

Maintenance manual

LF45/55



DAF

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THREADED CONNECTIONS

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FLUIDS, OIL AND LUBRICANTS

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1. ENGINE, COOLING SYSTEM AND FUEL SYSTEM**1.1 GENERAL****0****Valve clearance, BE engine and CE engine**

Inspection dimension, valve clearance (cold)

Inlet 0.15 - 0.40 mm

Outlet 0.40 - 0.75 mm

Setting dimension, valve clearance (cold)

Inlet 0.25 mm

Outlet 0.50 mm

TECHNICAL DATA

Engine, cooling system and fuel system

LF45/55 series

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1.2 TIGHTENING TORQUES

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

Lubrication system, BE engine and CE engine

| | |
|----------------|-------|
| Oil drain plug | 60 Nm |
|----------------|-------|

Valve gear, BE engine and CE engine

| | |
|------------------------------|-------|
| Valve cover attachment bolts | 10 Nm |
|------------------------------|-------|

1.3 FILLING CAPACITIES

0

BE engine lubrication system

| | |
|--|---------------------|
| Total capacity (including oil cooler and oil filter) | approx. 13.0 litres |
| Capacity of oil sump, maximum level | approx. 11.0 litres |
| Capacity of oil sump, minimum level | approx. 8.9 litres |

BE engine cooling system

| | |
|----------------|-------------------|
| Cooling system | approx. 20 litres |
|----------------|-------------------|

CE engine lubrication system

| | |
|--|---------------------|
| Total capacity (including oil cooler and oil filter) | approx. 19.5 litres |
| Capacity of oil sump, maximum level | approx. 17.5 litres |
| Capacity of oil sump, minimum level | approx. 15.5 litres |

CE engine cooling system

| | |
|----------------|-------------------|
| Cooling system | approx. 22 litres |
|----------------|-------------------|

TECHNICAL DATA

Engine, cooling system and fuel system

LF45/55 series

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2. STEERING GEAR**2.1 GENERAL****0**

Maximum axial steering ball joint play

1.5 mm

2.2 TIGHTENING TORQUES

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

High-pressure filter, RAS-EC system

Filter cap

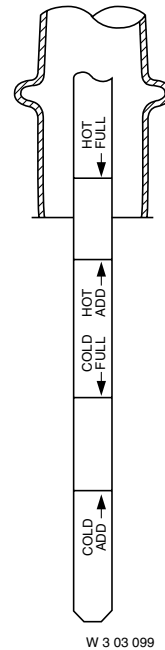
15 Nm

3. DRIVE SHAFTS, DRIVE AND CHASSIS

3.1 GENERAL

Allison gearbox

The oil level when cold must be on the "Cold full" mark.



Dipstick readings:

"Cold add"

add when cold

"Cold full"

full when cold

"Hot add"

add when hot

"Hot full"

full when hot

5.12 rear axle

Sealant for crown wheel guide bolt

Loctite 572

F36/F48 front axle

Wheel bearing play (to adjust play)

0.05 - 0.20 mm

TECHNICAL DATA

Drive shafts, drive and chassis

LF45/55 series

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3.2 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. The other threaded connections not specified must therefore be tightened to the torque stated in the overview of standard tightening torques.

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

ZF S5-42 gearbox

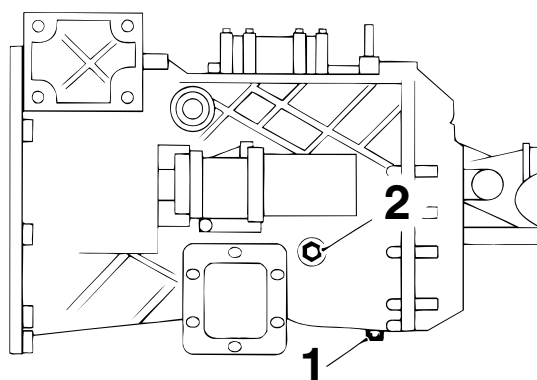
Level check/filler

plug (2)

50 Nm

Drain plug (1)

50 Nm



V3 00 395

ZF 6S-850 gearbox

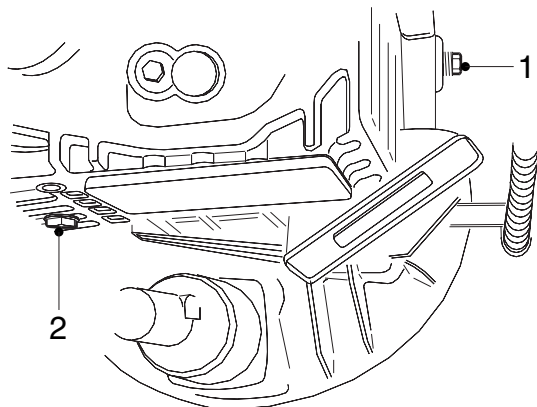
Level check/filler

plug (1)

50 Nm

Drain plug (2)

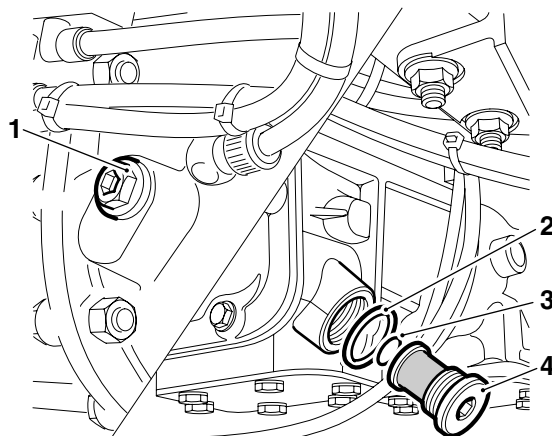
60 Nm



V3 00 884

Eaton FS6309A gearbox

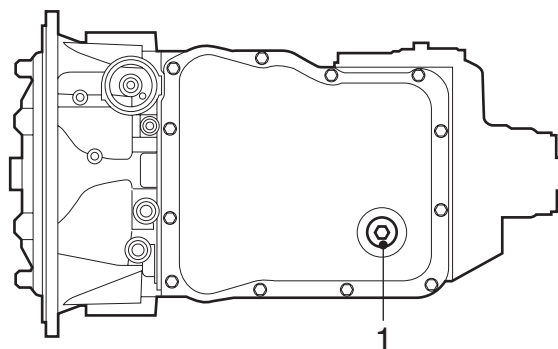
| | |
|--------------------------------|-------|
| Level check/filler plug (1) | 50 Nm |
| Drain plug/oil strainer (4) | 50 Nm |



V3 00 376

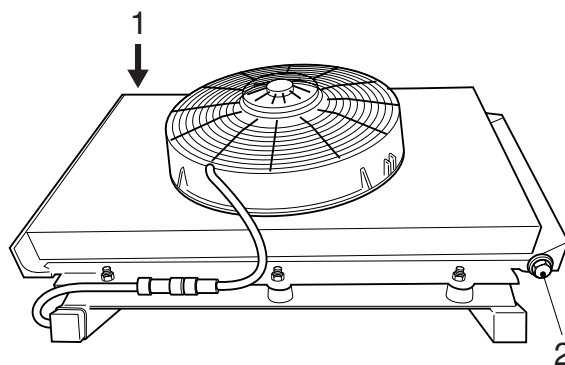
Allison 1000 & 2000 automatic gearboxes

| | |
|---------------------------|-------|
| Gearbox drain plug (1) | 35 Nm |
|---------------------------|-------|



V3 00 885

| | |
|----------------------------------|-------|
| Oil cooler air bleed plug (1) | 28 Nm |
| Oil cooler drain plug (2) | 28 Nm |



V3 00 883

TECHNICAL DATA

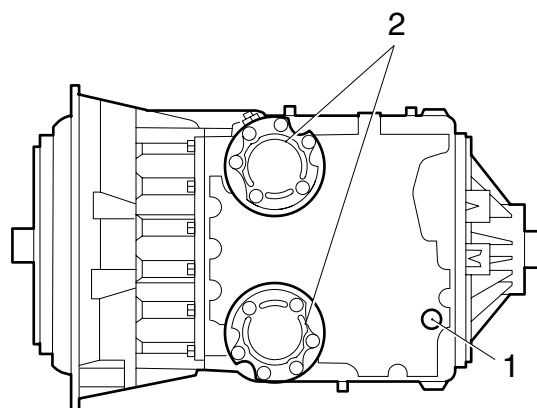
Drive shafts, drive and chassis

LF45/55 series

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Allison MD3060 automatic gearbox

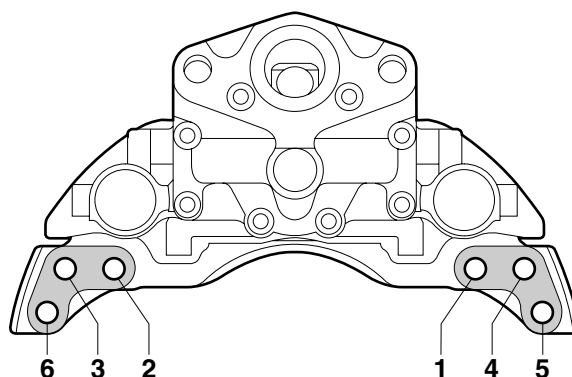
| | |
|---------------------------------------|-------|
| Drain plug (1) | 28 Nm |
| Oil filter cover attachment bolts (2) | 55 Nm |



V300371

F36/F48 front axle

| | |
|---|--------|
| Tightening torque for brake calliper attachment bolts | 213 Nm |
| Tightening sequence for attachment bolts | |
| Hub lock nut | 75 Nm |



R600520

Front axles

| | |
|--|-----------------------|
| M18 x 1.5 wheel nut (LF 45 version 6/8 ton GVW) | 370 Nm ⁽¹⁾ |
| M20 x 1.5 wheel nut (LF 45 version 10/11/12 ton GVW) | 485 Nm ⁽¹⁾ |
| M20 x 1.5 wheel nut (LF 55 version 13/14/15 ton GVW) | 485 Nm ⁽¹⁾ |
| M22 x 1.5 wheel nut (LF 55 version 18 ton GVW) | 700 Nm ⁽¹⁾ |
| LF 45 U-bolt nut | 215 Nm ⁽²⁾ |
| U-bolt nut, LF 55 version 13/14/15 ton GVW | 470 Nm ⁽²⁾ |
| U-bolt nut, LF 55 version 18 ton GVW | 535 Nm ⁽²⁾ |

(1) Retighten after 100 km.

(2) Evenly tighten the two U-bolt nuts alternately.

Rear axles

| | |
|---|-----------------------|
| M18 x 1.5 wheel nut (LF 45 version 6/8 ton GVW) | 370 Nm ⁽¹⁾ |
| M20 x 1.5 wheel nut (LF 45 version 10/11/12 ton GVW) | 485 Nm ⁽¹⁾ |
| M20 x 1.5 wheel nut (LF 55 version 13/14/15 ton GVW) | 485 Nm ⁽¹⁾ |
| M22 x 1.5 wheel nut (LF 55 version 18 ton GVW) | 700 Nm ⁽¹⁾ |
| LF 45 U-bolt nut | 470 Nm ⁽²⁾ |
| U-bolt nut, LF 55 version 13/14/15 ton GVW | 470 Nm ⁽²⁾ |
| U-bolt nut, LF 55 version 18 ton GVW | 700 Nm ⁽²⁾ |

(1) Retighten after 100 km.

(2) Evenly tighten the two U-bolt nuts alternately.

1132 rear axle

| | |
|---|-------|
| Filler and drain plugs/hub plugs (Torx) | 85 Nm |
|---|-------|

Differential

| | |
|---------------------------------------|--------|
| Locking nut of crown wheel guide bolt | 110 Nm |
| Differential drain plug | 54 Nm |

Drive shafts

5/16" UNF clamping bracket

| | |
|---------------------|-------|
| Tightening torque | 38 Nm |
| Retightening torque | 36 Nm |

3/8" UNF clamping bracket

| | |
|---------------------|-------|
| Tightening torque | 70 Nm |
| Retightening torque | 67 Nm |

TECHNICAL DATA

Drive shafts, drive and chassis

LF45/55 series

0

3.3 FILLING CAPACITIES

ZF gearboxes

| | |
|--------|--------------------|
| S5-42 | approx. 3.2 litres |
| 6S-850 | approx. 7.5 litres |

Eaton gearboxes

| | |
|---------|--------------------|
| FS6309A | approx. 8.5 litres |
|---------|--------------------|

Allison automatic gearboxes

| | |
|-------------|-------------------|
| 1000 & 2000 | approx. 10 litres |
| MD3060 | approx. 20 litres |

Note:

The above filling capacities are approximate capacities, excluding external pipes and cooler

Differential

| | |
|-------|--------------------|
| 5.10 | approx. 4.0 litres |
| 5.12 | approx. 4.0 litres |
| 5.14 | approx. 4.0 litres |
| 8.20 | approx. 8.0 litres |
| 10.20 | approx. 9.0 litres |
| 10.26 | approx. 9.0 litres |
| 11.26 | approx. 9.0 litres |

1132 axle differential

| | |
|----------------|---------------------|
| Minimum caster | approx. 15 litres |
| Maximum caster | approx. 17.5 litres |

Wheel hub

| | |
|------|--------------------|
| 5.10 | 0.25 litre per hub |
| 5.12 | 0.25 litre per hub |
| 5.14 | 0.25 litre per hub |
| 8.20 | 0.25 litre per hub |

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1. THREADED CONNECTIONS

1.1 GENERAL

The components may have threaded connections that have been treated with lubricant (dipped threaded connection). Galvanised bolts and nuts are wax dipped in the factory. Black annealed and phosphatised bolts and nuts are oil dipped. The advantage of using dipped nuts and bolts is that friction during tightening is reduced, so that the specified pre-tension force can be accurately obtained. The tightening torque can be reduced while the pre-tension force remains the same.

To achieve a small spread in the pre-tension force, the dipped threaded connection must be tightened accurately.

Therefore, always use a reliable torque wrench that provides a high degree of accuracy.

Note:

Have torque wrenches regularly inspected and calibrated.

Re-use of fasteners (bolt/nut/threaded end)

1. Clean the thread (take particular care to remove locking compound residues) and the clamping faces
2. Check the thread for damage.
To do so, manually screw a new nut/bolt onto the thread to be checked.
If the new nut/bolt cannot be fully hand-screwed onto the entire thread of the fastener to be checked, the fastener is not allowed to be re-used.
3. Apply one drop of engine oil to the upper turn of the bolt (threaded end)/lower turn of the nut and one drop to the clamping faces (other lubricants are not allowed).
4. If a locking compound has been specified, oil should not be applied to the thread.

THREADED CONNECTIONS

Threaded connections

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The following applies to all threaded connections (for both new and used vehicles):

- in the case of standard connections, apply the lubricant before fitting, and (re)tighten in accordance with the standard for dipped bolts;
- in the case of special connections, apply the lubricant before fitting, and (re)tighten in accordance with the values specified in the instructions.

The instructions for using lubricants also apply to new bolts from the warehouse. Dry threaded connections may not be used because of their highly variable friction coefficients.



Please consult the workshop manual for the specified tightening torque.

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1. SPECIFICATIONS

1.1 GENERAL

IN ORDER TO SATISFY THE WARRANTY CONDITIONS AND GUARANTEE THE LIFESPAN, SAFETY AND RELIABILITY OF DAF PRODUCTS, IT IS OF THE UTMOST IMPORTANCE THAT THE CORRECT FLUIDS, OIL AND LUBRICANTS, COOLANT AND FUEL ARE USED AND THAT THE REQUIRED REPLACEMENT INTERVALS ARE OBSERVED.

Lubricant, engine coolant and fuel additives - of whatever type - must not be used except in those circumstances specified by DAF.

Always follow the safety instructions below and the instructions that are supplied with the product.

Ask your lubricant and fuel supplier(s) whether the products supplied comply with DAF specifications.

DAF is not liable for damage or problems in the following instances:

1. use of oil of a lower grade than specified.
2. use of oil of a different viscosity than specified.
3. if the change interval is exceeded.
4. if fuel, lubricants or coolants have been used which do not meet the requirements specified by DAF.



Avoid contact with:

Lubricants

Coolant

Fuel

Clutch fluid

In the event of contact with the skin:
remove the liquid with paper or a cloth, wash with soap and water. If irritation persists, consult a doctor.

In the event of contact with the eyes:
remove with a cloth and rinse with water. If irritation persists, consult a doctor.

If swallowed: DO NOT induce vomiting. Rinse mouth, drink two glasses of water and consult a doctor.

In the event of inhalation: get fresh air and rest.

Note:

Refer to the "Fluids and lubricants" specification manual for the prescribed fluid, oil and lubricant specifications.

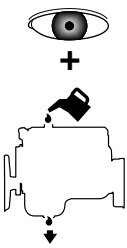
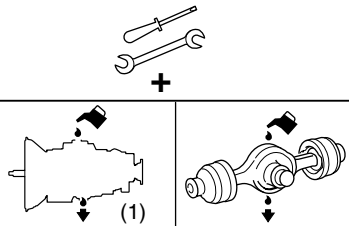
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1. MAINTENANCE INTERVALS

1.1 MAINTENANCE SCHEDULE

The service intervals stated in the maintenance schedule are based on use of the oils and fuels specified by DAF.

| Maintenance schedule | | X service | | | Y service | |
|----------------------|--|---|--|--|---|----------------------------------|
| LF45 LF55 | |  | | | 1x per YEAR  | |
| I | | 40.000 km | | | 1 year max. 100.000 km | 1 year max. 100.000 km |
| II | | 40.000 km | | | 1 year max. 100.000 km | 1 year max. 100.000 km |
| III | | 40.000 km | | | 1 year max. 150.000 km | 1 year max. 150.000 km |
| | | | | | 3 year max. 180.000 km | 2 year max. 120.000 km |
| | | | | | 3 year max. 300.000 km | 3 year max. 300.000 km |
| | | | | | 3 year max. 450.000 km | 3 year max. 300.000 km (2) |

- Automatic gearboxes are subject to different changing intervals; see maintenance schedule notes. Extended changing interval not permitted for ZF 6S-850 gearbox.
- Changing interval for 1132 rear axle 450,000 km max.

G000318

MAINTENANCE SCHEDULE

Maintenance intervals

LF45/55 series

1.2 EXPLANATORY NOTES ON THE MAINTENANCE SCHEDULE

Maintenance group classification

Depending on the use to which the vehicle is put, the vehicle is placed in maintenance group I, II or III.

Maintenance group I

Operation on building sites, in quarries, etc.

- Operation on unmetalled roads
- Traffic in dusty conditions
- Sanitation department vehicles
- Distribution transport with an annual mileage of up to 30,000 km.

Maintenance group II

Urban and regional transport

- Distribution traffic in urban areas
- Traffic between adjacent villages/cities

Maintenance group III

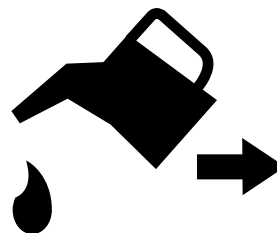
(Inter)national traffic

- Long-distance/very long-distance traffic

Standard changing interval

This is the standard changing interval symbol.

See the "Fluids and lubricants" specifications manual for the prescribed oil specification.

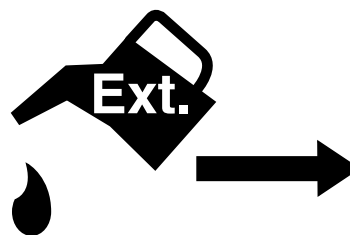


G0 00 230

Extended changing interval

This is the extended changing interval symbol.

If the prescribed oil specification and any additional conditions (see specification manual "Fluids and lubricants") are complied with, an extended changing interval may be applied.



G0 00 229

MAINTENANCE SCHEDULE

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Maintenance intervals

X service

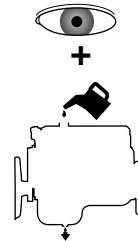
This is the symbol for an X service.

An X service is a mileage-dependent maintenance check which consists of changing the engine oil plus a number of visual inspections.

Note:

An X service must be carried out at least once a year.

X service



G000086

Y service

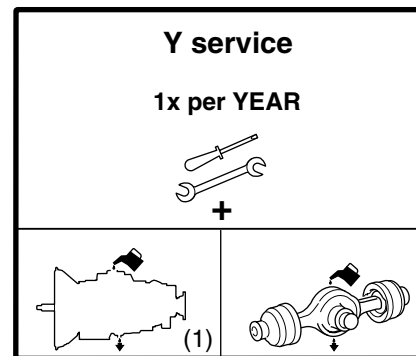
This is the symbol for a Y service.

A Y service is an annual maintenance check consisting of several maintenance activities plus changing of the gearbox and rear axle oil.

Note:

If the prescribed oil specification (see specification manual "Fluids and lubricants") is complied with, an extended changing interval may be applied.

Automatic gearboxes are subject to different changing intervals.



