

Operator's manual

Modular internal vibrator

A5000



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Original operator's manual

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EU Declaration of Conformity

Manufacturer

Wacker Neuson Produktion GmbH & Co. KG, Wackerstraße 6, 85084 Reichertshofen (DE)

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Product	A5000
Product type	Internal vibrator
Function of product	Compacting of concrete
Material number	5100068212

Directives and standards

We hereby declare that this product complies with the relevant provisions and requirements of the following directives and standards:

2006/42/EC • 2014/30/EU • EN 12649:2008 + A1:2011 • EN 55012:2007 + A1:2009

Person responsible for technical documents

Wacker Neuson Produktion GmbH & Co. KG, Wackerstraße 6, 85084 Reichertshofen (DE)

Reichertshofen (DE), 14.07.2022

Helmut Bauer

Managing Director

Original Declaration of Conformity

A5000_CE_en



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UK Declaration of Conformity

Manufacturer

Wacker Neuson Produktion GmbH & Co. KG, Wackerstraße 6, 85084 Reichertshofen (DE)

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Product	A5000
Product type	Internal vibrator
Function of product	Compacting of concrete
Material number	5100068212

Directives and standards

We hereby declare that this product complies with the relevant provisions and requirements of the following directives and standards:

SI 2008 No. 1597 • SI 2016 No. 1091 • EN 12649:2008 + A1:2011

EN 55012:2007 + A1:2009

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Helmut Bauer

Managing Director

**UK
CA**

Original Declaration of Conformity

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2 Preface

2.1 Introduction

This operator's manual contains important information and procedures for the safe, proper and economical operation of this machine. Careful reading, understanding and observing it helps to avoid hazards, reduce repair costs and downtimes and thus increase the availability and service life of the machine.

This operator's manual is not a manual for extensive maintenance or repair work. Such work must be carried out by the service partner or by technically trained personnel. The machine must be operated and maintained in accordance with the instructions in this operator's manual. Improper operation or maintenance can cause hazards.

Defective machine parts must be replaced immediately!

The manufacturer is always available to answer questions on operation or maintenance.

Storage location of the operator's manual

2.2 This operator's manual must be kept in the immediate vicinity of the machine and accessible to personnel at all times.

If a second copy of this operator's manual is lost or required, the following options are available for obtaining a replacement:

- On the Internet at <http://www.wackerneuson.com>.
- Contact the manufacturer.

2.2.1 Understanding these instructions

This section helps in understanding this operator's manual and the representations used in it.

Target group

Persons, working with this machine, must be regularly trained with regard to the dangers and risks occurring when using this machine.

This operator's manual is aimed at:

- Operating personnel:
 - These persons have been instructed in working with the machine and about possible dangers and risks arising due to improper behavior.
- Technically trained personnel:
 - These persons have a professional training as well as additional knowledge and experience. They are capable of assessing the tasks assigned to them and recognizing any possible risks and dangers.

Key to the symbols

Symbol	Explanation
1., 2., 3...	Indicates an activity. The sequence of the actions must be followed.
⇒	Indicates a result or an intermediate result of an action.
✓	Indicates prerequisites that must be created for the activity.
•	Denotes a list, for example if several components are named one after another.
-	Denotes a sub-list, for example if components consist of further components
	Indicates a position, usually a component or control element, in a graphic. The numbering can be consecutive or in Roman numerals.
1; A	Indicates the naming of components in explanatory texts. It is identical to the adjacent positions in graphics.
 	Indicates a direction of movement or different positions of switches.
►	Indicates the avoidance of hazards in warning notices.
[▶ 52]	Indicates a cross-reference in tables. Here, for example, reference to page 52

2.2.1.1 Explanation of symbols

The symbols used in the operator's manual are explained below. The symbols are used exclusively in warning, environmental instructions or information. Warnings must always be observed to protect the operator and third parties from personal injury and damage to property.



Symbol for warning notices

This symbol marks general warnings. It is used to warn of possible hazards, e.g. risks of injury or accidents.



Symbol for indications of technical damage

This symbol is a warning symbol that indicates a danger of technical damage. It is used to indicate situations where damage to the machine or third-party property may occur.



Symbol for environmental information

This symbol indicates environmental information. It is used to warn of possible environmental hazards.



Symbol for information

This symbol indicates information. This information can include tips on operation, for example. It helps to better understand and use the machine.

2.3 Accident prevention regulations

In addition to the notes and safety instructions in this operator's manual, the local accident prevention regulations and the national industrial safety regulations apply.

2.4 Contact person

Depending on the country, the contact person is a service partner, subsidiary or dealer. On the Internet at <http://www.wackerneuson.com>.

2.5 Limitation of liability

In the event of the following infringements, the manufacturer disclaims any liability for personal injury and damage to property:

- Actions contrary to this operator's manual.
- Non-designated use
- Deployment of untrained personnel.
- Use non-approved spare parts and accessories.
- Improper handling.
- Structural changes of any kind.
- Non-observance of the General Terms and Conditions (GTC).

2.6 Use of the operator's manual

This operator's manual:

- must be regarded as an integral part of the machine and must be kept in a safe place throughout its service life.
- must be passed on to each subsequent owner or operator of this machine.
- applies to various machine types from one product range. For this reason, some illustrations may differ from the appearance of the purchased machine. Variant-dependent components that are not included in the scope of delivery can also be described.

The manufacturer reserves the right to change the information in this operator's manual without notice.

It must be ensured that any changes or additions made by the manufacturer are immediately incorporated into this operator's manual.

