Operating Instruction/Maintenance Instruction

Original Operating Instructions

D.ONE
Utility roller

S/N 101 924 95 1001> / S/N 101 924 93 1001>
DL8 203 95 EN

DYNAPAC
FAYAT GROUP

The above notes do not constitute an extension of the warranty and liability conditions specified in the general sales and delivery conditions of Dynapac GmbH.

We wish you successful work with your Dynapac machine.

CAUTION!

Danger of injury if failing to comply!

Sections marked accordingly indicate a dangerous situation that could lead to fatal or severe injuries, if this warning is disregarded.

NOTICE!

Danger of material damage if failing to comply!

Sections marked accordingly indicate possible dangers for machines or components.

Sections marked accordingly indicate technical information or notes on using the machine or its components.

ENVIRONMENT!

Environmental damage if failing to comply!

Paragraphs marked accordingly indicate practices for safe and environment-friendly disposal of fuels and lubricants as well as replacement parts.

3.1.3 Personal protective equipment

Depending on the work to be carried out, personal protective equipment is required (to be provided by the operating company):

	Working clothes	Tight fitting working clothes with low tear resistance, tight sleeves and without any projecting parts protect against being caught by moving components.
	Safety shoes	They protect against heavy falling parts and slipping on slippery ground.
	Protective gloves	They protect the hands against scrapes, punctures or deeper injuries, irritating and caustic substances and burns.

3.4.5 Safety regulations and environmental protection regulations for handling coolants

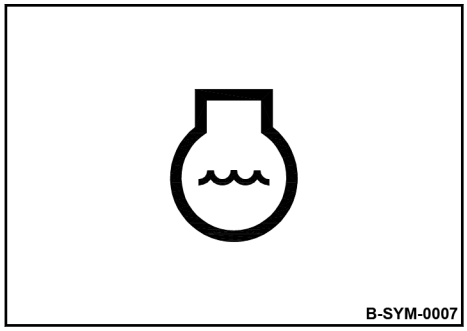


Fig. 8

WARNING!

Danger of scalding by hot fluid!

– Open the compensation tank only when the engine is cold.
– Wear your personal protective equipment (protective gloves, protective clothing, goggles).

CAUTION!

Health hazard caused by contact with coolant and coolant additives!

– Wear your personal protective equipment (protective gloves, protective clothing).
– Do not inhale any fumes.
– Avoid contact.

CAUTION!

Danger of slipping on spilled coolant!

– Immediately bind spilled coolant with an oil-binding agent.

ENVIRONMENT!

Coolant is an environmentally hazardous substance!

– Always keep coolant and coolant additives in proper containers.
– Immediately bind spilled coolant with an oil-binding agent and dispose of it according to regulations.
– Dispose of coolant according to regulations.

3.11 Maintenance work

3.11.1 Preliminary remarks

Always carry out the prescribed maintenance work and maintenance measures on time in order to maintain the safety, operational readiness and long service life of the machine.

The machine must only be serviced by qualified personnel authorised by the operating company.

3.11.2 Working on hydraulic lines

Before the hydraulic system can be depressurized, machine parts with hydraulic movement must be safely set down or secured to prevent them from falling.

Relieve hydraulic pressures before working on hydraulic lines. Hydraulic oil escaping under pressure can penetrate the skin and cause severe injury. Immediately call for medical assistance if injured by hydraulic oil.

Do not step in front of or behind the machine when performing adjustment work in the hydraulic system.

Do not change the setting of pressure relief valves.

Drain the hydraulic oil at operating temperature – danger of scalding!

Any hydraulic oil must be collected and disposed of in an environmentally friendly way.

Always collect and dispose of hydraulic oils separately.

Do not start the engine after draining off the hydraulic oil. Once all work is completed (with the system still depressurized!) check all connections and fittings for leaks.

Hydraulic hoses must be visually inspected at regular intervals.

Do not mix up hoses by mistake.

