Operating and Maintenance Manual

PG 55 BF/70/90/110

Robin-Subaru

CE

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1015/englisch/Übersetzung der Original-Betriebsanleitung

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Introduction

This operating and maintenance manual is designed to facilitate familiarization with your concrete trowel machine, and to enable you to maintain the compactor and use it for its intended purpose. When complying with the instructions in the operating and maintenance manual you help avoid hazards, reduce repair and downtime costs, and increase the reliability and service life of your concrete trowel machine.

This operating and maintenance manual must always be available at the implementation site of the concrete trowel machine.

If necessary you can obtain additional information from your authorized WEBER dealer, or you can obtain information from one of the contact addresses on the last page.

You can obtain information on the assembled Robin gasoline engine and find a spare-part list for it at **www.robin-europe.de.**

The valid conformity declaration is enclosed with every machine delivery.

Safety guidelines

General

All safety instructions must be read and complied with, non-compliance results in

– Danger to life and limb of the user
– Impairments to the machine or other property.

In addition to the operating manual, the accident-prevention regulations in the country where the appliance is used must be complied with.

Intended use

The concrete trowel machine should only be used in technically faultless condition, as intended, in a safety-conscious and hazard-conscious manner, in compliance with the instructions in the operating manual. Malfunctions that impair safety must be eliminated without delay.
Our PG concrete trowel machines are designed exclusively for troweling
– concrete
– screed.

Any other use of the trowel machine is considered to be non-intended use, for which the customer is exclusively responsible. All liability is rejected if damage occurs due to non-compliance with this provision. This risk is borne solely by the user.

Easily foreseeable misuse

Any use for which the machine is not intended.

Operation

Trowel machines are only permitted to be operated by suitable persons of at least 18 years of age. Operators must be instructed in how to guide the trowel machine by the owner or by owner's assigned personnel.
The machine operator must comply with traffic regulations. If instructions that affect safety are given by third parties, then the operator must be authorized to reject these instructions.

Unauthorized persons are forbidden from being in the area of the trowel machine during the troweling process.

Protective equipment

This machine is capable of exceeding the permissible sound level of 80 dB(A). The owner might also face additional dangers when using the machine. Precautionary action must, therefore, be taken.

Protective equipment includes:

Hearing protection

Hard hat

Safety shoes

Protective gloves

Operation
Prior to starting work the owner of the trowel machine must be familiar with the working environment. The work environment includes obstacles in the work and traffic area, the bearing capacity of the ground, as well as the necessary safeguarding of the construction site in the area adjacent to public traffic; and it includes compliance with traffic regulations.
The trowel machine should only be operated when the protective fixtures are mounted.
The protective fixtures must all be in functional condition.
At least once per shift the trowel machine must be checked for apparent defects. If there are apparent defects, then operation of the trowel machine must be stopped immediately, and the responsible person must be informed. Prior to restarting, trowel machine malfunctions that have occurred must be corrected.

Always maintain adequate clearance to the edges of pits and embankments.
After work has been concluded, secure the trowel machine in accordance with statutory regulations, particularly in the area of public traffic surfaces.

Operation under difficult conditions

Never inhale the exhaust gas; it contains carbon monoxide, a colorless and odorless gas that is extremely hazardous, which, if inhaled even briefly, can cause unconsciousness and death.

Therefore, never operate the engines in enclosed areas or in areas that are poorly ventilated (tunnels, caves, etc.). Exercise particular caution when operating the engine in the vicinity of people and livestock.

Maintenance and repair work
Only use **original Weber spare parts** to ensure reliable and safe operation for maintenance or repair work.

Adjusting tasks, maintenance tasks, and inspection tasks must be carried out on schedule as specified in this operating and maintenance manual. These activities should only be executed by instructed personnel.

For repair, maintenance, or inspection work the engine of the trowel machine must be safeguarded against unintentional starting.
All pressurized lines, particularly hydraulic lines and lines of the injection system of the drive motor must be depressurized before performing maintenance or repair tasks.
For maintenance and repair tasks the trowel machine must be placed on a level and stable substrate and must be secured from rolling off or tipping over.
Heavy components and assemblies must be secured to and lifted by hoisting machines that can bear their weight when they are replaced. Ensure that no hazard is caused by raising components or assemblies.
Do not position yourself or work under suspended loads.

