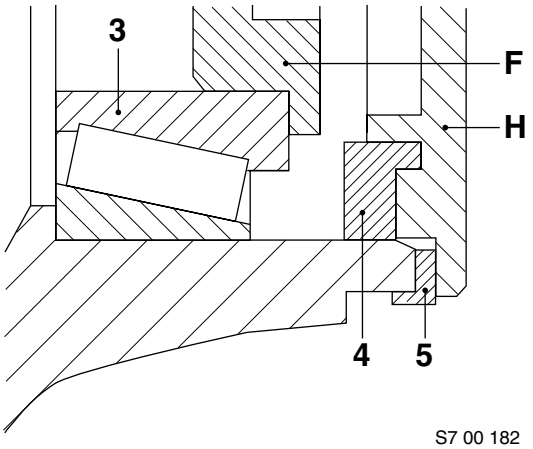


Versions not equipped with ABS
Fit the dummy sensor ring (G) to the draw-in flange (H), if the hub (2) **is not** equipped with an ABS sensor ring.

10. Position the oil seal (4) in front of the hub. Slide the draw-in flange (H) over the centring spindle (E) against the oil seal (4).
11. Fit the lock plate (I) and the nut (K).



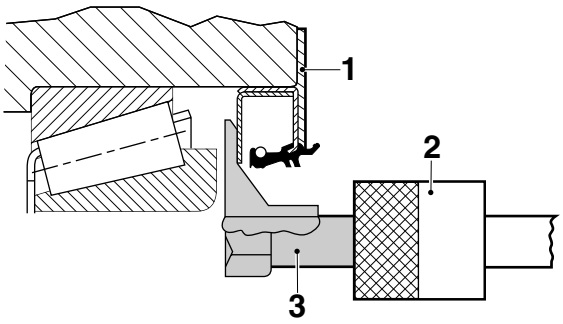
12. Push the oil seal (4) evenly into the hub (2) using the nut (K). In the case of a wheel hub **with** an ABS sensor ring (5), press the oil seal into the wheel hub until the draw-in flange (H) abuts the ABS sensor ring (5). In the case of a wheel hub **without** an ABS sensor ring (5), press the oil seal into the wheel hub until the dummy ABS sensor ring (G) abuts the hub rim.
13. Remove the special tool.
14. Apply grease to the sealing lips of the oil seal (4).
15. Install the hub on the axle stub.



3.5 REMOVAL AND INSTALLATION, COMBINED HUB OIL SEAL/ABS SENSOR RING

Removing the hub oil seal/ABS sensor ring

1. Remove the hub from the axle stub.
2. Fit the special tool (3) (DAF no. 1329411) to the impact extractor (2), special tool (DAF no. 0694928).
   Hook special tool (3) behind the oil seal (1).
   Pull the oil seal (1) evenly from the hub using the impact extractor (2).
   Once the oil seal has been removed, it cannot be re-used.



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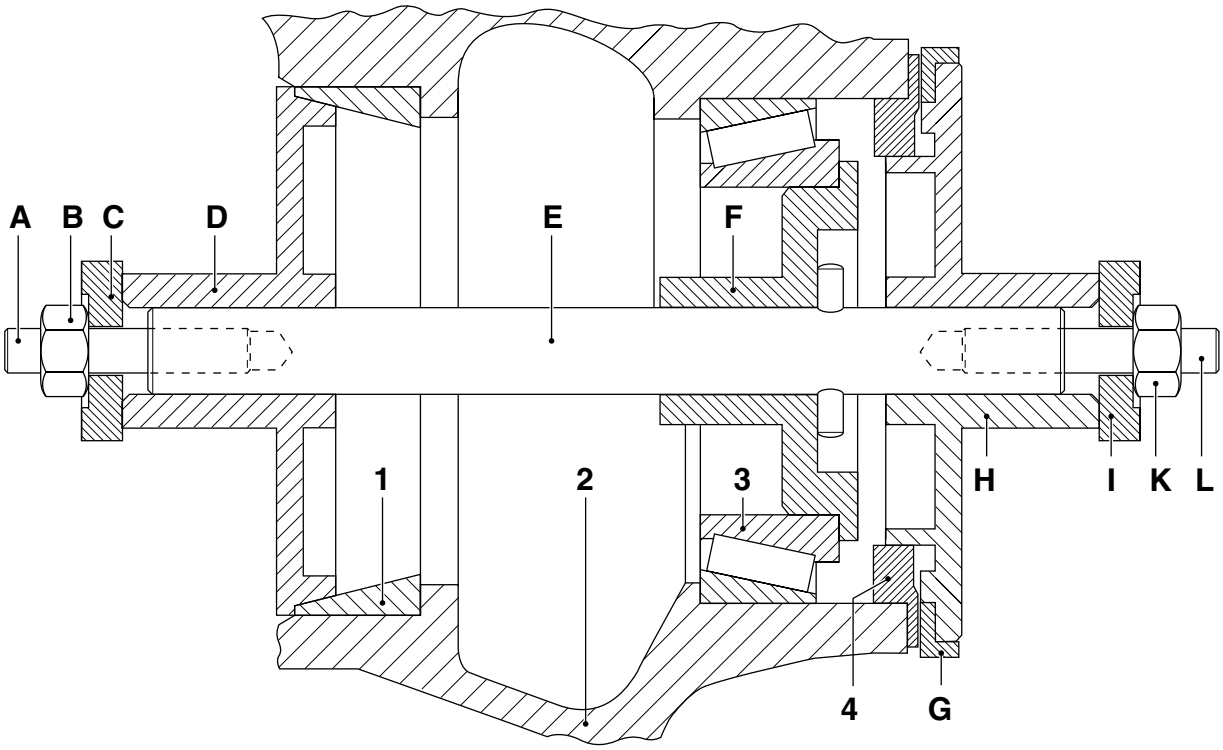
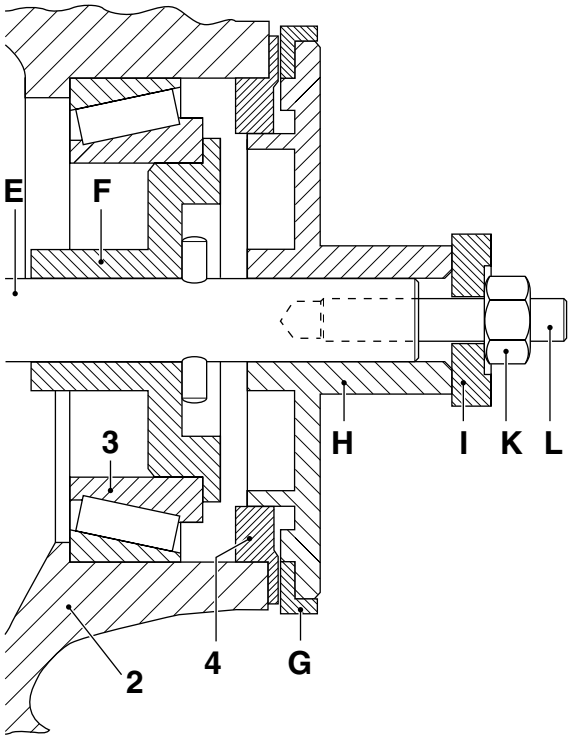


S7 00 405

Installing the hub oil seal/ABS sensor ring

1. Check the oil-seal chamber (4) in the hub (2) for damage.
2. For the installation of the hub oil seal (4) use special tool (DAF no. 1240036).

3. The special tool is assembled as follows: screw the threaded ends (A and L) into the centring spindle (E).
   The shorter threaded end (L) is fitted on the side where the pin is inserted into the centring spindle (E).
4. Slide the appropriate centring flange (F) over the centring spindle (E).
5. Install the inner wheel bearing (3).
   Slide the centring axle (E) with the centring flange (F) into the hub (2).
6. Press the centring flange (F) into the inner wheel bearing (3).
7. Slide the appropriate centring flange (D) over the centring spindle (E).
8. Fit the lock plate (C) and the nut (B) onto the centring spindle (E).
9. Align the centring flange (D) on the outer race of the outer wheel bearing and hand-tighten nut (B) (max. 20 Nm). The centring axle (E) should be installed free from play in the hub (2).
10. Fit washer (G) on draw-in flange (H).
11. Position the oil seal (4) in front of the hub (2).
12. Slide the draw-in flange (H) with the washer (G) over the centring spindle (E) against the oil seal (4).
13. Fit the lock plate (I) and the nut (K).
14. Press the oil seal (4) evenly into the wheel hub (2) using nut (K), until the ABS sensor ring abuts the hub (2).
15. Remove the special tool.
16. Apply grease to the sealing lips of the oil seal (4).
17. Install the hub on the axle stub.



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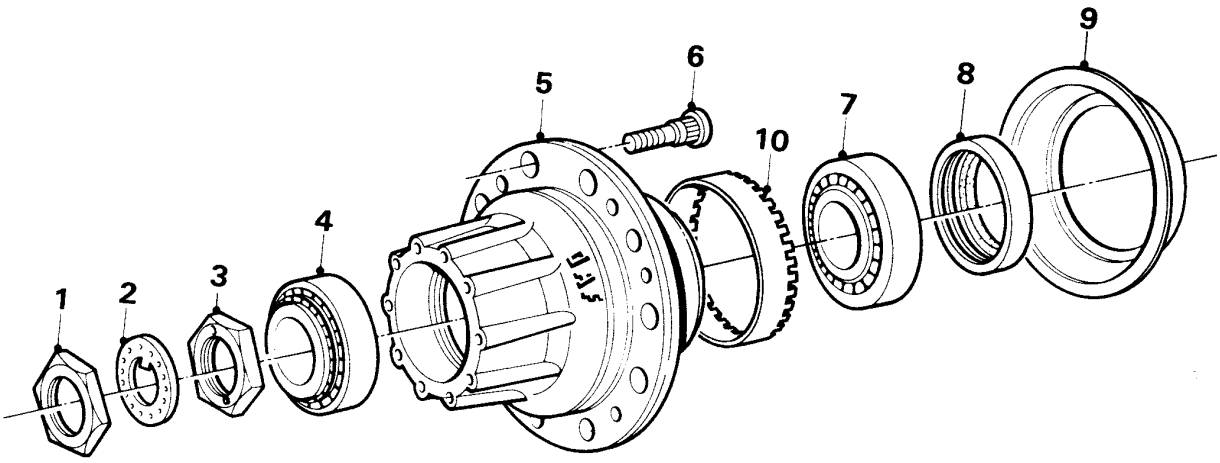
3.6 REMOVAL AND INSTALLATION, WHEEL BEARINGS



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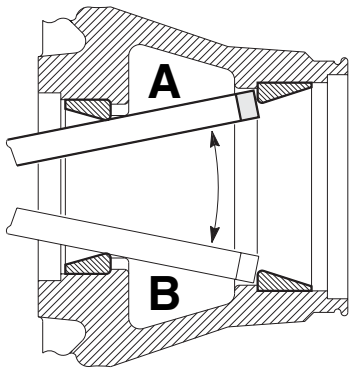
Removal of the wheel bearings

1. Remove the wheel hub.
2. Remove the hub oil seal.
3. Remove the inner bearing.
4. If the wheel bearings need replacing, the outer bearing races (4 and 7) can be tapped from the hub using a driver. For this purpose, the hub has been fitted with two recesses (A and B).



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Installation of the wheel bearings

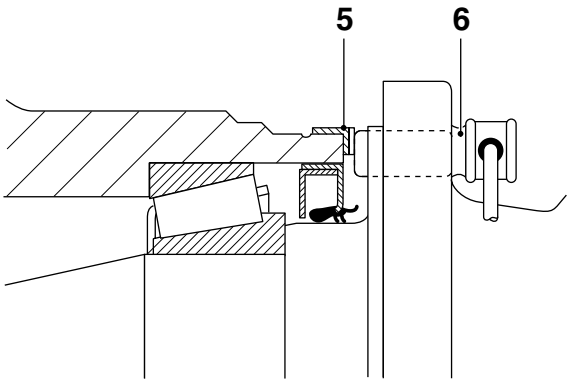
1. Clean the bearings and check them for damage.
2. Fit the outer bearing races into the hub using a driving tool and a hydraulic press, or by tapping the outer bearing races evenly using a driver.
3. Fit the inner bearing with hub oil seal.
4. Fit the wheel hub.

3.7 REMOVAL AND INSTALLATION, ABS SENSOR RING

Removing the ABS sensor ring

1. Remove the ABS sensor (6).
2. Remove the hub from the axle stub.
3. Remove the sensor ring (5) from the hub using a puller. Make sure that the clamping face of the sensor ring on the hub is not damaged in the process.

Once removed, a sensor ring should not be re-installed.



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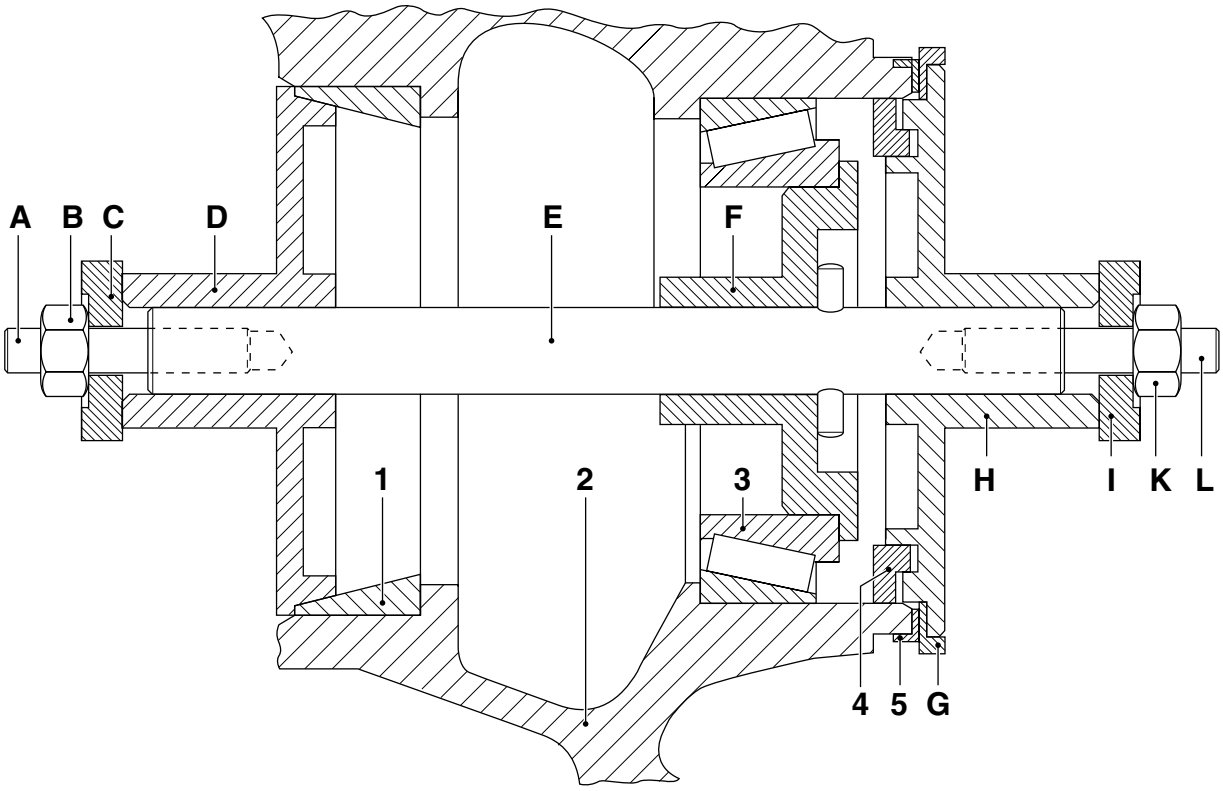
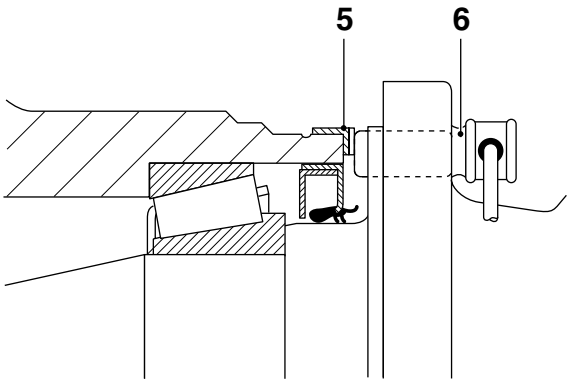


S7 00 181

Installing the ABS sensor ring

1. Check the clamping surface of the sensor ring on the hub for damage.
2. Check the new sensor ring carefully for possible transport damage.
3. Clean and degrease the contact surfaces of the hub (2) and the sensor ring (5).
4. The special tool is assembled as follows: screw the threaded ends (A and L) into the centring spindle (E).
   The shorter threaded end (L) is fitted on the side where the pin is inserted into the centring spindle (E).
5. Slide the appropriate centring flange (F) over the centring spindle (E).
6. Install the inner wheel bearing (3).
   Slide the centring axle (E) with the centring flange (F) into the hub (2).

7. Press the centring flange (F) into the inner wheel bearing (3).
8. Slide the appropriate centring flange (D) over the centring spindle (E).
9. Fit the lock plate (C) and the nut (B) onto the centring spindle (E).
10. Align the centring flange (D) on the outer race of the outer wheel bearing and hand-tighten nut (B) (max. 20 Nm). The centring axle (E) should be free from play in the hub (2).
11. Install the dummy sensor ring (G) on the draw-in flange (H).
12. Position the sensor ring (5) before the hub. Slide the draw-in flange (H) with the dummy sensor ring (G) over the centring spindle (E) until it abuts the sensor ring (5).
13. Fit the lock plate (I) and the nut (K).
14. Press the sensor ring (5) evenly onto the hub (2) using the nut (K) until the sensor ring is completely flush.
15. Install the hub on the axle stub.
16. Install the ABS sensor (6) and press it against the sensor ring (5).
    While the vehicle is being driven, the air gap between the sensor and the sensor ring is adjusted automatically.



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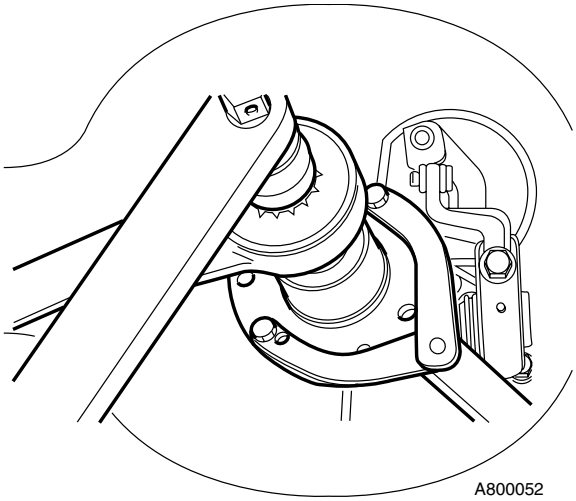
3.8 REMOVAL AND INSTALLATION, DRIVE FLANGE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Removal, drive flange

1. Remove the prop shaft from the drive flange.
2. Fit the drive flange with the special tool (DAF no. 0484977) to prevent it from being turned, and remove the drive-flange nut using a torque amplifier.
3. Remove the drive flange. If necessary, use a puller.

Installation, drive flange

1. Before installation check the drive flange at the oil-seal running surface for grooves and/or sharp edges. If required, replace the drive flange.
2. Fit the drive flange.
3. Apply a small amount of grease to the first turn of the drive-flange nut.
4. Apply locking compound to the screw thread, see main group “Technical data”.
5. Fit the drive flange with the special tool (DAF no. 0484977) to prevent it from being turned and tighten the drive-flange nut to the specified tightening torque, see main group “Technical data”.
6. Fit the drive shaft to the drive flange.

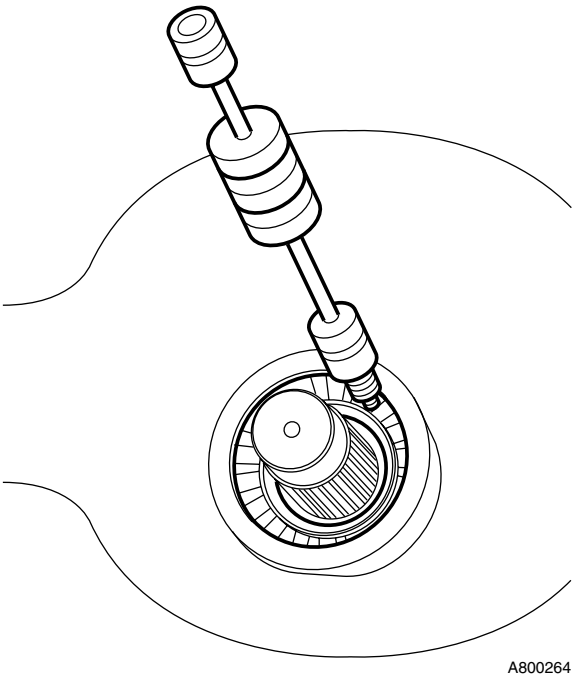
3.9 REMOVAL AND INSTALLATION, PINION OIL SEAL

Removal of the pinion oil seal

1. Remove the drive flange.
2. Drill two holes into the oil seal and turn the special tool (DAF no. 0484899) into the oil seal. Pull the oil seal from the pinion housing using the special tool (DAF no. 0694928).

Installation of the pinion oil seal

1. Fit the oil seal with the special tool (DAF no. 0694973) so that the inscription “outside” is pointed outwards.
2. Fit the drive flange.



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3.10 REMOVAL AND INSTALLATION, DIFFERENTIAL

Removal of the differential

1. Drain the oil from the differential and the hubs, see Chapter “Draining and filling”.
2. Remove the drive shaft from the drive flange.
3. Remove the axle shafts.
4. Remove the air connection for the differential lock.
5. Remove the attachment bolts from the differential.
6. Remove the differential from the axle housing using two jacking screws.

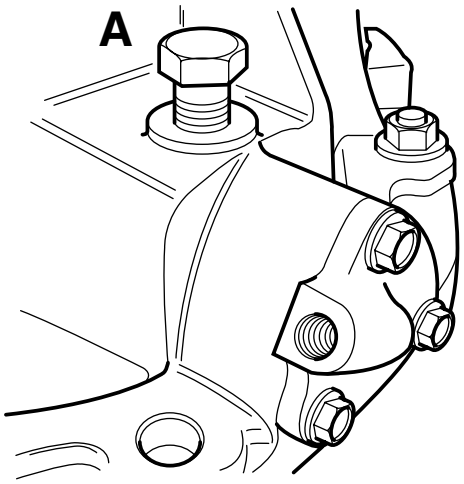
Installation of the differential

1. Clean the mating surfaces of the banjo housing and the differential housing, and sand these lightly. Do not damage the mating faces in the process.
2. Clean and degrease the bolts.
3. Apply a thin, even layer of sealant to the mating surface and around the bolt holes of the banjo housing.
4. Position the differential into the banjo housing and tighten the bolts evenly first. Subsequently tighten the bolts to the specified tightening torque, see main group “Technical data”.
5. Fit the air connection to the differential lock.
6. Fit the axle shafts.
7. Fit the drive shaft to the drive flange.
8. Fill the differential and the hubs with oil, see Chapter “Draining and filling”.

3.11 REMOVAL AND INSTALLATION, DIFFERENTIAL LOCK

Removal of the differential lock

1. Remove the differential.
2. Remove the attachment bolts (5) from the cylinder cover (6) and remove the cover.
3. Remove the special tool (A).
4. Remove the piston (4).
5. Subsequently remove the shifting fork (3) and the sliding sleeve (2) together with the pressure spring (1).



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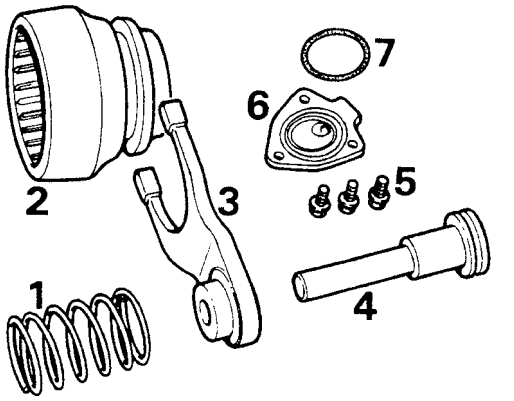
Installation of the differential lock

1. Fit the shifting fork and the sliding sleeve together with the pressure spring.
   Note:
   Make sure that the flat side of the shifting fork is flush against the shoulder of the axle.
2. Apply a small amount of oil to the sealing ring (7) of piston (4).
3. Fit the piston (4).
4. Fit the special tool A (DAF no. 1329447) so that the differential lock is locked.
5. Install the cylinder cover and tighten the attachment bolts to the specified tightening torque, see main group “Technical data”.
6. Install the differential.



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4. DRAINING AND FILLING

4.1 DRAINING AND FILLING, HUB

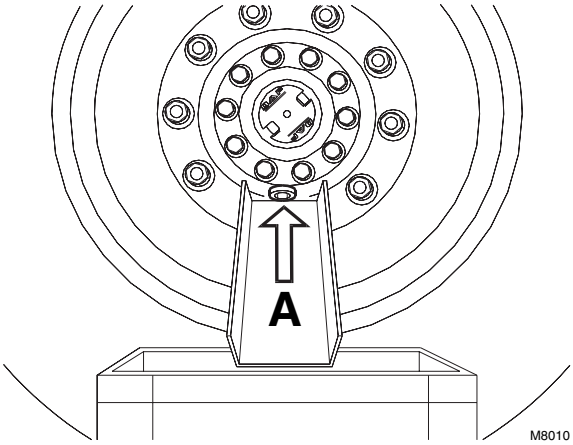
To prevent skin injury, avoid unnecessary contact with the drained oil.

Draining the hub

1. Position the vehicle on a level surface.
2. Position the wheels so that the level/filler plug (A) is at the underside.
3. Remove the oil-level plug/filler plug A and drain the oil.

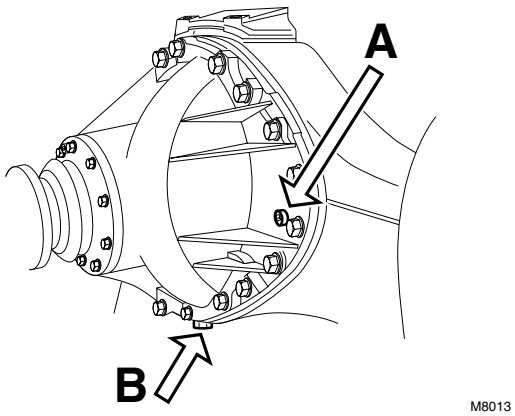
Filling the hub

1. Position the vehicle on a level surface.
2. Position the wheels so that the level/filler plug (A) is at the top side.
3. Fill the hub with the specified quantity of oil, see main group “Technical data”.
4. Check the oil level after approximately 5 minutes. See chapter “Inspection and adjustment”.
5. Fit the plug.
   In the case of a Torx plug, use a special Torx wrench (DAF no. 1329422) and the specified tightening torque to fit the plug. See main group “Technical data”.



4.2 DRAINING AND FILLING, DIFFERENTIAL

To prevent skin injury, avoid unnecessary contact with the drained oil.



Draining the differential

1. Position the vehicle on a level surface.
2. Remove drain plug (B) and drain the oil.
3. Fit the plug.
   In the case of a Torx plug, use a special Torx wrench (DAF no. 1329422) and the specified tightening torque to fit the plug. See main group “Technical data”.

Filling the differential

1. Position the vehicle on a level surface.
2. Remove the oil-level plug/filler plug A and fill the differential with the specified quantity of oil, see main group “Technical data”.
3. Check the oil level after approximately 5 minutes. See chapter “Inspection and adjustment”.
4. Fit the plug.
   In the case of a Torx plug, use a special Torx wrench (DAF no. 1329422) and the specified tightening torque to fit the plug. See main group “Technical data”.

CONTENTS

3

1. GENERAL

1.1 DESCRIPTION OF 1354 AXLE

The reduction in the differential is only very limited. That is why a single-reduction differential can be applied with a pinion which has a relatively large diameter, creating a relatively favourable load.
The load for the satellite gears, the planet wheels and axle shafts is low.
Due to this low load the crown wheel and pinion could be equipped with a helical toothing instead of a hypoid bevel gear.
The fitting dimension of the pinion is adjusted using filler rings, the bevel gear-to-pinion backlash is adjusted using adjusting nuts.

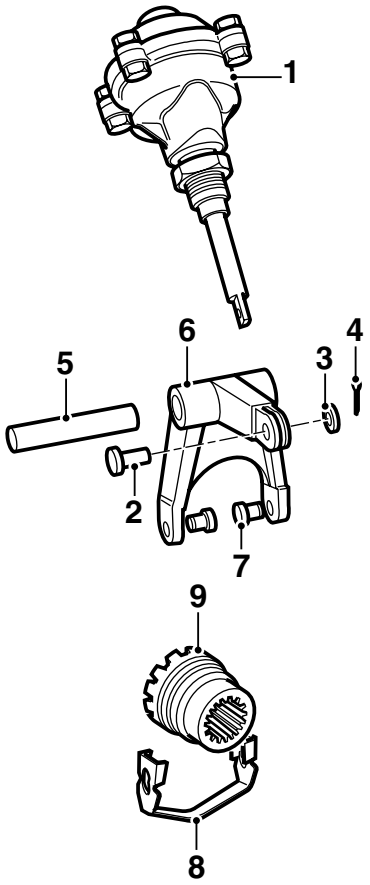
The pinion is supported on two bevel roller bearings. The bearing pre-load of the bevel roller bearings is adjusted using spacers which are positioned between the inner bearing race of the front bevel roller bearing and the shoulder of the pinion.

The satellite-gear housing is supported on bevel roller bearings.
The pre-load of these bearings is adjusted using adjusting nuts.

3

DIFFERENTIAL LOCK
The 1354 differential is equipped with a variable differential lock.
The satellite-gear housing flange is fitted with radial toothing at the right. The left side of the selector sleeve is equipped with similar toothing. This selector sleeve is also equipped with keyways which fit into the keyways in the right axle shaft. The left axle-shaft end is also equipped with keyways which fit into the internal keyways of the planet wheel. The selector sleeve (9) can be slid over the axle shaft using a fork (6). This hinged fork is suspended from the axle (5) fitted to the axle housing. The fork is operated via the control rod which is activated by the engaging cylinder (1). The connection between fork and selector sleeve is composed of two sliding blocks (7) which fit into a groove of the selector sleeve (9). A spring clip ensures that the selector sleeve and sliding blocks do not fall into the axle housing, once the right axle shaft has been removed. Air is admitted to and bled from the engaging cylinder via a pneumatic valve which is operated by a switch on the dashboard.

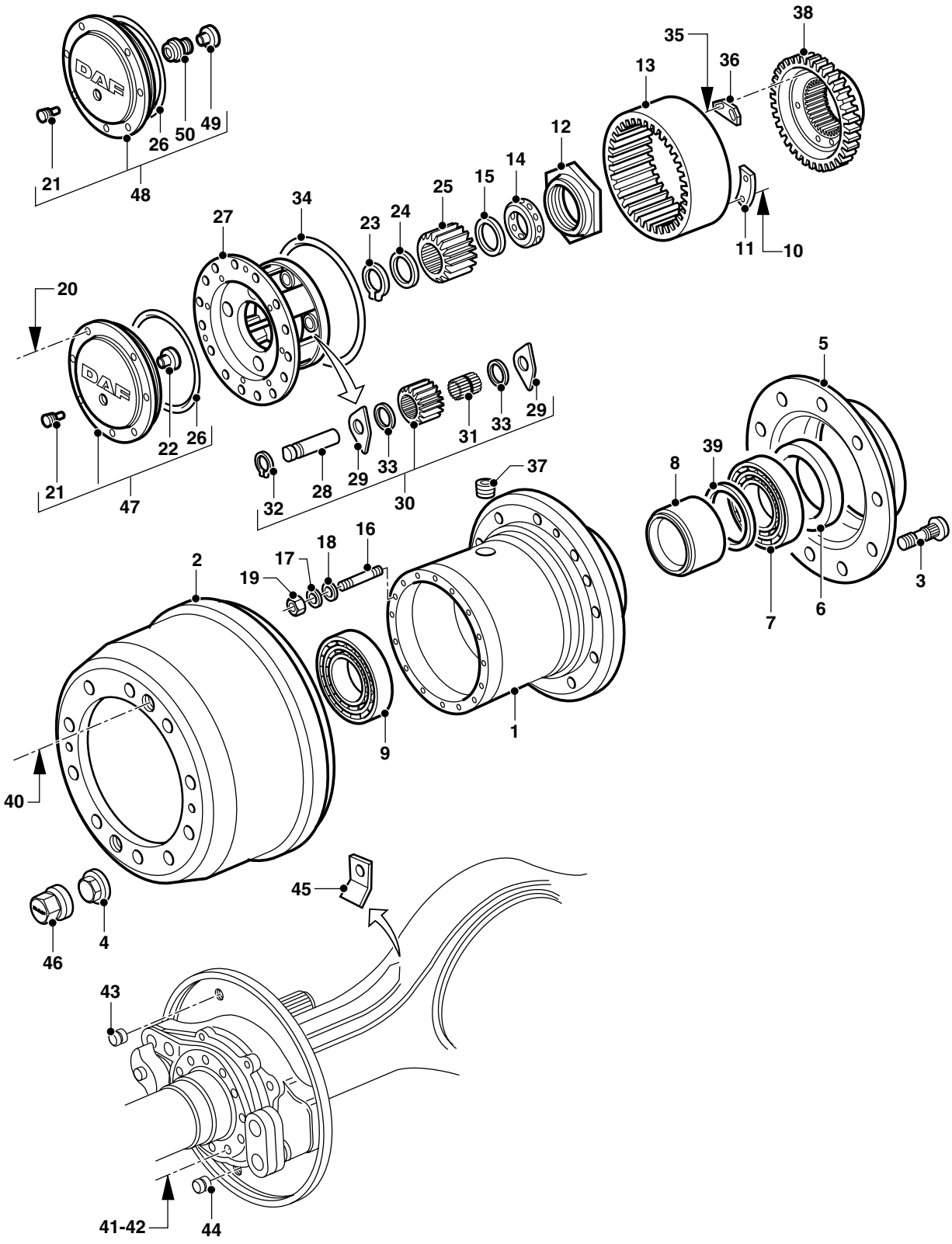
Once the engaging cylinder is pressurized, the selector sleeve will move to the left.
Subsequently the toothing of the selector sleeve will engage the toothing of the satellite-gear housing.
This will create a rigid connection between the satellite-gear housing via the selector sleeve and the right axle shaft. As a consequence, the remaining parts of the differential, such as the planet wheels and satellite gears, can no longer turn in relation to the satellite-gear housing. The differential is now locked and both the left and the right axle shafts are loaded with 50% of the torque. If the engaging cylinder is bled using the pneumatic switch on the dashboard, a spring in the engaging cylinder will deactivate the lock.



A800021

3

1.2 OVERVIEW DRAWING, WHEEL HUB



A800036

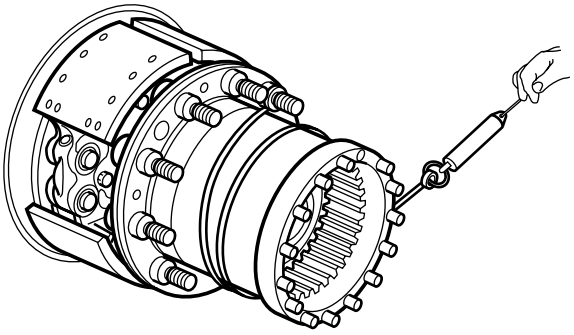
1. Hub
2. Brake drum
3. Wheel stud
4. Nut
5. Grease retainer
6. Sealing ring
7. Taper roller bearing
8. Bush
9. Taper roller bearing
10. Flange bolt
11. Fixing plate
12. Nut
13. Gearwheel
14. Thrust washer
15. Ring
16. Stud bolt
17. Spring washer
18. Lock washer
19. Nut
20. Tap bolt
21. Magnet plug
22. Heads
23. Circlip
24. Ring
25. Gearwheel
26. O ring
27. Support
28. Axle
29. Spacer
30. Hub
31. Needle bearing
32. Circlip
33. Shim
34. O ring
35. Flange bolt
36. Locking plate
37. Plug
38. Holder
39. Shim
40. Tap bolt
41. Flange bolt
42. Flange nut
43. Socket
44. Socket
45. Bracket
46. Cap
47. Hub cover
48. Cover
49. Pin

3

2. INSPECTION AND ADJUSTMENT

2.1 INSPECTION AND ADJUSTMENT, WHEEL BEARING PLAY

1. Remove the wheel hub, see chapter “Removal and installation”.
2. Remove the wheel hub, see chapter “Removal and installation”.
3. Fit the wheel hub without the hub oil seal, see chapter “Removal and installation”.
4. Turn a rope several times around the hub and attach it to a wheel stud.
   Pull the rope using a tensioner gauge and read off the force required to turn the axle at a constant speed.
   Compare the pressure reading with the technical data, see main group “Technical data”.
5. The pre-load of the wheel bearings can be changed by removing or fitting spacers between the spacer sleeve and the inner wheel bearing, see chapter “Removal and installation”.

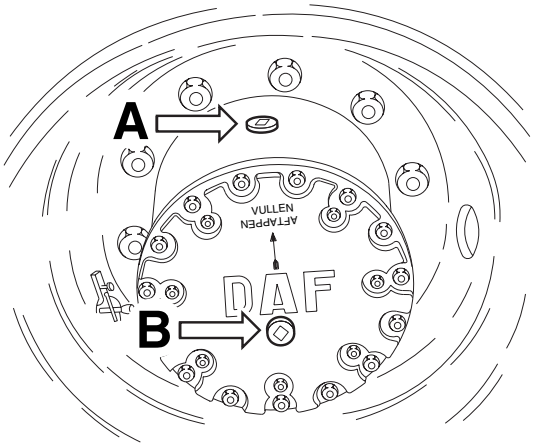


A800039

2.2 INSPECTION, HUB OIL LEVELS

To prevent skin injury, avoid unnecessary contact with the drained oil.

1. Position the vehicle on a level surface.
2. Position the wheels so that the arrow on the hub is pointing facing upwards.
3. Remove the oil-level plug/filler plug B. The oil level should reach the oil-level opening/filler opening.
4. Fit the plug.
   In the case of a Torx plug, use a special Torx wrench (DAF no. 1329422) and the specified tightening torque to fit the plug. See main group “Technical data”.

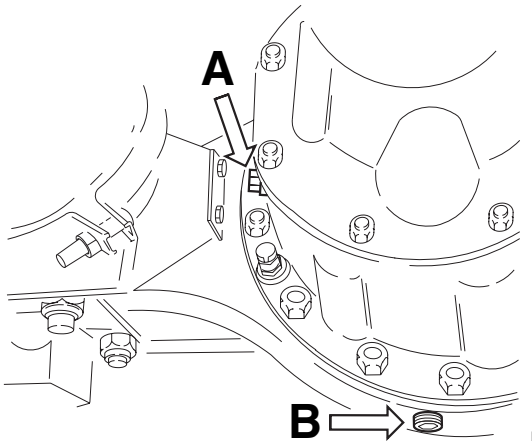


M8036

2.3 INSPECTION, DIFFERENTIAL OIL LEVEL

To prevent skin injury, avoid unnecessary contact with the drained oil.

1. Position the vehicle on a level surface.
2. If installed, lower the trailing axle on a leaf-spring version.
3. Remove the oil-level plug/filler plug A. The oil level should reach the oil-level opening/filler opening.
4. Fit the plug.
   In the case of a Torx plug, use a special Torx wrench (DAF no. 1329422) and the specified tightening torque to fit the plug. See main group “Technical data”.



M8048

2.4 INSPECTION, OPERATION OF DIFFERENTIAL LOCK

1. Jack up the rear axle and support the axle on stands.
2. Bring the air system to operating pressure.
3. Engage the differential lock. The warning lamp should now come on.
4. Check whether there is a “rigid” connection between the driven wheels.
5. Disengage the differential lock. The warning lamp must not light up and the “rigid” connection between the driven wheels should be broken.

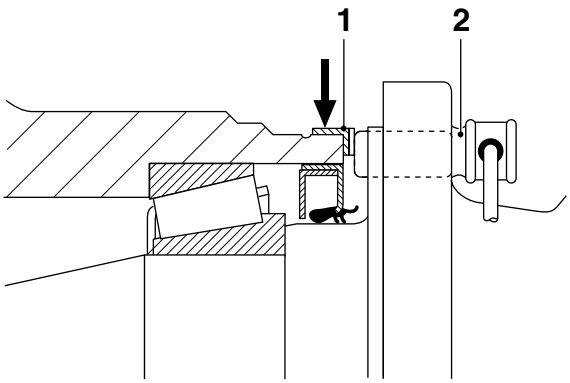
2.5 INSPECTION, HUB AND WHEEL BEARINGS

1. Inspect the bearings for damage at the following points:
   - the raceways of the bearing rollers
   - the bearing cage
   - the running surfaces of the inner and outer race.

   Replace the entire bearing (inner race, bearing cage and outer race), if damage is found.
2. When the outer race of the bearing is loose in the hub or has turned in the hub, the hub should be replaced.
3. Check the axle-stub screw thread, the bearing surfaces of the inner bearing races and the running surface of the oil seal for damage.
4. Check the ABS sensor ring for damage. Replace the ring at even the slightest trace of damage.

2.6 INSPECTION, ABS SENSOR RING

1. Remove the wheel hub, see chapter “Removal and installation”.
2. Check the sensor ring (1) for deposits. Special attention should be paid to deposits between the teeth of the sensor ring. Clean the sensor ring, if necessary.
3. Check the sensor ring (1) for damage. Even the slightest damage can cause a failure. If required, replace the sensor ring.
4. If possible, the sensor ring (1) should be checked for the maximum admissible axial end play, see main group “Technical data”.
5. Check the sensor (2) for smooth operation. If necessary, clean the sensor and apply new grease.



