

Operations

5 Operations

The manufacturer reserves the right to alter construction details, which may lead to some deviations between your actual equipment and the figures shown in this manual, but will not affect the accuracy of the contents. Changes have been collated and documented in Chapter 13.

5.1 Checks before you start

- Engine oil fill-level (refer to engine manual)
- Hydraulic oil fill-level
- Fuel reserves
- Tire pressure
- Tire tread
- Battery fluid fill-level
- Lighting unit
- Mirrors
- Seat position
- Swivel assembly lock (1-4/arrow) may need to be removed » prior to commencing work only«
- Remove bucket arm prop [(e.g. bucket arm support (option) (1-1/arrow)] if necessary
- Stop valves for main and auxiliary hydraulics (1-2/1 and 1-2/2) may need to be removed » prior to commencing work only «
- General condition of equipment, check for leakages, for example
- Check whether
 - a first aid kit
 - a warning triangle
 - a hazard warning lightare available.

5.2 Getting started

5.2.1 Starting the diesel engine

- (1) Apply the parking brakes (4-7/4).
- (2) Insert the main battery key (4-7/5).
- (3) Put the gear selector (4-7/3) in neutral (position "0") (immobilizer!).
- (4) Insert the ignition key in the ignition (4-8/19) and turn right to the "I" (5-1) position.



NOTE

The charge indicator, and the indicators for the parking brake and engine oil pressure will light up. The fuel and cooling water temperature displays will show readings.

- (5) Now turn the ignition key to the right to position "III". Let go of the key as soon as the engine fires.

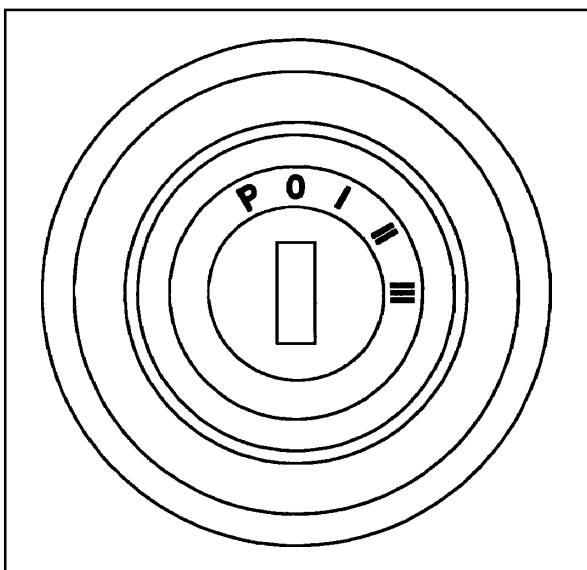


Fig. 5-1



NOTE

- If the engine fails to fire after two attempts, follow the troubleshooting procedures outlined in the engine manual.
- In case of extremely low ambient temperature, follow the procedures outlined in the engine manual.
- After cold starting the blockwage warning indicator may light up, however, the indicator will be switched off as the hydraulic oil reaches normal temperature. Run the equipment at **low** revs, and never at full power until the indicator is switched off (4-8/36).

5.2.2 Winter operations



ATTENTION

If the ambient temperature is below 0° C, the equipment must be "warmed up" to avoid damage to specific components. While the engine is idling, accentuate all the cylinders (lifting, tipping and swivel cylinder) for some time (depending on the ambient temperature).

The following tasks must be fulfilled to ensure trouble free operations at low temperatures:

5.2.2.1 Fuel

At low temperatures paraffin precipitation can cause blockages of the fuel system. Use winter diesel fuel (suitable down to -15° C) at temperatures below 0° C.



NOTE

Winter diesel fuel is normally available from refuelling stations in time for the cold season. Often diesel fuels with additives are available for use in ambient temperatures down to -20° C (super-grade diesel fuel). Add paraffin additives for temperatures below -15° C or -20° C. Diagram (5-2) shows the required quantities.

- I = Summer diesel fuel
- II = Winter diesel fuel
- III = Super-grade diesel fuel



ATTENTION

Use only the fuel tank for mixing fuel! First fill in the required amount of paraffin oil and then add diesel.