Only genuine replacement hydraulic hoses ensure that the correct hose type (pressure range) is used at the right location.

3.11.3 Working on the engine

Do not work on the fuel system while the engine is running - danger to life due to high pressures!

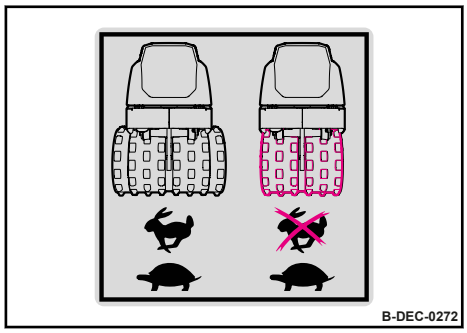
Wait until the engine has stopped, then wait approx. another 15 minutes.

Keep out of the danger zone during the initial test run.

In case of leaks return to the workshop immediately.

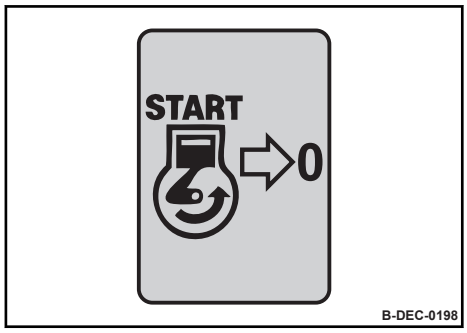
Drain the engine oil at operating temperature – danger of scalding!

Wipe off spilled oil, collect leaking oil and dispose of it in an environmentally friendly way.



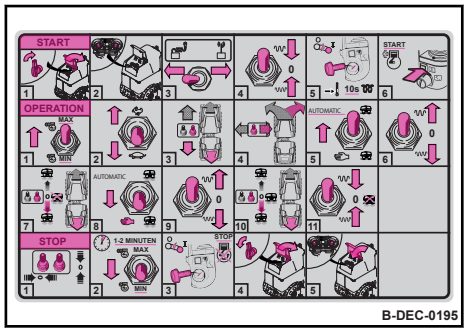
Information sticker - Low travel speed range

