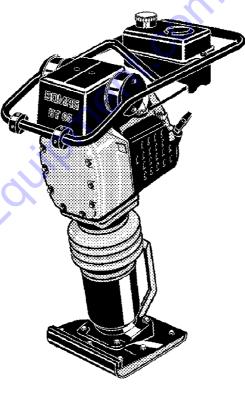


# **Operating instructions Maintenance instructions**

This manual is in accordance with product liability laws and safety regulations

## BT 60/4 - BT 65/4

S/N 101 540 39 ... (EPA II) S/N 101 540 49 ... (EPA II)





## **Vibratory Tamper**



www.discount-equipment.com

Catalogue number 008 113 61

06/2005

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We sell worldwide for the brands: Genie, Terex, JLG, MultiQuip, Mikasa, Essick, Whiteman, Mayco, Toro Stone, Diamond Products, Generac Magnum, Airman, Haulotte, Barreto,
Power Blanket, Nifty Lift, Atlas Copco, Chicago Pneumatic, Allmand, Miller Curber, Skyjack, Lull, Skytrak, Tsurumi, Husquvarna Target, Stow, Wacker, Sakai, Mi-T-M, Sullair, Basic, Dynapac, MBW, Weber, Bartell, Bennar Newman, Haulotte, Ditch Runner, Menegotti, Morrison, Contec, Buddy, Crown, Edco, Wyco, Bomag, Laymor, EZ Trench, Bil-Jax, F.S.
Curtis, Gehl Pavers, Heli, Honda, ICS/PowerGrit, IHI, Partner, Imer, Clipper, MMD, Koshin, Rice, CH&E, General Equipment, Amida, Coleman, NAC, Gradall, Square Shooter, Kent, Stanley, Tamco, Toku, Hatz, Kohler, Robin, Wisconsin, Northrock, Oztec, Toker TK, Rol-Air, APT, Wylie, Ingersoll Rand / Doosan, Innovatech, Con X, Ammann, Mecalac, Makinex, Smith Surface Prep,Small Line, Wanco, Yanmar If the machine is equipped with a battery :

### CALIFORNIA

**Proposition 65 Warning** 

part

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Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

If the machine is equipped with a diesel engine :

### CALIFORNIA

**Proposition 65 Warning** 

The engine exhaust and some of its constituents are known to the state of California to cause cancer, birth defects, and other reproductive harm.

sto Dis

BOMAG machines are products from the wide range of BOMAG compaction equipment. BOMAG's vast experience in connection with state-of-the-art production and testing methods, such as lifetime tests of all important components and highest quality demands guarantee maximum reliability of your machine.

Using these instructions will

- help you to become familiar with the machine.
- avoid malfunctions caused by unprofessional operation.

Compliance with the maintenance instructions will

- enhance the reliability of the machine on construction sites,
- prolong the lifetime of the machine,
- reduce repair costs and downtimes.

BOMAG will not assume liability for the function of the machine

- in case of manipulations which do not comply with the type of use specified in the safety regulations,
- if it is used for purposes other than those mentioned in these instructions.

No warranty claims can be lodged in case of damage resulting from

- operating errors,
- inadequate maintenance,
- wrong fuels and lubricants.

#### Please note!

This manual was written for operators and maintenance personnel on construction sites.

You should only operate the machine after you have been instructed and in compliance with these instructions.

Strictly observe the safety regulations.

Please observe also the guidelines of the Civil Engineering Liability Association "Safety Rules for the Operation of Road Rollers and Soil Compactors" and all relevant accident prevention regulations. For your own personal safety you should only use original spare parts from BOMAG.

In the course of technical development we reserve the right for technical modifications without prior notification.

These operating and maintenance instructions are also available in other languages.

Your BOMAG dealer will also supply you with information about the correct use of our machines in soil and asphalt construction.

The above notes do not constitute an extension of the warranty and liability conditions specified in the general terms of business of BOMAG.

We wish you successful work with your BOMAG machine.

BOMAG GmbH Printed in Germany Copyright by BOMAG

### Foreword

#### Please fill in

Machine type (Fig. 1)

Serial-number (Fig. 1 and 2)

Engine type (Fig. 3)

Engine number (Fig. 3)

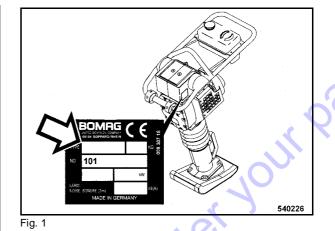
### j Note

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!

Goto discounting



540227 Fig. 2

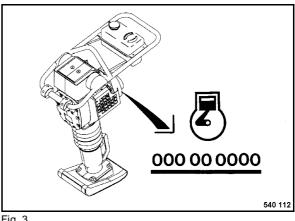


Fig. 3

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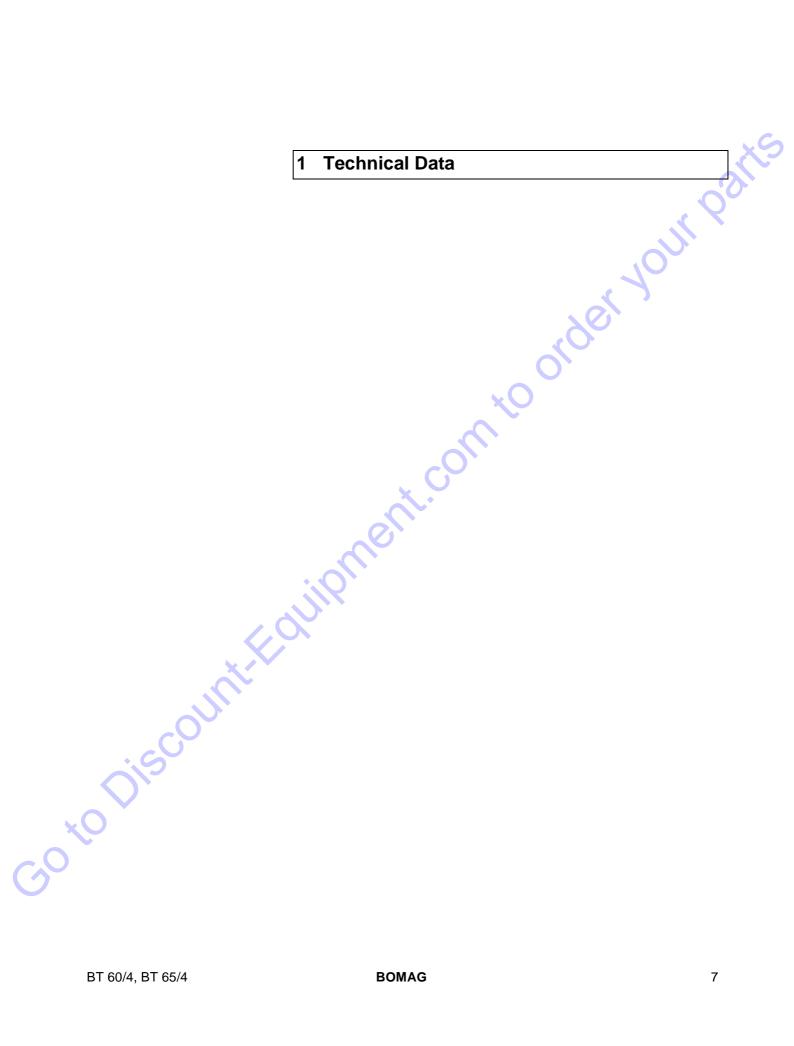