G000087

| Automatic Allison gearbox | |
|---------------------------|--|
| Maintenance group I | Standard changing interval 1 year/maximum 40,000 km Extended changing interval 3 years/maximum 80,000 km |
| Maintenance group II | Standard changing interval 1 year/maximum 40,000 km Extended changing interval 3 years/maximum 160,000 km |
| Maintenance group III | Standard changing interval 1 year/maximum 40,000 km Extended changing interval 3 years/maximum 160,000 km |

MAINTENANCE SCHEDULE

Maintenance intervals

LF45/55 series

1.3 EFFECT OF DIESEL FUEL AND PTO HOURS ON MAINTENANCE INTERVALS

Diesel fuels

| Sulphur content | Engine oil change interval |
|-----------------|-------------------------------------|
| > 0,2% | Halve interval to max. of 25,000 km |

PTO hours

PTO hours should be converted into mileage according to the following formula:

1 PTO hour = 40 km

4

1.4 MAINTENANCE IN SPECIAL OPERATING CONDITIONS

Contact a DAF dealer/main branch or importer for vehicles used in very specific or heavy conditions.

The service intervals can be modified, if necessary, in consultation with the dealer/main branch or importer to fit the appropriate operating conditions.

1.5 FIRST SERVICE INSPECTION

The first service inspection should be carried out between the first 7,500 and 10,000 km or at most 8 weeks after delivery of the vehicle, whichever comes first.

2. MAINTENANCE ACTIVITIES

2.1 OVERVIEW OF MAINTENANCE ACTIVITIES FOR THE FIRST SERVICE INSPECTION

- Replacing the automatic gearbox oil filters

MAINTENANCE SCHEDULE

Maintenance activities

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2.2 OVERVIEW OF ANNUAL MAINTENANCE ACTIVITIES

ANNUAL MAINTENANCE ACTIVITIES (Y-SERVICE)

"Correct, if necessary, after inspection"

CAB AND ELECTRICAL SYSTEM

- ☐ Check pedal rubbers
- ☐ Check whether the latest version of the ITS manual is kept in the cab
- ☐ Replace the cab filter element - See note 1 Replaced ☐ Yes ☐ No
- ☐ Check the fluid level of the cab tilting pump
- ☐ Check cab fastening

ENGINE, COOLING SYSTEM AND FUEL SYSTEM

- ☐ Replace the air filter element
- ☐ Check the air inlet dust trapping valve
- ☐ Check the vibration damper (vulcanised version)
- ☐ Check/adjust the valve clearance - See note 4 Done ☐ Yes ☐ No
- ☐ Check the coolant freezing point
- ☐ Change the coolant - See note 5 Changed ☐ Yes ☐ No
- ☐ Remove the fuel fine filter

STEERING GEAR AND BRAKE SYSTEM

- ☐ Check the steering ball joints
- ☐ Replace the air dryer filter element
- ☐ Check the brake cylinder fastening
- ☐ Check/adjust the load-dependent control valve
- ☐ Replace the steering gear filter element if the vehicle is equipped with the RAS-EC system - See note 6 Replaced ☐ Yes ☐ No
- ☐ Replace the steering gear high-pressure filter if the vehicle is equipped with the RAS-EC system - See note 6 Replaced ☐ Yes ☐ No

DRIVE AND CHASSIS

- ☐ Change the differential oil - See note 2 Changed ☐ Yes ☐ No
- ☐ Change the hub oil - See note 2 Changed ☐ Yes ☐ No
- ☐ Check operation of the differential lock
- ☐ Check the drive shaft play
- ☐ Check attachment of the clamp of the drive shaft universal joint
- ☐ Adjust the crown wheel guide bolt in case of a 5.12 rear axle
- ☐ Check for noticeable wheel bearing play in case of a 5.10, 5.12, 5.14 and 8.20 rear axle - See note 1 Done ☐ Yes ☐ No
- ☐ Change the gearbox oil - See note 3 Changed ☐ Yes ☐ No
- ☐ Replace the grease of grease-lubricated hubs, F36 and F48 front axles - See note 1 Replaced ☐ Yes ☐ No
- ☐ Check the fifth wheel
- ☐ Check the trailer coupling
- ☐ Check superstructure attachment
- ☐ Lubricate according to Y-service lubrication schedule

OTHER ACTIVITIES

- ☐ Check whether there are any field actions that still need to be performed on the vehicle

Note:

1. Every 2 years.
2. For changing interval: see maintenance schedule.
3. For changing interval: see maintenance schedule.
When changing the gearbox oil in an automatic gearbox, the automatic gearbox oil filters must also be replaced.
4. Check the valve clearance at the 4th Y-service (at a maximum of 240,000 km) and then check and adjust, where necessary, every year.
5th - 6th - 7th ... year).
5. Every 5 years.
6. Every 3 years.

MAINTENANCE SCHEDULE

Maintenance activities

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2.3 OVERVIEW OF MILEAGE-DEPENDENT MAINTENANCE ACTIVITIES

MILEAGE-DEPENDENT MAINTENANCE ACTIVITIES (X-SERVICE)

"Correct if necessary after inspection"

CAB AND ELECTRICAL SYSTEM

- ☐ Check/clean the battery terminals
- ☐ Check/top up the battery fluid level

ENGINE, COOLING SYSTEM AND FUEL SYSTEM

- ☐ Change the engine oil
- ☐ Replace the oil filter
- ☐ Replace the fuel prefilter/water separator filter element
- ☐ Check for fuel leaks
- ☐ Check the poly-V belt
- ☐ Check the components and hose connections for leaks
- ☐ Check the radiator and intercooler for fouling
- ☐ Check the exhaust system

Replaced ☐ Yes ☐ No

STEERING GEAR AND BRAKE SYSTEM

- ☐ Check the steering ball joint sleeve for damage
- ☐ Check the steering oil level
- ☐ Check the steering gear lines and connections
- ☐ Check the brake components and brake system for leaks
- ☐ Check the brake pad thickness and brake disc

DRIVE AND CHASSIS

- ☐ Check the clutch fluid level
- ☐ Check the clutch wear indicator
- ☐ Check the differential for leaks - See note 1
- ☐ Check the oil lubricated wheel hubs for leaks - See note 1
- ☐ Check the greased wheel hubs for leaks
- ☐ Check the gearbox for leaks - See note 2
- ☐ Clean gearbox vent and rear axle vent on "offroad/semi-offroad" vehicles
- ☐ Check the shock absorbers for attachment and leaks
- ☐ Check the condition and attachments of spring leaves, spring clamps and U-bolts
- ☐ Check the hinge points and axle suspension fastening (air suspension)
- ☐ Check the air suspension bellows
- ☐ Lubricate according to X-service lubrication schedule

OTHER ACTIVITIES

- ☐ Check whether "Field actions" still need to be carried out on the vehicle

Note:

- For the changing interval see the maintenance schedule.
- For the changing interval see the maintenance schedule.
When changing the gearbox oil in an automatic gearbox, the automatic gearbox oil filters must also be replaced.

EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

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1. SAFETY INSTRUCTIONS

1.1 SAFETY INSTRUCTIONS

Comply with all the warnings and safety precautions given in this maintenance manual.

First read the instructions and warnings on the labels and stickers that are affixed to various components on the vehicle and follow them. They are provided for your safety and health, so do not ignore them.

Wear clean, fitted clothes and apply protective cream to unprotected parts of your body, if necessary.

Do not run the engine in an enclosed or unventilated area. In other words, make sure that the exhaust gases are effectively extracted.

Remain at a safe distance from rotating and/or moving components.

Never remove the filler cap from the cooling system when the engine is at operating temperature.

Be careful when changing the oil. Hot oil may cause serious injuries.

Various oils and lubricants used on the vehicle may constitute a health hazard.

Avoid unnecessary contact with drained oil.

Frequent contact damages the skin.

This also applies to engine coolant, windscreen washer fluid, refrigerant in air conditioning systems, battery acid and diesel fuel.

So avoid inhalation and direct contact.

When carrying out operations under the cab, make sure the cab is fully tilted.

To avoid a fire hazard, the engine, the exhaust system and their surroundings must be kept free of flammable fluids and material such as dead leaves and dirt.

EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Safety instructions

LF45/55 series

Where there is an engine encapsulation, if necessary, the encapsulation panels must be thoroughly cleaned after each inspection interval because of the risk of fire if the inside of the panels is dirty.

Always disconnect the earth connection of the battery before working on the vehicle.

Always use stands to support the chassis or components when working under the vehicle. Always charge batteries in a properly ventilated area and avoid creating sparks and naked flames.

Fast charging should only be used in an emergency. When fast-charging, the battery positive and negative leads (+ and -) must be disconnected.

2. GENERAL

2.1 INTRODUCTION

This maintenance manual describes all relevant maintenance activities. It also contains safety instructions, which must be strictly adhered to. Activities not described in this manual, e.g. replacing components, overhaul, fault-finding, etc., are described in the DAF workshop instructions.

This maintenance manual assumes that the mechanic is sufficiently experienced and has had the required instruction or training to carry out these maintenance activities in a safe and responsible manner.

The technical data and notes on the maintenance activities have been compiled with the utmost care.

2.2 TECHNICAL INFORMATION

The technical information in this maintenance manual, such as notes on maintenance activities and technical data required to carry out the maintenance activities in a safe manner, were up-to-date at the time this manual went to press. DAF reserves the right to make changes without prior notice.

Note:

Important changes relating to technical information that is not contained in this manual will be made available in TI sheets (Technical Information Sheet).

2.3 WARNING SYMBOL

When text is accompanied by the warning symbol shown here, the information provided is essential for the health and safety of the mechanic.

This warning symbol is also shown if there are circumstances in which there is a vehicle safety hazard or damage to the vehicle could arise.



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2.4 ENVIRONMENT

By carrying out the maintenance activities in a professional manner, on time and at regular intervals, you will help to reduce the impact on the environment.

This means, for example, noticing and remedying possible leakages in time and keeping the engine in an optimum condition (adjusting valves, replacing air filter element etc.), thus reducing the emission of harmful exhaust gasses.

It should be noted that oils and fluids contain harmful substances that have a negative impact on the environment.

That is why you should take care that drained oils and fluids and also discarded oil and fuel filters, are collected in separate receptacles or containers.

In short: **maintenance activities must be carried out in an environmentally aware manner.**

2.5 PARTS

All DAF parts and components have been carefully attuned to each other, a decisive factor in ensuring the original DAF quality.

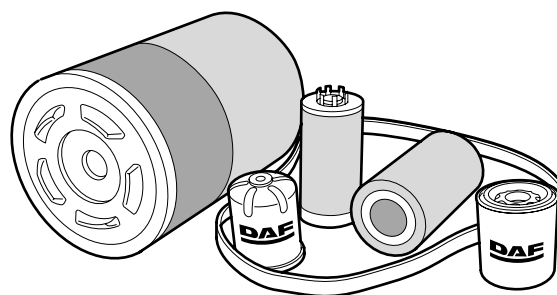
It is only logical, therefore, that the original DAF quality can be maintained best if original DAF parts and components are used when replacing parts or components.

As far as maintenance activities are concerned, this includes components such as windscreen-wiper blades, air-dryer elements, gaskets, V-belts and filters.

For example, if "non-original DAF filters" are used, the engine will be insufficiently protected against fine microscopic airborne dust particles, almost imperceptible metal swarf in the oil and dirt in the fuel, resulting in:

- premature replacing of cylinders, pistons, bearings, valves, injector pump and other moving parts
- reduced engine performance
- increased fuel consumption

Therefore, always use original DAF parts and components.



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2.6 MAINTENANCE GUIDELINES

- When carrying out maintenance activities on the vehicle, it is important that the work is performed under the cleanest possible conditions.
Filler caps, lubricating points, filler and drain plugs should be cleaned before and after maintenance activities.
- When excessive leakage has been detected at oil seals and/or components, or in case of excessive drops in the oil level, a report should be made and the cause should be remedied.
- It is important to check the gearbox breathers, transfer box, rear axle and driven front axle regularly for fouling and blockages. If the breathers are blocked by dirt, overpressure may cause leaks.
- Depending on the circumstances in which the vehicle is used, e.g. on very bad roads or construction sites, important bolt connections such as the fifth wheel, spring suspension, U-bolts, trailer coupling, steering box attachment, superstructure attachments etc. should be inspected more often and, if necessary, be retightened.
- It is important that a visual inspection and test run are carried out following the maintenance activities.
Particular attention should be paid to components directly related to driving safety.
- Once a service has been completed new information on the next service (mileage/ date) can be entered on the instrument panel display using DAVIE XD via the VIC.

3. INSPECTION AND ADJUSTMENT

3.1 CHECKING PEDAL RUBBERS

1. Check that the pedal rubbers are still securely mounted on the pedal.
2. Check that the pedal rubbers are not worn out and there is still sufficient tread.

3.2 CHECKING THE BATTERY FLUID LEVEL



Avoid sparks and open flames in the vicinity of batteries. Battery acid is an aggressive fluid.

In the event of contact with the skin: rinse the skin with plenty of water for a sustained period. If redness or pain persists, consult a doctor.

Remove any clothing affected and rinse with water.

In the event of contact with the eyes: rinse with plenty of water for at least 15 minutes and consult a doctor.

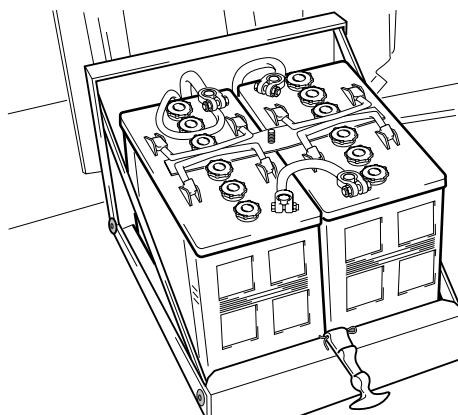
If swallowed: do NOT induce vomiting. Rinse the mouth, drink two glasses of water and consult a doctor.

In the event of inhalation: get fresh air, rest and consult a doctor.

1. Check the electrolyte level. The electrolyte level must be approx. 10 mm above the plates or up to the level indicator if available.
2. If necessary, top up the batteries, see chapter "Draining and filling".

3.3 CHECKING THE BATTERY TERMINALS

1. Visually check the battery terminals for corrosion. Clean the battery terminals if necessary, see chapter "Cleaning".
2. Check the attachment of the battery terminals.

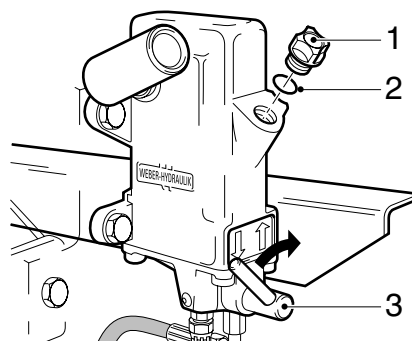


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3.4 CHECKING THE FLUID LEVEL OF THE CAB TILTING PUMP

1. Check the fluid level when the cab is in the driving position.
2. The cock (3) should be in the "↑" position (clockwise).
3. Loosen the filler plug (1) 3 to 4 turns and wait until any overpressure has left the reservoir. Then remove the filler plug (1) and check the sealing ring (2), replace if necessary.
4. Start pumping with a maximum of five pump strokes, making sure that the pump lever is in the bottom position when finished.
5. Then check the fluid level. This level should be no more than 2 cm below the top of the filling opening. Top up if necessary.
6. Fit the filler plug (1) and hand tighten it.



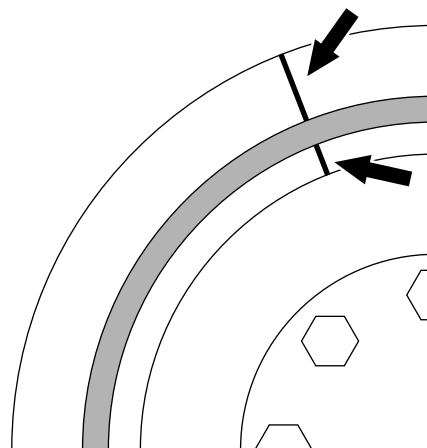
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3.5 CHECKING THE CAB FASTENING

1. Tilt the cab.
2. Check that all attachment bolts are in place.
3. Visually inspect the attachment of the cab to the tilting mechanism.
4. Visually inspect the seals and condition of the tilting mechanism.

3.6 CHECKING THE VIBRATION DAMPER (VULCANISED VERSION) OF THE BE ENGINE

1. Check that the marks on the vibration damper are aligned. If the marks are not in line, the vibration damper must be replaced.
2. Check the rubber part for damage. If the rubber part shows cracks or there are bits of rubber missing, the vibration damper must be replaced.



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EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Inspection and adjustment

LF45/55 series

3.7 BLEEDING THE FUEL SYSTEM

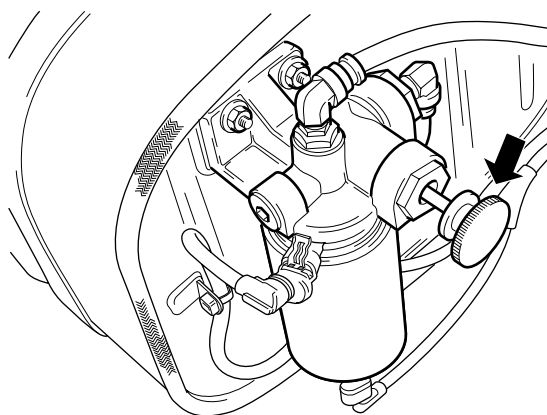


Stop pumping as soon as a greater resistance is felt. If you continue pumping, the fuel system may become internally damaged.

Note:

When the hand pump is used, the fuel system will be automatically bled. Air will be fed back to the tank through the return pipe.

1. Unscrew the button of the primer pump and pull it out.
2. Use the primer pump until a clearly higher resistance is perceptible.
3. Press the button and tighten it.



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3.8 CHECKING THE ENGINE OIL LEVEL

1. Ensure that the vehicle is entirely horizontal.
2. Pull the dipstick (2) out of the holder.
3. Wipe the dipstick clean with a lint-free cloth.
4. Put the dipstick back into the holder.
5. Pull the dipstick out again and check the oil level.

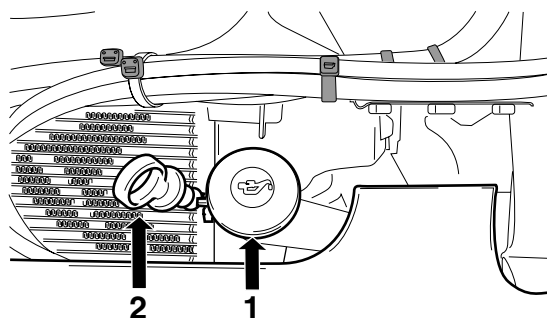
Note:

It takes approx. 20 minutes for all the oil to run into the sump when the engine is "warm". If the dipstick is checked immediately after switching the engine off or immediately after oil has been added, the level shown on the dipstick will be too low.

6. Fill oil through the filler opening (1) until the oil level reaches the maximum mark. See "Draining and filling". Always use the specified oil. Do not top up above maximum level.

Note:

For the difference between minimum and maximum engine oil level, see "Technical data".



EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Inspection and adjustment

LF45/55 series

3.9 CHECKING AND ADJUSTING BE ENGINE VALVE CLEARANCE

Note:

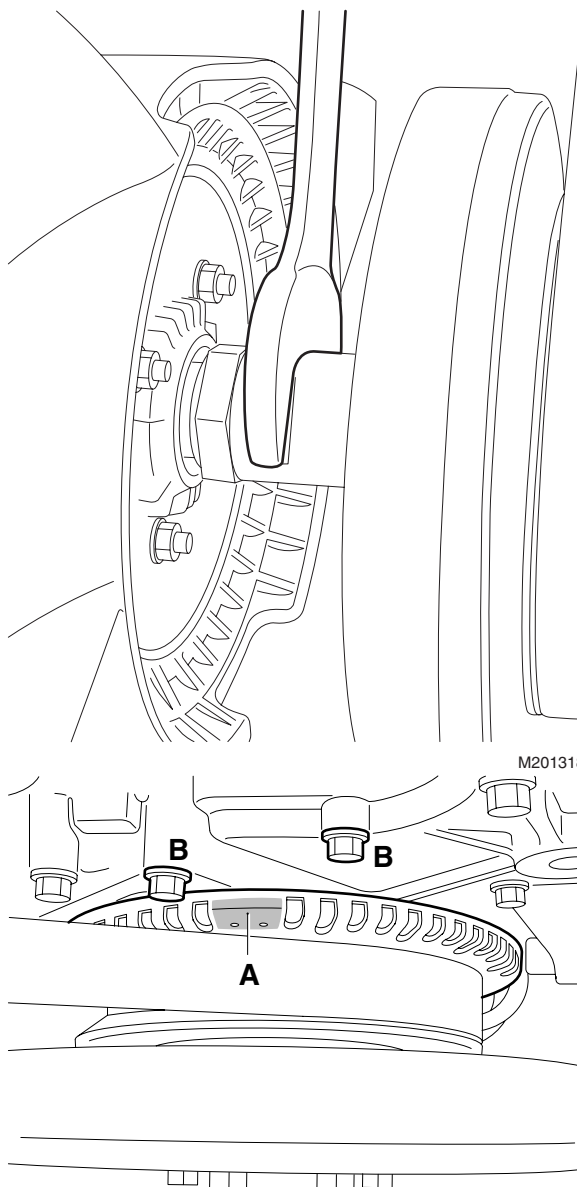
Checking and adjusting valve clearance must only be done when the engine is cold.