Fig. 26



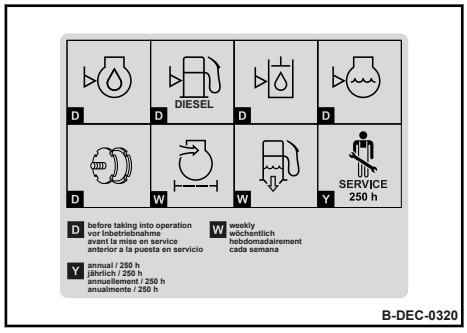
Information sticker - Engine start

Fig. 27



Brief operating guide

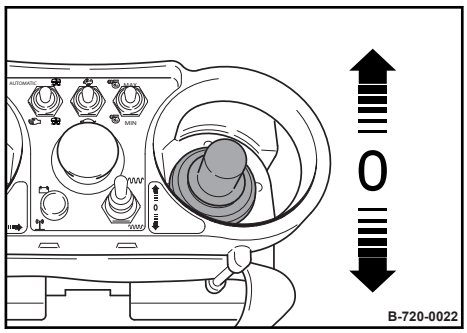
Fig. 28



Maintenance sticker

Fig. 29

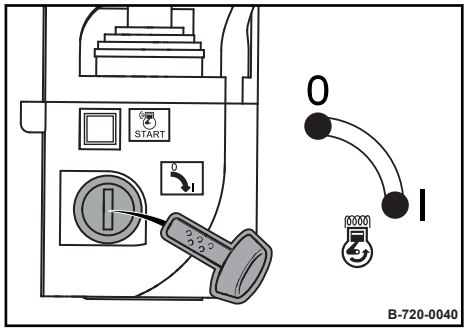
4.4.5 Travel lever



Shift forward	Forward travel
Pull back	Backward travel

Fig. 42

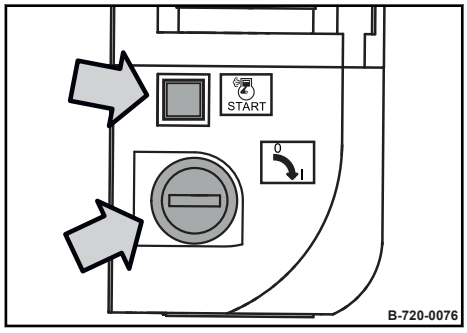
4.4.6 Starter switch



Position “0”	Ignition off, key can be pulled out
Position “I”	Ignition on: charge control light and engine oil pressure warning light light up (test function). At low temperatures, the preheating control light lights up on the display module.

Fig. 43

4.4.7 Start button



Set the starter switch to position “I” and press it	The engine starts.

Fig. 44

5.3.4 Checking the coolant level

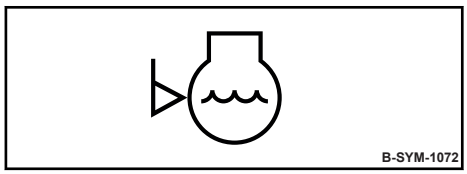


Fig. 57

NOTICE!

Danger of engine damage!

– If, during the daily inspection the coolant level is found to have dropped, check all lines, hoses and engine for leaks.
– Do not use radiator sealant to seal leaks.
– Use only coolant of the permitted specification ↳ *Chapter 8.3.3 'Coolant' on page 113*.

Protective equipment:
- Working clothes
- Safety shoes
- Protective gloves
- Safety goggles

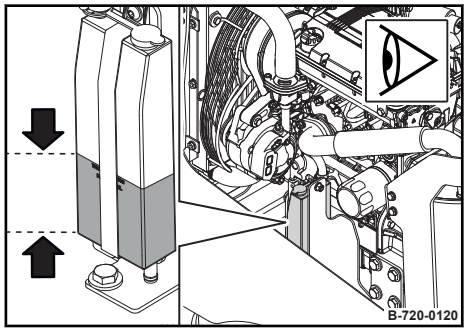


Fig. 58

1. Check the coolant level in the compensation tank.

⇨ The coolant level must be between the "MIN" and "MAX" marks.

WARNING!

Danger of scalding by hot fluid!

– Open the compensation tank only when the engine is cold.
– Wear your personal protective equipment (protective gloves, protective clothing, goggles).