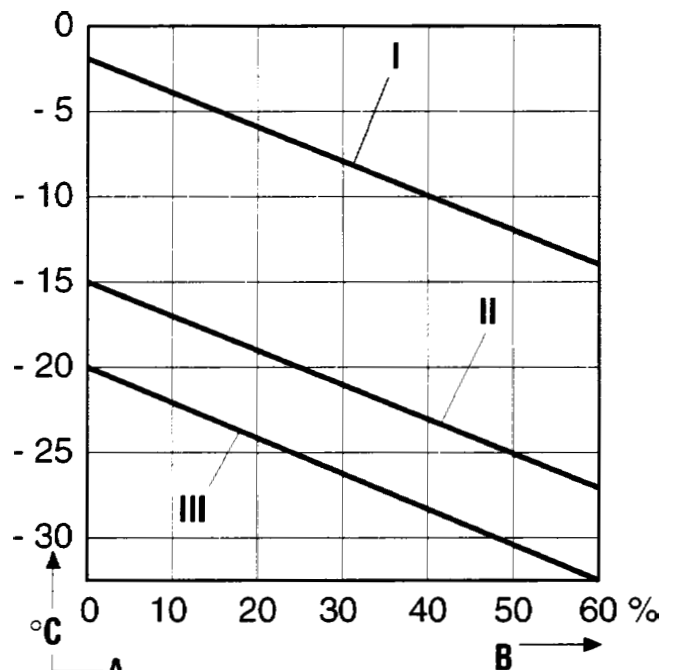


Fig. 5-2

5.2.2.2 Oil Change Engine

Refer to the operating manual for the engine and the operating manual for the equipment (section 8.2.6).

5.2.2.3 Oil Change Hydraulic System



ATTENTION

The viscosity of the hydraulic oil changes according to the temperature; therefore, the ambient temperature in the place where the machine will be used determines what viscosity class (SAE class) must be chosen. If the hydraulic oil used matches the expected ambient temperature, optimum operating conditions can be attained. Therefore, use hydraulic oil of an appropriate grade if required.

See section 8.2.10 for the oil change procedure required for the hydraulic system.

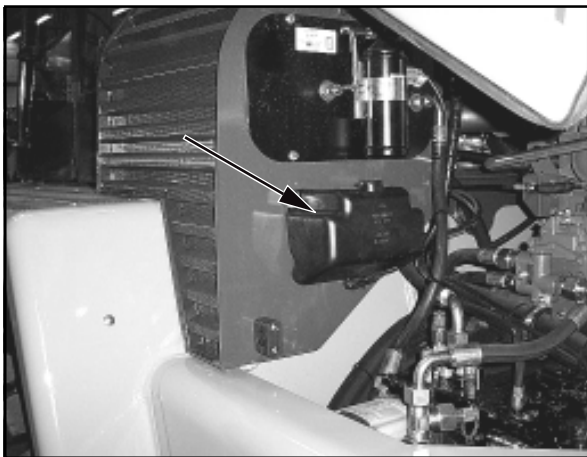


Fig. 5-3

5.2.2.4 Anti-Freeze for the Screen Washer



ATTENTION

If the temperature is expected to drop below 0 °C, add a sufficient amount of anti-freezing agent to the water in the windshield washer system (5-3/ arrow) to prevent it from icing up.

Follow the manufacturer's instructions for the mixing ratio.

5.2.3 Driving the loader on public roads



ATTENTION

- Driving on public roads is allowed **only when an empty** standard or multi-purpose is attached and **only then if** a bucket protector has been fitted.
- The maximum permissible speed is 30 km/h with the driving light switched on. The driving light only serves to illuminate the road.
- The 360° light (optional feature) may not be permitted by local traffic codes unless the vehicle is marked with red and white hazard markings.
- Ensure that a warning triangle and first aid kit are available at all times.

The driver must possess an appropriate driver's license - European class "C".

The driver must carry a driving license (original) and operating permit at all times.

Before entering a public road ensure that the following safety checks have been performed:

5.2.3.1 Transporting a bucket

(1) Lower the bucket arm until the lowest point of the bucket arm or the bucket heel is at least 30 cm above the road (5-4).

(2) Close both stop valves (1-2/1 and 1-2/2).



CAUTION

When closed, the hand levers for the stop valves are perpendicular to the direction of flow. This prevents the bucket arm from being lowered and the bucket from tipping while driving.

(3) Block the swivel mechanism by inserting the blocking wedge (1-3/arrow) in the swivel blocking device (1-4/arrow) and secure it using the spring pin.

