

Operation

5 Operation

5.1 Pre-use check

- Engine oil level (see Engine Operating Instructions)
- Brake fluid level
- Hydraulic oil level
- Fuel level
- Tire pressure
- Profile depth
- Battery fluid level
- Lighting system
- Seat position
- Swing mechanism lock (1-4/arrow); remove if unnecessary
» only if work is to be commenced «
- remove bucket arm prop [(e.g. bucket arm support (option) (1-1/arrow))] if necessary
- Ball block valve for the working and auxiliary hydraulics (1-2/arrow); open if necessary
» only if work is to be commenced «
- General status of loader , e.g. leaks

5.2 Starting up

5.2.1 Starting the diesel engine

- (1) Pull the lever for the parking brake (4-7/14).
- (2) Insert the battery main switch (4-6/10).
- (3) Set the drive switch (4-7/13) to position "0" (starter interlock!).
- (4) Insert the ignition key into the starter switch (4-8/19) and turn the key to the right to the position "I" (5-1).

NOTE

- The generator lamp, parking brake indicator lamp and engine oil pressure lamps light up. The fuel gauge, engine oil temperature gauge and operating hour meter function.
- Start the engine in the neutral position.
- (5) Turn the ignition key to the right to position "III". As soon as the engine starts, release the ignition key.

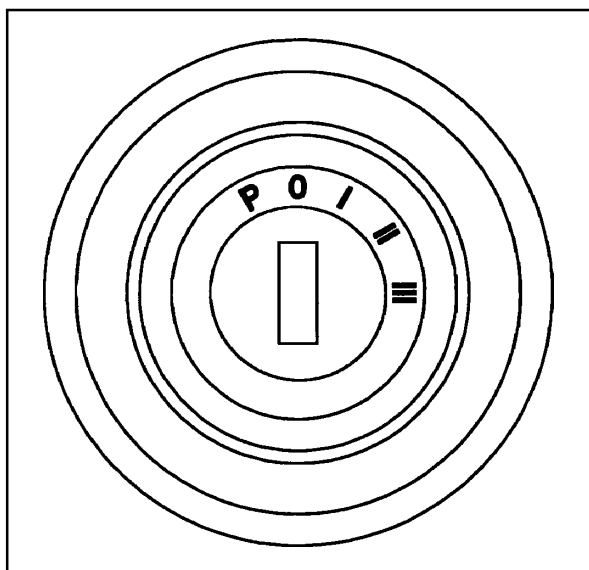


Figure 5-1

NOTE

- If the engine has not started after two attempts, determine the cause using the malfunction table in the Engine Operating Instructions.
- For operation at extremely low temperatures, see the Engine Operating Instructions.
- The clogging indicator for the hydraulic oil filter (4-8/23) 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.



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, tipping and swivelling 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.

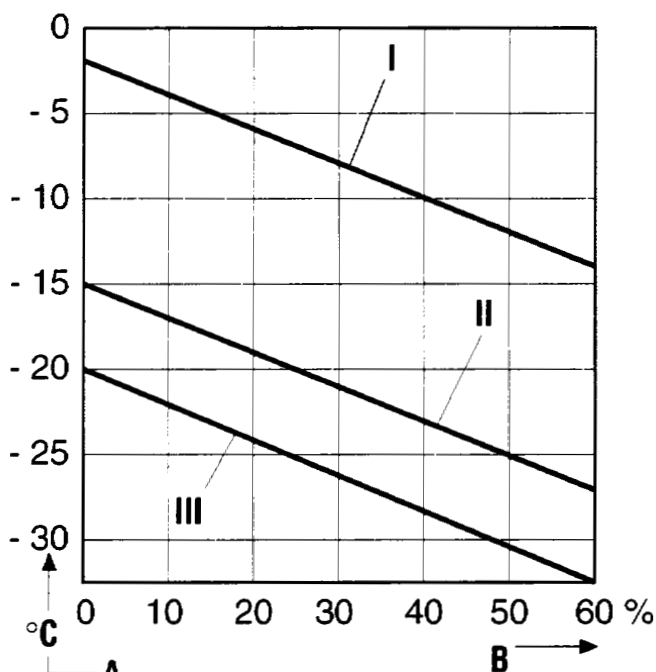


Figure 5-2

5.2.2.2 Changing the engine oil

See the operating instructions for the engine and the operating instructions for the machine (section 8.2.5).