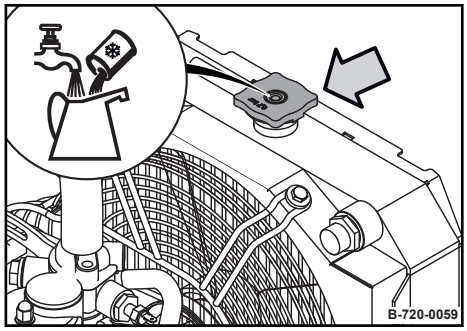


Fig. 59

2. For topping up, clean the area around the filling port.

3. Unscrew the cap and fill with coolant up to the "MAX" mark.

4. Close the cap.

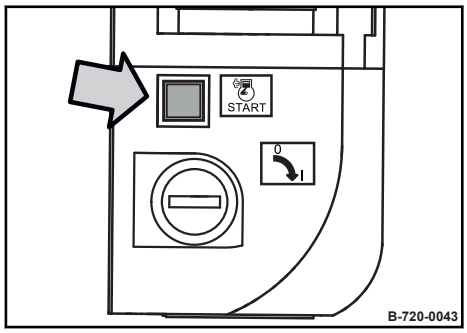


Fig. 80

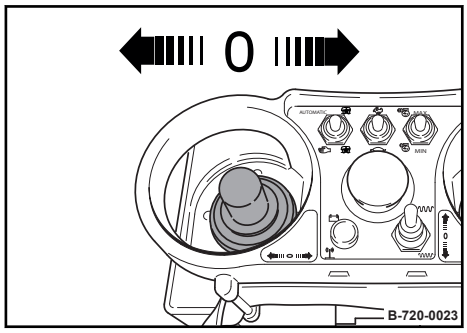


Fig. 81

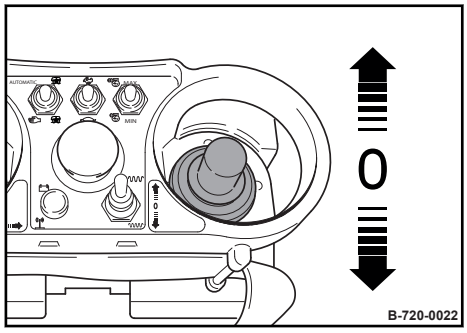


Fig. 82

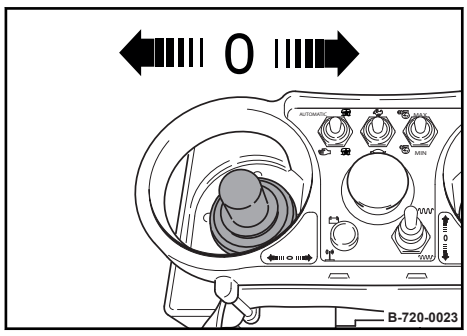


Fig. 83

2. Press the start button.

⇨ The engine should not start.

3. Release the travel lever and check that it returns to the neutral position on its own.

The automatic return to neutral position can be impaired by dirt (e.g. mortar, concrete residues).

4. If necessary, clean the travel lever with a clean cloth or brush.

5. Shift the steering lever to the left or right and hold in place.

6. Press the start button again.

⇨ The engine should not start.

7. Release the steering lever and check that it returns to the neutral position on its own.

The automatic return to neutral position can be impaired by dirt (e.g. mortar, concrete residues).

8. If necessary, clean the steering lever with a clean cloth or brush.

9. Start the engine.

10. Before starting to drive make sure that the driving area is absolutely safe.

11. Move the travel lever slowly forwards or backwards.

⇨ Make sure the machine travels in the chosen direction.

12. Shift the steering lever to the left or right.

⇨ Make sure the machine steers in the chosen direction.

13. Release the travel lever.

⇨ Make sure the machine brakes until it comes to a standstill.

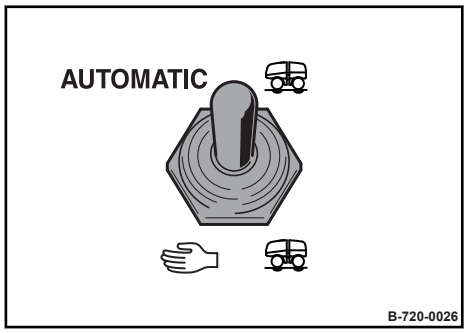


Fig. 101

2. Switch the toggle switch for vibration pre-selection to the "front" position.

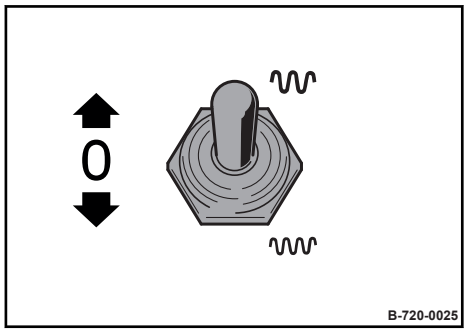


Fig. 102

3. Use the toggle switch for vibration to pre-select the required amplitude.

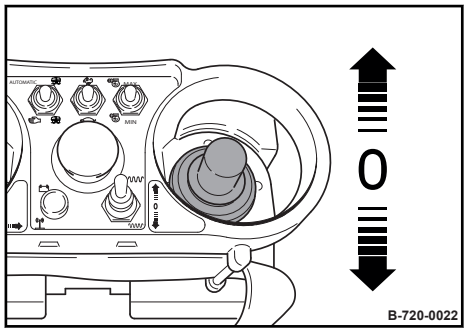


Fig. 103

4. Move the travel lever forwards or backwards.

⇨ The machine travels in the required travel direction and the vibration is switched on.