Fig. 4			deryour	aits
Dimensions in H mm	L	L1	W	
BT 60/4 960	735	335	280	
BT 65/4 1000	735	335	280	
*	uiphi	BT 60/4	BT 65/4	
Weight				
Basic weight	kg	61	67	
Operating weight (CECE)	kg	62	68	
Engine		Honda	Honda	
Туре		GX 100 (EPA II)	GX 100 (EPA II)	
Cooling		Air	Air	
Number of cylinders Rated power ISO 9249	kW (PS)	1 2,5 (3,4)	1 2,5 (3,4)	
Rated speed	rpm	4200	4200	
Capacities				
Fuel tank	I	3,0	3,0	
Oil in tamper foot	·	0,75	1,0	
Engine oil	Ι	0,33	0,33	

### **Technical Data**

*		BT 60/4	BT 65/4
Vibration			
Frequency	Hz	9-11,75	9 11,75
Jumping height Working speed (soil de-	mm m/min	60 up to 20	70 up to 20
pendent)	11//11111	up to 20	
Max. areal output (de- pending on soil)	m²/h	336	336
Max. depth effect (de-	cm	up to 55	up to 65
pending on soil)		•	
		toorde	
	Juipment	oni	
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OISCOUNT			
Go to Discounting			
BT 60/4, BT 65/4	BOMAG		9

### **Technical Data**

The following noise and vibration data acc. to

- EC Machine Regulation edition 98/37/EC and
- the noise regulation 2000/14/EG, noise protection guideline 2003/10/EC
- Vibration Protection Regulation 2002/44/EC

were determined during conditions typical for this type of equipment and by application of harmonized standards.

During operation these values may vary because of the existing operating conditions. rdery

### Noise value

#### sound pressure level on the operator's stand:

 $L_{pA}$  = 95.3 dB(A) BT 60/4, determined acc. to ISO 11204 and EN 500

 $L_{pA}$  = 94,9 dB(A) BT 65/4, determined acc. to ISO 11204 and EN 500

#### Guaranteed sound capacity level:

L<sub>WA</sub> = 108 dB(A), determined acc. to ISO 3744 and EN 500

#### A Danger

#### Loss of hearing!

Wear your personal noise protection means (ear defenders) before starting operation.

### Vibration value

### Hand-arm vibration:

Vector total of the weighted effective acceleration in three orthogonal directions:

### Weighted total vibration value

BT 60/4  $a_{hw}$  = 8.1 m/sec<sup>2</sup> on crushed rock determined acc. to ISO 5349 and EN 500 BT 65/4  $a_{hw} = 7.9 \text{ m/sec}^2$  on crushed rock determined acc. to ISO 5349 and EN 500

 $|\Lambda|$ Caution Observe the daily vibration load (Industrial safety acc. to 2002/44/EEC).

, to Die



### **General notes**

This BOMAG machine is built in accordance with the state-of-the-art and the present technical rules and regulations. However, there is 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.

It is therefore of utmost importance that any person involved in the operation, maintenance and repair of the machine reads and applies 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 regulations.

### Intended use

This machine must only be used for:

- Compaction of all types of soils
- Repair work in all types of soil
- Reinforcement of walkways
- Work in trenches
- Backfills and compaction of marginal strips

### **Unintended** use

Dangers may however arise from the machine if it is operated by untrained personnel in an unprofessional way or if it is unintentionally used.

Example:

- Working in horizontal direction
- Ramming of poles
- Compaction of interlocking paving stones

### Who is allowed to operate 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 are to 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 repairs require very 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:

### A Danger

Sections marked like this point out possible dangers for persons.

### ▲ Caution

Sections marked like that point out possible dangers for the machine or for parts of the machine.

### j Note

Sections marked like this provide technical information concerning the optimal economical utilization of the machine.

### Safety regulations

### Loading the machine

Always shut the engine down to transport the tamper or to lay it on its side.

Secure the machine against tipping over or slipping off.

Persons are highly endangered if they step or stand under a suspended load.

With the machine suspended be aware that the machine may swing about.

Secure the machine on the transport vehicle against rolling, slipping and turning over.

### Starting the machine

### Before starting

Familiarize yourself with the equipment, the control elements, the working principle of the machine and your working area.

Use your protective outfit (hard hat, safety boots etc.). Wear ear defenders.

Check before starting whether:

- the machine shows any obvious defects
- all protective devices are properly secured in their place
- all control elements are fully functional
- the machine is free of oily and combustible material
- keep all grips and handles free of grease, oils, fuels, dirt, snow and ice.

Use only machines which have been regularly serviced.

### Starting in closed rooms

Exhaust fumes are highly dangerous! Always ensure an adequate supply of fresh air when starting in closed rooms!

### Operation

- Guide the machine and take care that you do not hurt your hands on any obstructions, danger of accident.
- Watch out for unusual noises and the development of smoke. Find the cause and have the fault corrected.
- Do not hold the throttle lever in the area below
   I, as this may damage the centrifugal clutch.

- Do not take your hands off the machine while the engine is running.
- Keep your feet away from the tamper foot

### Parking the machine

Stand the machine on ground as level as possible. Before leaving the machine:

Secure the machine against tipping over.

### Filling in fuel

Refuel only with the engine shut down. Do not refuel in closed rooms.

No open fire, do not smoke.

Do not spill any fuel. Catch running out fuel, do not let it seep into the ground.

Do not inhale any fuel fumes.

Avoid contact with skin and eyes.

Do not swallow.

### Maintenance

Maintenance work must only be carried out by qualified and authorized personnel.

Keep unauthorized persons away from the machine.

Do not perform maintenance work while the engine is running.

Park the machine on level and firm ground.

### Working on the fuel system

No open fire, do not smoke, do not spill any fuel.

Catch running out fuel, do not let it seep into the ground and dispose of environmentally.

Do not breath in fuel fumes.

### Working on the engine

When working on the fuel filter make sure that no dirt falls into the air channel.

Do not work on the hot exhaust, risk of burns!

When working on the exhaust channel of the engine make sure that no combustion residues fall into the cylinder.

Do not touch the piston with the cleaning tools.

### Safety regulations

#### Working on the tamper foot

Wipe off spilled oil, catch running out oil and dispose of environmentally.

Store oily material in a specially marked container and dispose of environmentally.

#### Cleaning

Do not clean the machine while the engine is running.

Do not use gasoline or other inflammable substances to clean the machine.

When using steam cleaning equipment do not subject electric parts and insulating material to the direct water jet or cover them beforehand.

Do not guide the water jet directly into the air filter, into the exhaust or into the air intake opening.

#### After the maintenance work

Reinstall all protective devices after completing maintenance.

### Repair

Repairs must only be carried out by qualified and authorized personnel. Always follow our repair instructions.