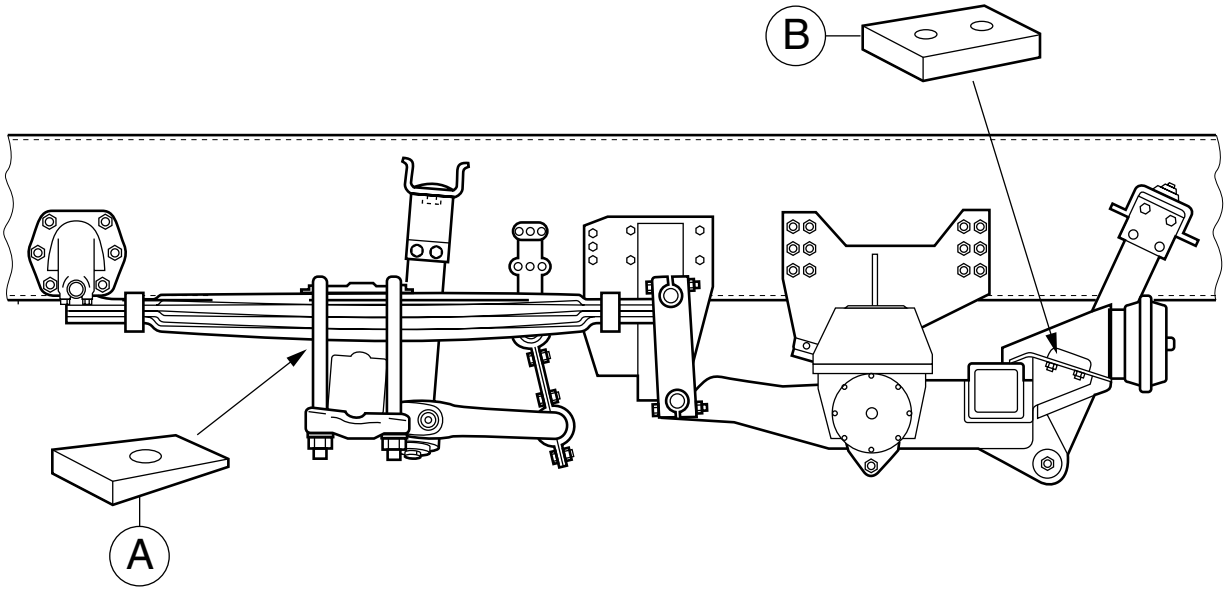
S7 00 134

2.7 INSPECTION AND ADJUSTMENT, CASTER

Inspection of the caster

1. Place the vehicle on a level surface.
2. Make sure that the axle load is nominal with the trailing-axle on the ground.
3. Remove the drive axle from the differential.
4. Position a protractor on the drive flange and measure the axle caster relative to the chassis side member. See main group “Technical data” for the specified caster.

Adjustment of the caster, spring-leafed trailing axle

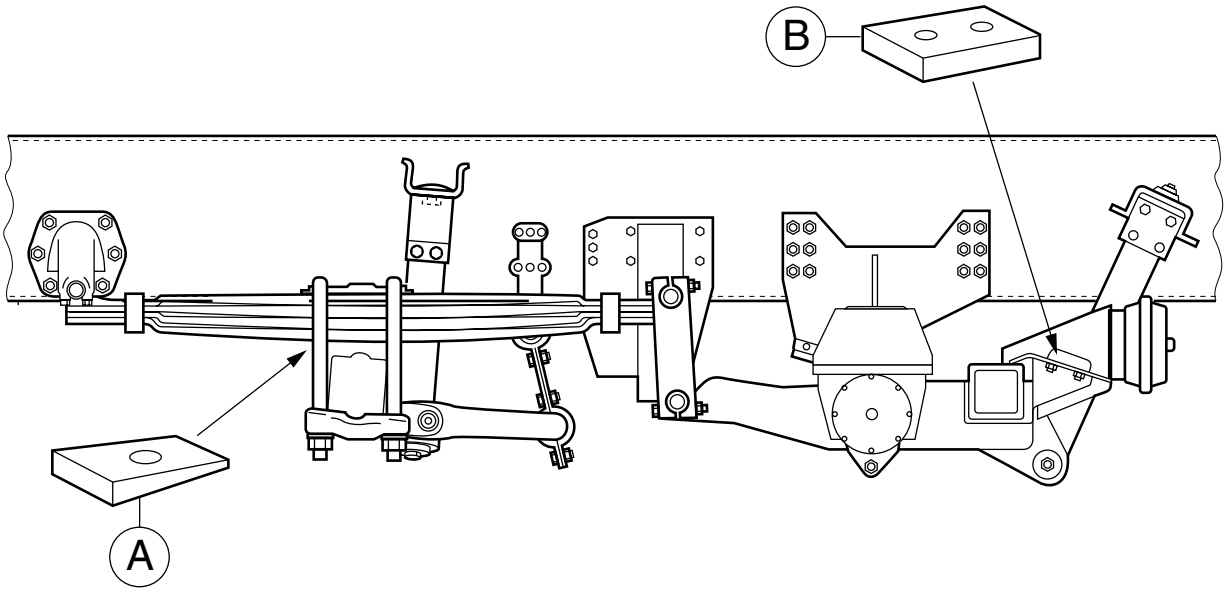


A8 00 292

Note:
Decreasing the lifting height of the trailing axle will reduce the caster. See main group “Technical data” for the minimum lifting height of the trailing axle.

1. Position block (B) underneath the bump stop. This block can be made in your own workshop.
2. Position the bump stop.
3. If the resulting adjustment is insufficient, the drive axle caster should be adjusted.

Adjustment of the caster, driven-axle



A8 00 292

1. Jack up the chassis until the driven axle is loose.

   Note:
   Make sure that both the chassis and the axle are supported correctly using stands.

2. Loosen the U-bolt nuts, so that the right key can be installed at position (A).

3. Tighten the U-bolt nuts on both sides alternately to the specified tightening torque.

4. Check the caster once again.

3. REMOVAL AND INSTALLATION

3.1 REMOVAL AND INSTALLATION, ENTIRE REAR AXLE

Removing the entire rear axle

1. Block the front wheels using chocks.
2. Slacken the central bolt of the spring-brake cylinder as far as possible.
3. Apply the parking brake.
4. Check the air lines and wiring.
5. Remove the drive shaft from the drive flange.
6. Loosen the shock absorbers on the bottom.
7. Loosen the control rod of the load-sensing valve.
8. Support the vehicle securely with stands under the chassis side members.
9. Remove the axle suspension/axle guide. Take the necessary precautions to prevent the axle from toppling when removing the axle suspension/axle guide.
10. If possible, the entire rear axle with wheels should be rolled from under the vehicle.

Installation of the entire rear axle

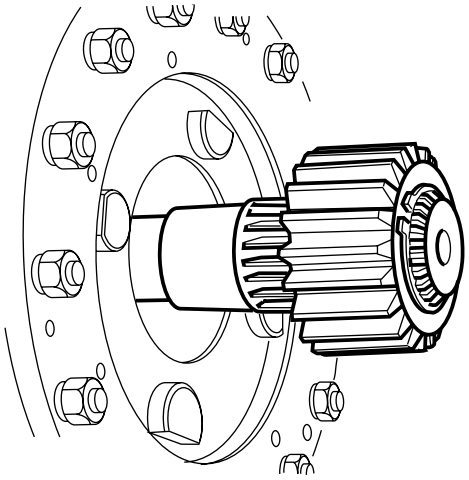
1. Install the entire rear axle with wheels under the vehicle.
2. Install the axle suspension/axle guide.
3. Install the control rod of the load-sensing valve.

   Note:
   Check the adjustment of the load-sensing valve after you have installed the rear axle.
4. Install the shock absorbers.
5. Fit the drive shaft to the drive flange.
6. Connect the electrical wiring and fit the air pipes.
7. Fasten the central bolt of the spring-brake cylinder.

3.2 REMOVAL AND INSTALLATION, AXLE SHAFTS

Removal of the axle shafts

1. Jack up the rear axle and support the axle on stands.
2. Drain the hub oil, see chapter “Draining and filling”.
3. Remove the attachment bolts from the hub cover and remove the hub cover.
4. Pull the axle shaft from the wheel hub.



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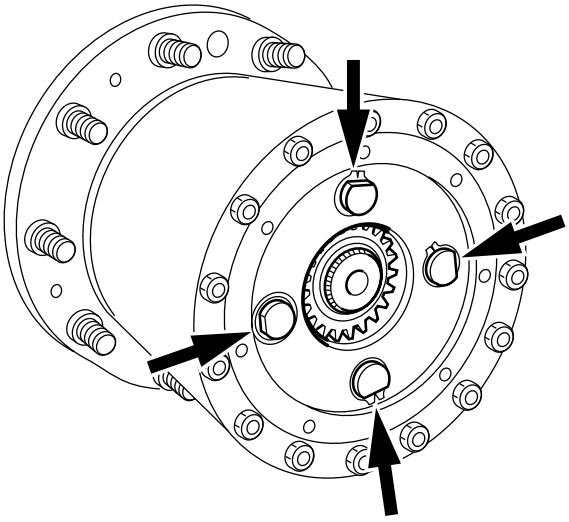
Installation of the axle shafts

1. Fit the axle shaft into the wheel hub.
2. Rotate the planet-wheel shafts so that the blunt sides point outward.
3. Check the O ring in the hub cover. If required, replace the O ring and apply silicone paste to it.
4. Install the hub cover. Tighten the fixing bolts to the specified tightening torque. See main group “Technical data”.
5. Fill the hub with oil, see chapter “Draining and filling”.

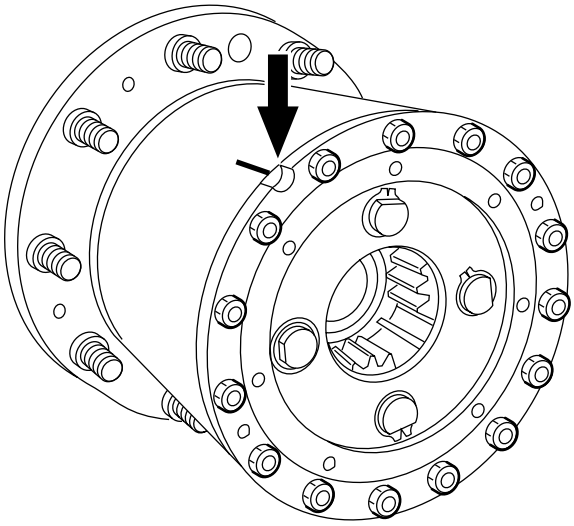


A800040

3.3 REMOVAL AND INSTALLATION, WHEEL HUB

Removal of the wheel hub

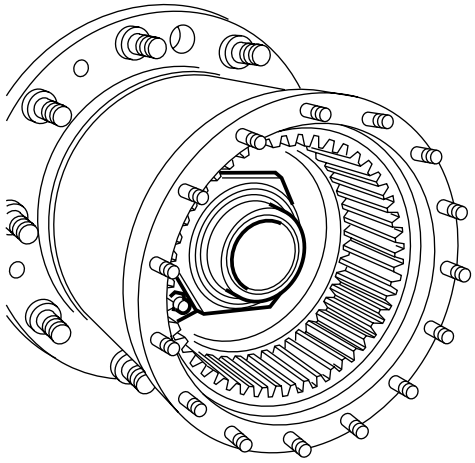
1. Jack up the rear axle and support the axle on stands.
2. Remove the wheels.
3. Release the brakes and remove the brake drum.
4. Mark the hub at the semicircular hole in the cover.
5. Drain the oil, see chapter “Draining and filling”.
6. Remove the hub cover.
7. Remove the axle shaft.



A800290

8. Remove the attachment nuts and conical spring washers.
   Push the planet-wheel gear from the hub using three jack screws.

   Note:
   Make sure that the planetary gear is installed with the circlips upward. This will prevent the pins from falling out.
9. Remove the thrust washer from the axle stub.
10. Remove the attachment bolts from the locking plate and remove the locking plate.
11. Remove the hub nut using the special tool (DAF no. 0535705) and a torque amplifier (ratio 1 : 5).
12. Support the hub and pull it from the axle stub. The annular gear holder with the annular gear, the bearings and the bearing sleeve with spacers will also come out with the hub.
13. Remove the annular gear holder and the annular gear from the hub.



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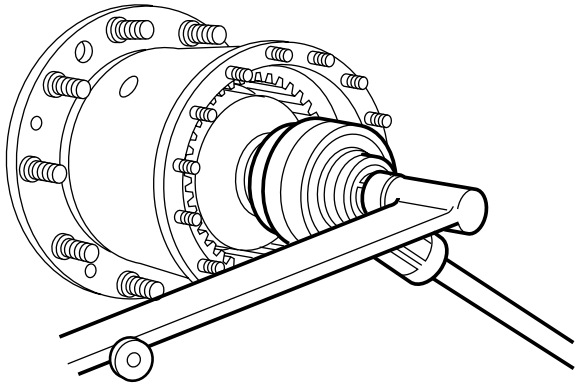


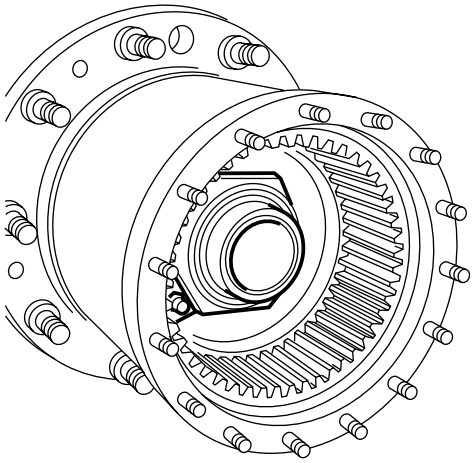
A800038

Installation of the wheel hub

Note:
If the wheel bearings have not been replaced and the original spacer sleeve with spacers is installed, it is not necessary to readjust the wheel bearing pre-load.

If the wheel bearings have been replaced, the wheel bearing pre-load should be re-adjusted, see chapter “Checking and adjusting”.
The wheel bearing pre-load should be adjusted before the hub oil seal is fitted.

1. Replace the hub oil seal.
2. Check the parts for wear and/or damage.
3. Replace the O rings.
4. Fill the wheel bearings with oil.
5. Install the hub on the axle stub.
6. Fit the original spacer sleeve and spacers.
7. Fit the inner race of the outer wheel bearing on the axle stub.
8. Fit the annular gear holder with the annular gear in the hub and onto the splines of the axle stub.
9. Fit the hub nut and tighten it using the special tool (DAF no. 0535705) and a torque amplifier (ratio 1 : 5).
   Tighten the hub nut to the specified tightening torque, see main group “Technical data”.
   Turn the hub while tightening the hub nut.



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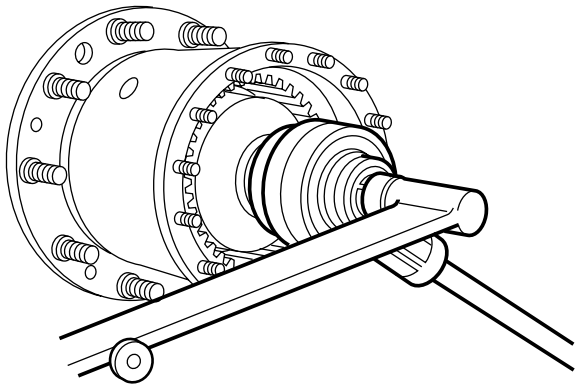
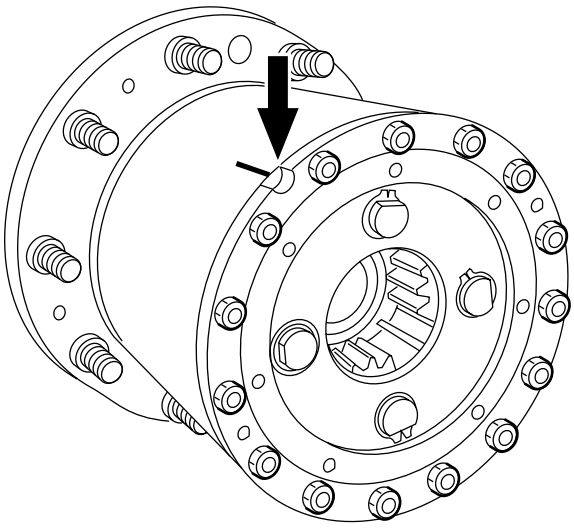


A800038

10. Fit the lock plate. Apply locking compound to the attachment bolts and tighten these to the specified tightening torque, see main group “Technical data”.
11. Install the thrust washer.
12. Fit the planetary gear in its original position in the hub (watch the markings).
13. Fit the conical spring washers and tighten the attachment bolts to the specified tightening torque, see main group “Technical data”.
14. Fit the axle shaft.
15. Install the hub cover. Tighten the fixing bolts to the specified tightening torque. See main group “Technical data”.
16. Fill the hub with oil, see chapter “Draining and filling”.
17. Push the sensor (1) against the sensor ring (2), if the vehicle is equipped with ABS. While the vehicle is being driven, the air gap between the sensor and the sensor ring is adjusted automatically.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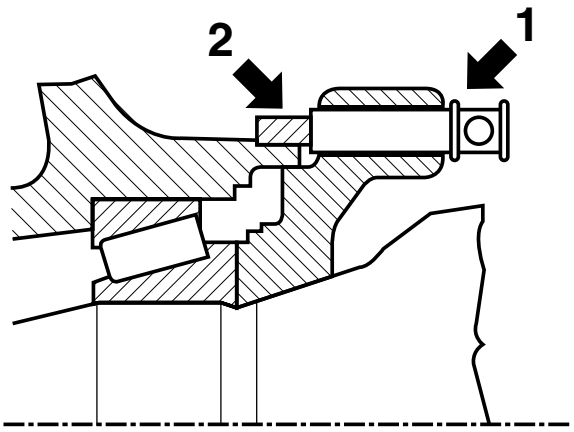

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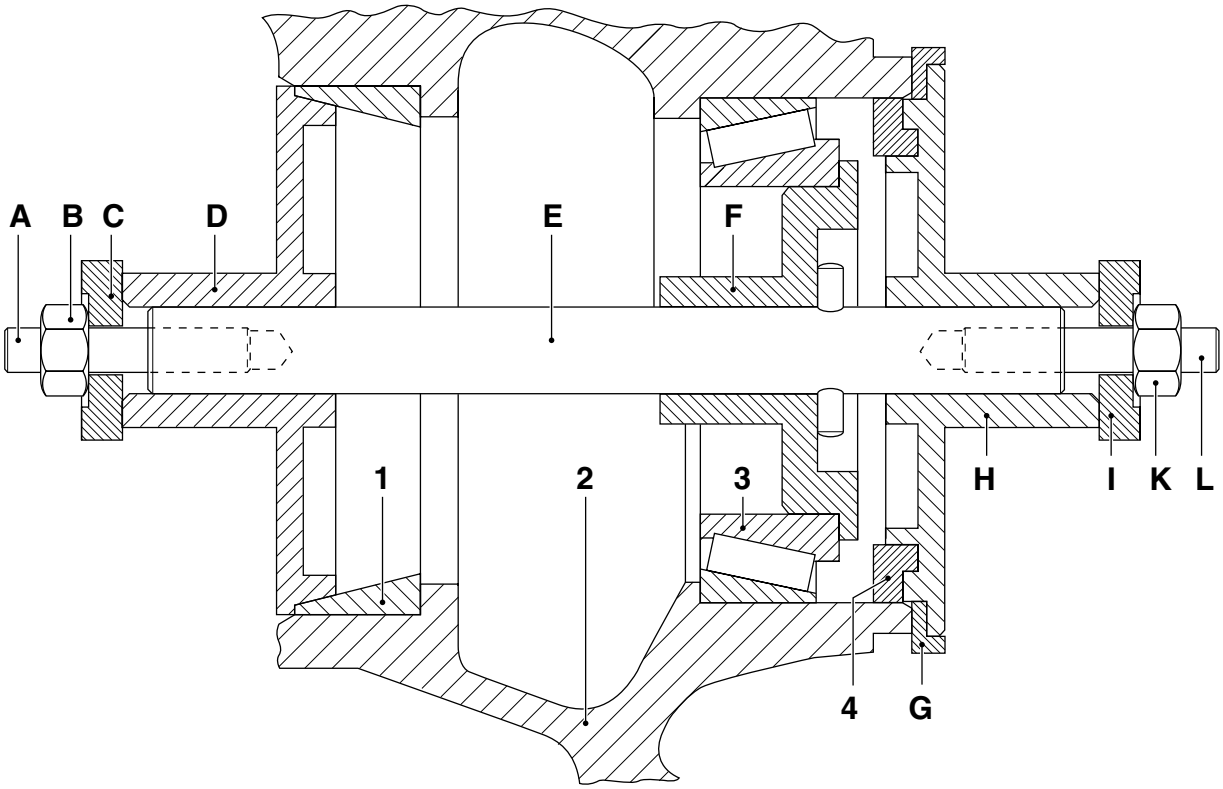
3.4 REMOVAL AND INSTALLATION, HUB OIL SEAL



S7 00 180

Removal of the hub oil seal

1. Remove the wheel hub.
2. Remove the hub oil seal.

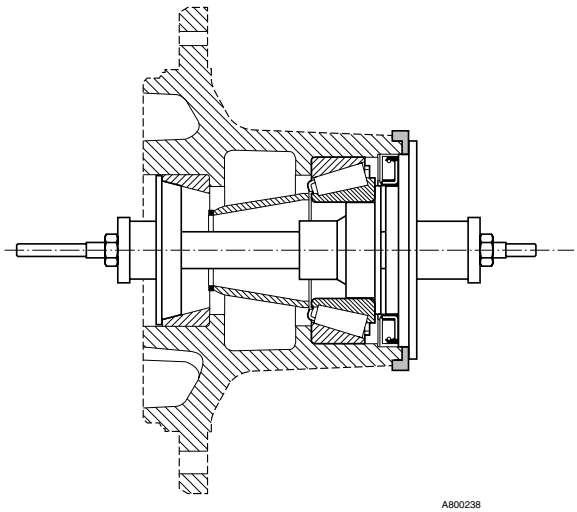
Installation of the hub oil seal

1. Check the oil-seal chamber (4) in the hub (2) for damage.
2. For the installation of the hub oil seal (4) use special tool (DAF no. 1240036).
3. The special tool is assembled as follows: screw the threaded ends (A and L) into the centring spindle (E).
   The shorter threaded end (L) is fitted on the side where the pin is inserted into the centring spindle (E).
4. Slide the appropriate centring flange (F) over the centring spindle (E).
5. Install the inner wheel bearing (3).
   Slide the centring axle (E) with the centring flange (F) into the hub (2).

6. Press the centring flange (F) into the inner wheel bearing (3).
7. Slide the appropriate centring flange (D) over the centring spindle (E).
8. Fit the lock plate (C) and the nut (B) onto the centring spindle (E).
9. Align the centring flange (D) on the outer race of the outer wheel bearing and hand-tighten nut (B) (max. 20 Nm). The centring axle (E) should be free from play in the hub (2).

   Versions equipped with ABS
   Install the draw-in flange (H) without the dummy sensor ring, if the hub (2) **is** equipped with an ABS sensor ring.

   Versions not equipped with ABS
   Fit the dummy sensor ring (G) to the draw-in flange (H), if the hub (2) **is not** equipped with an ABS sensor ring.
10. Position the oil seal (4) in front of the hub. Slide the draw-in flange (H) over the centring spindle (E) against the oil seal (4).
11. Fit the lock plate (I) and the nut (K).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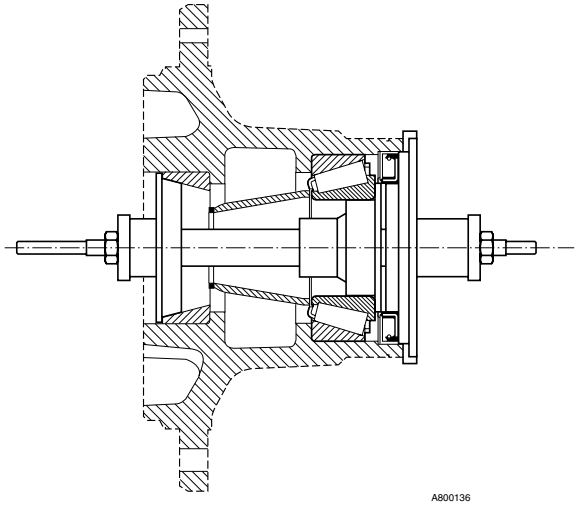
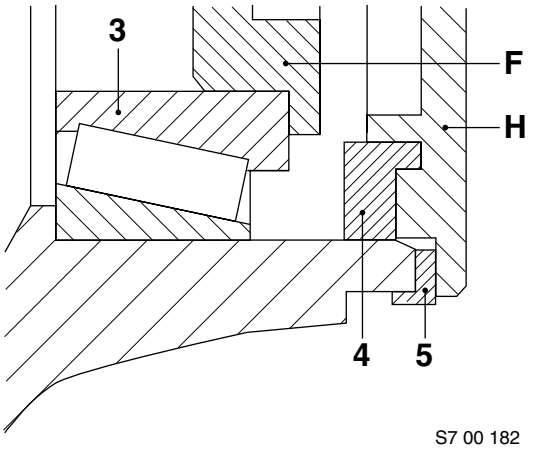

A800136

12. Push the oil seal (4) evenly into the hub (2) using the nut (K). In the case of a wheel hub **with** an ABS sensor ring (5), press the lubricant seal into the wheel hub until the draw-in flange (H) abuts the ABS sensor ring (5).
    In the case of a wheel hub **without** an ABS sensor ring (5), press the lubricant seal into the wheel hub until the dummy ABS sensor ring (G) abuts the hub rim.
13. Remove the special tool.
14. Apply grease to the sealing lips of the oil seal (4).
15. Install the hub on the axle stub.

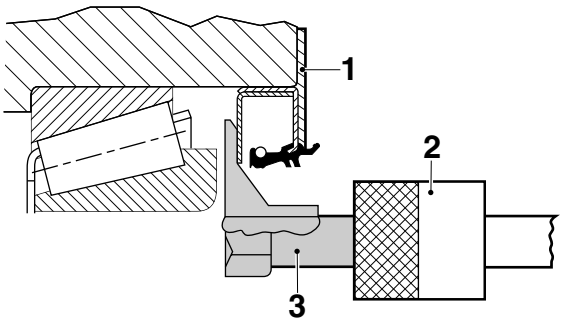


S7 00 182

3.5 REMOVAL AND INSTALLATION, COMBINED HUB OIL SEAL/ABS SENSOR RING

Removing the hub oil seal/ABS sensor ring

1. Remove the hub from the axle stub.
2. Fit the special tool (3) (DAF no. 1329411) to the impact extractor (2), special tool (DAF no. 0694928). Hook special tool (3) behind the oil seal (1). Pull the oil seal (1) evenly from the hub using the impact extractor (2). Once the oil seal has been removed, it cannot be re-used.



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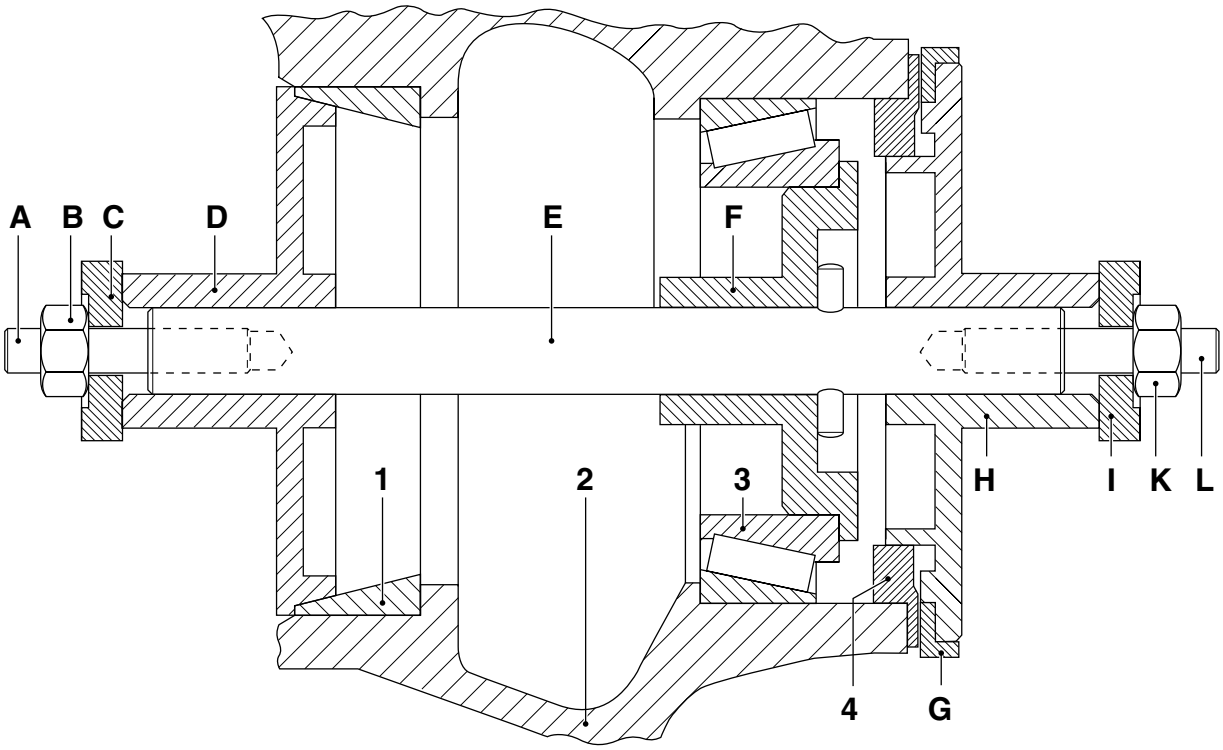
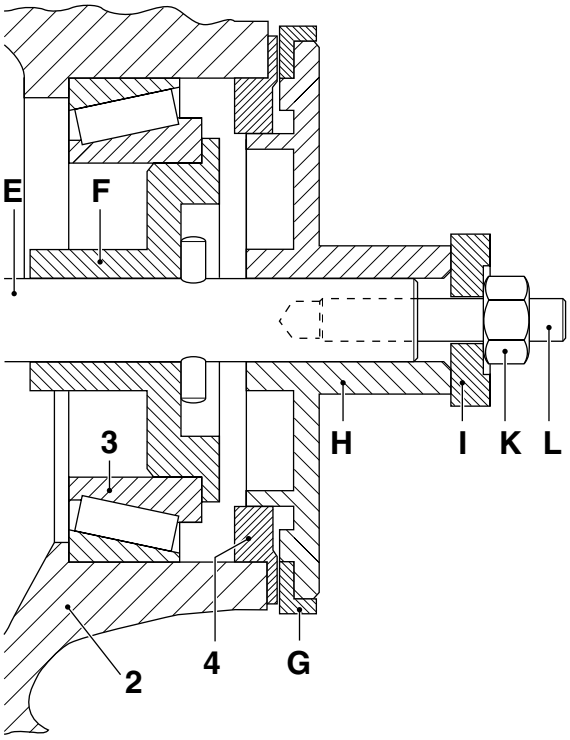


S7 00 405

Installing the hub oil seal/ABS sensor ring

1. Check the oil-seal chamber (4) in the hub (2) for damage.
2. For the installation of the hub oil seal (4) use special tool (DAF no. 1240036).

3. The special tool is assembled as follows: screw the threaded ends (A and L) into the centring spindle (E).
   The shorter threaded end (L) is fitted on the side where the pin is inserted into the centring spindle (E).
4. Slide the appropriate centring flange (F) over the centring spindle (E).
5. Install the inner wheel bearing (3).
   Slide the centring axle (E) with the centring flange (F) into the hub (2).
6. Press the centring flange (F) into the inner wheel bearing (3).
7. Slide the appropriate centring flange (D) over the centring spindle (E).
8. Fit the lock plate (C) and the nut (B) onto the centring spindle (E).
9. Align the centring flange (D) on the outer race of the outer wheel bearing and hand-tighten nut (B) (max. 20 Nm). The centring axle (E) should be free from play in the hub (2).
10. Fit washer (G) on draw-in flange (H).
11. Position the oil seal (4) in front of the hub (2).
    Slide the draw-in flange (H) with the washer (G) over the centring spindle (E) against the oil seal (4).
12. Fit the lock plate (I) and the nut (K).
13. Press the oil seal (4) evenly into the wheel hub (2) using nut (K), until the ABS sensor ring abuts the hub (2).
14. Remove the special tool.
15. Apply grease to the sealing lips of the oil seal (4).
16. Install the hub on the axle stub.

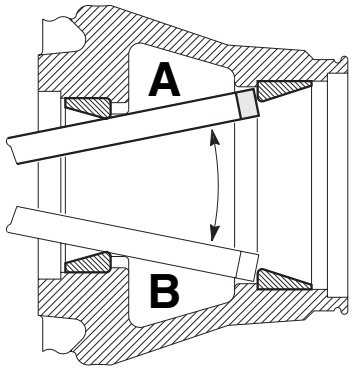


S7 00 411

3.6 REMOVAL AND INSTALLATION, WHEEL BEARINGS

Removal of the wheel bearings

1. Remove the wheel hub.
2. Remove the hub oil seal.
3. Remove the inner bearing.
4. If the wheel bearings need replacing, the outer bearing races can be tapped from the hub using a driver. For this purpose, the hub has been fitted with two recesses (A and B).



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Installation of the wheel bearings

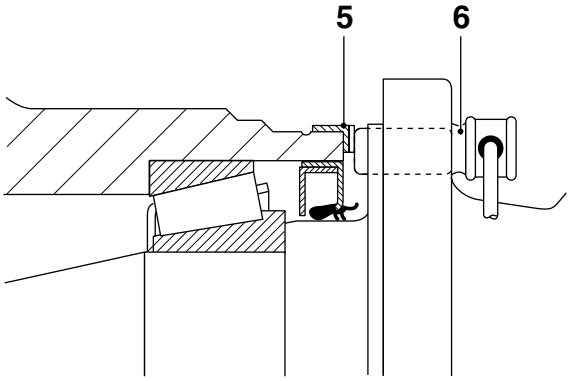
1. Clean the bearings and check them for damage.
2. Fit the outer bearing races into the hub using a driving tool and a hydraulic press, or by tapping the outer bearing races evenly using a driver.
3. Fit the inner bearing with hub oil seal.
4. Fit the wheel hub.

3.7 REMOVAL AND INSTALLATION, ABS SENSOR RING

Removing the ABS sensor ring

1. Remove the ABS sensor (6).
2. Remove the hub from the axle stub.
3. Remove the sensor ring (5) from the hub using a puller. Make sure that the clamping face of the sensor ring on the hub is not damaged in the process.

Once removed, a sensor ring should not be re-installed.



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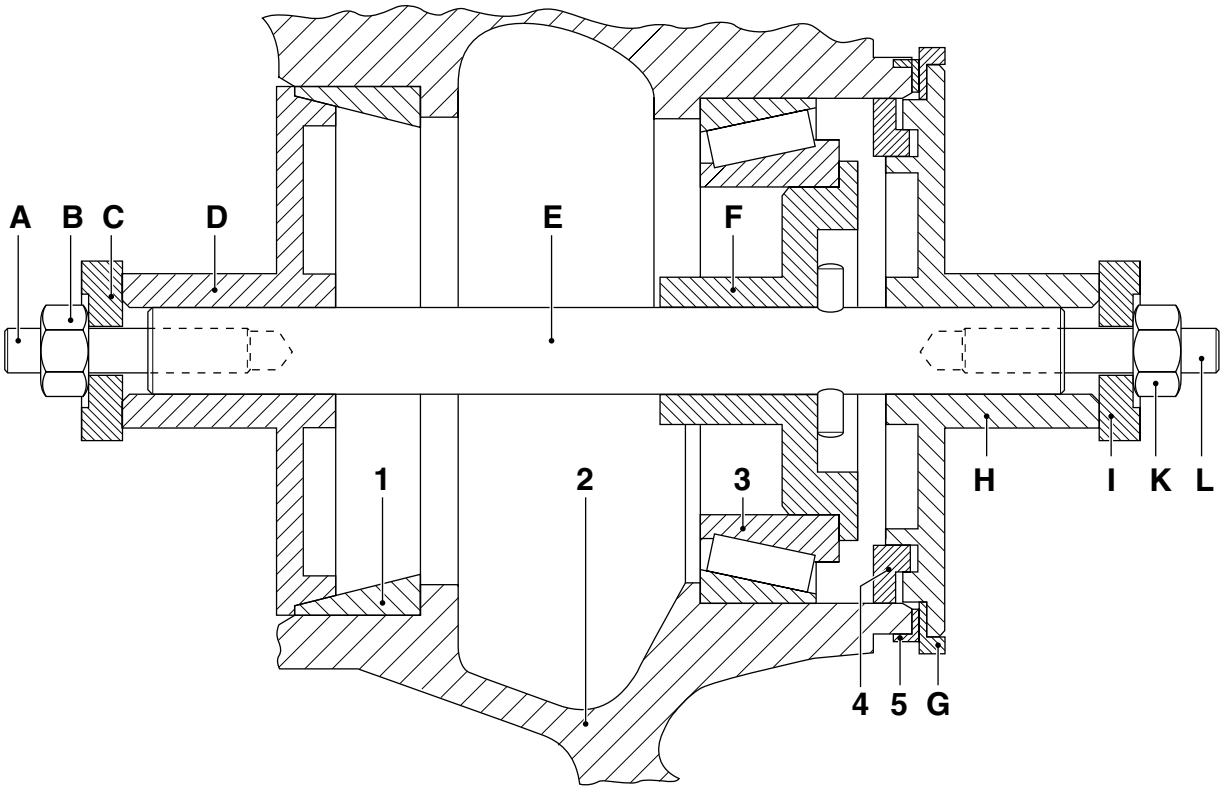

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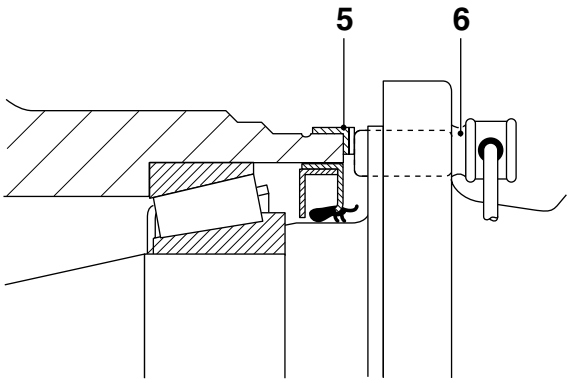
Installing the ABS sensor ring

1. Check the clamping surface of the sensor ring on the hub for damage.
2. Check the new sensor ring carefully for possible transport damage.
3. Clean and degrease the contact surfaces of the hub (2) and the sensor ring (5).
4. The special tool is assembled as follows: screw the threaded ends (A and L) into the centring spindle (E).
   The shorter threaded end (L) is fitted on the side where the pin is inserted into the centring spindle (E).
5. Slide the appropriate centring flange (F) over the centring spindle (E).
6. Install the inner wheel bearing (3).
   Slide the centring axle (E) with the centring flange (F) into the hub (2).
7. Press the centring flange (F) into the inner wheel bearing (3).

8. Slide the appropriate centring flange (D) over the centring spindle (E).
9. Fit the lock plate (C) and the nut (B) onto the centring spindle (E).
10. Align the centring flange (D) on the outer race of the outer wheel bearing and hand-tighten nut (B) (max. 20 Nm). The centring axle (E) should be free from play in the hub (2).
11. Install the dummy sensor ring (G) on the draw-in flange (H).
12. Position the sensor ring (5) before the hub. Slide the draw-in flange (H) with the dummy sensor ring (G) over the centring spindle (E) until it abuts the sensor ring (5).
13. Fit the lock plate (I) and the nut (K).
14. Press the sensor ring (5) evenly onto the hub (2) using the nut (K) until the sensor ring is completely flush.
15. Install the hub on the axle stub.
16. Install the ABS sensor (6) and press it against the sensor ring (5).
    While the vehicle is being driven, the air gap between the sensor and the sensor ring is adjusted automatically.

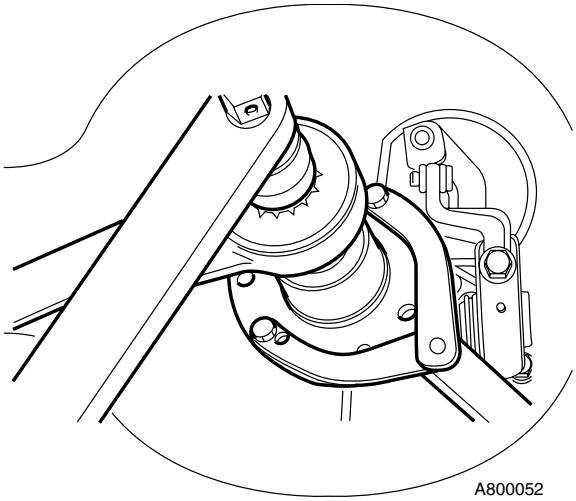


S7 00 186

3.8 REMOVAL AND INSTALLATION OF THE DRIVE FLANGE

Removal of the drive flange

1. Remove the drive shaft from the drive flange.
2. Fit the drive flange with the special tool (DAF no. 0484977) to prevent it from being turned, and remove the drive-flange nut using a torque amplifier.
3. Remove the drive flange. If necessary, use a puller.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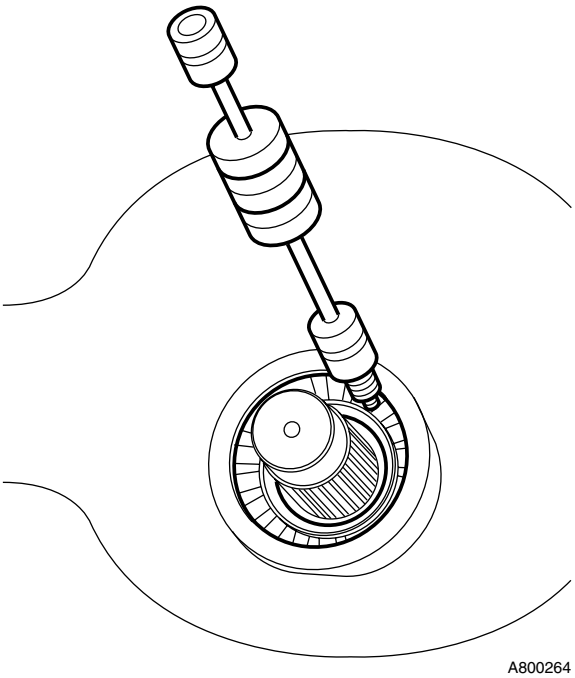
Installing the drive flange

1. Before installation check the drive flange at the oil-seal running surface for grooves and/or sharp edges. If required, replace the drive flange.
2. Fit the drive flange.
3. Apply a small amount of grease to the first turn of the drive-flange nut.
4. Apply locking compound to the screw thread, see main group “Technical data”.
5. Fit the drive flange with the special tool (DAF no. 0484977) to prevent it from being turned and tighten the drive-flange nut to the specified tightening torque, see main group “Technical data”.
6. Fit the drive shaft to the drive flange.