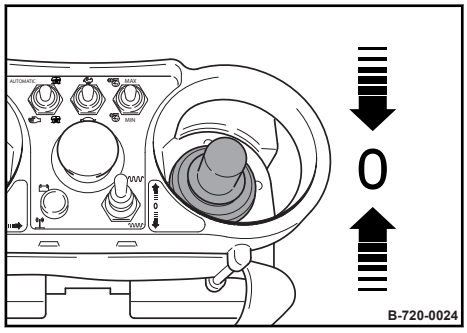


Fig. 104

5. To switch off vibration return the travel lever towards the “middle” position.

⇨ The vibration is switched off and the machine brakes until it comes to a halt.

7 Loading / transporting the machine

8.3 Fuels and lubricants

8.3.1 Engine oil

8.3.1.1 Oil quality

The following engine oil specifications are permitted:

- API SJ / CF 4 or higher quality.
- ACEA A3–96, B3–96
- MIL-L-46152 D/E

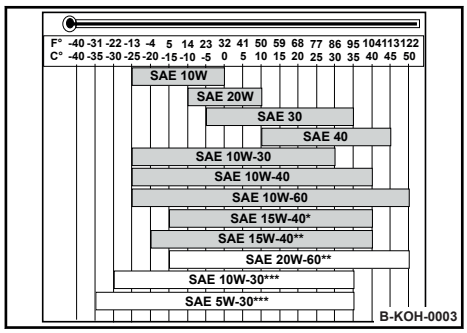
Avoid mixing engine oils.

8.3.1.2 Oil viscosity

Since engine oil changes its viscosity with the temperature, the ambient temperature at the operating location of the engine is of utmost importance when choosing the viscosity class (SAE-class).

The temperature data of the SAE-class always refer to fresh oils. The engine oil ages during travel operation because of soot and fuel residues. This adversely affects the properties of the engine oil, especially at low ambient temperatures.

Optimal operating conditions can be achieved by using the oil viscosity chart as reference.



* Mineral oil base
** Semi-synthetic base
*** Synthetic base

Fig. 134

8.3.1.3 Oil change intervals

If the oil change intervals are not reached over a period of one year, the oil change should be performed at least 1 x per year, irrespective of the operating hours reached.

If the sulphur content in the fuel is higher than 0.5 %, the oil change intervals must be halved.

8.3.2 Fuel

8.3.2.1 Fuel quality

We recommend using a diesel fuel with a sulphur content of less than 0.1 %.

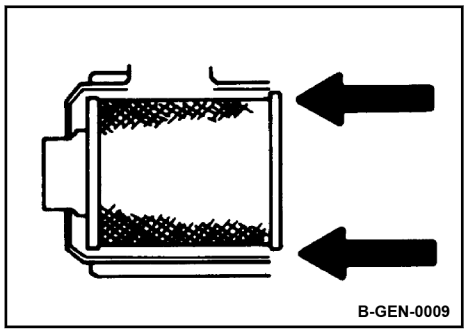


Fig. 141

12. Slide the air filter carefully into the housing.

NOTICE!

Danger of engine damage!

– The dust discharge valve must point vertically downwards.
– Make sure that the cover locks engage correctly.

13. Reinstall the cover.

Resetting the maintenance indicator

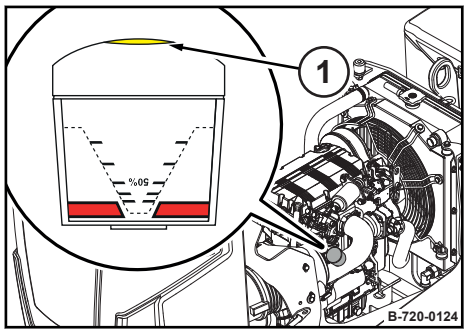


Fig. 142

14. After maintenance has been completed, press the button (1) on the maintenance indicator.

⇨ The maintenance indicator is reset.