Exhaust gases are highly dangerous! Always ensure an adequate supply of fresh air when starting in closed rooms!

Attach a warning tag to the steering bow if the machine is defective.

- Do not mix the nozzle in the carburettor up by mistake.
- Adjust the idling speed regulator screw exactly.
- Do not damage the blower wheel when working on the magnetic ignition.
- Always replace self locking nuts.
- Do not open the foot cover on the tamper foot, spring tension. Danger of accident!
- Observe the prescribed tightening torques.

conto order your parts



### 3.1 General notes

Please read this section thoroughly before operating this machine if you are not yet conversant with the indicators and control elements. All functions are described in detail hereunder.

Paragraph 4 Operation contains only concise descriptions of the individual operating steps.

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### 3.2 Controls

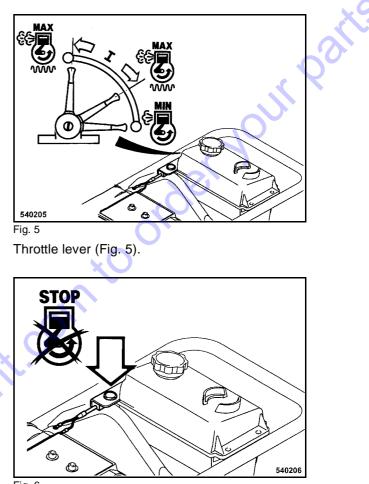


Fig. 6

Engine stop switch (Fig. 6).

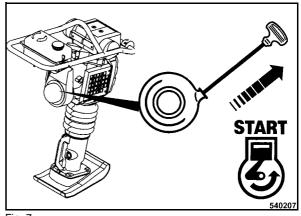
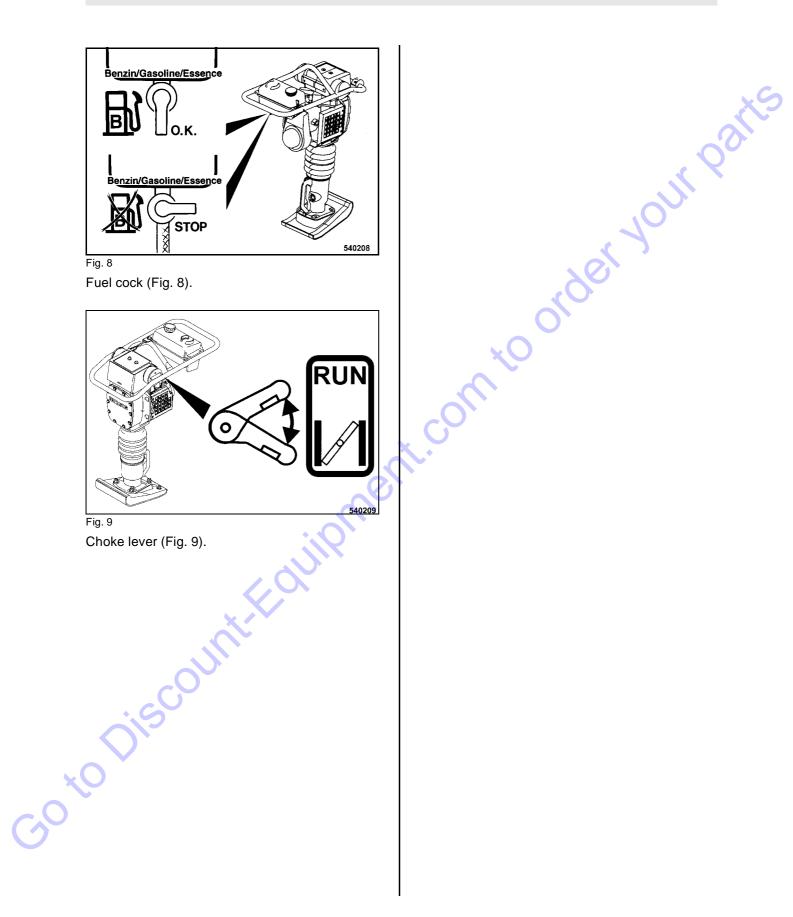


Fig. 7

Recoil starter (Fig. 7).





### 4.1 General notes

Please read section 3 Indicators and Control Elements thoroughly before operating the machine if you are not yet fully familiar with the indicators and control elements of the machine.

All indicators and control elements are described in detail in this chapter.

oto

### 4.2 Tests before taking into operation

### i Note

During the running in time the idle speed may increase because of the enhanced moveability of the engine. Idle speed between 1700 and 2000 rpm.

The running in time of the vibratory tamper is 10 operating hours.

### Check

- condition of engine and machine
- engine oil level
- fuel tank and fuel lines for leaks
- fuel level
- concertina wall for damage and leaks
- oil filling of tamper cylinder
- Visual inspection of machine

### 4.3 Filling in fuel

### A Danger

Fire hazard!

Only fill in fuel with the engine shut down and the fuel valve closed. Do not spill any fuel!

Do not inhale any fuel fumes.

No fire, do not smoke!

### Fuel:

Unleaded standard grade gasoline.

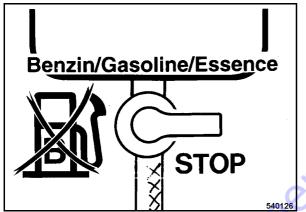


Fig. 10

 Turn the fuel shut-off valve (Fig. 10) to position STOP (closed).

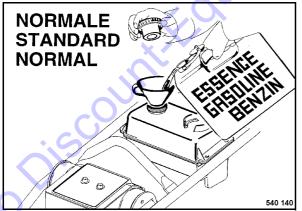


Fig. 11

- Tank contents max. 3,0 Litres.
- After filling close the filler cover tightly (Fig. 11).

## 4.4 Starting the engine

### Danger

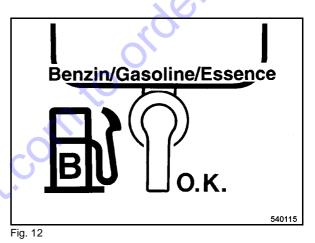
Danger of accident!

Always hold on to the machine.

Keep your feet away from the tamper plate, because the vibration starts immediately.

Always keep an eye on a running machine.

Wear your personal noise protection means (ear defenders) before starting operation.



• Open the fuel cock (Fig. 12).

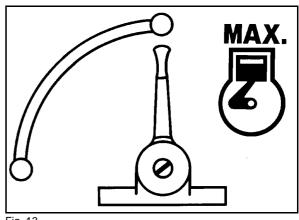
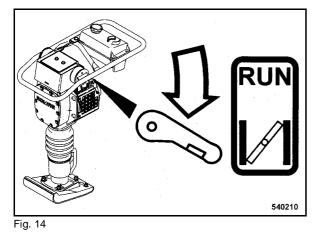


Fig. 13

• Set the throttle lever (Fig. 13) to MAX position.

### Operation



• Close the choke (Fig. 14).

### i Note

Always close the choke to start a cold and warm engine.