3.9 REMOVAL AND INSTALLATION, PINION OIL SEAL

Removal of the pinion oil seal

1. Remove the drive flange.
2. Drill two holes into the oil seal and turn the special tool (DAF no. 0484899) into the oil seal. Pull the oil seal from the pinion housing using the special tool (DAF no. 0694928).



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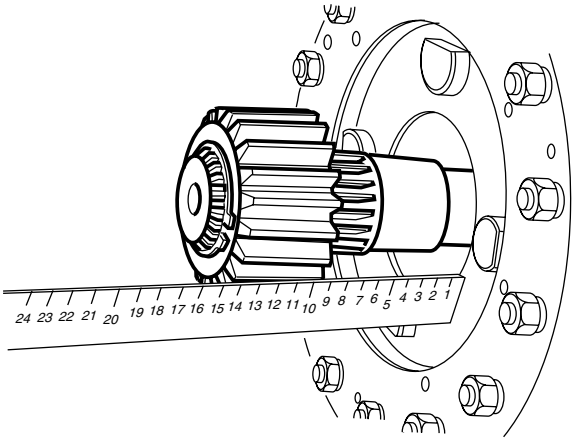
Installation of the pinion oil seal

3. Fit the oil seal with the special tool (DAF no. 1240088) so that the inscription “outside” is pointed outwards.
4. Fit the drive flange.

3.10 REMOVAL AND INSTALLATION, DIFFERENTIAL

Removal of the differential

1. Drain the oil from the differential and the hubs, see Chapter “Draining and filling”.
2. Remove the drive shaft from the drive flange.
3. Remove the left axle shaft.
4. Pull the right axle shaft, i.e. the side where the differential-lock cylinder is fitted, 15 to 18 cm from the hub.
5. Remove the air connection for the differential lock.
6. Loosen the attachment nut from the differential-lock cylinder, and subsequently turn the differential-lock cylinder one turn counter-clockwise.
7. Remove the attachment bolts from the differential.
8. Remove the differential from the axle housing using two jacking screws.



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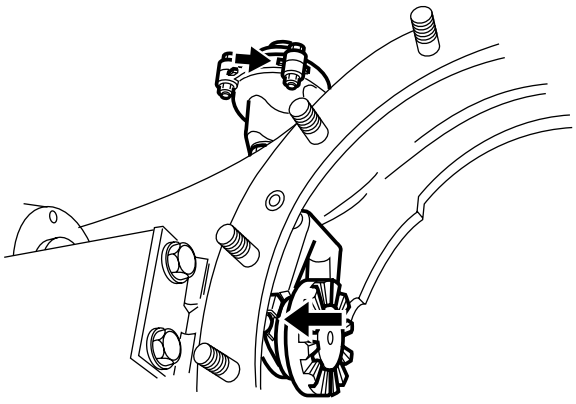
3

Installation of the differential

1. Fit the right axle shaft and slide it into the selector sleeve of the differential lock.
2. Subsequently turn the engaging cylinder until the selector sleeve falls into the rim of the axle housing.
3. Remove the thrust bolts.
4. Clean the mating surfaces of the banjo housing and the differential housing, and sand these lightly. Do not damage the mating faces in the process.
5. Clean and degrease the bolts.
6. Apply a thin, even layer of sealant to the mating surface and around the bolt holes of the banjo housing.
7. Position the differential into the banjo housing and tighten the bolts evenly first. Subsequently tighten the bolts to the specified tightening torque, see main group “Technical data”.
8. Install the left axle shaft and slide both shafts into the differential.
9. Now turn the engaging cylinder clockwise while at the same time turning the right wheel until the teeth of the selector sleeve and the satellite-gear flange touch audibly.
10. Now turn the engaging cylinder counter-clockwise and tighten the lock nut to the specified tightening torque, see main group “Technical data”.
11. Fit the air connection to the differential lock.
12. Fit the drive shaft to the drive flange.
13. Fill the differential and the hubs with oil, see Chapter “Draining and filling”.



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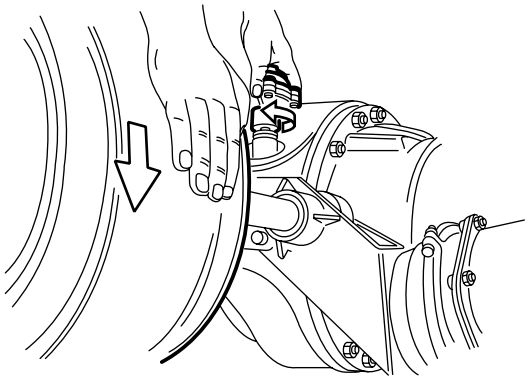

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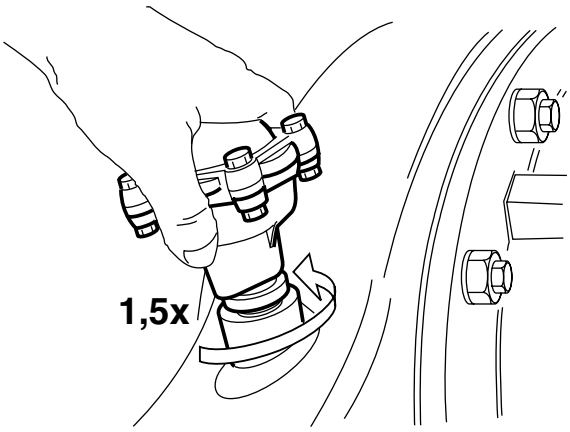

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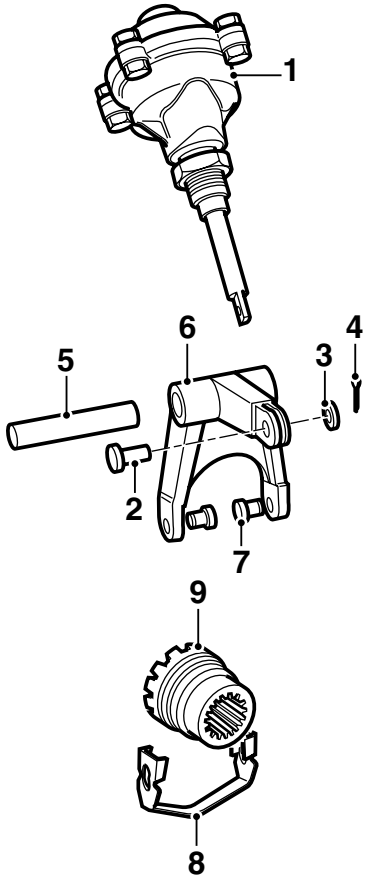
3.11 REMOVAL AND INSTALLATION, DIFFERENTIAL LOCK

Removal of the differential lock

1. Remove the differential.
2. Remove the shaft (5) from the fork (6) using a self-made fork puller.
3. Remove the split pin (4), ring (3) and heads (2) and remove the fork (6) from the axle housing.
4. Remove the sliding blocks (7) from the fork (6).
5. Turn the air cylinder from the house.
6. Check the toothing of the selector sleeve and right-side satellite-gear flange for damage and wear.
7. Check the freedom of movement of the selector sleeve over the axle shaft.
8. Check the freedom of movement of the fork over the shaft.
9. If the toothing of the satellite-gear flange is damaged, not only this flange but the entire satellite gear must be replaced. These 2 parts cannot be replaced separately.
10. If necessary, remove the engaging cylinder and check the various parts for damage.



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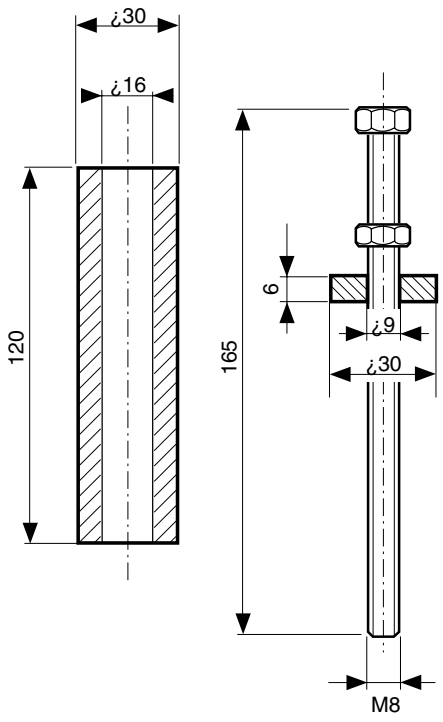

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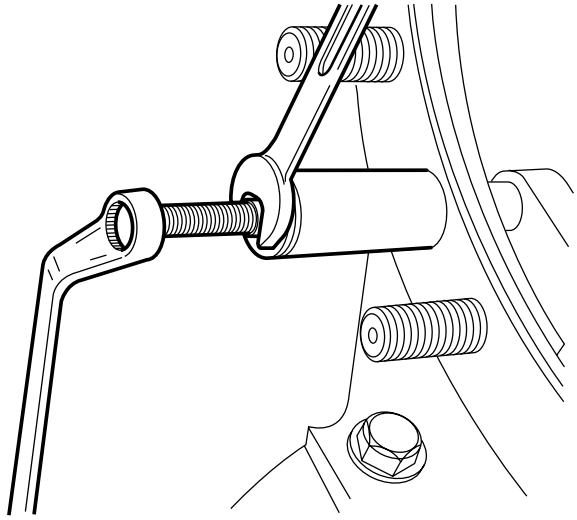

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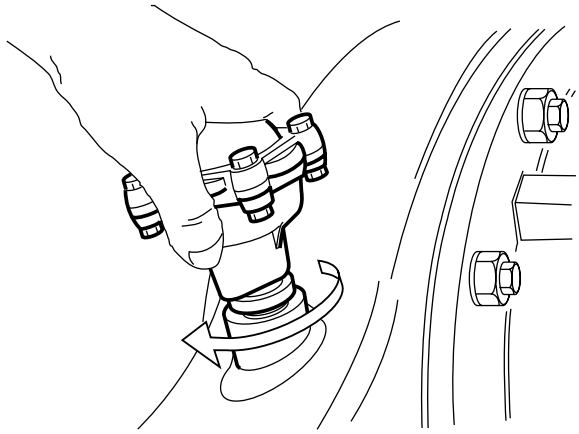
Installation of the differential lock

1. Turn the engaging cylinder with lock nut fully into the axle housing.



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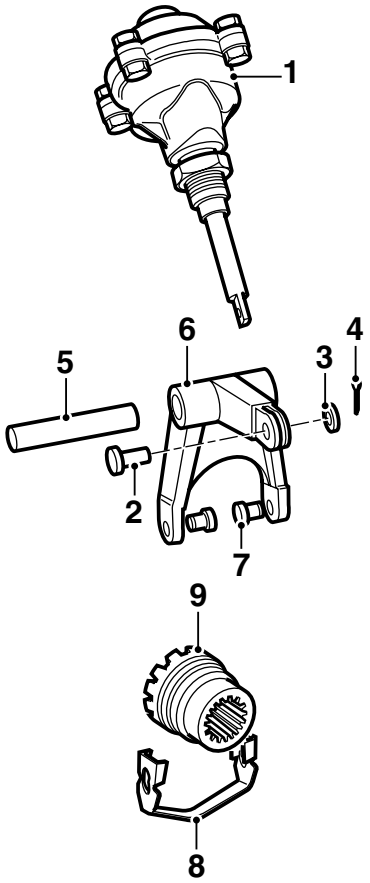
2. Fit the fork (6) with heads (2), ring (3) and split pin (4) to the cylinder control rod.



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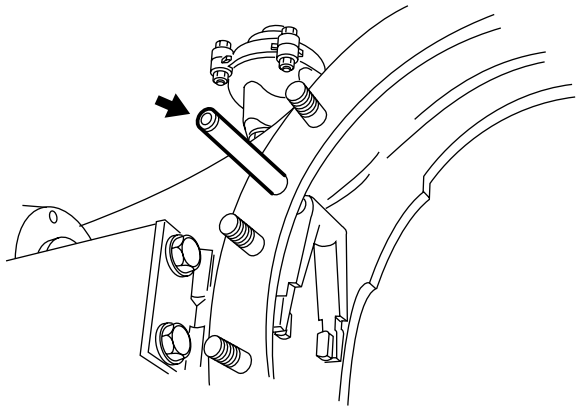
3. Install the shaft into the differential housing and the fork with the threaded hole pointing outward (see arrow).

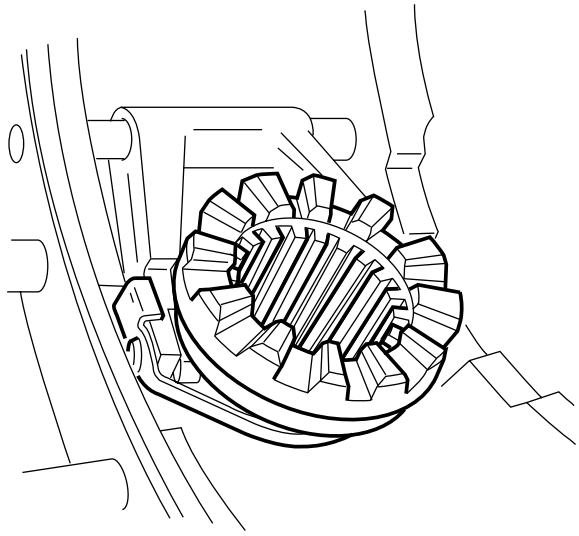
4. Tap the shaft into the axle housing using a plastic mallet or copper driving tool, until the shaft end is equal to or just below the contact surface of the axle housing and differential.



A800030

5. Fit the sliding blocks (7) into the fork (6) and fit the selector sleeve with the spring clip in the fork. Pull the spring clip down somewhat on both sides so that the smallest part of the key-shaped holes falls behind the edges of the sliding blocks.

6. Fit the right axle shaft and slide it into the selector sleeve.



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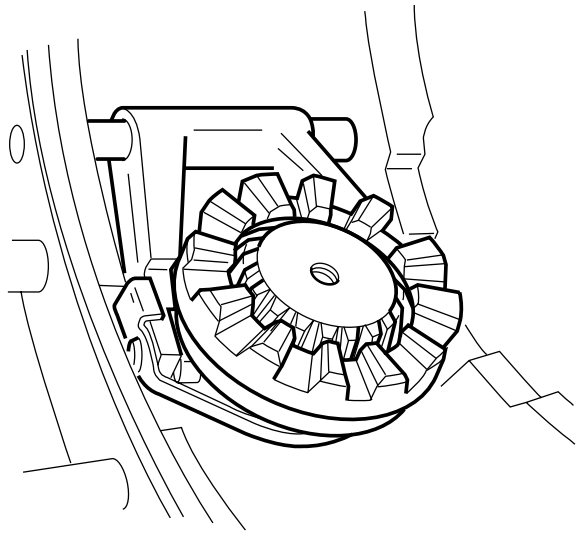
7. Subsequently turn the engaging cylinder until the sliding blocks fall into the rim of the axle housing. Make sure that the axle-shaft end is equal to the upper side of the selector-sleeve toothing.

8. Install the differential.



A800032

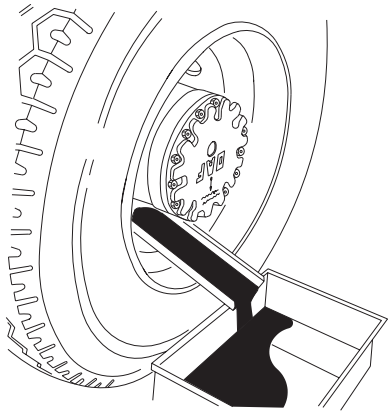
4. DRAINING AND FILLING

4.1 DRAINING AND FILLING, HUB

To prevent skin injury, avoid unnecessary contact with the drained oil.

Draining the hub

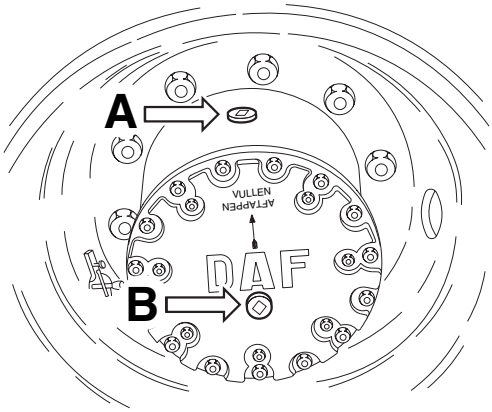
1. Position the vehicle on a level surface.
2. Position the wheels so that the drain/filler plug (A) is at the underside.
3. Remove the drain/filler plug A and drain the oil.



M8037

Filling the hub

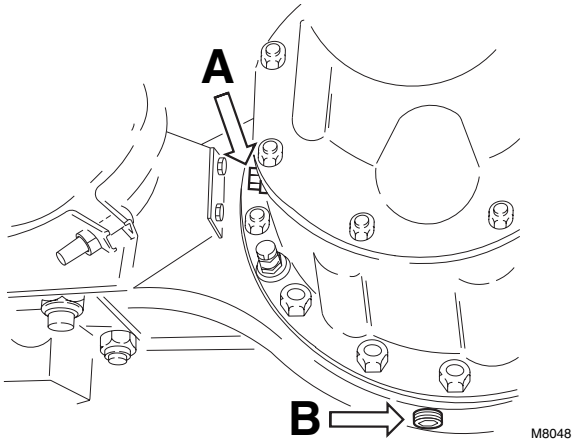
1. Position the vehicle on a level surface.
2. Position the wheels so that the drain/filler plug A is at the top side.
3. Fit the plug.
   In the case of a Torx plug, use a special Torx wrench (DAF no. 1329422) and the specified tightening torque to fit the plug. See main group “Technical data”.
4. Check the oil level after approximately 5 minutes. See chapter “Inspection and adjustment”.



M8036

4.2 DRAINING AND FILLING, DIFFERENTIAL

To prevent skin injury, avoid unnecessary contact with the drained oil.



Draining the differential

1. Position the vehicle on a level surface.
2. Remove drain plug (B) and drain the oil.
3. Fit the plug.
   In the case of a Torx plug, use a special Torx wrench (DAF no. 1329422) and the specified tightening torque to fit the plug. See main group “Technical data”.

Filling the differential

1. Position the vehicle on a level surface.
2. Remove the oil-level plug/filler plug A and fill the differential with the specified quantity of oil.
3. Check the oil level after approximately 5 minutes. See chapter “Inspection and adjustment”.
4. Fit the plug.
   In the case of a Torx plug, use a special Torx wrench (DAF no. 1329422) and the specified tightening torque to fit the plug. See main group “Technical data”.

CONTENTS

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4

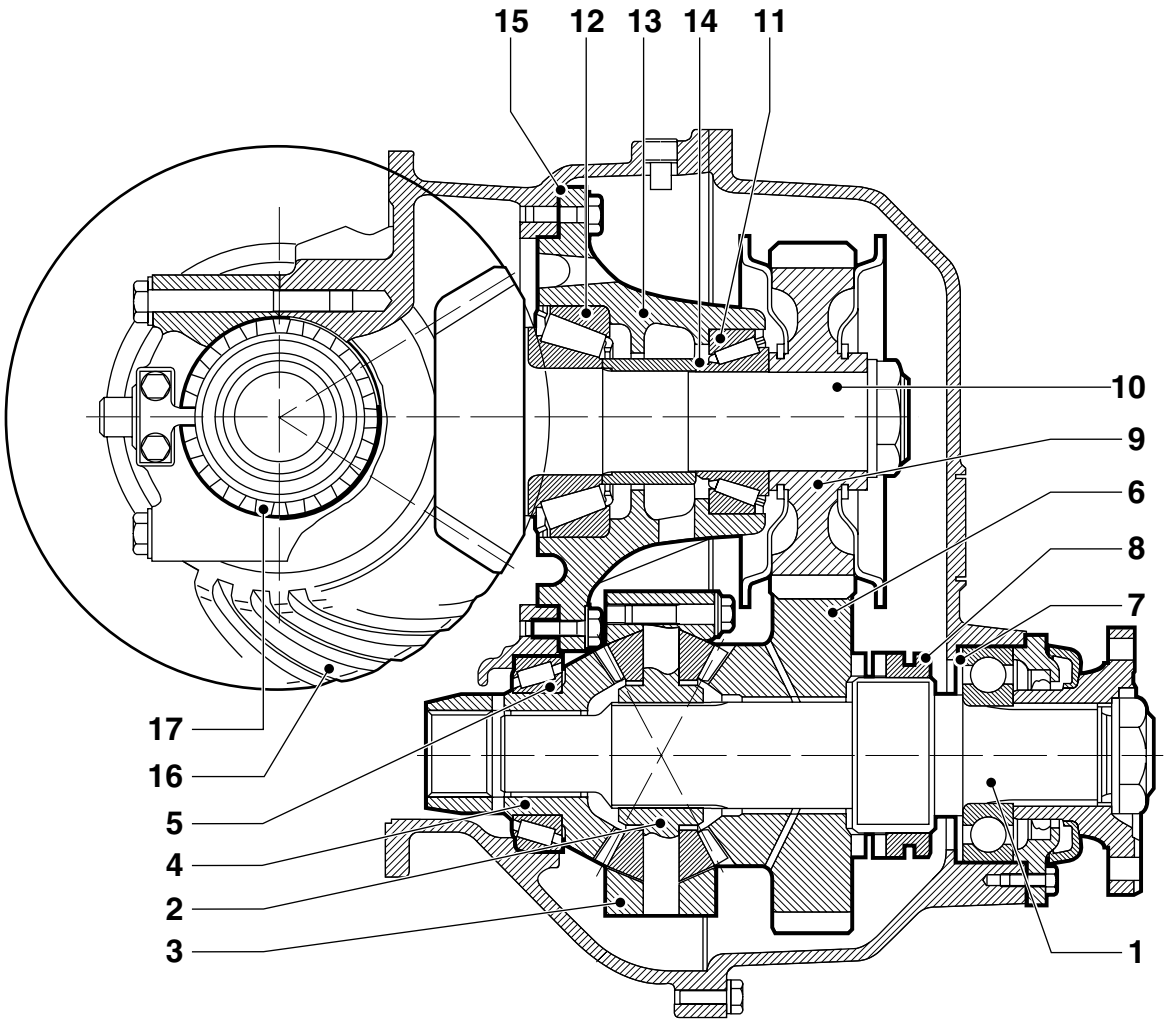
1. GENERAL

1.1 DESCRIPTION 1355 T, GENERAL

The 1355 T tandem system consists of a double-drive tandem axle with hub reduction. The rear-axle housing is of a very light but rigid construction. Due to this construction the banjo-housing cover is not welded to the axle housing but attached using bolts. These bolts, which run right through the axle housing, also attach the differential to the axle housing.

In the first shaft the torque is divided over the first and second shaft. To enable speed differences between the two shafts, a so-called third differential is installed. If required, the differential can be locked. Via the axle shafts the torque is transferred to the wheel hubs, where, using a second reduction, the torque is used to drive the wheels.

1.2 DESCRIPTION 1355 T, FIRST AXLE



A800042

The 1355 T tandem system consists of a double-drive tandem axle with hub reduction. The rear-axle housing is of a very light but rigid construction. Due to this construction the banjo-housing cover is not welded to the axle housing but attached using bolts. These bolts, which run right through the axle housing, also attach the differential to the axle housing.

In the first shaft the torque is divided over the first and second shaft. To enable speed differences between the two shafts, a so-called third differential is installed. If required, the differential can be locked. Via the axle shafts the torque is transferred to the wheel hubs, where, using a second reduction, the torque is used to drive the wheels.

The differential operation of the intermediate-axle differential can be eliminated by connecting the driving axle directly to the gear wheel. This lock is operated pneumatically. The selector sleeve (8) is pushed by the shifting fork over a spline on the input shaft and against the claws at the driving gear wheel.

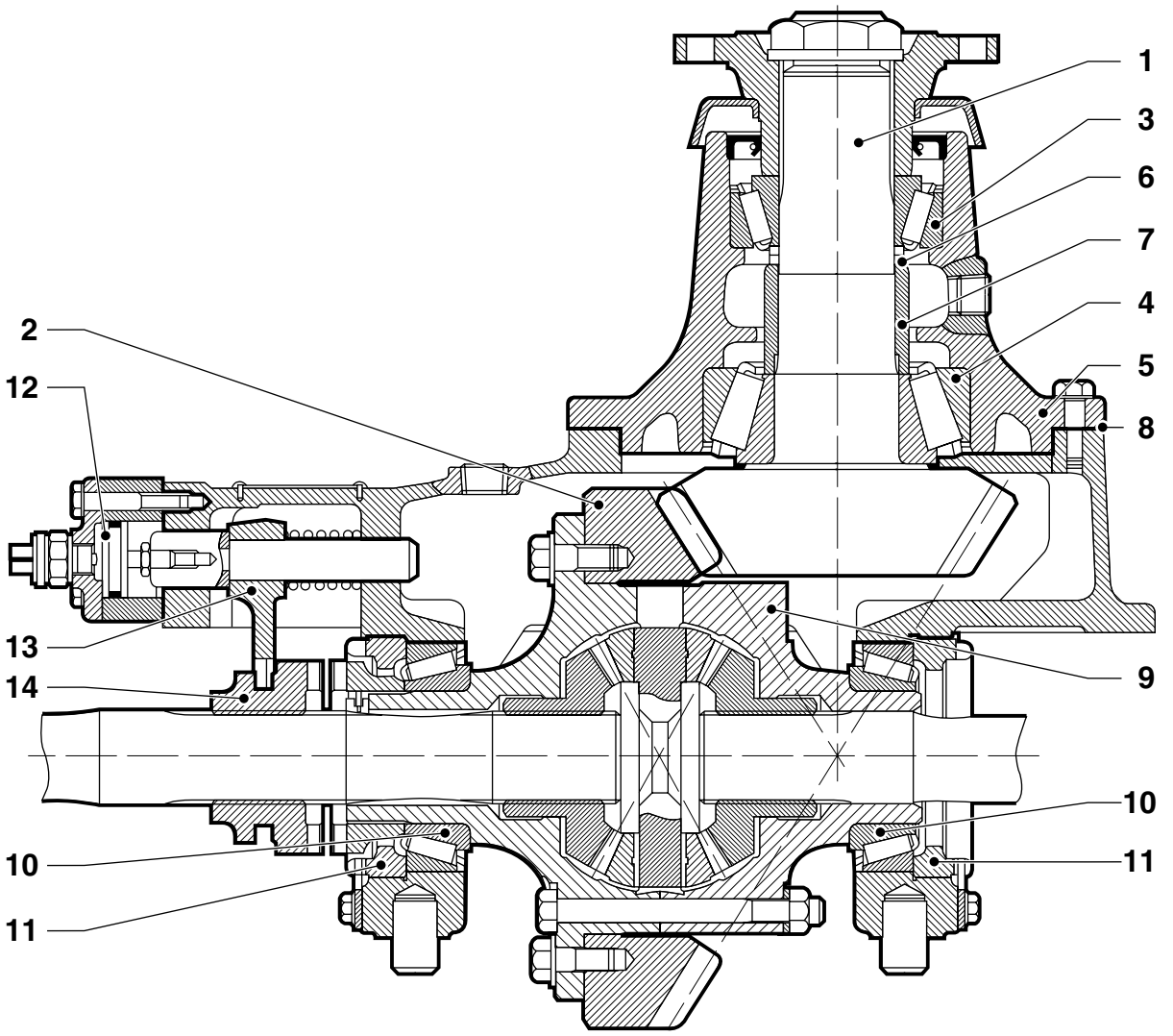
This gear wheel is supported by bronze slide bearings on the input shaft and drives the gear wheel (9) which is firmly attached to the pinion-gear shaft (10). The pinion-gear shaft is supported by bevel roller bearings (11) and (12) in the pinion-gear housing (13). The pre-load of these bearings can be adjusted using the two spacers (14). The fitting dimension of the pinion gear is adjusted using filler rings (15) between the differential housing and the pinion-gear housing. In the 1355 T rear axle two reductions take place; the first in the differential and the second in the hub.

The reduction in the differential is small. This enables a relatively large pinion-gear diameter, causing a favourable load. This favourable load allows the application of helical toothing to crown wheel and pinion gear.

The crown wheel (16) and the satellite-gear housing of the first differential are supported by two bevel roller bearings. The pre-load of these bearings can be adjusted using the adjusting nuts (17).

The first differential can also be locked using a pneumatic control. In that case, the satellite-gear housing can be connected directly to the axle shaft, thus deactivating the differential operation.

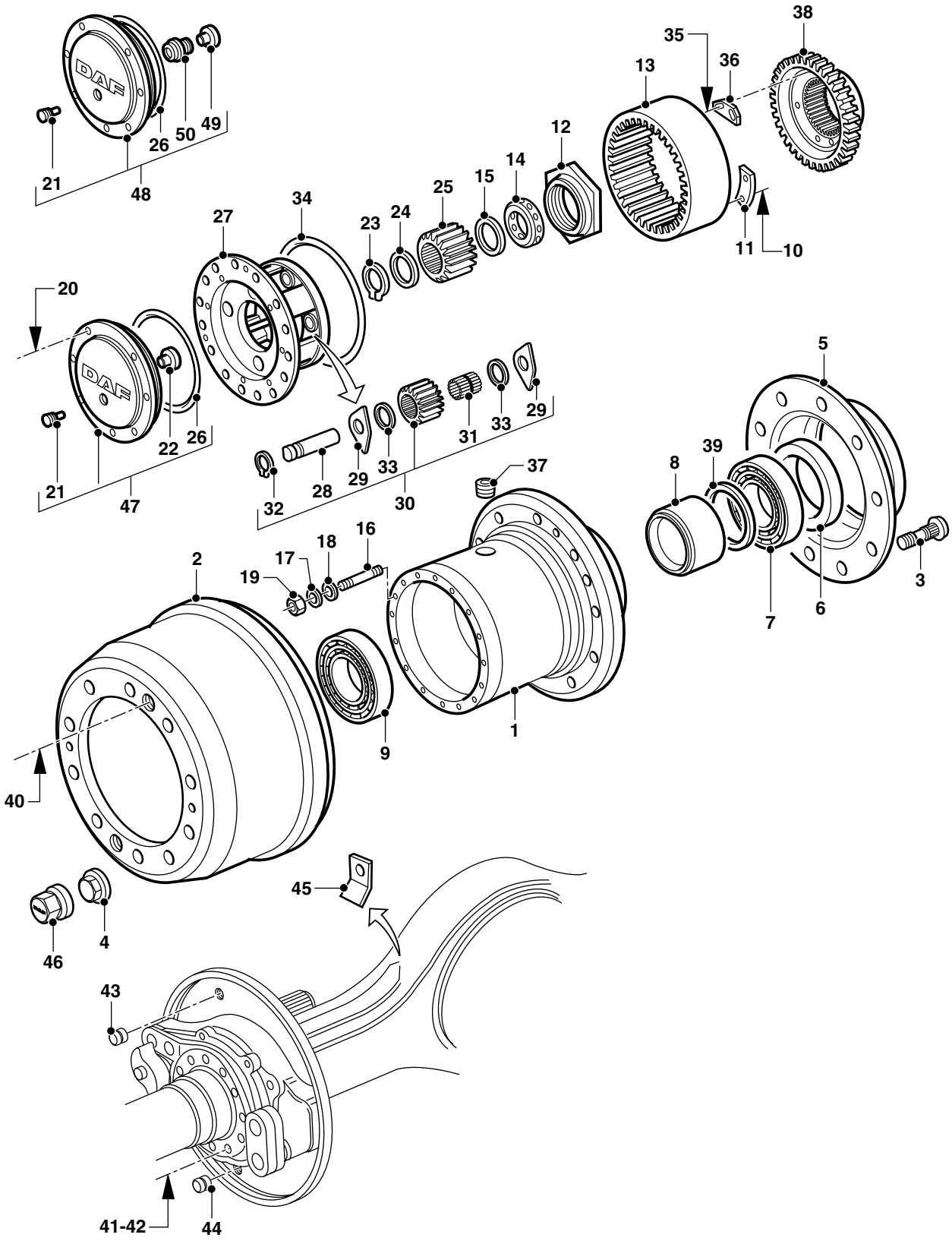
1.3 DESCRIPTION 1355 T, SECOND AXLE



In the back rear axle of the 1355 T tandem system two reductions are achieved; the first in the differential and the second in the hub. The reduction in the differential is small. That is why a single-reduction differential can be applied with a pinion gear which has a relatively large diameter, creating a relatively favourable load. This favourable load allows the application of helical toothing to pinion gear (1) and crown wheel (2). The pinion gear is connected directly to the input shaft and is supported by two bevel roller bearings (3) and (4) in the pinion-gear housing (5). The pre-load of these bearings can be adjusted using the spacers (6) which have been installed with a spacer sleeve (7) between the two inner races of the bearings.

The fitting dimension of the pinion gear can be adjusted with the spacers (8) between pinion-gear housing and differential housing. The crown wheel is attached to the satellite-gear housing (9). The satellite-gear housing is supported by two bevel roller bearings (10). The pre-load of these bearings is adjusted using the adjusting nuts (11). The rear axle can be equipped with a differential lock. This lock is operated pneumatically. The shifting fork (12) is pushed backwards by the piston (13). Subsequently, the selector sleeve (14) which slides over the splines of the axle shaft connects the satellite-gear housing directly with the axle shaft.

1.4 OVERVIEW DRAWING, WHEEL HUB



A800036

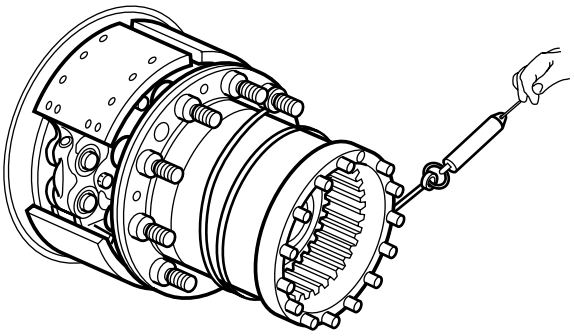
1. Hub
2. Brake drum
3. Wheel stud
4. Nut
5. Grease retainer
6. Sealing ring
7. Taper roller bearing
8. Bush
9. Taper roller bearing
10. Flange bolt
11. Fixing plate
12. Nut
13. Gearwheel
14. Thrust washer
15. Ring
16. Stud bolt
17. Spring washer
18. Lock washer
19. Nut
20. Tap bolt
21. Magnet plug
22. Heads
23. Circlip
24. Ring
25. Gearwheel
26. O ring
27. Support
28. Axle
29. Spacer
30. Hub
31. Needle bearing
32. Circlip
33. Shim
34. O ring
35. Flange bolt
36. Locking plate
37. Plug
38. Holder
39. Shim
40. Tap bolt
41. Flange bolt
42. Flange nut
43. Socket
44. Socket
45. Bracket
46. Cap
47. Hub cover
48. Cover
49. Pin

4

2. INSPECTION AND ADJUSTMENT

2.1 INSPECTION AND ADJUSTMENT, WHEEL BEARING PLAY

1. Remove the wheel hub, see chapter “Removal and installation”.
2. Remove the wheel hub oil seal, see chapter “Removal and installation”.
3. Fit the wheel hub without the hub oil seal, see chapter “Removal and installation”.
4. Turn a rope several times around the hub and attach it to a wheel stud.
   Pull the rope using a tensioner gauge and read off the force required to turn the axle at a constant speed.
   Compare the pressure reading with the technical data, see main group “Technical data”.
5. The pre-load of the wheel bearings can be changed by removing or fitting spacers between the spacer sleeve and the inner wheel bearing, see chapter “Removal and installation”.



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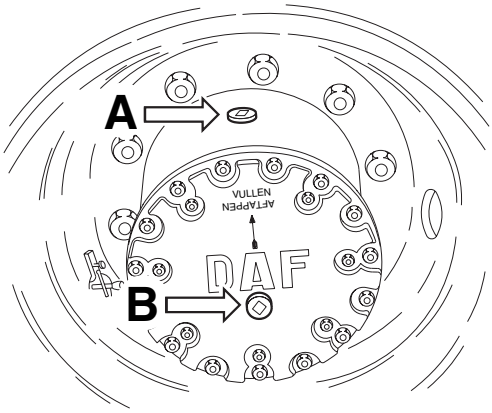
2.2 INSPECTION, HUB OIL LEVELS

To prevent skin injury, avoid unnecessary contact with the drained oil.

1. Position the vehicle on a level surface.
2. Position the wheels so that the arrow on the hub is pointing facing upwards.
3. Remove the oil-level plug/filler plug B. The oil level should reach the oil-level opening/filler opening.
4. Fit the plug.
   In the case of a Torx plug, use a special Torx wrench (DAF no. 1329422) and the specified tightening torque to fit the plug.
   See main group “Technical data”.

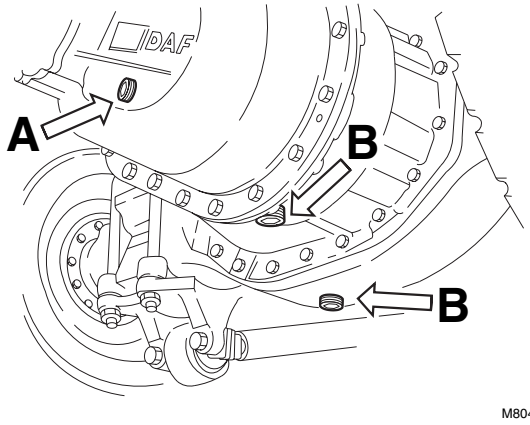


M8036

2.3 INSPECTION, DIFFERENTIAL OIL LEVEL

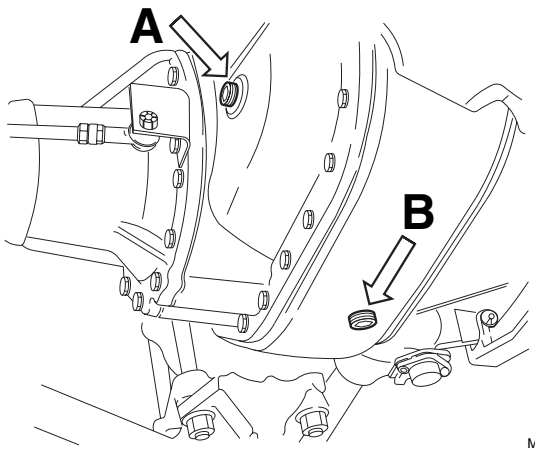
To prevent skin injury, avoid unnecessary contact with the drained oil.

Inspection, oil level first axle
1. Position the vehicle on a level surface.
2. Remove the oil-level plug/filler plug A. The oil level should reach the oil-level opening/filler opening.
3. Fit the plug.
   In the case of a Torx plug, use a special Torx wrench (DAF no. 1329422) and the specified tightening torque to fit the plug. See main group “Technical data”.



M8049

Inspection, oil level second axle
1. Position the vehicle on a level surface.
2. Remove the oil-level plug/filler plug A. The oil level should reach the oil-level opening/filler opening.
3. Fit the plug.
   In the case of a Torx plug, use a special Torx wrench (DAF no. 1329422) and the specified tightening torque to fit the plug. See main group “Technical data”.



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2.4 INSPECTION, OPERATION OF DIFFERENTIAL LOCK

1. Jack up the rear axle and support the axle on stands.
2. Bring the air system to operating pressure.
3. Engage the differential lock. The warning lamp should now come on.
4. Check whether there is a “rigid” connection between the driven wheels.
5. Disengage the differential lock. The warning lamp must not light up and the “rigid” connection between the driven wheels should be broken.

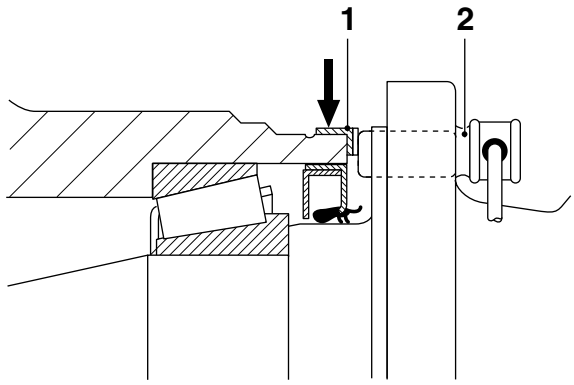
2.5 INSPECTION, HUB AND WHEEL BEARINGS

1. Inspect the bearings for damage at the following points:
   - the raceways of the bearing rollers
   - the bearing cage
   - the running surfaces of the inner and outer race.

   Replace the entire bearing (inner race, bearing cage and outer race), if damage is found.
2. When the outer race of the bearing is loose in the hub or has turned in the hub, the hub should be replaced.
3. Check the axle-stub screw thread, the bearing surfaces of the inner bearing races and the running surface of the oil seal for damage.
4. Check the ABS sensor ring for damage. Replace the ring at even the slightest trace of damage.

2.6 INSPECTION, ABS SENSOR RING

1. Remove the wheel hub, see chapter “Removal and installation”.
2. Check the sensor ring (1) for deposits. Special attention should be paid to deposits between the teeth of the sensor ring. Clean the sensor ring, if necessary.
3. Check the sensor ring (1) for damage. Even the slightest damage can cause a failure. If required, replace the sensor ring.
4. If possible, the sensor ring (1) should be checked for the maximum admissible axial end play, see main group “Technical data”.
5. Check the sensor (2) for smooth operation. If necessary, clean the sensor and apply new grease.