(4) Cover the bucket cutting edge and teeth with the bucket protector (5-4/arrow).

(5) Insert the plug of the bucket protector into the socket (5-5/arrow).

(6) Check the lights.

(7) Close both doors.

(8) Put on your seat belt.

(9) Switch the steering system selection lever to "rear axle steering" (4-9/4).



DANGER

The working lights must be switched off (4-8/24).

(10) Release the parking brake (4-7/4).

(11) - **Applies to slow-runners only**

» Type 20 km/h and 25 km/h «
Select speed II (4-8/4).

- **Applies to fast-runners only**

» Type 40 km/h «
Select "2" (4-7/1).

(12) Pre-select hydraulic drive speed II (4-7/1) - applies to slow-runners only » Type 20 km/h and 25 km/h «.

(13) Select the travel direction (4-7/3).

(14) Depress the drive pedal (4-5/2).



DANGER

Do **not** change the travel direction while the vehicle is in motion to avoid endangering other road users.



Fig. 5-4

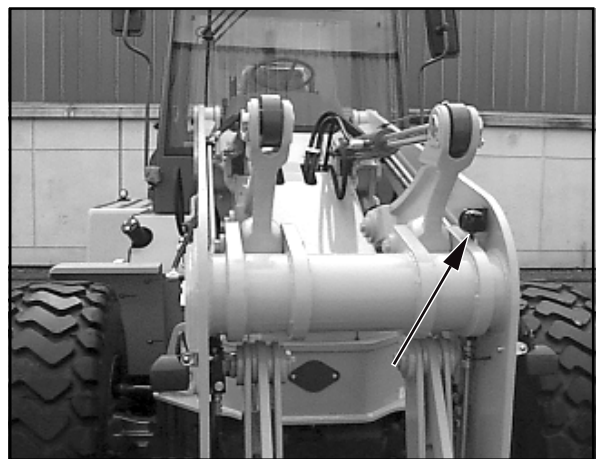


Fig. 5-5

5.2.4 Working with the loader

5.2.4.1 Slow-runner type "20 km/h" and "25 km/h"



DANGER

Always fasten your seat belt while working with a swivel loader.

Normally, all work is executed in hydraulic drive stage "II" (4-7/1) and a transmission step (4-8/4) that matches the working conditions.



ATTENTION

Ensure that the vehicle is stationary, the parking brake is on and the travel direction selector (4-7/3) is in neutral (position "0") before selecting a gear via the transfer gearbox.

In special cases where more granular speed control, or higher revs at lower speeds are required, you can select hydraulic drive step "I" (4-7/1) and thus reduce the speed to 6 km/h (for slow-runners rated "20 km/h") or 7 km/h (for slow-runners rated "25 km/h").



NOTE

You can switch from hydraulic drive step I to II, or vice-versa, while traveling. However, shifting from hydraulic drive level II down to I is not recommended at higher speeds as it will cause the vehicle to brake suddenly.

5.2.4.2 Fast-runners Type "40 km/h"



DANGER

Always fasten your seat belt while working with a swivel loader.

Normally, all work is executed in hydraulic drive stage "II" (4-7/1).

In special cases where more granular speed control, or higher revs at lower speeds are required, you can select hydraulic drive step "I" and thus reduce the speed to 5 km/h.

Speed ranges per gear

Alpha max. (Turtle symbol)	from	0	to	5 km/h
1st	from	0	to	11.5 km/h
2nd	from	0	to	40 km/h



NOTE

When you switch from 3rd to 2nd gear

- the display for the selected gear (4-8/10) starts to flash (the gear you selected will not be available until the display stops flashing).
- if the permissible speed range has been reached the gear will not be selected until you press the drive pedal (4-5/2) down hard for a short while.

- (1) Close both doors.
- (2) Release the parking brake (4-7/4).
- (3) Pre-select a gear [(4-8/4) » applies to slow-runners type "20 km/h" and "25 km/h" «] or [(4-7/1) » applies to fast-runners type "40 km/h" «].
- (4) Pre-select a hydraulic drive step [(4-7/1) » applies to slow-runners type "20 km/h" and "25 km/h" «].
- (5) Select a travel direction (4-7/3).
- (6) Depress the drive pedal (4-5/2).

