

# Operation

## 5 Operation

### 5.1 Checks before commissioning

- Engine oil level (see the operating instructions for the engine)
- Brake fluid level
- Hydraulic oil level
- Fuel level
- Tire pressure
- Profile depth
- Lighting system
- Seat position
- Ball block valve for the working and auxiliary hydraulics (1-2/arrow); open if necessary  
» only if work is to be commenced «
- Bucket arm prop [(e.g. bucket arm support (option) (1-2/arrow)]; remove if necessary
- Articulation safeguard (1-3/arrow); remove if necessary
- General state of the loader, e.g. check for leaks
- The presence of
  - a first aid kit
  - a warning triangle
  - a signal lamp
 must be verified.

### 5.2 Commissioning

#### 5.2.1 Starting the diesel engine

- (1) Apply the parking brake (4-12/7).
- (2) Set the drive switch (4-12/5) to "0" (starter interlock!).
- (3) Insert the battery main switch (8-35/3).
- (4) Insert the ignition key into the starter switch (4-10/4) and turn the key clockwise to position "I" (5-1).

#### NOTE

- The indicator lamps for battery charge, parking brake and engine oil pressure light up. The fuel gauge, the engine oil temperature gauge and the operating hour meter function.
- Start the engine in position "0" of the drive switch (4-12/5).

- (5) Turn the ignition key clockwise to position "III" (5-1). As soon as the engine starts, release the ignition key.

#### NOTE

- If the engine has not started after two attempts, determine the cause using the malfunction table in the operating instructions for the engine.
- For operation at extremely low temperatures, see the operating instructions for the engine.
- The clogging indicator for the hydraulic oil filter (4-9/17) may light up prematurely after a cold start. It will go out when the hydraulic oil warms up. Operate the loader at a **low** speed until the indicator lamp goes out. Never subject the loader to full loads in this state.

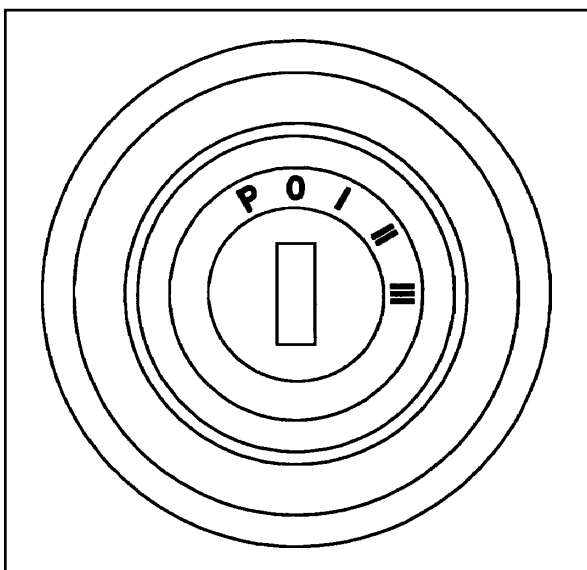


Figure 5-1

## 5.2.2 Winter operation

### CAUTION

If the outside temperature is below 0 °C, the machine must be properly "warmed up" to avoid damage to certain assemblies. To do so, actuate all cylinders (lifting and tipping cylinders) for some time (depending on the ambient temperature) with the machine idling. Proper operation of the machine can only be guaranteed even for subzero temperatures if the following measures have been taken:



### 5.2.2.1 Fuel

At low temperatures, paraffin precipitating from the fuel can cause the fuel system to clog up.

For this reason, always use winter diesel fuel (suitable for temperatures down to -15 °C) when the outside temperature is below 0 °C.

### NOTE

The fuelling stations normally start offering winter diesel fuel in good time before the cold season starts. Often, they offer diesel fuel that can be used down to temperatures of -20 °C (super-grade diesel fuel). If the temperature is below -15 °C or -20 °C, paraffin oil must be added to the diesel fuel. For the mixture ratio, refer to the diagram (5-2).

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

### CAUTION

Only mix the ingredients in the tank! First, fill in the required amount of paraffin oil, then top up with diesel fuel.