S7 00 134

4

3. REMOVAL AND INSTALLATION

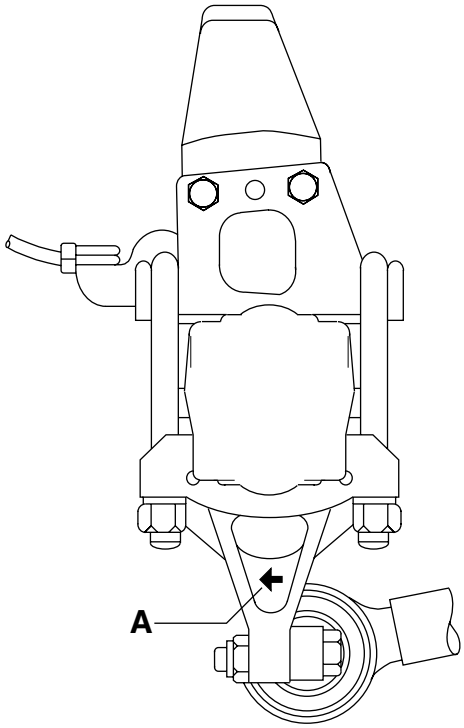
3.1 REMOVAL AND INSTALLATION, ENTIRE REAR AXLE

Removing the entire rear axle

1. Block the front wheels using chocks.
2. Slacken the central bolt of the spring-brake cylinder as far as possible.
3. Apply the parking brake.
4. Check the air lines and wiring.
5. Remove the drive shaft from the drive flange.
6. Loosen the shock absorbers on the bottom.
7. Loosen the control rod of the load-sensing valve.
8. Support the vehicle securely with stands under the chassis side members.
9. Remove the axle suspension/axle guide. Take the necessary precautions to prevent the axle from toppling when removing the axle suspension/axle guide.
10. If possible, the entire rear axle with wheels should be rolled from under the vehicle.

Installation of the entire rear axle

1. Install the entire rear axle with wheels under the vehicle.
2. Install the axle suspension/axle guide. Make sure that the torque-rod supports are fitted such that arrow **A** on the support points in the driving direction.
3. Install the control rod of the load-sensing valve.
   Note:
   Check the adjustment of the load-sensing valve after you have installed the rear axle.
4. Install the shock absorbers (if fitted).
5. Fit the drive shaft to the drive flange.
6. Connect the electrical wiring and fit the air pipes.
7. Fasten the central bolt of the spring-brake cylinder.



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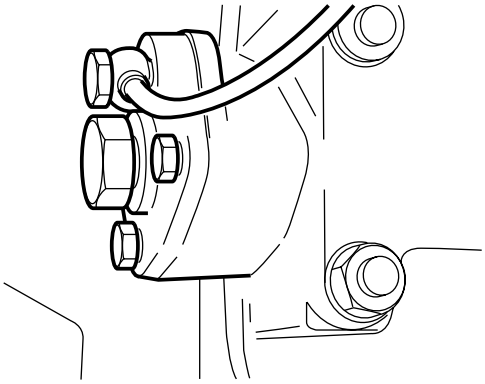
3.2 REMOVAL AND INSTALLATION, AXLE SHAFTS

Removal of the axle shafts

1. Jack up the rear axle and support the axle on stands.
2. Activate the differential lock and install the special tool (DAF no. 0694836) at the location of the switch.
3. Drain the hub oil, see chapter “Draining and filling”.
4. Remove the attachment bolts from the hub cover and remove the hub cover.
5. Pull the axle shaft from the wheel hub.



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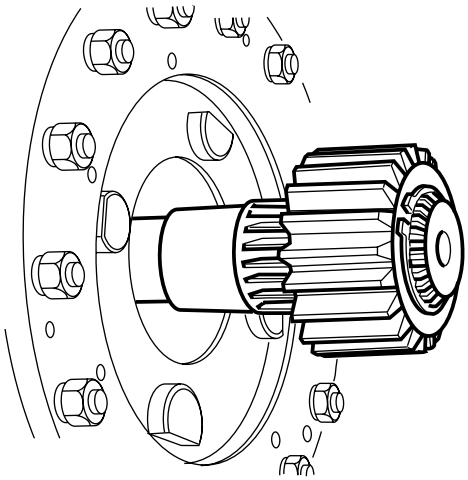

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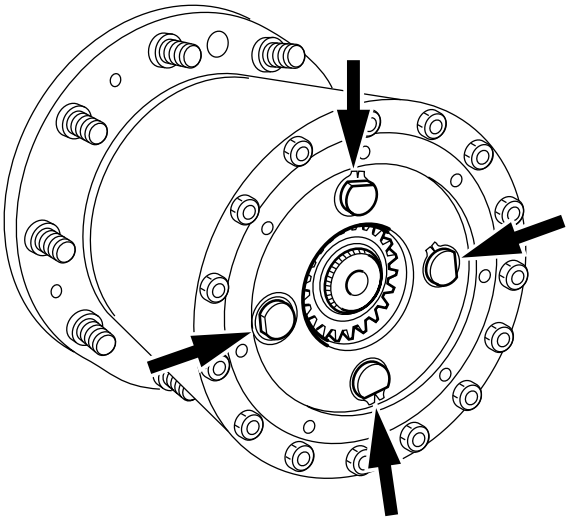
Installation of the axle shafts

1. Fit the axle shaft into the wheel hub.
2. Rotate the planet-wheel shafts so that the blunt sides point outward.
3. Check the O ring in the hub cover. If required, replace the O ring and apply silicone paste to it.
4. Install the hub cover. Tighten the fixing bolts to the specified tightening torque. See main group “Technical data”.
5. Fill the hub with oil, see chapter “Draining and filling”.



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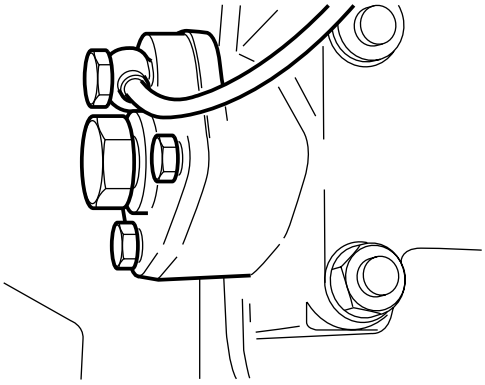
6. Remove the special tool from the differential lock and fit the switch again.



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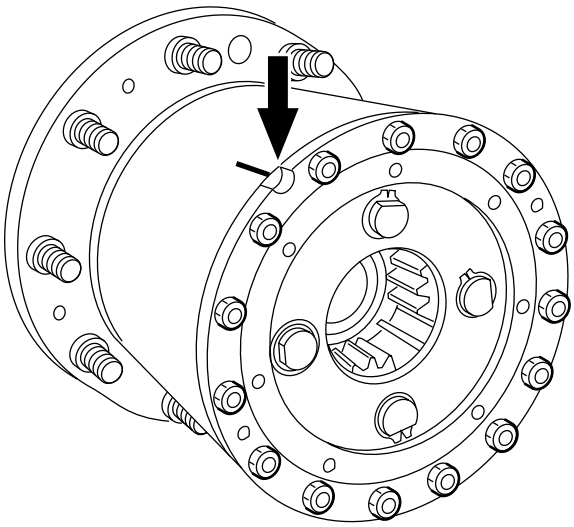
3.3 REMOVAL AND INSTALLATION, WHEEL HUB

Removal of the wheel hub

1. Jack up the rear axle and support the axle on stands.
2. Remove the wheels.
3. Release the brakes and remove the brake drum.
4. Mark the position of the planetary gear relative to the hub at the semicircular hole in the cover.
5. Drain the oil, see chapter “Draining and filling”.
6. Remove the hub cover.
7. Remove the axle shaft.



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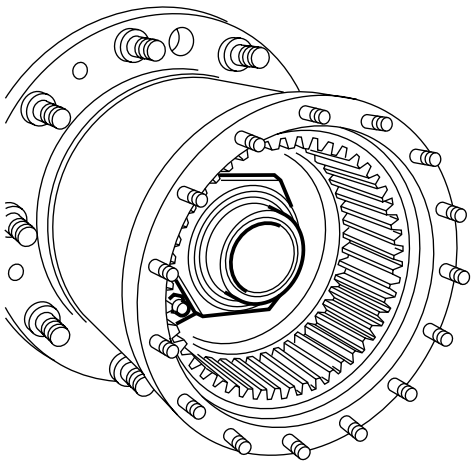
8. Remove the attachment nuts and conical spring washers.
   Push the planet-wheel gear from the hub using three jack screws.

   Note:
   Make sure that the planetary gear is installed with the circlips upward. This will prevent the pins from falling out.
9. Remove the thrust washer from the axle stub.
10. Remove the attachment bolts from the locking plate and remove the locking plate.



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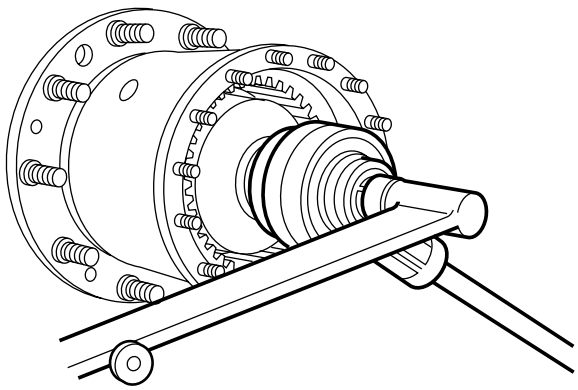
11. Remove the hub nut using the special tool (DAF no. 0535705) and a torque amplifier (ratio 1:5).
12. Support the hub and pull it from the axle stub. The annular gear holder with the annular gear, the bearings and the bearing sleeve with spacers will also come out with the hub.
13. Remove the annular gear holder and the annular gear from the hub.



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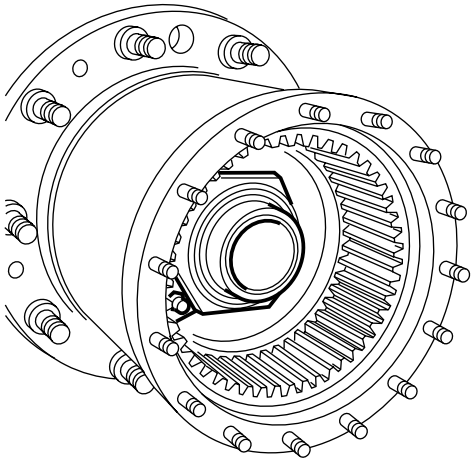
Installation of the wheel hub

Note:
If the wheel bearings have not been replaced and the original spacer sleeve with spacers is installed, it is not necessary to readjust the wheel bearing pre-load.

If the wheel bearings have been replaced, the wheel bearing pre-load should be re-adjusted, see chapter “Checking and adjusting”.
The wheel bearing pre-load should be adjusted before the hub oil seal is fitted.

1. Replace the hub oil seal.
2. Check the parts for wear and/or damage.
3. Replace the O rings.
4. Fill the wheel bearings with oil.
5. Install the hub on the axle stub.
6. Fit the original spacer sleeve and spacers.
7. Fit the inner race of the outer wheel bearing on the axle stub.
8. Fit the annular gear holder with the annular gear in the hub and onto the splines of the axle stub.



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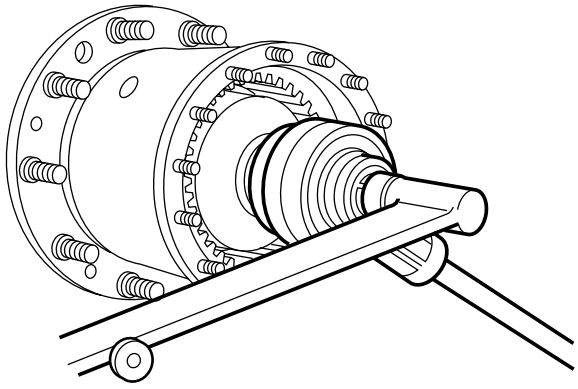
9. Fit the hub nut and tighten it using the special tool (DAF no. 0535705) and a torque amplifier (ratio 1 : 5).
   Tighten the hub nut to the specified tightening torque, see main group “Technical data”.
   Turn the hub while tightening the hub nut.
10. Fit the lock plate. Apply locking compound to the attachment bolts and tighten these to the specified tightening torque, see main group “Technical data”.
11. Install the thrust washer.
12. Fit the planetary gear in its original position in the hub (watch the markings).
13. Fit the conical spring washers and tighten the attachment bolts to the specified tightening torque, see main group “Technical data”.
14. Fit the axle shaft.
15. Install the hub cover. Tighten the fixing bolts to the specified tightening torque. See main group “Technical data”.
16. Fill the hub with oil, see chapter “Draining and filling”.
17. Push the sensor (1) against the sensor ring (2), if the vehicle is equipped with ABS.
    While the vehicle is being driven, the air gap between the sensor and the sensor ring is adjusted automatically.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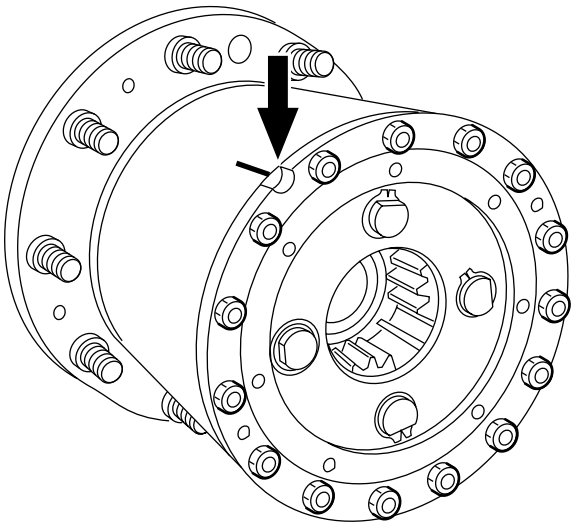
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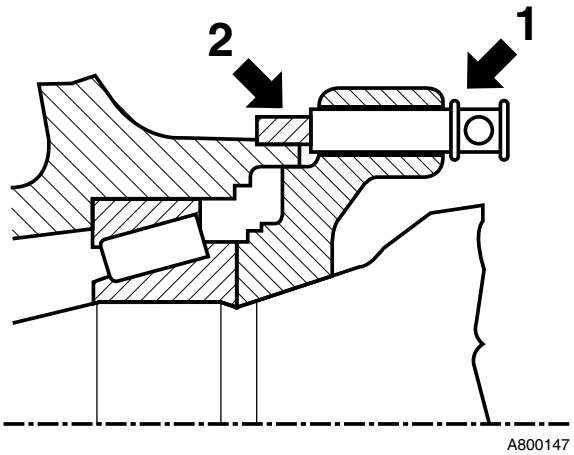

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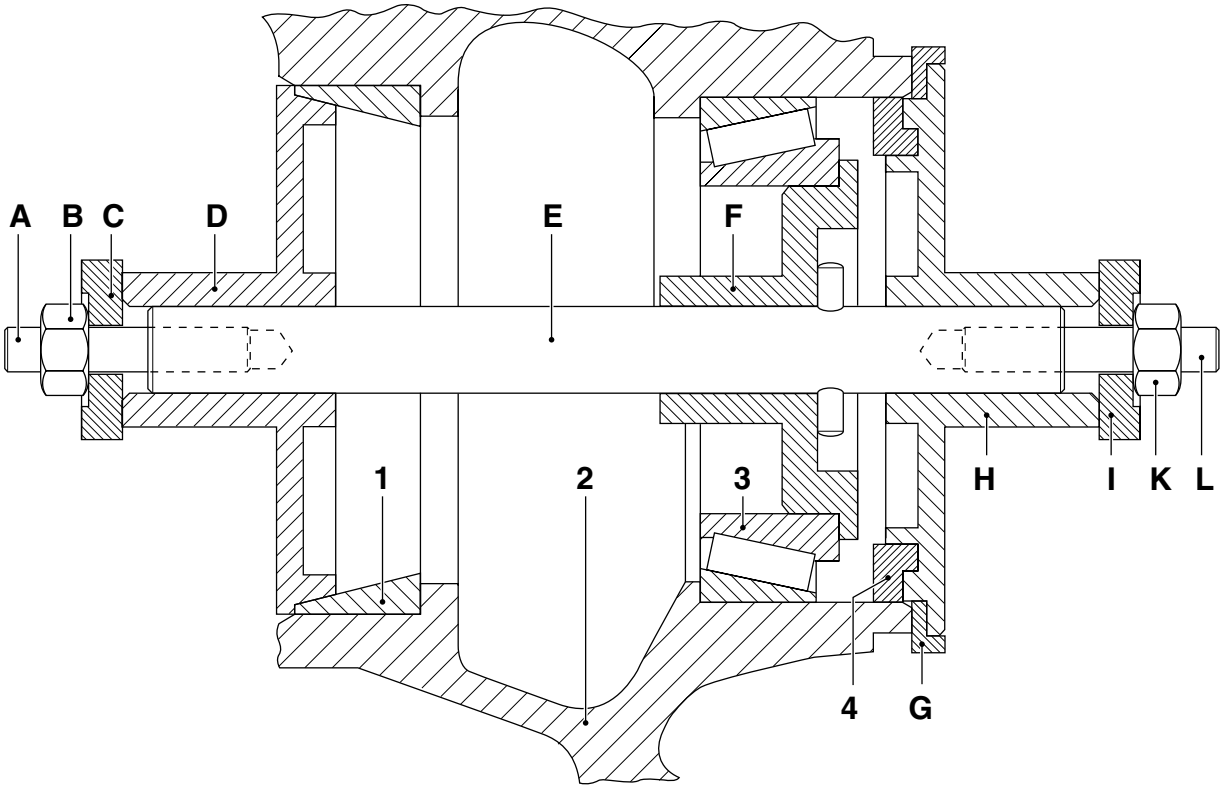
3.4 REMOVAL AND INSTALLATION, HUB OIL SEAL



S7 00 180

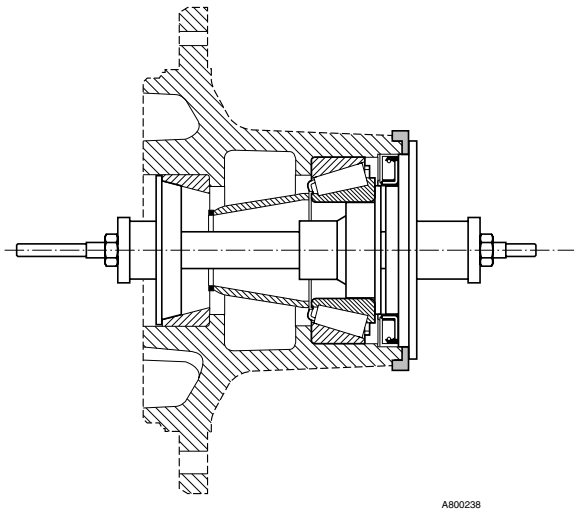
Removal of the hub oil seal

1. Remove the wheel hub
2. Remove the hub oil seal.

Installation of the hub oil seal

1. Check the oil-seal chamber (4) in the hub (2) for damage.
2. For the installation of the hub oil seal (4) use special tool (DAF no. 1240036).
3. The special tool is assembled as follows: screw the threaded ends (A and L) into the centring spindle (E).
   The shorter threaded end (L) is fitted on the side where the pin is inserted into the centring spindle (E).
4. Slide the appropriate centring flange (F) over the centring spindle (E).
5. Install the inner wheel bearing (3).
   Slide the centring axle (E) with the centring flange (F) into the hub (2).
6. Press the centring flange (F) into the inner wheel bearing (3).

7. Slide the appropriate centring flange (D) over the centring spindle (E).
8. Fit the lock plate (C) and the nut (B) onto the centring spindle (E).
9. Align the centring flange (D) on the outer race of the outer wheel bearing and hand-tighten nut (B) (max. 20 Nm). The centring axle (E) should be free from play in the hub (2).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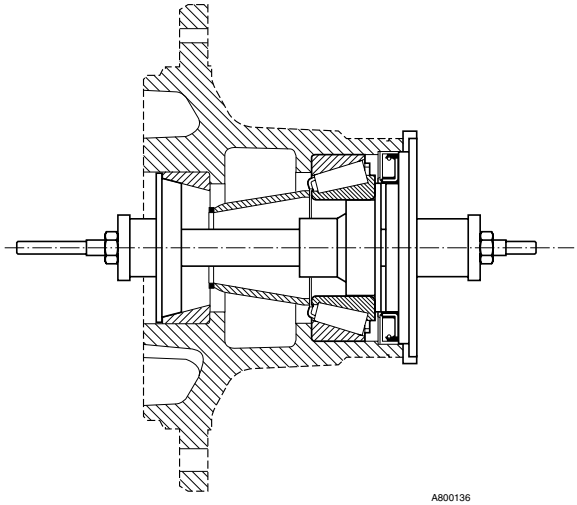
Versions equipped with ABS
Install the draw-in flange (H) without the dummy sensor ring, if the hub (2) **is** equipped with an ABS sensor ring.

Versions not equipped with ABS
Fit the dummy sensor ring (G) to the draw-in flange (H), if the hub (2) **is not** equipped with an ABS sensor ring.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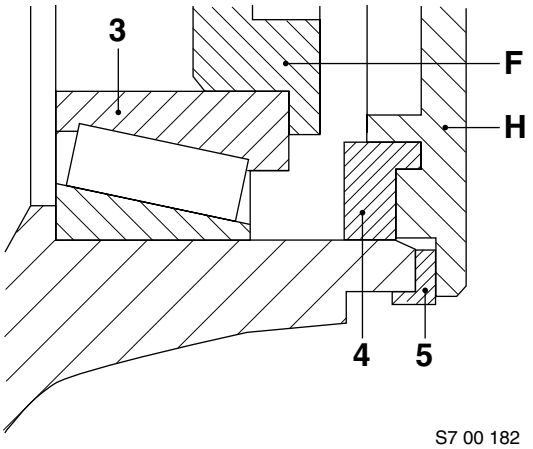
10. Position the oil seal (4) in front of the hub. Slide the draw-in flange (H) over the centring spindle (E) against the oil seal (4).
11. Fit the lock plate (I) and the nut (K).
12. Push the oil seal (4) evenly into the hub (2) using the nut (K). In the case of a wheel hub **with** an ABS sensor ring (5), press the lubricant seal into the wheel hub until the draw-in flange (H) abuts the ABS sensor ring (5).
    In the case of a wheel hub **without** an ABS sensor ring (5), press the lubricant seal into the wheel hub until the dummy ABS sensor ring (G) abuts the hub rim.
13. Remove the special tool.
14. Apply grease to the sealing lips of the oil seal (4).
15. Install the hub on the axle stub.

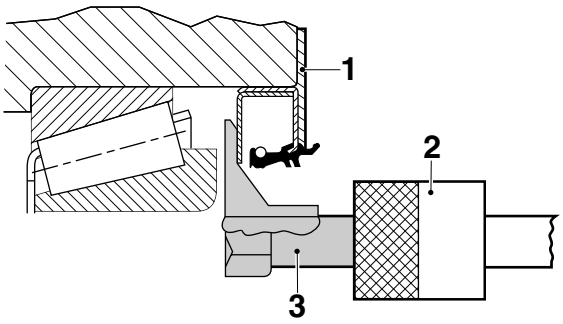


S7 00 182

3.5 REMOVAL AND INSTALLATION, COMBINED HUB OIL SEAL/ABS SENSOR RING

Removing the hub oil seal/ABS sensor ring

1. Remove the hub from the axle stub.
2. Fit the special tool (3) (DAF no. 1329411) to the impact extractor (2), special tool (DAF no. 0694928).
   Hook special tool (3) behind the oil seal (1).
   Pull the oil seal (1) evenly from the hub using the impact extractor (2).
   Once the oil seal has been removed, it cannot be re-used.



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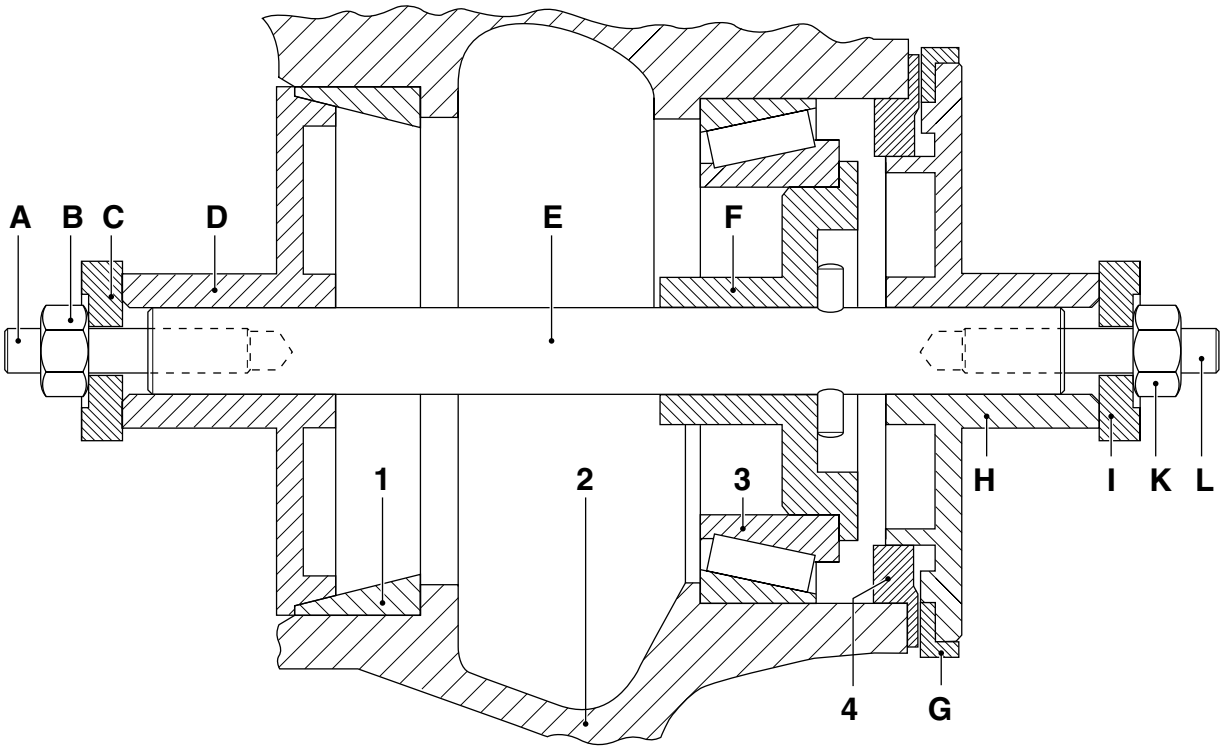

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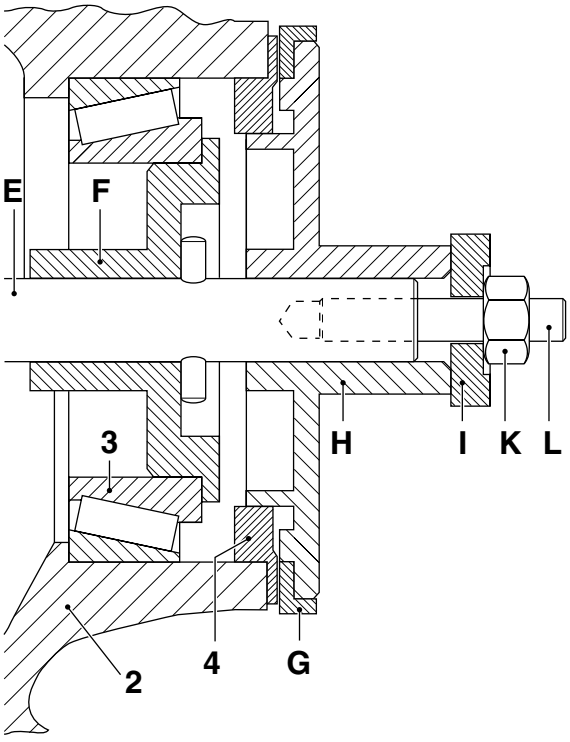
Installing the hub oil seal/ABS sensor ring

1. Check the oil-seal chamber (4) in the hub (2) for damage.
2. For the installation of the hub oil seal (4) use special tool (DAF no. 1240036).

3. The special tool is assembled as follows: screw the threaded ends (A and L) into the centring spindle (E).
   The shorter threaded end (L) is fitted on the side where the pin is inserted into the centring spindle (E).
4. Slide the appropriate centring flange (F) over the centring spindle (E).
5. Install the inner wheel bearing (3).
   Slide the centring axle (E) with the centring flange (F) into the hub (2).
6. Press the centring flange (F) into the inner wheel bearing (3).
7. Slide the appropriate centring flange (D) over the centring spindle (E).
8. Fit the lock plate (C) and the nut (B) onto the centring spindle (E).
9. Align the centring flange (D) on the outer race of the outer wheel bearing and hand-tighten nut (B) (max. 20 Nm). The centring axle (E) should be free from play in the hub (2).
10. Fit washer (G) on draw-in flange (H).
11. Position the oil seal (4) in front of the hub (2).
    Slide the draw-in flange (H) with the washer (G) over the centring spindle (E) against the oil seal (4).
12. Fit the lock plate (I) and the nut (K).
13. Press the oil seal (4) evenly into the wheel hub (2) using nut (K), until the ABS sensor ring abuts the hub (2).
14. Remove the special tool.
15. Apply grease to the sealing lips of the oil seal (4).
16. Install the hub on the axle stub.



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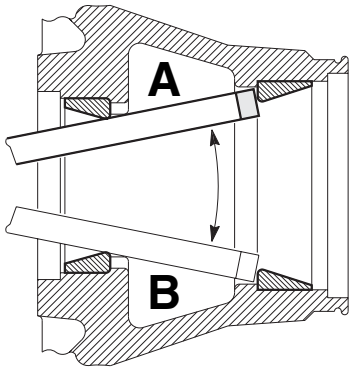
3.6 REMOVAL AND INSTALLATION, WHEEL BEARINGS

Removal of the wheel bearings

1. Remove the wheel hub
2. Remove the hub oil seal.
3. Remove the inner bearing.
4. If the wheel bearings need replacing, the outer bearing races can be tapped from the hub using a driver. For this purpose, the hub has been fitted with two recesses (A and B).



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Installation of the wheel bearings

1. Clean the bearings and check them for damage.
2. Fit the outer bearing races into the hub using a driving tool and a hydraulic press, or by tapping the outer bearing races evenly using a driver.
3. Fit the inner bearing with hub oil seal.
4. Fit the wheel hub.

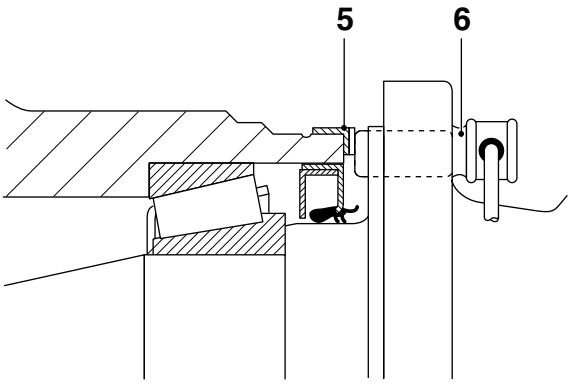
4

3.7 REMOVAL AND INSTALLATION, ABS SENSOR RING

Removing the ABS sensor ring

1. Remove the ABS sensor (6).
2. Remove the hub from the axle stub.
3. Remove the sensor ring (5) from the hub using a puller. Make sure that the clamping face of the sensor ring on the hub is not damaged in the process.

Once removed, a sensor ring should not be re-installed.



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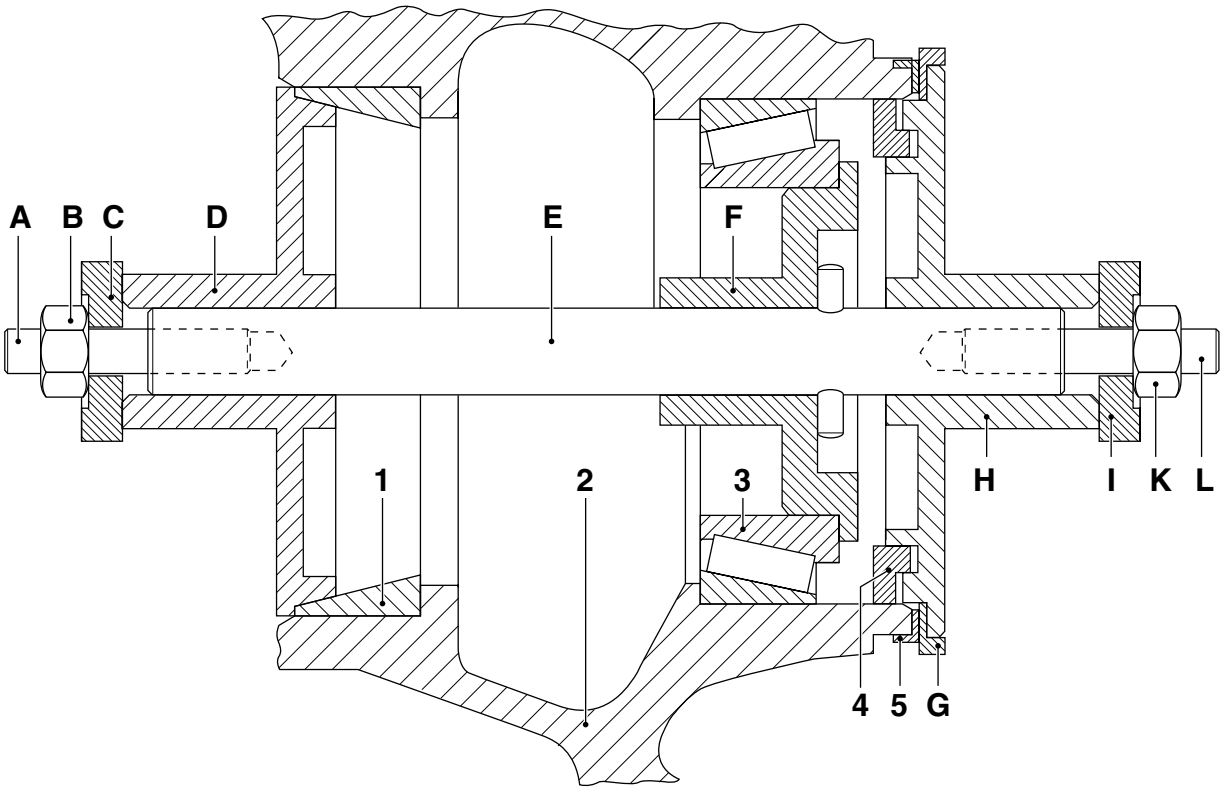

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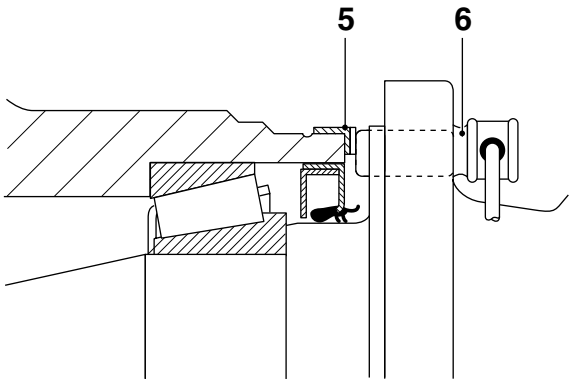
Installing the ABS sensor ring

1. Check the clamping surface of the sensor ring on the hub for damage.
2. Check the new sensor ring carefully for possible transport damage.
3. Clean and degrease the contact surfaces of the hub (2) and the sensor ring (5).
4. The special tool is assembled as follows: screw the threaded ends (A and L) into the centring spindle (E).
   The shorter threaded end (L) is fitted on the side where the pin is inserted into the centring spindle (E).
5. Slide the appropriate centring flange (F) over the centring spindle (E).
6. Install the inner wheel bearing (3).
   Slide the centring axle (E) with the centring flange (F) into the hub (2).
7. Press the centring flange (F) into the inner wheel bearing (3).
8. Slide the appropriate centring flange (D) over the centring spindle (E).
9. Fit the lock plate (C) and the nut (B) onto the centring spindle (E).

10. Align the centring flange (D) on the outer race of the outer wheel bearing and hand-tighten nut (B) (max. 20 Nm). The centring axle (E) should be free from play in the hub (2).
11. Install the dummy sensor ring (G) on the draw-in flange (H).
12. Position the sensor ring (5) before the hub. Slide the draw-in flange (H) with the dummy sensor ring (G) over the centring spindle (E) until it abuts the sensor ring (5).
13. Fit the lock plate (I) and the nut (K).
14. Press the sensor ring (5) evenly onto the hub (2) using the nut (K) until the sensor ring is completely flush.
15. Install the hub on the axle stub.
16. Install the ABS sensor (6) and press it against the sensor ring (5).
    While the vehicle is being driven, the air gap between the sensor and the sensor ring is adjusted automatically.



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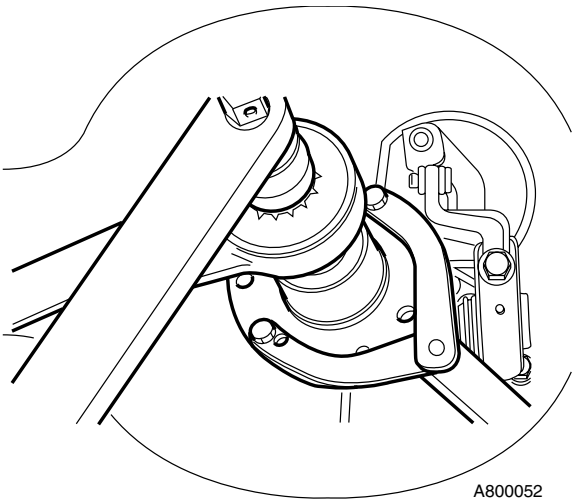
3.8 REMOVAL AND INSTALLATION OF THE DRIVE FLANGE

Removal of the drive flange

1. Remove the drive shaft from the drive flange.
2. Fit the drive flange with the special tool (DAF no. 0484977) to prevent it from being turned, and remove the drive-flange nut using a torque amplifier.
3. Remove the drive flange. If necessary, use a puller.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Installing the drive flange

1. Before installation check the drive flange at the oil-seal running surface for grooves and/or sharp edges. If required, replace the drive flange.
2. Fit the drive flange.
3. Apply a small amount of grease to the first turn of the drive-flange nut.
4. Apply locking compound to the screw thread, see main group “Technical data”.
5. Fit the drive flange with the special tool (DAF no. 0484977) to prevent it from being turned and tighten the drive-flange nut to the specified tightening torque, see main group “Technical data”.
6. Fit the drive shaft to the drive flange.

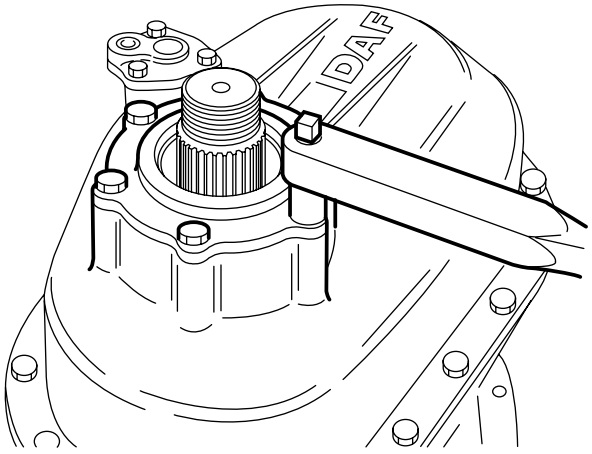
3.9 REMOVAL AND INSTALLATION, INPUT SHAFT PINION OIL SEAL

Removal of the input-shaft oil seal

1. Remove the drive flange.
2. Remove the fixing bolts from the bearing-house cover and remove the bearing-house cover.
3. Remove the oil seal from the bearing-house cover.

Installation of the input-shaft oil seal

1. Clean the mating surfaces of the bearing-house cover and the differential housing.
2. Lightly lubricate the bearing-house cover with grease and install the oil seal using a driving tool (DAF no. 1240089) so that the inscription “outside” is pointed outwards.
3. Apply a thin film of sealant on the surface to which the bearing-house cover is fitted.
4. Install the bearing-house cover and tighten the attachment bolts to the specified tightening torque, see main group “Technical data”.
5. Fit the drive flange.



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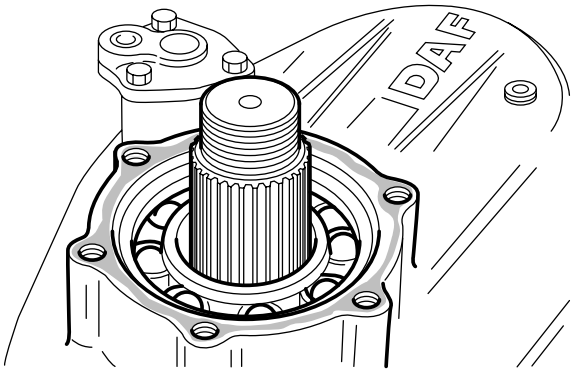

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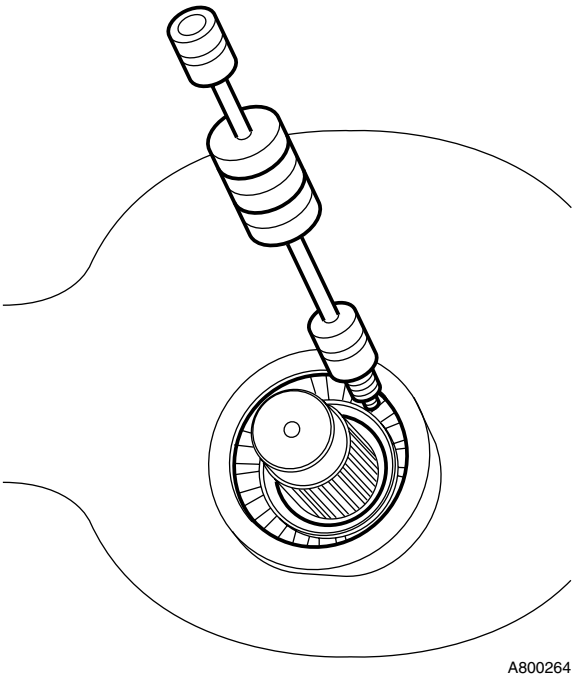
3.10 REMOVAL AND INSTALLATION, OUTPUT SHAFT PINION OIL SEAL

Removal of the output shaft pinion oil seal

1. Remove the drive flange.
2. Drill two holes into the oil seal and turn the special tool (DAF no. 0484899) into the oil seal. Pull the oil seal from the pinion housing using the special tool (DAF no. 0694928).