Protective equipment:
- Working clothes
- Safety shoes
- Protective gloves

1. Park the machine safely *Chapter 6.6 'Parking the machine in secured condition' on page 95*.
2. Remove the bolts and washers (2).
3. Open the central electrics (1).

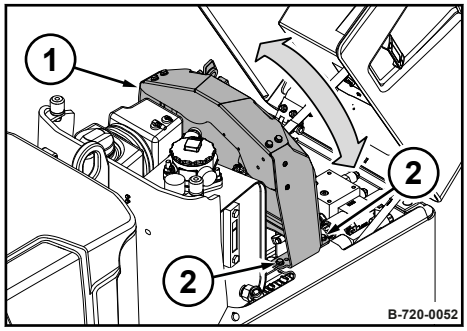


Fig. 162

4. Loosen the hose clamps (1) on the fuel pre-filter (2).
5. Pull the fuel lines off the fuel pre-filter.
6. Install the new fuel pre-filter and observe the flow direction (arrow).
7. Reconnect the fuel hoses with hose clamps.
8. Shut the central electrics and screw it back down.

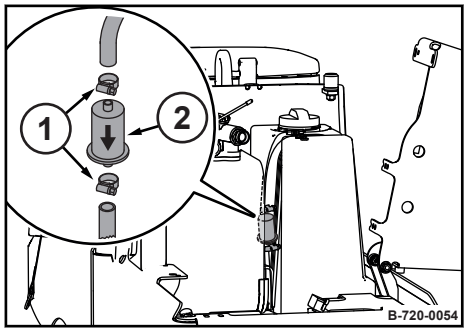


Fig. 163

9. Loosen the fuel filter using a suitable strap wrench and remove.
10. Remove any dirt from the sealing face of the filter carrier.
11.

NOTICE!

Danger of engine damage!

– Never fill filters beforehand, to avoid the entry of dirt into the clean side.

Thinly apply oil to the rubber seal on the new fuel filter.

12. Screw on the new filter cartridge by hand until the seal is in contact, then tighten by hand.
13. Dispose of fuel and fuel filters in line with environmental regulations.
14. Bleed the fuel system *Chapter 8.8.7.2 'Bleeding the fuel system' on page 132*.

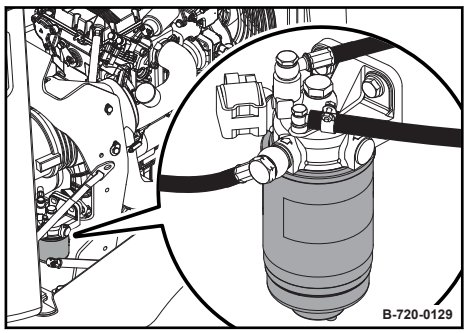


Fig. 164

8.11 Every 2000 operating hours

8.11.1 Changing the hydraulic oil and filter

Perform this maintenance work at the latest after two years.

The hydraulic oil and filter also requires changing after major repairs in the hydraulic system.

Always replace the hydraulic oil filter after each hydraulic oil change.

Do not start the engine after draining off the hydraulic oil.

Do not use any detergents to clean the system.

Use only lint-free cleaning cloths for cleaning.

When changing over from mineral oil-based hydraulic oil to an ester-based, biologically degradable hydraulic oil, consult the lubrication service of the respective oil manufacturer, or our Customer Service for details.

NOTICE!

Risk of damage!

- Perform the oil change when the hydraulic oil is warm.
- Use only hydraulic oil of the permitted specification *Chapter 8.3.5 'Hydraulic oil' on page 114*.
- Filling quantity: *Chapter 8.4 'List of fuels and lubricants' on page 115*.

