

Operation

5 Operation

5.1 Checks before start-up

- Engine oil level (see the operating instructions for the engine)
- Brake fluid (brake hydraulic oil)
- Hydraulic oil level
- Fuel level
- Tyre pressure
- Profile depth
- Lighting system
- Seat position
- Remove the lock levers for the auxiliary and working hydraulics pilot valves (4-8/6) if present
 - » 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 lampmust be verified.

5.2 Start-up

5.2.1 Starting the diesel engine

- (1) Apply the parking brake (4-9/3).
- (2) Set the drive switch (4-10/11) to "0" (starter interlock!).
- (3) Turn the main battery switch (8-36/1) clockwise to the stop.
- (4) Insert the ignition key into the starter switch (4-8/7) and turn the key clockwise to position "II" (5-1).



NOTE

- Indicators for battery charge, parking brake, engine oil pressure and preheating light up. The fuel gauge, the coolant temperature gauge, the operating hour counter and the digital clock function.
- Start the engine in position "0" of the drive switch (4-10/11).

- (5) Turn the ignition key clockwise to position "III" (5-1) after a few seconds (preheating). 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.
- Run the engine at a low speed and do not subject it to full load until the hydraulic oil has reached its operating temperature after a cold start. When a hydraulic oil filter clogging indicator (4-11/13) (option) is present, it will go out as soon as the hydraulic oil has reached its operating temperature.

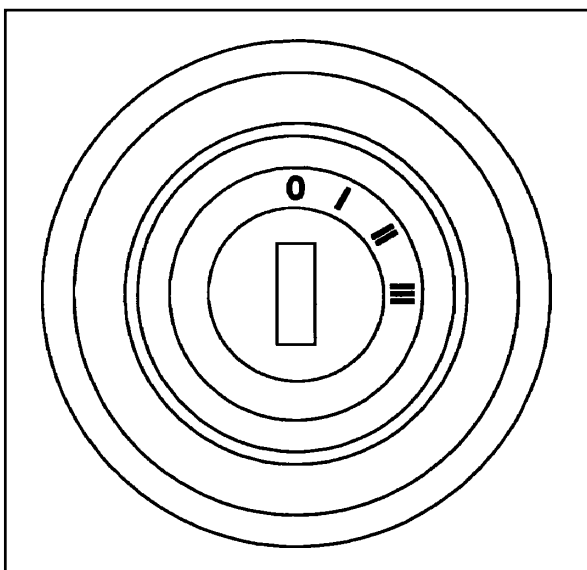


Figure 5-1

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, even for sub-zero temperatures, can only be guaranteed 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.

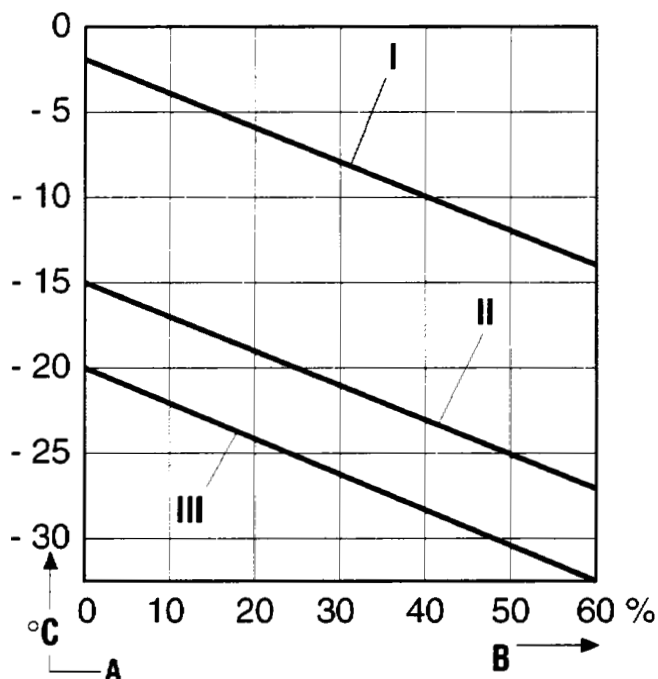


Figure 5-2

5.2.2.2 Engine oil change

See the operating instructions for the engine.