Group - Type	Material number (Mat. no.)
A5000/160B	5100068212



Information

Depending on the operating conditions, the modular internal vibrator can be combined with different components, [see Permissible Combinations on page 51](#)

3 Usage

3.1 Intended use

Designated use also includes observing all notes and safety instructions in this operator's manual and observing the prescribed care and maintenance instructions.

The machine is used for:

- Compacting fresh concrete.
- The vibrator head must be submerged in the freshly mixed (green) concrete.

The drive, flexible shaft and vibrator head components may only be combined with one another in the permitted combination.

Any other use or use that goes beyond this is considered to be improper. The manufacturer shall not be liable or liable for any damage resulting therefrom. The risk is borne solely by the operator.

3.2 Unintended use

The manufacturer is not liable for personal injury or damage to property resulting from unintended use. The following activities, among others, are not intended:

- Submerging the vibrator head in acidic or alkaline liquids.
- Letting the vibrator head come into contact with body parts or inserting in body parts.
- Connecting non-permitted components.
- Operating without flexible shaft and vibrator head.

4 Safety

4.1 Safety symbols and signal words

The following symbol identifies safety instructions. It is used for warning against potential personal risk or danger.



HAZARD

DANGER identifies a situation causing death or serious injury if it is not avoided.

Consequences in case of non-observance.

- Avoidance of injury or death.



WARNING

WARNING identifies a situation that can cause death or serious injury if it is not avoided.

Consequences in case of non-observance.

- Avoidance of injury or death.



CAUTION

CAUTION identifies a situation that can cause injury if it is not avoided.

Consequences in case of non-observance.

- Avoidance of injury.



NOTICE

INFORMATION identifies a situation that causes damage if it is not observed.

Consequences in case of non-observance.

- Avoidance of damage to property.

4.2 Principle

The machine is built according to the latest state of the art and recognized safety regulations. Nevertheless, improper use can result in danger to life and limb for the operator, third parties or damage to the machine and other property.

Read and observe the notes and safety instructions in this operator's manual. Failure to follow these instructions may result in electric shock, fire and/or serious injury, and damage to the machine and/or other objects.

Keep safety instructions and information for the future.

4.3 Structural changes

Structural changes may not be made without the manufacturer's written consent. Unauthorized structural changes to this machine can pose a risk to the operator and/or third parties, as well as damage to the machine.

The manufacturer's liability and warranty are also void in the event of unauthorized structural alterations.

In particular, a structural change shall be deemed to have occurred:

- When opening of the machine and permanent removal of components.
- Installation of spare parts that do not come from the manufacturer or are not equivalent in design and quality to the original parts.
- Attachment of accessories of any kind that do not originate from the manufacturer.

Spare parts or accessories from the manufacturer can be installed or removed safely. More information on the Internet at - <http://www.wackerneuson.com>.

4.4 Responsibility of the operator

The operator is the person who operates this machine for commercial or economic purposes or lets a third party use it and bears the legal product responsibility for protecting personnel or third parties during operation.

The operator must make the operator's manual accessible to the staff at all times and ensure that the operator has read and understood this operator's manual.

The operator's manual must be kept handy on the machine or at the place of use.

The operator must hand over the operator's manual to every other operator or subsequent owner of the machine.

Country-specific regulations, standards and guidelines for accident prevention and environmental protection must also be observed. The operator's manual must be supplemented with further instructions to take account of company, official, national or generally applicable safety guidelines.

4.5 Obligations of the operator

- Know and implement applicable health and safety regulations.
- In a risk assessment, identify hazards arising from working conditions at the place of use.
- Create operating instructions for the operation of this machine.
- Regularly check whether the operating instructions correspond to the current status of the regulations.
- Clearly regulate and define responsibilities for installation, operation, troubleshooting, maintenance and cleaning.
- Train personnel at regular intervals and inform them about possible dangers.
- Refresh instruction at regular intervals.
- Keep records of the training received and make them available to the competent authority on request.
- Provide personnel with the necessary protective equipment.

4.6 Qualification of staff

This machine may only be put into operation and operated by trained personnel.

In the event of misuse, abuse or operation by untrained personnel, there is a danger to the health of the operators and/or third parties, as well as damage or total failure of the machine.

In addition, the following requirements apply to the operator:

- Physical and mental suitability.
- Minimum age 18 years.
- No influence on reactivity by drugs, alcohol or medication.
- Familiarity with the safety instructions in this operator's manual.
- Familiarity with the intended use of this machine.
- Instructed in the independent operation of the machine.

4.7 General safety instructions

The safety instructions in this chapter contain the "General Safety Instructions," which must be listed in the operator's manual in accordance with the applicable standards. It may contain instructions which are not relevant for this machine.

4.8 Specific drive safety instructions

4.8.1 External influences

Do not operate the machine under the following external influences:

- In potentially explosive atmospheres. Explosion hazard!
- If methane gas escapes from the ground in the vicinity of oil fields. Explosion hazard!
- In dry, highly flammable vegetation. Fire hazard!
- In the vicinity of open flames. Fire hazard!

4.8.2 Operational safety

- Do not leave the designated operating position when the machine is in operation.
- Necessary protection of walls and ceilings.
- Never let the machine run unattended. Risk of injury!
- Remove obstacles in the work and traffic area.
- Note the load-bearing capacity of the floor.
- Observe stability when working on scaffolding, ladders, uneven or slippery ground.

4.8.2.1 Safety distances

- Keep work area clear and keep unauthorized persons away. Risk of injury!

4.9 Safety features

Safety features protect the operator of this machine from being exposed to the existing hazards. These are barriers (separating safety devices) or other technical measures that serve to avert or reduce hazards.