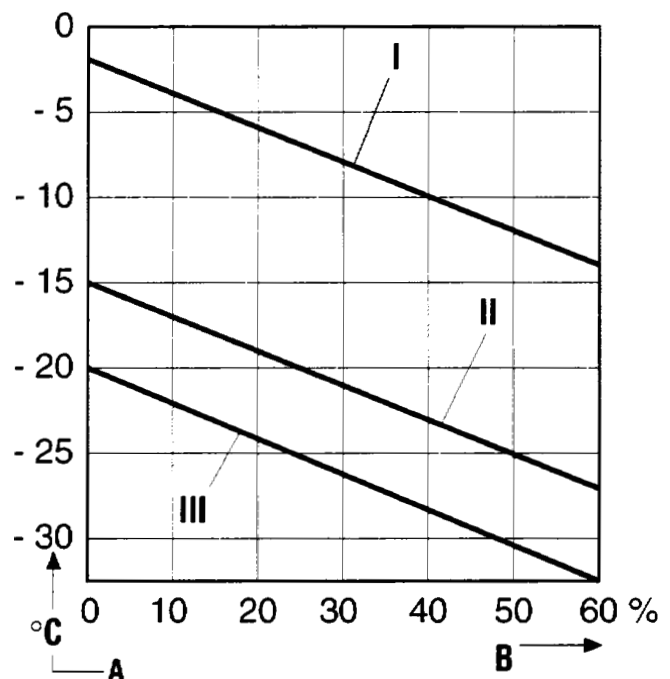


Figure 5-2

### 5.2.2.2 Engine oil change

See the operating instructions for the engine and the operating instructions for the machine (section 8.2.2).

### 5.2.2.3 Changing the oil in the hydraulic system

### CAUTION

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 8.2.12 for the hydraulic system oil change.



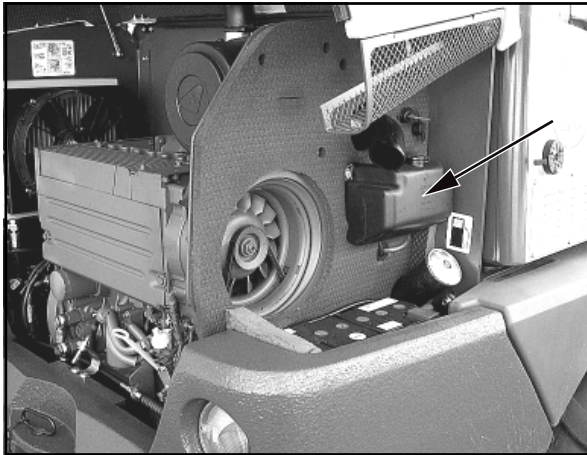


Figure 5-3

### 5.2.2.4 Anti-freezing agent for the windshield washer system

#### CAUTION

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 (5-3/5) to prevent it from icing up. Heed the instructions provided by the manufacturer for the mixture ratio.

### 5.2.3 Driving the loader on public roads

#### CAUTION

- Driving on public roads is **only** permitted with an **empty** standard, multi-purpose or light-weight material bucket and **only** with bucket protection.
- A warning triangle and a first-aid kit must be provided in the loader.
- » Only for fast loaders - 30 km/h «  
The distribution gear may only be shifted when the loader is not moving (4-13/11). When shifting gears, set the drive direction lever (4-12/5) to "0" (gear shift released after 5 sec.).

#### NOTE

The driver of the loader must possess a valid driver's license.

- The driver must carry his driving license (original) and the operating permit (original) with him.

Before driving on public roads, the following safety measures must be taken:

- (1) Lower the bucket arm until the lowest point of the bucket arm or the bucket is at least 30 cm above the road (5-4).
- (2) Close the ball block valve for the working and auxiliary hydraulics (1-2/arrow).

#### CAUTION

When closed (horizontal position) the ball block valve is perpendicular to the flow direction. This prevents the bucket arm from being lowered and the bucket from tipping while driving.

- (3) Cover the bucket cutting edge and teeth with the bucket protector (5-4/arrow).
- (4) Insert the plug of the bucket protector into the socket (5-5/arrow, option).
- (5) Perform a function check.