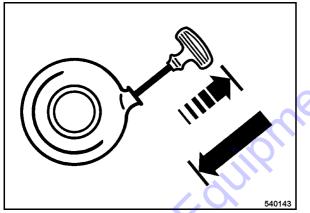
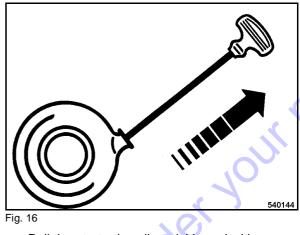


Fig. 15

- Pull the rope by the starter handle (Fig. 15) until resistance can be felt.
- Let the starter handle run back to initial position.



• Pull the starter handle quickly and with power (Fig. 16).

## ▲ Caution

### Do not let the starter handle hit back.

- Guide the starter rope back by hand.
- If the engine does not start during the first attempt, repeat the starting process.

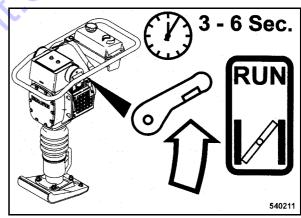
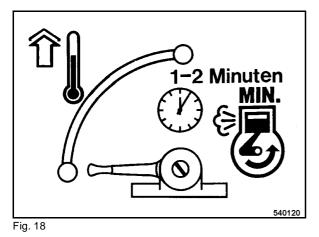


Fig. 17

• Open the choke (Fig. 17) 3 to 6 seconds after the engine has started running.

-,0,0



• Set the throttle lever (Fig. 18) to "MIN" and let the engine run warm for 1 to 2 minutes.

### j Note

Once the engine has warmed up you can start to work with the tamper.

Goto Country of the second

# 4.5 Starting under cold weather conditions

Should the engine stop again after approx. 3 to 5 seconds

close the choke once again and repeat the starting procedure.

### 4.6 Incorrect starting

### - engine "drowned" -

When the choke is closed and the starter rope is operated several times, the engine will draw too much fuel and starting is impossible.

#### Remedy

- Close the fuel shut-off valve
- Open the choke
- Set the throttle lever to full speed position
- Keep on pulling the the starter rope until the engine starts.

If the engine does not start after 10 to 20 starting procedures,

- pull the spark-plug socket off.
- screw the spark-plug out.
- Operate the start several times.
- Dry the spark-plug with a clean cloth or blow it dry with pressure air. If necessary clean it with a wire brush.
- Screw the spark-plug back in and push the spark-plug socket on.
- Repeat the starting procedure.

### 4.7 Work/operation

### ▲ Danger

Danger of accident!

Guide the machine only with the handle.

Do not let the machine run unattended.

Use your personal noise protection means (ear defenders).

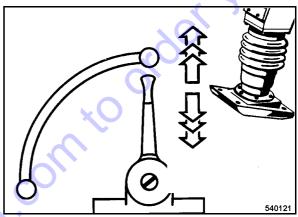


Fig. 19

- Set the throttle lever (Fig. 19) to "MAX"-position.
- The machine works at max. frequency.

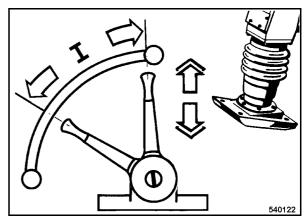
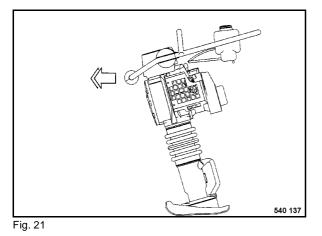


Fig. 20

 In order to achieve a smooth running of the machine adjust the throttle lever in the range I (Fig. 20), depending on the condition and the density of the soil.



• The travel speed can be influenced by altering the load on the steering handle (Fig. 21).

No load = slowly forward

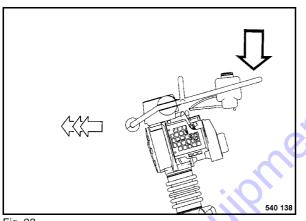


Fig. 22

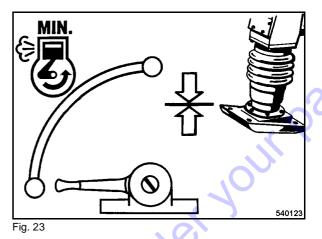
• The travel speed can also be influenced by varying the pressing force on the steering bow (Fig. 22).

Strong force = fast forward

### j Note

The lift height of the material to be compacted should not be higher, than the tamper can manage.

If the tamper should get out of rhythm on highly compacted ground, smooth running can be achieved by slightly changing the engine speed and/or the inclination of the tamper.



• During short breaks you should always set the throttle lever to "MIN"-position (Fig. 23).

### i Note

This avoids premature wear of the centrifugal clutch and reduces the fuel consumption

#### Shutting the engine down 4.8

#### |Caution

Do not shut the engine down all of the sudden from full speed, but let it idle for a while for temperature equalization.

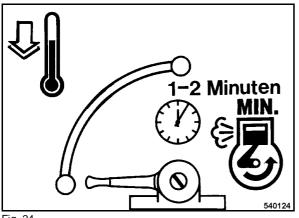


Fig. 24

- Set the throttle lever (Fig. 24) to position MIN. •
- Run the engine for a short while with idle • speed.

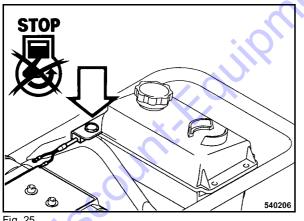


Fig. 25

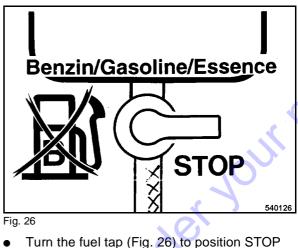
Press the stop switch (push button) (Fig. 25).

### 🛕 Danger

Danger of burning!

Immediately after shutting down the engine is still hot, do not touch the exhaust.

Park the machine so that it cannot turn over.



Turn the fuel tap (Fig. 26) to position STOP (closed).

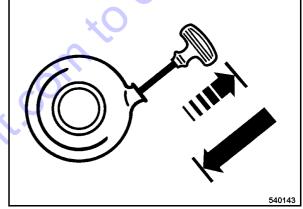


Fig. 27

- Pull the rope by the starter handle (Fig. 27) un-. til resistance can be felt.
- Let the starter handle run back to initial position.

#### Note li

This procedure prevents the penetration of dampness into the engine.

# 4.9 Changing the tamper foot plate

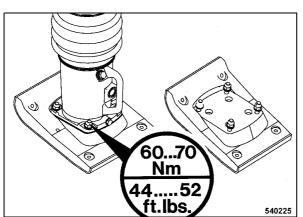


Fig. 28

• After changing the tamper foot plate (Fig. 28) tighten the 4 fastening screws with a tightening torque of 60 ...70 Nm (44...52 ft.lbs).

### i Note

When changing the tamper foot to a different width use only genuine BOMAG parts.

After changing the tamper foot check the engine speed, adjust if necessary.

### 4.10 Loading and transport

### A Danger

Danger of accident!

Always shut the engine down to transport the tamper to lay it on its side.