Protective equipment:
- Working clothes
- Safety shoes
- Protective gloves

1. Park the machine safely *Chapter 6.6 'Parking the machine in secured condition' on page 95*.

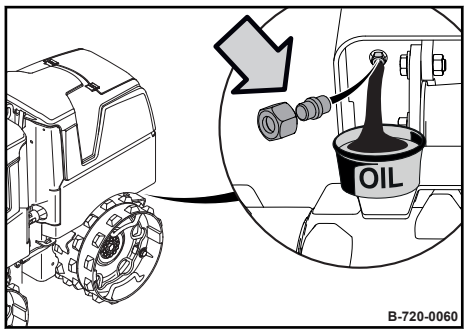


Fig. 179

2. **WARNING!**

   Danger of burning on hot components!

   - Wear your personal protective equipment (protective gloves, protective clothing).
   - Avoid touching hot components.

   Unscrew the drain plug.
3. Drain off and collect all hydraulic oil.
4. Screw the drain plug back in.

8.13.6.2 Battery service during prolonged machine downtimes

WARNING!

Danger of injury caused by exploding gas mixture!

- Remove the plugs before starting to recharge the battery.
- Ensure adequate ventilation.
- Smoking and open fire is prohibited!
- Do not lay any tools or other metal objects on the battery.
- Do not wear jewellery (watch, bracelets, etc.) when working on the battery.
- Wear your personal protective equipment (protective gloves, protective clothing, goggles).

Protective equipment:
- Working clothes
- Protective gloves
- Safety goggles

1. Switch off all consuming devices (e.g. ignition, light).
2. Measure the open-circuit voltage of the battery at regular intervals (at least 1 x per month).
   ⇨ Reference values: 12.6 V = fully charged; 12.3 V = discharged to 50%.
3. Recharge the battery immediately after an open-circuit voltage of 12.25 V or less is reached. Do not perform boost charging.
   ⇨ The open-circuit voltage of the battery occurs approx. 10 hours after the last charging process or one hour after the last discharge.
4. Switch off the charging current before removing the charging clamps.
5. After each charging process allow the battery to rest for one hour before taking it into service.
6. For standstill periods of more than one month you should always disconnect the battery. Do not forget to perform regular open-circuit voltage measurements.

8.13.6.3 Measures before restarting

1. Replace the fuel filter.
2. Replace the air filter.
3. Change engine oil and oil filter.
4. Check the coolant level.
5. Check the charge condition of the batteries, recharge if necessary. Check the battery fluid level before and after charging.

10.2 Switching off the machine manually

If the remote control malfunctions, the engine can be switched off manually.

1. If possible, move the machine onto level, firm ground.
2. Set the travel lever to “middle” position to stop the machine.

NOTICE!

Danger of engine damage!

– Do not shut down the engine all of a sudden from full load speed, but let it idle for about two minutes.