Figure 5-4

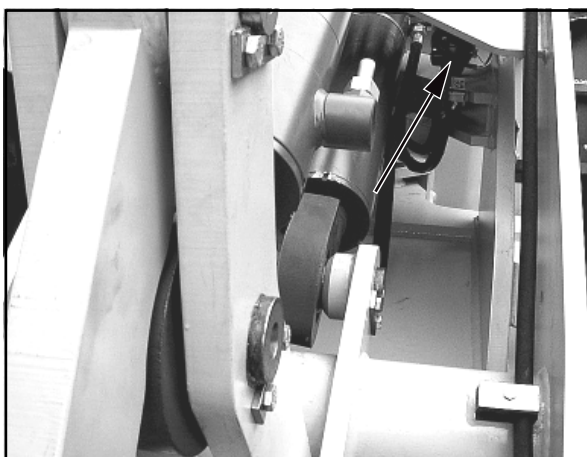


Figure 5-5

(6) Lock both doors.

## DANGER

- The differential lock (4-12/2) must not be enabled when driving on public roads.
- Driving on public roads with the bucket filled is forbidden.
- The working searchlights must be switched off (4-13/1).



(7) Release the parking brake (4-12/7).

(8) Preselect hydraulic drive stage II (4-12/1).

(9) Set the gear shift to "II" (4-13/11) » only for fast loaders  
- 30 km/h «.

(10) Select travel direction (4-12/5).

(11) Press the accelerator pedal (4-10/3).

## NOTE

- The loader starts. The travel speed is determined by the position of the accelerator pedal.
- The service brake is activated by depressing the brake pedal (4-8/3).



## DANGER

Changing the travel direction during driving is **not** allowed to avoid any danger to other road users.



## 5.2.4 Working with the loader

Normally, all work is executed in hydraulic drive stage II (4-12/1) and a gear stage that matches the working conditions (4-13/11) » only for fast loaders - 30 km/h «.

## CAUTION

» Only for fast loaders - 30 kmh «

The distribution gear may only be shifted when the loader is not moving (4-13/11). When shifting gears, set the drive direction lever (4-12/5) to "0" (gear shift released after 5 sec.).



For special tasks which ask for a more sensitive control of the speed or a higher engine speed at reduced travel speed, hydraulic drive stage "I" (4-12/5) can be selected. The travel speed can thus be reduced to 7 kmh.

To attain full performance, the combined action of propulsion and of the working hydraulics is necessary. It is up to the operator to control the available power using the accelerator, the inching function and the hand lever for the working hydraulics.

## NOTE

The hydraulic drive stage can be switched from I to II or vice versa while driving. However, switching from drive stage II to I is not recommended when driving at high speeds since the loader is then braked very abruptly.



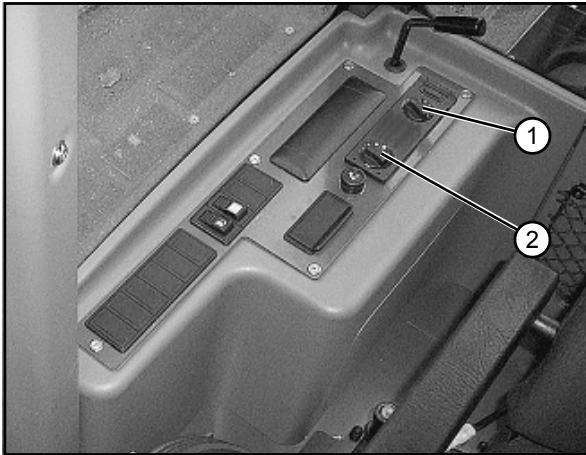


Figure 5-6

- (1) Lock both doors.
- (2) Release the parking brake (4-12/7).
- (3) Preselect the gear stage (4-13/11) » only for fast loaders - 30 km/h «.
- (4) Preselect hydraulic drive stage (4-12/1).
- (5) Select travel direction (4-12/5).
- (6) Press the accelerator pedal (4-10/3).

### NOTE

- The travel speed and the thrust force are altered exclusively by depressing the accelerator pedal.
- When driving up gradients, the travel speed decreases in spite of full throttle in favor of the thrust force.
- The thrust forces and travel speeds are the same in forward and reverse direction.

### CAUTION

- The hydraulic quick-change device must only be **locked** if an attachment has been mounted.
- If the hydraulic oil temperature indicator lamp (4-9/12) lights up during operation, the loader must be switched off immediately, the cause must be determined by a hydraulics expert and the malfunction must be eliminated.