CAUTION

Hot exhaust!

Contact may cause burns.

- ▶ Only operate the machine if the safety features are correctly fitted.
 - ▶ Do not change or remove safety devices.
-

4.10 Maintenance

- Do not service, repair, adjust or clean the machine when it is switched on.
- Observe maintenance intervals according to maintenance plan. Have work that is not listed performed by a service partner.
- Replace worn or damaged machine parts immediately. Only use spare parts from the manufacturer.
- Carry out maintenance work in a clean and dry environment (e.g. workshop).
- Keep the machine clean.
- Replace any missing, damaged or illegible safety labels immediately. Safety and information labels contain important information for protecting the operator.

4.10.1 Service

- Only have the machine repaired or serviced by technically trained personnel.
- Only use original spare parts and accessories. The operational safety of the machine is thus maintained.

4.10.1.1 Threaded fittings

All threaded fittings must comply with the specified specifications and be firmly bolted together. Observe the tightening torques! Screws and nuts must not be damaged, bent or deformed.

Particular attention should be paid to the following:

- Self-locking nuts and micro-encapsulated screws must not be reused after loosening. The fastening effect is lost.
- Screw connections with adhesive protection/liquid adhesives (e.g. Loctite) must be cleaned after loosening and new adhesive applied.



Information

Observe the instructions of the liquid adhesive manufacturer.

4.10.2 Vehicle fluids

- Always wear protective goggles and gloves when handling vehicle fluids. See a doctor immediately if e.g. hydraulic oil, fuel, oil or coolant gets in your eyes.
- Avoid direct skin contact with vehicle fluids. Wash skin immediately with soap and water.
- Do not eat or drink while working with vehicle fluids.
- Contaminated vehicle fluid (e.g. with dirt, water) can lead to premature machine wear or failure.
- Dispose of discharged or spilled vehicle fuel in accordance with applicable environmental regulations.
- If vehicle fluids leak from the machine, stop operating the machine and have it repaired immediately by a service partner.

4.10.3 Combustion engine



⚠ WARNING

Hazard of poisoning!

Inhalation of exhaust fumes can lead to death in a few minutes. Exhaust gases contain carbon monoxide.

- ▶ Do not operate the machine in an enclosed area, e.g. a tunnel.
- ▶ Unless there is adequate ventilation by exhaust fans or hoses.

- Before start of work, check the engine for leaks and cracks in the fuel line, tank and filler cap.
- Do not start the defective engine. Replace damaged parts immediately.
- The preset engine speed must not be adjusted. This could lead to engine damage.
- Ensure that the exhaust system of the engine is free of flammable materials. Fire hazard!
- Before refueling, switch off the engine and let it cool down.
- Use the correct type of fuel. Observe the prescribed mixing ratios.
- Use clean filling aids for refueling. Do not spill fuel, wipe up spilled fuel immediately.
- Do not start the engine near spilled fuel. Explosion hazard!
- When operating in partially enclosed rooms, sufficient ventilation must be provided. Do not inhale exhaust gas. Hazard of poisoning!
- The engine surface and exhaust system can become very hot after only a short time. Hazard of burning!
- Do not use jump start sprays. These can cause misfiring and engine damage. Fire hazard!
- Smoking prohibited!

5 Description of the machine

5.1 Type plates and labels

5.1.1 Type label

A type label is permanently attached to the machine.

Other type labels

Furthermore, the following components of the machine are provided with their own type label:

- the combustion engine

Symbols on the type label

Various symbols and markings for national and international approvals may be shown on the type label.

5.1.1.1 Labeling on the machine

Type label data

The type label contains information that uniquely identifies this machine. This information is required for ordering spare parts and for technical queries.

Enter the data on the machine in the following table:

Designation	Your details
Group - Type	
Material number (Mat. no.)	
Machine version (version)	
Machine number (machine no.)	
Year of construction	

5.1.2 Safety and information labels

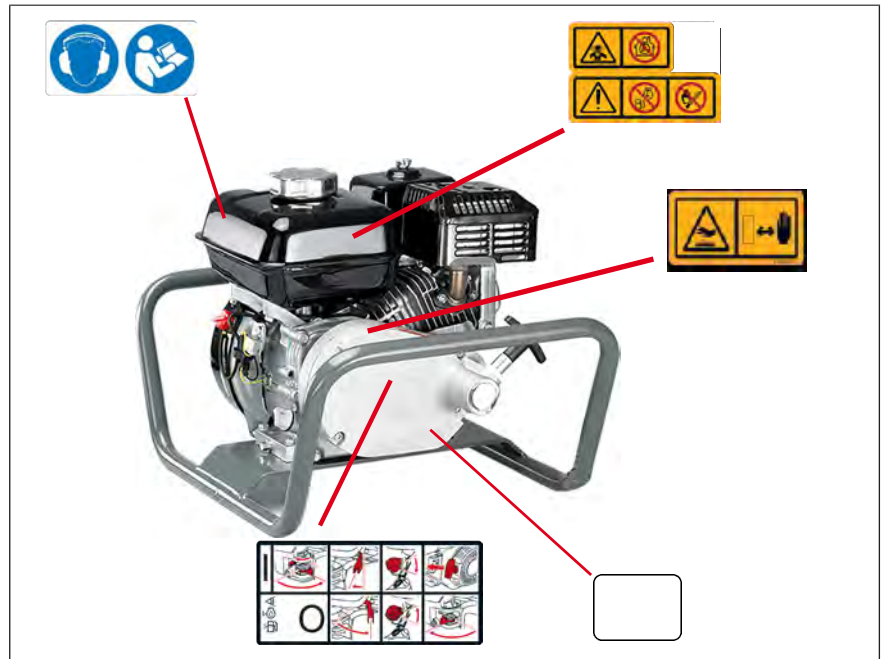


⚠ WARNING

Injury hazard due to missing or damaged labels and signs!