Make sure that persons are not endangered by the machine tipping or sliding off.

Lash the machine down, so that it is secured against rolling, sliding and turning over.

For lifting the machine attach the lifting gear only to the cross strut on the engine protection bow.

The machine should not swing about too much when being lifted.

Do not stand under suspended loads.

Use only safe lifting gear of sufficient load bearing capacity

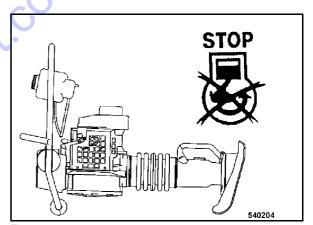
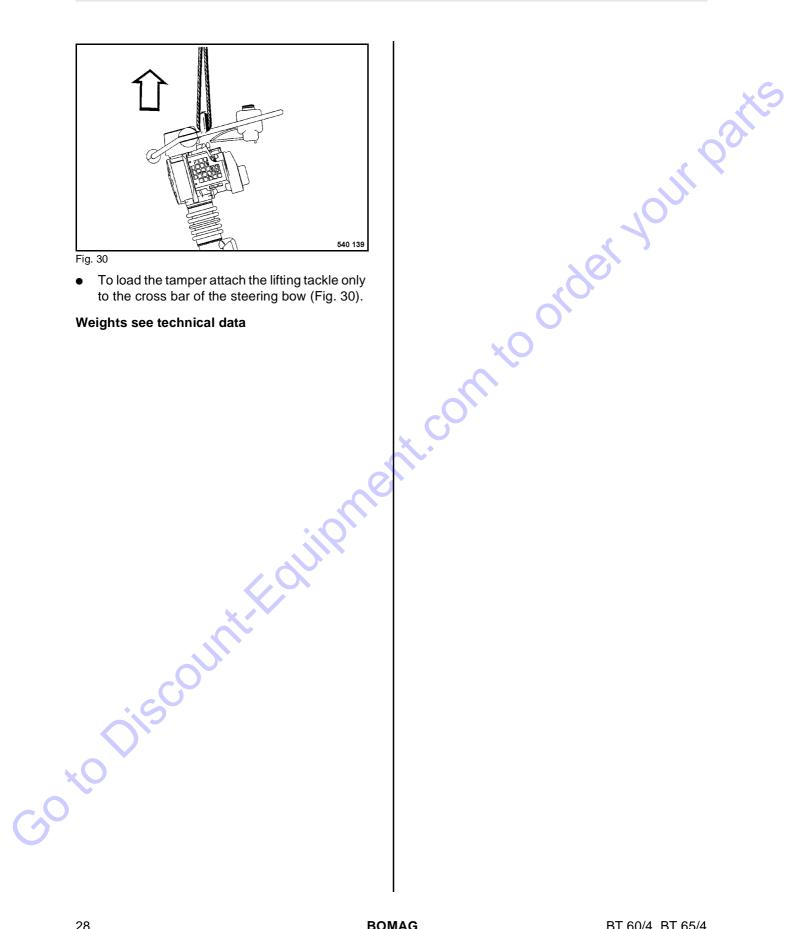


Fig. 29

- Always shut the engine down for transport.
- Transport the tamper only lying down (Fig. 29) on the castors.

### Operation





### 5.1 General

When performing maintenance work ensure strict compliance with the respective safety instructions and particularly the safety regulations mentioned in chapter 2 of these operating and maintenance instructions.

Thorough maintenance of the tamper guarantees far longer safe functioning of the machine and prolongs the lifetime of important components. The effort needed for this work is only little compared with the problems that may arise when not observing this rule.

- Always clean tamper and engine thoroughly before starting maintenance work.
- For maintenance work stand the tamper on level ground and secure it against tipping over.
- Perform maintenance work only with the engine shut down.
- During maintenance work catch running out oils and fuel environmentally and do not let such substances seep into the ground or into the sewage system. Dispose of oils and fuel environmentally and avoid contact with skin and eyes.

### Frequent causes of faults:

- Operating errors
- Incorrect, insufficient maintenance

If you cannot locate the cause of a fault or rectify it yourself by following the trouble shooting chart, you should contact the service departments at our branch offices or dealers.

### 5.2 Fuels and lubricants

### Fuel

### Quality

Use only commercially available brand carburettor fuel.

You must use unleaded standard grade gasoline.

### **Engine oil**

Use winter grade engine oil for winter operation!

In order to assure perfect cold starting it is import to chose the viscosity (SAE-class) of the engine oil according to the ambient temperature.

For winter operation below -10 °C the oil change intervals must be shortened.

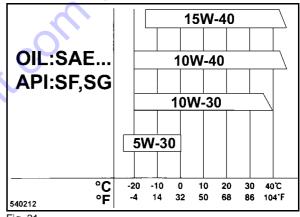


Fig. 31

Lubrication oil with a too high viscosity index causes starting difficulties. The temperature when starting the engine is therefore of highest importance when choosing the viscosity of engine oil for winter operation.

### **Oil viscosity**

Since lubrication 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 (SAEclass) (see diagram).

Occasional falling short of the temperature limit (e.g. use of SAE 15W/40 down to -15 °C) may effect the cold starting ability of the engine, but will not cause any engine damage. Temperature related lubrication oil changes can be avoided by using multi-purpose oils. The following oil change intervals apply also when using multi-purpose oils.

### **Regular lubrication oil changes**

The longest permissible time a lubrication oil should remain in an engine is 1 year.

### **Oil quality**

Preferably use oils API- quality class SF and SG.

Goto

### Tamper foot oil

Use gear oil SAE 90 API, GL-5

#### **Filling capacities** 5.3

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### 5.4 Running-in instructions

The following maintenance work must be performed when running in new machines or overhauled engines:

### ▲ Caution

During the running-in period, up to approx. 200 operating hours, check the engine oil level twice every day.

Depending on the load the engine is subjected to, the oil consumption will drop to the normal level after approx. 100 to 200 operating hours.

#### After approx. 20 operating hours

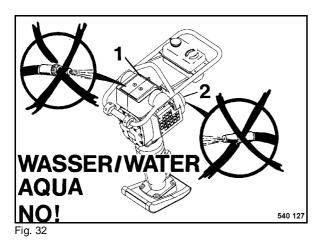
- Change the engine oil.
- Check maximum engine speed, adjust if necessary.
- Check engine and machine for leaks.
- Retighten the fastening screws on air filter exhaust, fuel tank and other attachments.
- Retighten the bolted connections on the machine.

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### 5.5 Maintenance chart

	Maintenance work	Remark	Running-in instructions	every day	every month	every year	as required
5.1	Clean the machine	In case of extreme dust every day		x			
5.2	Checking the concertina wall on the tamper		5	х			
5.5	Check the engine oil level	Dipstick mark		Х			
5.6	Check the fuel level			Х			
5.7	Changing the engine oil	at least every 100 operating hours or 1x per year	х		х		
	Cleaning, checking the spark plug, replacing if necessary				х		
5.9	Taper plate, tighten the bolts				Х		
5.10	Check the oil level in the tamper foot	Oil level inspection glass			х		
5.11	Checking the valve clearance					Х	
5.12	Clean the fuel screen in the tank					Х	
5.13	Oil change in tamper foot	Oil level inspection glass				Х	
5.14		in case of a drop in the max. engine speed					x

### 5.6 Cleaning the machine



 Do not guide the water jet directly into the air filter 1 (Fig. 32) and into the starter/air intake (2).

