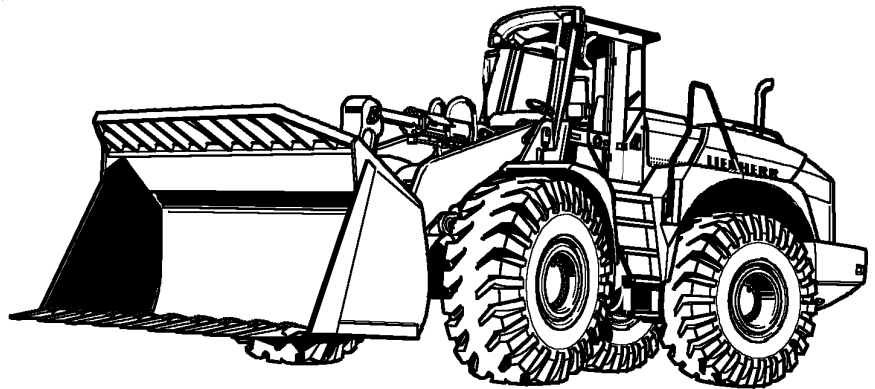


L554

valid from serial no.: - 452 0202



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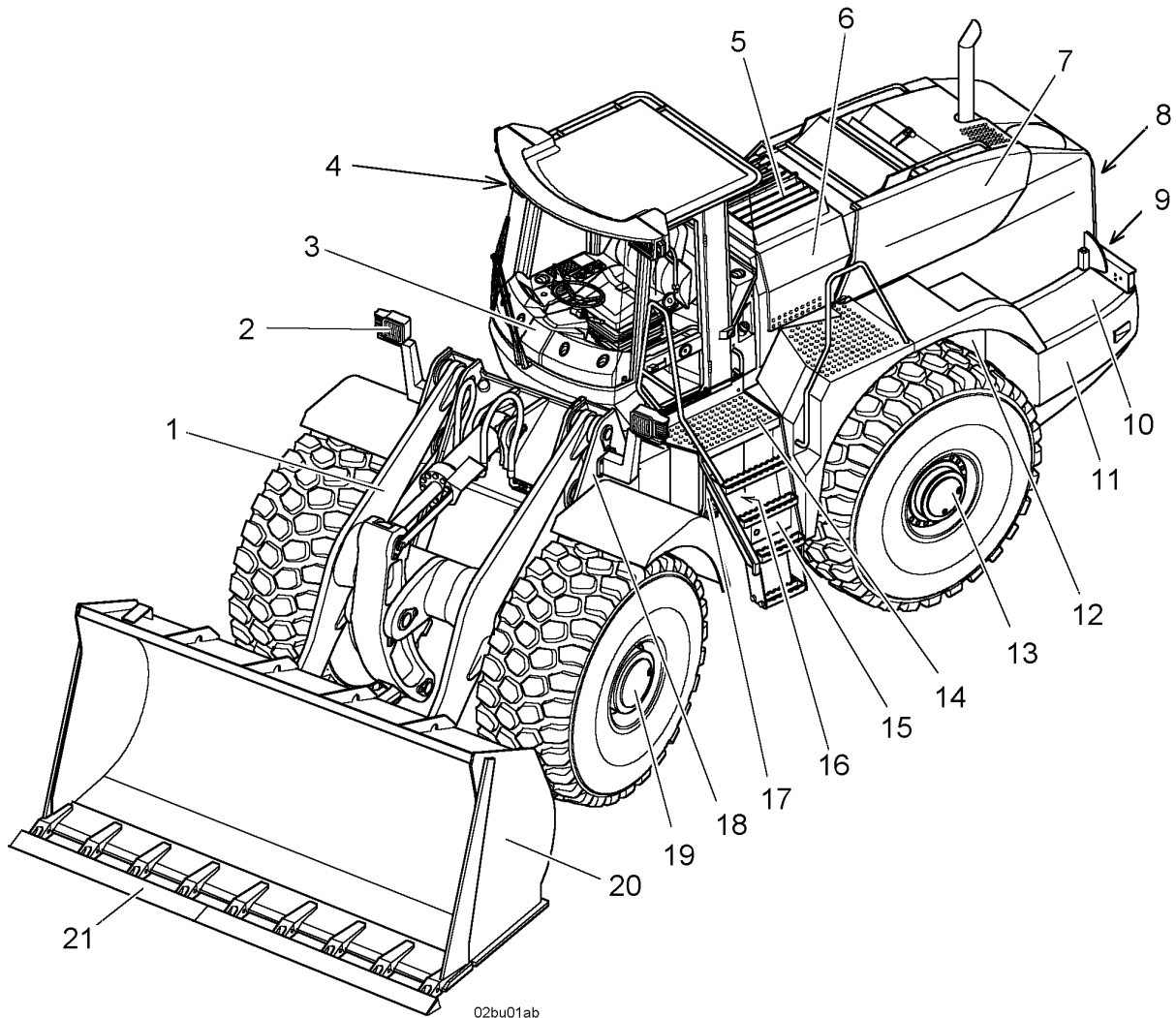
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1 Product description

Equipment layout

Standard model

This section contains an overview of the vehicle with the names of the illustrated components.



02bu01ab

Basic vehicle – View from left

- | | | |
|---------------------------|------------------------------|-----------------------|
| 1 Lift arm | 8 Engine compartment door | 15 Tool box |
| 2 Lighting | 9 Hitching device | 16 Steering cylinder |
| 3 Driver's cab | 10 Battery compartment cover | 17 Articulation lock |
| 4 Working floodlights | 11 Ballast weights | 18 Front section |
| 5 Cooling system | 12 Rear section | 19 Front axle |
| 6 Cooling system hood | 13 Rear axle | 20 Loading bucket |
| 7 Engine compartment hood | 14 Cab access | 21 Bucket tooth guard |

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Special tyres

Tyre size	Air pressure - front axle (bar)	Air pressure - rear axle (bar)	Max. permissible air pressure (bar)
1)			
2)			
2)			

The specifications should be entered in the table as follows:

1) From the manufacturer: If the vehicle is delivered ex-works with special tyres.

2) from the vehicle operator: If the vehicle is retrofitted by the vehicle operator.

Tyres for vehicles with special attachments

Specifications	Type of special attachments
1)	
2)	
2)	

Tyre size	Air pressure - front axle (bar)	Air pressure - rear axle (bar)	Max. permissible air pressure (bar)
1)			
2)			
2)			

The specifications should be entered in the tables as follows:

1) From the manufacturer: If the vehicle is delivered ex-works with special tyres.

2) from the vehicle operator: If the vehicle is retrofitted by the vehicle operator.

1.1.11 Cab, Heating, Air-conditioning system**Driver's seat with gas-filled spring suspension**

Name	Value	Units
Type	ISRI – 6000/575	
Type of suspension	Gas-filled spring suspension	

1.2.8 Electrical system

Electrical system

The batteries are connected in series, one is located in each counterweight (left and right side).

The battery main switch is located at the rear left of the engine compartment. When the main switch is turned off, the whole electrical system is shut down. If the main battery switch is turned on and the starter switch on the instrument panel is turned off, the batteries are still connected to the electrical system.