If lubricating oils and fuel come into contact with skin, they can cause skin cancer.
Upon contact with the skin, clean affected skin with suitable cleaning agent without delay.

Inspection

Trowel machines must be inspected in accordance with appropriate implementation conditions and operating conditions, as needed; however, an inspection to ensure operationally safe status must be performed by an expert at least once a year. The results of the inspection must be recorded in writing and must be stored at least until the next inspection.

Cleaning work
Cleaning tasks should only be executed in areas that are suitable and have been approved for this purpose (oil separator amongst others).

Disposal
All operating fluids and auxiliary materials must be disposed of in an environmentally-compatible manner in accordance with country-specific regulations.

Important information for operating and maintenance personnel is marked by pictograms.

 Warning against irritants or materials hazardous to health

 Warning against a hazardous place

 Warning against a suspended load

 Wear ear protection

 General regulation

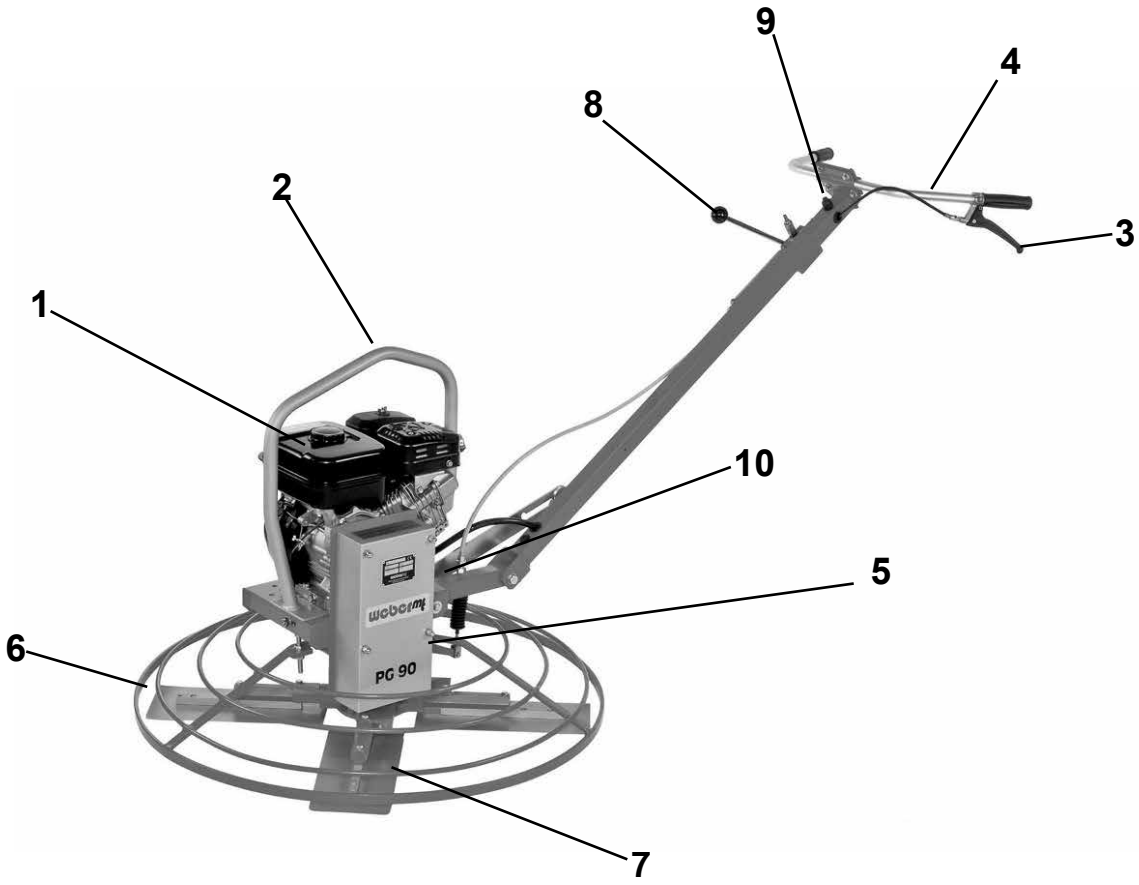
 Environmental protection

 Hard hat

 Safety shoes

 Protective gloves

Graphic presentation



Overall view PG

1 Engine
2 Protective frame
3 Gas lever
4 Handle
5 V-belt guard
6 Protective cage
7 Troweling blades
8 Adjusting lever / troweling blade adjuster
9 Short-circuit button
10 Hearing protection (sticker)

Device description

The trowel machines of the PG series are used in general building construction applications.

