1 Ignition switch
2 Instrument cluster
3 Vent for heating and ventilation, driver
4 Vent for heating and ventilation, footwell
5 Push button vibration
6 Travel lever
7 Rotary switch vibration, high/low frequency
8 Rotary switch for speed range selection
9 Emergency stop push button
10 Push button for warning horn
11 Rotary momentary contact switch for engine speed
12 Rotary switch for direction indicators left/right*
13 Rotary switch for hazard light system*
14 Rotary switch for lighting (StVZO)*
15 Rotary switch for working head lights*
16 Steering wheel adjustment lever

* Optional equipment

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- Check water separator in the fuel system, drain if necessary.
- Adjust the scrapers if necessary
- Tire pressure. Pressure see technical data.

⚠ Caution

Ensure equal pressure in both tires.

4.3 Starting the engine

⚠ Danger

Danger of accident!

Always wear your seat belt.

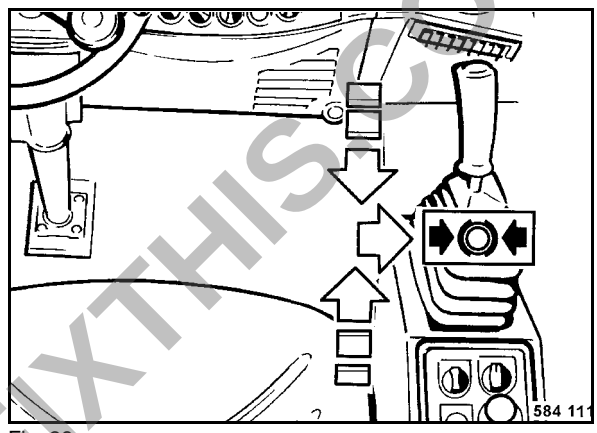


Fig. 29

- Check, whether the travel lever (Fig. 29) is engaged to the right in brake position.

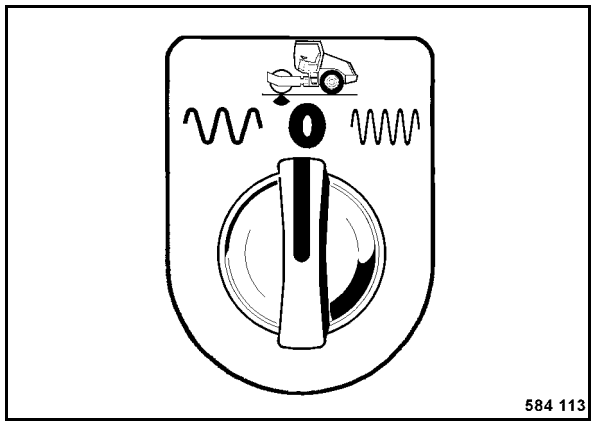


Fig. 30

- Turn the rotary vibration selector switch (Fig. 30) to position "0", vibration off.

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5.5 Maintenance chart

No.	Maintenance work	Remark	Running-in instructions after 50 operating hours	every 10 operating hours, daily	every 250 operating hours	every 500 operating hours	every 1000 operating hours	every 2000 operating hours	every 3000 operating hours	as required
5.6	Check the engine oil level	Dipstick mark		X						
5.7	Check the water separator			X						
5.8	Check the fuel level			X						
5.9	Check the hydraulic oil level	Inspection glass		X						
5.10	Check the coolant level	Inspection glass		X						
5.11	Check the dust separator			X						
5.12	Check the tire pressure				X					
5.13	Clean the cooling fins on engine and hydraulic oil cooler				X					
5.14	Check the oil level in the drive axle				X					
5.15	Check the oil level in the wheel hubs				X					
5.16	Check the oil level in the vibration bearings				X					
5.17	Change engine oil and oil filter cartridge*	min. 1x per year				X				
5.18	Change the fuel filter cartridge					X				
5.19	Drain the sludge from the fuel tank					X				
5.20	Service the battery	Pole grease				X				
5.21	Change the fuel pre-filter cartridge					X				
5.22	Check, replace the refrigerant compressor V-belt					X				
5.23	Service the air conditioning					X				
5.24	Check, adjust the valve clearance	Intake = 0,3 mm Exhaust = 0,5 mm					X			