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 8.2.7 for the oil change procedure required for the hydraulic system.

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 (4-6/8) 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 a standard, multipurpose OR lightweight material bucket and with bucket protection.
- A warning triangle and a first-aid kit must be provided in the loader.

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

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

Before driving in public traffic, the following safety measures for public road traffic are to 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 (5-3).
- (2) Close the ball block valve for the working and auxiliary hydraulics (1-2/arrow).
- (3) Block the swivel mechanism by inserting block wedges (1-3/arrow) in the swivel mechanism lock (1-4/arrow) and secure with the spring cotter pin.
- (4) Cover the bucket cutting edge and teeth with the bucket protector (5-3/arrow).
- (5) Insert the plug of the edge protector into the socket (5-4/arrow).
- (6) Check that the lighting system functions correctly.
- (7) Close both doors.
- (8) Switch the toggle lever for the steering system (4-6/7) to the "Rear-wheel steering" position.



Figure 5-3

DANGER

- Driving on public roads with the bucket filled is forbidden.
- The working searchlights must be switched off (4-8/1).

- (9) Release the parking brake (4-7/14).
- (10) Preselect hydraulic travel speed "II" (4-7/11).
- (11) Preselect the travel direction (4-7/13).
- (12) Press the accelerator pedal (4-5/4).

NOTE

The loader starts. The driving speed is determined by the position of the accelerator pedal.

CAUTION

- The service brake is activated by depressing the brake pedal.
- Changing the driving direction (forward/reverse) during driving is **not** allowed to avoid any danger to other road users.



Figure 5-4

5.2.4 Working with the loader

Normally, all work is executed in hydraulic drive stage "II" (4-7/11).

CAUTION

For special tasks which ask for a more sensitive control of the speed or a higher engine speed at reduced driving speed, hydraulic drive stage "I" (4-7/11) can be selected. The driving speed can thus be reduced to 6 km/h (slow loaders) or 8 km/h (fast loaders).

To attain full performance, the combined action of propulsion and the hydraulic loader functions 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 hydraulic loader functions.





NOTE

The hydraulic travel stage can be switched from I to II or vice versa while driving. However, switching from hydraulic travel speed II to I when driving at high speeds is not recommended because the loader is slowed dramatically.

- (1) Close both doors.
- (2) Release the parking brake (4-7/14).
- (3) Define the hydraulic travel speed (4-7/11).
- (4) Select the desired travel direction (4-7/13).
- (5) Press the accelerator pedal (4-5/4).



NOTE

- The travel speed and the pushing 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 pushing force.
- The pushing forces and travel speeds are the same in forward and reverse.



CAUTION

- The hydraulic quick-change device may only be actuated when an attachment is present.
- If the control lamp for the hydraulic oil temperature (4-8/24) lights up during operation, the machine must be switched off immediately, the cause must be determined by a hydraulics expert and the malfunction must be eliminated.



DANGER

If it is necessary during special types of work to drive with the bucket arm swung, the bucket must be kept close above the wheel and the travel distance must be kept as short as possible. If a wheel is raised off the ground by the stabilizer equipment due to rough terrain, the bucket arm must be briefly swiveled in the direction of travel so that the axle lock is deactivated.

5.2.5 Heating and ventilation system

5.2.5.1 Adjusting the amount of air

(1) Turn the rotary switch (5-5/ arrow) for the blower to position 0, 1 or 2, depending on the amount of air desired.



Figure 5-5

(2) Adjust the direction of the air flow by means of the lateral nozzles (5-6/arrow and 5-7/1).