5.2.2.3 Hydraulic system oil change



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 8.2.11 for the hydraulic system oil change.



Figure 5-3



Figure 5-4



Figure 5-5

5.2.2.4 Anti-freezing agent, windshield washer



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. For the mixture ratio, heed the instructions provided by the manufacturer.

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.



NOTE

The driver of the loader must possess a valid driver's license equivalent to class "C1". The driver must carry his driver's 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) Lock (4-8-/6) pilot valves for the working and auxiliary hydraulics (4-8/4 and 4-8/5) by setting them to the rear.



CAUTION

Locking the two pilot valves prevent inadvertent lowering of the bucket arm, inadvertent tilting up or dumping or inadvertent opening of the bucket while travelling.

- (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.

- (6) Lock both doors.



DANGER

- Driving on public roads with the bucket filled is forbidden.
- The differential lock (4-10/10) must not be enabled when driving on public roads.
- The working lights must be switched off (4-10/6).

- (7) Release the parking brake (4-9/3).
- (8) Preselect hydraulic drive stage II (4-10/9).
- (9) Select the travel direction (4-10/11).
- (10) Press the accelerator pedal (4-8/8).

**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 (4-8/11).

**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

Generally, all work is carried out in hydraulic stage II (4-10/9).

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* (4-10/9) can be selected. The travel speed can thus be reduced to 7 km/h. 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.

- (1) Lock both doors.
- (2) Release the parking brake (4-9/3).
- (3) Preselect hydraulic drive stage (4-10/9).
- (4) Select the travel direction (4-10/11).
- (5) Press the accelerator pedal (4-8/8).

**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 favour of the thrust force.
- The thrust forces and travel speeds are the same in the forward and the reverse direction.

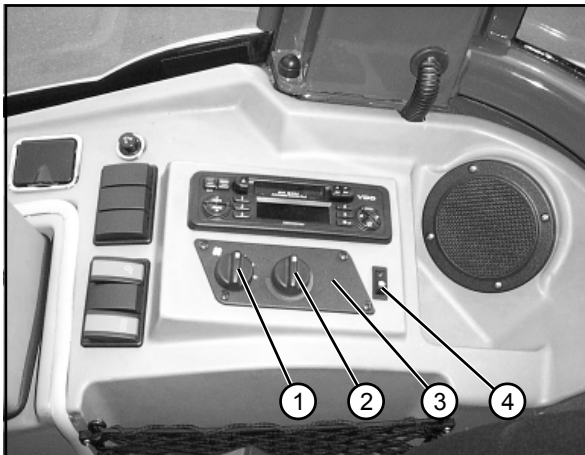


Figure 5-6



CAUTION

- The hydraulic quick-change device must only be locked if an attachment has been mounted.
- If the hydraulic oil temperature indicator lamp (4-11/14) 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.

5.2.5 Heating and ventilation system

5.2.5.1 Setting the air flow

- (1) Turn the rotary switch (5-6/1) for the blower to position 0, 1, 2, or 3 depending on the air flow desired.
- (2) Set the air flow direction with the air outlet nozzles to the right and left of the steering column/dashboard (5-7/arrows).



NOTE

There are also four invariable air nozzles in the windshield area (5-8/arrows).



Figure 5-7

5.2.5.2 Switching on the heater

- (1) Turn the knob (5-6/2) in the clockwise (cold) or the anti-clockwise direction (warm) to reach the desired temperature.

5.2.5.3 Switching on the air condition (opt.)

- (1) Press the „ON/OFF“ switch (5-6/4) to control the air condition as desired.

Switch pressed in the upper half - Air condition "OFF"
Switch pressed in the lower half - Air condition "ON"

5.2.5.4 Setting the temperature

- (1) The rotary switch (5-6/3) lets you control the temperature in the driver's cabin.

Rotary switch in clockwise direction - colder
Rotary switch in counter clockwise direction - warmer



NOTE

The air condition is supplied via an air opening behind the driver's seat.