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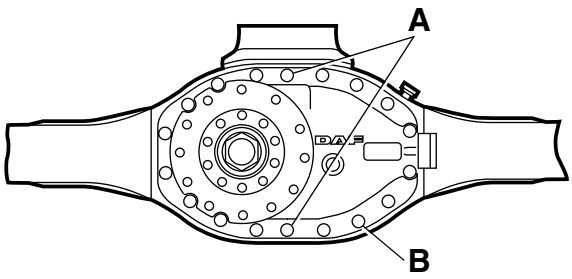
Installation of the output shaft pinion oil seal

1. Fit the oil seal with the special tool (DAF no. 1240106) so that the inscription “outside” is pointed outwards.
2. Fit the drive flange.

3.11 REMOVAL AND INSTALLATION, DIFFERENTIAL

Removal of the differential

1. Drain the oil from the differential and the hubs, see Chapter “Draining and filling”.
2. Remove the drive shaft from the drive flange.
3. Remove the axle shafts.
4. Remove the air connection for the differential lock.
5. Remove the nuts from the attachment bolts (type B). These long bolts run through the rear-axle housing.
   Remove these two attachment bolts from the differential.
6. Remove the differential from the axle housing.



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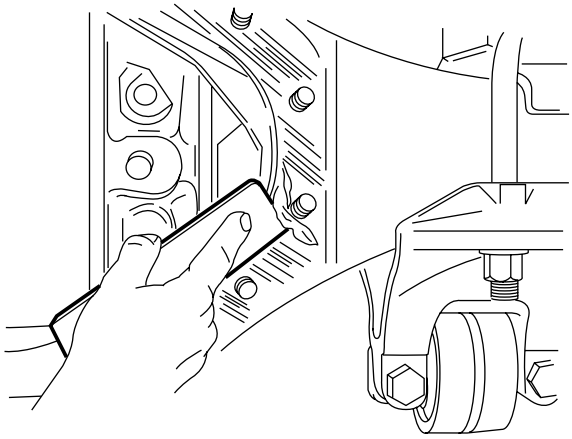

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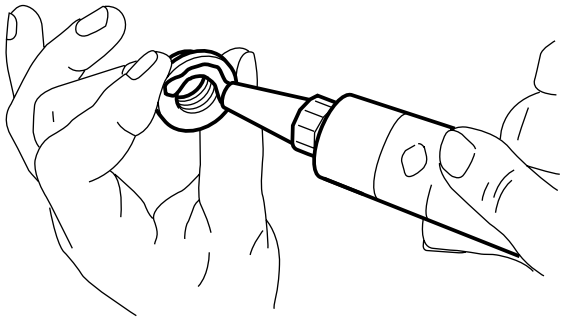
Installation of the differential

1. THOROUGHLY clean the mating surfaces of the banjo housing and the differential housing. Remove sealant residues using a putty knife and degrease these surfaces using some white spirit.
2. Remove all sealant residues from the bolt-head flanges of the through bolts (type B). Degrease these flanges.
3. Remove all sealant residues from the flange-nut flanges from the bolts (type B) and degrease these flanges.

4. Apply a thin, even layer of sealant to the mating surface of the banjo housing. Make sure that the sealant is applied correctly around the bolt holes.
5. Also apply sealant to the bolt-head flanges of the through bolts (type B).
6. Install the differential and, having applied sealant to the flange nuts, turn them onto the bolts (type B).
7. Tighten the nuts to the specified tightening torque, see main group “Technical data”.
8. Thoroughly clean the attachment bolt flanges (type A). Degrease these flanges and apply sealant to them. Tighten the attachment bolts to the specified tightening torque, see main group “Technical data”.
9. Fit the air connection to the differential lock.
10. Fit the axle shafts.
11. Fit the drive shaft to the drive flange.
12. Fill the differential and the hubs with oil, see Chapter “Draining and filling”.



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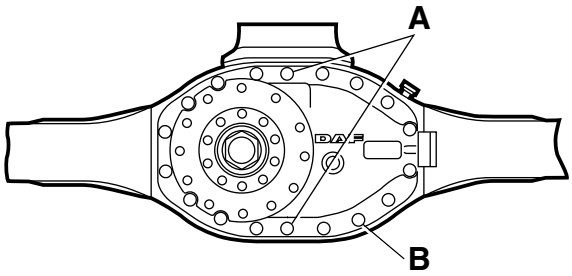

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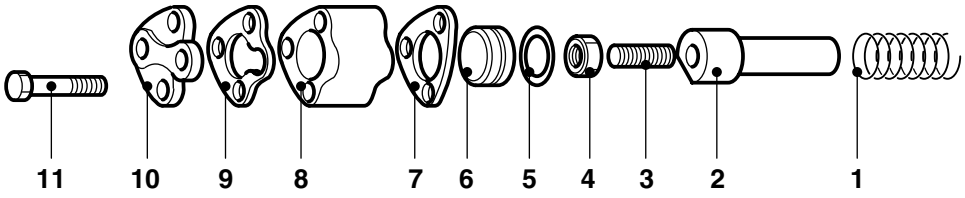
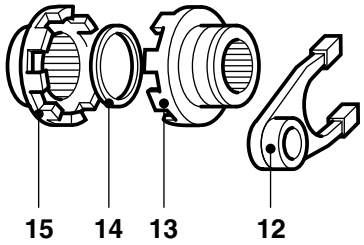
3.12 REMOVAL AND INSTALLATION, DIFFERENTIAL LOCK

Removal of the differential lock





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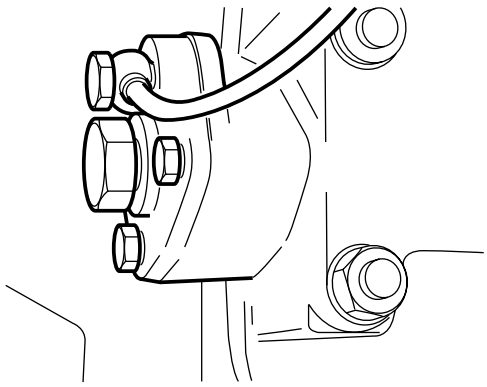
1. Remove the differential.
2. Remove the attachment bolts (11).
3. Remove the cover (10) together with the gasket (9).
4. Remove the special tool (DAF no. 0694836).
5. Remove the cylinder housing (8) and the gasket (7). The piston (6) with sealing ring (5) will also come loose.
6. Subsequently remove the selector shaft (2), the shifting fork (12), the clutch body (13) and the pressure spring (1).
7. If required, remove the selector sleeve (15).



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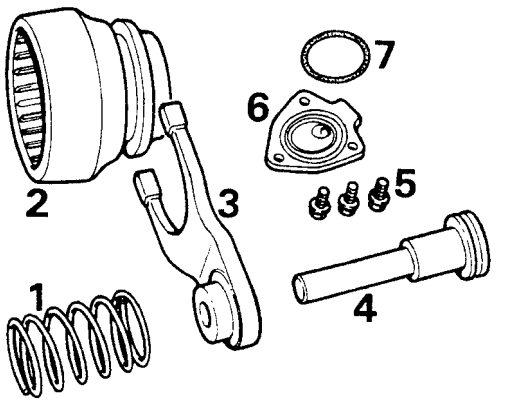

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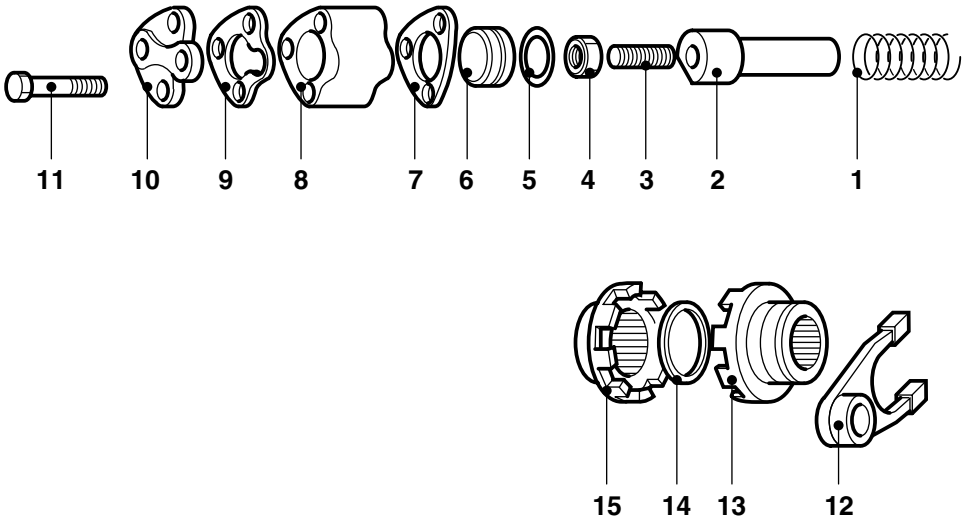
Installation of the differential lock

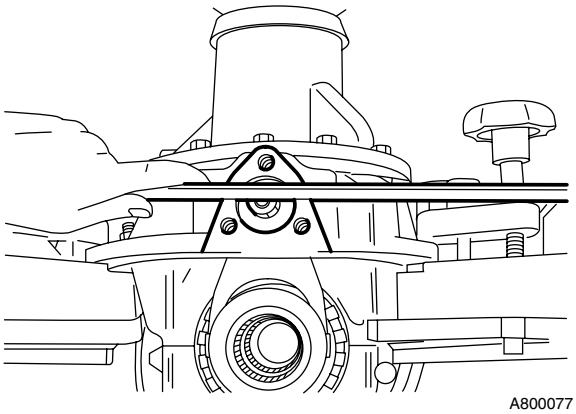
1. If required, install the selector sleeve (15).
2. Install the selector shaft (2) with the shifting fork (12) and the clutch body (13) in the differential housing. Make sure that the bevel side of the shifting fork is flush against the shoulder of the axle. Do not yet install the pressure spring (1).



A800226

3. Loosen the adjusting bolt (3) on the selector shaft (2) until the top of the adjusting bolt is positioned below the mating surface of the differential housing at the specified value when the claws are fully engaged, see main group “Technical data”.

   Note:
   The differential lock should be adjusted such that the claws of the selector sleeve and clutch body fully engage. In addition, the shifting fork should not drag against the edge of the groove in the clutch body. This is why correct adjustment of the crown wheel/pinion play is important.



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4. Fit the pressure spring (1) between the differential housing and the shifting fork (12).
5. Fit the sealing ring (5) to the piston of the differential lock and apply a small amount of oil to the piston.
6. Fit the piston (6) into the cylinder.

Note:
Make sure that you fit the correct gasket to the corresponding mating surface when installing the locking cylinder and cover.

7. Make sure that you fit the air connection in the correct position. The lip of the air connection should point towards the top of the differential in the direction of the input shaft.
8. Install the locking cylinder, including the cover and the two gaskets, onto the differential housing. Subsequently tighten the attachment bolts to the specified tightening torque, see main group “Technical data”.
9. Fit the special tool (DAF no. 0694836) so that the differential lock is blocked.
10. Install the differential.
11. Fit the air connection to the differential lock.
12. Remove the special tool.
13. Install the switch with washer and electrical connection.

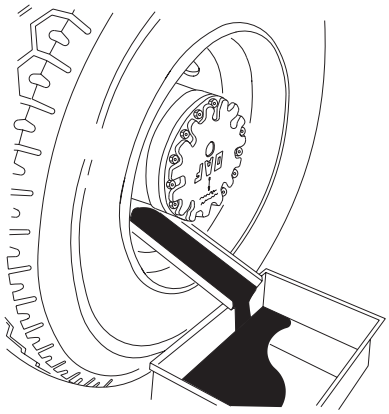
4. DRAINING AND FILLING

4.1 DRAINING AND FILLING, HUB

To prevent skin injury, avoid unnecessary contact with the drained oil.

Draining the hub

1. Position the vehicle on a level surface.
2. Position the wheels so that the drain/filler plug (A) is at the underside.
3. Remove the drain/filler plug A and drain the oil.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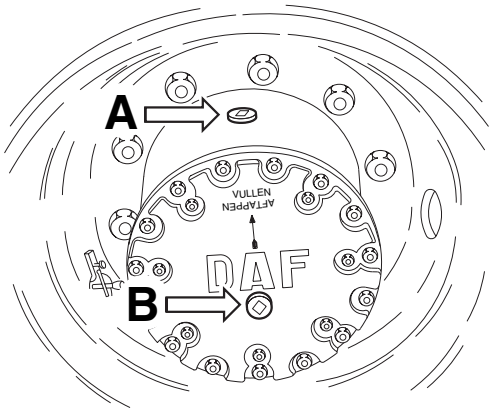
Filling the hub

1. Position the vehicle on a level surface.
2. Position the wheels so that the drain/filler plug A is at the top side.
3. Fill the hub with the specified quantity of oil.
4. Fit the plug.
   In the case of a Torx plug, use a special Torx wrench (DAF no. 1329422) and the specified tightening torque to fit the plug. See main group “Technical data”.
5. Check the oil level after approximately 5 minutes. See chapter “Inspection and adjustment”.



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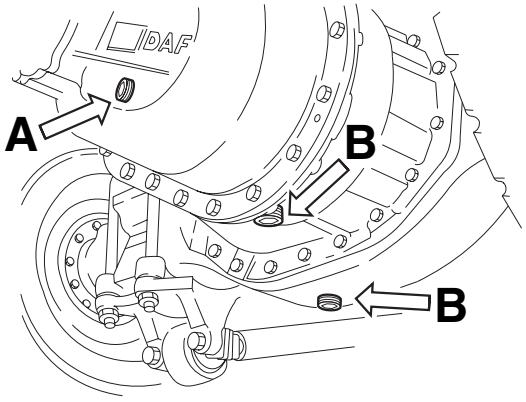
4.2 DRAINING AND FILLING, DIFFERENTIAL

To prevent skin injury, avoid unnecessary contact with the drained oil.



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Draining the differential, first axle

1. Position the vehicle on a level surface.
2. Remove the drain plugs (B) and drain the oil.
3. Fit the plugs.
   In the case of a Torx plug, use a special Torx wrench (DAF no. 1329422) and the specified tightening torque to fit the plug. See main group “Technical data”.

Filling the differential, first axle

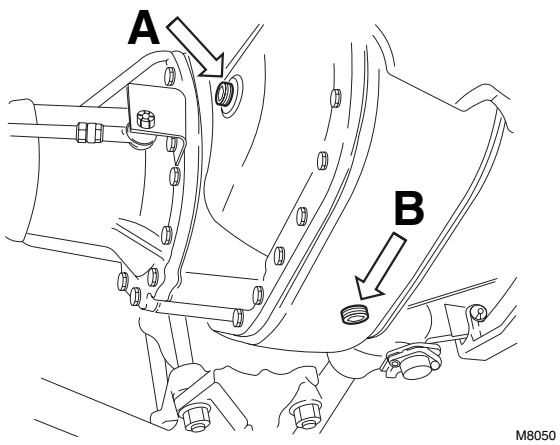
1. Position the vehicle on a level surface.
2. Remove the oil-level plug/filler plug A and fill the differential with the specified quantity of oil.
3. Check the oil level after approximately 5 minutes. See chapter “Inspection and adjustment”.
4. Fit the plug.
   In the case of a Torx plug, use a special Torx wrench (DAF no. 1329422) and the specified tightening torque to fit the plug. See main group “Technical data”.

Draining the differential, second axle

1. Position the vehicle on a level surface.
2. Remove drain plug (B) and drain the oil.
3. Fit the plug.
   In the case of a Torx plug, use a special Torx wrench (DAF no. 1329422) and the specified tightening torque to fit the plug. See main group “Technical data”.

Filling the differential, second axle

1. Position the vehicle on a level surface.
2. Remove the oil-level plug/filler plug A and fill the differential with the specified quantity of oil.
3. Check the oil level after approximately 5 minutes. See chapter “Inspection and adjustment”.
4. Fit the plug.
   In the case of a Torx plug, use a special Torx wrench (DAF no. 1329422) and the specified tightening torque to fit the plug. See main group “Technical data”.



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CONTENTS

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1. GENERAL

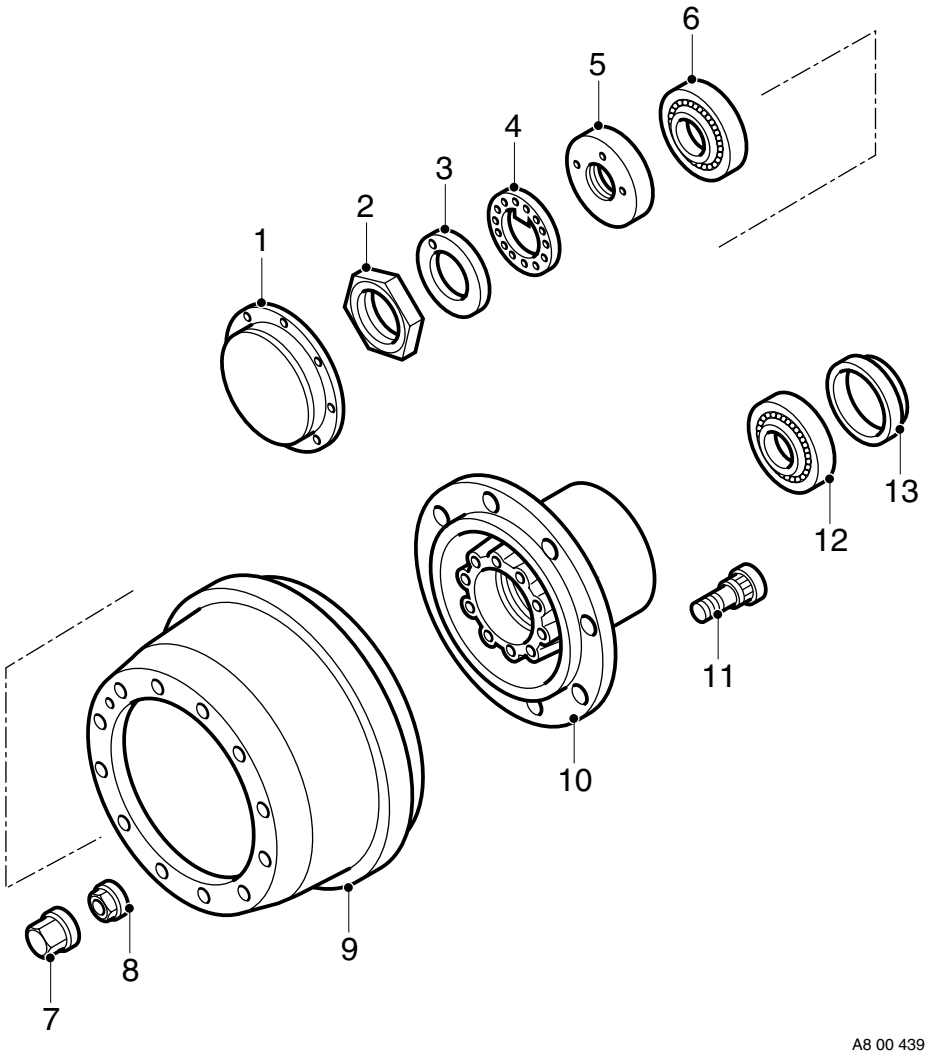
1.1 DESCRIPTION OF TRAILING AXLE 09N075/09N220

Vehicles with a trailing axle are typically equipped with a driven axle followed by a non-driven axle: the trailing axle. If the axle load is so low that this load can be carried by the driven axle only, the trailing axle can be lifted. The advantage of this is that tyres, brake lining and fuel are saved.

Trailing axle 09N075
The trailing axle 09N075 is an air-suspended rigid axle with a pneumatic lifting gear.

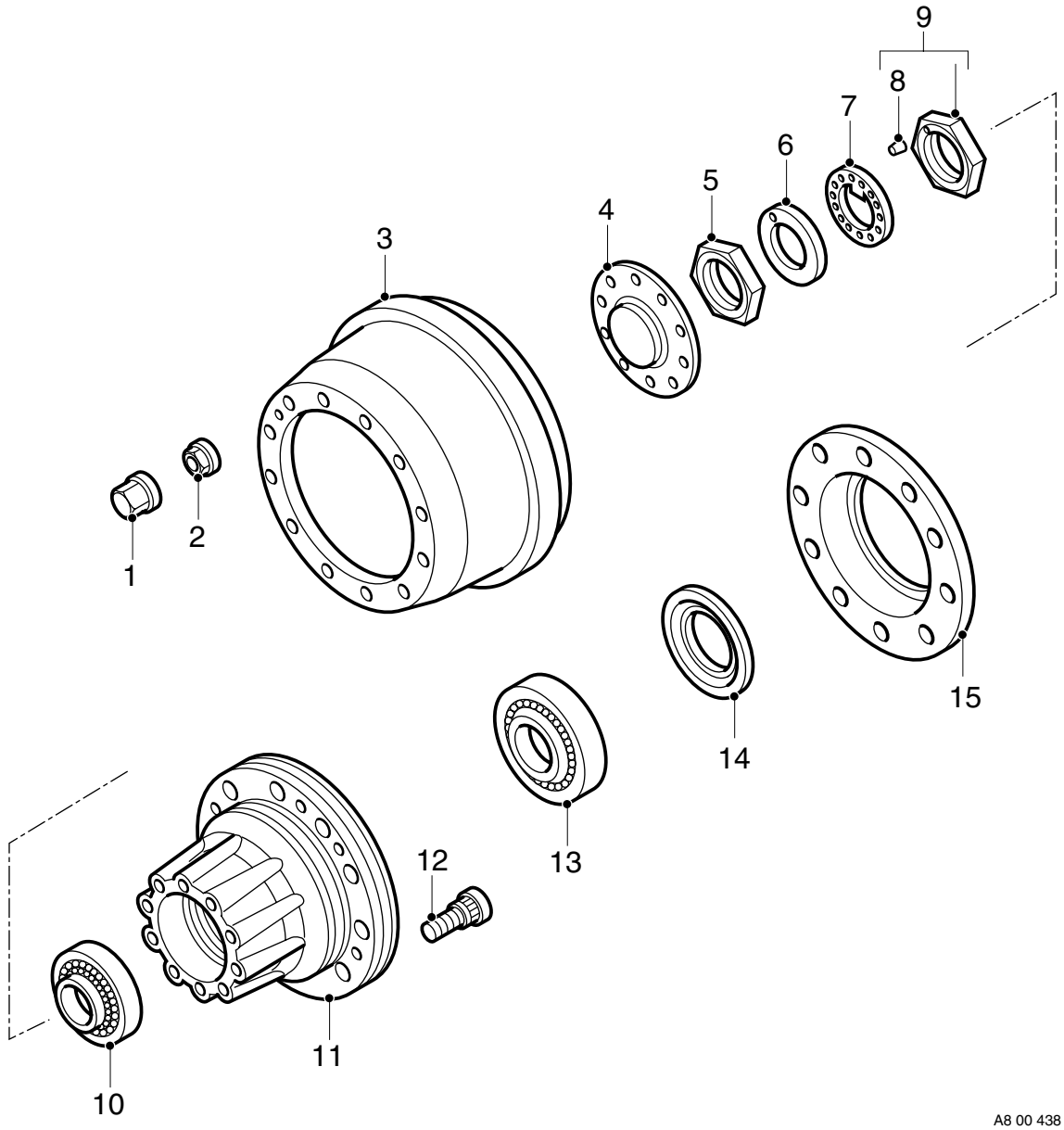
Trailing axle 09N220
The trailing axle 09N220 can be either air-suspended or leaf-sprung.
The air-suspended trailing axle is a rigid axle with a pneumatic lifting gear.
With a leaf-sprung trailing axle, the driven axle is suspended by spring assemblies which are connected (hinged) at the front. On the other side the spring assemblies are connected to the trailing-axle wheel yoke using shackles. The lever effect of the wheel yoke makes sure that the trailing axle is also suspended. The trailing axle may or may not be equipped with a hydraulic lifting gear.

1.2 OVERVIEW DRAWING, HUB OF TRAILING AXLE 09N075



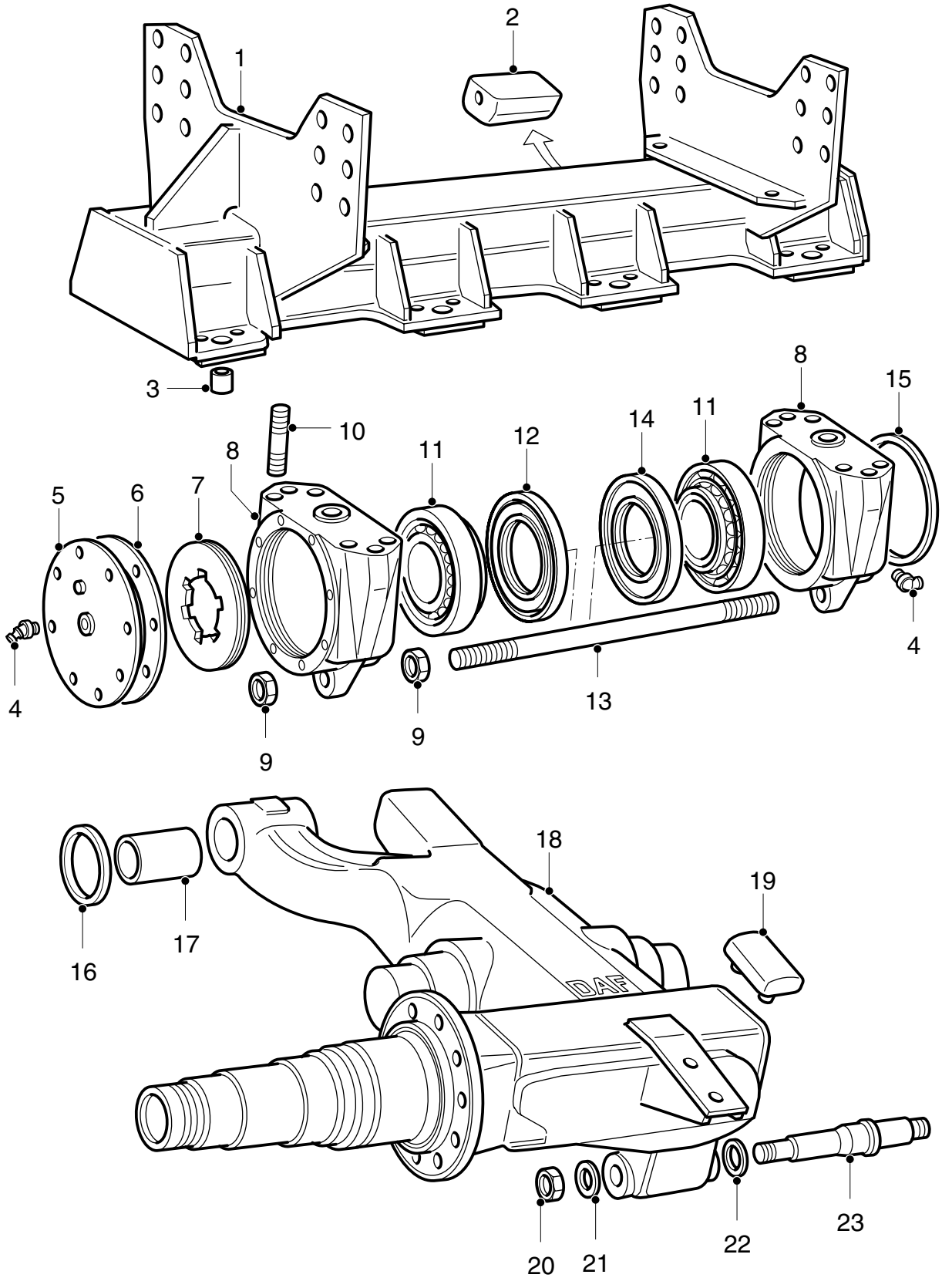
1. Hub cover
2. Lock nut
3. Locking washer
4. Circlip
5. Hub nut
6. Taper roller bearing
7. Cap
8. Wheel nut
9. Brake drum
10. Wheel hub
11. Wheel stud
12. Taper roller bearing
13. Seal

1.3 OVERVIEW DRAWING, HUB OF TRAILING AXLE 9N220



1. Cap
2. Wheel nut
3. Brake drum
4. Hub cover
5. Lock nut
6. Locking washer
7. Circlip
8. Notched pin
9. Hub nut
10. Taper roller bearing
11. Wheel hub
12. Wheel stud
13. Taper roller bearing
14. Seal
15. Grease retainer

1.4 OVERVIEW DRAWING, TRAILING-AXLE YOKE ATTACHMENT



1. Bearing support
2. Bump stop
3. Bush
4. Lubricating nipple
5. Trailing-axle yoke cover
6. Flange seal
7. Adjusting nut
8. Bearing block
9. Nut
10. Stud
11. Taper roller bearing
12. Seal
13. Pull rod/push rod
14. Seal
15. Sealing plate
16. Bearing-bush rings
17. Bearing bush
18. Trailing-axle yoke
19. Bump stop
20. Nut
21. Washer
22. Washer
23. Pin

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2. INSPECTION AND ADJUSTMENT

2.1 INSPECTION AND ADJUSTMENT, WHEEL BEARING PLAY

Inspecting the wheel bearing play

1. To ensure a reliable inspection of the wheel bearing play, use the special tool (DAF No. 0535595).

   The special tool consists of:
   1. extensions
   2. central nut
   3. dial gauge holder
   4. threaded spindle
   5. bridge
   6. socket wrench
   7. additional extension pieces

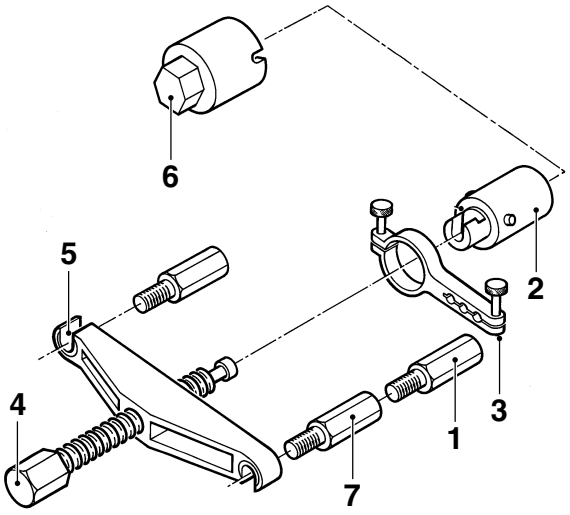
2. Remove the hub caps.

3. Remove two opposite wheel nuts.

4. Fit the extensions (1) to the vacant wheel studs. The extensions belonging to the set should now be extended using the extensions (7).

5. Place the dial gauge holder (3) on the central nut (2).

6. Fit the central nut (2) to the axle journal using the socket wrench (6). If too little screw thread extends from the lock nut to fasten the central nut (2) to the axle journal, remove the lock nut from the axle journal using special tool (DAF No. 0535832 for trailing axle 09N075 and DAF No. 0535648 for trailing axle 09N220).
   When the axle journal lock nut has been removed, tighten the central nut (2) to the tightening torque specified for the lock nut. See main group “Technical data”.



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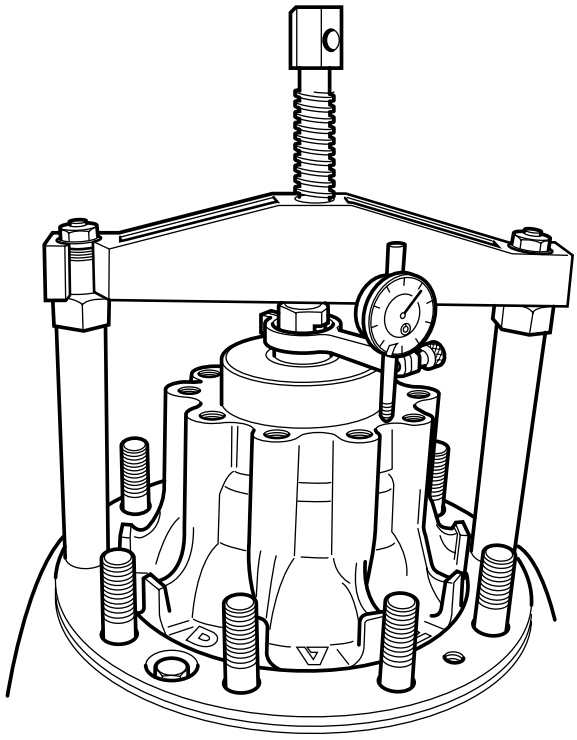

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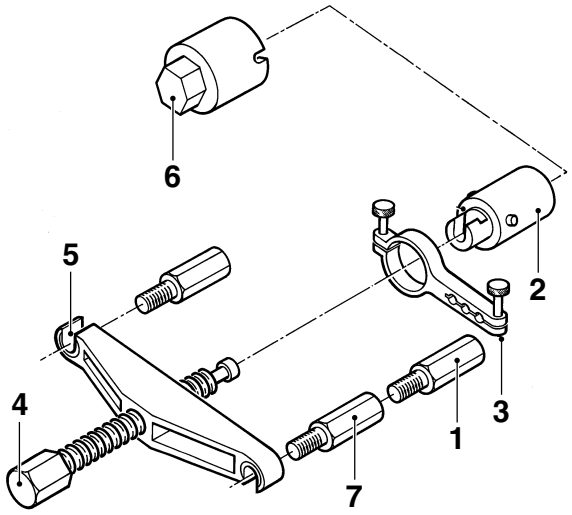
7. Place the dial gauge in the dial gauge holder (3) so that the stylus abuts the hub. Make sure that the stylus of the dial gauge does not enter a threaded hole of the hub, because the stylus might break off when the wheel is turned.
8. Position the bridge (5) on the extensions (1) so that the end of the spindle fits into the recess of the central nut (2). Tighten the bridge with the nuts.



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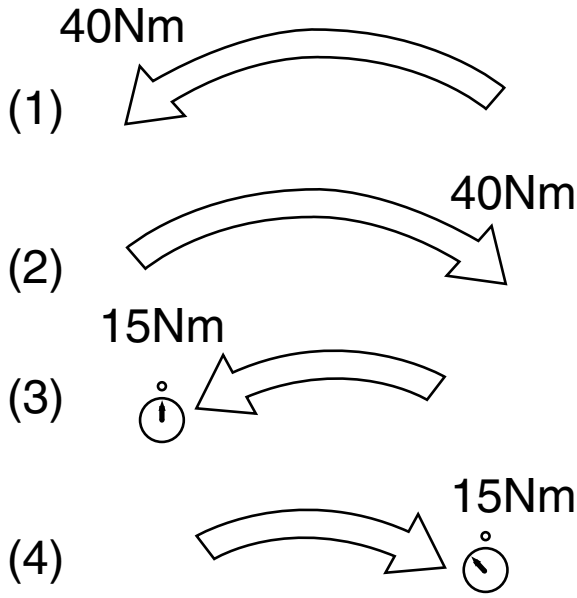
9. Place a torque wrench on the hexagon head of the spindle (4).
   Press the hub firmly onto the axle journal by screwing the spindle in until a tightening torque of 40 Nm is reached.
10. Withdraw the hub by unscrewing the spindle until a tightening torque of 40 Nm is reached.
11. Press the hub firmly onto the axle journal by screwing the spindle in until a tightening torque of 15 Nm is reached, and set the dial gauge to “O”.
12. Withdraw the hub by unscrewing the spindle until a tightening torque of 15 Nm is reached. Take the reading from the dial gauge and compare this value with the specified value. See main group “Technical data”.

    If the measured value falls outside the tolerance, the wheel bearing play should be readjusted.
13. Remove the special tool.



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14. If the lock nut has been removed, the locking washer should be replaced. Tighten the lock nut to the specified tightening torque. See main group “Technical data”.

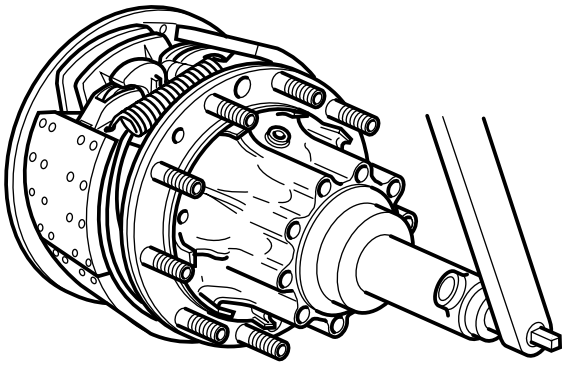
15. Apply some grease to the outside of the bearing cage.

16. Apply the specified sealant to the hub cover and tighten it to the specified tightening torque. See main group “Technical data”. Tighten the attachment bolts of trailing axle 09N220 to the specified tightening torque. See main group “Technical data”.

17. Tighten the two wheel nuts to the specified tightening torque. See main group “Technical data”.
Mark these two nuts and tighten them, after 100 km, to the specified tightening torque, see main group “Technical data”.

Adjusting the wheel bearing play

1. Remove the lock nut from the axle journal, using special tool (DAF No. 0535832 for trailing axle 09N075 and DAF No. 0535648 for trailing axle 09N220).
2. Remove the locking washer and the circlip from the axle journal.
3. Loosen the hub nut a single turn, using special tool (DAF No. 0694783 for trailing axle 09N075 and DAF No. 0535648 for trailing axle 09N220).
4. Tighten the adjusting nut to a tightening torque of 100 Nm using a torque wrench, while turning the hub.
5. The specified wheel bearing play is achieved by turning the hub nut counter-clockwise between 45° and 60°. The correct angle is the one that allows the circlip to be fitted. If necessary, turn the circlip around, changing the hole pattern.
6. Fit the circlip so that the circlip lip falls into the key groove of the axle journal and the dowel pin of the axle nut falls into one of the holes of the circlip.
7. Fit the lock nut. Tighten the lock nut to the specified tightening torque, using special tool (DAF No. 0535832 for trailing axle 09N075 and DAF No. 0535648 for trailing axle 09N220), see main group “Technical data”.



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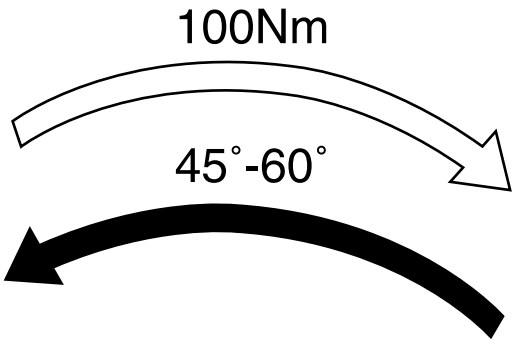

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2.2 INSPECTING THE HUB AND WHEEL BEARINGS

1. Inspect the bearings for damage at the following points:
   - the roller bearing race,
   - the bearing cage,
   - the raceways of the inner and outer race.

   If damage is found, the entire bearing (inner race/bearing cage and outer race) should be replaced.

2. If the outer bearing race is loose in the hub or has turned in the hub, the hub should be replaced.

3. Check the axle journal screw thread, the bearing surfaces of the inner bearing races and the running surface of the seal for damage.