The main battery switch must not be turned off when the diesel engine is running. This may damage the electrical system.

1.2.9 Transfer gear

Transfer gear

The transfer gear is a 3-gear power shift gearbox with a planetary design.

The gearbox is controlled and monitored by an electronic control system. The multi-disc couplings of the gearbox are pressure-modulated.

The gearbox lubrication and circuit are supplied by a separate hydraulic system driven by a gear pump. A pressure filter is integrated in the supply line.

1.2.10 Axles, Tyres

Front axle

The front axle is a fixed axle and is tightly bolted to the front section.

The axle is equipped with a central tapered gear with an integrated disc-type self-locking differential. The planetary drives and wet disc brakes are located in the wheel hubs.

Rear axle

The rear axle is a fixed axle and is rigidly bolted to the oscillating axle frame. The oscillating axle frame is mounted on a rotating bearing on the rear section.

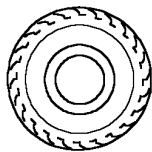
The axle is equipped with a central tapered gear with an integrated disc-type self-locking differential. The planetary drives and wet disc brakes are located in the wheel hubs.

Tyres

The driving performance of the vehicle also depends on the tyres.

It is essential that all four tyres are of the same size.

The correct tyre pressure is a decisive factor for proper vehicle performance and for high tyre mileage.

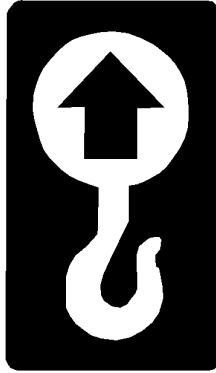


01rei1ab

Snow chains or guard chains

When snow chains or guard chains are used, then they must be attached to all four wheels!

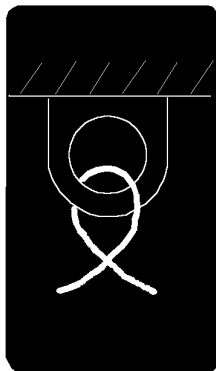
Note: Non-observance can result in damage to the drive system!



03sc17ab

Slinging and lifting point decal

Decal 6 is affixed to the slinging-lifting points on the vehicle.
See the “Slinging the vehicle from a crane” section .
Refers to the slinging- lifting points on the vehicle.



03sc16ab

Lashing point decal

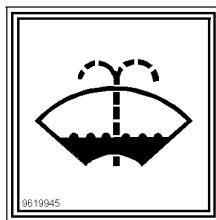
Decal 7 is affixed to the lashing points on the vehicle.
See the “Transporting the vehicle by truck or rail” section.
Refers to the lashing points on the vehicle.



03sc08ab

40 speed limit decal

Decal 8 is affixed to the rear of the vehicle and on the sides to the left- and right-hand ballast weights.
Refers to the permitted speed limit for the vehicle.



03sc13ab

Decal for windshield water

Decal 9 is affixed outside on the left side of the driver's cab.
Indicates the container for the windscreen washing agent.

Lubrication chart

The decal is affixed to the left-hand door of the driver's cab.
Figure – see the “Maintenance” section.
Indicates the maintenance points and intervals in relation to lubricants and operating materials for the vehicle.

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36. Hydraulic hose lines should be replaced at the specified or appropriate time intervals, even where no safety-related deficiencies are apparent.
37. Work on the vehicle's electrical equipment may only be carried out by a qualified electrician or by instructed persons under the direction and supervision of a qualified electrician, in accordance with the recognised electrical engineering rules.
38. Only use original fuses with the prescribed ratings. If there is a malfunctions in the electrical power supply, switch off the vehicle immediately.
39. Inspect/check the vehicle's electrical equipment regularly. Immediately rectify all faults, such as loose connections, scorched/worn cables or burnt out fuses and bulbs.
40. If it is necessary to carry out work on electrically live components, then obtain the assistance of a second person, who in an emergency can throw the emergency stop or main switch with voltage trip-out. Cordon off the working area with a red/white safety chain and a warning sign. Only use insulated tools.
41. When working on high-voltage assemblies after they have been isolated from the power supply, short the supply cable and the components, such as capacitors with an earthing rod.
42. First, check that the isolated parts are voltage free, connect to earth and then briefly short them. Isolate adjacent components which are still live.

2.15 Safety instructions for welding work on the vehicle

1. Only the manufacturer or an authorised contractor is permitted to carry out welding work on power transmitting assemblies (e.g., chassis, attachments). Disconnect the battery when working on the electrical system or when carrying out electric arc welding on the vehicle. Always disconnect the minus terminal first and reconnect it last.

For vehicles with an electronic gearbox control unit:

- In addition, disconnect the multi-pin plug on the electronic gearbox control unit before starting any welding work on the vehicle.

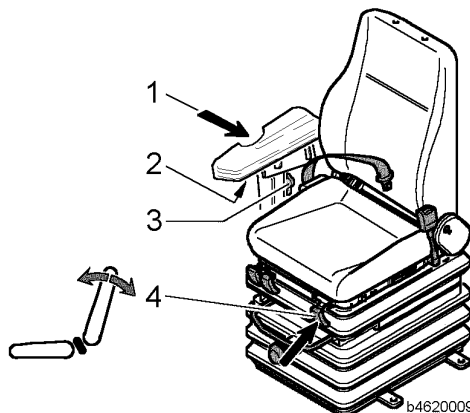
The earth cable of the welding device should be brought as close as possible to the actual welding location, so that it is not possible for the welding current to flow through components or sealing elements (e.g. slewing ring, joints, bearings, bushes, rubber components, seals, etc.) . . .

2.16 Instructions for working safely on vehicle attachments

1. Do not work underneath the attachment unless it is resting safely on the ground or is properly supported.
2. Avoid metal-metal contact when exchanging attachments . . (decal, cutting edge, teeth...).
3. Never attempt to lift heavy components by yourself. Always use suitable lifting equipment with sufficient load-bearing capacity designed for this purpose.
4. Always wear gloves when working with wire hawsers!

Adjusting the backrest

The tilt angle of the backrest is adjusted with lever 4 on the left-hand side of the driver's seat.



Adjustment – back rest, arm rest

- | | |
|-------------------------------------------------------------|--------------------------------------------|
| 1 Clamp screw for adjusting arm rest inclination adjustment | 3 Star-grip for arm rest height adjustment |
| 2 Clamp screw for arm rest horizontal adjustment | 4 Lever for backrest adjustment |

- Raise lever 4.
- Move the seat to the required inclination and release both levers.

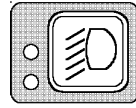
Adjusting the arm rest

The height, inclination and horizontal position of the arm rests can be adjusted separately.

- Height adjustment: release star grip 3, adjust height and fix in place.
- Tilt angle adjustment: release clamp screw 1, adjust tilt angle and lock in place.
- Horizontal adjustment: release clamp screw 2, adjust arm rest horizontally and lock in place.

Adjusting seat suspension

The seat suspension can be adapted to the driver's individual body weight. Adjustments are by means of rotary knob 1 at the front of the driver's seat. The figures on the rotary knob indicate the set body weight in kg.



04ta13ab

Switching on the parking light / driving light

- Press the button once.