**NOTE**

- To achieve maximum performance the combined action of propulsion unit and main hydraulics is required. It is up to the operator to control the available power using the drive pedal, inching and the manual hydraulic controls to assign power as required for the job in hand.
- Travel speed and power are controlled by depressing the drive pedal only.
- While the vehicle is traveling up a slope, travel speed is reduced to provide more power, even if the drive pedal is fully depressed.
- Power and travel speed are equal both in forward and reverse directions.

**ATTENTION**

- If the warning indicator for hydraulic oil temperature (4-8/31) lights up, or an acoustic signal is given, stop the vehicle immediately and call in an expert to troubleshoot the hydraulics and remedy the issue.
- Do not attempt to lock the hydraulic quick coupling assembly unless an attachment is fitted.
- Ensure that the engine is idling while coupling or decoupling an attachment. This ensures that the insertion or retraction speed of the locking bolts stays reasonably low thus preventing leaks.

**DANGER**

If special tasks necessitate driving with the bucket arm swiveled, the bucket or the attachment must be kept close above the wheel and the travel distance must be kept as short as possible. If because of rough terrain a wheel is raised off the ground by the stabilizer equipment, the bucket arm must be briefly swiveled in the direction of travel in order to disengage the axle lock.

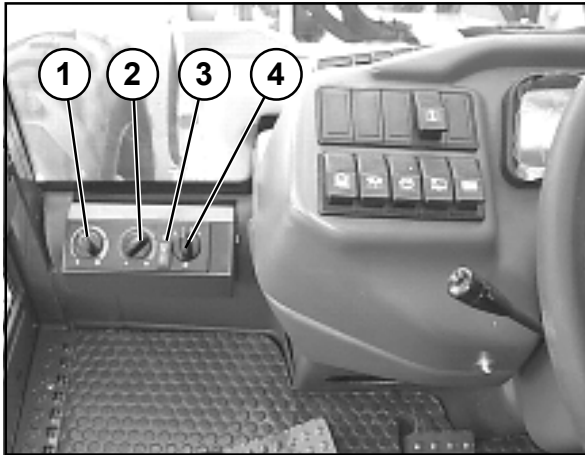


Fig. 5-6

5.2.5 Heating and Ventilation Unit / Air-Conditioning (opt.)

5.2.5.1 Adjusting the airflow

- (1) Turn the rotary switch (5-6/4) for the fan to position 0, 1 or 2, depending on the amount of air desired.
- (2) Adjust the direction of the air flow by means of the lateral nozzles on the left and right sides (5-7/1 and 5-8/1).

5.2.5.2 Switching on the heater

- (1) Depending on the heating requirement, turn the dial (5-6/2) clockwise (hot) or anticlockwise (cold).

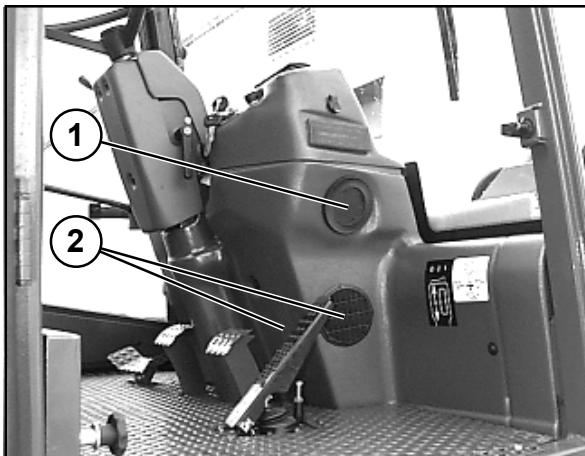


Fig. 5-7

5.2.5.3 Switching on the air-conditioning unit (opt.)

- (1) Use the "ON/OFF" switch (5-6/3) to switch the air-conditioning unit on or off, as required.

- | | |
|------------------------|--------------------------|
| Press top of switch | - Air-conditioning "ON" |
| Press bottom of switch | - Air-conditioning "OFF" |

5.2.5.4 Selecting a temperature

- (1) Use the dial (5-6/1) to set the cab temperature.

- | | |
|-------------------------|----------|
| Turn dial clockwise | - colder |
| Turn dial anticlockwise | - wärmer |



NOTE

The air-conditioning unit draws air in through four vents (5-7/2 and 5-8/2).



ATTENTION

For safety recommendations, disposal notes, and maintenance tasks, please refer to the manual supplied with the air-conditioning unit.