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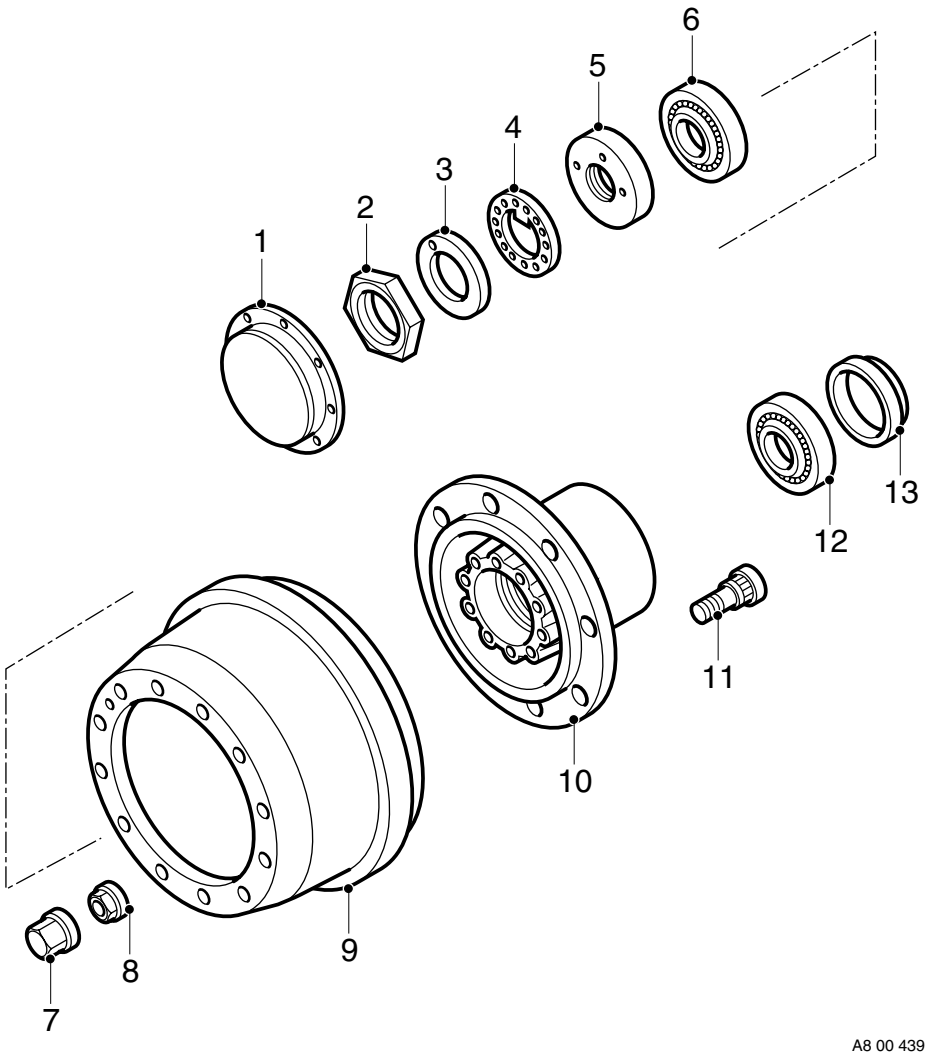
3. REMOVAL AND INSTALLATION

3.1 REMOVAL AND INSTALLATION, WHEEL HUB (TRAILING AXLE 09N075)



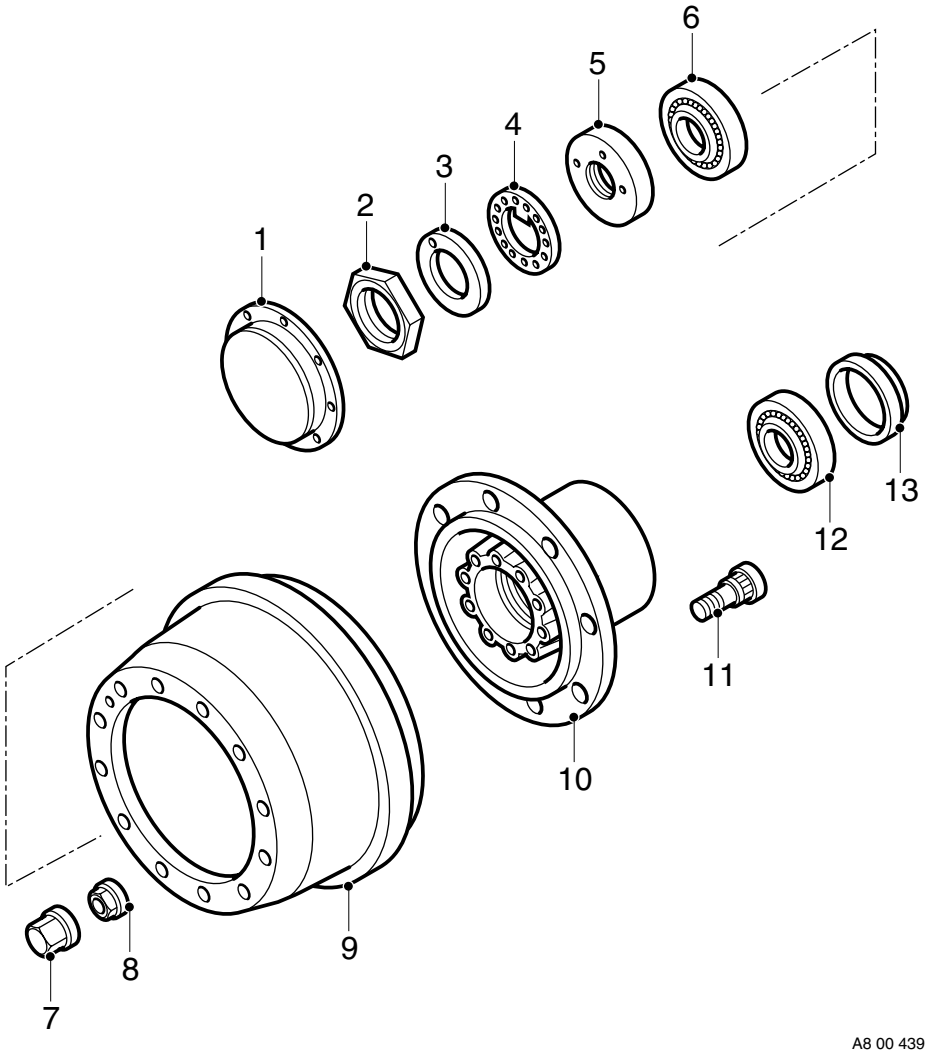
Removing the wheel hub (trailing axle 09N075)

1. Remove the attachment bolts from the hub cover and remove the hub cover (1).
2. Lift the trailing axle using the trailing axle load transfer device.
3. Release the brakes.
4. Tap back the locking washer (3) and remove the lock nut (2) using special tool (DAF No. 0535832).

5. Remove the locking washer (3) and the circlip (4) from the axle journal.
6. Position a tyre lift under the wheel.
7. Remove the hub nut (5) using special tool (DAF No. 0694783).
8. Remove the outer wheel bearing (6) from the hub.

   Note:
   If the bearings are removed from both wheels, the bearings should be marked. Each bearing should be re-installed in its original hub.

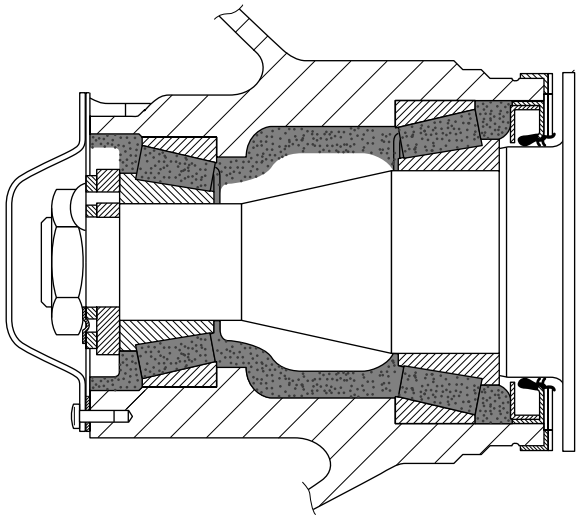
9. Remove the hub with the wheel from the axle journal.
10. Remove the oil seal (13) from the hub using an internal puller. Make sure that the chamber in the hub is not damaged.
11. Remove the inner wheel bearing (12) from the hub.
12. Remove the grease from the hub and clean it.
13. Clean the bearings.
14. Remove the outer races of the wheel bearings, if necessary.



Installing the wheel hub (09N075)

1. Check the hub and the wheel bearings for wear and damage. See chapter “Inspection and adjustment”.
2. Fit new wheel bearings into the hub, if necessary.
3. Blow-dry the wheel bearings (6) and (12) using compressed air.
4. Fill the wheel bearings with the specified wheel bearing grease.
   Also apply a layer of grease to the wheel bearing circumference.

5. Fit the wheel bearing (12) into the hub.
6. Fill the inside circumference of the hub with wheel bearing grease.
7. Fit a new hub oil seal (13) in the hub.
8. Apply a little grease to the sealing lips of the oil seal.
9. Position the wheel in front of the axle journal using the tyre lift.
   Fit the outer wheel bearing (6) into the hub so that the outer wheel bearing can also serve as a guide when installing the hub.
10. Slide the hub over the axle journal. Do not pry, as the oil seal (13) might be damaged in the process.
11. Fit the hub nut (5) to the axle journal.
12. Adjust the specified wheel bearing play (see chapter “Inspection and adjustment”) and fit the circlip (4) to the axle journal.
13. Fit a new locking washer (3) to the axle journal. The cam of the locking washer should fall into one of the holes of the circlip (4).
14. Fit the lock nut (2) to the axle journal. Tighten the lock nut (2) to the specified tightening torque. See main group “Technical data”. Use special tool (DAF No. 0535832).
15. Secure lock nut (2) by tapping back the locking washer (3) against the side of the lock nut.
16. Apply the specified grease to the front of the outer wheel bearing.
17. Apply the specified sealant to the hub cover (1) and tighten it to the specified tightening torque. See main group “Technical data”.
18. Adjust the brakes.



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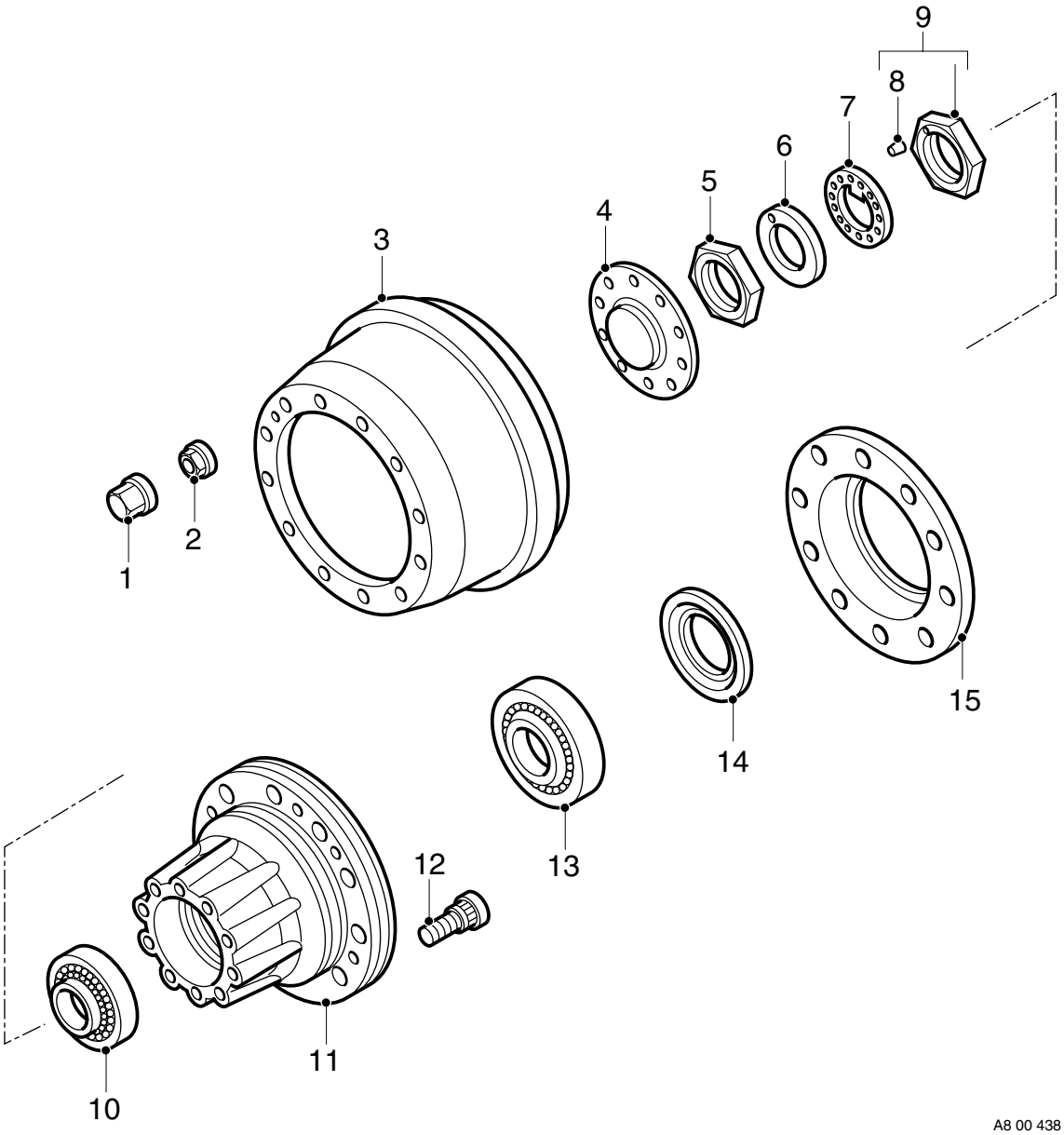
3.2 REMOVAL AND INSTALLATION, WHEEL HUB (TRAILING AXLE 09N220)



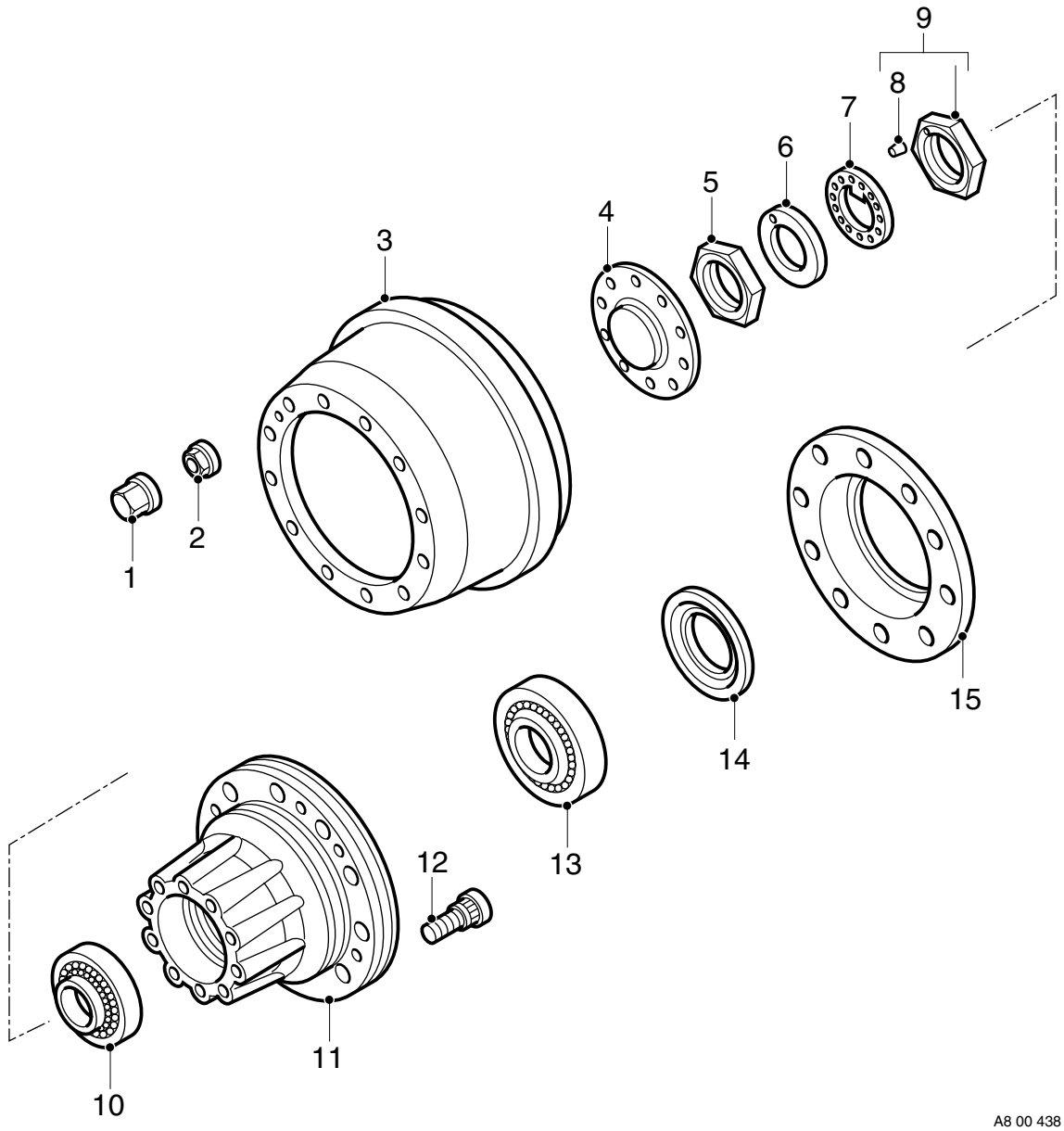
Removing the wheel hub
(trailing axle 09N220)

1. Remove the attachment bolts from the hub cover and remove the hub cover (4).
2. Lift the trailing axle using the trailing axle load transfer device.
3. Release the brakes.

4. Tap back the locking washer (6) and remove the lock nut (5) using special tool (DAF No. 0535648).
5. Remove the locking washer (6) and the circlip (7) from the axle journal.
6. Position a tyre lift under the wheel.
7. Remove the hub nut (9) using special tool (DAF No. 0535648).
8. Remove the outer wheel bearing (10) from the hub.

   Note:
   If the bearings are removed from both wheels, the bearings should be marked. Each bearing should be re-installed in its original hub.

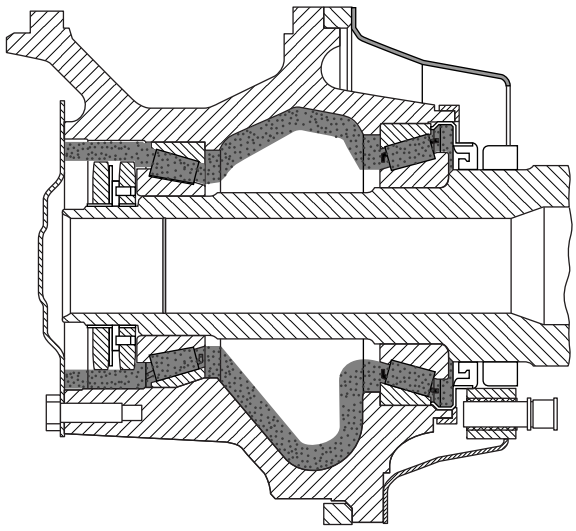
9. Remove the hub with the wheel from the axle journal.
10. Remove the oil seal (14) from the hub using an internal puller. Make sure that the chamber in the hub is not damaged.
11. Remove the inner wheel bearing (13) from the hub.
12. Remove the grease from the hub and clean it.
13. Clean the bearings.
14. Remove the outer races of the wheel bearings, if necessary.



Installing the wheel hub (09N220)

1. Check the hub and the wheel bearings for wear and damage. See chapter “Inspection and adjustment”.
2. Fit new wheel bearings into the hub, if necessary.
3. Blow-dry the wheel bearings (10) and (13) using compressed air.

4. Fill the wheel bearings with the specified wheel bearing grease.
   Also apply a layer of grease to the wheel bearing circumference.
5. Fit the wheel bearing (13) into the hub.
6. Fill the inside circumference of the hub with wheel bearing grease.
7. Fit a new hub oil seal (14) in the hub.
8. Apply a little grease to the sealing lips of the seal.
9. Position the wheel in front of the axle journal using the tyre lift.
   Fit the outer wheel bearing (10) into the hub so that the outer wheel bearing can also serve as a guide when installing the hub.
10. Slide the hub over the axle journal. Do not pry, as the oil seal (14) might be damaged in the process.
11. Fit the hub nut (9) to the axle journal.
12. Adjust the specified wheel bearing play (see chapter “Inspection and adjustment”) and fit the circlip (7) to the axle journal.
13. Fit a new locking washer (6) to the axle journal. The cam of the locking washer should fall into one of the holes of the circlip (7).
14. Fit the lock nut (5) to the axle journal. Tighten the lock nut (5) to the specified tightening torque. See main group ”Technical data”. Use special tool (DAF No. 0535648).
15. Secure lock nut (5) by tapping back the locking washer (6) against the side of the lock nut.
16. Apply the specified grease to the front of the outer wheel bearing.



A8 00 401

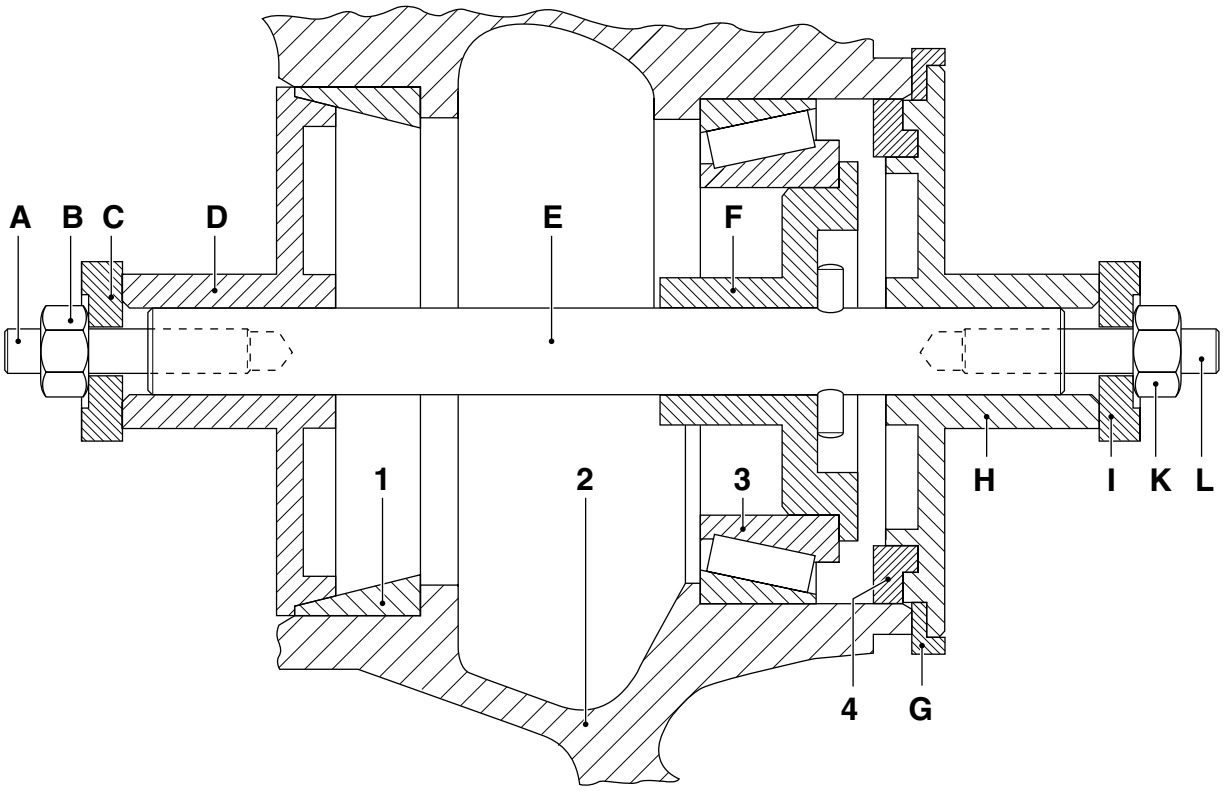
17. Apply the specified sealant to the hub cover (4) and tighten it to the specified tightening torque. See main group “Technical data”. Tighten the attachment bolts to the specified tightening torque. See main group “Technical data”.

18. Adjust the brakes.

3.3 REMOVAL AND INSTALLATION, HUB OIL SEAL (TRAILING AXLE 09N075)

Removing the hub oil seal (trailing axle 09N075)

1. Remove the hub from the axle journal.
2. Drill two holes into the oil seal and screw the special tool (DAF No. 0484899) into the oil seal. Pull the oil seal from the hub using the special tool (DAF No. 0694928).



S7 00 180

Installing the hub oil seal (trailing axle 09N075)

1. Check the oil seal chamber (4) in the hub (2) for damage.
2. For installation of the hub oil seal (4) use special tool (DAF No. 1240036).
3. Assemble the special tool: turn the threaded ends (A) and (L) into the centring spindle (E).
   Assemble the short stud (L) on the side where the pin is located in the centring spindle (E).

4. Slide the appropriate centring flange (F) over the centring spindle (E).
5. Install the inner wheel bearing (3).
   Insert the centring spindle (E) together with the centring flange (F) into the hub (2).
6. Press the centring flange (F) into the inner wheel bearing (3).
7. Slide the appropriate centring flange (D) on the centring spindle (E).
8. Fit the locking plate (C) and the nut (B) on the centring spindle (E).
9. Align the centring flange (D) on the outer race of the outer wheel bearing and hand-tighten nut (B) (max. 20 Nm). The centring spindle (E) must be installed in the hub (2) free of play.
10. Fit dummy sensor ring (G) on draw-in flange (H).
11. Position the oil seal (4) in front of the hub with the sealing lip pointing to the outside of the hub.
    Slide the draw-in flange (H) over the centring spindle (E) against the oil seal (4).
12. Fit the locking plate (I) and the nut (K).
13. Press the oil seal (4) evenly into the hub (2) using nut (K), until the dummy ABS sensor ring (G) abuts the hub rim.
14. Remove the special tool.
15. Apply grease to the sealing lips of the oil seal (4).
16. Fit the hub on the axle journal.

3.4 REMOVAL AND INSTALLATION, HUB OIL SEAL (TRAILING AXLE 09N220)

Removing the hub oil seal (trailing axle 09N0220)

1. Remove the hub from the axle journal.
2. Drill two holes into the oil seal and screw the special tool (DAF No. 0484899) into the oil seal. Pull the oil seal from the hub using the special tool (DAF No. 0694928).

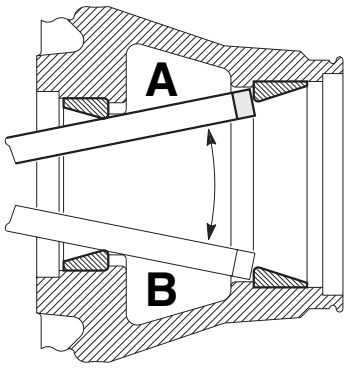
Installing the hub oil seal (trailing axle 09N220)

1. Check the oil seal chamber in the hub for damage.
2. Install the inner wheel bearing.
3. Fit the oil seal into the hub with an appropriate driving tool, with the sealing lip pointing to the outside of the hub.
4. Apply a little grease to the sealing lips of the oil seal.
5. Fit the hub on the axle journal.

3.5 REMOVAL AND INSTALLATION, WHEEL BEARINGS

Removing the wheel bearings

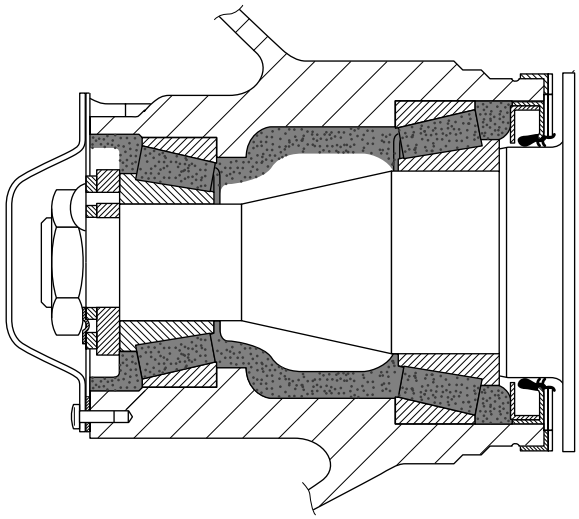
1. Remove the wheel hub.
2. Remove the hub oil seal.
3. Remove the inner bearing.
4. Use a driver to tap the bearing outer races from the hub if the wheel bearings need to be replaced. For this purpose, the hub has been fitted with two recesses (A and B).



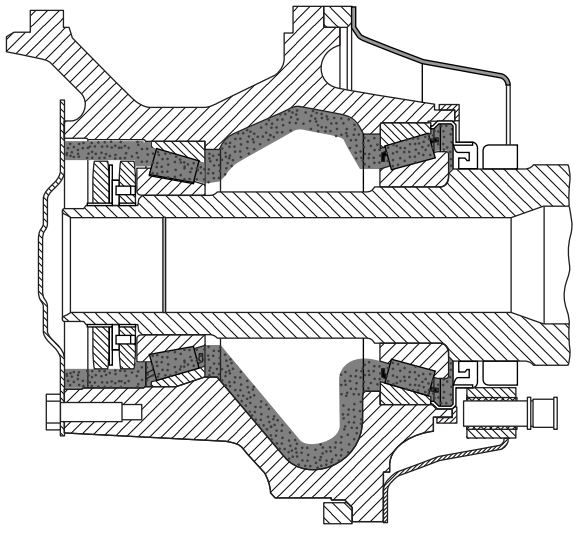
M8120

Installing the wheel bearings

1. Clean the bearings and check them for damage.
2. Remove the grease from the hub.
3. Use a driving tool and a hydraulic press to install the outer races into the hub. You can also tap the outer races evenly into the hub using a driver.
4. Apply grease to the wheel bearings so that sufficient grease is pressed between the rolls and the inner bearing race and the entire circumference of the bearing is filled with grease. Also apply grease to the outside of the bearing cage.
5. Fill the hub with grease to the inner diameter of the outer bearing races.
6. Install the inner bearing with the hub oil seal.
7. Install the wheel hub.



S7 00 140



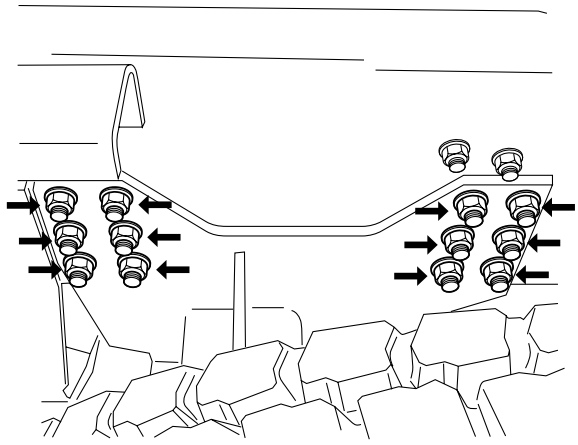
A8 00 401

5

3.6 REMOVAL AND INSTALLATION, TRAILING AXLE

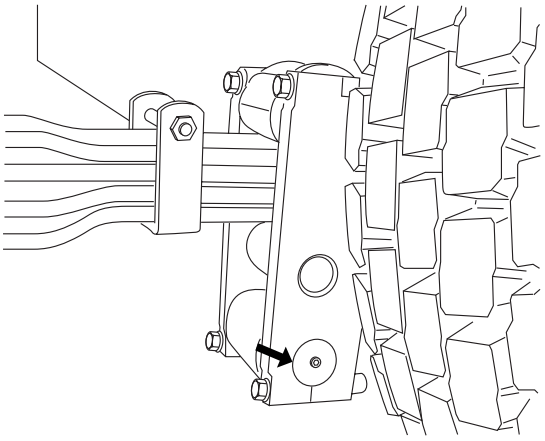
Removing the trailing axle

1. Remove the wheels from the trailing axle.
2. Loosen the shock absorbers at the top and depress these as far as possible.
3. Remove the brake pipes.
4. (Temporarily) fit the outer wheels of the trailing axle.
5. Lower the trailing axle.
6. Safely lift the chassis rear until the attachment bolts holding the bearing supports to the chassis can be removed.
7. Remove the attachment bolts holding the bearing supports to the chassis.



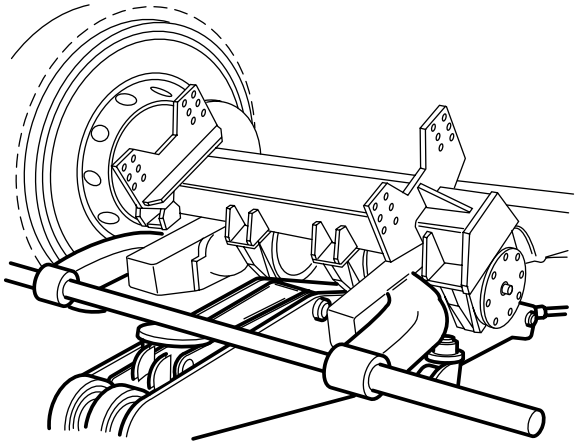
A8 00 408

8. Lift the chassis until the bearing supports are clear of the chassis and the bottom pins of the shackles are within reach.



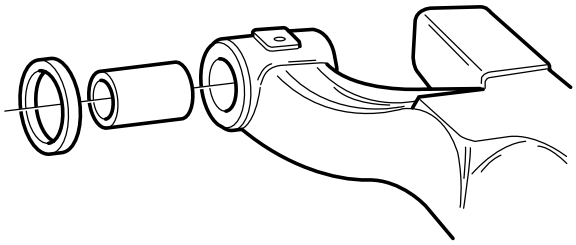
A8 00 409

9. Place a wooden block right and left between the chassis member and the axle housing of the driven axle.
10. Place suitable supports under the yokes where the shackle is attached.
11. Remove the lower pins from the shackles.
12. Insert a solid piece of pipe through the eye of every yoke.
13. Position a trolley jack in the middle of the pipe to support it.
14. Remove the supports and slowly lower the pipe and the yokes.
15. Roll the trailing axle from under the chassis.
16. Slowly lower the chassis onto the wooden blocks.



A8 00 406

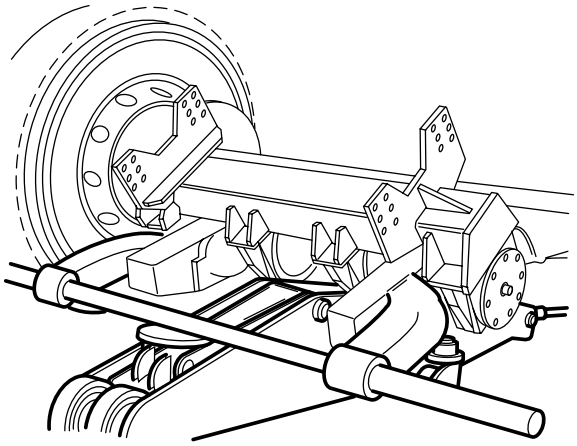
17. Take the rings out of the eyes of the yoke if necessary.



A800208

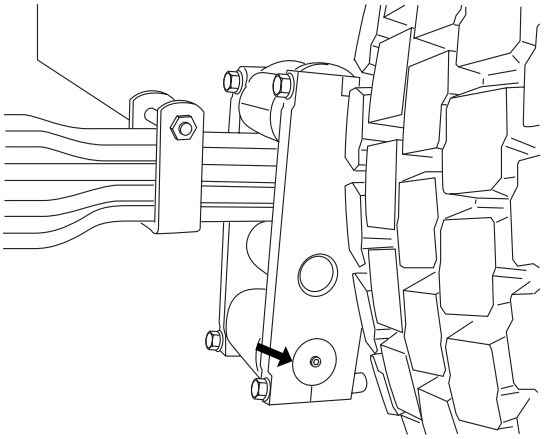
Installing the trailing axle

1. Fit the rings in the eyes of the yoke.
2. Raise the chassis. Support the chassis in a safe way.
3. Insert a solid piece of pipe through the eye of every yoke.
4. Move the trailing axle under the chassis using a trolley jack. Align the trailing axle and the chassis.



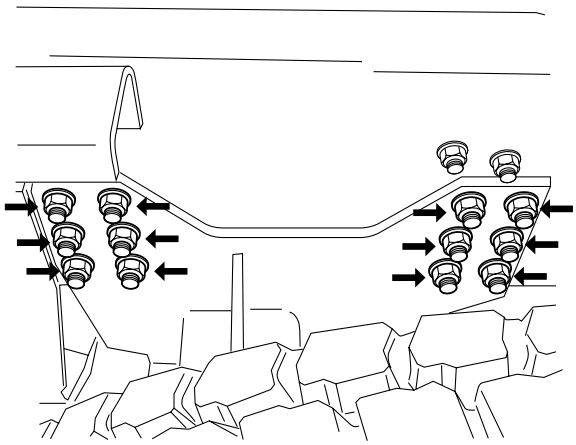
A8 00 406

5. Attach the shackles to the yokes.
6. Lower the chassis.



A8 00 409

7. Fit the attachment bolts with the bolt heads on the inside of the chassis. Tighten the bolts.
8. Fit the brake pipes.
9. Tighten the shock absorbers at the top.
10. Put the wheels back on.
11. Check the brake pipe connections for leaks.
12. Lubricate the shackle pins.



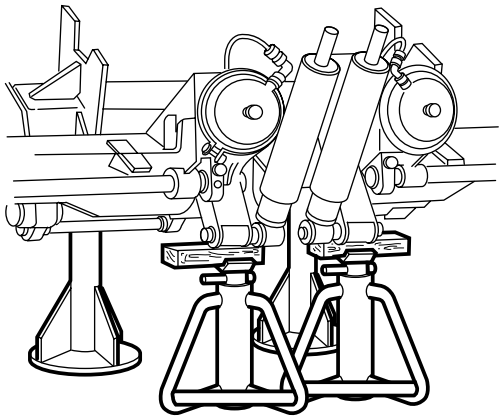
A8 00 408

3.7 REMOVAL AND INSTALLATION, TRAILING AXLE YOKE

Removing the trailing axle yoke

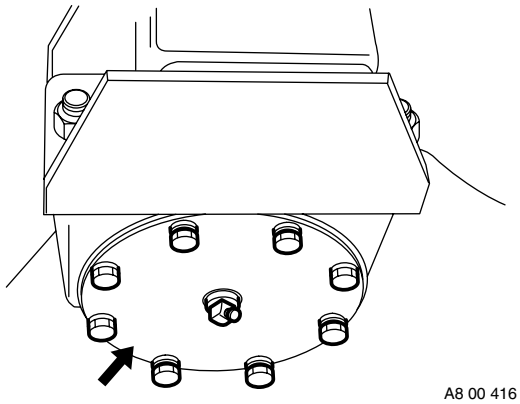
1. Remove the trailing axle.

2. Support the trailing axle yokes at the front and back in a safe way, so that they are horizontal.



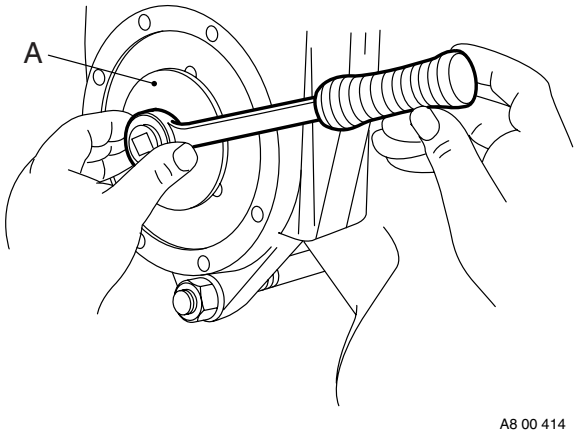
A8 00 424

3. Remove the outer cover. Remove the grease.



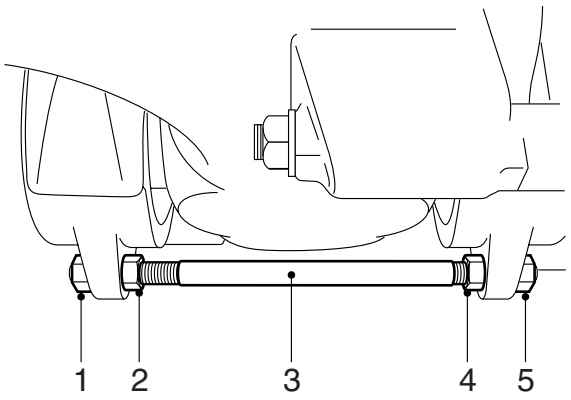
A8 00 416

4. Slacken the adjusting nut a couple of turns using the special tool (A) (DAF No. 1453122).



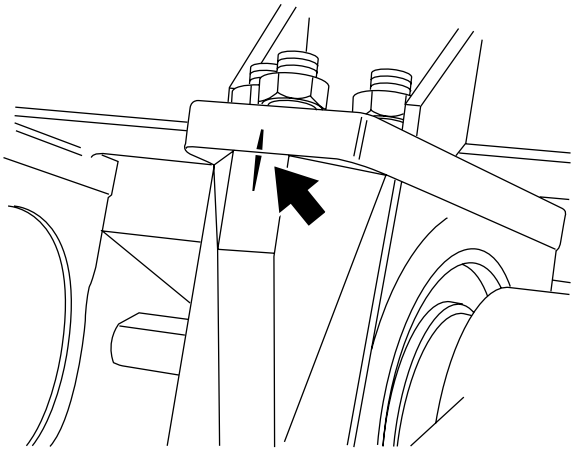
A8 00 414

5. Loosen the nuts (1, 2, 4 and 5) of the push/pull rod (3).

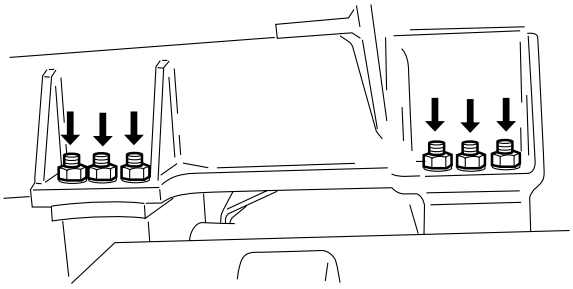


A8 00 407

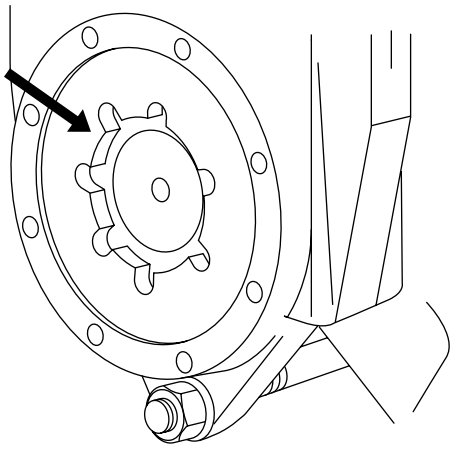
6. Mark the bearing blocks in relation to the bearing support.


A800210

7. Remove the attachment nuts from the bearing block. Remove the bearing support from the bearing blocks.

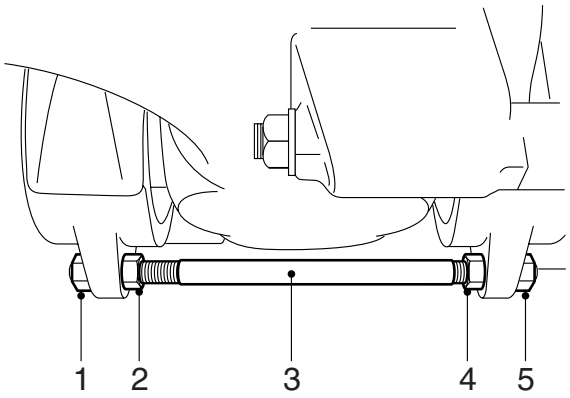

A8 00 410

8. Remove the adjusting nut from the bearing block.



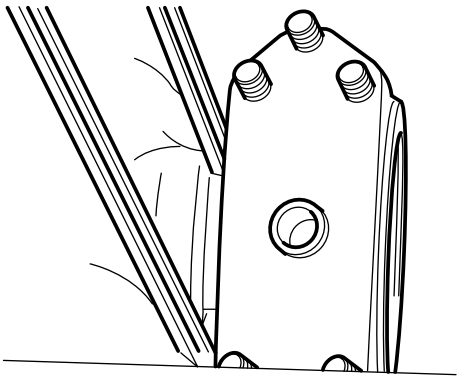
A8 00 420

9. Remove the outer nut (1) of the push/pull rod (3).



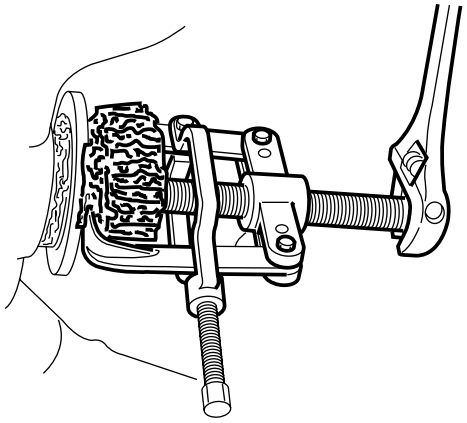
A8 00 407

10. Use two band irons to remove the outer bearing block from the axle journal.
The bearing cage of the roller bearing will remain on the axle journal and retain the oil seal.