CAUTION

For safety instructions and pertaining disposal regulations as well as for maintenance information, refer to the operating instructions that come with the air condition.

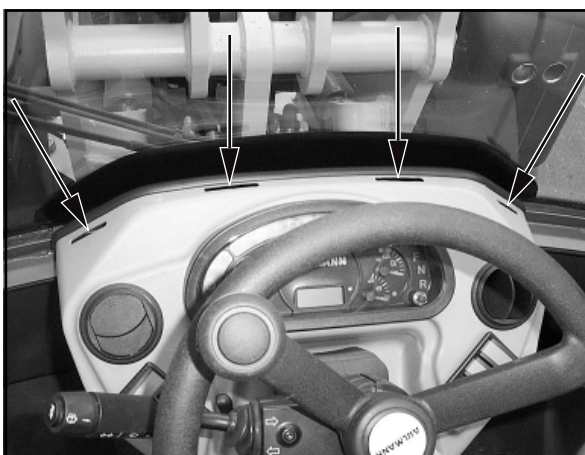


Figure 5-8

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 (4-10/11) to "0".
- (4) Apply the parking brake (4-9/3).



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 Switch 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.

5.3.3 Switching off the heater and ventilation system

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

5.3.4 Leaving the loader

- (1) Lock (4-8-/6) pilot valves for the working and auxiliary hydraulics (4-8/4 and 4-8/5) by setting them to the rear.
- (2) Unlock the battery main switch (opt.) (8-36/1) by giving it 2 counter clockwise turns.
- (3) Remove the ignition key and lock the doors.



Figure 5-9

5.4 Adjusting the driver's seat

5.4.1 Euro seat

(1) The driver's seat can be adjusted in the horizontal direction to suit the driver's requirements by pulling the handle (5-9/1) upwards and moving the seat forward or backward.

(2) Turn the rotary knob (5-9/2) while exerting a force on the seat to adjust the seat height.

(3) The seat suspension can be adjusted to the driver's weight with the hand wheel (5-9/3).

(4) Adjust or swing forward the backrest by simultaneously pulling up the hand lever (5-9/4).

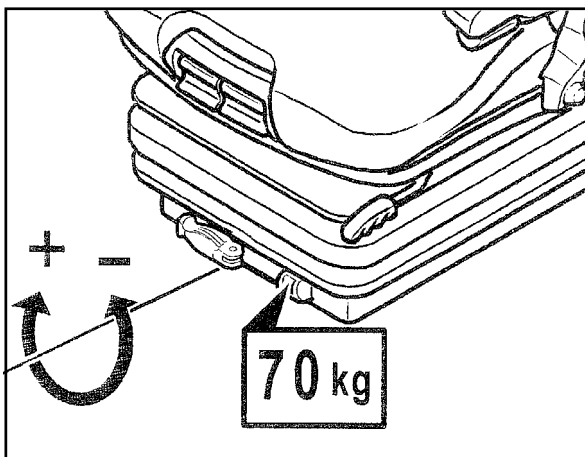


Figure 5-10

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 (5-10).

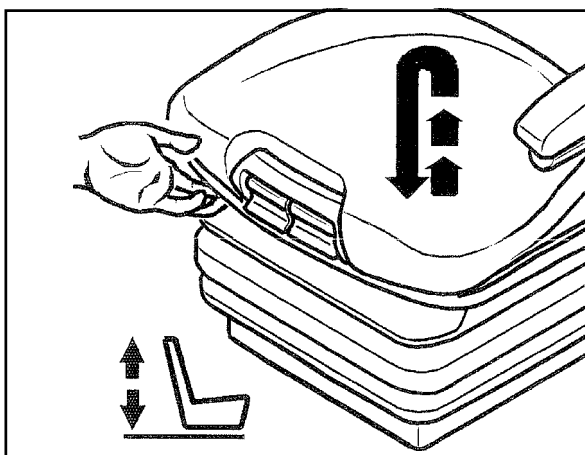


Figure 5-11

(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) (5-11).

(3) Armrest inclination:

Turn the handwheel (5-12/arrow) to adjust the armrest in longitudinal direction.