Drive
The machine is propelled by an air-cooled Robin-Subaru gasoline engine.

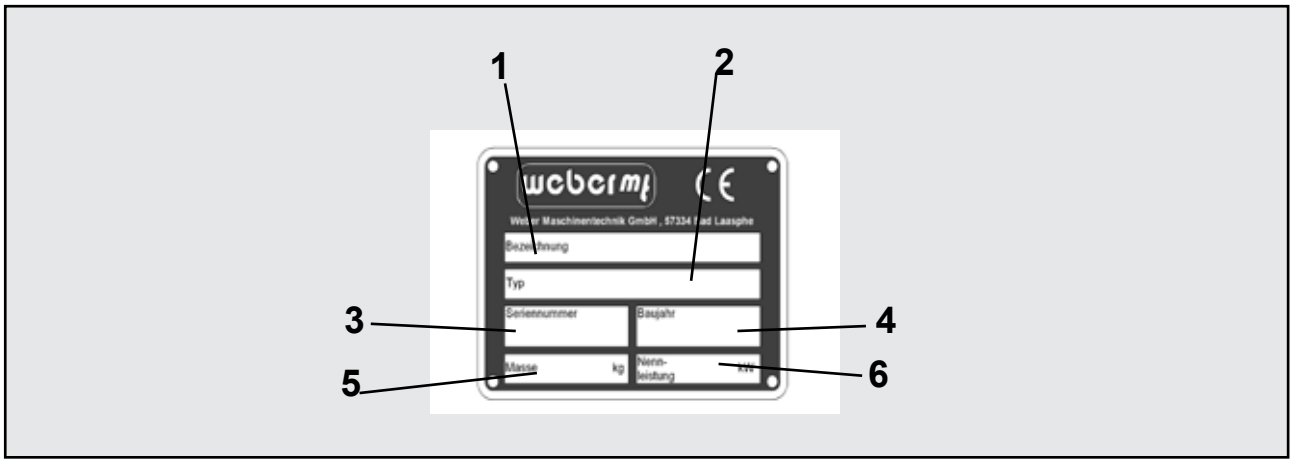
Function
The force generated by the engine is transmitted to the gearbox of the trowel machine by the centrifugal clutch and a V-belt. The troweling blades and the troweling pan attached to the gearbox smooth the concrete or screed.

Operation
Start the Robin-Subaru gasoline engine with the attached reversing starter. After starting, the engine speed is regulated with the gas lever attached to the manual guidance rod. The adjusting lever fitted at the manual guidance rod is used to adjust the angle of the troweling blades.

Technical data

	PG 55 BF	PG 70	PG 90	PG 110
Weight				
Operating weight CECE in kg	53	74	78	95
Dimensions				
Overall length (in mm)	1575	2166	2241	2366
Protective ring diameter (in mm)	595	786	936	1186
Height with folded manual guidance rod (in mm)	900	900	900	900
Operating diameter (in mm)	563	750	900	1100
Drive				
Engine manufacturer	Robin-Subaru	Robin-Subaru	Robin-Subaru	Robin-Subaru
Type	EX 17 D	EX 17 D	EX 17 D	EH 25-2
Performance at operating speed in accordance with ISO 3046-1 (kW)	3.1	3.2	3.2	5.2
Combustion process	4-stroke gasoline	4-stroke gasoline	4-stroke gasoline	4-stroke gasoline
Operating speed (m/min)	3300	3600	3600	3600
Performance characteristics				
Rotation (1/min)	115	120	123	124
Gear ratio	19.5	19.5	19.5	19.5

	PG 55 BF	PG 70	PG 90	PG 100
Vibration values Root-mean-square acceleration value for hand-arm vibration ascertained in accordance with EN 500 in m/s²				
Troweling blades, position flat	5.9	12.5	12.5	10.4
Troweling blades, position slanted	3.1	8.5	8.5	5.7
⚠ In accordance with directive 2006/42/EC, complying with the vibration values is the owner's responsibility.				