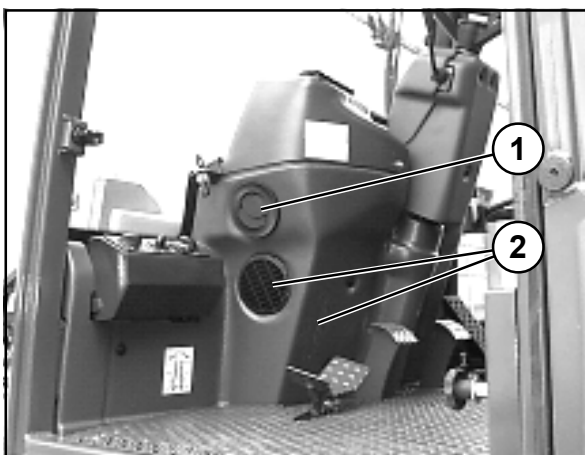


Fig. 5-8

5.3 Stopping loader operations

5.3.1 Parking the loader

- (1) Stop the vehicle on firm and preferably level ground.
- (2) Apply the parking brake (4-7/4).
- (3) Lower the bucket or front-loaded attachment to the ground.
- (4) Set the drive switch (4-7/3) to "0".



DANGER

If parking on a slope or gradient cannot be avoided, wheel chocks must be used and placed on the sloping side of the front axle wheels **in addition to** applying the parking brake.

5.3.2 Switching off the diesel engine



ATTENTION

If the diesel engine is very hot, it is a good idea to let the engine idle for a short time before switching it off.

Turn the ignition key to the left to the "0" position (5-1) and remove the key.



NOTE

In the "P" position, the parking light and the dashboard illumination remain switched on.

5.3.3 Switching off the heating and ventilation unit / air-conditioning (opt.)

- (1) Shut off the warm air supply (5-6/2).
- (2) Turn the dial for the fan (5-6/4) to the "0" position.
- (3) Switch off the air-conditioning unit (opt.) (5-6/3).

5.3.4 Leaving the loader

- (1) Lock the hand levers for the working and auxiliary hydraulics (1-2/1 and 1-2/2).
- (2) Remove the main battery switch (4-7/5).



NOTE

If you will not be using the vehicle for a while, follow the steps outlined in Chapter 3 (Anti-Theft Protection).

- (3) Remove the ignition key and lock the doors.

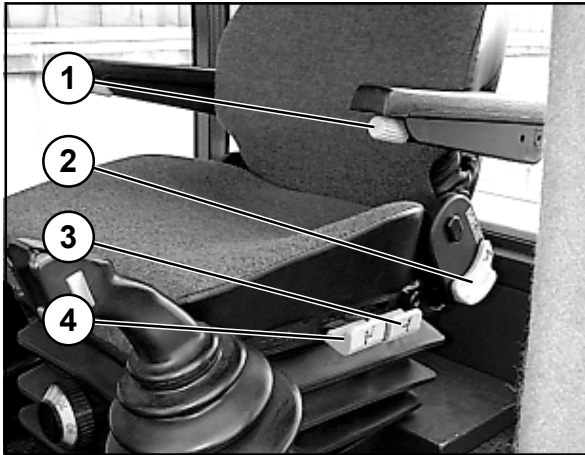


Fig. 5-9

5.4 Adjusting the driver's seat

5.4.1 Isri seat

(1) Use the lever (5-9/2) to adjust the inclination of the backrest or fold the backrest.

(2) Pull the lever (5-9/3) up to adjust the height and tilt for the rear of the seat.

(3) Pull (5-9/4) up adjust the height and tilt for the front of the seat.

(4) You can use the wheel (5-10/1) to adjust the seat cushioning to the weight of the driver (40 ... 130 kg).

(5) You can use the wheel (5-9/1) to adjust the height of the armrests.

(6) If required, adjust the positions of the valve controls for the main (4-7/8) and auxiliary hydraulics (4-6/8).

(7) Pull up the bar (5-10/2) and at the same time move the seat forwards or back to adjust the horizontal position to the driver's requirements.