Safety labels contain important information to protect the operator.

- ▶ Keep all safety, warning and operating instructions on the machine in a clearly legible condition.
- ▶ Replace missing or damaged labels and signs immediately.



Meaning of safety labels

Wear personal protective equipment to avoid injury and health problems.

- Use hearing protection.
- Read the operator's manual.

Warning label Briggs & Stratton engine

- Risk of suffocation due to exhaust gases!
- Do not operate the machine in closed rooms.
- Take the machine out of operation before refelling.
- Fire, open flame and smoking are prohibited.

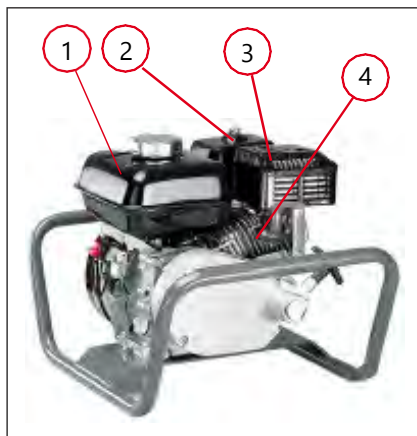
Start-Stop quick guide for Briggs & Stratton engine. Check oil and fuel levels.

Type label.

Warning label Briggs & Stratton engine

- Risk of burns due to hot surface!
- Keep back.

5.2 Drive components



- 1 Fuel tank
- 2 Air filter
- 3 Silencer
- 4 Drive motor

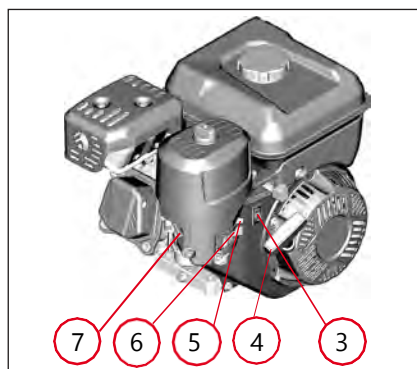
5.3 Drive operating elements

Always keep the displays and controls of the machine dry, clean and free of oil and grease.

Do not lock, manipulate or alter the machine operating elements in an inadmissible manner.

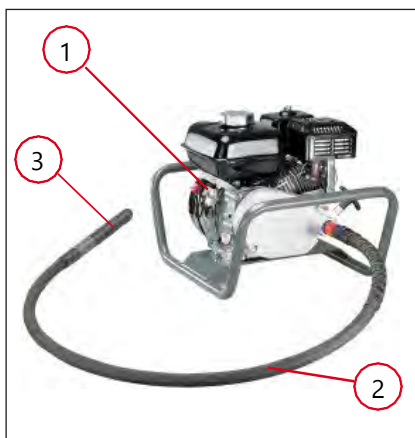


- 1 Quick release coupling
- 2 Connection to flexible shaft



- 3 Engine switch
- 4 Handle reversing starter
- 5 Throttle lever
- 6 Choke lever
- 7 Fuel cock

5.4 Modular internal vibrator components



- 1 Drive
- 2 Flexible shafts
- 3 Vibrator head

6 Transportation

6.1 Safety instructions for transport



⚠ WARNING

Hazard of falling!

The falling machine can cause serious injuries, e.g. by crushing.

- ▶ Only use suitable and tested lifting gear and slings (safety hooks) with sufficient lifting capacity.
- ▶ Secure the machine safely to the lifting gear.
- ▶ Leave the danger zone when lifting, do not stand under suspended loads.



⚠ WARNING

Hazard of burning!

Touching the hot vibrator head can cause severe burns.

- ▶ Allow the engine and vibrator head to cool down.
- ▶ Use protective gloves.



⚠ WARNING

Fire hazard due to fuel!

Leaking fuel can catch fire and cause severe burns.

- ▶ Empty the fuel tank before transport.



⚠ CAUTION

Danger of tripping or falling!

Carrying the immersion vibrator incorrectly may lead to injuries.

- ▶ Dismantle the flexible shaft from the drive.
- ▶ Transport the drive on the frame with the help of a second person.

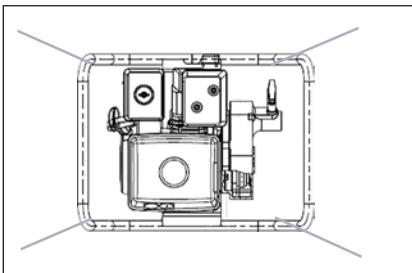
6.2 Prerequisites and preparations

- Switch off the machine and let it cool down.
- Dismantle the flexible shaft from the drive.

6.3 Lifting the machine

1. Have two people hold and lift the machine by the frame with both hands.
2. Load all components in (e.g. lattice box) or onto the transport vehicle.

6.4 Lashing the machine



Only use the lashing points provided to secure the machine.

- Lash down the machine as shown.
 - Stow the flexible shaft including the vibrator head in the transport means.
- ⇒ The machine is secured against unrolling, slipping and tipping over.

6.5 Transporting the machine to the construction site



Information

The manufacturer recommends using the sliding disc for transport on site, [see accessories on page 45](#).

7 Putting into operation

7.1 Safety instructions for operation



⚠ WARNING

Improper handling may result in injury or serious material damage.