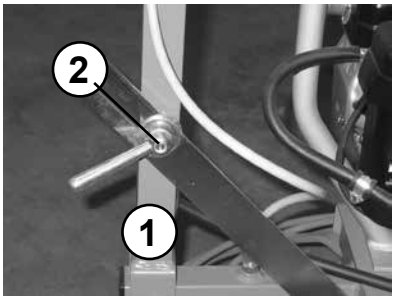


1 Description	**2 TYPE**
.....	.....
3 Serial number	**4 Year of construction**
.....	.....
5 Mass	**6 Rated power kW**
.....	.....

Activities prior to starting work

Transport

When transporting the trowel machine on a vehicle, secure it with suitable restraints.



Arrest the manual guidance rod (1) with the tommy screw (2).

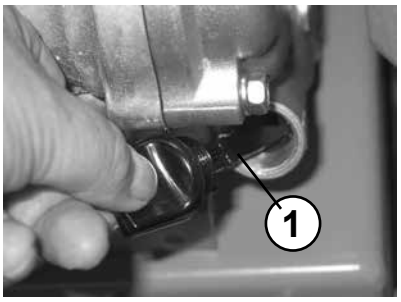
Attach the crane hook (1) to the protective frame and lift the machine onto the means of transport selected.

Only use lifting machines with a minimum bearing capacity of 150 kg.

Do not step under suspended loads.

Checking the engine oil level

Pull the oil dipstick (1) out of the crankcase.

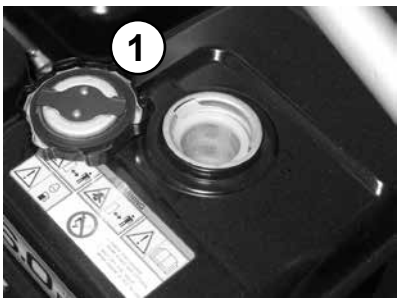


Insert the oil dip stick in the oil filler neck, but do not screw it in.

The correct oil level is between the min. and max. marks.

Check the fuel level

Open and remove the gas cap (1), check the level, if necessary top off to the lower edge of the filler neck with clean fuel in accordance with the specification.

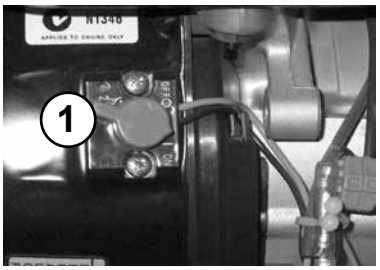


For work at the fuel system, have a suitable fire-extinguishing agent at the ready.

Fire, naked light, and smoking is forbidden!

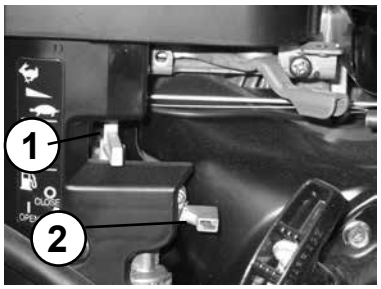
Starting

Turn the short-circuit button (1) to the “ON” position.

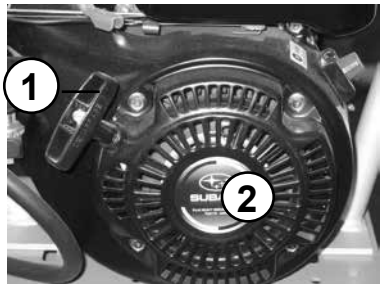


Slide the choke lever (1) to the left (close).

Open the fuel cock (2).



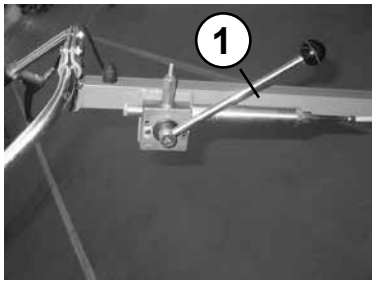
Slowly tighten the handle (1) of the reversing starter (2) until resistance is noticeable.
Allow the handle (1) to glide back into the initial position, and then forcefully and completely pull it through with both hands.