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6.2 Engine

Faults	Possible cause	Remedy
The engine does not start	Starter defective or pinion not engaging	Have examined by a specialist
	Fuel tank empty	Fill and bleed the tank
	Temperature below starting limit	Use winter fuel and engine oil acc. to the ambient temperature.
	Fuel filter clogged, in winter due to paraffin separation.	Change the filter. use winter fuel
	Fuel lines leaking	Check all line connections for leakages and tighten the fittings.
	Battery discharged or not connected	Tighten the pole clamps, check the cable connections
	Injection valves or injection pump defective	Have examined by a specialist
The engine starts poorly and works irregularly with poor power	Battery power too low, battery clamps loose or oxidized, causing the starter to turn too slowly	Have the battery checked, clean the terminal clamps, tighten them and cover them with acid free grease
	Especially during winter: the use of too viscous engine oil	Use engine oil suitable for the ambient temperature
	Fuel supply restricted, in winter fuel system clogged due to paraffin separation	Change the fuel filter. Check the line connections for leaks and tighten the fittings. Use winter fuel in the cold season.
	Incorrect valve clearance	Adjust the valve clearance
	Injection valve defective	Have examined by a specialist
	Injection lines leaking	Check the lines for leakages
	Turbo charger defective	Have examined by a specialist
	Dry air filter dirty	clean, replace if necessary
	Excessive play in the throttle cable	Adjust the throttle cable, change it if necessary

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General

This BOMAG machine is built in accordance with the latest technical standard and the valid technical rules and regulations. There is, however, a risk of danger for persons and property if:

- the machine is used for purposes other than those it is intended for
- the machine is operated by untrained personnel
- the machine is modified or converted in an unprofessional way
- the applicable safety regulations are not observed.

Each person involved in operation, maintenance and repair of the machine must therefore read and apply these safety regulations. This should be confirmed by obtaining the signatures of the customer, if necessary.

Furthermore the following regulations and instructions are obviously also valid:

- applicable accident prevention instructions
- generally acknowledged safety and road traffic regulations
- country specific safety regulations. It is the duty of the operator to know and observe these regulations. This applies also for local regulations and the regulations for various types of manual work. If the recommendations in this manual differ from the regulations valid in your country, you must strictly observe the regulations in your country.

Intended use

This machine must only be used for:

- compaction of bituminous materials, e.g. road surface layers. (AC and AD machines only)
- medium and heavy compaction tasks in earth work (road sub-bases)
- This machine must only be operated with fully functional safety equipment.
- The machine should be checked by an expert once every year.

Unintended use

Dangers may, however, arise from the machine if it is used by untrained personnel in an unprofessional way or if it is used for purposes other than those mentioned in these instructions.

Do not work with vibration on hard concrete, on a cured concrete layer or heavily frozen ground.

Starting and operation of the machine in an explosive environment is prohibited.

Who is allowed to work with the machine?

The machine must only be operated by trained and authorized persons which are at least 18 years of age. The responsibilities for the operation of the machine must be clearly specified and complied with.

Persons under the influence of alcohol, medication or drugs must not operate, service or repair the machine.

Maintenance and repair tasks require specific knowledge and must therefore only be carried out by trained and qualified personnel.

Conversions and alterations to the machine

Unauthorized conversions to the machine are prohibited for safety reasons.

Original parts and accessories have been specially designed for this machine. We wish to make expressly clear that we have not tested or authorized any original parts or special equipment not supplied by us. The installation and/or use of such products can impair the active and/or passive driving safety. The manufacturer expressly excludes any liability for damage resulting from the use of non-original parts or accessories.

Safety notes in the operating and maintenance instructions:

⚠ Danger

Sections marked like this point out possible dangers for persons.

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Please fill in

. . . . . .

Machine type (Fig. 1)

. . . . . .

Serial-number (Fig. 1 and 2)

. . . . . .

Engine type (Fig. 3)

. . . . . .

Engine number (Fig. 3)

i Note

Supplement the above data together with the commissioning protocol.

During commissioning our organisation will instruct you in the operation and maintenance of the machine.

Please observe strictly the safety regulations and all notes on risks and dangers!