- ▶ Please read and follow all safety instructions in this operator's manual.



⚠ WARNING

Danger of burns due to starting aid sprays!

Starting aid sprays can ignite and cause severe burns.

- ▶ Do not use any starting aid sprays.



NOTICE

Technical damage due to failure of engine lubrication!

- ▶ Do not exceed the maximum permissible inclination, [see Technical data on page 48.](#)



NOTICE

Notes on using flexible shafts and vibrator heads! Only use permitted combinations of components

[See Technical Data on page 51.](#)

- ▶ All components must be undamaged.



Information

For further information and detailed descriptions, [see Maintenance on page 31.](#)

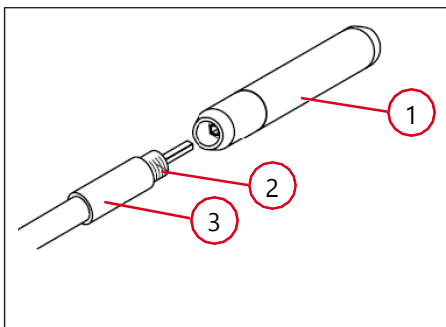
7.2 Inspections before commissioning

Perform the following checks:

- Check machine and components for damage.
 - Do not put the damaged machine into operation. Damages and defects must be repaired immediately.
- Check the fuel level.
- Check fuel lines for leaks.
- Check air filter.
- Check engine oil fill level.
- Check screw connections for tightness.
- Check control elements for functionality.

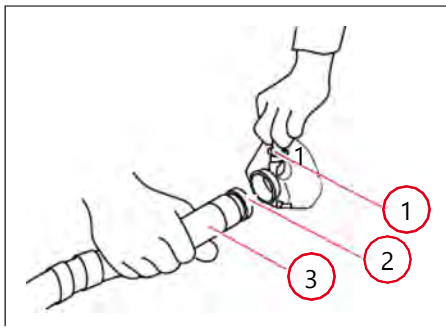
7.3 First putting into operation / preparations

7.3.1 Mount the vibrator head.



1. Clamp flexible shaft **3** in a vise with prismatic jaws.
2. Apply pipe thread sealant to thread **2** of the flexible shaft.
3. Push vibrator head thread **1** onto the flexible shaft, while inserting the shaft core into the shaft core adapter of the vibrator head.
4. Screw the vibrator head onto the flexible shaft (note the left-hand thread!) and screw tight with a large pipe wrench.
5. Allow pipe thread sealant to cure for 24 hours.

7.3.2 Couple the flexible shaft to the drive



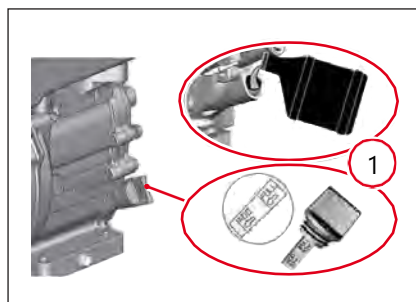
1. Put the drive on the ground.
2. Raise quick release coupling **1**.
3. Insert coupling piece **2** of flexible shaft **3** into the drive coupling, while inserting the shaft core into the drive shaft core adapter.
4. Insert the coupling piece of the flexible shaft as far as it will go.
5. Release the quick release coupling.
6. Turn the flexible shaft until the quick-release coupling engages.
7. Check whether the quick-release coupling is fully engaged by pulling on the flexible shaft.



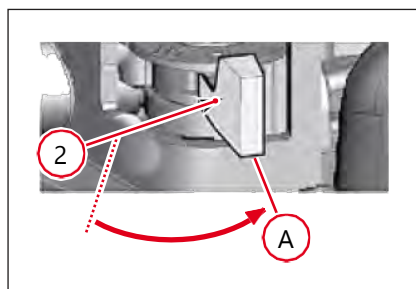
NOTICE

When the shaft core of the flexible shaft is new, the drive must run for approx. 5 minutes with the flexible shaft connected and enter vibrator heads.

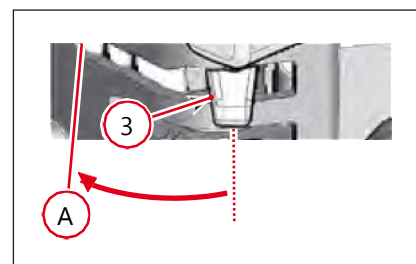
7.4 Putting into operation with Briggs & Stratton engine



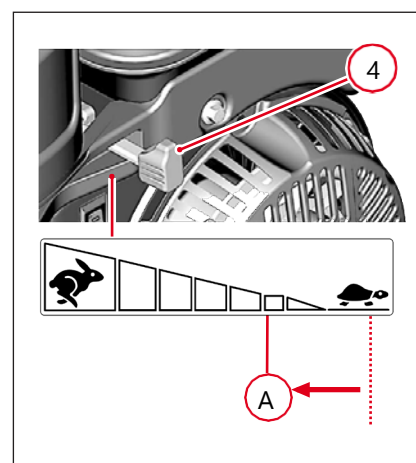
1. Check engine oil level **1**, [see Maintenance on page 31](#).



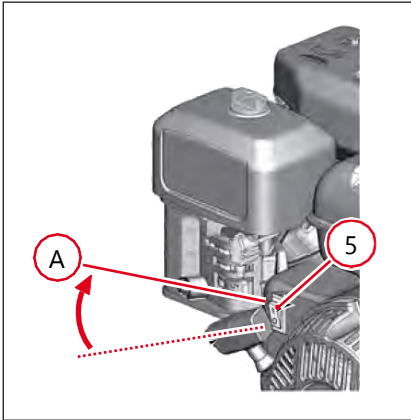
2. Set fuel cock **2** to position **A**.