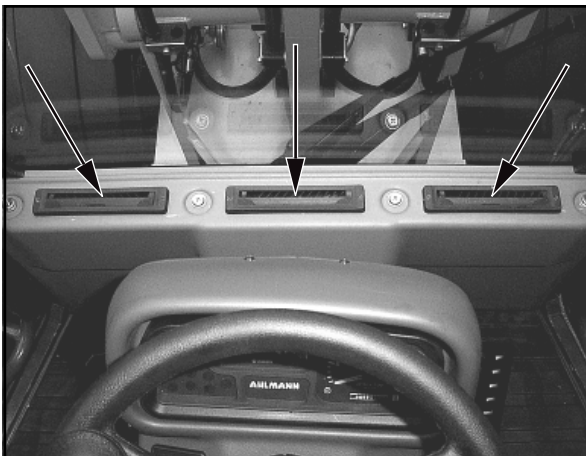


Figure 5-7

## 5.2.5 Heating and ventilation system

### 5.2.5.1 Adjusting the air flow

- (1) Turn the rotary switch (5-6/2) for the blower to position 0, 1, 2, or 3 depending on the air flow desired.
- (2) Adjust the air flow direction with the nozzles at the windshield (5-7/arrows) or in the floor room (5-8/arrows).

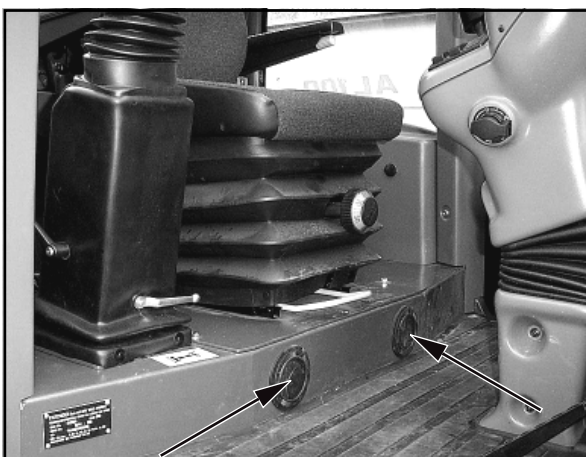


Figure 5-8

### 5.2.5.2 Switching on the heater

- (1) Turn the knob (5-6/1) in clockwise direction (warm) or in anti-clockwise direction (cold) to reach the desired temperature.

### 5.3 Decommissioning the loader

#### 5.3.1 Parking the loader

- (1) Stop the loader on solid ground; if possible, not on a slope.
- (2) Place the bucket or the attachment on the ground.
- (3) Set the drive switch (4-12/5) to "0".
- (4) Apply the parking brake (4-12/7).

#### **DANGER**

If parking on a 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, and the articulation safeguard must be inserted. On slopes, the wheel chocks must be placed on the sloping side of the rear axle wheels.



#### 5.3.2 Switching off the diesel engine

#### **CAUTION**

If the diesel engine is very hot or has been subjected to heavy loads, let the engine idle for a short time before switching it off.



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

#### **NOTE**

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



#### 5.3.3 Switching off the heating and ventilation system

- (1) Shut off the warm air supply (5-6/1).
- (2) Turn the rotary switch (5-6/2) for the blower to position "0".

#### 5.3.4 Leaving the loader

- (1) Close the ball block valve for the working and auxiliary hydraulics (1-2/arrow).
- (2) Remove the ignition key and lock the doors.
- (3) Remove the battery main switch (8-35/3).



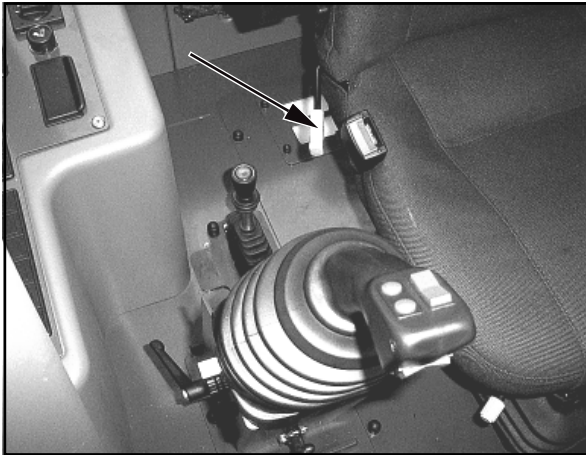


Figure 5-9

### 5.4 Adjusting the driver's seat

#### 5.4.1 Klepp seat

(1) Adjust or swing forward the backrest using the hand lever (5-9/arrow).