1. Remove the valve cover. See "Removing and installing".
2. Use an open-end spanner on the fan shaft to turn the crankshaft clockwise, as seen from the vibration damper end (this is the engine's normal direction of rotation), until the mark (A) is between the bolts (B) and the valves of cylinder 1 are in overlap position.

Note:

"Overlap" is the moment at which the inlet valves start opening and the exhaust valves stop closing.

The inlet valves are operated by the short rockers and the exhaust valves by the long rockers.



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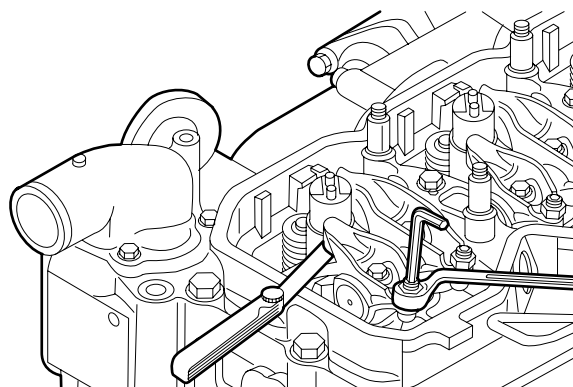
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EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

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Inspection and adjustment

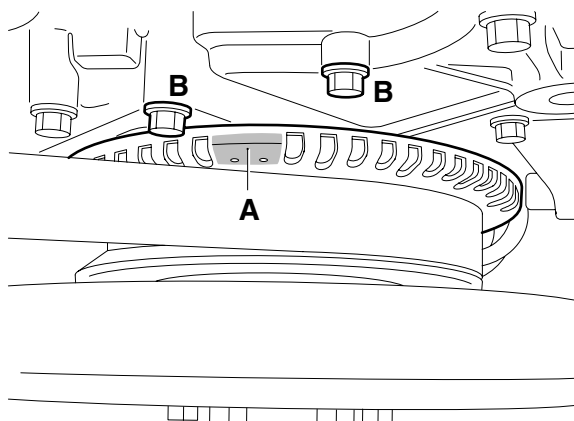
3. Check/correct the valve clearance of the specified inlet and exhaust valves. Set the correct valve clearance by loosening the lock nut and rotating the adjusting screw in the correct direction; see "Technical data" for the correct valve clearance.



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| Cylinder | Inlet valve | Exhaust valve |
|----------|-------------|---------------|
| 1 | | |
| 2 | | X |
| 3 | X | |
| 4 | X | X |

4. Using an open-end spanner on the fan shaft, turn the crankshaft one rotation further so that the mark (A) is once again between the bolts (B) and the valves of cylinder 4 overlap.



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| Cylinder | Inlet valve | Exhaust valve |
|----------|-------------|---------------|
| 1 | X | X |
| 2 | X | |
| 3 | | X |
| 4 | | |

6. Fit the valve cover. See "Removing and installing".
7. Fit the flexible pipe, air inlet pipe and bracket.

EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Inspection and adjustment

LF45/55 series

3.10 INSPECTION AND ADJUSTMENT, CE ENGINE VALVE CLEARANCE

Note:

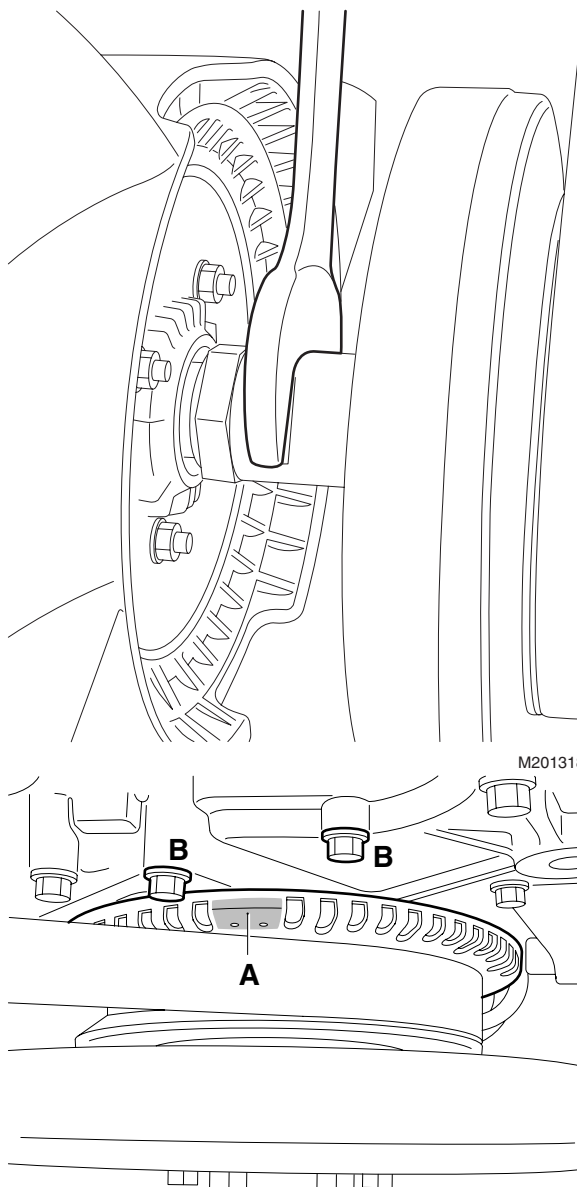
Inspection and adjustment of valve clearance must only be carried out when the engine is cold.

1. Remove the valve cover. See "Removal and installation".
2. Use an open-end spanner on the fan shaft to turn the crankshaft clockwise, as seen from the vibration damper end (this is the engine's normal direction of rotation), until the mark (A) is between the bolts (B) and the valves of cylinder 1 are in overlap position.

Note:

"Overlap" is the moment at which the inlet valves start opening and the exhaust valves stop closing.

The inlet valves are operated by the short rockers and the exhaust valves by the long rockers.

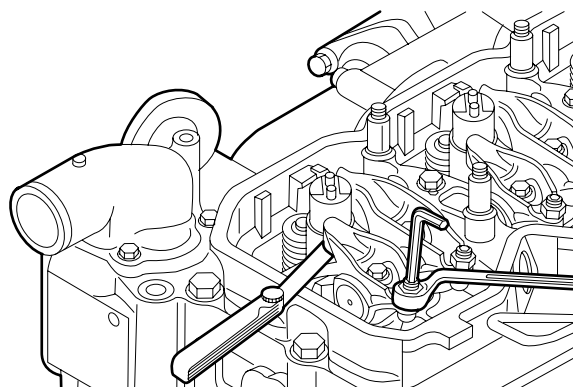


EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

LF45/55 series

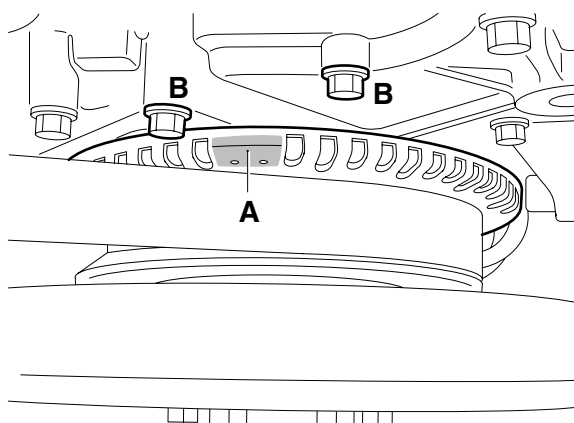
Inspection and adjustment

3. Check/correct the valve clearance of the specified inlet and exhaust valves. Set the correct valve clearance by loosening the locknut and rotating the adjusting screw in the correct direction; see "Technical data" for the correct valve clearance.



| Cylinder | Inlet valve | Exhaust valve |
|----------|-------------|---------------|
| 1 | | |
| 2 | | X |
| 3 | X | |
| 4 | | X |
| 5 | X | |
| 6 | X | X |

4. Using an open-end spanner on the fan shaft, turn the crankshaft one rotation further so that the mark (A) is once again between the bolts (B) and the valves of cylinder 6 overlap.
5. Check/correct the valve clearance of the specified inlet and exhaust valves. Set the correct valve clearance by loosening the locknut and rotating the adjusting screw in the correct direction; see "Technical data" for the correct valve clearance.



| Cylinder | Inlet valve | Exhaust valve |
|----------|-------------|---------------|
| 1 | X | X |
| 2 | X | |
| 3 | | X |
| 4 | X | |
| 5 | | X |
| 6 | | |

6. Fit the valve cover. See "Removal and installation".

EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Inspection and adjustment

LF45/55 series

3.11 CHECKING THE POLY-V-BELT

1. Check the poly-V-belt for damage and signs of serious wear.

3.12 CHECKING THE COOLANT FREEZING POINT



When the coolant is hot, there is an overpressure in the cooling system. Carefully remove the filler cap to release the overpressure.

Do not remove the filler cap when the engine is running.

Coolant is a toxic fluid. Contact with the skin should therefore be avoided.

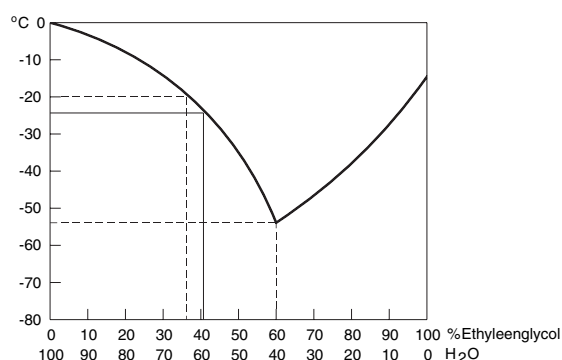
In the event of contact with the skin: remove with paper or a cloth, wash with soap and water. If irritation persists, consult a doctor.

If swallowed: DO NOT induce vomiting. Rinse mouth, drink two glasses of water and consult a doctor.

In the event of inhalation: get some fresh air and rest.

In order to avoid damaging the cylinder block, do not top up a warm engine with coolant.

1. Check the anti-freeze content of the coolant. Fill the cooling system with anti-freeze, if this has not been done yet. Always use only coolants that meet DAF specifications.
2. Consult the manufacturer's instructions for the correct anti-freeze mixing ratio. Preferably, use 40% anti-freeze on an ethylene glycol base. At this percentage, not only good frost protection, but also good corrosion protection is guaranteed.



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3.13 CHECKING FOR FUEL LEAKS

1. Visually inspect all hose connections and fuel system components for leaks.

3.14 CHECKING THE COMPONENTS AND HOSE CONNECTIONS FOR LEAKS

1. Check all hose connections and cooling system components for leaks.
2. Check the hose connections and inlet system components.

3.15 CHECKING THE EXHAUST SYSTEM

1. Visually inspect the exhaust system for leaks.
2. Check the exhaust suspension points.
3. Check that no heat transfer (due to accumulated dirt, for example) can take place to the exhaust system area, such as pipes, components etc.

3.16 CHECKING THE RADIATOR AND INTERCOOLER FOR FOULING

1. Visually inspect the radiator and intercooler for fouling. If necessary, clean the radiator and intercooler, see "Cleaning".

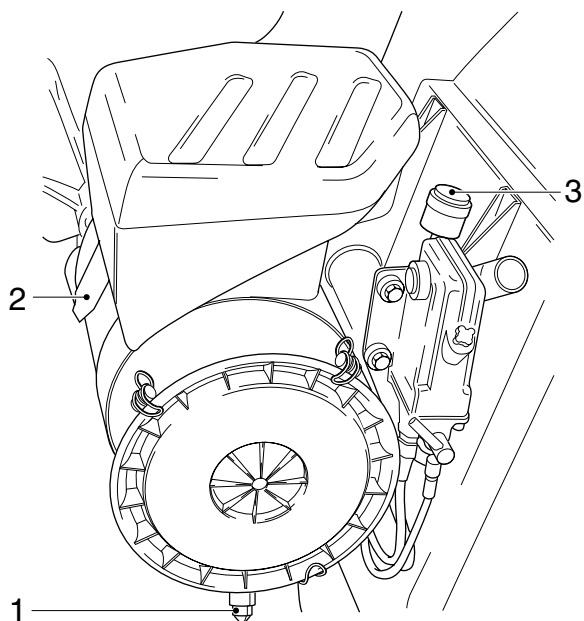
EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Inspection and adjustment

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3.17 CHECK THE AIR INLET DUST TRAPPING VALVE

1. Check the rubber sealing valve (1) at the bottom of the filter housing for clogging and damage.

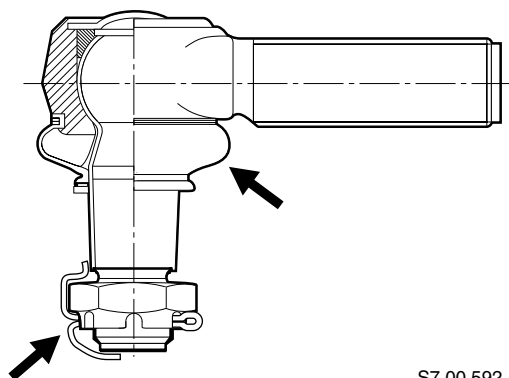


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3.18 CHECKING THE STEERING BALL JOINT SLEEVE FOR DAMAGE

Inspection, locking devices and dust cover

1. Check that the steering ball joint dust cover or seal is not damaged. Replace the steering ball joint if damaged.
2. If a castle nut is fitted, check that the locking devices are present and undamaged.



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3.19 CHECKING THE STEERING BALL JOINTS

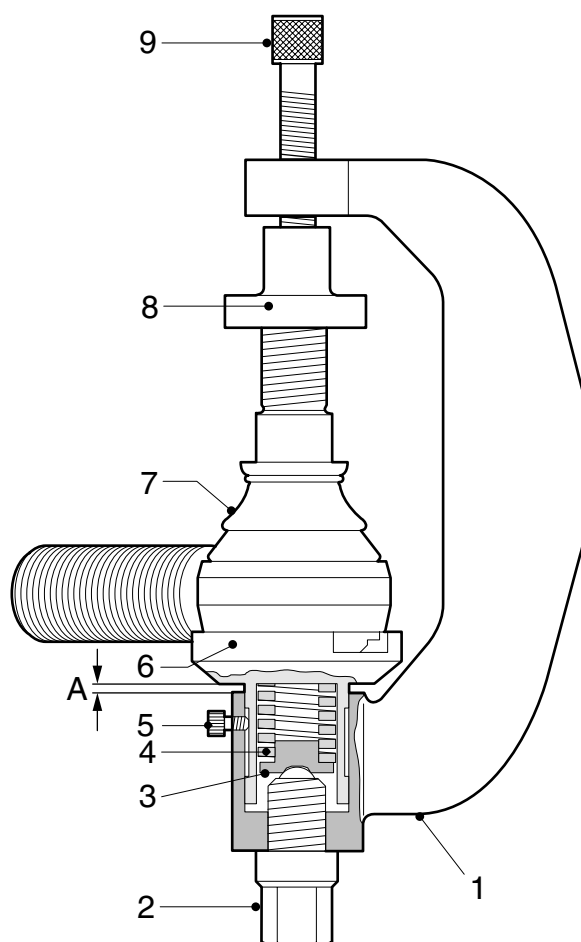
Checking axial steering ball joint play

1. Check the axial steering-ball joint play using special tool (DAF no. 1329426)
2. First jack up the axle until the wheels come off the ground and put the axle on stands.
3. Make sure that the castle nut split pin (if fitted) at the nut does not come into contact with the head of the threaded end.
4. Screw the thrust washer (8) on to the threaded spindle.
5. Fit the spring retainer (3), spring (4) and pressure sleeve (6) into bracket (1). Fit the locking screw (5). It should be possible to move the pressure sleeve (6) freely.

Note:

Fit the correct pressure sleeve (6).
The pressure sleeve (6) must abut the outer edge of the steering ball joint (7).

6. Loosen thrust bolt (2) until the pressure sleeve (6) with the flange abuts the bracket (1) (A = 0 mm).
7. Fit the special tool over the steering ball joint (7) and turn the threaded spindle (9) by hand until the special tool is tight around the steering ball joint (7).
8. Tighten thrust bolt (2) until its head abuts bracket (1).
9. Measure play "A" between the pressure sleeve and the bracket using a feeler gauge. Compare the reading with the maximum permissible steering ball joint play, see "Technical data".
If necessary, replace the steering ball joint.



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EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Inspection and adjustment

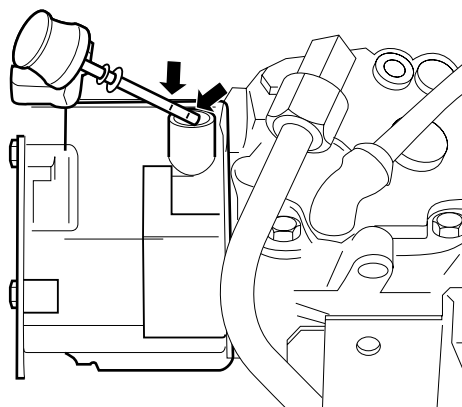
LF45/55 series

3.20 CHECKING THE STEERING OIL LEVEL

1. Check the steering oil level when the engine is not running.
2. Tilt the cab.
3. Clean the dipstick and its surroundings so that absolutely no dirt can get into the reservoir.
4. Check the fluid level in the reservoir using the dipstick.
5. The fluid level should be between the marks when the steering oil is "cold".

Note:

When the steering oil is at operating temperature, the level may be above the top mark.



G0 00 214

3.21 CHECKING THE STEERING GEAR LINES AND CONNECTIONS

1. Condition of the pipes
 - Check all pipes for tightness and wear.
Where supply pipes are subject to negative pressure, it is particularly likely that porous pipes will give rise to problems (air in the system).
 - If in doubt, always replace the line.
2. Pipe connections
 - Check every pipe connection for leaks.
3. Line route
 - Pipes must not be twisted during assembly. To facilitate checking this, a mark may have been provided on the hose (sometimes in the form of text).
 - Pipes should not touch other parts (to prevent chafing).
 - The course pipes follow should not include any sharp bends; this applies especially to the flexible suction and return pipes.
 - Pipes should not be pinched off by other components.

3.22 CHECKING THE BRAKE COMPONENTS AND BRAKE SYSTEM FOR LEAKS

1. While operating the service brake, check whether any leaks occur in the brake system. If the brake system of a vehicle has been charged to the maximum pressure, it should generally be possible to drive the vehicle after a period of 16 hours of uninterrupted standstill, without having to first charge the brake system to adequate operating pressure. This implies a maximum pressure drop of approx. 0.4 bar per hour at normal system pressure.

Note:

Always connect auxiliary consumers and accessories to circuit 4.

5

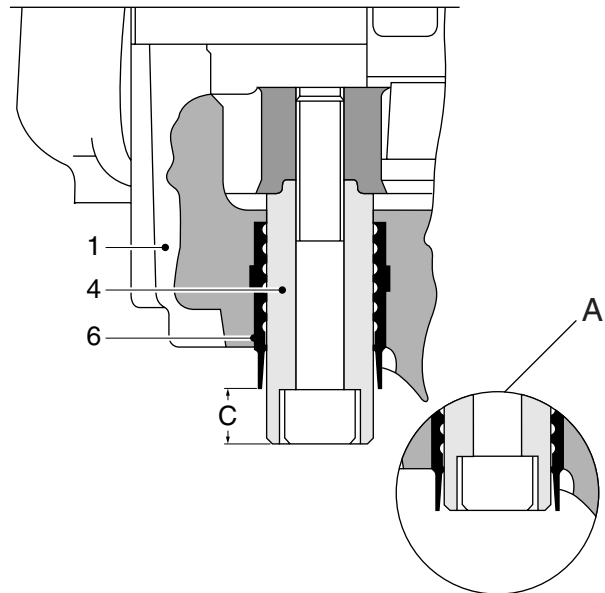
3.23 CHECKING THE BRAKE CYLINDER FASTENING

1. Check that the brake cylinders do not move during operation of the service brake.

3.24 CHECKING THE BRAKE PAD THICKNESS AND BRAKE DISC

Version: Knorr SB 7000

1. Check whether guide bush (4) protrudes from guide sleeve (6) (C).
If the guide bush (4) is level with the guide sleeve (6) (see detail A) the brake pad and brake disc thicknesses should be checked.



R600481

EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Inspection and adjustment

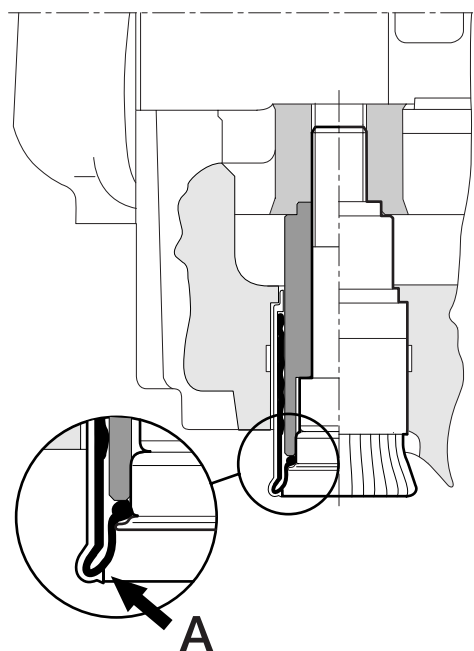
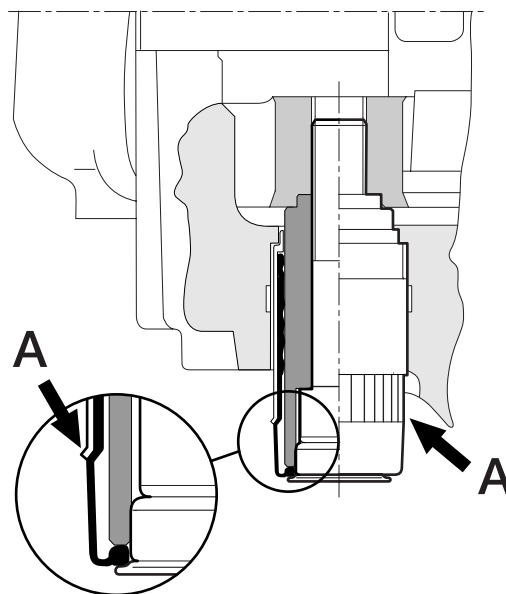
LF45/55 series

Version: Knorr SN 7000

1. Check the transition between the ribbed part of the rubber cover and the smooth part (A). If the smooth part is rolled inwards, the brake pad and brake disc thicknesses must be checked.