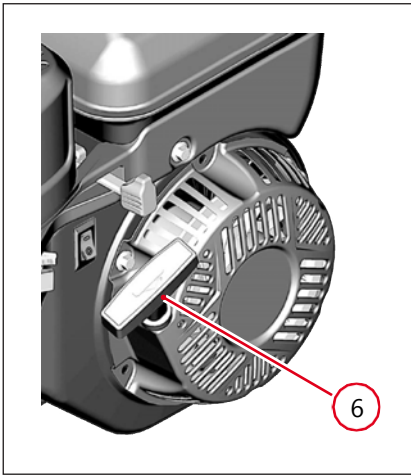
3. Set choke lever **3** to position **A** when the engine is cold.



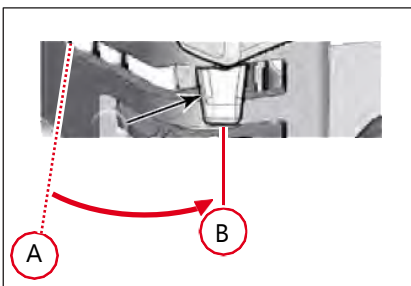
4. Move throttle lever **4** to position **A**.



5. Set engine switch **5** to position **A**.



6. Pull starter handle **6**.
⇒ Pull the starting handle slightly until resistance is felt, then pull it strongly. Slowly return the starting handle.
⇒ Engine runs.

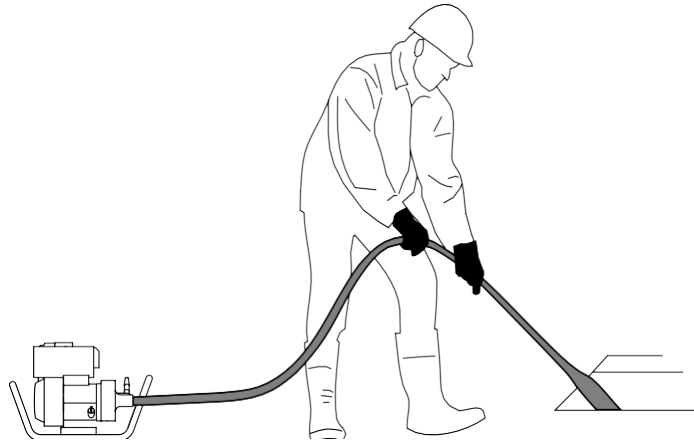


7. Set the choke lever to start in position **A**, and move the choke lever back to position **B** while the engine is warming up.
⇒ The machine is ready for operation.

8 Operation

8.1 Operating the machine

The intended place for the operator is on the flexible shaft of the machine.



8.2 Compaction

8.2.1 Notes on compaction

Compaction duration and effectiveness depend on the following points:

- The time the vibrator head is in the concrete.
- The diameter of the vibrator head.
- The consistency of the concrete.
- Narrow spacing between the steel rods.

Features that the concrete has been sufficiently compacted:

- Concrete no longer settles.
- Little to no air bubbles are rising any longer.
- The sound of the vibrator head no longer changes.

8.2.2 Compacting freshly mixed (green concrete



NOTICE

Material damage due to improper handling!

Touching the reinforcement with the vibrator head can damage the vibrator head.

- ▶ Do not touch the reinforcement with the vibrating head.

1. Hold and guide the internal vibrator with both hands on the flexible shaft.
2. Quickly immerse, submerge the vibrator head into the freshly mixed (green) concrete, wait for a few seconds and slowly pull it out.
3. Immerse the vibrator head in all areas of the formwork and compact the freshly mixed (green) concrete.
4. Compact particularly intensively in the area of the formwork corners.
5. Do not touch the reinforcement with the vibrating head. As a result, the connection between the concrete and the reinforcement can be lost.

8.3 Taking the machine out of operation



⚠ CAUTION

Proper motion of the running vibrator head outside of the freshly mixed (green) concrete.

Danger of injury or damage to property from vibrator heads hitting around.

- ▶ Hold the internal vibrator firmly.
- ▶ Switch off the internal vibrator before putting it down.



⚠ CAUTION

Warming up the running vibrator head outside of the freshly mixed (green) concrete.

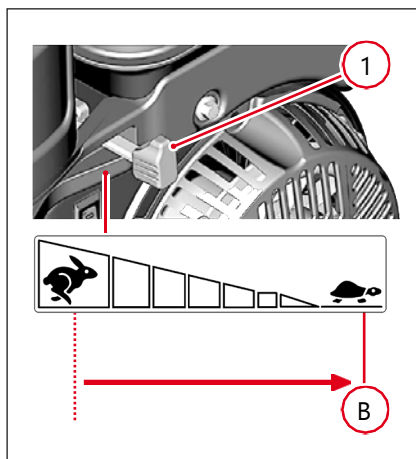
Risk of burning from hot surface. Damage to the vibrator head due to increased wear.

- ▶ Do not run the internal vibrator outside the fresh concrete.

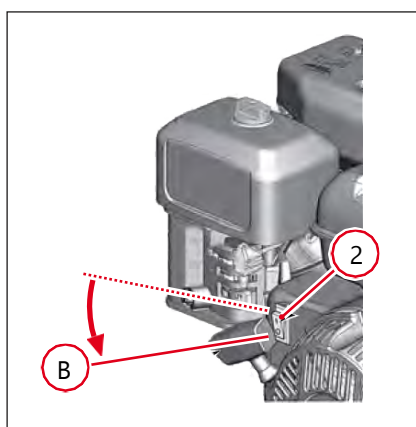
Slowly pull the vibrator head out of the freshly mixed (green) concrete and hold it in the air.