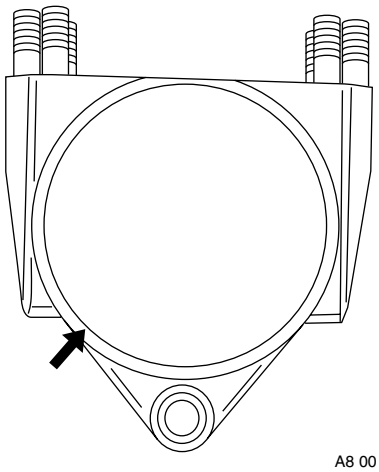
A800214

11. Remove the bearing cage from the axle journal. Remove the oil seal from the axle journal.



A8 00 417

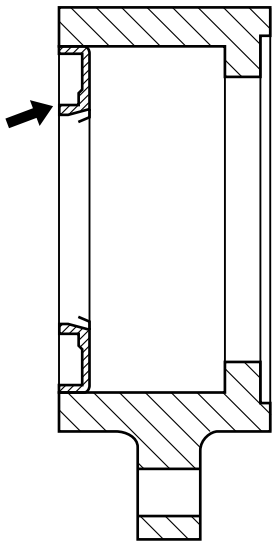
12. Similarly remove the inner bearing block with bearing and oil seal from the axle journal.
13. Tap the sealing plate off the inner bearing from inside the bearing block, if the outer race of the roller bearing must be removed.



A8 00 418

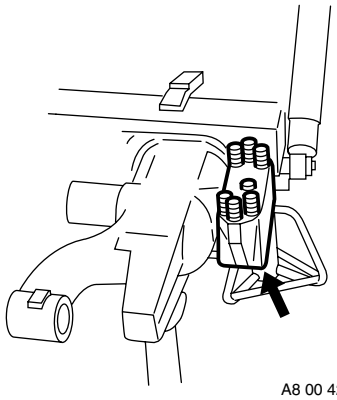
Installing the trailing axle yoke

1. Clean the axle journals and bearing blocks.
2. Clean and check all bearings for wear and damage.
3. Apply new grease to the bearings.
4. Fit the bearing in the inner bearing block.
5. Fit the seals at the indicated positions in the bearing blocks.



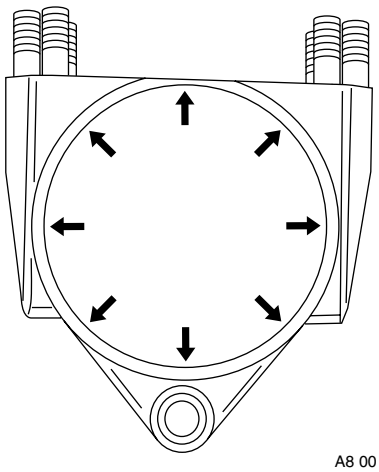
A8 00 423

6. Lightly grease the axle journals.
7. Fit the inner bearing block to the axle journal.



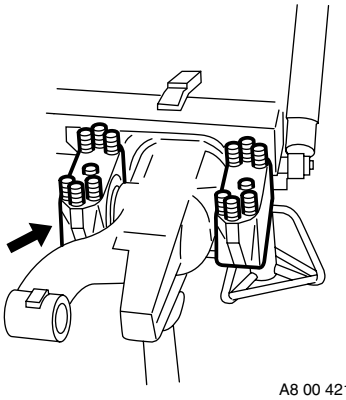
A8 00 422

8. Fit the sealing plate and lock it by tapping the centring edge inward in eight places.



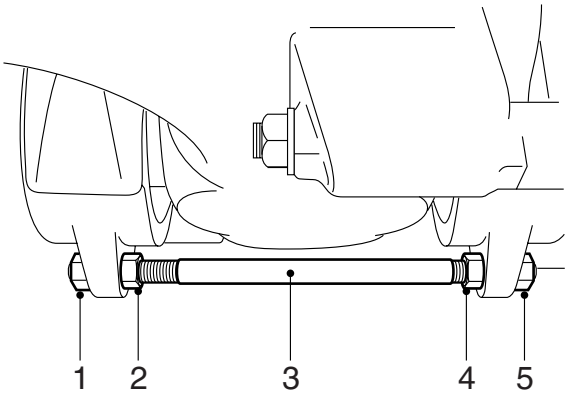
A8 00 419

9. Fit the outer bearing block to the axle journal. Make sure that the push/pull rod is inserted through the eye of the bearing block.



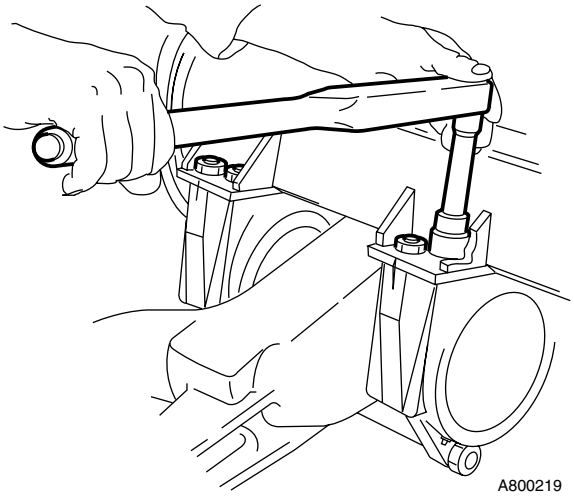
A8 00 421

10. Fit the bearing in the outer bearing block.
11. Screw the adjusting nut several turns into the bearing block.
12. Turn the outer nut (1) of the push/pull rod onto the push/pull rod.
13. Clean the contact surfaces of the bearing blocks and bearing support. Check that all adjusting bushes are present.

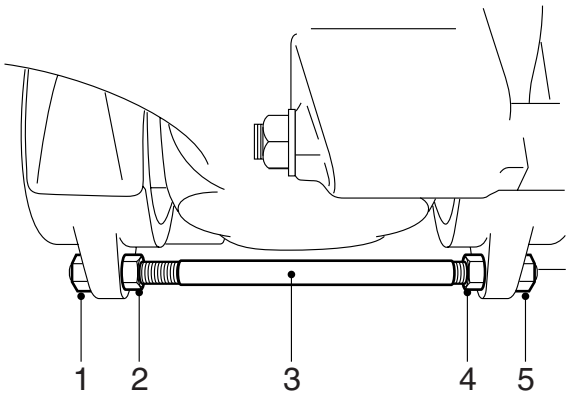


A8 00 407

14. Fit the bearing blocks into their original positions on the bearing support. Tighten the attachment nuts evenly to the specified tightening torque. See main group “Technical data”.

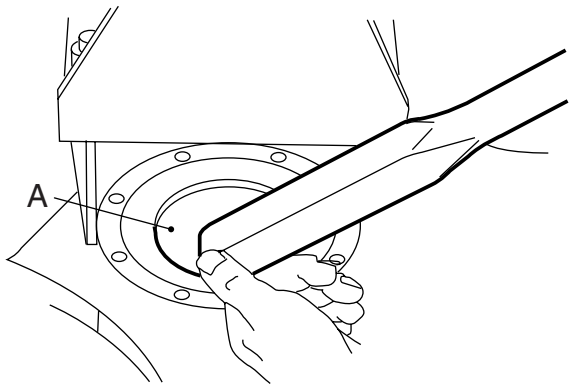

A800219

15. Turn the inner nuts (2 and 4) of the push/pull rod (3) against the bearing block.
16. Tighten the outer nuts (1 and 5) of the push/pull rod (3) to the specified tightening torque, see main group “Technical data”.



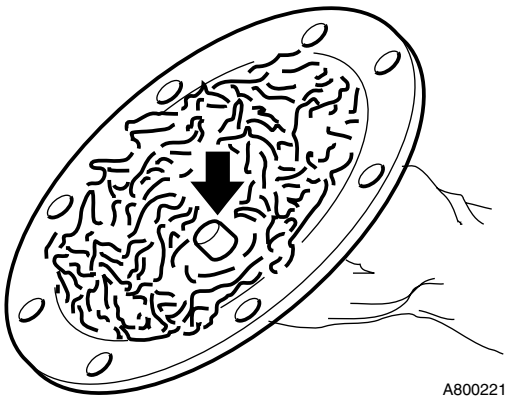
A8 00 407

17. Tighten the adjusting nut to the specified tightening torque using the special tool (A) (DAF No. 1453122). See main group “Technical data”.
18. Loosen the adjusting nut. Retighten the adjusting nut to the specified tightening torque. See main group “Technical data”.



A8 00 415

19. Fit a new gasket to the cover and fit the cover. The lock cam on the inside of the cover must fall into a recess in the adjusting nut. If it does not, turn the adjusting nut to the smallest angle (loosen or tighten) until the lock cam falls into a recess.
20. Fit the cover attachment bolts.
21. Lubricate the bearing blocks until a collar of grease is visible at the seals.


A800221

CONTENTS

6

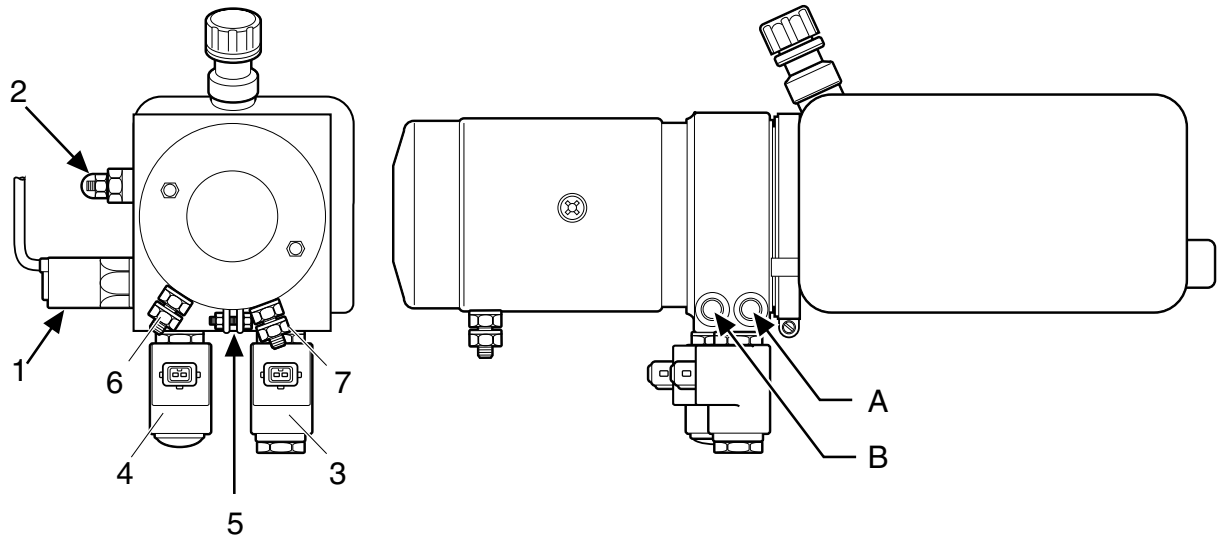
1. SAFETY INSTRUCTIONS

- Repair and maintenance activities must only be carried out while the trailing axle is lowered.
  When the trailing axle is lifted, the line connected to line connection B (imprinted on the pump unit) is pressurized.
- Stay at a safe distance from the moving parts when activating the lifting gear.
- Avoid skin contact with hydraulic oil.
- Use T-pieces and couplings which are suited for high system pressures when connecting a pressure gauge.
- Always make sure that the pressure-relief valve functions properly before testing the internal leakage of the pump unit.
- Never stand in front of the piston rod when testing the cylinder.
- The surface of the cylinder piston rods can be easily damaged. Even the slightest damage to the surface will result in leakage. During repair or maintenance activities which could cause damage to the piston-rod surfaces, the trailing axle should be lowered. In that case the piston rods will be retracted into the cylinders.
  During activities such as welding, grinding, paint spraying and applying bitumen coatings, it is especially important to cover any cylinder-rod parts still protruding from the cylinder.
  Also cover the lines.

6

2. GENERAL

2.1 LOCATION OF COMPONENTS



A8 00 247

1. Pressure switch
2. Pressure-relief valve
3. 4/2 magnetic valve (lift trailing axle)
4. 2/2 magnetic valve (lower trailing axle)
5. Built-in non-return valve
6. Connection point + (D1E1)
7. Connection point – (D2E2)

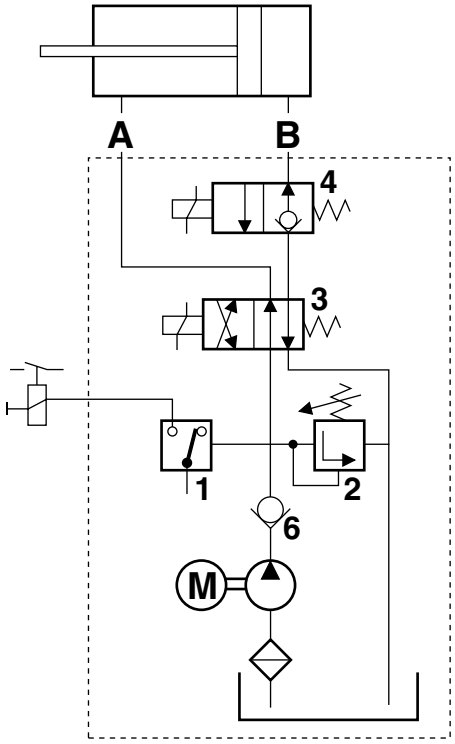
A. Line connection (delivery line while lowering)
B. Line connection (delivery line while lifting)
(The characters are imprinted on the valve block of the pump unit)

Relays, diodes and fuse
The relays, diodes and fuse of the trailing-axle lifting gear are positioned in a watertight box. This box is installed on the inside of the chassis on the chassis side member.

2.2 SYSTEM DESCRIPTION, HYDRAULIC PART

The hydraulic part of the trailing-axle lifting gear is composed of a pump unit and two parallel, double-acting cylinders. Both when lifting and lowering the trailing axle, the pump will deliver oil to the cylinders.

The pump unit is composed of a gear pump which is driven by an electric motor, a plastic reservoir and a valve block.
The valve block is equipped with the following valves: a non-return valve (6), the pressure-relief valve (2), the 4/2 magnetic valve “lift trailing axle” (3) and the 2/2 valve “lower trailing axle” (4).
The valve block is also equipped with a pressure switch (1).
When the lifting gear is not being operated, both magnetic valves (3 and 4) will be deactivated.



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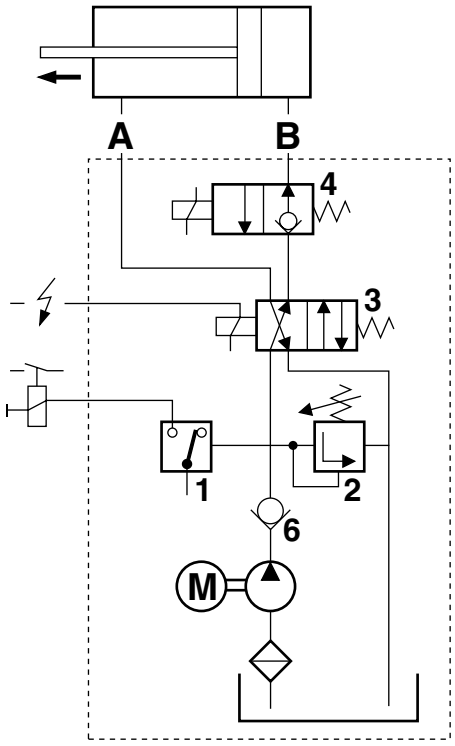
Lifting

- When the lifting-gear control switch is placed in the “lifting” position, the pump relay and the 4/2 magnetic valve (3) are activated.
  The activated magnetic valve (3) connects the pump delivery side to the space behind the pistons in the cylinders. The space in front of the pistons is connected to the reservoir.

- The pump relay activates the pump, after which oil is carried to the cylinders through line connection B. Due to the pressure build-up from the cylinders, the piston rods are pushed from the cylinders, thus lifting the trailing axle via the lever effect.



A8 00 258

- When the trailing axle is fully lifted, the pressure in the system will build up until the switching value of the pressure switch (1) is reached. The pressure switch (1) will deactivate the pump motor. When the control switch is released, the 4/2 magnetic valve (3) is deactivated.

- The non-return valve in the 2/2 magnetic valve (4) ensures that the line remains pressurized so that the trailing axle remains in lifted position.

Lowering

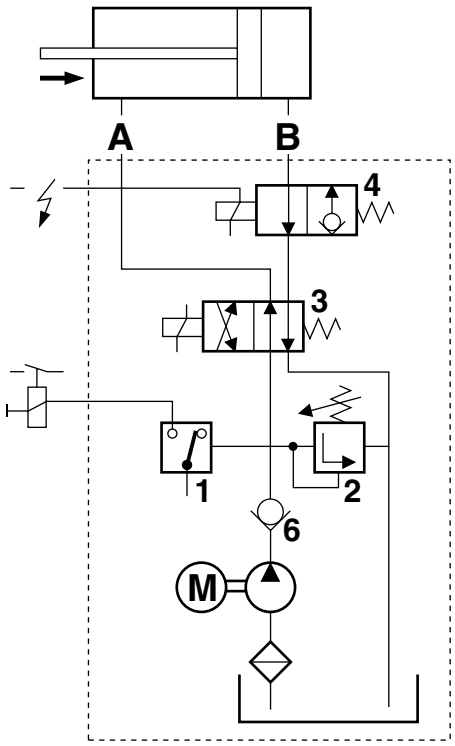
- When the lifting-gear control switch is placed in the “lowering” position, the pump relay and the 2/2 magnetic valve (4) are activated.
  The activated magnetic valve will connect the space behind the pistons to the reservoir. In its neutral position the 4/2 magnetic valve (4) connects the pump delivery side to the space in front of the pistons in the cylinders.

- The pump relay activates the pump after which oil is carried to the cylinders through line connection A. Due to the pressure build-up in the cylinders the piston rods are retracted, thus lowering the trailing axle.

- When the pistons are fully retracted into the cylinders, the pressure in the system will build up until the switching value of the pressure switch is reached. The pressure switch will deactivate the pump motor. The 2/2 magnetic valve (4) remains activated for approx. 2.5 minutes.

- The line connected to line connection B will be pressureless after deactivating the pump.

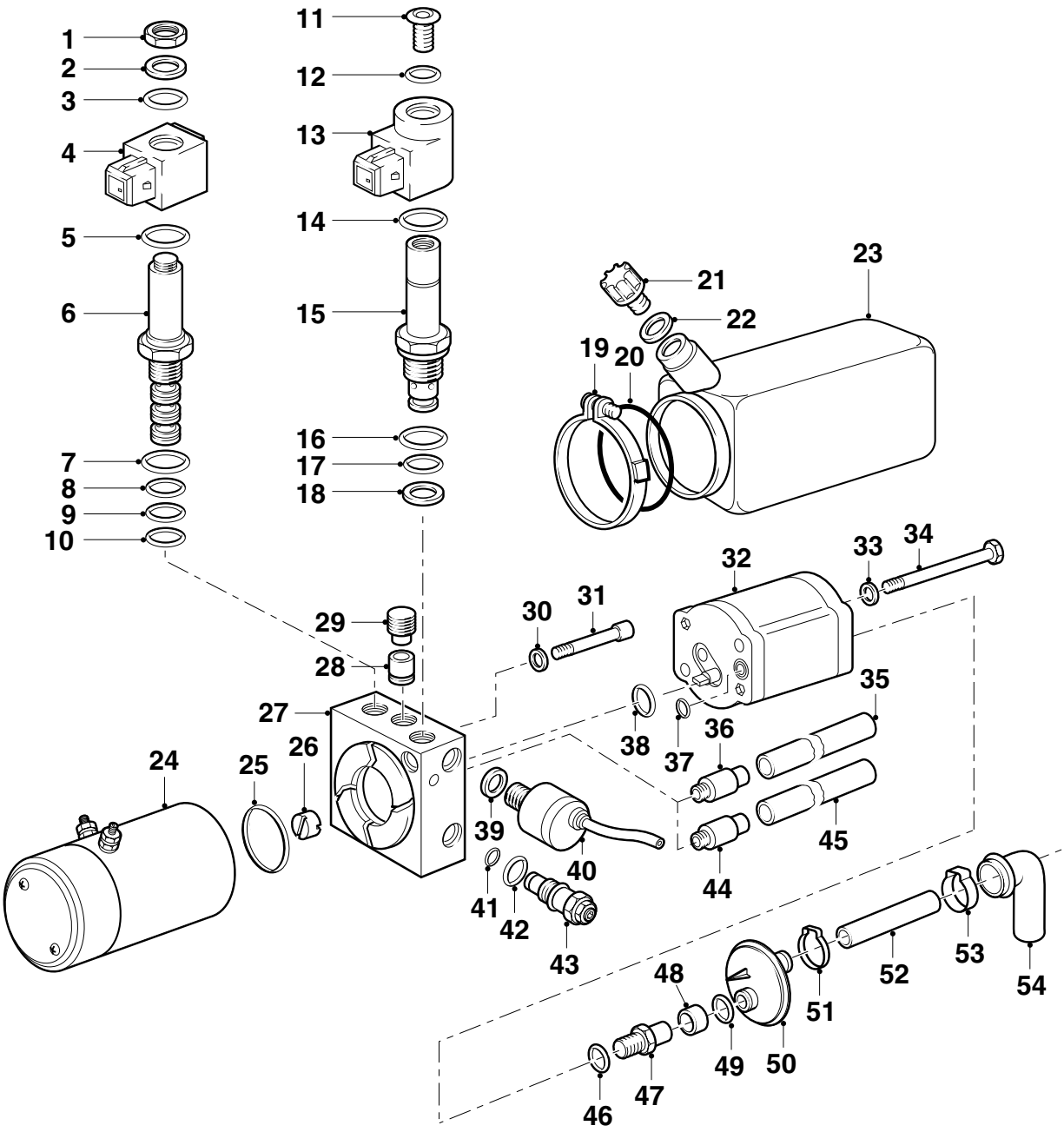
- The line connected to line connection A will remain pressurized immediately after deactivating the pump.
  Due to minor internal leakage in the 4/2 magnetic valve (3) the pressure in the line will be slowly reduced after the pump is deactivated. After approx. 5 minutes the pressure in the line will have been be reduced to approx. 5 bar.



A8 00 259

6

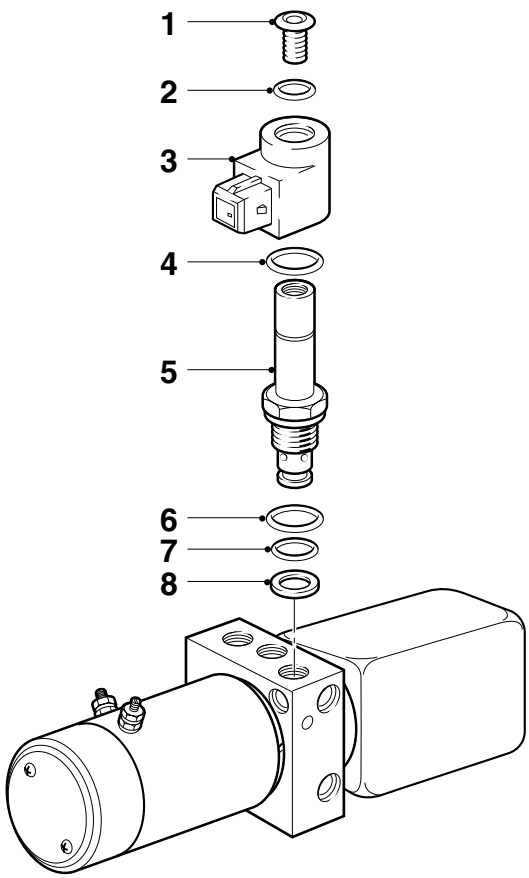
2.3 OVERVIEW DRAWING, PUMP UNIT



1. Nut
2. Spacer
3. O ring
4. Coil
5. O ring
6. 4/2 valve
7. O ring
8. O ring
9. O ring
10. O ring
11. Hexagonal socket screw
12. O ring
13. Coil
14. O ring
15. 2/2 valve
16. O ring
17. O ring
18. Plastic ring
19. Clamping strip
20. O ring
21. Cap
22. Gasket ring
23. Reservoir
24. Engine
25. O ring
26. Coupling disk
27. Valve block
28. Non-return valve
29. Plug
30. Lock washer
31. Hexagonal socket screw
32. Pump
33. Lock washer
34. Bolt
35. Return pipe
36. Clutch
37. O ring
38. O ring
39. O ring
40. Pressure switch
41. O ring
42. O ring
43. Pressure-relief valve
44. Clutch
45. Return pipe
46. O ring
47. Clutch
48. Hose clip
49. O ring
50. Filter
51. Hose clip
52. Supply pipe
53. Hose clip
54. Suction pipe

2.4 OVERVIEW DRAWING, 2/2 MAGNETIC VALVE

1. Hexagonal socket screw
2. O ring
3. Coil
4. O ring
5. Valve body (2/2 valve)
6. O ring
7. O ring
8. Plastic ring



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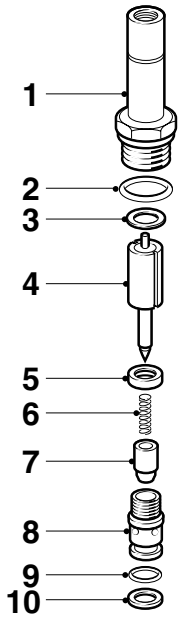
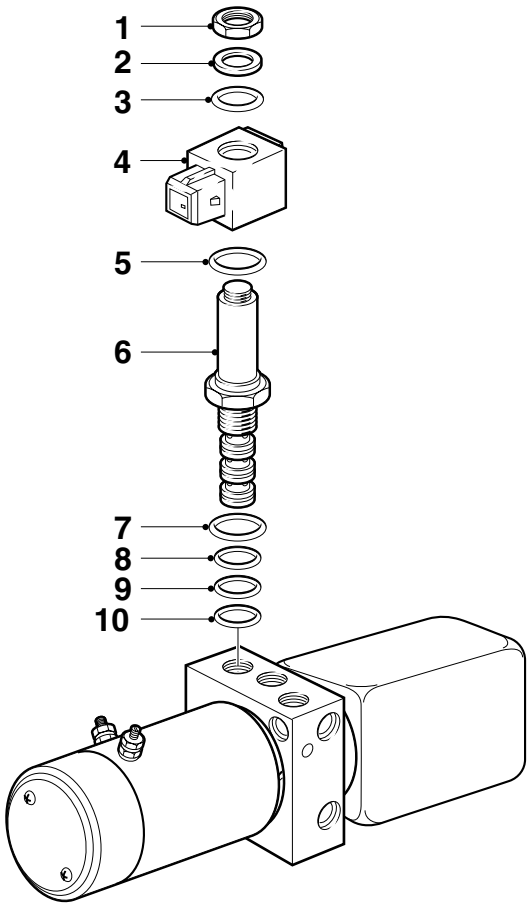
1. Valve body (2/2 valve)
2. O ring
3. Adjusting ring(s)
4. Magnet core
5. Bush
6. Spring
7. Valve
8. Holder
9. O ring
10. Plastic ring



A8 00 254

2.5 OVERVIEW DRAWING, 4/2 MAGNETIC VALVE

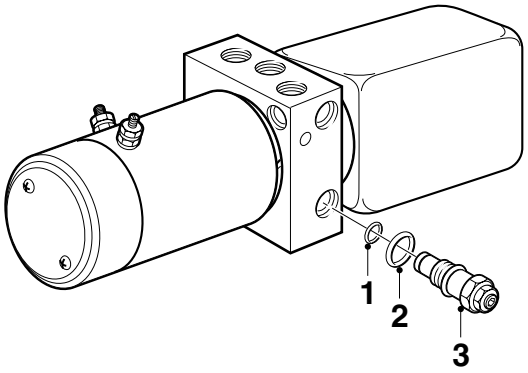
1. Nut
2. Spacer
3. O ring
4. Coil
5. O ring
6. 4/2 valve
7. O ring
8. O ring
9. O ring
10. O ring



A8 00 252

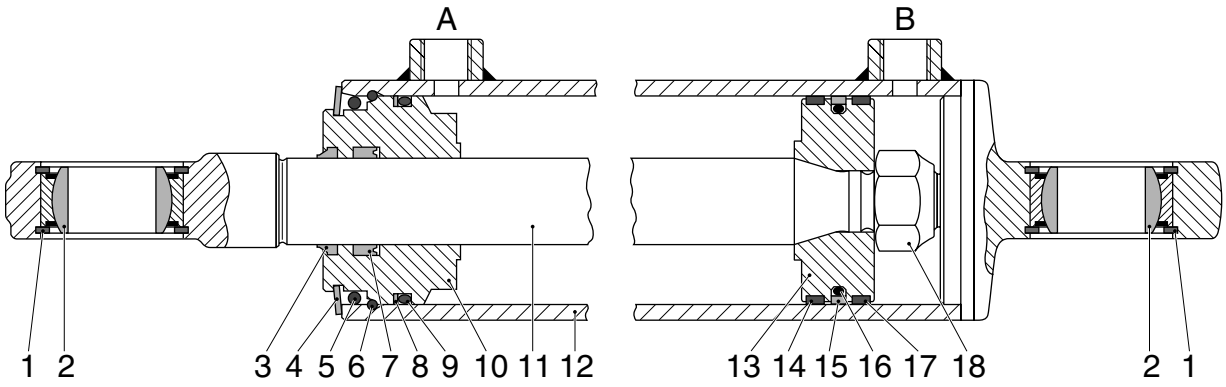
2.6 OVERVIEW DRAWING, PRESSURE RELIEF VALVE

1. O ring
2. O ring
3. Pressure-relief valve



A8 00 276

2.7 OVERVIEW DRAWING, CYLINDER



1. Circlip
2. Bearing
3. Dirt scraper
4. Circlip
5. O ring
6. Spring clip
7. Sealing ring
8. Plastic ring
9. O ring
10. Piston-rod guide
11. Piston rod
12. Cylinder
13. Piston
14. Plastic ring
15. Sealing ring
16 O ring
17. Plastic ring
18. Nut

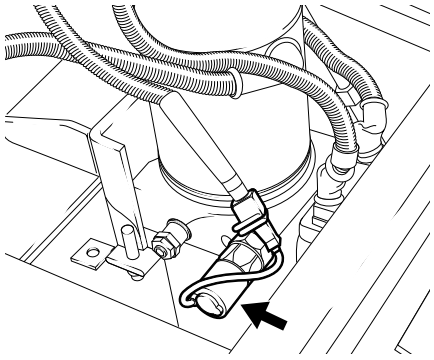
A Line connection
B Line connection

6

3. INSPECTION AND ADJUSTMENT

3.1 INSPECTION, SYSTEM PRESSURE AND PRESSURE SWITCH

1. Make sure that the trailing-axle wheels are fully lowered and on the ground.
2. Connect to the line which is connected to line connection B by a T-piece (M16 x 1.5) the pressure gauge, special tool (DAF no. 0535653).
3. Lift the trailing axle and take the pressure reading. Compare the reading with the technical data, see main group “Technical data”.
   The pressure switch cannot be adjusted. If the value deviates, the pressure switch should be replaced.
4. Lower the trailing axle and remove the T-piece and the pressure gauge.
5. Check the oil level in the reservoir and top up if necessary.



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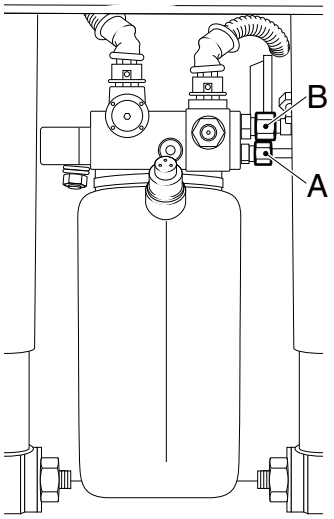
3.2 INSPECTION AND ADJUSTMENT, PRESSURE-RELIEF VALVE

Inspection of the pressure-relief valve

1. Make sure that the trailing-axle wheels are fully lowered and on the ground.
2. Connect to the line which is connected to line connection B by a T-piece (M16 x 1.5) the pressure gauge, special tool (DAF no. 0535653).
3. Detach the pressure-switch connector.
4. Lift the trailing axle and take the pressure reading. Release the control switch on the dashboard immediately once the maximum pressure is achieved.

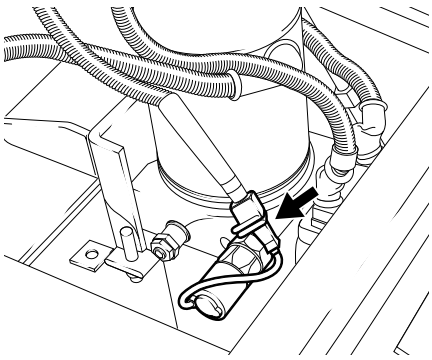
   Note:
   If the pressure exceeds 200 bar, the control switch on the dashboard should be released immediately.
5. Compare the reading with the technical data, see main group “Technical data”. Adjust the pressure-relief valve if the value deviates.
6. Fit the pressure-switch connector.
7. Lower the trailing axle and remove the T-piece and the pressure gauge.
8. Check the oil level in the reservoir and top up if necessary.



A8 00 281

Adjusting the pressure-relief valve

1. Make sure that the trailing-axle wheels are fully lowered and on the ground.
2. Connect to the line which is connected to line connection B by a T-piece (M16 x 1.5) the pressure gauge, special tool (DAF no. 0535653).
3. Detach the pressure-switch connector.



A8 00 280

4. Loosen the lock nut (2) of the pressure-relief valve (3).

5. Turn the adjusting bolt (1) using a hexagonal socket-screw spanner.
   During the adjusting process the trailing axle should not be activated.
   - Turning the bolt in will increase the pressure.
   - Turning the bolt out will decrease the pressure.

   Turn the adjusting bolt (1) in small steps of not more than 20°. Measure the pressure after each step.

   Note:
   As the pressure increases very rapidly, a large turn of the adjusting bolt can result in excessive system pressure causing damage.

6. Lift the trailing axle and take the pressure reading. Release the control switch on the dashboard immediately once the maximum pressure is achieved.
   If the pressure exceeds 200 bar, the control switch on the dashboard should be released immediately.

7. If the measured value is still incorrect: **close the pressure-switch connector** and lower the trailing axle.

8. Turn the adjusting bolt (1) once again.

9. Remove the pressure-switch connector.

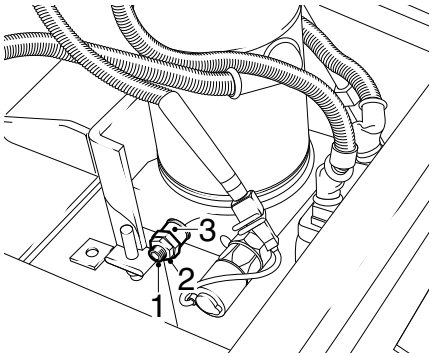
10. Wait for approx. 2.5 minutes and take a new reading. If necessary, repeat points 7 to 10 until the pressure setting is correct.

11. Tighten the lock nut (2). Make sure that the adjusting bolt (1) does not turn too.

12. Fit the pressure-switch connector, lower the trailing axle and check the pressure again.

13. Remove the T-piece with the pressure gauge.

14. Check the oil level in the reservoir and top up if necessary.

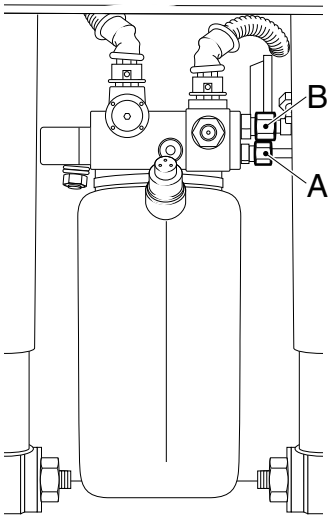


A8 00 279

6

3.3 INSPECTION, INTERNAL LEAKAGE PUMP UNIT

1. Check the setting of the pressure-relief valve before conducting this test.
2. Lower the trailing axle. The wheels of the trailing axle must rest on the ground.
3. Clean line connection B of the pump unit.
4. Remove the line from line connection B and plug the line.
5. Connect to line connection B the pressure gauge, special tool (DAF no. 0535653), in such a way that this also blocks the line connection.
6. Put the control switch into the “lifting” position. The pressure will quickly increase and the pressure switch will deactivate the pump motor. Release the control switch.
7. Take the pressure reading and check the outward leakage. Leave the pump unit in pressurized condition, also depending on the complaint (how quickly the trailing axle will be lowered by itself). If the pressure drops, the non-return valve in the 2/2 magnetic valve or the gasket of the 2/2 magnetic valve are leaking.
8. Manually connect the 2/2 magnetic valve to a 24V power supply following this test. The 2/2 magnetic valve will be activated, causing line connection B of the pump unit to become pressureless.
9. Remove the pressure gauge and reconnect the piping.
10. Activate the lifting gear and check the oil level in the reservoir. Inspect the line connections for leaks.



A8 00 281

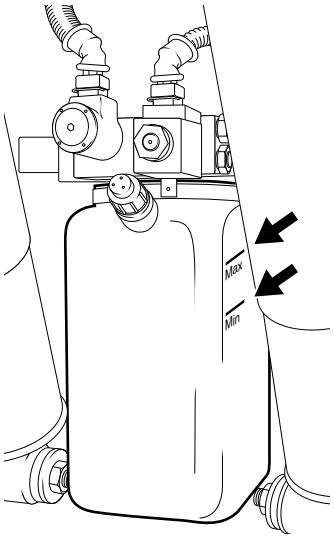
6

3.4 BLEEDING OF THE HYDRAULIC LIFTING GEAR

The lifting gear is self-bleeding. If necessary, lift and lower the trailing axle several times.
The oil level in the reservoir should not fall below the minimum level.
Note: after lowering the trailing axle, wait approx. 2.5 minutes before lifting the trailing axle again.
If the switch is activated before this time span of approx. 2.5 minutes elapses, the time will be reset and you will have to wait about another 2.5 minutes before you can lift the trailing axle.

3.5 INSPECTION, FLUID LEVEL IN THE HYDRAULIC LIFTING GEAR

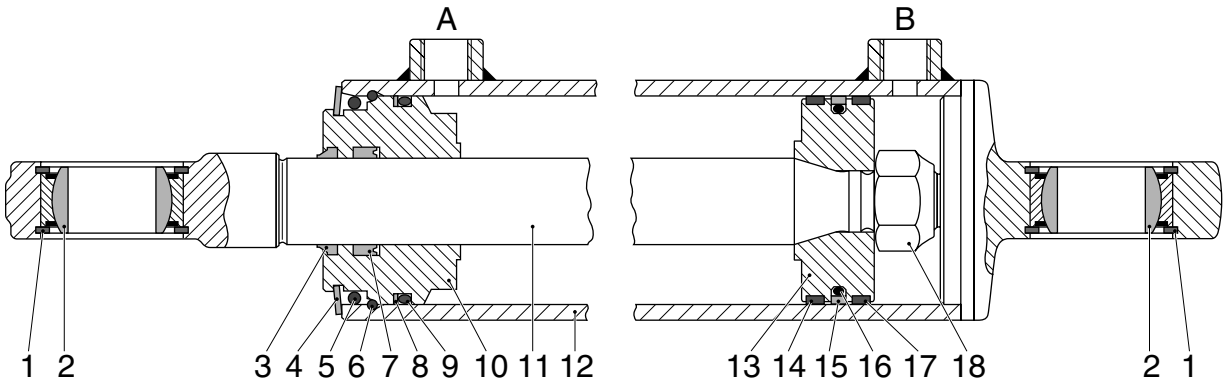
1. Make sure that the trailing-axle wheels are fully lowered and on the ground.
2. Check the fluid level.
   The fluid level should be between the lower (“min”) and upper (“max”) dipstick marking.
   If necessary, top up the oil.



A8 00 282

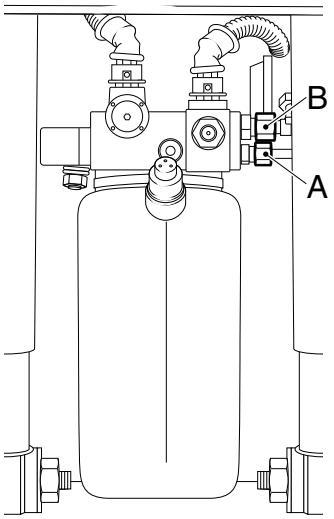
6

3.6 INSPECTION, CYLINDER



A8 00 248

1. After cylinder disassembly and assembly the cylinder should be checked for internal and external damage, see chapter “Disassembly and assembly”.
2. Pull the entire length of the piston rod out of the cylinder.
3. Connect a test pump with pressure gauge to line connection B. Both pump and pressure gauge should be able to handle a minimum pressure of 220 bar.
4. Increase the pressure to the prescribed test pressure, see main group “Technical data” and leave the cylinder pressurized for some time.
   Never stand in front of the piston rod when increasing the pressure. If the spring clip (6) is not installed correctly, the piston rod could come out of the cylinder.
5. Check the cylinder for internal and external leakage.
6. Push the piston rod completely into the cylinder and plug the line connections after completion of the test.



A8 00 281

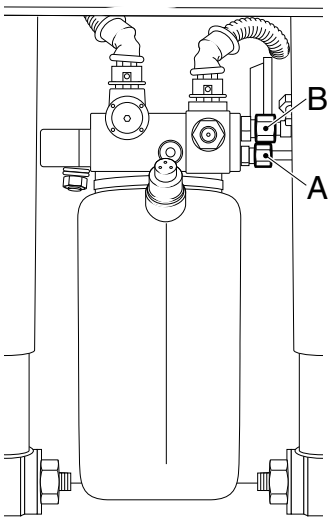
4. REMOVAL AND INSTALLATION

4.1 REMOVAL AND INSTALLATION, PUMP UNIT

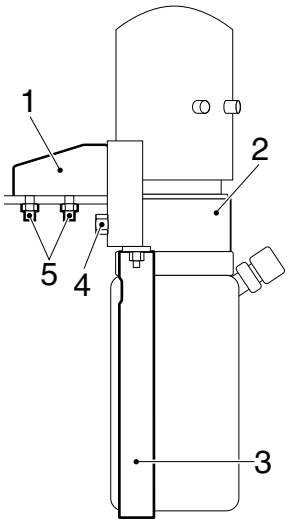
Before removing components, the component concerned and the line connections should be cleaned. Working conditions should be very clean as even the smallest impurity can cause faults.