The parking light goes on.

- Press the button again.

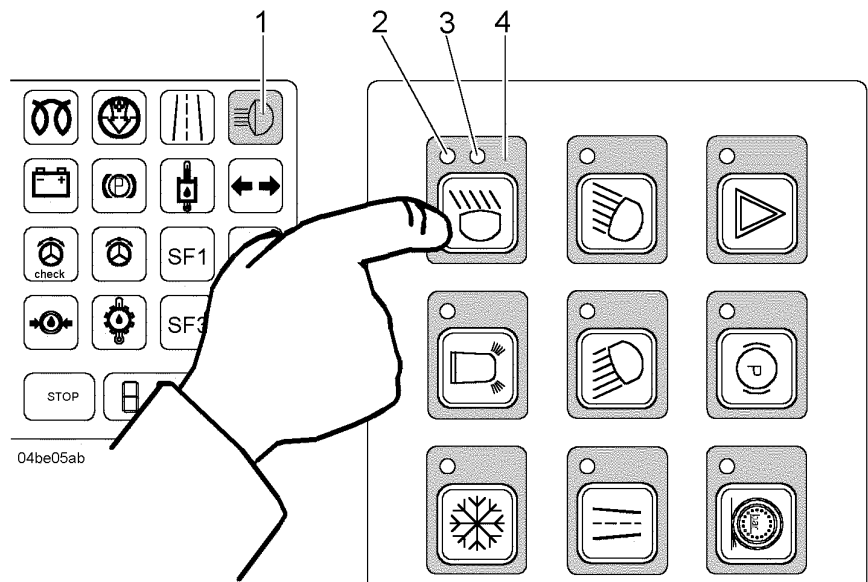
The driving light goes on.

- To switch off the parking light and driving light: press the button a third time.

All functions are switched off.

Switching on the driving light – high beam

Make sure that the button 4 for the parking/driving light has been pressed twice.



04be05ab

Control unit

- | | |
|----------------------------|--------------------------------------|
| 1 Symbol field – headlight | 3 Driving light LED |
| 2 Parking light LED | 4 Parking light/driving light button |

- Press the parking light/driving button 4 light twice.

LED 2 and LED 3 light up.

- Push the steering column switch in direction - f -.

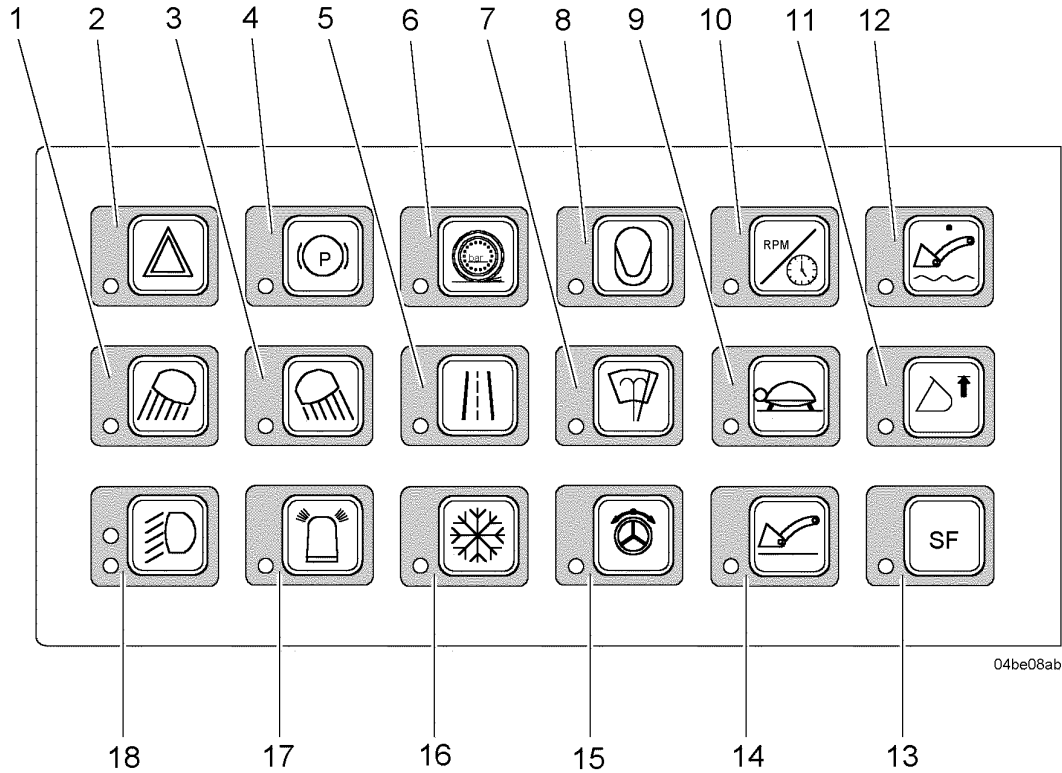
The symbol field 1 for the driving light must light up.

The high beam lights up.

3.2.12 Control unit

The design and function of the control unit is described in this section.

Layout



04be08ab

Control unit (view rotated by 90°)

- | | | |
|-------------------------------------|-----------------------------------------------------------|---------------------------------------|
| 1 Working floodlights button– front | 7 Windshield wiper and washer system – rear window button | 13 Special function button |
| 2 Hazard warning system button | 8 Ride control button (LFD system) | 14 Bucket return-to-dig button |
| 3 Working floodlights button – rear | 9 Creeper button (slow drive) | 15 Emergency steering button |
| 4 Parking brake button | 10 Speed or clock button | 16 Air-conditioning system button |
| 5 Working hydraulics lock button | 11 Lifting limit switch button | 17 Flashing beacon button |
| 6 Tractive force reduction button | 12 Float position button | 18 Parking light/driving light button |

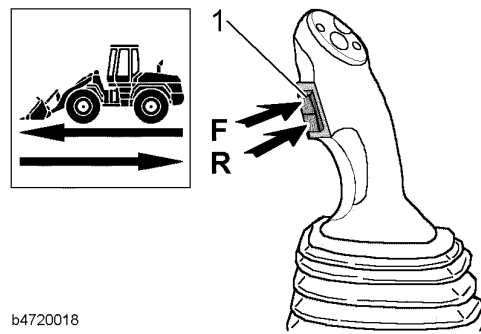
The control unit is integrated in the instrument panel at the right of the driver's seat.

All buttons in the control unit are equipped with LEDs.

When the button is switched ON, the LED glows red.

When the button is switched OFF, the LED goes out.

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LH control lever

1 Switch for travel direction

Functions of the travel direction switch:

- F travel direction is – forward (**F**orward)
- R travel direction is – reverse (**R**everse)

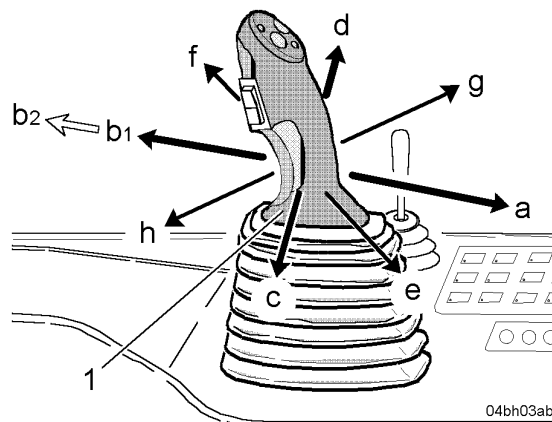
Symbol fields are used to show the preselected driving direction on the instrument panel in the display unit.