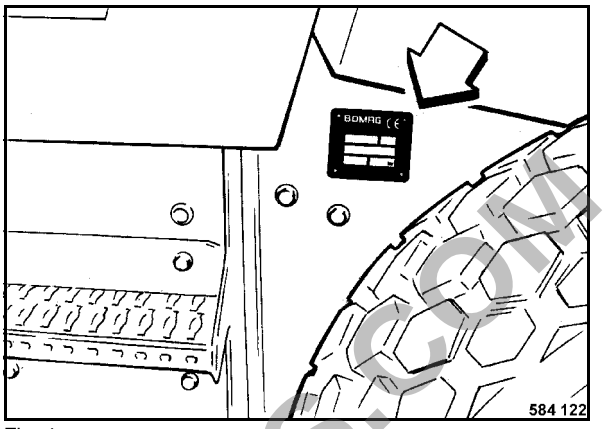


Fig. 1

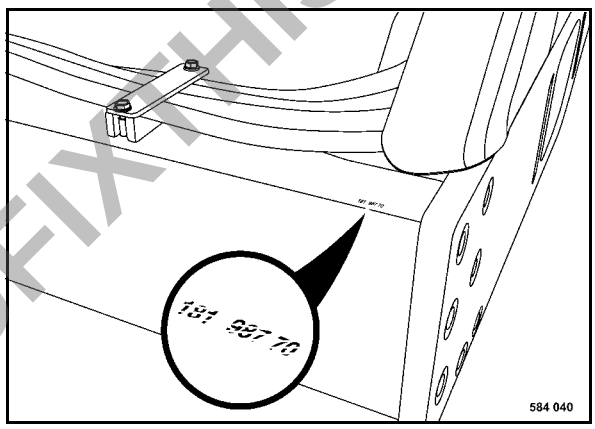


Fig. 2

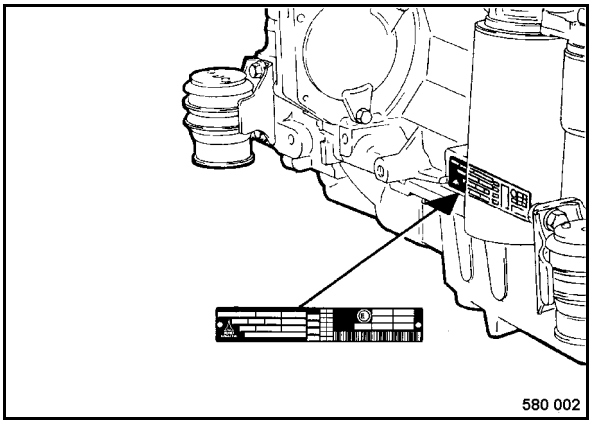


Fig. 3

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3 Indicators and Controls

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4.4 Starting with jump wires

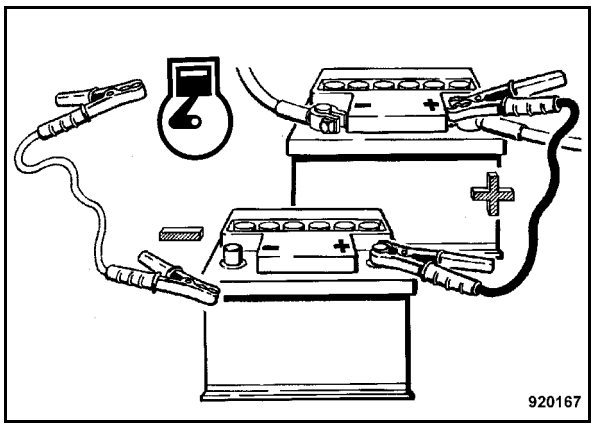


Fig. 36

⚠ Caution

A wrong connection will cause severe damage in the electric system.

- Bridge the machine only with a 12 Volt auxiliary battery.
- When jump starting with an external battery connect both plus poles first.
- Then connect the ground cable first to the minus pole of the current supplying auxiliary battery and then to engine or chassis ground, as far away from the battery as possible (Fig. 36).
- Start as described under 'Starting the engine'.
- Once the engine is running switch on a powerful consumer (working light, etc.).

⚠ Caution

If no powerful consumer is switched on voltage peaks may occur when separating the connecting cables between the batteries, which could damage electrical components.

- After starting disconnect the negative poles (ground cable) first and the positive poles after.
- Switch off the consumer.

4.5 Driving the machine

⚠ Danger

Danger of accident!

Wet and loose soils considerably reduce the ground adhesion of the machine on inclinations and slopes.

Soil conditions and weather influences impair the gradability of the machine.

Do not drive up and down inclinations exceeding the maximum gradability of the machine (see technical data).

Do not drive without wearing your seat belt.