# 5.7 Checking the bellows on the tamper

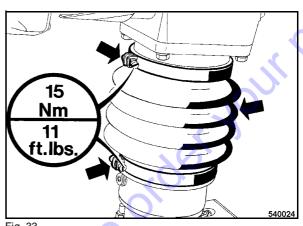


Fig. 33

- Check the condition of the bellows, inspect for damage and tight fit.
- Check the hose clamps for tight fit (Fig. 33).

### 5.8 Check the engine oil level

### ▲ Caution

Check the engine oil level with highest care, to avoid over or underfilling of the engine. Underfilling can damage the engine. Overfilling causes excessive development of smoke and can also lead to engine damage

- Stand the tamper on flat and level ground.
- Shut the engine down.

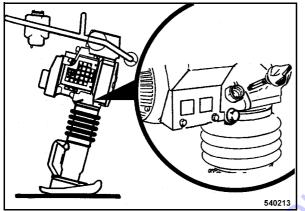
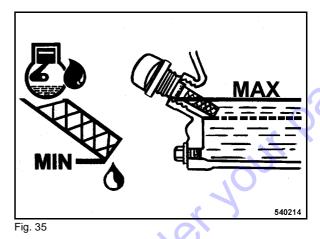


Fig. 34

Pull out the dipstick (Fig. 34) and wipe it clean with a lint-free, clean cloth.



- The oil level must reach the bottom edge of the filler bore (Fig. 35), maximum level.
- To check the oil level insert the dipstick, but do not screw it in.
- If the oil level is too low top up oil immediately.
- Push the dipstick in again.

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

• After a running time of approx. 1 minute check the oil level again with the engine shut down.

### 5.9 Checking the fuel level, topping up fuel

### 🛕 Danger

Fire hazard!

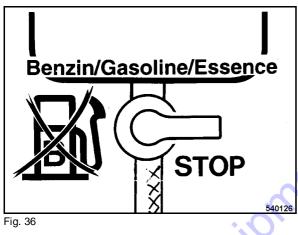
Refuel only with the engine shut down and the fuel cock valve closed. Do not spill any fuel!

Do not inhale any fuel fumes.

No open fire, do not smoke!

Fuel:

Unleaded standard grade petrol



• Set the fuel valve (Fig. 36) to STOP position (closed).



### Fig. 37

- Tank content max. 3.0 litres.
- Close the filler cap again tightly after refuelling (Fig. 37).

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## 5.10 Change the engine oil

### A Danger

Danger of scalding!

When draining off hot oil.

### ▲ Caution

Check the engine oil level with highest care, to avoid over or underfilling of the engine. Underfilling or overfilling can damage the engine.

### i Note

Drain the engine oil only when the engine is warm.

Park the machine on level ground.

### Generation Environment

**Environmental damage!** 

Catch old oil and dispose of environmentally.

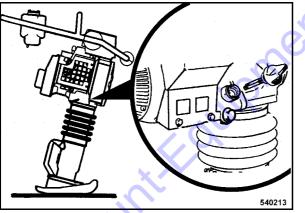
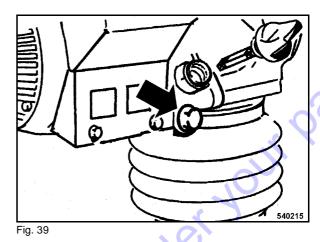


Fig. 38

, XC

• Unscrew the oil dipstick (Fig. 38).



• Unscrew the drain plug (Fig. 39).

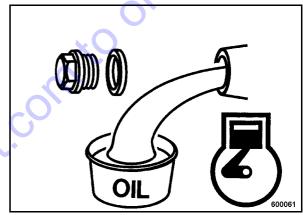


Fig. 40

- Catch running out oil (Fig. 40).
- Clean the drain plug and screw it back in with a new seal ring.

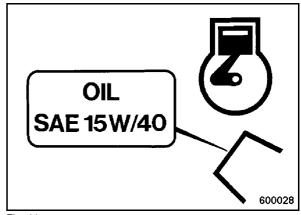


Fig. 41

• Fill in new engine oil (Fig. 41).

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

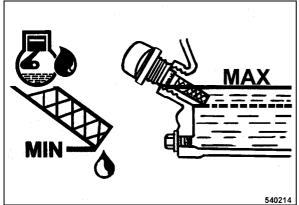


Fig. 42

- The oil level must reach the bottom edge of the filler bore (Fig. 42), top up if necessary.
- Push the dipstick in again.

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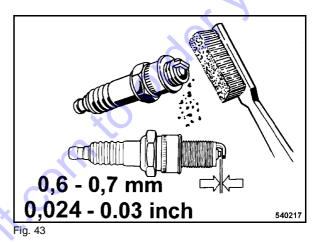
• Perform a test run, inspect drain plug for leaks and check oil level.

# 5.11 Cleaning, checking the spark plug, replacing if necessary

### Danger

Danger of burning!

Let the engine cool down for approx. 15 minutes before cleaning/changing the spark plug.



- Pull the spark plug socket off.
- Unscrew the spark plug, check the spark plug visually and clean it if necessary (Fig. 43).

### j Note

In case of excessive combustion residuals or burned off electrodes replace the spark plug, ensure correct heat value of the spark plug.

• Check the electrode gap with a feeler gauge, if necessary adjust the gap to 0.6...0.7 mm.

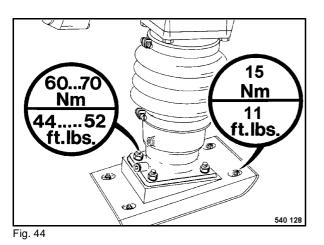
### Spark plugs:

NGK: CR5HSB Denso: U16FSR-UB

### ▲ Caution

Do not use spark plugs with incorrect heat value.

### 5.12 Tamper foot plate

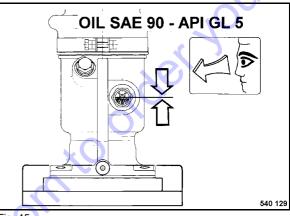


• Retighten the screws (Fig. 44).

# 5.13 Check the oil level in the tamper foot

### i Note

Stand the tamper of level ground for a short while, so that all oil can run into the housing.



### Fig. 45

- Clean the sight glass (Fig. 45).
- Check the oil level.
- The oil must be visible in the inspection glass, if necessary fill in oil accordingly.