Version: Wabco

1. There is no wear indicator in this version. The brake pad thickness must be inspected by using a mirror and a lamp, if necessary.



R600730

3.25 INSPECTION AND ADJUSTMENT, LOAD SENSING VALVE, AIR SUSPENSION

Explanatory notes on instruction plate

The information contained on the plate relates to the axle loads, the output pressures and bellows pressures, in accordance with the order of axles beneath the vehicle.

"1" refers to the (first) front axle, "2" to the following axle, etc.

In the entire column, a reading of 6 bar has been filled in under "1".

If the vehicle is equipped with an empty/load valve, a pressure ratio is entered in the box under the valve illustration, e.g. "i = 1 : 1.5".

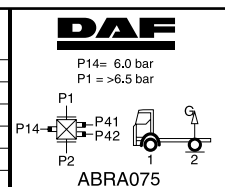
The "delivery pressure p2" of axle "1" then indicates variable readings.

These values can be used to check the brake pressure values of the front axle and to carry out the inspection/adjustment below at the same time. To do this, connect a pressure gauge to the test connection of one of the front axle brake cylinders.

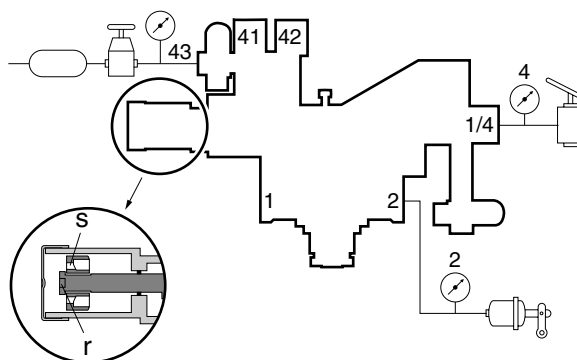
Inspection/adjustment

1. Check that the correct valve has been fitted (see instruction plate).
2. Connect pressure gauge (4) to the test connection close to connecting point 1/4 on the load sensing valve (input pressure).
3. Connect pressure gauge (2) to the test connection on one of the brake cylinders (service brake connection) of the rear axle.
4. Connect a pressure gauge (43) with a pressure-reducing valve to the simulation connection near connections 41 and 42 of the load sensing valve (= simulated adjustable bellows pressure).
5. Make sure that the reservoir pressure is higher than 6.5 bar throughout the testing process.
6. Set the simulated bellows pressure to its **second lowest** value, as indicated on the instruction plate.
7. Depress the brake pedal until the pressure gauge (4) indicates a pressure of 6 bar.

| G (kg) | 1 | 2 | P41,42 (bar) |
|--------|------------|------------|-----------------|
| | ±0.4 (bar) | ±0.2 (bar) | |
| 1000 | 6.0 | 2.8 | 0.4 |
| 1500 | 6.0 | 3.4 | 0.9 |
| 2000 | 6.0 | 4.1 | 1.3 |
| 3000 | 6.0 | 5.1 | 2.3 |
| 3468 | 6.0 | 6.0 | 2.7 |
| 4700 | 6.0 | 6.0 | 3.8 |



R6 00 548



R600473

EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

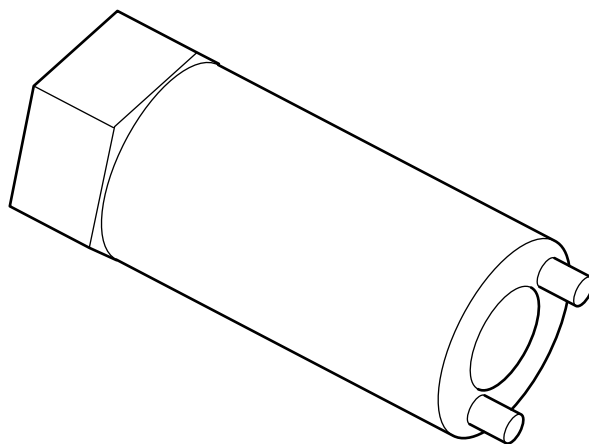
Inspection and adjustment

LF45/55 series

8. Read the brake pressure of the rear axle on pressure gauge 2 and check that this brake pressure matches the one listed on the instruction plate in the table under "output pressure p2" to the rear axle.
9. If the measured value is not correct, depressurise connection (43) and, using a special slotted-nut spanner, special tool (DAF no. 1329464), turn the adjusting nut (s):
 - brake pressure too high: unscrew the adjusting nut
 - brake pressure too low: screw in the adjusting nut

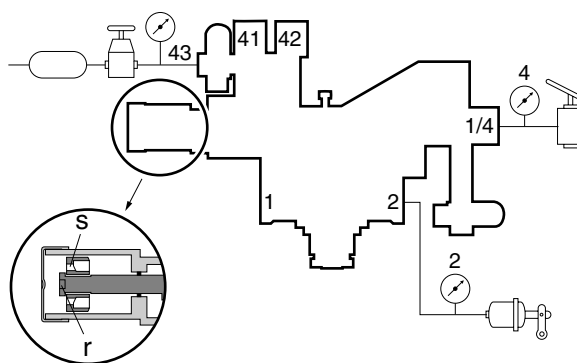
Note:

When depressurising the simulation connection (pressure gauge 43), the air hose must remain connected to prevent the (actual) bellows pressure from accidentally activating the valve.
The small socket head screw in the centre of the valve must not be adjusted.



R600478

10. Repeat the procedure described in point 6 until the measured brake pressure value is within the tolerance limits.
11. Set the simulated bellows pressure to its **second highest** value, as indicated on the instruction plate.
12. Depress the brake pedal until the pressure gauge (4) indicates a pressure of 6 bar.
13. Read pressure gauge (2) and check that this brake pressure matches the pressure indicated in the table on the instruction plate.
14. If the measured reading is not correct, depressurise connection (43) and turn adjusting bolt (r) using a Torx screwdriver:
 - brake pressure too high: screw in the adjusting bolt
 - brake pressure too low: unscrew the adjusting bolt



R600473

Note:

When depressurising the simulation connection (pressure gauge 43), the air hose must remain connected to prevent the (actual) bellows pressure from accidentally activating the valve.
The small socket head screw in the centre of the valve must not be adjusted.

15. If the adjusting bolt (r) has been turned, repeat the procedure from point 6.

3.26 INSPECTION AND ADJUSTMENT, LOAD SENSING VALVE, LEAF SUSPENSION

Explanatory notes on instruction plate

The data relating to axle loads and output pressures are listed on the instruction plate following the sequence of the axles beneath the vehicle.

"1" refers to the (first) front axle, "2" to the following axle, etc.

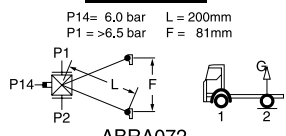
In the entire column, a reading of 6 bar has been filled in under "1". If the vehicle is equipped with an empty/load valve, a pressure ratio is entered in the box under the valve illustration, e.g. "i = 1 : 1,5". The "output pressure P2" of axle 1 will give variable readings.

These values can be used to check the brake pressure values of the front axle and to carry out the inspection/adjustment below at the same time. To do this, connect a pressure gauge to the test connection of one of the front axle brake cylinders.

Inspection/adjustment

1. Measure the weight plus load of the rear axle.
2. Check the attachment of the control lever and its ease of operation.
3. Check that the right type of valve has been fitted.
4. Check the length of the control lever (see "L" on the instruction plate).
5. Connect a pressure gauge (4) to the test connection near connection 1/4 on the load sensing valve (input pressure).
6. Connect pressure gauge (2) to the test connection on one of the brake cylinders (service brake connection) of the rear axle.
7. Make sure that the reservoir pressure is higher than 6.5 bar throughout the testing process.
8. Depress the brake pedal until pressure gauge (4) indicates a value of 6 bar.
9. Read the brake pressure of the rear axle from pressure gauge 2 and check that this value matches the one listed on the instruction plate in the table under "output pressure p2" to the rear axle.

| G (kg) | 1 | 2 |
|--------|------------|------------|
| | ±0.4 (bar) | ±0.2 (bar) |
| 1000 | 6.0 | 2.8 |
| 1500 | 6.0 | 3.4 |
| 2000 | 6.0 | 4.0 |
| 3000 | 6.0 | 5.1 |
| 3750 | 6.0 | 6.0 |
| 4700 | 6.0 | 6.0 |

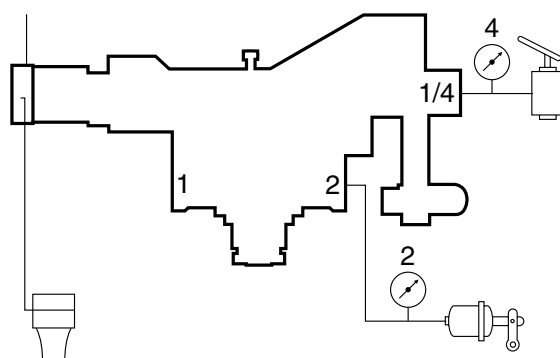


DAF

P14= 6.0 bar L = 200mm
P1 = >6.5 bar F = 81mm

ABRA072

R6 00 549



R600562

EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

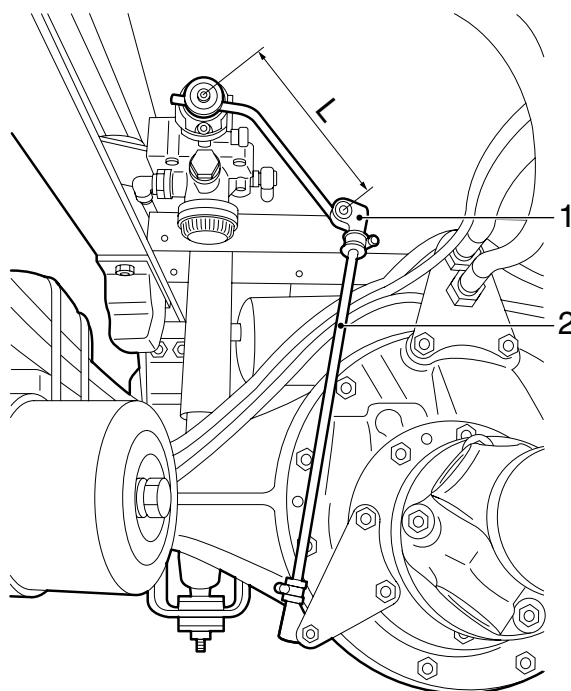
Inspection and adjustment

LF45/55 series

10. If necessary, correct the brake pressure by adjusting the length of the vertical connecting rod (2). Never attempt to alter the length L of the (horizontal) control lever.
11. Remove the ball coupling (1) and raise the control lever. Check that the output pressure is now allowed through (almost) without reduction.

Note:

The small socket head screw in the centre of the valve must not be adjusted.



R6 00 568

3.27 CHECKING THE DIFFERENTIAL FOR LEAKS

1. Visually inspect the differential for leaks.

3.28 CHECKING THE OPERATION OF THE 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 indicator should now be active.
4. Check that there is a "rigid" connection between the driven wheels.
5. Disengage the differential lock. The warning light should now go out and the "rigid" connection between the driven wheels should be broken.

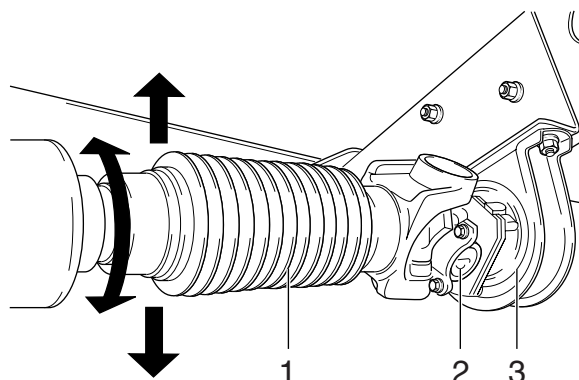
EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Inspection and adjustment

LF45/55 series

3.29 CHECK THE DRIVE SHAFT PLAY

1. Check the universal joints (2) and suspension bearing (3) for play and damage.
2. Check the sliding joint for axial and radial play. The rubber dust cover (1) over the sliding joint should be undamaged.
3. There must be no clearly perceptible play on the universal joints, suspension bearing and the sliding joint.



V3 00 379

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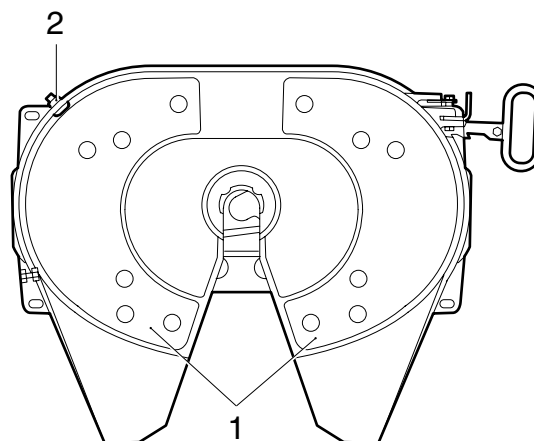
3.30 INSPECTING THE FIFTH WHEEL

1. Check the attachment of the fifth wheel.
2. Check the play of the closing gear of the fifth wheel.

Note:

For maximum play values, consult the manufacturer's instructions or the legal requirements.

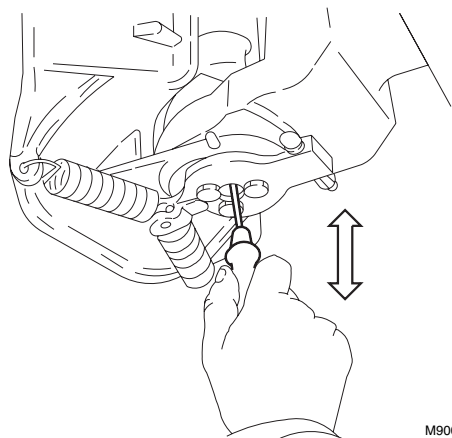
3. In the case of fifth wheels with a plastic sliding plate (1), check for wear. The plastic sliding plate (1) must not lie flush with the top of the attachment bolts.



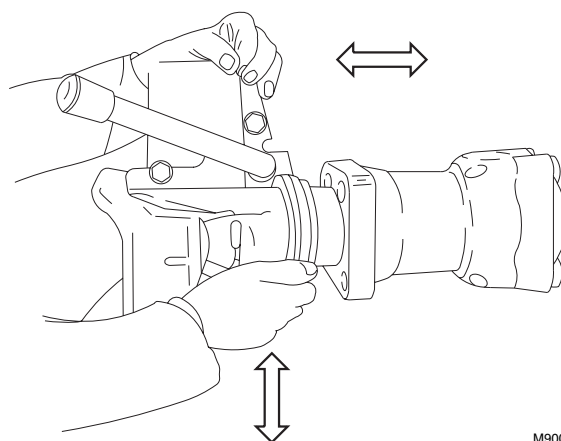
V300372

3.31 CHECKING THE TRAILER COUPLING

1. Check the vertical play of the arched pin.
2. Check the radial play of the arched pin.



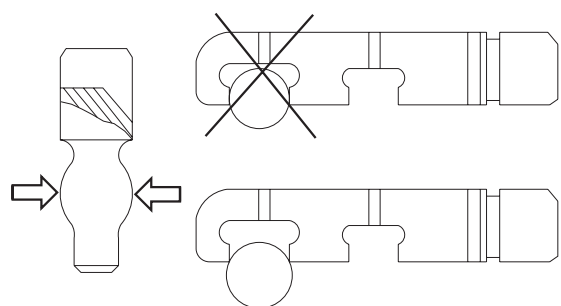
3. Check the vertical and horizontal play of the coupling jaw.



4. Check the diameter of the arched pin.
5. Check the attachment of the trailer coupling and the rear cross member.

Note:

For maximum play values, consult the manufacturer's instructions or the specified legal requirements.



EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Inspection and adjustment

LF45/55 series

3.32 CHECK THE SUPERSTRUCTURE ATTACHMENT

1. Check that all attachment bolts are in place.
2. Visually check the attachment of the superstructure for faults. See the DAF superstructure instructions.

3.33 CHECK THE CLUTCH FLUID LEVEL



Hydraulic fluid is toxic and can therefore have a damaging effect on your health.

Hence avoid any direct or indirect physical contact.

In the event of contact with the skin: remove the liquid with paper or a cloth, wash with soap and water. If irritation persists, consult a doctor. If swallowed: DO NOT induce vomiting. Rinse mouth, drink two glasses of water and consult a doctor.

In the event of inhalation: get fresh air and rest.

As hydraulic fluid is also a corrosive fluid, it may damage the paintwork of the vehicle. Avoid any contact between hydraulic fluid and paintwork.

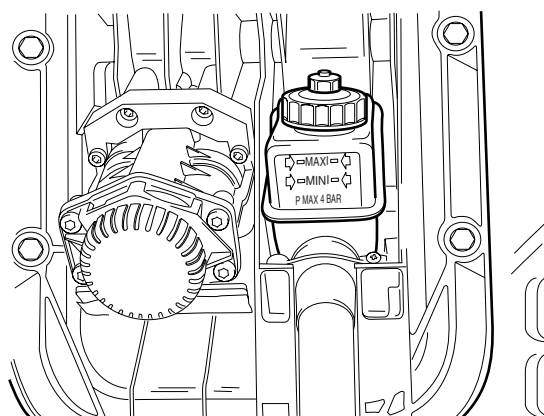
Always use new and clean hydraulic fluid which has been kept in a sealed container and meets the specifications.

Hydraulic fluid which has absorbed water (from the ambient air) may have an adverse effect on the operation of the clutch system.

Avoid any contact with mineral oil.

Even one drop of mineral oil in the system will damage the seals.

1. Check whether the fluid level is between the min and max marks when the cab is in the driving position.



GO 00 213

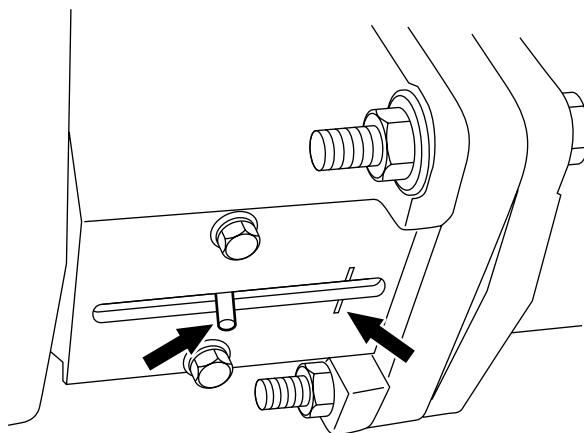
EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Inspection and adjustment

LF45/55 series

3.34 CHECK THE CLUTCH WEAR INDICATOR

1. Check that the wear indicator on the clutch servo has not gone past the mark on the clutch servo plate.
2. If the wear indicator is at the mark on the clutch servo, replace the clutch plate.



V3 00 374

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3.35 CHECKING THE GEARBOX FOR LEAKS

1. Visually check the gearbox for leaks.

3.36 CHECKING AUTOMATIC GEARBOX OIL LEVEL

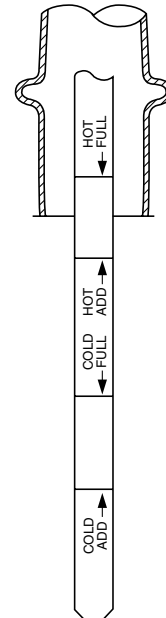
Checking cold oil level

1. Place the vehicle on a flat and level surface.
2. Make sure that the gearbox is in neutral and allow the engine to run for several minutes.
3. Apply the service brake, switch the gearbox to **D**, then to **N** and finally switch the gearbox to **R**. The purpose of this is to fill the hydraulic system.
4. Switch the gearbox to the parking position and release the service brake.
5. Remove the dipstick when the engine is idling and wipe it clean with a lint-free cloth.

Note:

To take the dipstick out of the holder, the sealing cap must be held while the dipstick is turned anti-clockwise.

6. Put the dipstick back.
7. Remove the dipstick and check the oil level. The oil level should be between the "Cold add" and "Cold full" marks.
8. Clean the dipstick with a lint-free cloth and put it back.
9. Remove the dipstick and check the oil level again.
10. Oil needs to be added when the oil level is below the "Cold add" mark.
11. Check the oil level in the gearbox at operating temperature.