LH control lever for controlling the working attachment

Layout

The grip of the LH control lever is linked mechanically to the pilot control device directly underneath it.

Function description



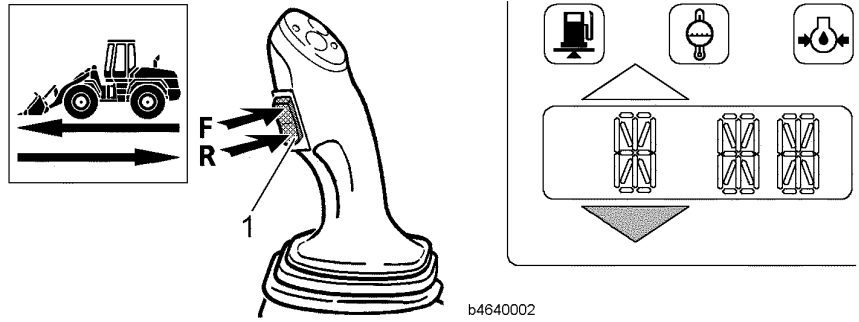
04bh03ab

Movement directions of the LH control lever

- | | |
|-------------------------------|----------------|
| a Backwards | c To the left |
| b1 Forward up to action point | d To the right |
| b2 Forward up to the stop | e-h Diagonal |

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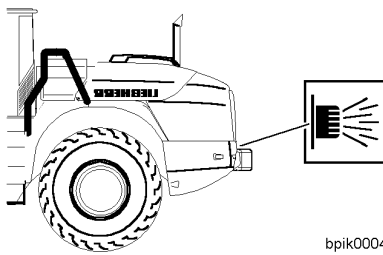
Switching on the reverse warning device



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LH control lever and display unit

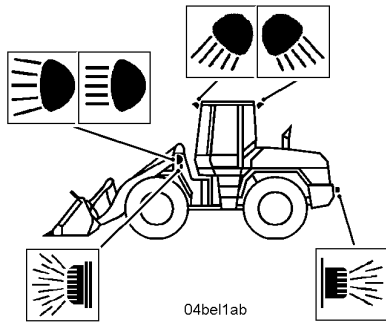
- Press switch 1 for travel direction **R = REVERSE**.
The two warning lights flash.



bpik0004

Checking the lighting equipment

- Check the lighting equipment.
- If required, adjust the setting of the headlamps.

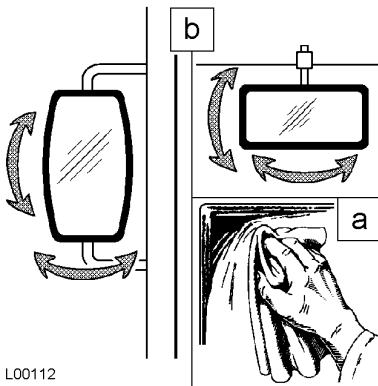


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Headlamp adjustment

Checking inside and outside mirrors

- Clean the inside and outside mirrors.
- Adjust the inside and outside mirrors.

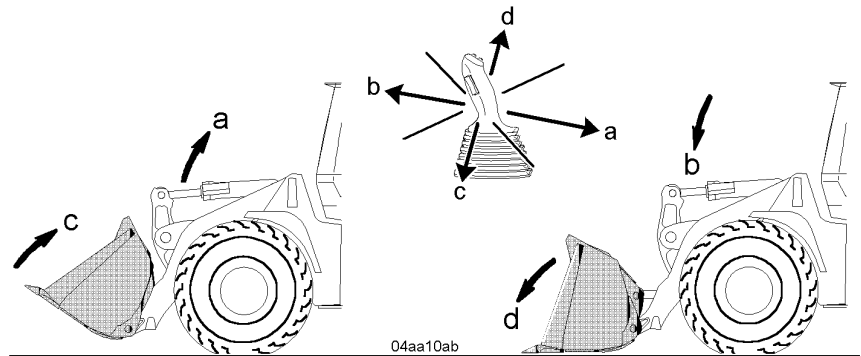


L00112

Inside and outside mirrors

Putting the working attachment into position

For detailed information, see the sections “LIEBHERR control lever” or “Working with the attachment”.



04aa10ab

Bucket position

- Depending on the starting position, the lift arm should be raised or lowered.
- Move the loading bucket to the required position.

Releasing the parking brake

When the parking brake is engaged, the travel lockout is active. Preselection of the travel direction is not possible!

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The wheel loader may only be driven on public roads when unloaded.

Before driving on public roads, ask:

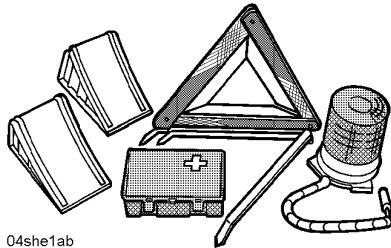
- the vehicle owner, whether the required conditions for licensing for public roads have been met.
 - “Operating permit”
 - “Special licence”
- About the appropriate safety regulations.

Refer to the sections:

- “Safety regulations”
- “Safety instructions for driving on slopes”
- “Instructions for safe operation”

Make sure that the preparations for driving mode have been implemented.

Make sure that the safety equipment listed below is on board, in accordance with the provisions of the **highway code**.

Preparations for driving on public roads

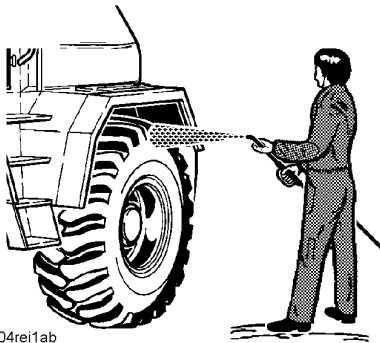
04she1ab

- Warning triangle
- Rotating beacon
- First aid box
- Wheel wedge(s)

In addition, make sure that the jobs listed below have been carried out.

- Remove coarse dirt from the vehicle and clean the tyre treads.

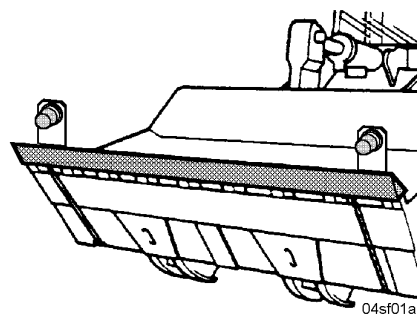
See also the chapter “Maintenance”, section “Cleaning the vehicle”



04rei1ab

Wet cleaning

- Close all service doors, hatches, covers and hoods and lock them where possible.