Always give way to loaded transport vehicles!

Before starting to drive make sure that the drive range is absolutely safe.

⚠ Caution

Always keep the cabin door closed while driving with the machine. With the door opened and the machine fully articulated extreme oscillations of the machine may damage the door.

i Note

"Start engine", see previous sections.

The machine is equipped with a seat contact switch (safety feature).

If the travel lever is actuated with the engine running, but the driver's seat is not occupied, the signal horn is triggered and the engine shut down.

If the driver gets up from his seat while driving, the signal horn is activated and the engine shut down after four seconds.

If the driver occupies the seat again within this period of four seconds, the machine will continue travelling.

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In most cases a sufficient cold resistance can also be achieved by adding flow enhancing fuel additives. Consult the engine manufacturer.

Operation with rape seed oil methyl ester (RME „Bio Diesel“)

Due to the extreme quality differences of RMEW-fuels available on the market, which are caused by the non-existence of a standardization, BOMAG does generally not approve any RME-fuels. If this is neglected the warranty will become null and void!

However, if you still intend to operate the machine with RME-fuels you should observe the following information:

- Reduced engine power (approx. 7%), higher fuel consumption.
- The quality of RME-fuel should be in compliance with DIN draft 51606.
- Avoid longer periods of standstill (formation of resin, corrosion in injection system)
- RME-fuel can damage the paint finish of the machine.
- Fuel dilution of engine oil, therefore shortening of oil change intervals to half.
- Rubber parts, such as leak fuel return lines, seats will be damaged in the long run and need to be replaced on a regular basis or should be replaced by parts made of fluorinated rubber. However, fluorinated rubber is not resistant against normal diesel fuel.
- If the fuel filter is clogged the filter change intervals must be shortened accordingly.

Coolant, anti-freeze agent

Use only soft tap water (drinking water) to prepare the coolant mix.

As a protection against frost, corrosion and boiling point anti-freeze agents must be used under any climatic conditions.

The proportion of cooling system protection agent must be between min. 35% and max. 45% to the water.

⚠ Caution

Do not mix different coolants and additives of any other kind.

Environment

Cooling system protection agents must be disposed of environmentally.

Hydraulic oil

The hydraulic system is operated with hydraulic oil HV 46 (ISO) with a kinematic viscosity of 46 mm^2/s at 40°C. For topping up or for oil changes use only high-quality hydraulic oil, type HVLP according to DIN 51524, part 3, or hydraulic oils type HV according to ISO 6743/3. The viscosity index (VI) should be at least 150 (observe information of manufacturer).

Bio-degradable hydraulic oil

On request the hydraulic system can also be filled with ester based biodegradable hydraulic oil (Panolin HLP Synth. 46). The biologically quickly degradable hydraulic oil meets all demands of a mineral oil based hydraulic oil according to DIN 51524.

In hydraulic systems filled with Panolin HLP Synth. 46 always use the same oil to top up. When changing from mineral oil based hydraulic oil to an ester based biologically degradable oil, you should consult the lubrication oil service of the oil manufacturer for details.

Check the filter more frequently after this change.

⚠ Caution

Oil change bio-degradable hydraulic oil:

Perform regular oil analyses for content of water and mineral oil.

Replace the hydraulic oil filter element every 500 operating hours.

Oil for drive axle

For the drive axle use only multi-purpose transmission oil of API-class GL5 with viscosity class SAE 90.

The additives in this oil ensure low wear lubrication under all operating conditions.

Lubrication grease

For lubrication use only EP-high pressure grease, lithium saponified (penetration 2).

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5.20 Service the battery

⚠ Danger

Danger of cauterisation ! Danger of explosion!

When working on the battery do not use open fire, do not smoke!

The battery contains acid. Do not let acid come in contact with skin or clothes!

Wear protective clothing!

Do not lay any tools on the battery!

Environment

Dispose of the old battery environmentally.

i Note

Maintenance free batteries also need care. Maintenance free only means that the fluid level does not need to be checked. Each battery suffers under self-discharge, which may, in not checked occasionally, even cause damage to the battery as a result of exhaustive discharge.

The following therefore applies for the service life:

- Switch off all consumers (e.g. ignition, light, inside light, radio).
- Check open-circuit voltage of the battery at regular intervals. At least once per month.

Reference values: 12.6 V = fully charged; 12.3 V = 50% discharged.