W 3 03 099

EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Inspection and adjustment

LF45/55 series

Checking hot oil level

1. Bring the gearbox up to operating temperature (approx. 71°C - 93°C).
2. Remove the dipstick when the engine is idling and wipe it clean with a lint-free cloth.

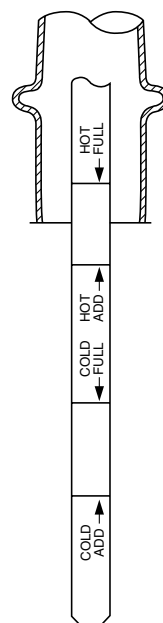
Note:

To take the dipstick out of the holder, the sealing cap must be held while the dipstick is turned anti-clockwise.

3. Put the dipstick back.
4. Remove the dipstick and check the oil level.
5. The oil level should be between the "Hot add" and "Hot full" marks.
6. Clean the dipstick with a lint-free cloth and put it back.
7. Remove the dipstick and check the oil level again.
8. Oil needs to be added when the oil level is below the "Hot add" mark.
9. Oil needs to be drained when the oil level is above the "Hot full" mark.

Note:

The oil level must be checked at least twice. When there are differences between the measurements, check the bleeder for clogging.



W 3 03 099

3.37 INSPECTION OF OIL LUBRICATED WHEEL HUBS FOR LEAKS

1. Check the wheel hubs for leaks.

Note:

If leaks occur in the oil lubricated wheel hubs, the wheel hub should be refilled to the correct level - once the leak has been repaired, see chapter: "Draining and filling".

3.38 CHECKING GREASED WHEEL HUBS FOR LEAKS

1. Check the wheel hubs for leaks.

Note:

For maintenance-free wheel hubs:

If there are serious grease marks on the brake disc side of the wheel hub, this could indicate excessive use of assembly grease on new or recently assembled wheel hubs. On wheel hubs that were not assembled recently, serious grease marks could indicate a leak in the seal.

Checking greased wheel hubs for leaks, 1132 axle

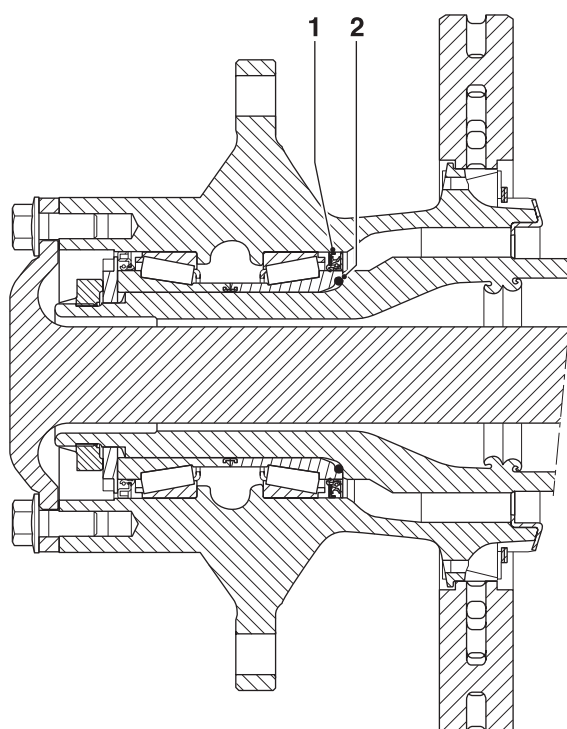
1. Check the wheel hubs for leaks.

Note:

If there are serious grease marks on the brake disc side of the wheel hub, this could indicate excessive use of assembly grease on new or recently assembled wheel hubs. On wheel hubs that have not been assembled recently, serious grease marks could indicate a leak in the seal (1). This means that the entire hub unit must be replaced.

Serious oil leakage on the driven rear axle hubs could indicate that the O-ring (2) is not sealing correctly.

If there is an oil leak the hub unit should be dismantled to remedy the problem.



G0 00 271

3.39 CHECKING THE SHOCK ABSORBERS FOR ATTACHMENT AND LEAKS

1. Visually inspect the attachment of the shock absorbers and for any leaks.

3.40 CHECKING THE CONDITION AND ATTACHMENTS OF SPRING LEAVES, SPRING CLAMPS AND U-BOLTS

Checking U-bolts

1. Visually inspect the condition and attachment of the U-bolts.
2. When retightening the U-bolt nuts, the attachment nut **must not be slackened first** and then tightened to the specified torque; see "Technical data".

EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Inspection and adjustment

LF45/55 series

3.41 CHECKING THE HINGE POINTS AND AXLE SUSPENSION FASTENING (AIR SUSPENSION)

Torque rod

1. Check the attachment of the torque rod and torque rod supports.
2. Check the pivots of the torque rod for wear and play.

Stabiliser bar

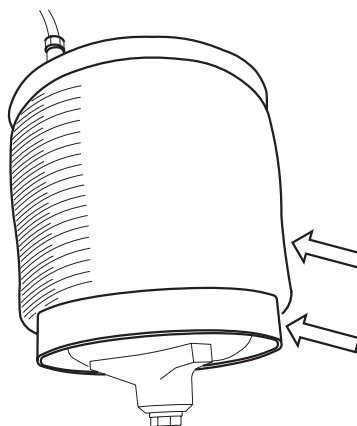
1. Check the attachment of the stabiliser bar and stabiliser bar support.
2. Check the pivots of the stabiliser bar for wear and play.

Ball joints three-point fixation

1. Check the attachment of the ball joints and three-point fixation support.
2. Check the ball joint housing for surface cracks.
3. Check the dust cover for damage.

3.42 CHECKING THE AIR SUSPENSION BELLOWS

1. Raise the chassis to driving height using the remote control.
2. Clean the air bellows using a cleaning cloth or a soap solution, if required.
3. Check the air bellows for cracks and damage. If there are any cracks or damage through which the webbing is visible, the air bellows should be replaced.
4. Check the air bellows, bellows seating and air line connections for leaks. Check that the air bellows are not chafing against air lines, etc. when in the driving position.



M9040

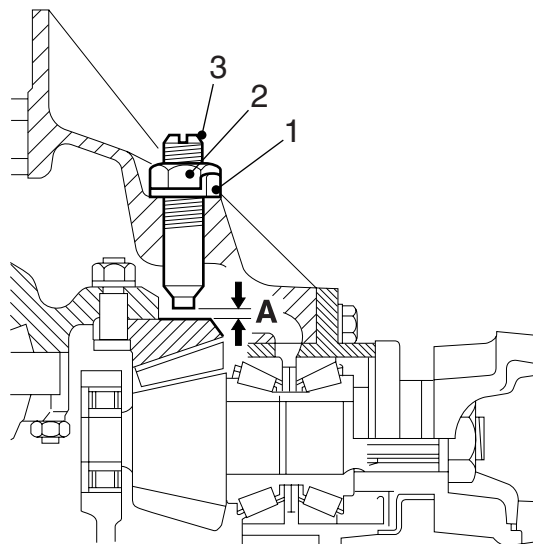
EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Inspection and adjustment

LF45/55 series

3.43 ADJUSTING THE CROWN WHEEL GUIDE BOLT

1. Place chocks in front of the wheels and put the vehicle on the parking brake.
2. Loosen the circlip (1) and slacken the lock nut (2) a few turns.
3. Remove the adjusting screw (3) from the differential.
4. Remove the circlip (1).
5. Remove the traces of sealant from the adjusting screw and apply new sealant to the last 4 windings of the thread, see "Technical data".
6. Fit the adjusting screw with a new circlip and turn the screw against the crown wheel.
7. Turn back the adjusting screw 1/8 of a turn to obtain the required play A.
8. Tighten the attachment nut to the specified torque. See "Technical data".
9. Secure the lock nut by bending the circlip lips.



A8 00 489

Note:

Make sure that the adjusting screw does not turn when the lock nut is tightened.

3.44 INSPECTING THE REAR AXLE WHEEL BEARING PLAY

Inspecting the rear axle wheel bearing play

1. Jack up the rear axle until the wheels are clear from the floor and position suitable stands under the axle.
2. Check the wheel bearings manually for noticeable play.

Note:

If noticeable play is detected, the wheel bearing play should be re-adjusted.

EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Inspection and adjustment

LF45/55 series

3.45 CHECKING THE CLAMP OF THE DRIVE SHAFT UNIVERSAL JOINT

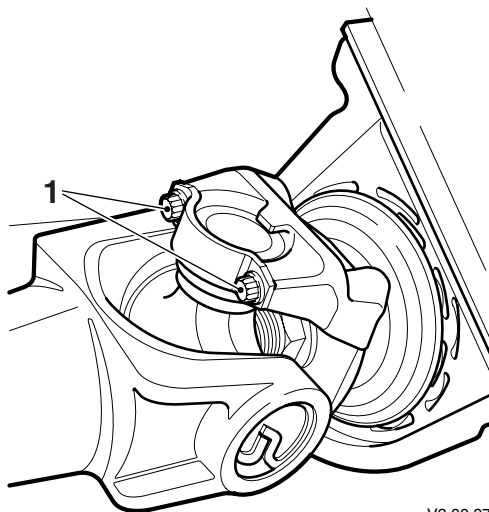
1. Retighten the attachment bolts (1) of the clamps to the specified tightening torque, see "Technical data".

Note:

The attachment bolts must not turn when they are retightened.

Attachment bolts that turn when they are retightened must be loosened and checked.

2. Tighten the loosened attachment bolts to the specified torque. See "Technical data".



V3 00 377

4. REMOVAL AND INSTALLATION

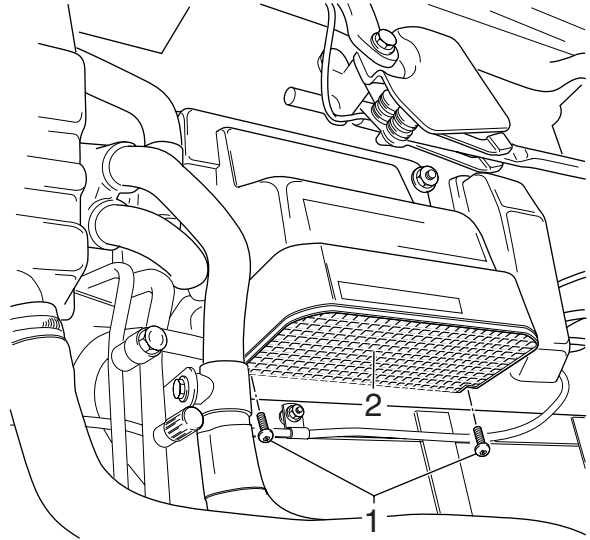
4.1 REMOVAL AND INSTALLATION, INTERIOR FILTER ELEMENT

Removing the interior filter element

1. Open the grille.
2. Remove the attachment bolts (1) from the grate (2) on the underside of the filter casing.
3. Open the grate and remove the interior filter element.

Installing the interior filter element

1. Install the interior filter element. Close the grate (2) and fit the attachment bolts (1).
2. Close the grille.



K1 01 147

EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Removal and installation

LF45/55 series

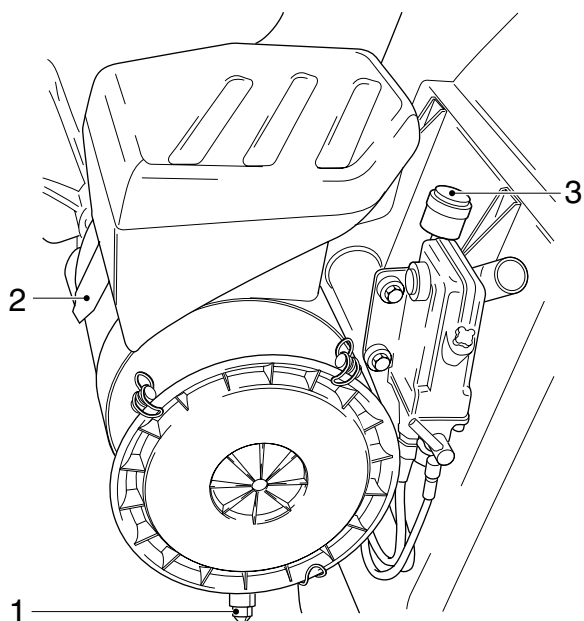
4.2 REMOVAL AND INSTALLATION, AIR FILTER ELEMENT

Removing the air filter element

1. Loosen all clamping brackets on the air filter cover.
2. Remove the air filter cover.
3. Remove the air filter element.
4. Clean the inside of the air filter housing and the air filter cover.
5. Clean the rubber sealing valves (1 and 2) on the filter housing. Check the sealing valve for damage.

Installing the air filter element

1. Fit the air filter element in the air filter housing.
2. Fit the air filter cover.
3. Install all the clamping brackets.
4. Reset the air filter indicator (3) by pressing the knob on the indicator.



I4 00 535

4.3 REMOVAL AND INSTALLATION, LUBRICATING OIL FILTER



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



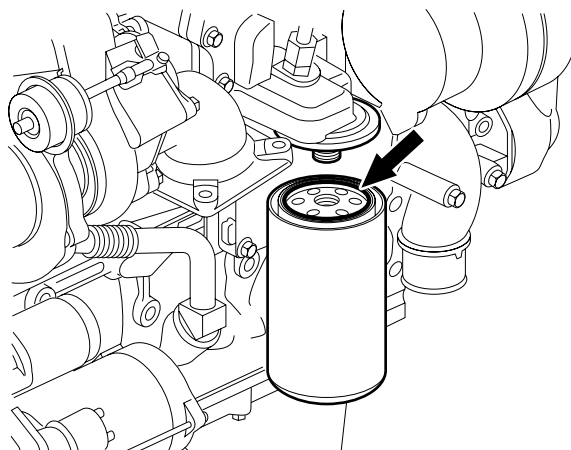
Be careful when changing the oil. Hot oil may cause serious injuries.

Removing the lubricating oil filter

1. Place a tray beneath the lubricating oil filter.
2. Clean the area surrounding the filter element if this is very dirty.
3. Remove the filter element by turning it anti-clockwise. Collect the oil that comes out.
4. Remove the O-ring if it has not been removed already.

Installing the lubricating oil filter

1. Lightly oil the filter element sealing ring.
2. Fill the filter element with clean oil. Use the specified oil.
3. Fit the filter element onto the housing. Tighten the filter element until the sealing ring abuts. Tighten the filter element a further $\frac{3}{4}$ to 1 turn by hand.
4. Run the engine for a short time and check that the lubricating oil filter is correctly sealed.
5. Check the oil level and correct if necessary. Use the specified oil.



GO 00 207

4.4 REMOVAL AND INSTALLATION, FUEL FINE FILTER



When removing the fuel fine filter, a quantity of fuel will escape. Collect the fuel and avoid the risk of fire.

Removing the fuel fine filter

1. Place a container beneath the fuel fine filter and remove the filter.

Note:

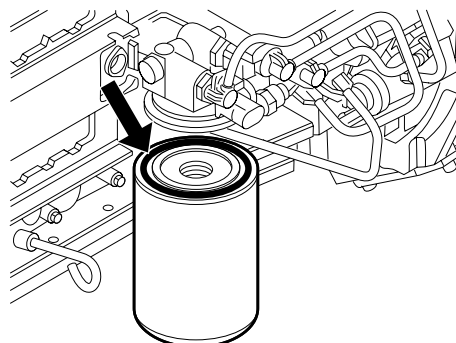
The fuel fine filter is a disposable filter and must therefore not be cleaned and re-used.

Installing the fuel fine filter

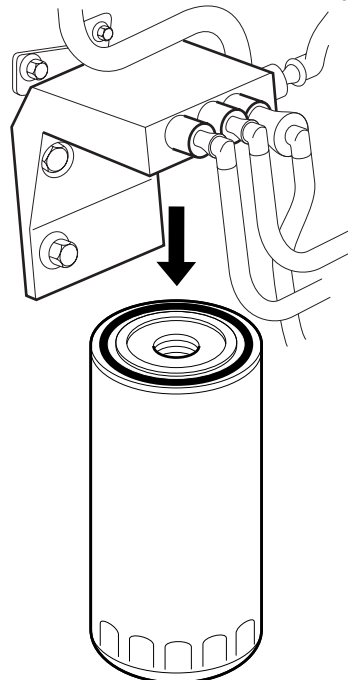
Note:

Do not fill the fine filter with fuel until it has been fitted. The fine filter is filled with fuel by the primer pump after it has been fitted. This considerably reduces the risk of dirt getting into the fuel system.

1. Check by hand whether the coupling piece for the filter attachment is securely attached.
2. Lightly lubricate the filter sealing ring with clean engine oil.
3. Fit the filter element onto the housing. Tighten the filter element until the sealing ring abuts. Tighten the filter element a further $\frac{1}{2}$ to $\frac{3}{4}$ turn by hand.
4. Bleed the fuel system. See "Inspection and adjustment".
5. Start the engine and check the fuel system for leaks. If necessary, retighten the filter by hand.



GO 00 201



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4.5 REMOVAL AND INSTALLATION, FUEL PREFILTER/WATER SEPARATOR



When removing the fuel prefilter/water separator, a quantity of fuel will escape. Collect the fuel and avoid the risk of fire.

Removing the fuel prefilter/water separator filter element

1. Place a container under the filter.
2. Remove the plug (3) from the water sensor (2).
3. Remove the fuel prefilter/water separator filter element (1) by turning it anti-clockwise.
4. Remove the water sensor (2) from the filter element (1).

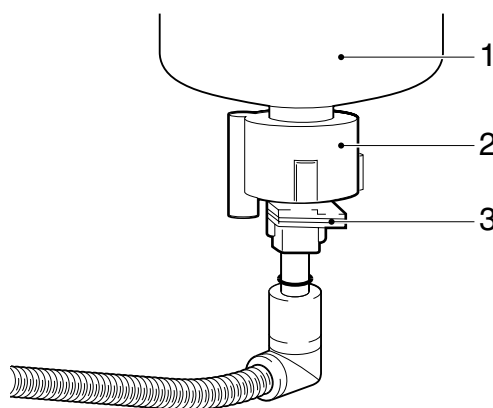
Installing the fuel prefilter/water separator filter element

1. Check by hand whether the coupling piece for the filter attachment is securely attached.
2. Lightly lubricate the sealing ring with engine oil.
3. Fit the fuel prefilter/water separator filter element (1) until the sealing ring abuts. Tighten the filter element a further $\frac{1}{2}$ to $\frac{3}{4}$ turn by hand.
4. Turn the water sensor (2) onto the filter element until it abuts. Tighten the water sensor by about a further $\frac{1}{8}$ - $\frac{1}{4}$ turn.

Note:

Over-tightening the water sensor (2) may damage the sensor and/or cause leakage.

5. Fit the plug (3) on the water sensor (2).
6. Bleed the fuel system. See "Inspection and adjustment".
7. Start the engine and check for leaks. If necessary, retighten the fuel prefilter/water separator filter element (1) by hand.



GO 00 220

4.6 REMOVAL AND INSTALLATION, VALVE COVER



When the engine or parts of the engine are opened, dirt can get in. This may cause serious damage to the engine. The engine should therefore be cleaned thoroughly before any parts are opened.

Removing the valve cover

1. Clean the area around the valve cover.
2. Remove the banjo bolt and the attachment of the plastic crankcase breather tube.
3. Remove the valve cover attachment nuts.
4. Remove the valve cover.

Installing the valve cover

1. Clean the sealing surface of the valve sleeve and the valve cover.
2. Check the valve cover gasket. If the valve cover gasket is not damaged, it may be re-used.
3. Fit the valve cover gasket to the valve cover.
4. Fit the valve cover.
5. Fit the valve cover attachment nuts and tighten them to the specified torque; see "Technical data".
6. Fit the plastic crankcase breather tube and the banjo bolt to the valve cover.

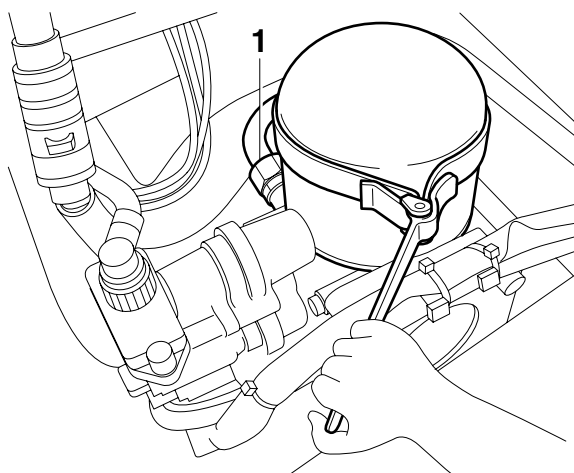
4.7 REMOVAL AND INSTALLATION, AIR DRYER FILTER ELEMENT

Note:

To be certain that the air dryer is functioning properly, the air reservoirs should regularly be checked for condensation. If more than the normal amount of water is drained off repeatedly, the air dryer element must be replaced. Under normal circumstances the element must be replaced at least once per year.

Removing air dryer filter element

1. Vent the air dryer by allowing it to regenerate or by loosening the compressor line (1), so that the interior of the air dryer is depressurised.
2. Remove the filter element by turning it anti-clockwise using a filter strap spanner.
3. Dispose of the drying element as if it were an oil filter.
4. Clean the air dryer internally.