8.4 Taking out of operation with Briggs & Stratton engine

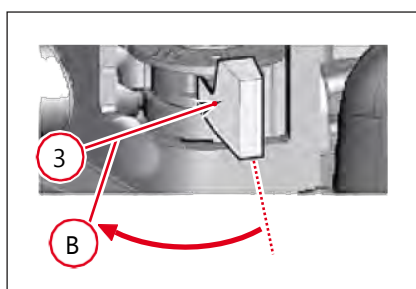
✓ The machine is on a level surface.



1. Move gas lever **1** to position **B**.



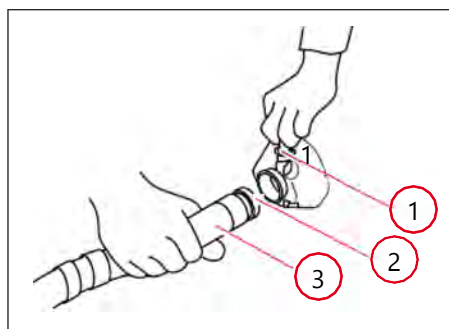
2. Set engine switch **2** to position **B**.



3. Set fuel cock **3** to position **B**.

⇒ Allow the internal vibrator to come to a complete standstill.
⇒ Let the machine and engine to cool down.
⇒ Carefully set down the immersion vibrator.

8.4.1 Uncoupling the flexible shaft from the drive



1. Put the drive on the ground.
2. Raise quick release coupling **1**.
3. Pull coupling piece **2** of flexible shaft **3** out of the drive coupling.
4. Release the quick release coupling.

9 Maintenance

9.1 Safety instructions for maintenance



⚠ WARNING

Improper handling may result in injury or serious material damage.

- ▶ Please read and follow all safety instructions in this operator's manual.



⚠ WARNING

Hazard of poisoning from exhaust fumes!

Exhaust fumes contain poisonous carbon monoxide which can cause unconsciousness or death.

- ▶ Only perform maintenance work with the engine switched off and the machine decommissioned.



⚠ WARNING

Risk of injury from uncontrolled machine starting and moving parts!

- ▶ Only perform maintenance work with the engine switched off and the machine decommissioned.



⚠ WARNING

Fire and explosion hazard due to fuel and fuel vapors!

Fuel and fuel vapors can ignite or catch fire and cause serious burns.

- ▶ Do not smoke.
- ▶ Do not refuel near open fire.
- ▶ Switch off the engine and allow it to cool before refueling.



⚠ WARNING

Risk of fire and explosion when using flammable cleaning agents!

- ▶ Do not clean the machine and components with gasoline or other solvents.

**⚠ WARNING****Burn hazard due to hot engine oil!**

Splashes of hot oil can cause burns to the skin.

- ▶ Switch off the engine and let it cool down.
- ▶ Use protective gloves.

**⚠ WARNING****Risk of injury due to missing or non-functioning safety devices!**

- ▶ Only operate the machine if the safety devices are correctly installed and functioning.
- ▶ Do not change or remove safety devices.

**⚠ CAUTION****Health risk from fuel, lubricants and coolants!**

- ▶ Do not inhale vapors.
- ▶ Avoid skin and eye contact.

**NOTICE****If the engine is operated without an air filter, there is a risk of rapid engine wear!**

- ▶ Do not operate the engine without an air filter or air filter cover.

**Environment****Soil contamination due to oil leaking or overflowing.**

- ▶ Line work surface with impermeable foil.
- ▶ Use collecting container for used oil.
- ▶ Dispose of used oil in an environmentally friendly manner in accordance with statutory regulations.

**Environment****Avoid damage to the environment!**

- ▶ Clean the machine in a suitable place where the dirty waste water can be collected in an environmentally friendly manner.
- ▶ Collect contaminated water and dispose of it in an environmentally friendly manner.

9.2 Maintenance plan



NOTICE

Hazard of engine damage!

- When commissioning new machines, an oil change must be carried out once after 20 operating hours.

Activity	daily	monthly	50 h	100 h	300 h
Clean machine and components. ■ Visual check for completeness. ■ Visual check for damage.	•				
Check the fuel system: ■ Fill level of the fuel tank. ■ Tightness of fuel tank and tank cap.	•				
Check engine oil fill level.	•				
Check air filter intake area.	•				
Check screw connections.	•				
Check connections for tight fit: ■ Flexible shaft – vibrator head: screw tight if necessary. ■ Flexible shaft – drive: if necessary, let the coupling piece snap in securely.	•				
Clean the air filter.		•			
Checking wear dimensions of the vibrator head.			•		
Clean fuel tank.*				•	
Clean/replace fuel filter.*				•	
Change engine oil.*				•	
Cleaning the deposit cup.				•	
Check/clean spark plug.				•	
Lubricate the flexible shaft and change the plastic bushing.				•	
Changing the oil in the vibrator head.				•	
Replace spark plug.					•
Check valve clearance.*					•
Replace air filter.					•

* Have this work carried out by the service partner.