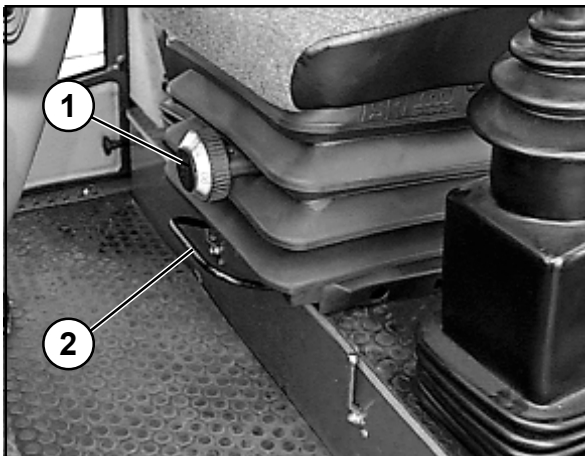


Fig. 5-10

5.4.2 Grammer seat

(1) Weight adjustment:

Adjust the seat to the driver's weight by actuating the weight adjustment lever. The set driver's weight is visible in the inspection window (5-11).

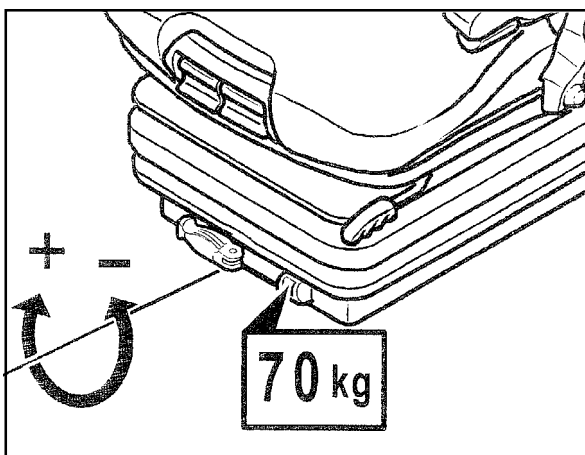


Fig. 5-11

(2) Height adjustment:

The height can be adjusted in several steps. Lift the driver's seat to the desired height until it can be heard to engage. The seat returns to the lowest position when it is lifted over the topmost position (stop) (5-12).

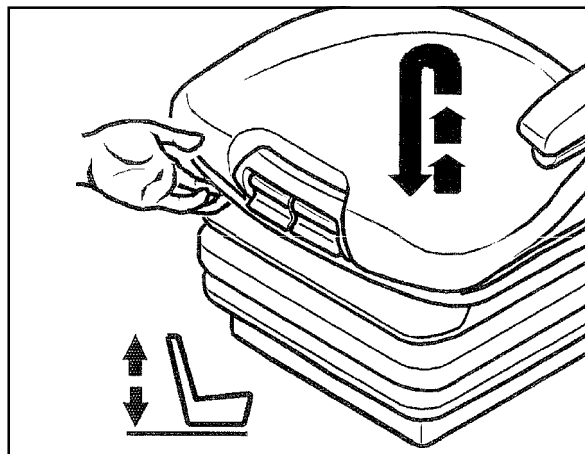


Fig. 5-12

(3) Armrest inclination:

Turn the handwheel (5-13/arrow) to adjust the armrest in longitudinal direction.

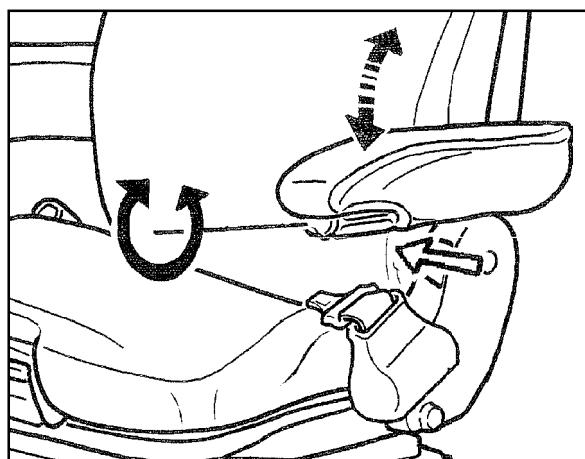


Fig. 5-13

(4) Armrests:

If desired, you can swing the armrests to the rear and adjust their height.

To adjust the armrest height, remove the round cap (5-14/arrow) in the covering.

Loosen the hex nut (wrench size 13 mm), set the armrest as desired and tighten the nut again. Push the removed cap onto the nut again.