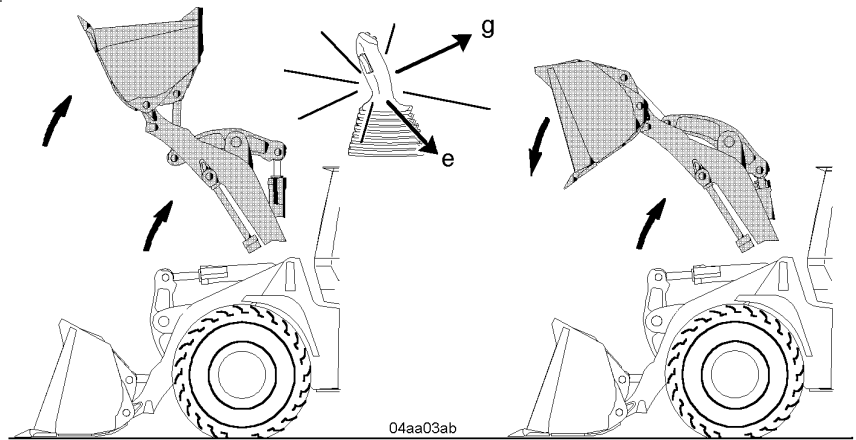


04sf01ab

Bucket teeth guard and profile lamps

- Attach the tooth guard to the bucket.
- Attach the profile lamps.
- Plug in the cables for the profile lamps.

Raising the lift arm and simultaneously tilting the bucket in



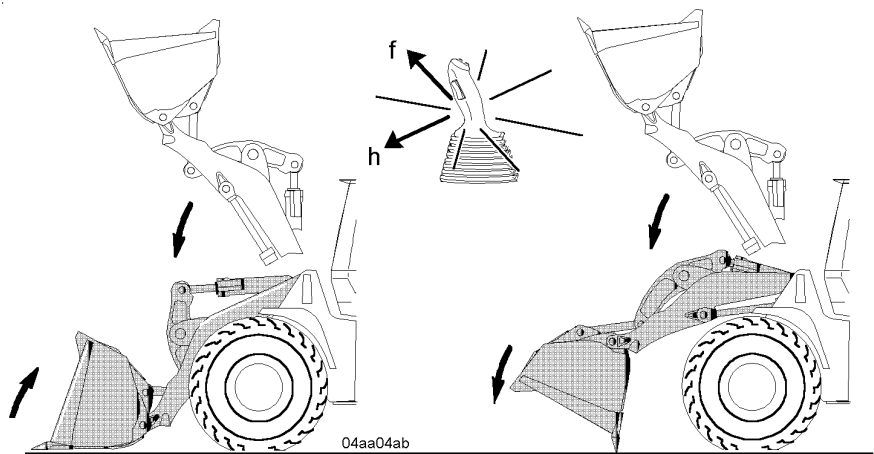
Working movements

- Move the LH control lever in direction - e - .
The lift arm is raised and the bucket is simultaneously tilted in.
- Move the LH control lever in direction - g - .

Raising the lift arm and simultaneously tilting the bucket out

The lift arm is raised and the bucket is simultaneously tilted out.

Lowering the lift arm and simultaneously tilting the bucket in



Working movements

- Move the LH control lever in direction - h - .
The lift arm is lowered and the bucket is simultaneously tilted in.
- Move the LH control lever in direction - f - .

Lowering the lift arm and simultaneously tilting the bucket out

The lift arm is lowered and the bucket is simultaneously tilted out.

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Warning 

Risk of accidents from hydraulic lines under pressure!

! Depressurise the hydraulic circuits before connecting or disconnecting hydraulic lines/couplings!

- Shut down the diesel engine.
- Actuate all servo devices (control levers) in both directions.
- Release the hydraulic lines/quick action couplings from the vehicle.
- Make sure that no hydraulic oil leaks onto the ground!

Contaminated soil must be removed for proper disposal as the hydraulic oil can pollute the ground water.

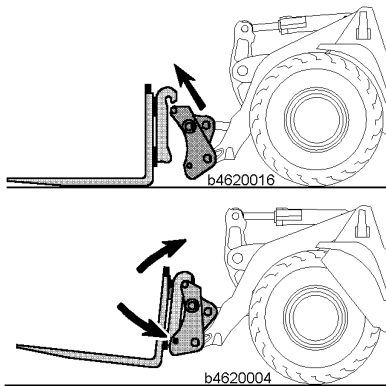
- Close the hose line couplings with protective covers.
- Lay the hydraulic hoses in the hose retainers.

Attaching and coupling the working attachment

This is the procedure for attaching and coupling the working attachment.

Make sure that the hydraulic quick-change device is completely unlocked.

- Carefully move the quick-change device into the adapter-holder at the top of the working attachment.



- Slightly raise the working attachment and tilt it in.

In the process, the working attachment must completely engage with the quick-change device.

Locking the hydraulic quick-change device

The procedure for locking the hydraulic quick-change device is as follows:

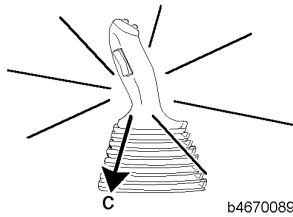
Ensure that:

- The working attachment is completely engaged in the quick-change device, so that the working attachment can be locked in place with the locking pins
- The quick change device has been activated (enabled) by means of the changeover valve 4

Danger 

Risk of accidents due to the working attachment dropping!

! Check whether the working attachment is fully engaged with the quick-change device.



- Completely extend the locking pins: move the LH control lever in direction - c - (to tilt in working attachment) to the stop and keep it in this position.

The locking pins for the hydraulic quick-change device extend.

The working attachment is now coupled.

Check after locking procedure

To make an inspection once the locking procedure has been completed, proceed as follows.

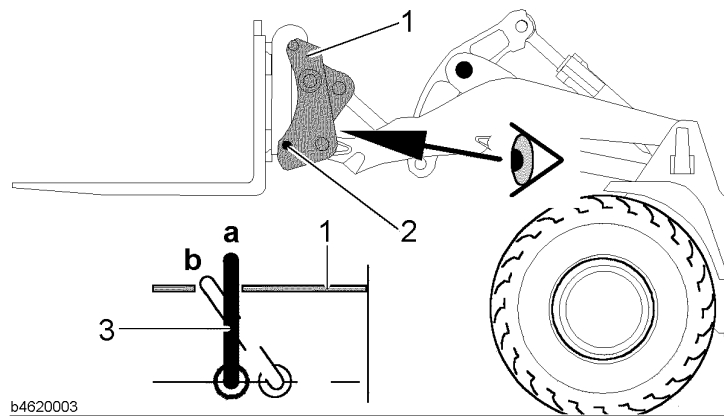
Make sure that the quick-change device has been moved to a suitable position for inspection.

Danger 

Risk of accidents due to the working attachment dropping!

! Do not move the working attachment until you have checked the lock.

! Check whether the working attachment is securely locked to the quick-change device.