(2) The operator's seat can be adjusted in the horizontal direction to suit the driver's requirements by pulling the handle (5-10/1) upwards and moving the seat forward or backward.

(3) Turn the rotary knob (5-10/2) while exerting a force on the seat to adjust the seat height.

(4) The seat suspension can be adjusted to the driver's weight with the hand wheel (5-10/3).

(5) Adjust the height of the arm rest by turning the knob (5-10/4).

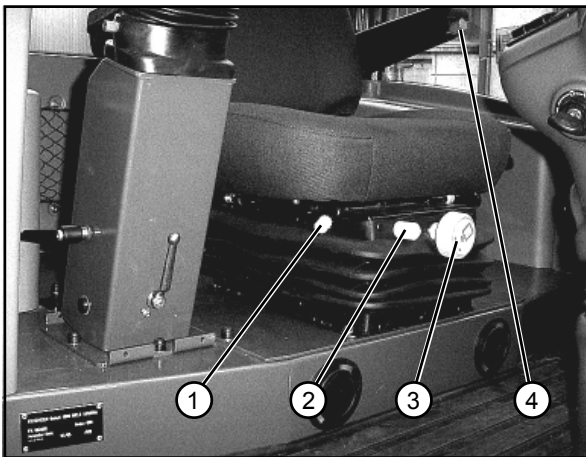


Figure 5-10

#### 5.4.2 Isri seat

(1) Adjust the height of the arm rest by turning the knob (5-11/1).

(2) Adjust or swing forward the backrest using the hand lever (5-11/2).

(3) Adjust the seat height and rear inclination by pulling the hand lever (5-11/3) upwards.

(4) Adjust the seat height and front inclination by pulling the hand lever (5-11/4) upwards.



Figure 5-11



(5) The seat suspension can be adjusted to the driver's weight (40 ... 130 kg) with the handwheel (5-12/1).

(6) Readjust the position of the pilot valves for the working and auxiliary hydraulics (4-12/4) if necessary.

(7) The operator's seat can be adjusted in the horizontal direction to suit the driver's requirements by pulling the handle (5-12/2) upwards and moving the seat forward or backward.