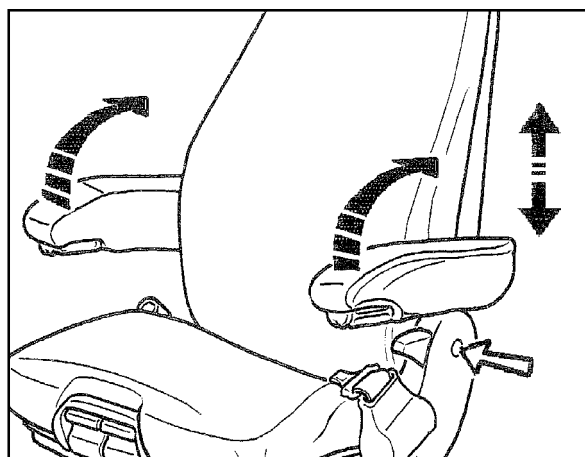


Fig. 5-14

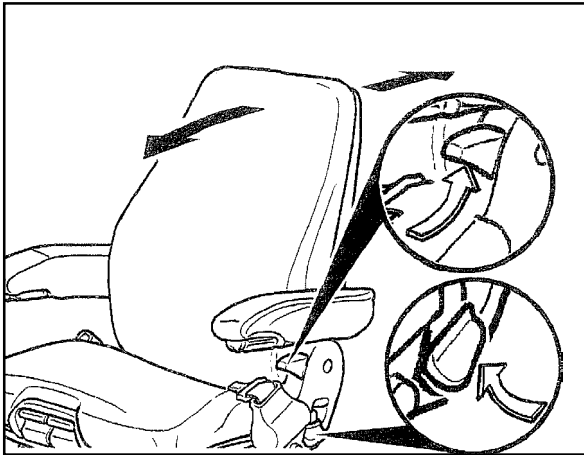


Fig. 5-15

(5) Adjusting the backrest:

Use the locking lever (5-15/arrow) to adjust the backrest.



NOTE

The locking lever must engage in the desired position. It must be impossible to move the backrest to another position when the lever has engaged.

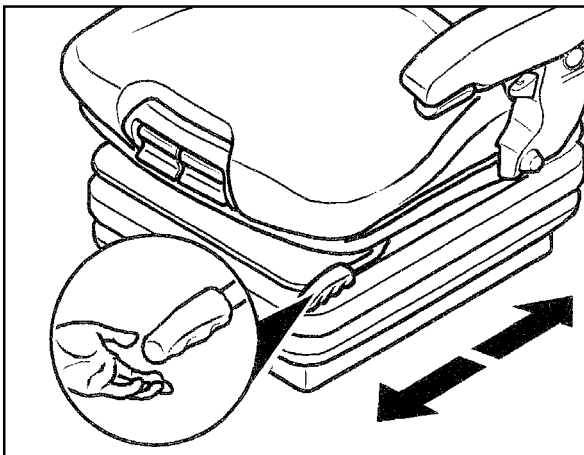


Fig. 5-16

(6) Longitudinal adjustment:

You can adjust the seat in longitudinal direction when you pull the lever (5-16) upwards.



NOTE

The locking lever must engage in the desired position. It must be impossible to move the driver's seat to another position when the lever has engaged.

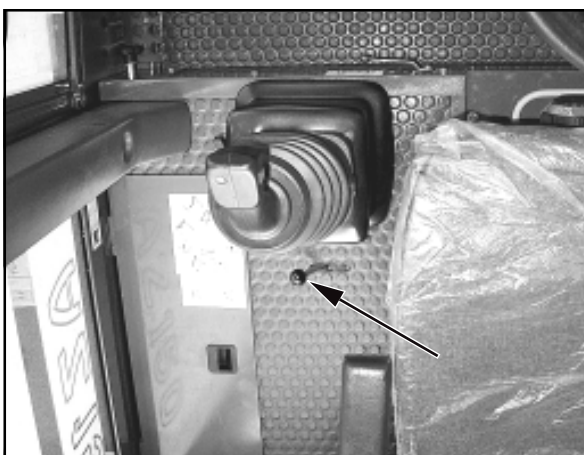


Fig. 5-17

5.5 Switching the steering



ATTENTION

- The wheels of the rear axle must be straight before operating the steering toggle switch (5-17/arrow).
- The steering mode may only be changed when the **machine is stationary**. To toggle the steering mode, move the lever forward (rear-wheel steering) or backward (four-wheel steering).