Figure 5-6

5.2.5.2 Switching on the heater

(1) Depending on the heating requirement, turn the ball valve (5-7/1) to a vertical or horizontal position.

NOTE

Ball valve vertical - cold.
Ball valve to front - warm.

(2) Adjust the amount of air as described under 5.2.5.1.



Figure 5-7

5.3 Stopping loader operation

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 front-mounted attachment on the ground.
- (3) Set the drive switch (4-7/13) to "0".
- (4) Apply the parking brake (4-7/14).



DANGER

If parking on a slope or gradient cannot be avoided, wheel chocks must be 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



CAUTION

If the diesel engine is very hot or has been under heavy use, 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 it.



NOTE

In the „P position, the parking light and the dashboard illumination remain switched on and a warning signal is issued.

5.3.3 Switching off the heating and ventilation system

- (1) Shut off the warm air supply (5-7/2).
- (2) Turn the rotary switch (5-5/arrow) to the "0" position.

5.3.4 Leaving the loader

- (1) Lock the hand lever for the working and auxiliary hydraulics (1-2/arrow).
- (2) Remove the ignition key.
- (3) Remove the battery main switch (4-6/10).
- (4) Close the windows and lock the doors.

5.4 Adjusting the operator's seat

(1) Use the ratchet handle (5-8/3) to adjust the suspension. To do so, pull the ratchet lever in longitudinal direction and simultaneously turn it to "+" or "-".

(2) Use the knob (5-8/2) to adjust the seat suspension to the driver's weight. To do so, sit down on the seat, pull out the knob and move it to the right or left.

(3) The operator's seat can be adjusted in the horizontal direction to suit the driver's requirements by actuating the lever (5-8/1) and moving the seat forward or backward.

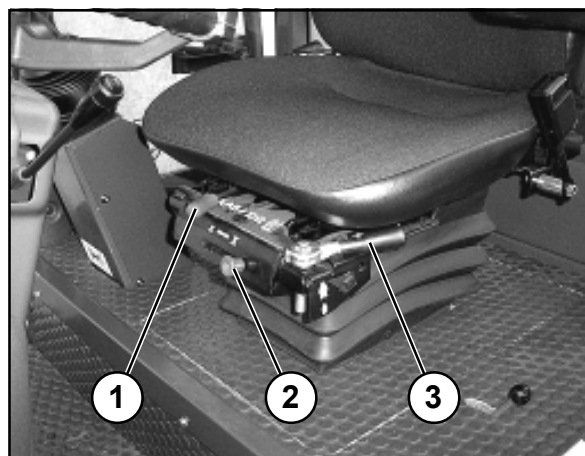


Figure 5-8

(4) Adjust the height of the arm rest by turning the knob (5-9/2).

(5) Fasten the seat belt (5-9/1) when you are working with the loader.

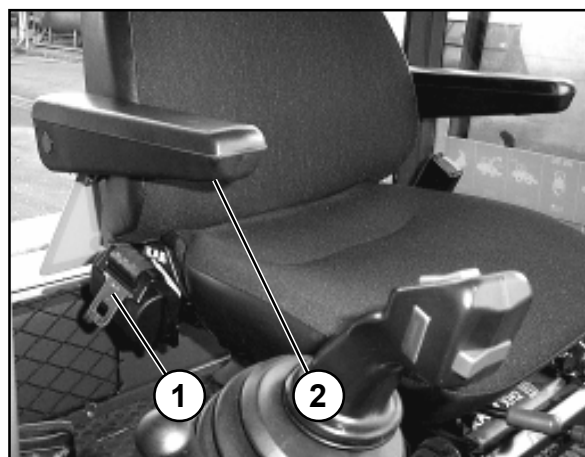


Figure 5-9

5.5 Switching the steering

CAUTION

- The wheels of the rear axis must be in the straight position before the switching lever (5-10/arrow) is activated.
- The steering can be switched **only if the machine is standing still**. To switch the steering type, move the hand lever inwards (rear-axle steering) or outwards (four-wheel steering).



Figure 5-10