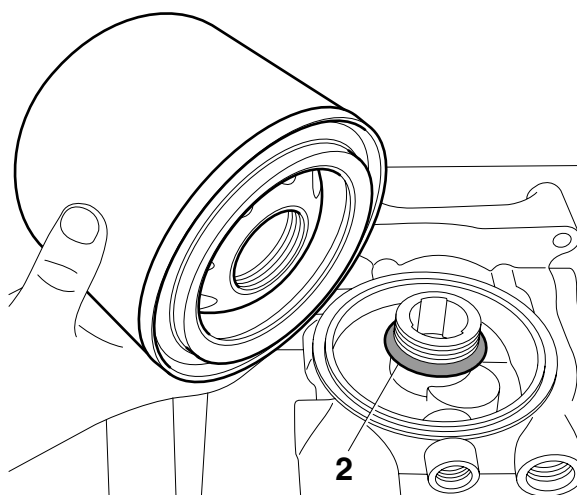


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5. Check the air dryer threaded connection (2) for damage and then lubricate it sparingly with grease.

Installing the air dryer filter element

1. Lubricate the sealing ring of the new filter element sparingly with grease.
2. Fit the filter element by manually tightening it until the sealing ring abuts. Then tighten the element by hand (approx. 1 turn).
3. Fasten the compressor line (1).
4. Pressurise the system and then check the air dryer for any air leaks.



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EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Removal and installation

LF45/55 series

- 5. Using a water-resistant felt pen, write on the sticker the latest date by which the dryer element must be replaced (not later than 1 year after the date of fitting).

Artikelnummer
Reference
Teilenummer
Référence

1391510

Eerstvolgende vervanging
Next change
Nächster Wechsel
Prochain remplacement

DAF

R600523

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4.8 REMOVAL AND INSTALLATION, FILTER ELEMENT IN THE RESERVOIR OF THE RAS-EC STEERING GEAR

Removing the filter element

1. Clean the reservoir cover, so that absolutely no dirt can get into the reservoir.
2. Remove the cover (3).
3. Rotate the filter holder (5) a quarter turn and slowly take the filter holder together with the filter element (6) out of the reservoir.

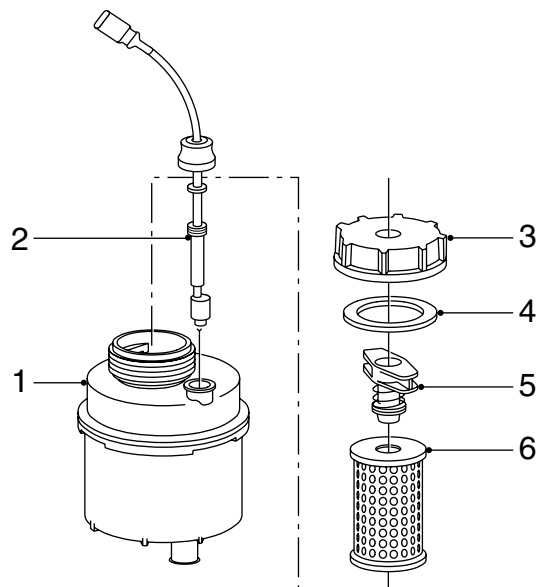
Note:

The filter holder and filter element must be removed from the reservoir with care so that no dirt remains in the reservoir.

4. Remove the filter element (6) from the filter holder (5).

Installing the filter element

1. Fit a new filter element (6) in the filter holder (5).
2. Fit the filter holder (5) together with the filter element (6) in the reservoir (1) and rotate the filter holder (5) a quarter turn. Make sure that the filter holder (5) engages in its locking element.
3. Check the sealing ring (4) for damage and replace if necessary.
4. Fit the cover (3).
5. Check the fluid level.



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EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Removal and installation

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4.9 REMOVAL AND INSTALLATION, HIGH-PRESSURE FILTER OF THE RAS-EC STEERING GEAR



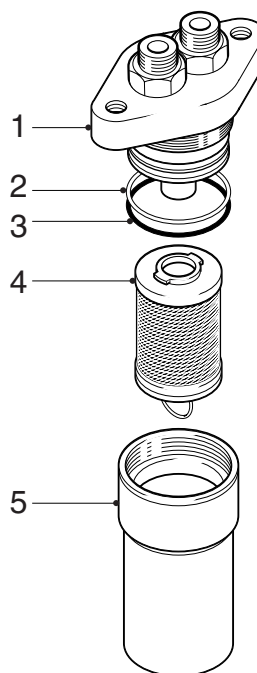
Drained steering oil must not be re-used. Store this hydraulic oil separately from the other drained oils and have the oil collected by a waste-removal company authorised to do so.

Removing the high-pressure filter

1. Clean the high-pressure filter and the surrounding area.
2. Place a suitable receptacle under the high-pressure filter and remove the filter cap (5).
3. Remove the filter element (4).
4. Clean the filter cap (5).

Installing the high-pressure filter

1. Check the sealing rings (2) and (3) and replace them if necessary.
2. Fit a new filter element (4) in the filter holder (1).
3. Fit the filter cap (5). Tighten the filter cap to the specified tightening torque, see "Technical data".
4. Top up the system, see chapter "Draining and filling".
5. Check the operation of the system.
6. Check the high-pressure filter for leakage.

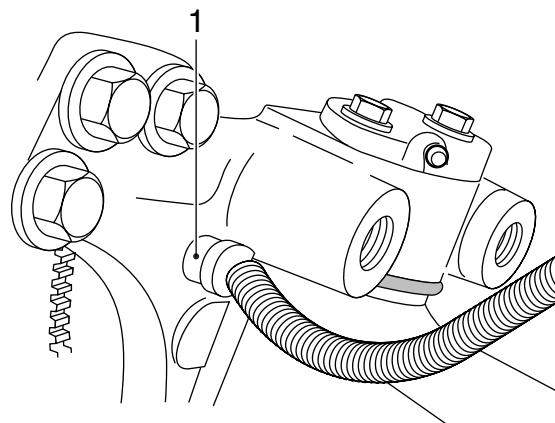


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4.10 REMOVAL AND INSTALLATION, F36/F48 FRONT AXLE WHEEL HUB

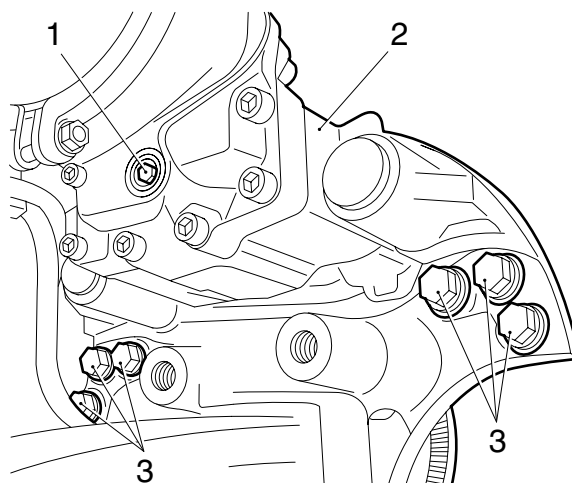
Removing the hub

1. Support the front axle in a safe manner.
2. Remove the wheel.
3. Remove the wheel speed sensor (1).



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4. Remove the cap placed over the adjusting bolt (1). Reset the brake pads by unscrewing the adjusting bolt (1) clockwise as far as it will go.
5. Remove the attachment bolts (3) from the brake calliper (2). Remove the brake calliper (2) with attached pipes from the stub axle. Put the brake calliper (2) aside.



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EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

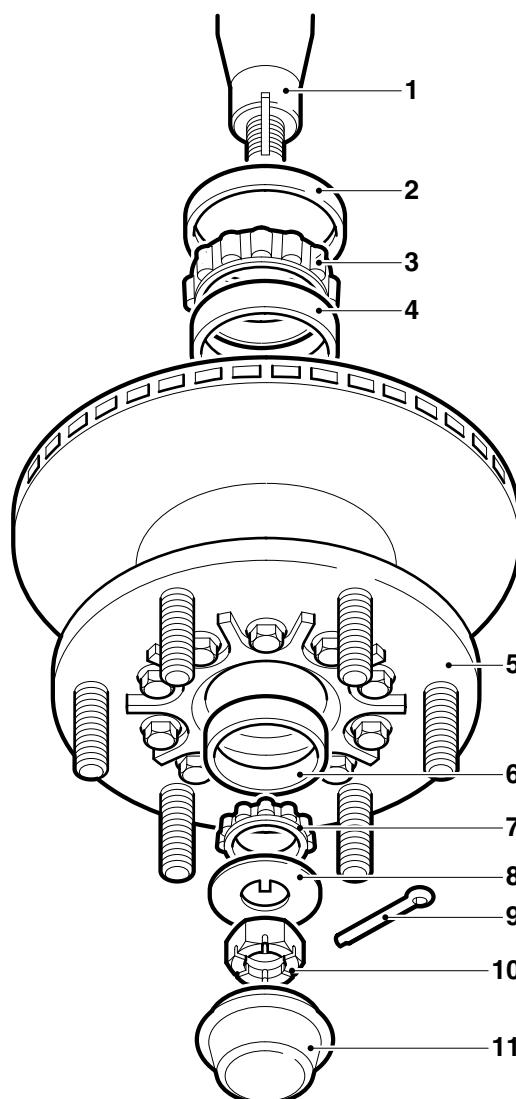
Removal and installation

LF45/55 series

6. Remove the hub cap (11).
7. Remove the lock nut (10).
8. Remove the hub (5) from the axle journal (1).
Save the circlip (8) and the bearing cage (7).
9. Remove the seal (2) from the hub (5).
10. Take the bearing cage (3) out of the hub (5).

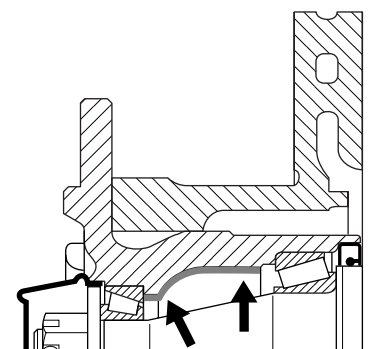
Installing the hub

1. Clean the axle journal (1) and check for damage.
2. Clean the bearing cages (3) and (7).
3. Remove the grease from the hub (5) and clean the ball races (4) and (6).
4. Check the bearing cages (3) and (7) and the ball races (4) and (6) for wear and damage.
If necessary, fit new wheel bearings.
5. Apply an ample quantity of the specified grease to the bearing cages (3) and (7).
6. Fit the bearing cage (3) into the hub (5).



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7. Apply a layer of grease (approx. 6 mm thick) to the hub cavity.



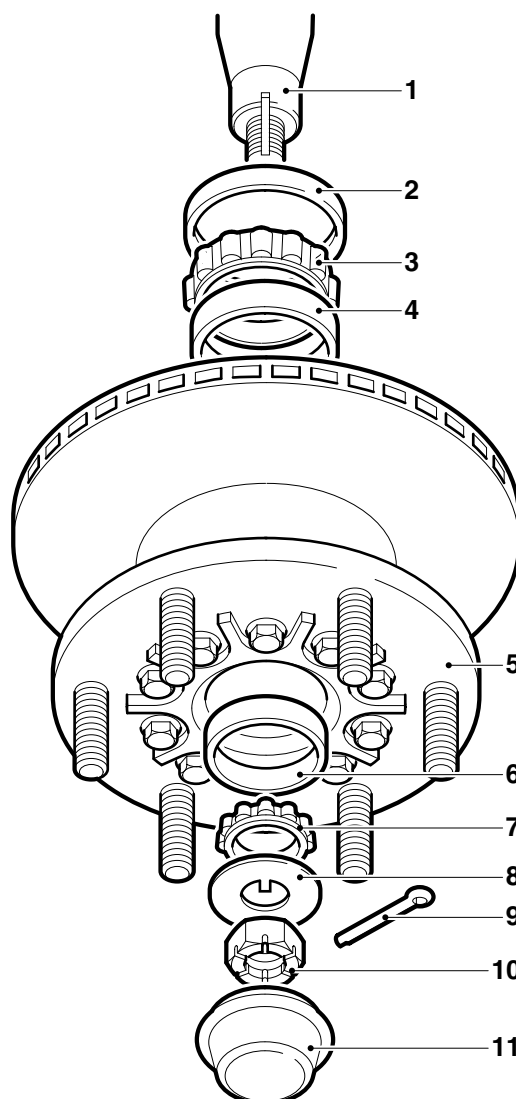
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EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

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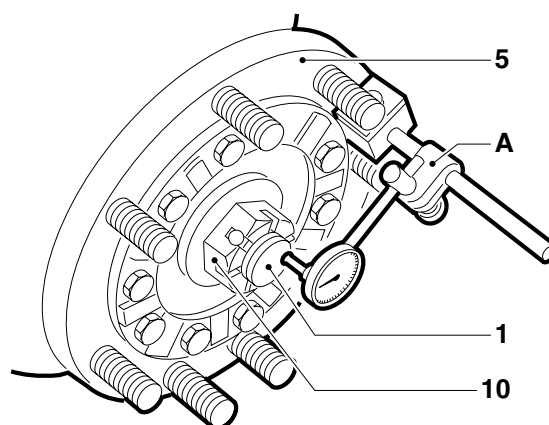
Removal and installation

8. Fit a new seal (2) in the hub (5).
9. Fit the hub (5) to the axle journal (1).
10. Fit the bearing cage (7).
11. Apply the specified grease to the front of the bearing cage (7).
12. Install the circlip (8).
13. Fit the lock nut (10). Tighten the lock nut (10) to the specified torque. See "Technical data". Rotate the hub (1), while securing the lock nut (10), to allow the bearings to set.
14. Turn the lock nut (10) back through approximately 90°. It should be possible to fit the split pin (9).



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15. Place a micrometer (A) on the wheel hub (5). Allow the stylus to rest on the end of the axle journal (1).
16. Push and pull on the wheel hub (5). Check the wheel bearing play and compare this with the specified value. See "Technical data".
17. If necessary, correct the wheel bearing play by tightening or loosening the lock nut (10).
18. Fit a new split pin (9) in the lock nut (10).
19. Fit the hub cap (11). **Attention:** the hub cap must not be filled with grease.



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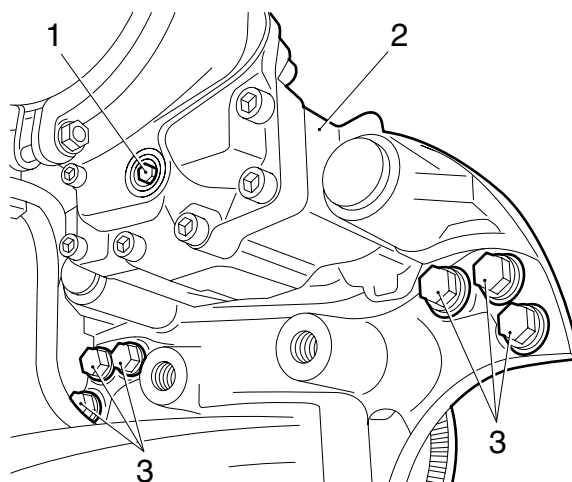
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EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

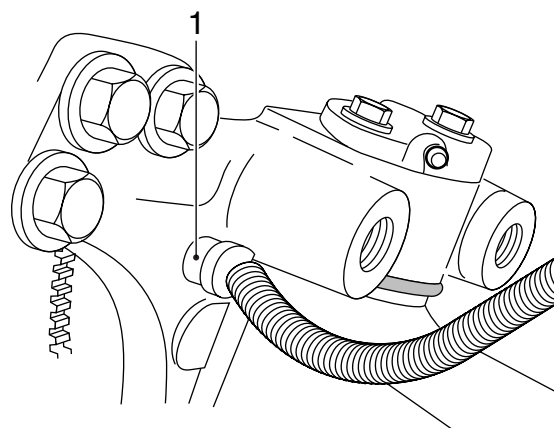
Removal and installation

LF45/55 series

20. Apply locking compound to the attachment bolts (3) of the brake calliper (2). See "Technical data".
21. Install the brake calliper (2). Tighten the attachment bolts (3) in the specified sequence to the specified torque. See "Technical data".
22. Set the brake pad clearance. To do this, turn the adjusting bolt (1) anti-clockwise until the brake pads abut the brake disc. Then turn the adjusting bolt (1) clockwise through 90°. Check that the brake disc runs freely.
23. Fit the cap on the adjusting bolt (1).
24. Install the wheel speed sensor (1) and press it against the sensor ring. The required clearance will be produced while on the move.
25. Fit the wheel.



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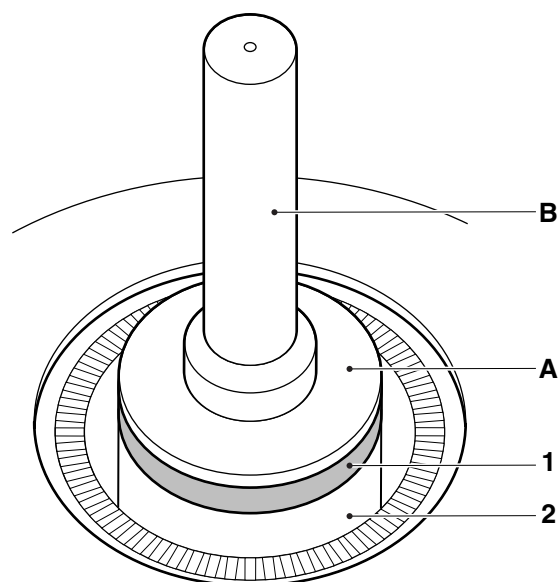
4.11 REMOVAL AND INSTALLATION, F36/F48 FRONT AXLE HUB SEAL

Removing the hub seal

1. Remove the seal from the hub using the special tool (DAF no. 1329458). Make sure that the chamber is not damaged during this.

Installing the hub seal

1. Fit special tool (A) (DAF no. 1329485) for the F36 front axle and (DAF no. 1329484) for the F48 front axle) in the driving tool (B) (DAF no. 0499809).
2. Using the special tool, fit the new seal (1) in the hub (2). The open side of the seal (1) must face the hub (2). Apply a little grease to the sealing lip of seal (1).



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EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Removal and installation

LF45/55 series

4.12 REMOVAL AND INSTALLATION, AUTOMATIC GEARBOX OIL FILTERS

Allison 1000 & 2000 series automatic gearbox



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

Removing the oil filters

1. Clean the oil filter (1) and filter (5), if present, as well as the surrounding area.
2. Loosen the oil filters on the gearbox and heat exchanger. Collect any oil that is flowing out.
3. Remove the magnetic rings (2) and (4) and check them for wear particles.

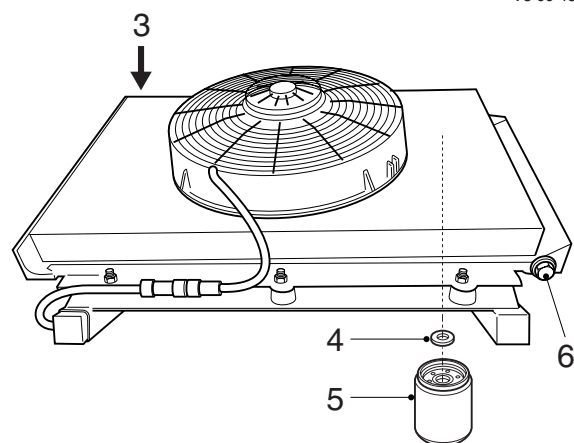
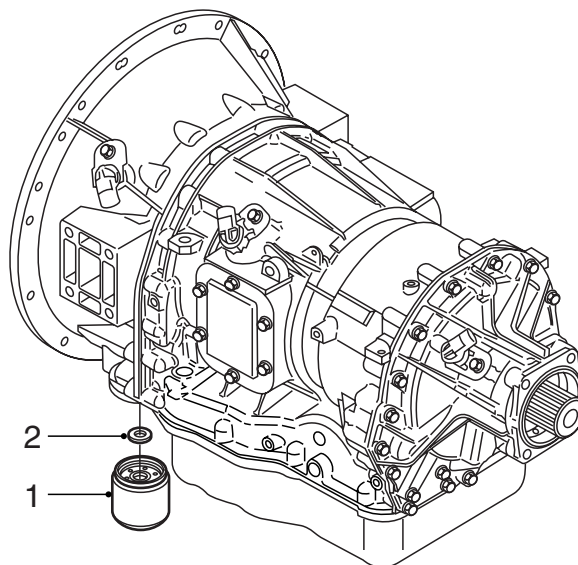
Note:

If there are larger wear particles in the wear swarf, this points to advanced wear in the gearbox. The cause must be tracked down.