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

### 5.14 Check, adjust the valve clearance

### i Note

Check and adjust only when the engine is cold (20 +/- 10 °C). If necessary have this work performed by a specialist workshop. Valve clearance:

Intake valve (IN) = 0.15 mm (0.006 in) Exhaust valve (EX) = 0.20 mm (0.008 in)

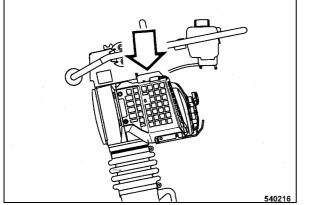


Fig. 46

Remove the top engine cover (Fig. 46). •

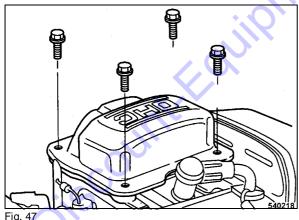


Fig. 47

Unscrew the fastening screws for the cylinder head cover (Fig. 47).

### Caution $\wedge$

Do not apply force to remove the cylinder head cover.

Replace the cylinder head cover if it is dented.

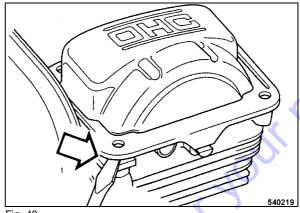


Fig. 48

Insert the screw driver into the recess (Fig. 48) • and take the cylinder head cover carefully off.

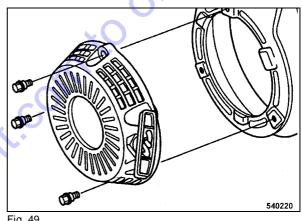


Fig. 49

Remove the recoil starter (Fig. 49).

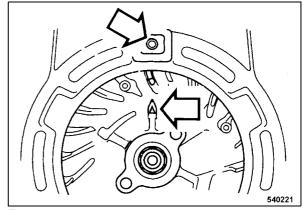


Fig. 50

Align the alignment mark  $\Delta$  on the flywheel rib • with the top bore in the fan cover (Fig. 50).

### i Note

The piston is in top dead centre of the compression stroke.

However, if the exhaust valve is open when aligning the marks, the flywheel must be turned further by 360°.

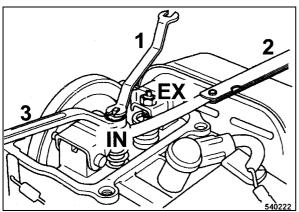


Fig. 51

 Measure the valve clearance between valve adjustment screw and valve with a feeler gauge 2 (Fig. 51).

### Valve clearance

Intake valve (IN) = 0.15 mm (0.006 in)Exhaust valve (EX) = 0.20 mm (0.008 in)

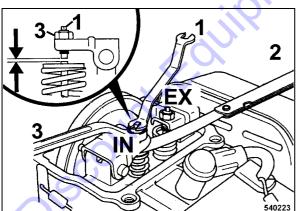
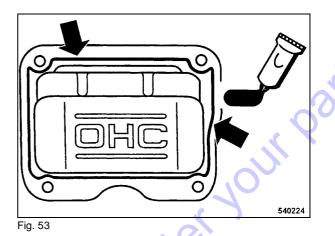


Fig. 52

- To adjust the valve hold valve adjustment screw 1 (Fig. 52) and slacken locking screw (2).
- Turn the valve adjustment screw in or out in order to achieve the specified valve clearance.
- Retighten the locking screw with a tightening torque of 7.5 Nm (5.4 lbsft).



- Clean the sealing faces on cylinder head cover and cylinder block.
- Apply a bead of liquid gasket (Three Bond 1207B or similar) with a diameter of approx.
   1.5 to 2 mm to the inside of the cylinder head cover (Fig. 53).

### i Note

Attach the cylinder head cover within the next 10 minutes.

Wait another 20 minutes before starting the engine.

### 5.15 Cleaning the fuel filter inside the tank

### A Danger

Fire hazard!

No fire, do not smoke. Do not inhale any fuel fumes.

### Environment

**Environmental hazard!** 

Do not spill any fuel. Wipe off spilled fuel.

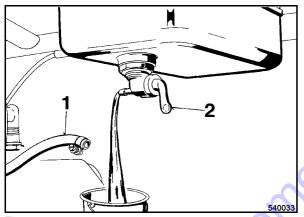
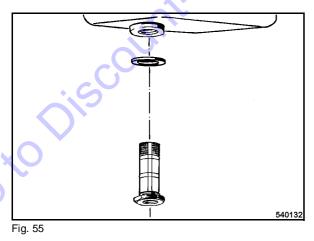
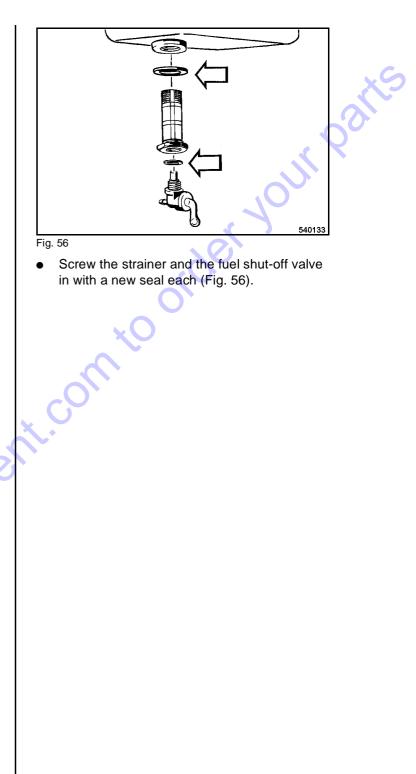


Fig. 54

- Disconnect the fuel hose 1 (Fig. 54) from the fuel shut-off valve (2). Open the fuel shut-off valve, drain the fuel off.
- Unscrew the fuel shut-off valve (2).



• Screw the strainer (Fig. 55) out and clean it with gasoline.



### 5.16 Oil change in tamper foot

### i Note

Change the oil at operating temperature.

### ▲ Caution

### Ensure strict cleanliness.

• Tip the tamper backwards.

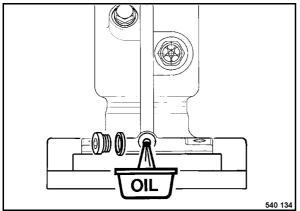


Fig. 57

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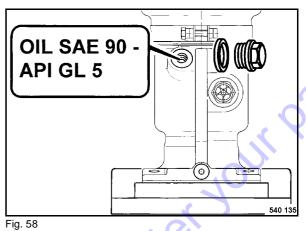
 Clean the oil drain plug (Fig. 57) and screw it out, let the oil run out.

### Environment

### Environmental damage!

### Catch old oil and dispose of environmentally.

- Check the seal on the drain plug, replace if necessary.
- Turn the drain plug in and tighten it.



J. 38

- Stand the tamper on its foot and secure it against tipping over.
- Clean the filler plug (Fig. 58) and unscrew it.
- Fill in new oil.
- Screw the filler plug back in with a new seal ring.

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

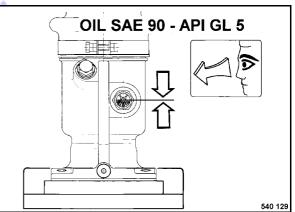


Fig. 59

- Clean the inspection glass (Fig. 59) and check the oil level.
- The oil must be visible in the inspection glass, if necessary fill in oil accordingly.