- 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.

- After each charging process allow the battery to rest for one hour before taking it into service.
- For resting periods of more than one month you should always disconnect the battery. Do not forget to perform regular open-circuit voltage measurements.

⚠ Caution

Exhausted batteries (batteries with formation of sulphate on thge plates are not covered under warranty!

- Open the engine hood and remove the covering.

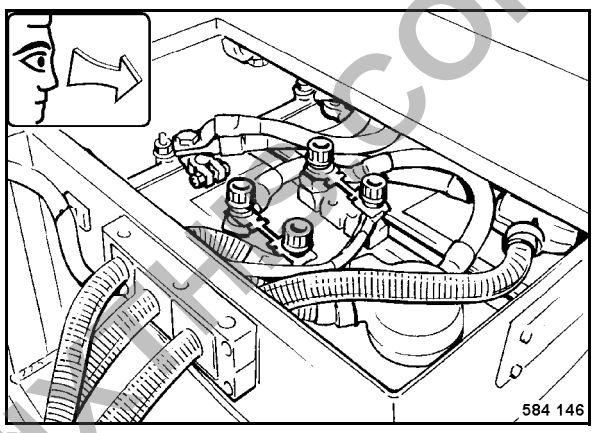


Fig. 88

- Remove the battery (Fig. 88) and clean the battery compartment.
- Clean the outside of the battery.
- Clean battery poles and pole clamps and grease them with pole grease (Vaseline).
- Check the fastening of the battery.
- On serviceable batteries check the acid level, if necessary top up to the filling mark with distilled water.

Charging voltage recommendation

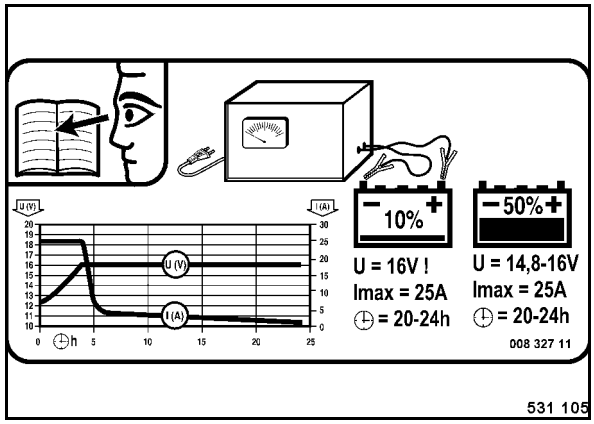


Fig. 89

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For quality and quantity of oil refer to the table of fuels and lubricants.

i Note

The breather filter for the hydraulic oil tank is integrated in the filler cap, you must therefore replace the complete filler cap.

- Close the tank with a new filler cap.

5.35 Changing the hydraulic oil filter

⚠ Danger

Danger of scalding!

There is a danger of scalding by hot oil when unscrewing the filter.

⚠ Caution

If the filter has to be changed together with the hydraulic oil, the filter should in any case be changed after the oil change and the test run.

Do not use the oil in the filter bowl.

Environment

Catch running out oil, dispose of oil and filter element environmentally.

i Note

The filter element must be changed with every hydraulic oil change and after major repairs in the hydraulic system.

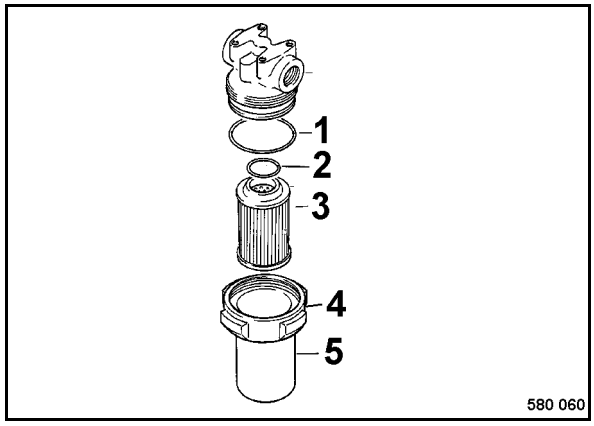


Fig. 125

- Unscrew the cap nut 4 (Fig. 125) and take the filter bowl (5) with the filter element (3) off.
- Examine the sealing face on the filter element thoroughly for any visible dirt.

⚠ Caution

Visible impurities may be an early indicator for a failure of system components and predict the

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