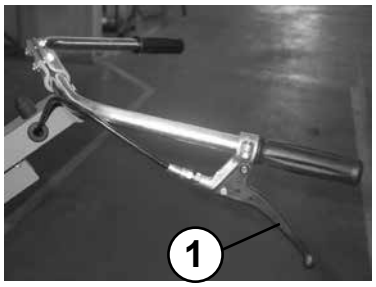
After the engine has warmed up, slide the choke lever to the right (open).

Troweling

Use the adjusting lever (1) to set the troweling blade to the desired position.

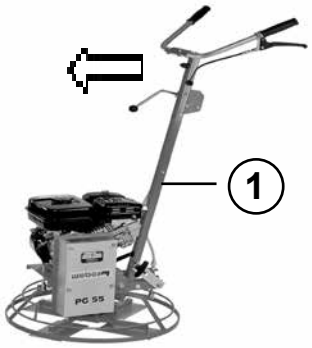


Bring the gas lever (1) into full-throttle position.



Only run machine within reach of the manual guidance rod.

Forward
Push the machine forward using the manual guidance rod (1).
Reverse
Pull the machine backward using the manual guidance rod (1).
Move to the left
Lift the machine up slightly using the manual guidance rod (1).



The frictional forces in front of and behind the drive shaft are increased and decreased, respectively. A clockwise rotational movement will cause the machine to move to the left.

Move to the right
Push the machine down slightly using the manual guidance rod (1).

The machine is caused to move to the right by the shift of frictional forces at the rear (see above).

Troweling on the spot
Use the manual guidance rod (1) to keep the machine in the horizontal position.

The frictional forces cancel each other out, causing the machine to keep moving on the spot.

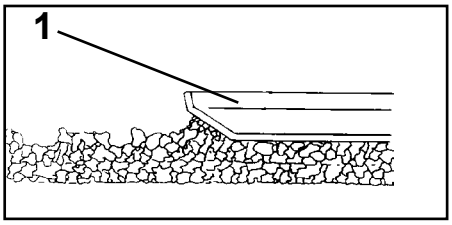
At obstructions (walls, pits, etc.), ensure that no one can be caught between the machine and the obstruction; or ensure that the machine does not slip into the pit.

Possible applications

The trowel machine can be used for the machine-assisted troweling of concrete surfaces, e.g. industrial floors, roller skate rinks, parking decks, sewage plants, basement and garage floors, screed surfaces, etc.

Pre-troweling

The surface to be smoothed is pre-troweled with the troweling pan (1).

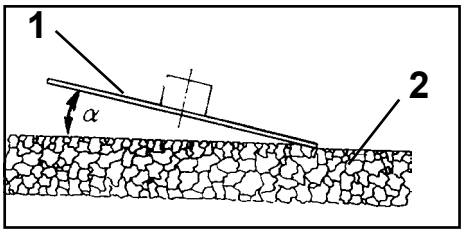


The right time for pre-troweling has come when a person walking on the cured concrete surface no longer leaves footprints behind.
Pre-troweling involves the process of grinding off any unevenness caused by pouring the concrete and rubbing the ground-off material into any cavities and recesses that may exist in the floor.

The concrete surface is leveled. During this process, the concrete surface is compacted due to a thorough rearrangement of the aggregate particles. Any shrinkage cracks and pores that may have been brought about by escaping air are sealed. Minimum size particles shift and settle in the cavities between the larger aggregates. The shifted particles push any retained water to the surface, where it evaporates.
The number of passes required for pre-troweling cannot be specified exactly as this number is influenced by various factors (e.g. concrete consistency, ambient temperature, humidity, etc.). Under normal conditions, however, one to two passes will suffice.

Fine troweling

Fine troweling requires that the surfaces have been pre-treated with the troweling pan.



Fine troweling is applied when no more moisture can be detected on the surface. For fine troweling the troweling pan is substituted for the troweling blades.
The troweling blades (1) rotate across the concrete surface (2) at relatively high pressure and at a certain blade angle (**a**).