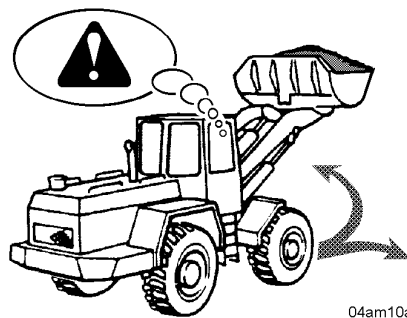


Quick-change device - Visual inspection

- | | |
|-------------------------|-----------------------|
| 1 Quick-change device | a Position - locked |
| 2 Locking pin | b Position - unlocked |
| 3 Indicator- mechanical | |

- Move the lift arm up until it is possible to view display 3.
- Get out of the vehicle and visually check that locking pins 2 have actually locked the working attachment.
- Carry out the inspection on both sides of the vehicle.

You can see that the pins are properly locked when indicator 3 is upright.



04am10ab

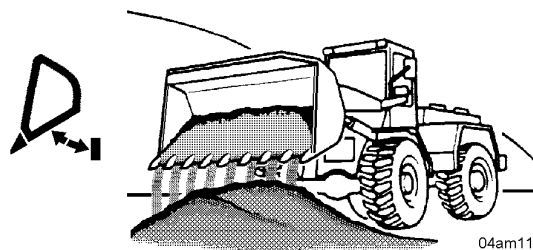
*Danger of the vehicle tipping over***Warning**

Risk of accidents due to the vehicle tipping over!

There is a risk that the vehicle might tip over when the lift arm is raised due to a shift in the centre of gravity!

! Do not suddenly change direction or brake abruptly when the bucket is raised.

- Do not raise the lift arm until just before reaching the unloading point.

Dumping

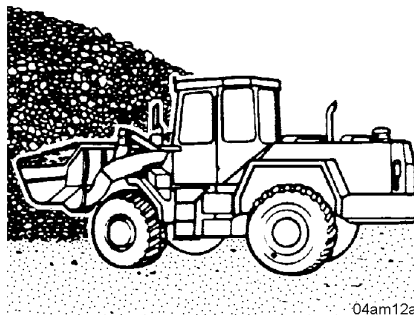
04am11ab

Dumping

- Tilt the bucket out.
- Loosen material adhering to the bucket: Quickly tilt the bucket in and out, briefly jolting against the bucket arm stops in the process.

Loading from slopes or banks**Removing material from a slope**

Remove normal loading material such as sand or gravel as follows.



04am12ab

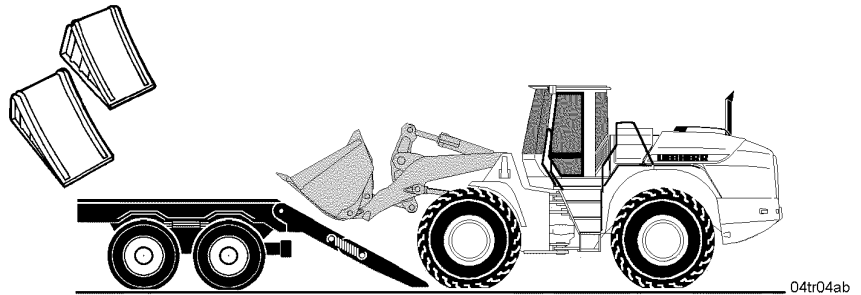
Bulk material removal 1

- Start removing the material at the foot of the slope, working your way upwards.

Transporting the vehicle by road or rail

Before driving onto the loading bed

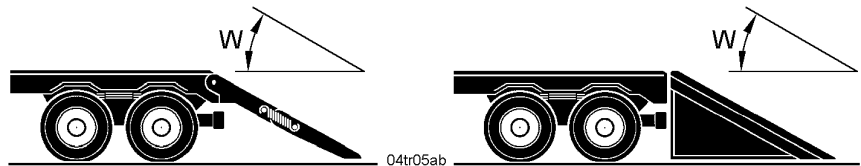
The following precautions should be undertaken before driving onto the loading bed.



04tr04ab
Loading the vehicle onto the transporter

Precautions:

- Have wheel wedges ready.
- Provide suitable tensioning ropes or chains ready to lash the vehicle down

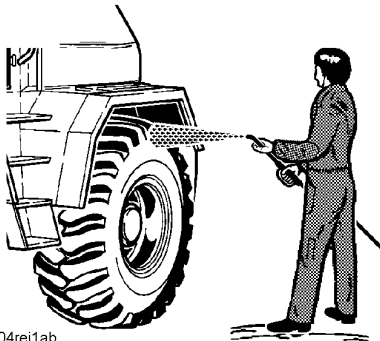


04tr05ab
Ramp inclination

A ramp should be provided for driving the vehicle onto the loading bed.

The inclination of the ramp - **W** - may not exceed 30°.

Any snow, ice or mud on the tyres should be cleaned off before the vehicle is driven up the ramp.



04rei1ab

Wet cleaning

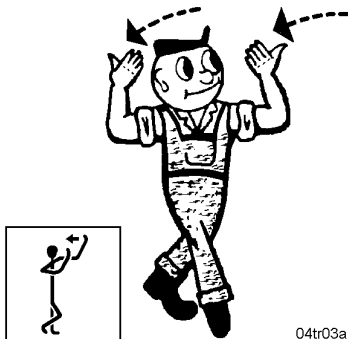
Driving onto the loading bed

For more detailed descriptions, see the section "Operation, handling".

When driving onto the loading bed have a second person give you signals.

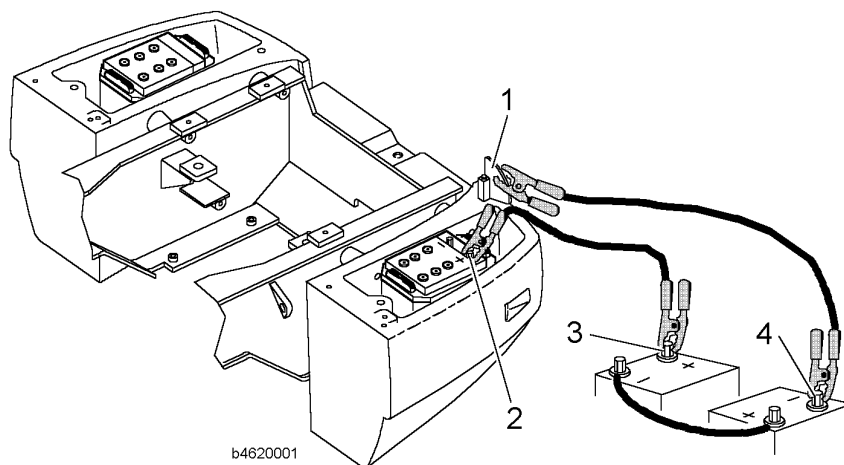
Make sure that someone is posted who can give the vehicle driver the required signals.

Persons giving directions must always take up a position to one side of the vehicle!



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Procedure for jump starting

- | | |
|-----------------------------------------------|-------------------------------------------------------|
| 1 Earth point – vehicle frame | 3 Positive terminal of the external battery/batteries |
| 2 Positive terminal of the discharged battery | 4 Earth point of the external battery/batteries |

- Connect a jump start cable first to the plus terminal of the discharged battery 2 and then to the plus terminal of the external battery 3.
- Connect the second jump start cable first to the earth point of the external battery (-ies) 4 and then to the vehicle frame earth point 1.
- Start up the diesel engine. See the “Starting the diesel engine” section.