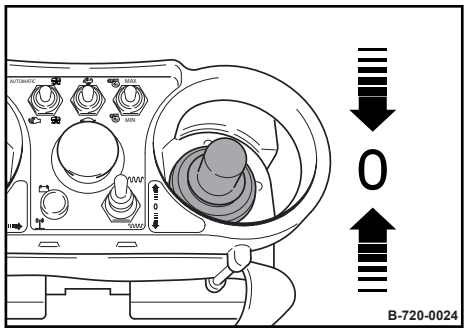


Fig. 209

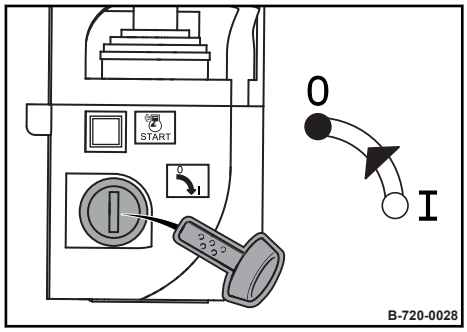


Fig. 210

3. Turn the ignition key to position “0” and pull it out.
4. Open the front protective hood.

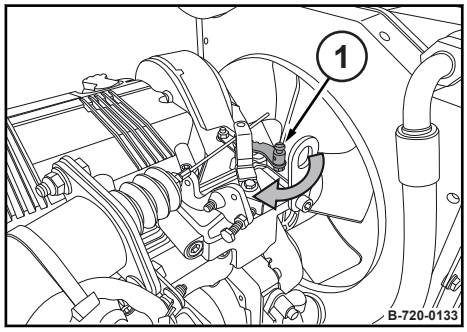


Fig. 211

5. Move the lever (1) on the engine and hold it.
   ⇨ The engine is shut down.
6. Close the front protective hood again.
7. Open the flap.

10.7 Remote control faults (radio operation)

Prerequisite:

- Function of the remote control in cable operation without any interference
- No steel rope or metal attachments on the machine (radio connection interference)

Fault	Possible cause	Remedy
Machine does not respond	Aerial defective or wrong one installed	Have examined by a specialist; replace if necessary
	Receiver not or incorrectly connected	Check the plug-in connection between receiver and machine
	Receiver and radio remote control have different system numbers	Check the system numbers; use the radio remote control with identical system number
	Battery empty or defective	Charge or replace the battery
	Distance between machine and radio remote control is too great	Reduce the distance
	Operating mode toggle switch defective	Have examined by a specialist; replace if necessary
	Receiver or radio remote control defective	Have examined by a specialist; replace if necessary
Ignition key in position "I", display module operative, but engine cannot be started	Battery empty or defective	Charge or replace the battery
	Receiver or radio remote control defective	Have examined by a specialist; replace if necessary
Engine stops for no reason	Battery empty or defective	Charge or replace the battery
	Interference caused by other radio signals	Check close vicinity for other radio signals (e.g. airport, construction crane); if necessary, move machine by means of cable operation
	Aerial defective or wrong one installed	Have examined by a specialist; replace if necessary
	Distance between machine and radio remote control is too great	Reduce the distance
	Operating mode toggle switch defective	Have examined by a specialist; replace if necessary
	Emergency stop switch actuated or defective	Pull out the emergency stop switch Have examined by a specialist; replace if necessary

12 Appendix

Code	Fault reaction	Fault description	Possible cause	Control terminal	Input code for diagnostics
5092	Shutdown of diesel engine	**Input inclination switch B56** The diesel engine is shut down because the input on the control does not receive a signal from the inclination sensor + Start lock activated	The switch is in actuated state (machine has turned over) + Start lock activated Wire breakage in current path Switch defective	X3:23	1405
5100	Horn sounds; **only warning!**	**Input coolant temperature sensor, B53** Coolant temperature too high	Lack of coolant Radiator defective Sensor defective	X3:05	5100
5101	Vibration and 2. gear switched off	**Input coolant temperature sensor, B53** Coolant temperature too high over a longer period of time	Lack of coolant Radiator defective Sensor defective	X3:05	5100

Fault codes in Active Zone System

Code	Fault reaction	Fault description	Possible cause
6001	Machine travels without activated Active Zone System for 15 minutes Attention: Only for service purposes!	Warning that service mode is active	Service mode activated via input code
6010	Travel movement not possible, only steering	Fault of front safety field antenna (W12)	Wire breakage in current path, front safety field antenna defective
6011	Travel movement not possible, only steering	Fault of rear safety field antenna (W13)	Wire breakage in current path, rear safety field antenna defective
6012	Travel movement not possible, only steering	Transponder fault (no feedback)	Fault in radio connection of Active Zone System, transponder of remote control defective
6013	Travel movement not possible, only steering	Transponder fault	Internal fault in transponder of remote control
6014	Travel movement not possible, only steering	Fault in safety field control (A115)	Internal fault in safety field control