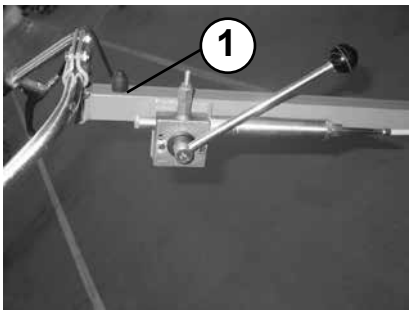
For the first few passes, the blade angle (a) is usually kept small. The blade angle increases with the number of passes. A key factor during this process is the weight of the machine. The wider the angle of the troweling blades and the higher the weight of the machine acting on the troweling blades are, the harder and, thus, more resistant to wear the surface is.

It is recommended to use a second trowel machine for surfaces with an area exceeding 200 sqm.

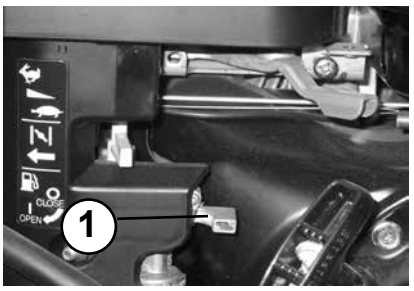
The first machine is then used for pre-troweling with a troweling pan.
The second machine is fitted with troweling blades and used for fine troweling.

Shutting down

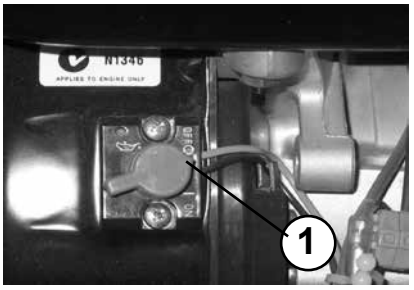
Press the short-circuit button (1).



Close the fuel cock (1).



Turn the short-circuit button (1) to the “0” – OFF position.



During breaks – even if they are short – the machine must be shut down.

Parked devices that represent an obstacle must be safeguarded against through conspicuous measures.

Maintenance overview

Maintenance interval	Maintenance point	Maintenance activity
After the first 25 operating hours	Engine	- Change engine oil - Re-tighten all accessible threaded connections
Every 8 operating hours/daily	Air filter	- Clean air filter insert, check for damage, replace if necessary
Every 150 operating hours/every 6 months	Engine	- Change engine oil
Every 150 operating hours/every year	Engine	- Change oil - Adjust valve play - Clean spark plug and adjust electrode gap
Every 300 operating hours	Gearbox	- Change semi-fluid grease

The regulations of the engine manufacturer must be complied with in addition to the above maintenance overview!

Work must be carried out using regulation tools, and the operating and maintenance manual must be complied with for all work.

All maintenance work: Select a collection vessel that is large enough to prevent oil from spilling onto the ground. Dispose of waste oil in an environmentally friendly manner (regulation on waste oils).

Dispose of oils, greases, cloths soaked in oil, and replaced parts with oil on them in an environmentally friendly manner.

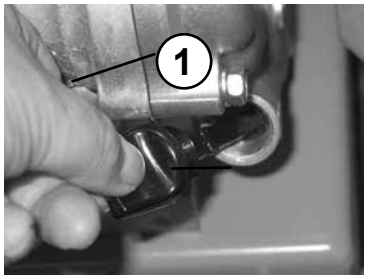
If lubricating oils and fuel come into contact with skin, they can cause skin cancer.
Upon contact with the skin, clean affected skin with suitable cleaning agent without delay.

If accessible during maintenance, check the condition and stability of all screws.

Maintenance work

Change the engine oil

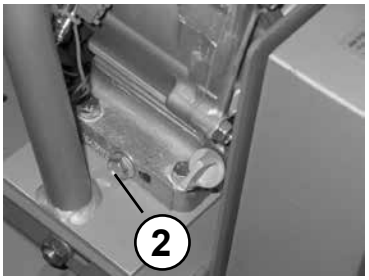
Remove the oil dip stick (1).



⚠ Only drain engine oil when at operating temperature.