Disconnecting the external battery

Before removing the jump start cables, the diesel engine speed must be reduced to the lower idle speed.

Excess voltage can be avoided by switching on big consumers such as floodlights.

- First remove the jump start cable from the vehicle frame earth point 1 and then from the earth point of the external battery/batteries. 4.
- Then remove the second jump start cable first from the positive terminal of the external battery/batteries 3 and then from the positive terminal of the discharged battery 2.

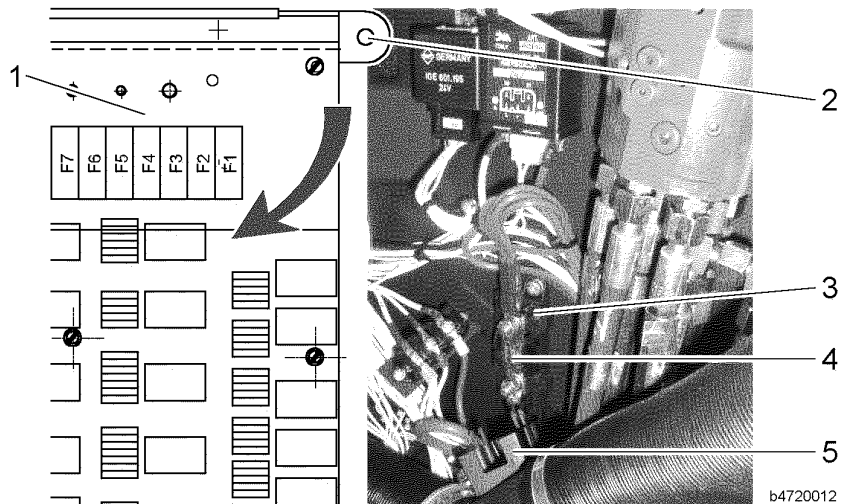
4.2 Eliminating malfunctions

4.2.1 Changing fuses

In order to avoid damage to the electrical system, only fuses with the appropriate ampere rating may be used.

Ensure that the electrical circuit in question is checked before changing the fuse.

Mega fuses



Main fuse

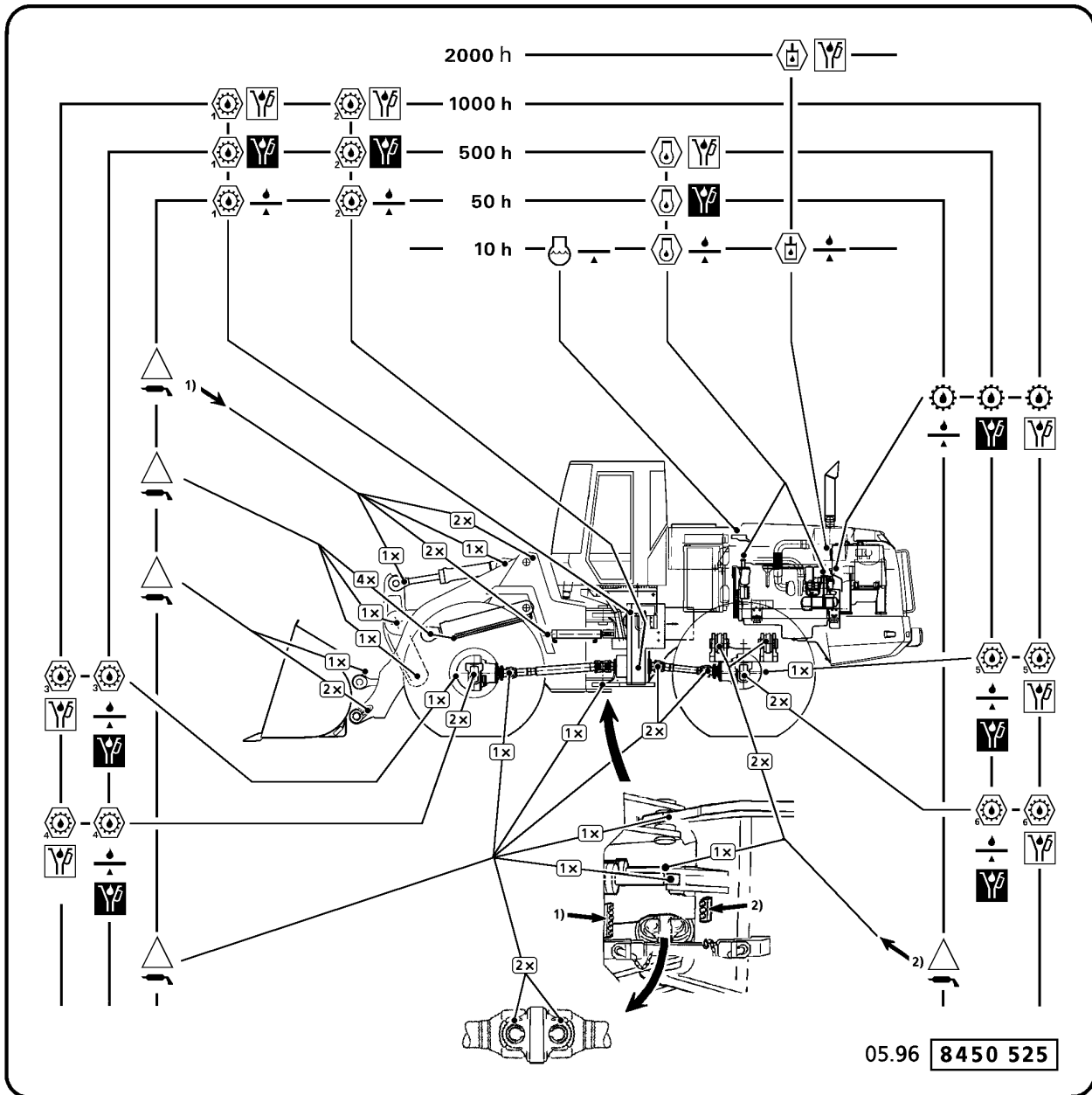
- | | |
|---------------------|------------------------------|
| 1 Control board A12 | 4 Main fuse – F01 |
| 2 Fixing screw | 5 Cover – fuse box (removed) |
| 3 Fuse box | |







Fuse	Value	Unit	Use	Location
F01	100	A	Main fuse	Behind the control board
F02	200	A	Emergency steering pump	On the left-hand side in the engine compartment on the hydraulic tank frame

Mega fuses

- **If main fuse 4 must be replaced:**
Open the driver's cab door on the right-hand side.
- Unscrew the console cover.
- Unscrew the fixing screw 2 for control board 1.
- Use the table above to identify the defective fuse.
- Remove cover 5 from fuse box 3.
- Unscrew the defective fuse and replace it with a new fuse with the same rating.