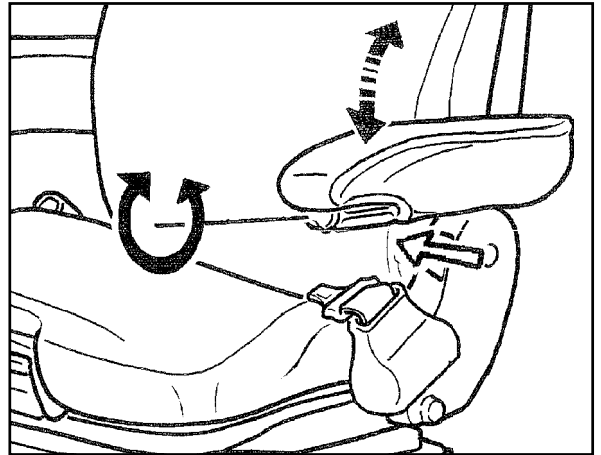


Figure 5-12

(4) Arm rests:

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

To adjust the armrest height, remove the round cap (5-13/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.

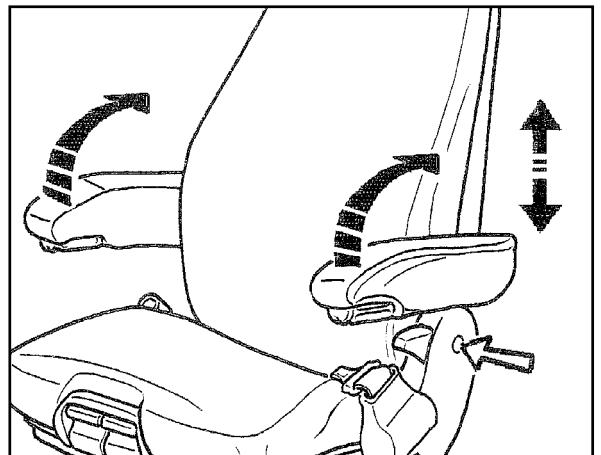


Figure 5-13

(5) Adjusting the backrest:

Use the locking lever (5-14/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.

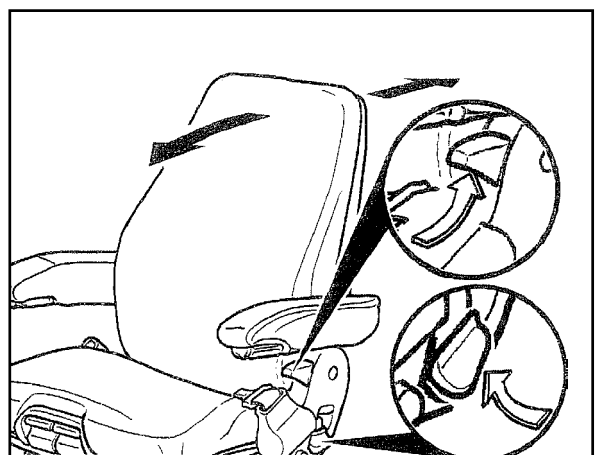


Figure 5-14

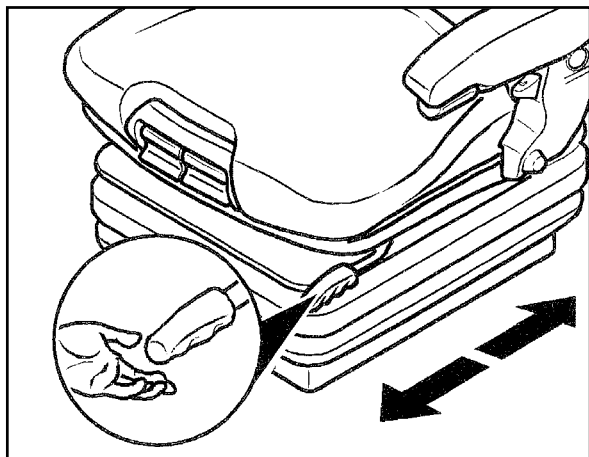


Figure 5-15

(6) **Longitudinal adjustment:**

You can adjust the seat in longitudinal direction when you pull the lever (5-15) 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.