Remove the oil drain screw (2) and drain oil.

After emptying completely, put in the locking screw (1).
Fill with oil in accordance with specifications.



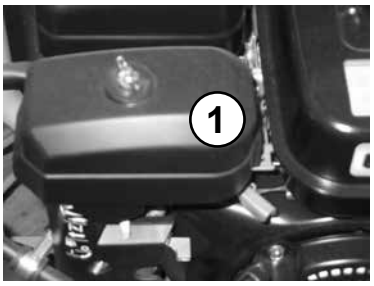
⚠ Danger of scalding due to hot oil.

⚠ When working in the area of the engine compartment there is a danger of being burnt!

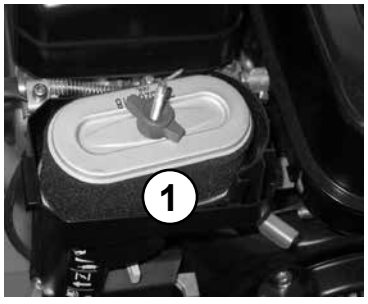
⚠ If lubricating oils and fuel come into contact with skin, they can cause skin cancer. Upon contact with the skin, clean affected skin with suitable cleaning agent without delay.

Clean / change air filter cartridge

Unscrew the air filter cover (1).



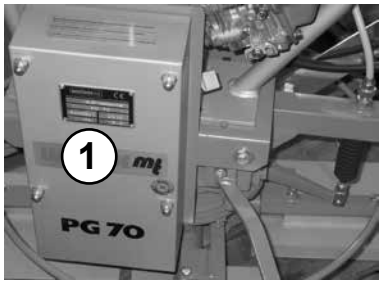
Remove the air filter insert (1) from the air filter enclosure.
Clean air filter insert as specified by the engine manufacturer if there is damage or if it is extremely dirty.



Dispose of oils, greases, cloths soaked in oil, and replaced parts with oil on them in an environmentally friendly manner.

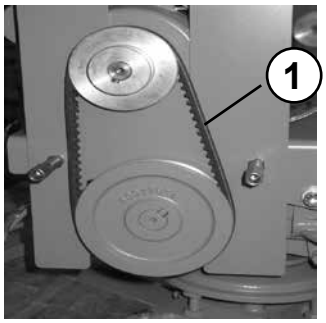
Checking the V-belt

Remove the V-belt guard (1).



Check the V-belt (1) for cracks, damaged flanks, and wear.

If there is excessive wear – replace the V-belt as specified in the repair manual.



Operating fluids and fill levels

Assembly	Operating material Summer Winter Quality	Quantity PG 55 BF PG 70 PG 90	Quantity PG 110
Engine Engine oil	SAE 10 W 40 (– 10 ~ + 50 °C) API – CD CE or SHPD or CCMC – D2 – D3 – PD1	0.6 l	0.6 l
Fuel tank Gasoline	Regular unleaded gasoline	3.6	6.0
Worm gear	Semi-fluid grease Grease 00 Mobil Glygoyle	0.9	0.9

Troubleshooting

Fault	Possible cause	Remedy
Machine does not start	Operating error	Execute start process as prescribed
	Lack of fuel	Check the fuel level
	Fuel filter fouled	Change the fuel filter
	Air filter fouled	Clean / change air filter cartridge
No vibration / no forward motion or insufficient forward motion	Vibrator V-belt defective	Change vibrator V-belt

Actions to be taken before long-term storage (longer than a month)

Total machine	– Clean thoroughly – Check for leaks – If there are leaks, correct defects
Fuel tank	– Empty fuel and fill with clean fuel up to the lower edge of filler neck
Engine	– Check oil level, if necessary fill to upper oil-level mark – Check air filter, clean, replace if necessary – Check fuel filter, change if necessary
All bare parts / gas lever / accelerator control cable / fastening bolts	– Oil / grease

If the machine is to be stored for longer than six months, then contact the Weber service organization to discuss additional measures.

Weber Maschinentechnik GmbH

If you have questions, suggestions, problems, etc. please contact us at one of the following addresses:			
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> Vibration plates

> Vibrating tampers

> Vibration rollers

> Joint cutters

> Internal vibrators and converters

> Rollers

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