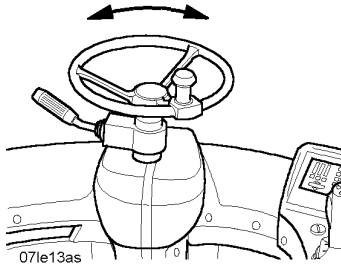
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Symbol	Name	Symbol	Name
 06sy09ab	General lubrication points	 06sy01ab	Lubrication
 06sy13ab	Check the oil level	 06sy21ab	Check coolant level
 06sy11ab	Oil change	 06sy12ab	First oil change

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Checking the steering for proper operation



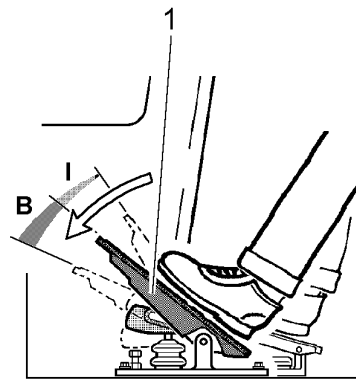
Steering system

- Start the diesel engine
- Turn steering in both directions and check that it is functioning properly.

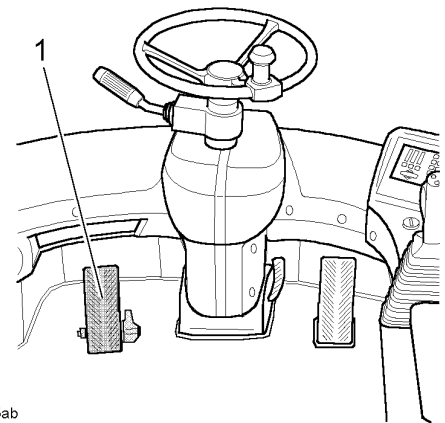
Checking the service and parking brakes for proper operation

Braking system

Procedure for checking the service brake for proper operation



04ka05ab



- Start the engine in travel range 1 (1st gear) and drive at full throttle.

Warning



Danger of driving into bystanders or obstacles.

! Remaining in the danger area is strictly prohibited while these tests are being conducted.

- Push down the brake / inching pedal all the way; the vehicle must come to a complete, abrupt halt.

Trouble shooting

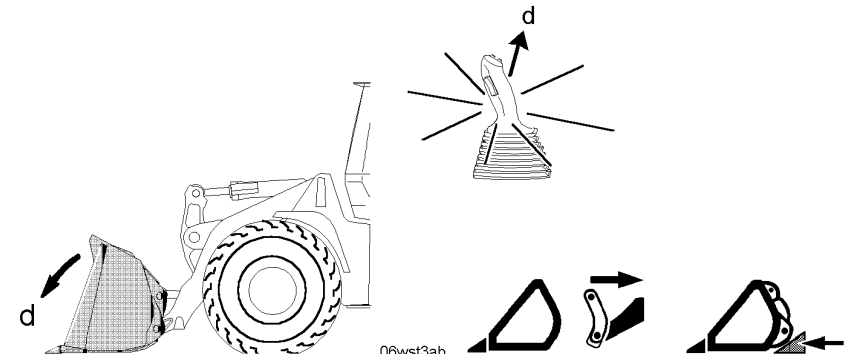
If the braking effect is too small or entirely absent:

- Have LIEBHERR SERVICE determine the problem and eliminate the error.

Lift arm, Quick-change device

Lubricating bearings and lubrication points

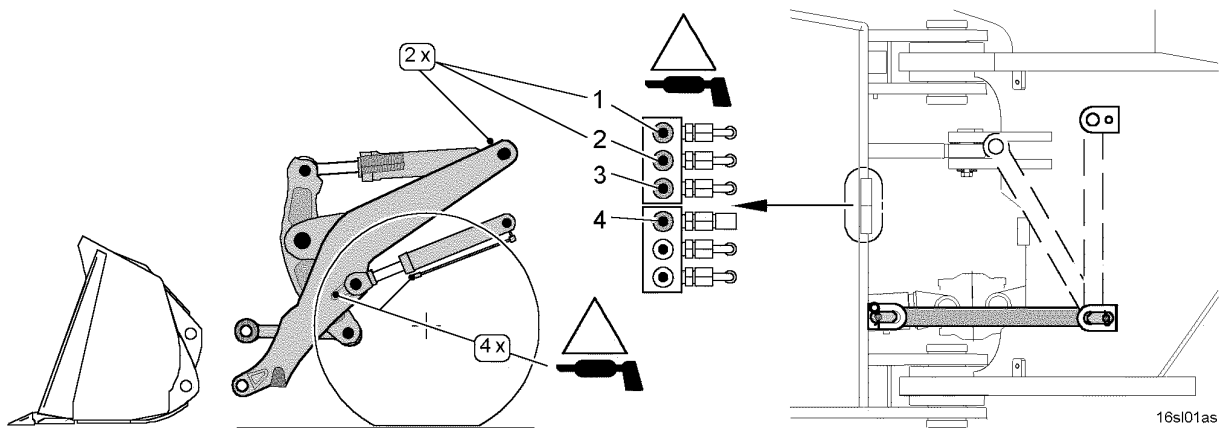
Make sure that the vehicle is in maintenance position 1.



Maintenance position - lift arm

If the lubrication points near the bucket couplings are difficult to reach, make sure that the working attachment is decoupled.

Lubricating the lift arm and lift cylinders

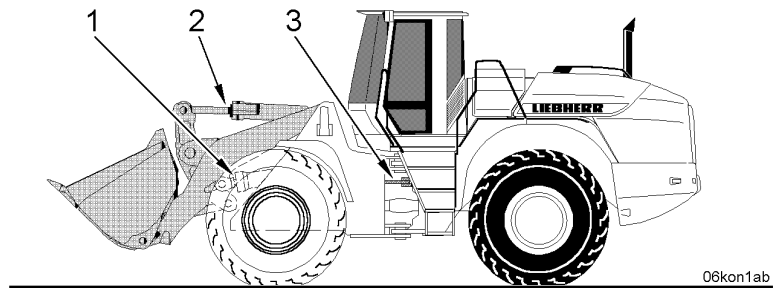


Lubrication points on the left-hand side of the central lubrication rail

- | | |
|-------------------------------------------------------|-------------------------------------------|
| 1 Lubrication point - top right-hand side of lift arm | 3 Lubrication point - rear tilt cylinder |
| 2 Lubrication point - top left-hand side of lift arm | 4 Lubrication point - front tilt cylinder |

- Lubricate the bearing at the top of the lift arm: lubricate lubrication point 1 and lubrication point 2 on the left-hand side of the central lubrication rail.
- Lubricate the two lubrication points on the left-hand lift cylinder.
- Lubricate the two lubrication points on the right-hand lift cylinder.

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1 Lift cylinder
2 Tilt cylinder

3 Steering cylinder

- When the vehicle is switched off, all piston rods should be retracted as far as possible into the cylinders.
- Apply a generous coat of non-acidic corrosion protection grease onto the exposed piston rods.
- If the cylinder piston rods are not lubricated with hydraulic oil for a prolonged time period:
the piston rods must be coated with corrosion protection grease.

When the vehicle is moved for loading or transport, the corrosion protection layer on the cylinder piston rods is removed by the dirt scraper.

- When the vehicle is to be transported:
The corrosion protection on the piston rods should be checked after loading.

Corrosion protection of the fuel tank

When the vehicle is out of service for longer periods, condensation can build up in the tank.

Condensation in the tank leads to rust formation.

- If the vehicle is out of service for longer than 2 months:
Fill the fuel tank with diesel fuel.

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