### 5.17 Clean, change the double dry air filter cartridge

### j Note

Contamination of the air filter cartridge depends mainly on the proportion of dust in the intake air, if necessary clean every day.

In case of wet or sticky contamination replace the double filter cartridge.

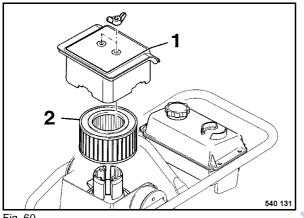


Fig. 60

Remove cover 1 (Fig. 60), take filter cartridge • (2) carefully out.

### ▲ Caution

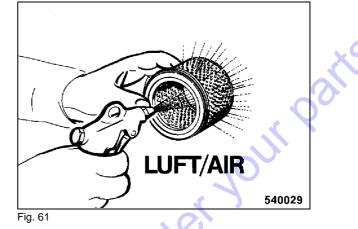
Make sure that no dirt falls into the air intake channel.

Visual inspection/cleaning

### A Danger

### Eye injury!

Wear protective clothing (goggles, gloves).



In case of dry fine dust blow out the filter cartridge carefully from inside to outside with dry, clean compressed air (Fig. 61) (max. 6 bar).



Before installation check seals and filter cartridge for damage, replace if necessary.

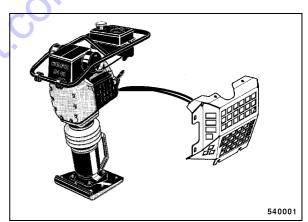
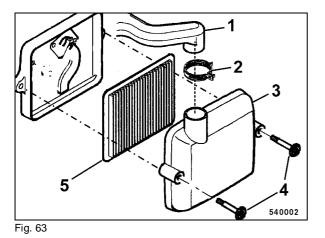


Fig. 62

Remove the protection grid on the left hand • side of the engine (Fig. 62).



- Loosen hose clamp 2 (Fig. 63) and pull the air supply hose (1) off the air filter housing.
- Unscrew two fastening screws (4) and remove cover (3) from the air filter housing.
- Pull the dry air filter cartridge (5) out of the housing.

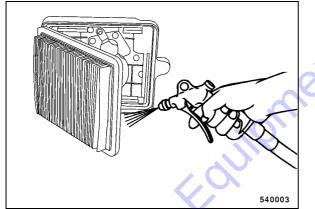


Fig. 64

- If soiled with dry fine dust blow the dry air filter out from the clean air side (Fig. 64).
- Clean the air filter housing.

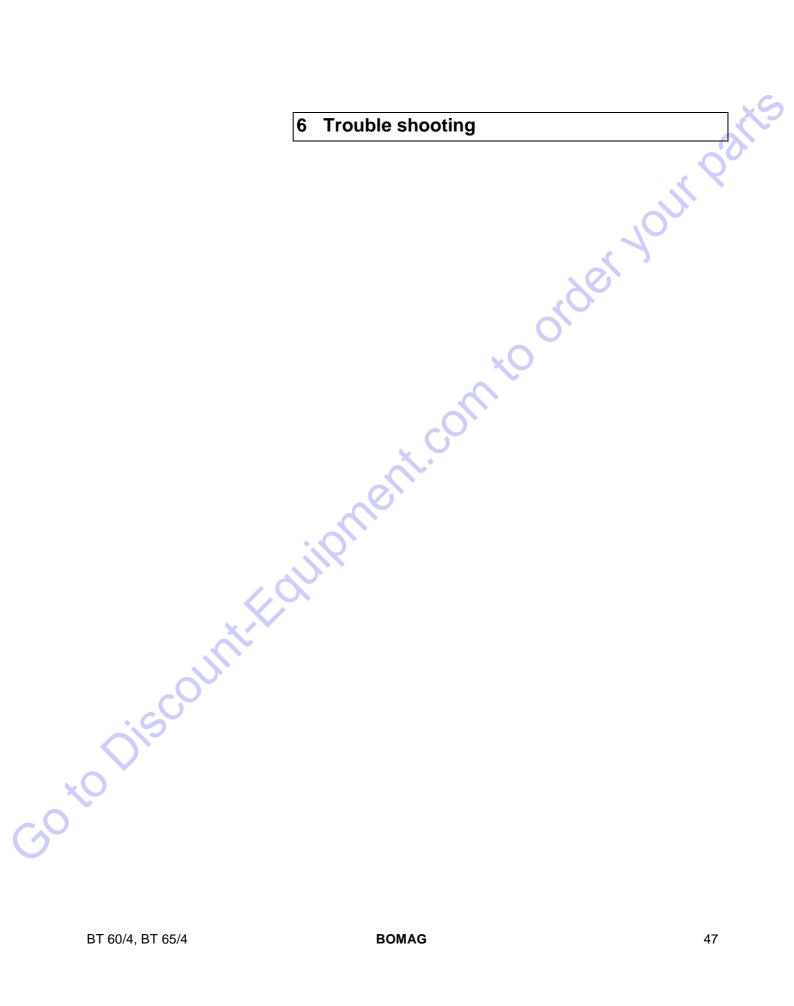
### ▲ Caution

Make sure that no dirt falls into the air intake channel.

### i Note

Before installation check seals and dry air filter for damage, replace if necessary.

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### 6.1 General notes

The following work must only be carried out by qualified and trained personnel or by the BOMAG sales service.

### Please observe strictly the safety regulations in chapter 2 of these operating and maintenance instructions.

Faults occur frequently due to the fact, that the machine has not been properly operated or serviced. Therefore, whenever a fault occurs, read through these instructions on correct operation and maintenance. If you cannot locate the cause of the fault or eliminate it yourself by following the trouble shooting charts, you should contact our customer service departments at our branch office or dealers.

On the following pages you will find a selection of fault remedies. It is quite obvious that we were not able to list all possible causes for faults.

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### 6.2 Engine problems

Fault	Possible cause	Remedy
Engine does not start	Fuel tank empty	refuel
	Fuel system clogged	Clean the fuel screen in the tank, clean the fuel screen in the carburettor
	Fuel nozzle clogged	Clean the fuel nozzle
	No ignition spark	Replace the spark plug, have the fault corrected
	Stop switch defective	Replace stop switch
	No fuel in carburettor	Check the fuel supply
Engine does not crank when op- erating the start- er	Starter defective	Replace starter
	Spring broken	Replace starter
		~
Starter rope of recoil starter does not return to initial position	Dirt	Clean the starter
	Spring broken	Replace starter
Engine stops frequently in short intervals	Fuel screen clogged	clean
Engine does not run with full speed	Throttle cable defective	replace
	Throttle cable incorrectly adjusted	Adjust the throttle cable
	Air filter clogged	Clean or replace the filter cartridge
	Too high engine oil level	Drain engine oil down to "MAX" level (clean intake manifold)
	Engine defective	Replace the engine/have the fault corrected
	Carburettor defective	Replace the carburettor
	Exhaust blocked	clean
Engine runs with	Centrifugal clutch defective	Change the centrifugal clutch
high speed, but no vibration	Mechanical defect	Have repaired by the customer service of BOMAG.

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