4. Clean the magnetic rings and the contact surfaces on the gearbox housing and the heat exchanger.

Installing the oil filters

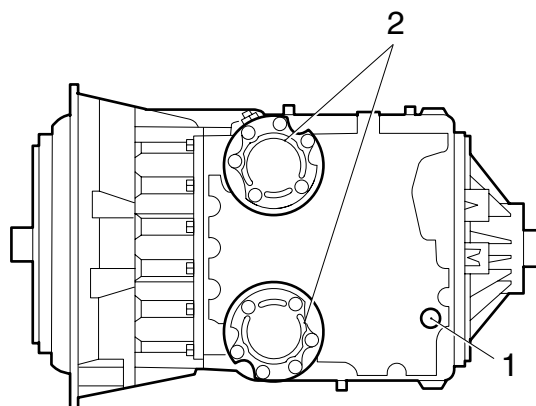
1. Fit the magnetic rings (2) and (4) on the gearbox housing and the heat exchanger.
2. Lightly lubricate the new oil filter (1) and filter (5), if present, with clean gearbox oil and place the oil filters on the gearbox and heat exchanger.
3. Tighten the oil filters until they touch the contact surface. Manually tighten the oil filters another 360°.
4. Check the oil level, see chapter "Inspection and adjustment".



Allison MD 3060 automatic gearbox

Removing the oil filters

1. Remove the attachment bolts from the filter covers (2) and remove the filter covers. Collect any oil that is flowing out.
2. Remove the oil filters from the oil sump.
3. Remove the various O-rings and the gasket from the filter covers.
4. Remove any traces of gasket from the filter covers and the contact surfaces.



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Installing the oil filters

1. Lightly lubricate the new O-rings with clean gearbox oil and fit the various O-rings to the filter covers.

Note:

Compare the new O-rings to the old O-rings to ensure that the correct O-rings are used.

2. Fit a new gasket to the filter covers.
3. Lightly lubricate the rubber inner ring of the oil filters with clean gearbox oil and fit the oil filters to the filter covers.
4. Fit the filter covers together with the oil filters to the gearbox and tighten the attachment bolts to the specified torque, see "Technical data".
5. Check the oil level, see chapter "Inspection and adjustment".

EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Removal and installation

LF45/55 series

5

5. DRAINING AND FILLING

5.1 TOPPING UP BATTERY FLUID



Avoid sparks and open flames in the vicinity of batteries. Battery acid is an aggressive fluid.

In the event of contact with the skin: rinse the skin with plenty of water for a sustained period. If redness or pain persists, consult a doctor. Remove any clothing affected and rinse with water.

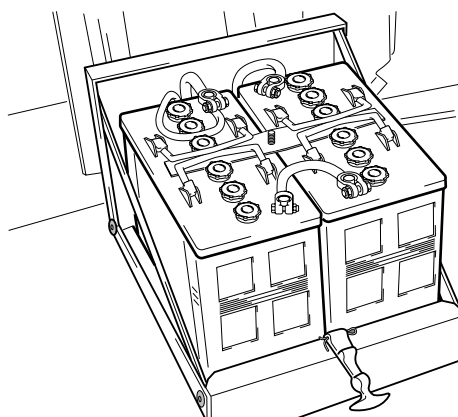
In the event of contact with the eyes: rinse with plenty of water for at least 15 minutes and consult a doctor.

If swallowed: do NOT induce vomiting. Rinse the mouth, drink two glasses of water and consult a doctor.

In the event of inhalation: get fresh air, rest and consult a doctor.

Topping up battery fluid

1. Clean the top of the battery. If the top of the battery has acid on it, it should be rinsed with water.
2. Remove the plugs and top up the batteries with distilled water to approximately 10 mm above the plates or up to the "max" indicator level.



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EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Draining and filling

LF45/55 series

5.2 DRAINING AND REPLENISHING THE ENGINE OIL



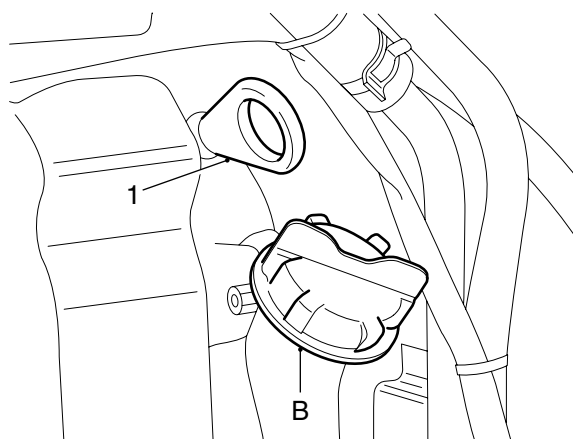
To prevent skin injury, avoid unnecessary contact with the drained oil.

Draining the engine oil

1. Ensure that the vehicle is standing on a flat and level surface.
2. Drain the engine oil at operating temperature using the drain plug in the oil sump.
3. Replace the drain plug sealing ring and tighten the drain plug to the specified torque; see "Technical data".

Replenishing the engine oil

1. Fill the engine through the oil filler pipe (B) with the specified quantity of engine oil; see "Technical data".
2. Check the engine oil level; see "Inspection and adjustment".



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5.3 DRAINING, FILLING AND BLEEDING THE COOLING SYSTEM



In order to avoid damaging the cylinder block, do not top up a warm engine with cold coolant. Coolant is a toxic fluid and must be handled with care. Protect skin and eyes. Coolant is harmful to the environment; after use, it should be processed as industrial chemical waste. When the coolant is hot, there is overpressure in the cooling system. When removing the filler cap, allow the overpressure to escape by first loosening the filler cap one turn.

Draining the cooling system

1. Turn the heater temperature control knob in the cab to the "warmest" setting.
2. Remove the cooling system filler cap.
3. Collect the coolant. Position suitable containers under the drain points.
4. Drain the cooling system at the radiator via the drain plug.
5. Flush the cooling system.
6. Close the drain plug.

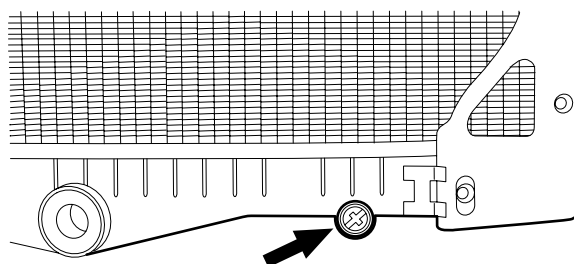
Filling and bleeding cooling system

1. Turn the heater temperature control knob in the cab to the "warmest" setting.
2. Fill the cooling system with the specified coolant.
3. Run the engine for several minutes.
4. The cooling system is auto-bleeding. Ensure that the air bleed pipe from the thermostat housing to the header tank is not twisted or pinched.

Note:

Make sure that air can escape when the cooling system is filled.

5. Check the coolant level, and top up with coolant if necessary.



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EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Draining and filling

LF45/55 series

If the vehicle is equipped with a water/air cab heater

1. Run the engine at idling speed.
2. Switch on the cab heater, using the rocker switch on the dashboard.
3. Turn the heater temperature control knob in the cab to the "warmest" setting.
4. Switch on the heater fan.
5. Set the rocker switch on the thermostat in the cab to position 1.

Note:

Combustion will start after approximately one minute.

6. Allow the cab heater to operate for approximately 15 minutes.

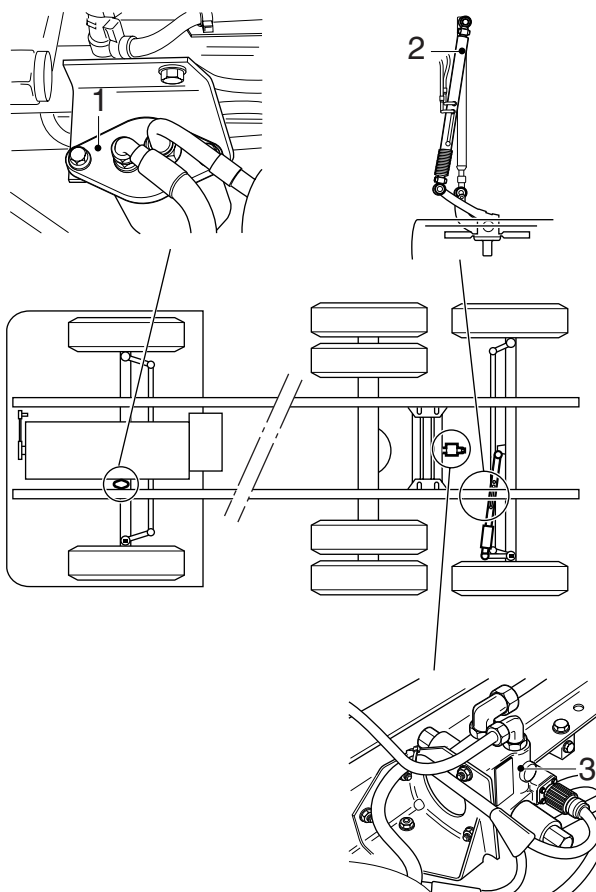
5.4 DRAINING AND FILLING, RAS-EC STEERING CIRCUIT



Drained steering oil must not be re-used. Store this hydraulic oil separately from the other drained oils and have the oil collected by a waste-removal company authorised to do so.

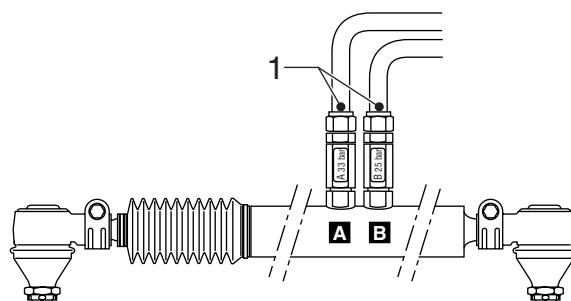
Draining the RAS-EC steering circuit

1. Jack up the trailing axle and support the axle on stands.
2. Place suitable catch pans under the high-pressure filter (1), the steering cylinder (2) and the valve block (3).
3. Clean the steering oil reservoir and the surrounding area.
4. Remove the filter element from the steering oil reservoir.
5. Clean the housing and the surrounding area of the high-pressure filter. Remove the high-pressure filter.



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6. Mark the position of the pipes on the damping valves (1) and remove the pipes from the damping valves.
7. Mark the position of the damping valves, if necessary, and remove the damping valves.
8. Slowly turn the trailing axle manually several times, until the steering oil gently comes out of the steering cylinder.
9. Check the sealing rings of the damping valves for damage and wear. Replace them if necessary.



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EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Draining and filling

LF45/55 series

10. Correctly position the damping valves on the steering cylinder.

Note:

The mixing up of damping valves must be avoided under all circumstances. The mixing up of damping valves has a negative impact on vehicle handling.

11. Fit the pipes to the damping valves according to the relevant marks.
12. Fit a new high-pressure filter, see chapter "Removal and installation".
13. Insert a new filter element in the steering oil reservoir, see chapter "Removal and installation".

Filling the RAS-EC steering circuit

1. Fill the steering oil reservoir with the specified steering oil.
2. Start the engine, run it at idling speed and continuously top up the steering oil reservoir.

Note:

The steering oil level should not drop below the minimum level. However, if the steering oil level is below the minimum level, it may well be that the steering pump draws in air only. This may cause additional foaming.

3. Bleed the RAS-EC steering circuit.

5.5 BLEEDING THE RAS-EC STEERING CIRCUIT

Bleeding the RAS-EC steering circuit

1. Gently turn the steering wheel in both directions, if the level in the reservoir hardly drops, if at all.

Note:

It is possible that the system fails at the slightest steering movement. The yellow warning will be displayed on the DIP and the trailing axle will no longer steer. In the case of a failure, switch the vehicle ignition off and on again.

Note:

The foam that develops during bleeding will have disappeared after the test drive.

2. Check the steering oil level and run the engine at idling speed for a couple of minutes.
3. Gently turn the steering wheel in both directions and check the oil level. Top up, if necessary.
4. Make a test run and check the steering oil level. Top up, if necessary.

EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Draining and filling

LF45/55 series

5.6 DRAINING AND FILLING, DIFFERENTIAL



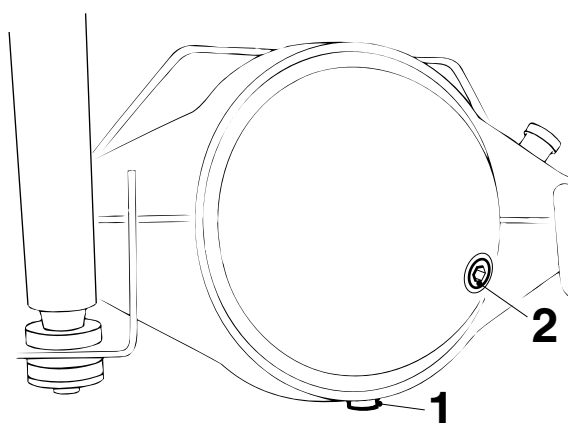
To prevent skin injury, avoid unnecessary contact with the drained oil.

Draining the differential

1. Position the vehicle on a level surface.
2. Place a suitable tray beneath the differential to collect the oil.
3. Remove the drain plug (1) and the level check/filler plug (2). Drain the oil.
4. Apply sealant to the thread of the drain plug (1). Fit the drain plug (1).

Filling the differential

1. Fill the differential gear via the level check/filler plug (2) with the specified, correct quantity of oil. See "Technical data".
2. Check the oil level after approx. 5 minutes; it should reach up to the level check/filler plug (2). If necessary, top up.
3. Apply sealant to the thread of the level check/filler plug (2). Fit the level check/filler plug (2).



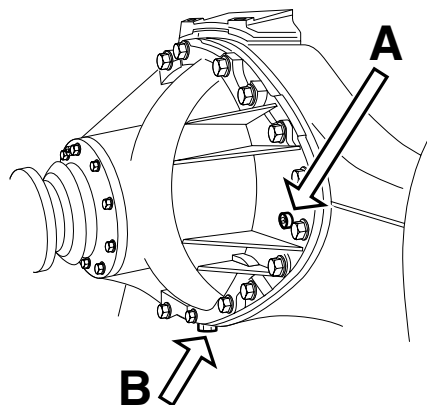
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Draining the 1132 axle differential

1. Position the vehicle on a level surface.
2. Remove the level check/filler plug (A) and drain plug (B). Drain the oil.
3. Fit the plug using the special Torx wrench (DAF no. 1329493) and tighten to the specified torque; see "Technical data".

Filling the 1132 axle differential

1. Fill the differential gear through the level check/filler plug (A) with the specified quantity of oil; see "Technical data".
2. Check the oil level after 5 minutes, it must reach the edge of the level check/filling opening.
3. Fit the level check/filler plug (A) using the special Torx wrench (DAF no. 1329493) and tighten to the specified torque; see "Technical data".



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5.7 DRAINING AND FILLING, WHEEL HUB



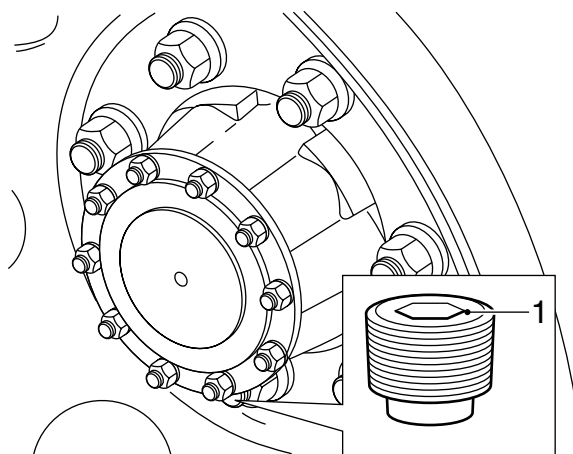
To prevent skin injury, avoid unnecessary contact with the drained oil.

Note:

The design of the hub and the location of the drain/filler plug may differ from the illustration, depending on the version.

Draining the wheel hub

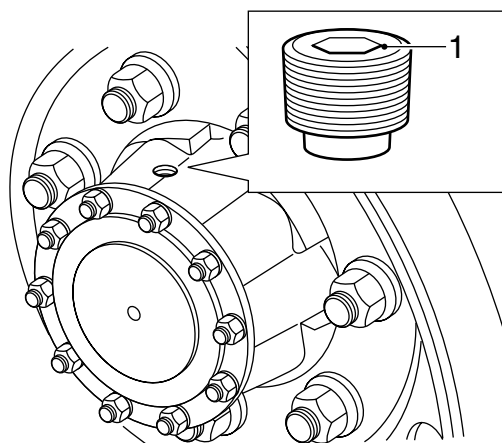
1. Position the vehicle on a level surface.
2. Position the wheels in such a way that the drain/filler plug (1) is on the underside.
3. Place a suitable tray under the hub to collect the oil. Remove the drain/filler plug (1).
4. Drain the oil and let the oil leak out of the hub.



A8 00 427

Filling the wheel hub

1. Position the wheels in such a way that the drain/filler plug (1) is on the top side.
2. Fill the wheel hub with the specified, correct quantity of oil, see "Technical data".
3. Apply sealant to the thread of the drain/filler plug (1). Fit the drain/filler plug (1) into the hub.



A8 00 428

EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Draining and filling

LF45/55 series

5.8 DRAINING AND FILLING, GEARBOX

ZF S5-42 gearbox



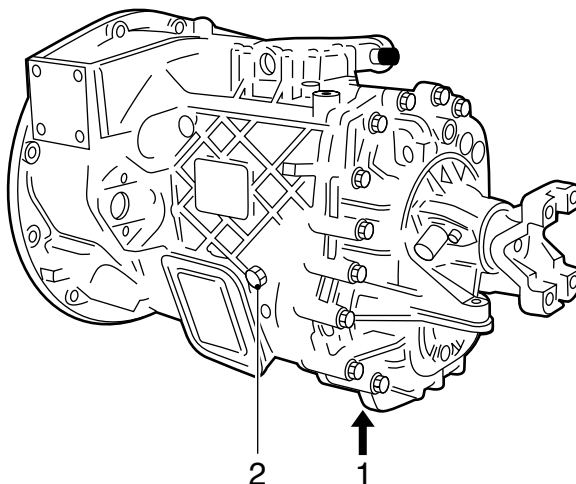
To prevent skin injury, avoid unnecessary contact with the drained oil.

Draining the gearbox

1. Place the vehicle on a flat and level surface.
2. Drain the gearbox at operating temperature.
3. Remove the drain plug (1) and the level check/filler plug (2) and drain the oil.

Filling the gearbox

1. Clean the drain plug (1) and fit it, tightening it to the specified torque. See "Technical data".
2. Fill the oil through level check/filler opening (2) until the oil reaches the rim of the filling opening.
3. Fit level check/filler plug (2), tightening it to the specified torque, see "Technical data".



V3 00 403

ZF 6S850 gearbox



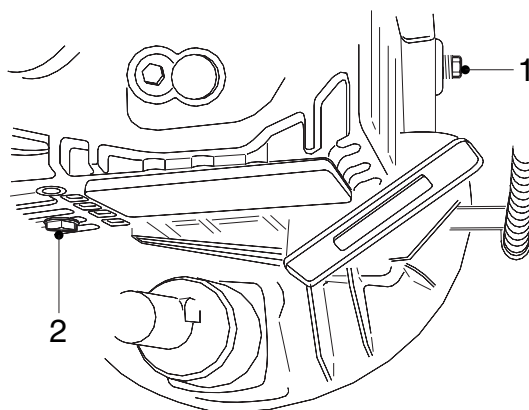
To prevent skin injury, avoid unnecessary contact with the drained oil.

Draining the gearbox

1. Place the vehicle on a flat and level surface.
2. Drain the gearbox at operating temperature.
3. Remove the drain plug (2) and the level check/filler plug (1) and drain the oil.

Filling the gearbox

1. Clean the drain plug (2) and fit it, tightening it to the specified torque. See "Technical data".
2. Fill the oil through level check/filler opening (1) until the oil reaches the rim of the filling opening.
3. Fit level check/filler plug (1), tightening it to the specified torque, see "Technical data".



V3 00 884

EATON 6309A gearbox



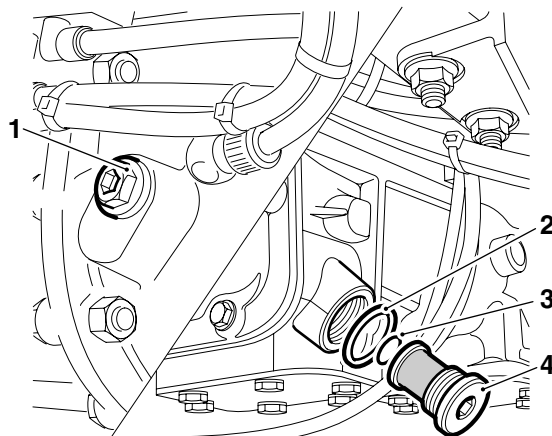
To prevent skin injury, avoid unnecessary contact with the drained oil.

Draining the gearbox

1. Place the vehicle on a flat and level surface.
2. Drain the gearbox at operating temperature.
3. Remove the oil strainer/drain plug (4) and the level check/filler plug (1) and drain the oil.
4. Clean the oil strainer (4) in a suitable solvent and dry the oil strainer (4) thoroughly.

Filling the gearbox

1. Check and replace the O-ring (3) and the sealing ring (2), if necessary.
2. Tighten the oil strainer/drain plug (4) to the specified tightening torque. See "Technical data".
3. Fill the oil through level check/filler opening (1) until the oil reaches the rim of the filling opening.
4. Fit level check/filler plug (1), tightening it to the specified torque, see "Technical data".