Figure 5-12

### 5.4.3 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 (5-13).

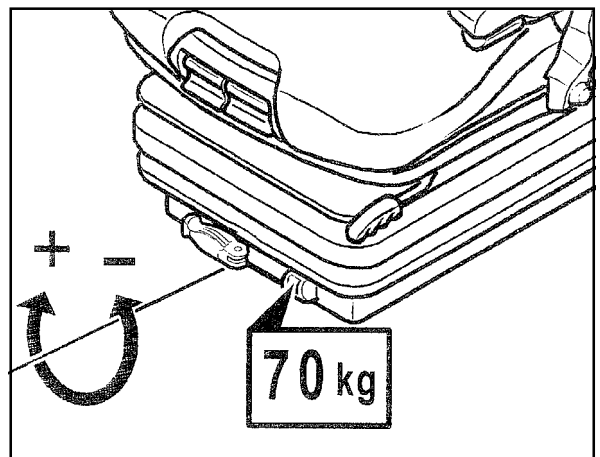


Figure 5-13

#### (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) (5-14).

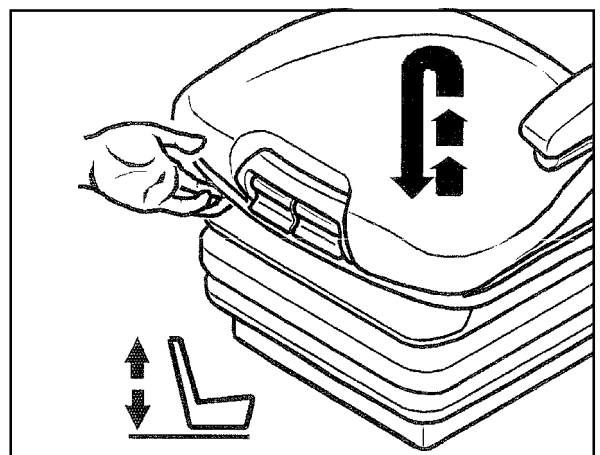


Figure 5-14

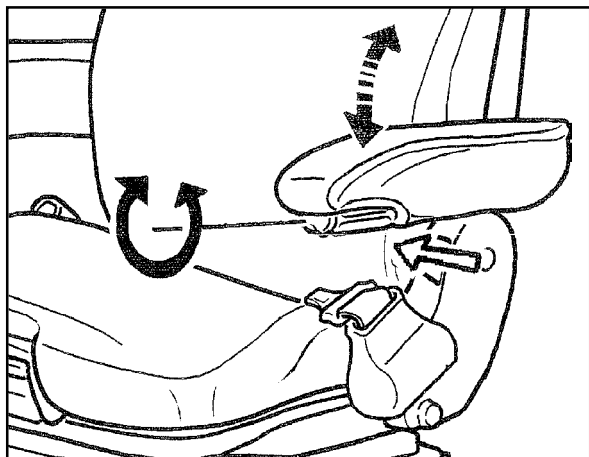


Figure 5-15

### (3) Armrest inclination:

Turn the handwheel (5-15/arrow) to adjust the armrest in longitudinal direction.

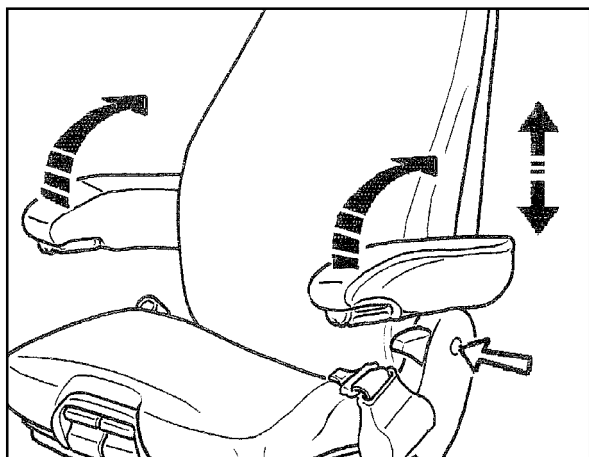


Figure 5-16

### (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 (5-16/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.

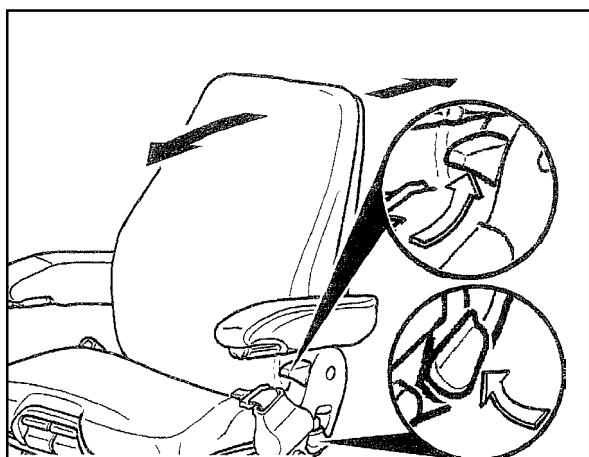


Figure 5-17

### (5) Adjusting the backrest:

Use the locking lever (5-17/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.

**(6) Longitudinal adjustment:**

You can adjust the seat in longitudinal direction when you pull the lever (5-18) 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.

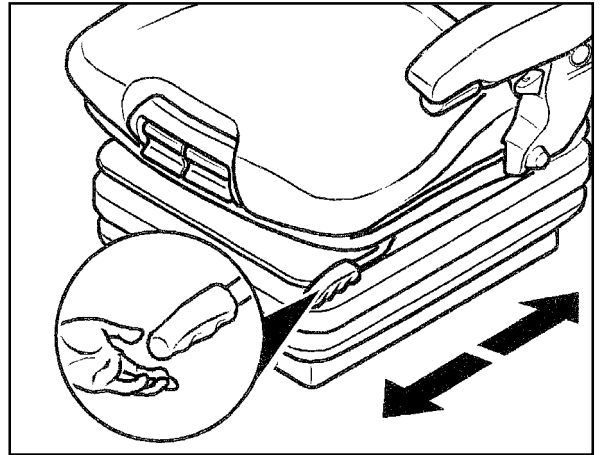


Figure 5-18