Removal of the pump unit

1. The wheels of the trailing axle must rest on the ground.
2. Remove the fuse from the lifting gear.
3. Mark the engine-wiring connection points and disconnect these.
4. Mark the magnetic-valve connectors and disconnect these.
5. Remove the hydraulic lines from the pump unit.
   Note: the line attached to line connection A may retain a residual pressure.
   Wait for approx. 5 minutes after the trailing axle has been lowered before disconnecting the hydraulic lines from the pump unit.
   Collect the oil coming from the line.
   Plug the openings.
6. Remove the bolts (5). Remove the support (1) with the pump unit (2) attached to it.
7. Remove the bracket (3).
8. Remove the two attachment bolts (4) and remove the pump unit from the support (1).
9. If a new pump unit is to be installed, the position of line connections (A) and (B) should be marked.



A8 00 281



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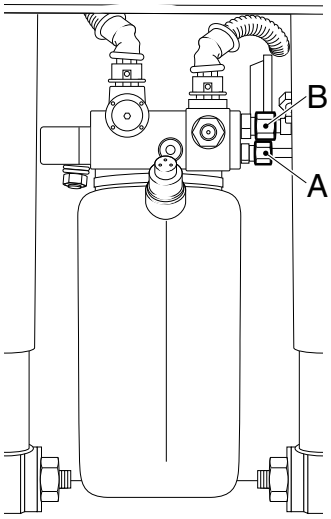
Installation of the pump unit

1. If a new pump unit is to be installed, the line connections should be transferred. Make sure that the line connections are connected to the correct pump outputs.
   - The line connection which is equipped with M16 x 1.5 screw thread should be fitted to output A.
   - The line connection which is equipped with M18 x 1.5 screw thread should be fitted to output B.
2. Fit the pump unit on its support.
3. Fit the bracket around the reservoir.
4. Fit the support to the chassis cross member.
5. Connect the lines.
6. Reconnect the wiring and put the fuse back in.
7. Fill the reservoir, see chapter “Draining and filling”.
8. Inspect the line connections for leaks.
9. Check the system pressure and the pressure-relief valve, see chapter “Checking and adjusting”.



A8 00 281

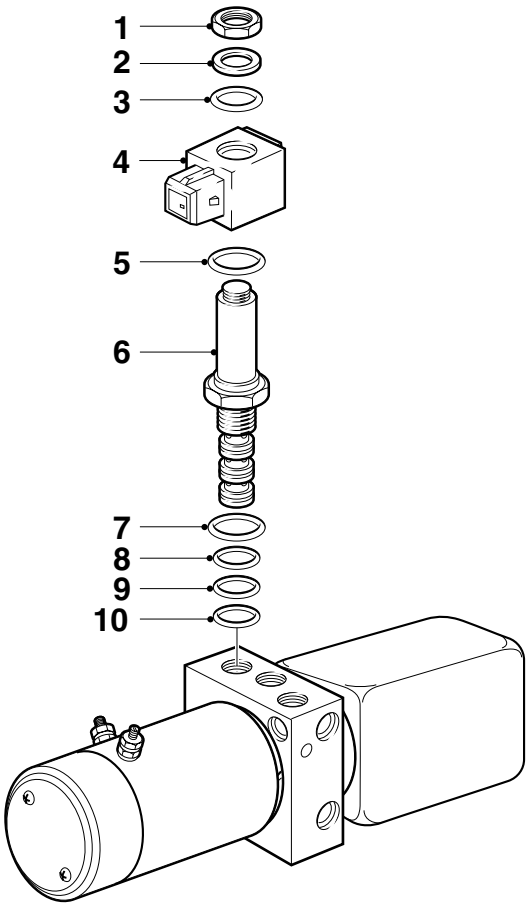
4.2 REMOVAL AND INSTALLATION, 4/2 MAGNETIC VALVE

Removal of the 4/2 magnetic valve

1. Remove the connector.
2. Clean the valve and the surrounding area. Work in very clean conditions.
3. Remove the nut (1) at the valve top and take the coil (4) from the valve.
4. Remove the valve (6) from the valve block.
5. The valve (6) itself cannot be disassembled.

Installing the 4/2 magnetic valve

1. Replace the O-rings and the sealing ring.
2. Apply a little oil to the valve (6) and install it into the valve block. Tighten the valve to the specified tightening torque, see main group “Technical data”.
3. Check the O rings (3 and 5) at the bottom and top of the coil (4) and install the coil (4).
4. Turn the coil (4) into the desired position and fit the spacer ring (2) with the nut (1).
5. Fit the connector.



A8 00 252

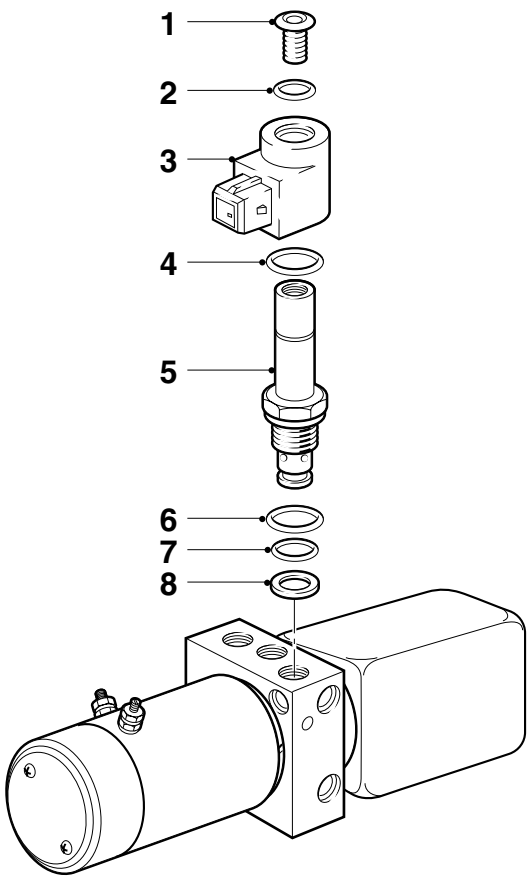
4.3 REMOVAL AND INSTALLATION, 2/2 MAGNETIC VALVE

Removal of the 2/2 magnetic valve

1. Remove the connector.
2. Clean the valve and the surrounding area. Work in very clean conditions.
3. Remove the hexagonal socket screw (1) at the valve top and take the coil (3) from the valve.
4. Remove the valve (5) from the valve block.
5. The valve (5) can be disassembled, see chapter “Assembly and disassembly”. In case of wear, the valve should be replaced entirely.

Installing the 2/2 magnetic valve

1. Replace the O rings.
2. Apply a little oil to the valve (5) and install it into the valve block. Tighten the valve to the specified tightening torque, see main group “Technical data”.
3. Check the O rings at the bottom and top of the coil (3) and install the coil (3).
4. Turn the coil (3) into the desired position and fit the hexagonal socket screw (1).
5. Fit the connector.

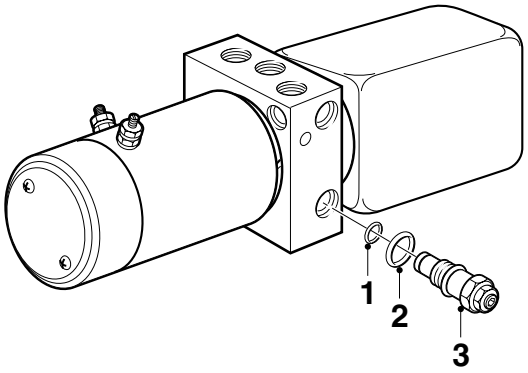


A8 00 251

4.4 REMOVAL AND INSTALLATION, PRESSURE-RELIEF VALVE

Removal of the pressure relief valve

1. Make sure that the trailing-axle wheels are fully lowered and on the ground.
2. Clean the valve and the surrounding area. Work in very clean conditions.
3. Remove the fuse from the lifting gear.
4. Remove the entire valve (3) from the valve block.
5. The valve (3) itself cannot be disassembled. If necessary, turn out the hexagonal socket screw until the ball is lifted from its seat. Subsequently purge the valve using compressed air. Before turning out the hexagonal socket screw, first measure the length of the hexagonal socket screw protruding from the valve. After purging the valve, turn the hexagonal socket screw into the valve to the same length.



A8 00 276

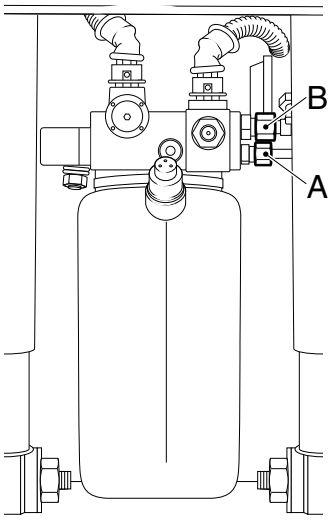
Installation of the pressure-relief valve

1. Replace the two O rings (1 and 2). Apply a little oil to the valve (3) and install it into the valve block.
   Tighten the valve to the specified tightening torque, see main group “Technical data”.
2. Reinstall the fuse.
3. Check the pressure and, if required, readjust it according to the specifications in chapter “Checking and adjusting”.

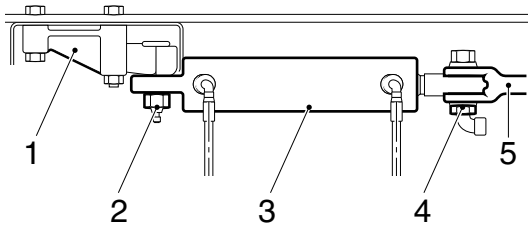
4.5 REMOVAL AND INSTALLATION, CYLINDER

Removal of the cylinder head

1. Make sure that the trailing-axle wheels are fully lowered and on the ground.
2. Clean the line connections and the surrounding area.
3. Remove the fuse from the lifting gear.
4. Remove the shock absorber next to the cylinder.
   If the cylinder is located on the vehicle's left, the linkage of the load-sensing brake-control valve should also be removed.
5. Remove the lines from the lifting cylinder.
   Note: the line attached to line connection A of the pump unit may retain a residual pressure.
   Wait for approx. 5 minutes after the trailing axle has been lowered before disconnecting the lines.
   Collect the oil coming from the line.
   Plug the openings.
6. Disconnect the lines of the central lubricating system, if applicable.
7. Remove the pin (4) connecting the cylinder (3) to the lever (5).
8. Remove the two bushes from the lever (5). The cylinder will now point downwards, causing part of the oil in the cylinder to flow out.
9. Remove the attachment bolt (2) and remove the cylinder (3) from the chassis bracket (1). Collect the oil still present in the cylinder.



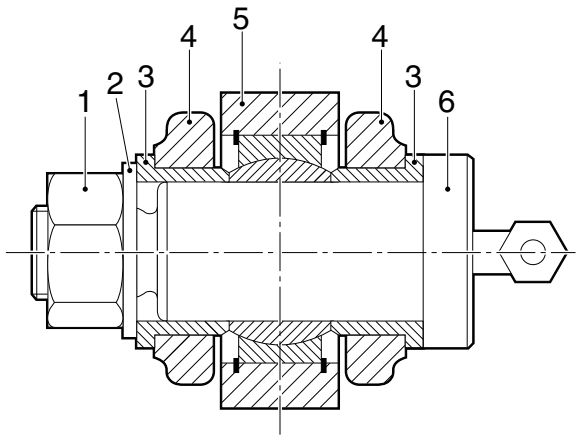
A8 00 281



A8 00 283

Installation of the cylinder

1. Clean the pivot points of the cylinder connection.
2. Lubricate the chassis bracket pin. Install the cylinder on the pin. Handtighten the nut onto the pin.
3. Check the bushes (3) and grease them. Fit the bushes (3) into the lever (4).
4. Apply some grease to the connecting pin (6) and install it in the bushes (3) with the nut side pointing towards the chassis members.
5. Fit the lock washer (2) with the nut (1) to the pin (6). Tighten the nut (1) to the specified tightening torque, see main group “Technical data”.
6. Tighten the chassis bracket nut.
7. Connect the hydraulic lines.
8. Install the shock absorber and, if applicable, the linkage of the load-sensing brake-control valve.
9. Reconnect the lines of the central lubricating system, if applicable.
10. Manually lubricate the turning points, or do so using the central lubricating system.
11. Reinstall the fuse.
12. Activate the lifting gear several times.
    Check the oil level in the reservoir and top up, if necessary.
    Inspect the line connections for leaks.



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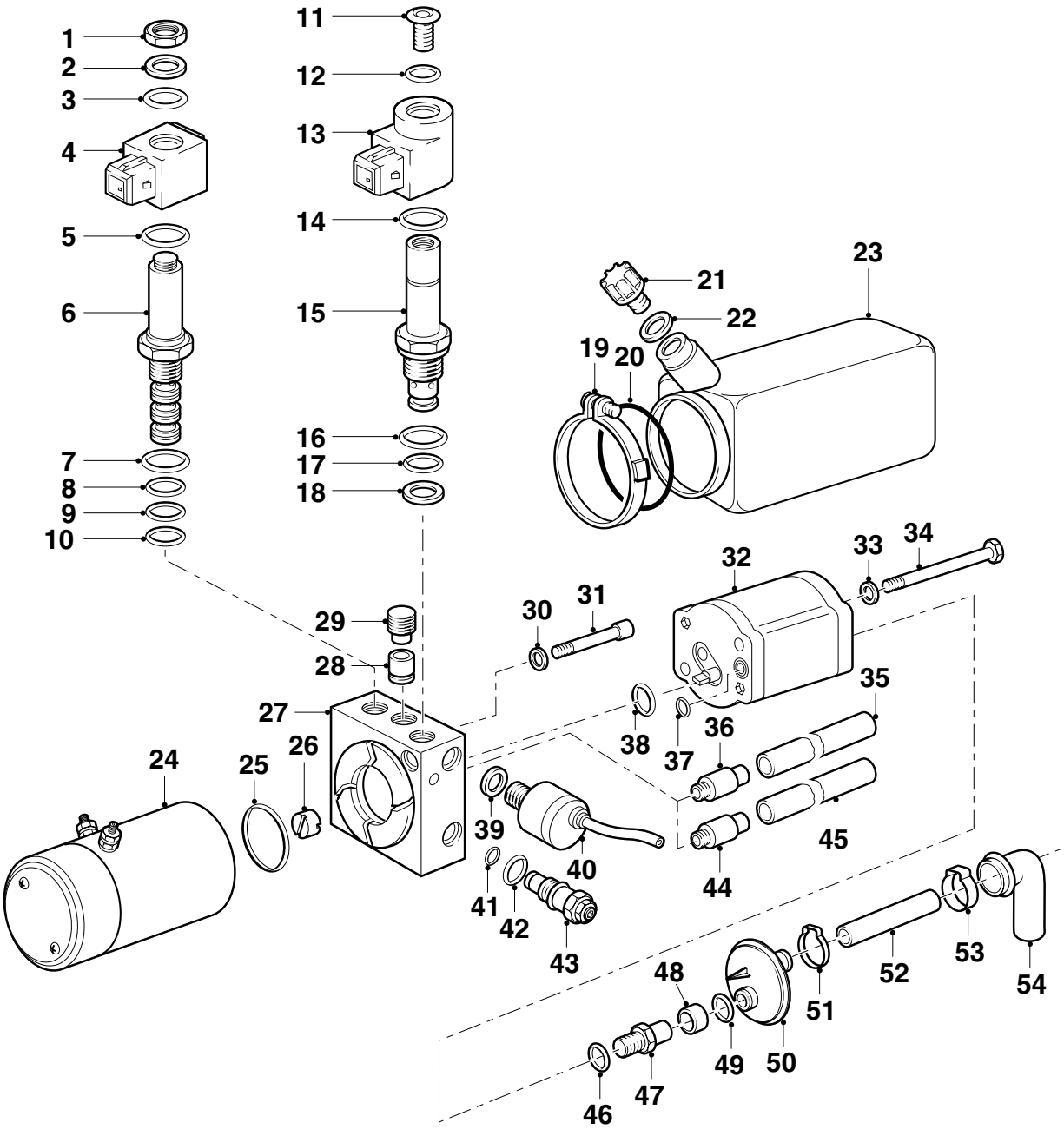
5. DISASSEMBLY AND ASSEMBLY

5.1 DISASSEMBLY AND ASSEMBLY, OIL PUMP



Disassembly of the pump unit

1. Remove the pump unit from the vehicle, see the chapter “Removal and installation”.
2. Let the oil run from the reservoir.
3. Clean the entire pump unit and the surroundings before disassembly. Work in very clean conditions.
4. Remove the pressure-relief valve, the 4/2 valve and the 2/2 valve, see chapter “Removal and installation”.
5. The built-in non-return valve (28) is very difficult to remove from the valve block because a very strong locking and sealing compound has been applied to the screw thread of the sealing plug (29). Leave the non-return valve in the valve block, if it is not necessary to remove it.
6. Remove the pressure switch (40).
7. Loosen the clamping strip (19) and take the reservoir (23) from the valve block (27).
8. If necessary, disconnect the return lines (35 and 45) from the valve block (27). The lines are clamped to the couplings (36 and 44).
9. Loosen the hose clip (48) and remove the suction filter (50) from the coupling (47).
10. Mark the position of the pump (32) relative to the valve block (27) to facilitate installing the pump. Remove the two attachment bolts (34) at the back of the pump and remove the pump (32) from the valve block (27).
11. Mark the position of the motor (24) relative to the valve block (27). Remove the two hexagonal socket screws (31) and remove the motor from the valve block.
12. Remove the coupling disk (26) from the valve block (27).

Installation of the pump unit

1. Check the parts for wear and/or damage. Carefully check the suction line. When installing the parts, always use new gaskets and/or new O rings. Apply a little grease to the O rings before fitting them.
2. Apply plenty of oil to the coupling disk (26) and install the coupling disk in the valve block (27). Make sure that the groove for the motor is aimed towards the motor side.
3. Install the motor (24) on the valve block (27). Tighten the attachment bolts (31) to the specified torque, see main group “Technical data”.
4. Install the pump (32) on the valve block (27). Make sure that the pump drive shaft engages the coupling disk (26). Check whether the front of the pump is flush against the valve block before tightening the attachment bolts (34). Tighten the attachment bolts to the specified tightening torque, see main group “Technical data”.
5. Install the pressure-relief valve, the 4/2 valve and the 2/2 valve, see chapter “Removal and installation”.
6. Install the pressure switch (40).
7. Install the oil-return lines (35 and 45).
8. Install the filter (50). The cam on the filter should fall into the round recess of the pump cover. Tighten the hose clip (48) securely.
9. Install the O ring (20) and the reservoir (23). The filling opening of the reservoir (23) should be positioned at the side of the valves (40 and 43). Tighten the reservoir using the clamping strip (19).
10. Plug the line connections.
11. After installation of the pump unit in the vehicle, the operation and adjustment of the valves and the pressure switch should be checked, see chapter “Checking and adjusting”. Check for external leakage.

5.2 DISASSEMBLY AND ASSEMBLY, 2/2 MAGNETIC VALVE

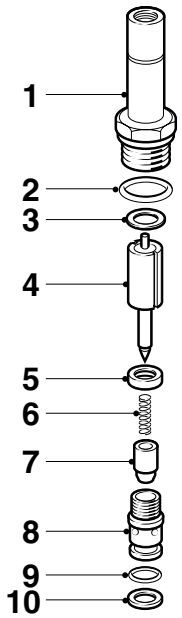
Disassemble the valve only to check and/or to clean the internals. The internal parts cannot be obtained separately. In case of a fault, the valve as a whole should be replaced.
Repair and maintenance activities should be carried out in very clean conditions as even the smallest impurity can cause internal leakage or can result in jamming of the valve.

Disassembling the 2/2 magnetic valve

1. Remove the valve from the pump, see the chapter “Removal and installation”.
2. Clamp the valve body (1) using the hexagon head in the vice and remove the holder (8).
3. Remove the holder (8) with the valve (7) from the valve body (1). Make sure that the adjusting rings (3) are kept together.
4. Remove the spring (6) from the magnet core (4) pin.
5. Remove the magnet core (4) with the bush (5) from the valve body (1). Note down the distance of the bush (5).

Assembling the 2/2 magnetic valve

1. Check the sealing surfaces of the valve (7), the holder (8) and the magnet core (4) pin.
2. Check the freedom of movement of the valve (7) in the holder (8).
3. Check the freedom of movement of the pin in the magnet core (4).
4. Replace the O ring (2) of the valve body (1) and the O ring (9) of the holder (8). Apply a little grease to the O rings.



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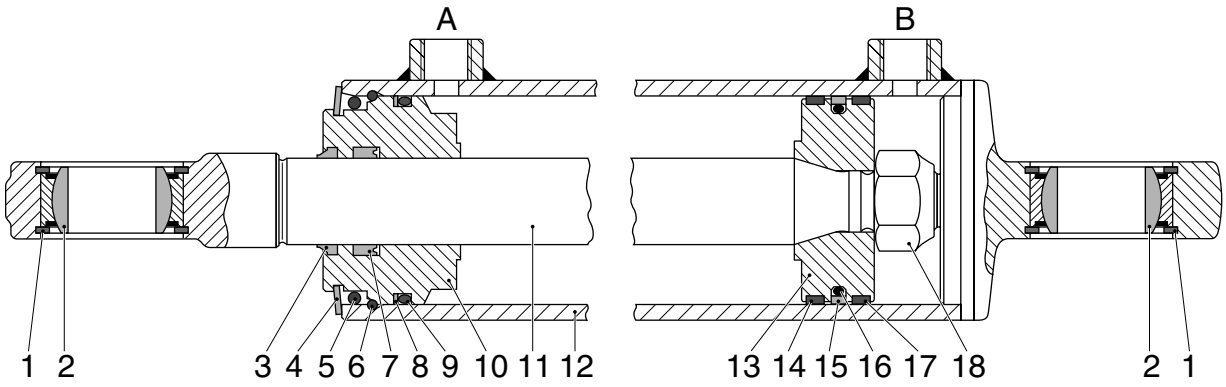
5. Install the magnet core (4) with the bush (5) into the valve body (1). Make sure that the bush (5) is fitted in its original position.
6. Fit the spring (6) on the pin of the magnet core (4).
7. Oil the valve (7) and slide the valve into the holder (8). Check for freedom of movement.
8. Install the holder (8) with the adjusting ring(s) (3) on the valve body.
9. Install the valve in the pump unit, see the chapter “Removal and installation”.

5.3 DISASSEMBLY AND ASSEMBLY, CYLINDER



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Disassembly of the cylinder

1. Remove the cylinder from the vehicle, see the chapter “Removal and installation”.
2. Check whether all the oil has been drained from the cylinder.
3. Clean the cylinder before disassembly. Work in very clean conditions. Make sure that the piston rod is not damaged during the repair or maintenance activities.
4. Remove the circlips (1) and push the bearing (2) from the eye.
5. Remove the circlip (4).
6. Remove the dirt which has collected before the O ring (5) and remove the O ring (5).
7. Use a plastic mallet to tap the piston-rod guide (10) deeper into the cylinder, until the spring clip (6) can be removed. Make sure that the piston rod is not damaged in the process.
8. Remove the spring clip (6) from the cylinder.
9. Pull the entire length of the piston rod (11) out of the cylinder. The piston-rod guide (10) will come out of the cylinder together with the piston rod.
10. Remove the plastic rings (14) and (16) from the piston.

11. Remove the nut (18) and use a plastic mallet to tap the piston (13) from the piston rod.

12. Slide the piston-rod guide (10), the O ring (5) and the circlip (4) from the piston rod. Pay attention to the position of the circlip.

13. Remove the dirt scraper (3), sealing ring (7), O ring (9) and plastic ring (8) from the piston rod guide.

14. Remove the sealing ring (15) and the O ring (16) below from the piston.

Assembly of the cylinder

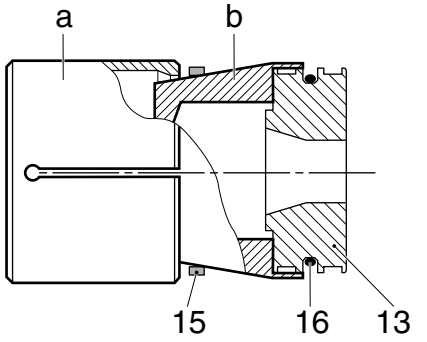
1. Check the sealing-ring chambers and recesses, the dirt scraper and O rings for impurities.
   Check the surfaces of the piston rod and the cylinder casing for signs of wear and/or damage. Even the slightest damage can cause a leak.
   Check the condition of the spring clip (6) and the circlip (4). Replace these, if necessary.
   Replace the sealing rings, dirt scraper and O rings.
   Apply a layer of grease to the O rings and running surfaces of the sealing rings and dirt scraper prior to assembly.

2. Install the O ring (16) to the piston (13).

3. Heat the new sealing ring (15) for 5 minutes in water at a temperature of 90°C.

4. Fit the special tool (DAF no. 1310472), see “b” in the illustration, on the piston (13).

5. Slide the heated sealing ring (15) onto the piston using special tool (DAF no. 1310473), see “a” in the illustration.



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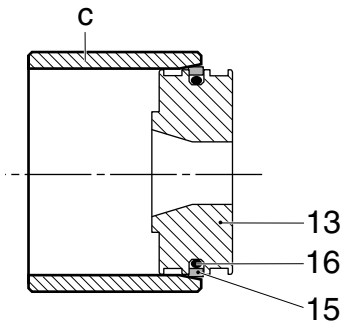
6. Fit the special tool (DAF no. 1310474), see “c” in the illustration, over the sealing ring (15) and leave the special tool on the sealing ring for 5 minutes.



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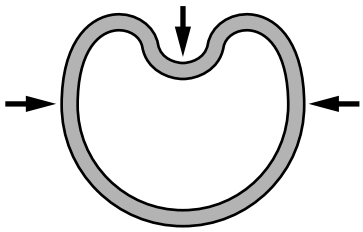
7. Install the sealing ring (7) with the recess aimed towards the piston (13) into the piston-rod guide (10). To do so, press the sealing ring together as shown in the illustration. Make sure that no sharp corners are formed.
Subsequently, press the sealing ring into the chamber of the piston-rod guide as shown in the illustration.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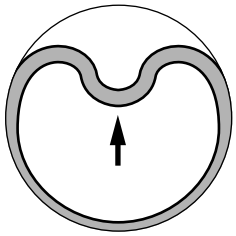
8. Install the dirt scraper (3) into the piston-rod guide (10).
You should proceed in the same manner as when installing the sealing ring (7).

9. Install the plastic ring (8) onto the piston-rod guide (10).
You should proceed in the same manner as when installing the sealing ring (15) on the piston.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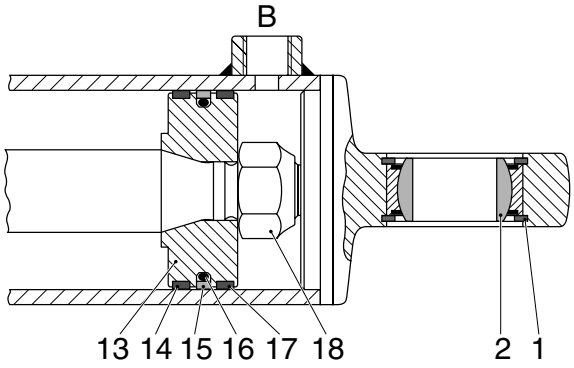
10. Install the O ring (9) onto the piston-rod guide (10). The O ring should fall into the groove at the piston side. The plastic ring (8) is positioned on the circlip side.

11. Slide the circlip (4) into the correct clamping position over the piston rod.

12. Slide the O ring (5) over the piston rod.

13. Oil the piston rod (11) and slide the piston-rod guide (10) onto the piston rod.

14. Install the piston (13) on the piston rod, replace the self-locking nut (18) and tighten the nut to the prescribed tightening torque, see main group “Technical data”.
15. Apply some oil to the cylinder casing.
16. Install the plastic rings (14) and (17) on the piston. The gap openings of the rings should be opposite each other. During the installation of the piston in the cylinder, the gap openings may not be positioned near line connection A of the cylinder.
17. Apply some oil to the plastic rings (14) and (17) and the sealing ring (15) and slide the piston into the cylinder. When sliding the piston into the cylinder, the plastic rings should be pressed into the grooves.
18. Slide the piston-rod guide (10) into the cylinder and tap the piston-rod guide carefully into the cylinder using a plastic mallet until the spring clip (6) can be fitted. Make sure that the piston rod is not damaged in the process.
19. Fit the spring clip (6) into the cylinder. Make sure that the entire circlip is positioned correctly in the groove.
20. Pull back the piston-rod guide (10) using the piston rod, until the piston-rod guide is in contact with the spring clip (6).
21. Fit the O ring (5).
22. Install the circlip (4). Make sure that the entire circlip is positioned correctly in the groove.
23. Install one of the circlips (1) and press a new bearing (2) into the eye.
24. Install the second circlip (1).
25. Check the cylinder for internal and external leakage, see chapter “Inspection and adjusting”.



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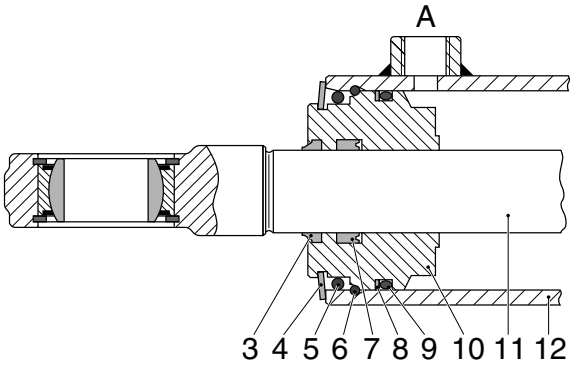

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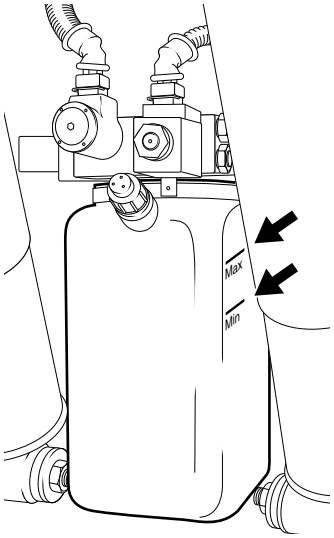
6. DRAINING AND FILLING

6.1 FILLING, HYDRAULIC LIFTING GEAR

1. Make sure that the trailing-axle wheels are fully lowered and on the ground.
2. Fill the reservoir with the specified quantity of oil to the upper (“max”) dipstick marking.
3. Lift the trailing axle and, if required, add oil until the lower (“min”) dipstick marking is reached.
4. Lower the trailing axle and, once again, check the level. If required, add oil until the upper (“max”) dipstick marking is reached.



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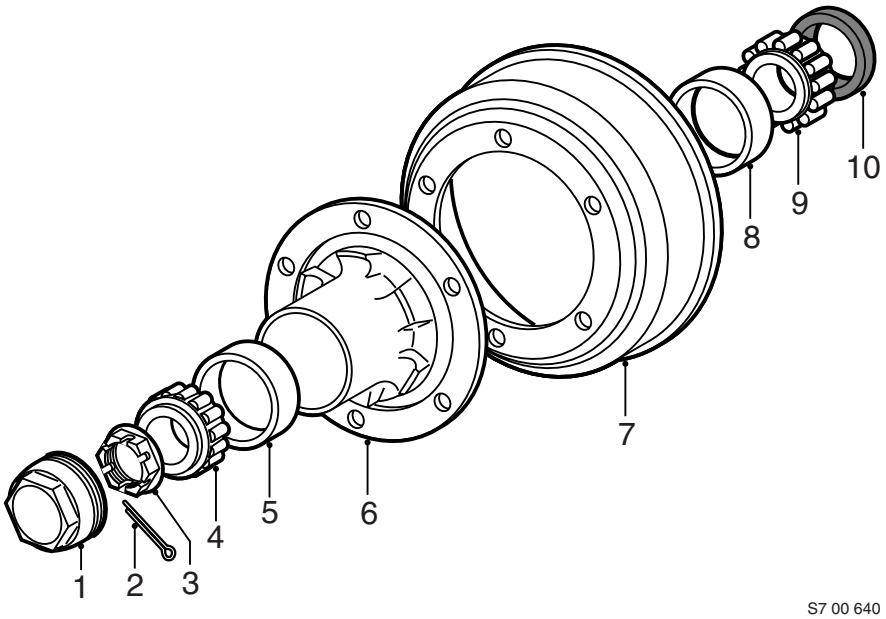
1. GENERAL

1.1 DESCRIPTION OF 09N044 LEADING REAR AXLE

The 09N044 leading rear axle is a rigid axle.
The axle is equipped with air suspension and if the vehicle load admits it, the axle can be raised pneumatically.
The wheel hub has separate wheel bearings that are greased. The wheel bearing play is adjusted using the hub nut, which is secured by a split pin.

1.2 OVERVIEW DRAWING, 09N044 LEADING REAR AXLE



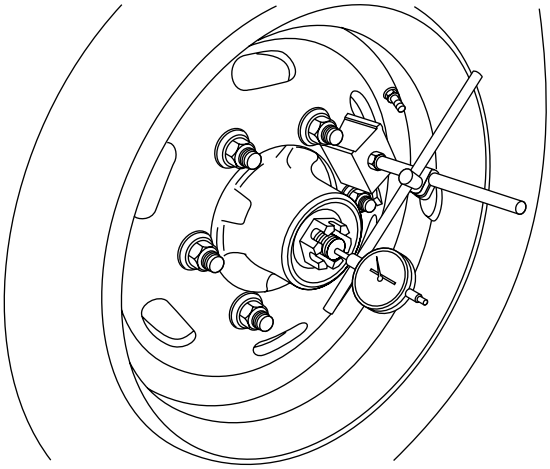
1. Hub cap
2. Split pin
3. Hub nut
4. Bearing cage
5. Outer race
6. Wheel hub
7. Brake drum
8. Outer race
9. Bearing cage
10. Hub oil seal

2. INSPECTION AND ADJUSTMENT

2.1 INSPECTION AND ADJUSTMENT, WHEEL BEARING PLAY OF LEADING REAR AXLE 09N044 (FTP-TYPE VEHICLES)

Checking the wheel bearing play

1. Remove the hub cap using special tool (DAF no. 1329498).
2. Lift the leading rear axle and support it properly.
3. Release the brakes.
4. Fit a dial gauge and let the stylus rest against the axle journal.
5. Push and pull on the wheel. Read the value off the gauge. Compare this reading to the specified value, see “Technical data”. If the reading falls outside the tolerance range, the wheel bearing play should be re-adjusted.
6. Fit the hub cap. Tighten the hub cap to the specified torque using the special tool (DAF no. 1329498). See “Technical data”.
7. Adjust the brakes.



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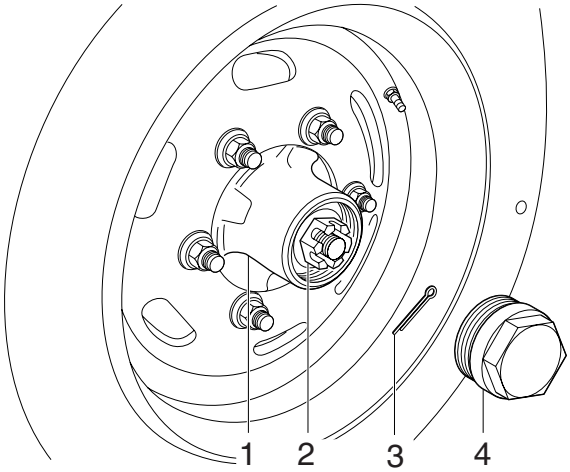
Adjusting the wheel bearing play

1. Remove the hub cap (4) using special tool (DAF no. 1329498).
2. Lift the leading rear axle.
3. Release the brakes.
4. Remove the split pin (3) from the hub nut (2).
5. Tighten the lock nut to the specified tightening torque, see “Technical data”. Turn the wheel at least 5 revolutions anti-clockwise and then 5 revolutions clockwise while fixing the hub nut.
6. Check that the wheel rotates smoothly.



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7. Turn back the hub nut until the split pin can be fitted. Fit a new split pin.

   Note:
   There are 2 split pin holes in the axle journal. Select the split pin hole where the hub nut needs to be turned back least.

8. Check the wheel bearing play. Check the bearings for wear if the wheel bearing play is still too large after adjustment.

9. Fit the hub cap. Tighten the hub cap to the specified torque using the special tool (DAF no. 1329498). See “Technical data”.

10. Adjust the brakes.

2.2 CHECKING THE HUB AND WHEEL BEARINGS

1. Check the bearings for damage at the following points:
   - the roller bearing races,
   - the bearing cage,
   - the raceways of the inner and outer race.

   If damage is found, the entire bearing (inner race/bearing cage and outer race) should be replaced.

2. If the outer bearing race is loose in the hub or has turned in the hub, the hub should be replaced.

3. Check the axle journal screw thread, the bearing surfaces of the inner bearing races and the running surface of the seal for damage.

3. REMOVAL AND INSTALLATION

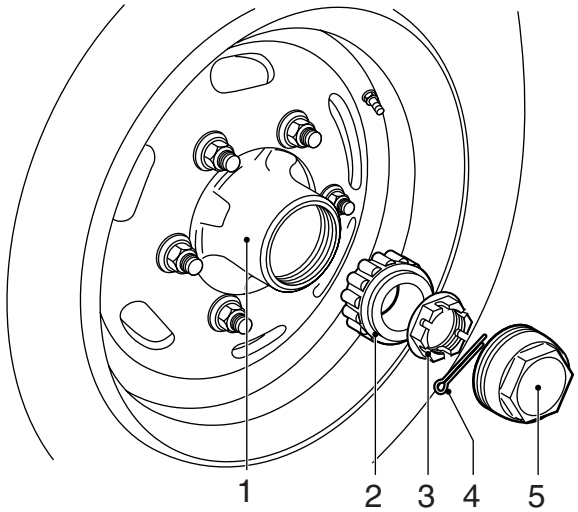
3.1 REMOVAL AND INSTALLATION, WHEEL HUB

Removing the wheel hub

1. Remove the hub cap (5) using special tool (DAF no. 1329498).
2. Lift the leading rear axle and support it properly.
3. Remove the split pin (4) and the hub nut (3).
4. Remove the outer wheel bearing (2).
5. Remove the hub (1) with the wheel.

Installing the wheel hub

1. Remove the grease from the hub (1).
2. Clean the bearings and liberally re-grease the outer bearing races and bearing cages.
3. Lubricate the space between the wheel bearings with new grease.
4. Install the hub with the wheel.
5. Install the outer wheel bearing (2).
6. Fit the hub nut (5).
7. Adjust the wheel bearing play, see chapter “Inspection and adjustment”.
8. Fit a new split pin (4).
9. Lower the leading rear axle.
10. Remove the hub cap (5) using special tool (DAF no. 1329894). Tighten the hub cap to the specified torque, see “Technical data”.
11. Adjust the brakes.



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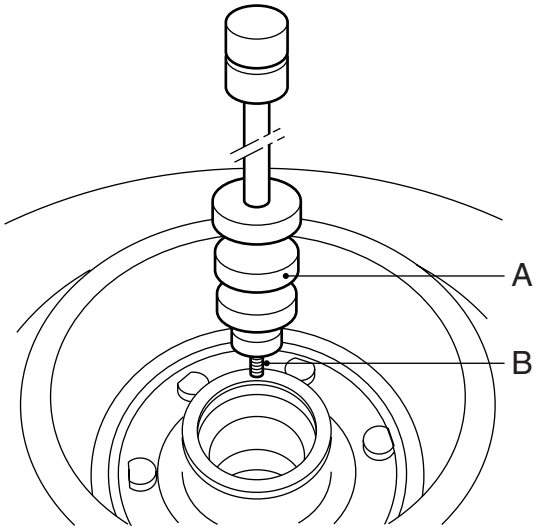
3.2 REMOVAL AND INSTALLATION, HUB OIL SEAL

Removing the hub oil seal

1. Remove the hub from the axle journal.
2. Drill two holes into the seal and screw the special tool (B) (DAF No. 0484899) into the seal. Pull the seal from the hub using the special tool (A) (DAF No. 0694928).

Installing the hub oil seal

1. Check the seal chamber for damage.
2. For installation of the hub seal use special tool (DAF no. 1329497). Press the seal into the hub.
3. Apply a little grease to the sealing lips of the seal.
4. Install the hub on the axle journal.



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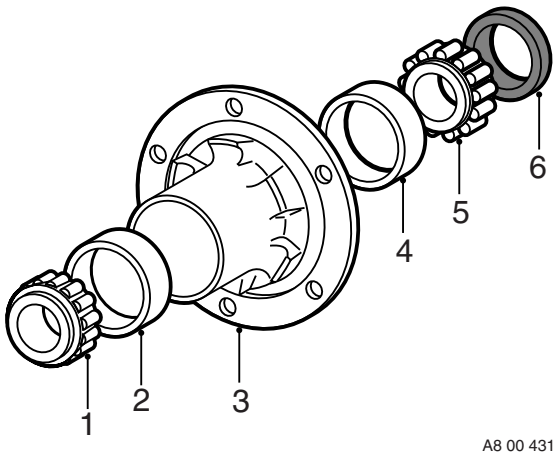
3.3 REMOVAL AND INSTALLATION, WHEEL BEARINGS

Removing wheel bearings

1. Remove the hub (3) from the axle.
2. Remove the hub seal (6).
3. Remove the bearing cages (1) and (5).
4. If the wheel bearings should be replaced, the outer bearing races (2) and (4) can be tapped from the hub (3) using a copper driving tool.

Installing wheel bearings

1. Clean the bearings and check them for damage.
2. Use a driving tool and a hydraulic press to install the new outer bearing races (2) and (4) into the hub (3). Check that the outer races (2) and (4) are pressed into the hub (3) as far as the stop.
3. Apply an ample quantity of new grease to the outer races (2) and (4) and the bearing cages (1) and (5).
4. Lubricate the space between the wheel bearings with new grease.
5. Fit a new hub seal (6).
6. Install the hub (3).



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