V3 00 376

EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Draining and filling

LF45/55 series

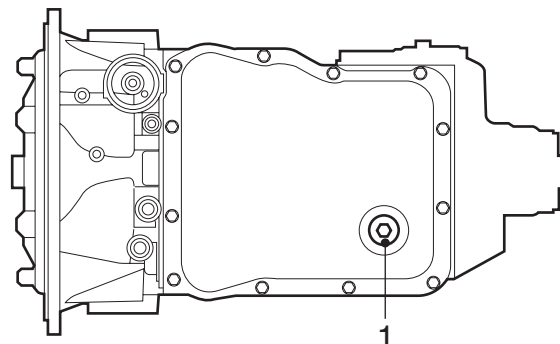
Allison 1000 & 2000 automatic gearboxes



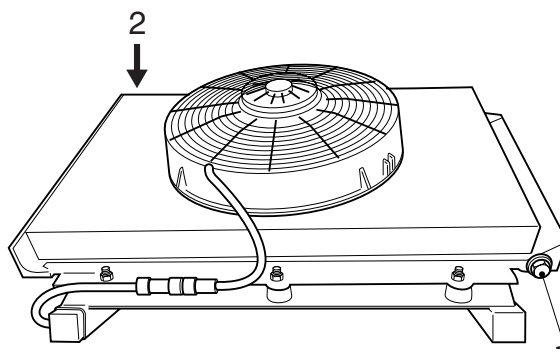
To prevent skin injury, avoid unnecessary contact with the drained oil.

Draining the gearbox

1. Place the vehicle on a level and horizontal surface.
2. Bring the gearbox to operating temperature (approx. 71°C - 93°C) to allow the oil to drain more quickly and more fully.
3. Remove the drain plug (1) from the gearbox oil sump.
4. Remove the drain plug (1) from the heat exchanger and loosen the bleed screw (2).
5. Remove the oil filters. See "Removal and installation".



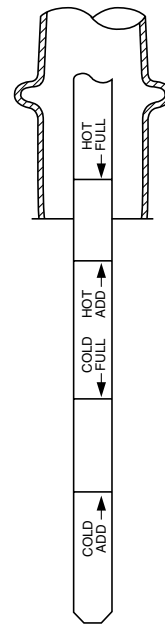
V3 00 885



V300912

Filling the gearbox

1. Clean the drain plugs, provide them with new sealing rings and fit them, tightening them to the specified torque, see "Technical data".
2. Fill the gearbox through the dipstick holder with the specified quantity of oil; see "Technical data".
3. Start the engine and run it at idling speed.
4. Tighten the bleed screw (2) to the specified torque, if only gearbox oil escapes. See "Technical data".
5. With the engine running at idling speed, top up gearbox oil until the oil level is between the "Cold add" and "Cold Full" marks.
6. Check the oil level. See "Inspection and adjustment".



W 3 03 099

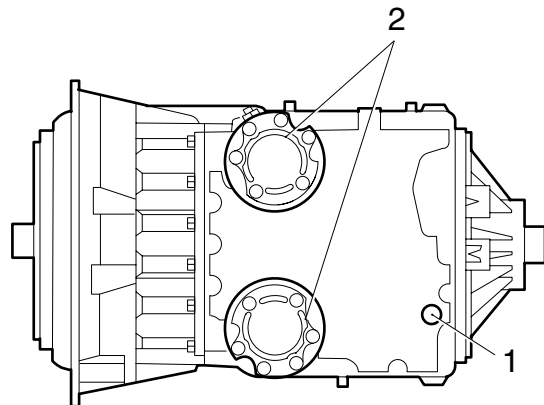
Allison MD3060 automatic gearbox



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

Draining the gearbox

1. Place the vehicle on a flat and level surface.
2. Bring the gearbox to operating temperature (approx. 71°C - 93°C) to allow the oil to drain more quickly and more fully.
3. Remove the drain plug (1) from the gearbox oil sump.
4. Remove the oil filters (2). See "Removal and installation".



V300371

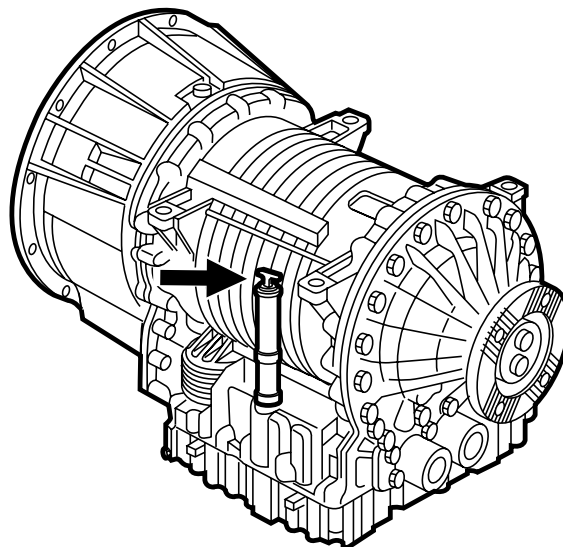
EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Draining and filling

LF45/55 series

Filling the gearbox

1. Clean the drain plug (1), fit a new sealing ring and tighten the plug to the specified torque; see "Technical data".
2. Fit the oil filters (2). See "Removal and installation".
3. Fill the gearbox through the dipstick holder with the specified quantity of oil; see "Technical data".



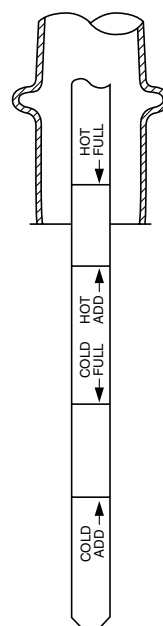
W 3 03 098

4. Check that the oil level reaches the "Cold full" mark.

Note:

To take the dipstick out of the holder, the sealing cap must be held while the dipstick is turned anti-clockwise.

5. Check the oil level using the selector keypad. See "Inspection and adjustment".



W 3 03 099

6. CLEANING

6.1 CLEANING THE BATTERY TERMINALS



Avoid sparks and open flames in the vicinity of batteries. Battery acid is an aggressive fluid.

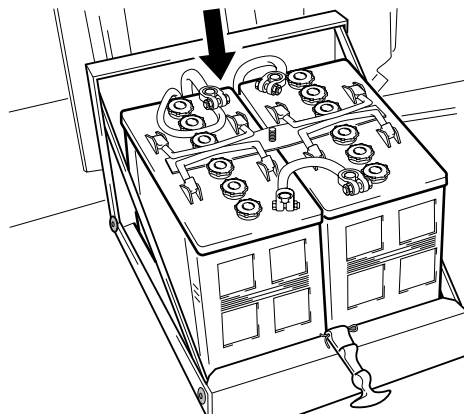
In the event of contact with the skin: rinse the skin with plenty of water for a sustained period. If redness or pain persists, consult a doctor. Remove any clothing affected and rinse with water.

In the event of contact with the eyes: rinse with plenty of water for at least 15 minutes and consult a doctor.

If swallowed: do NOT induce vomiting. Rinse the mouth, drink two glasses of water and consult a doctor.

In the event of inhalation: get fresh air, rest and consult a doctor.

1. Disconnect the earth lead from the battery terminal.
2. Disconnect the positive lead from the battery terminal.
3. Clean the battery terminals, battery cables and the top of the battery (oxide and dirt discharge the battery).
4. If the top of the battery has acid on it, it should be rinsed with water.
5. Check the fastening of the earth cable connection to the chassis. Grease the connection with petroleum jelly.
6. Check the connection between the cable and the fuse holder located behind the batteries; see the arrow in the illustration. Clean the connection and grease it with petroleum jelly.
7. Fit the positive lead to the battery terminal.
8. Fit the earth lead to the battery terminal.
9. Grease the battery terminals with petroleum jelly.
10. Check the routing and attachment of the battery cables.



G0 00 227

EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Cleaning

LF45/55 series

6.2 CLEANING THE EXTERIOR OF RADIATOR AND AIR COOLER



Inhalation of dust may have serious consequences for your health. Take the necessary precautions, such as wearing goggles and a facemask.

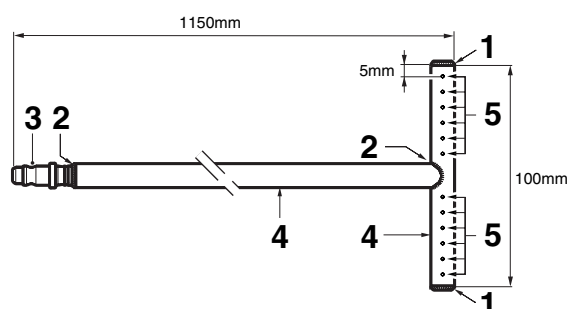
Note:

With the aid of a simple tool, the radiator and the air cooler can be blow-cleaned.

The tool (radiator cleaner) cannot be ordered from DAF. It should be manufactured by yourself according to the drawing.

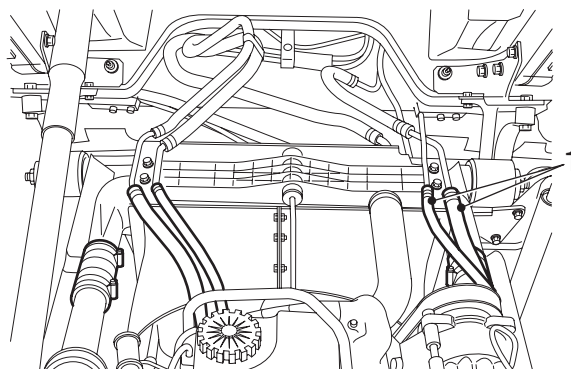
Key to drawing:

- 1 Solder up
- 2 Solder
- 3 Quick-release coupling for air hose
- 4 Steel pipe, \varnothing 10 mm
- 5 6 x \varnothing 1.5 mm between holes, with a centre-to-centre distance between the holes of 7 mm, drilled on one side



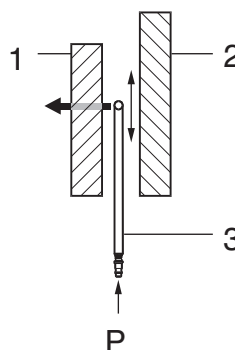
M2108

1. If the vehicle has air conditioning, loosen the support of the refrigerant pipes (1) on the radiator and remove the condenser from the air cooler supports. Push the condenser as far as possible forwards.



i400824

2. Insert the radiator cleaner (3) between the air cooler (1) and radiator (2) from underneath, with the air holes facing the air cooler (1).
3. Apply air pressure to the radiator cleaner (3) and continue blow-cleaning the air cooler (1) until no more dirt comes out.



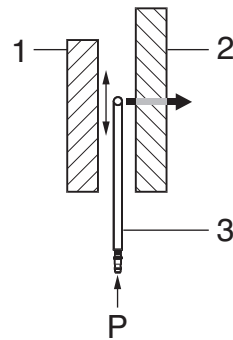
M201351

EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

LF45/55 series

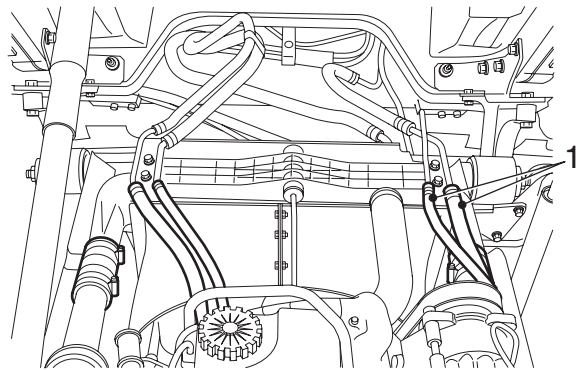
Cleaning

4. Turn the radiator cleaner (3) over, turning the holes towards the radiator (2), and blow-clean the radiator (2).



M201352

5. If the vehicle has air conditioning, fit the condenser in the air cooler supports and tighten the support of the refrigerant pipes (1) on the radiator.



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5

6.3 CLEANING THE VEHICLE

Before cleaning the vehicle, check the engine, axles, gearbox, etc. for leaks. Having cleaned the vehicle, it will no longer be possible to check for leaks during the maintenance activities.

- Make sure that doors, windows and roof hatch are securely closed during cleaning.
- When cleaning the universal joint on the steering box, the spider seals may be forced open by the high-pressure jet of water, so that the grease behind them is flushed away. As a result, the spider may get stuck, so that the steering will "jam".
- Do not spray directly onto steering ball joints.
- There is a vent on the power steering fluid reservoir of the steering gear. Water may enter the reservoir via this vent, which will cause damage to the steering gear.
- When cleaning the radiator/intercooler element, be careful not to damage the fins.
- Do not aim the high-pressure cleaner jet too long at the air conditioning system condenser. As a result of the high temperature, the pressure in the system will rise too high, which may cause damage to the system.
- Make sure that no water can enter the differential and gearbox via the vents.
- Make sure that no water can enter via the reservoir vents of clutch, brakes, trailing axle, etc.
- The engine and engine compartment can be cleaned with a high-pressure cleaner. Make sure in this case not to spray directly onto seals, electrical components, such as the starter motor, alternator, etc.
- If an engine encapsulation is fitted, the encapsulation panels must be thoroughly cleaned after each maintenance job because of the risk of fire if the inside of the panels is dirty.
- Do not aim the high-pressure cleaner jet at electrical connections such as connectors, lighting ducts, etc.
- Make sure that during vehicle cleaning no water enters the air-intake system through the air intake or the flexible seals of the inlet.
- Do not aim the high-pressure cleaner jet at the gear lever unit.
- Do not aim the high-pressure cleaner jet directly at the drive shaft seals, such as the seals of the spider, intermediate bearing and sliding joint.
- When the vehicle has been cleaned, it must be lubricated again with a grease gun or through the central lubrication system. This is important because it prevents the penetration of moisture and dirt at the various pivots.

6.4 CLEANING GEARBOX VENT(S)

Cleaning gearbox vent(s)

1. Clean the vent(s) and the surrounding area.
2. Remove the vent(s) from the gearbox.
3. Rinse the vent(s) in a cleaning fluid.
4. Blow the vent(s) dry from the inside using compressed air.
5. Install the vent(s) on the gearbox.

6.5 CLEANING REAR AXLE VENT

Cleaning rear axle vent

1. Clean the vent and the surrounding area.
2. Remove the vent from the rear axle.
3. Rinse the vent in a cleaning fluid.
4. Blow the vent dry from the inside using compressed air.
5. Fit the vent to the rear axle.

7. LUBRICATION

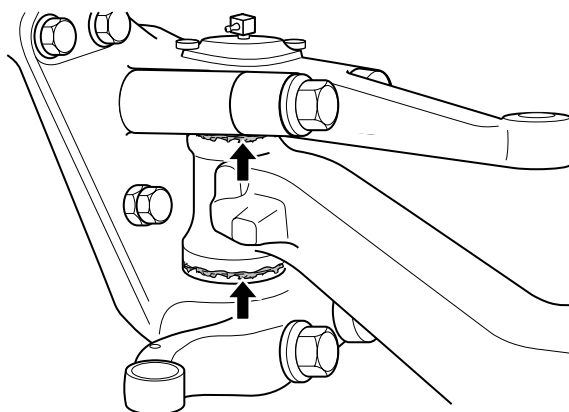
7.1 LUBRICATING ACCORDING TO Y-SERVICE LUBRICATION SCHEDULE

Note:

The lubricating points marked below with an (S) indicate that the lubricating point is positioned on both the left-hand and right-hand side of the vehicle.

Lubricating stub axles (S), general

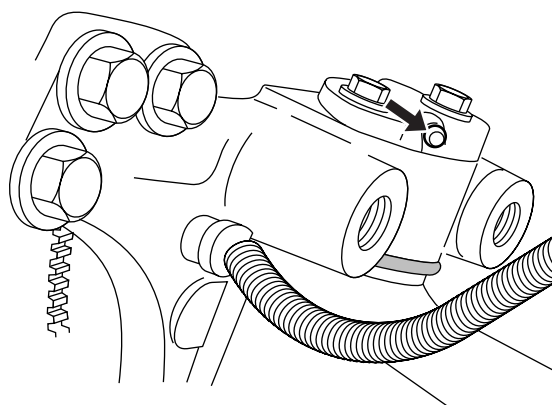
1. To make sure that the grease can penetrate adequately, the stub axles should be lubricated in unloaded condition. The front axle should therefore be completely jacked up; make a complete steering movement from left to right during greasing.
2. Lubricate the stub axles until grease comes out.



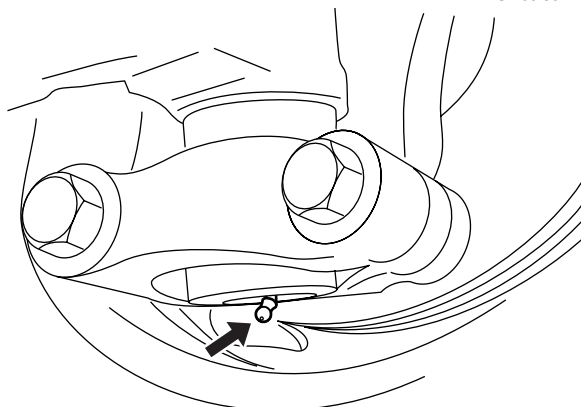
S7 00 545

F36, F48 and F60 (S) front axles

1. The F36 and F48 front axles have a grease nipple on the top side and the underside. The F60 front axle has a grease nipple only on the underside.



S7 00 591



S7 00 590

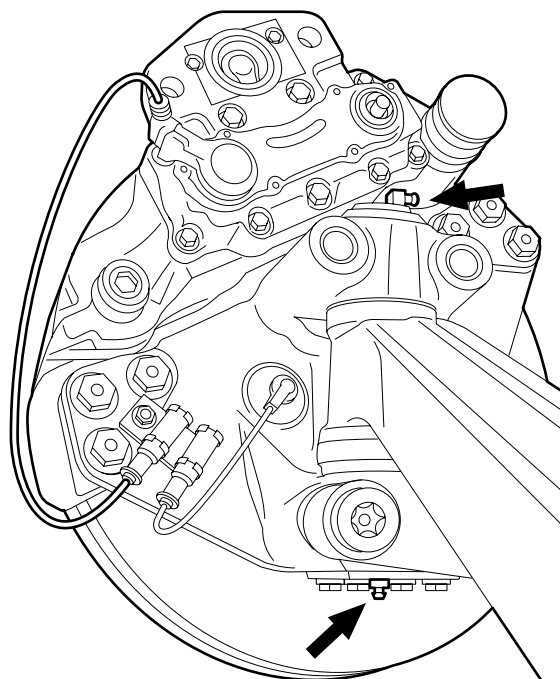
EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Lubrication

LF45/55 series

152N (S) front axle

1. The 152N front axle has a grease nipple on the top side and underside.



G000189

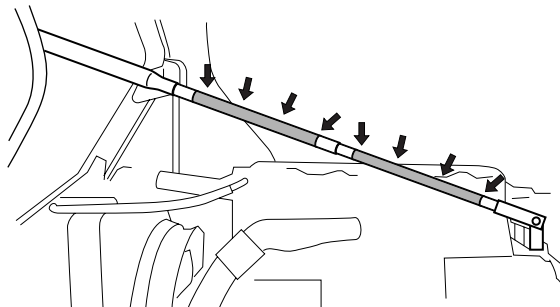
7.2 LUBRICATE ACCORDING TO X-SERVICE LUBRICATION SCHEDULE

Lubricating the selector rod

1. Tilt the cab.
2. Apply a thin, even layer of grease to the indicated part.

Note:

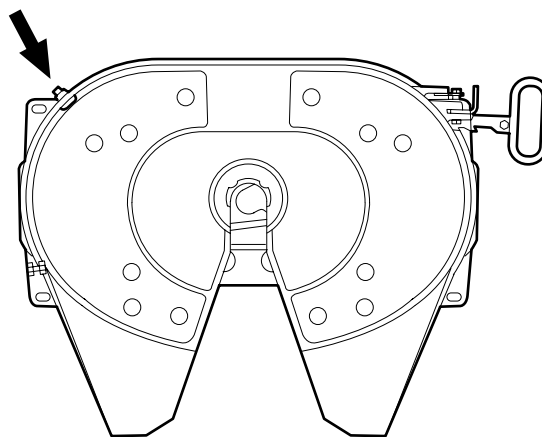
The locking hook under the cab must not be lubricated.



V3 00 380

Lubricating the fifth wheel

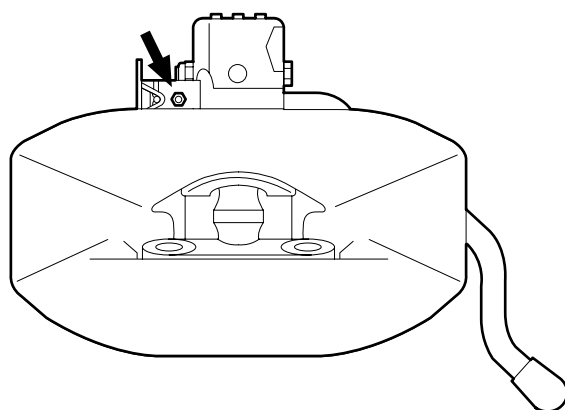
3. Lubricate the fifth wheel via the grease nipple.



G000192

Lubricating the trailer coupling

4. Lubricate the trailer coupling via the grease nipple.



G000188

EXPLANATORY NOTES ON THE MAINTENANCE ACTIVITIES

Lubrication

LF45/55 series

5