** First oil change after 20 hours.

9.3 Maintenance work

Carrying out preparations:

1. Place the machine on a level surface.
2. Take the machine out of operation.
3. Let the machine cool down.

9.3.1 Cleaning the machine

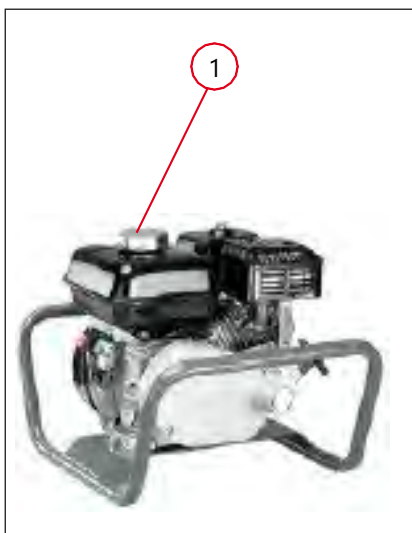
Observe the following when cleaning the machine with a high-pressure cleaner:

1. Do not aim high-pressure cleaner directly at air intake area and electrical components.
2. Do not hold the high-pressure cleaner too close to the machine in order to avoid damage to labels and sensitive components.

Visual check after cleaning:

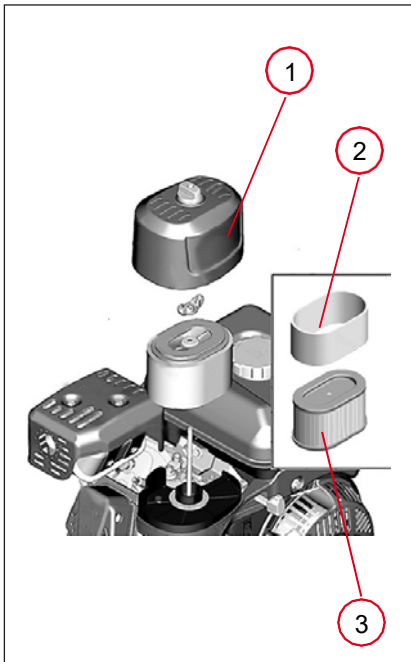
1. Check machine and components for damage or cracks.
2. Check screw connections.
⇒ Replace damaged components.
3. Check all safety, warning and operating instructions for completeness.
⇒ Replace missing or damaged labels and signs immediately.

9.3.2 Checking and topping up the fuel level



1. Remove dirt.
2. Open tank cap **1**.
3. Check the fuel level.
⇒ Max. fuel level to lower edge of filler neck.
4. Top up with fuel if necessary, [see Technical Data on page 48](#).
5. Close tank cap tightly.

9.3.3 Cleaning and checking the air filter



1. Remove air filter lid **1**.
2. Remove and separate the air filter inserts.
⇒ Paper filter insert **3** and foam filter insert **2**
3. Check both air filter inserts for cracks and holes, replace if damaged.

Cleaning the paper filter insert

1. Knock out filter insert on hard surface.
2. Blow with compressed air from the inside through the filter insert.
⇒ Do not brush out, this will force dirt into the fibers.
3. Replace if heavily soiled.

Cleaning the foam filter insert

1. Wash the filter insert in soapy water.
2. Rinse thoroughly with water.
3. Leave to dry.
4. Dip in new engine oil, [see Specifications on page 47](#).
5. Press out the filter insert.
⇒ Excess engine oil will smoke when the engine is started.

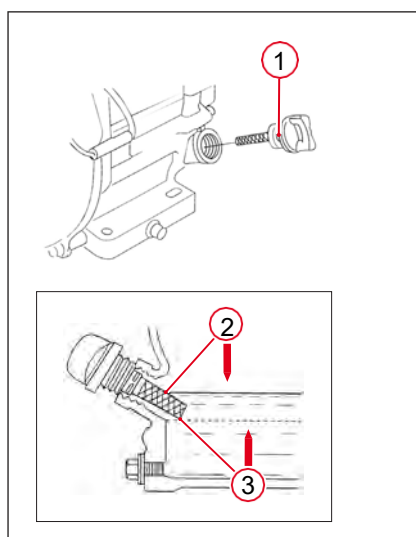
9.3.4 Checking and topping up engine oil level



NOTICE

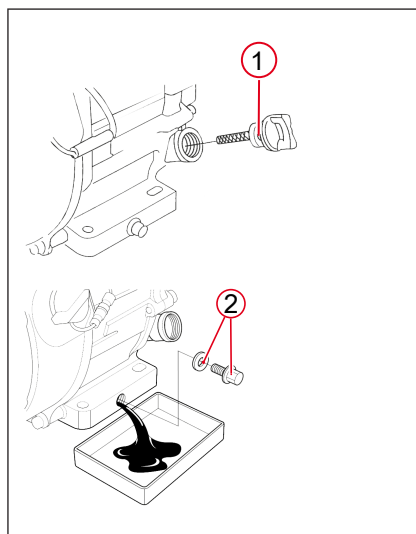
Hazard of engine damage!

- ▶ Only change the oil when the engine is at operating temperature.
- ▶ Only use engine oil with the correct specification, [see Technical Data on page 47](#).



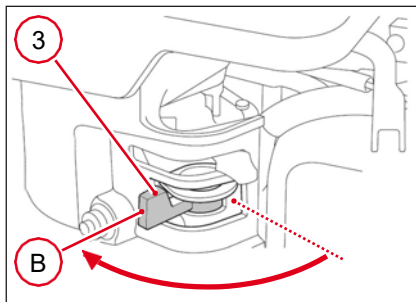
1. Remove dirt.
 2. The machine must be level.
 3. Unscrew engine oil dipstick **1**.
 4. Wipe the engine oil dipstick with clean and fiber-free rags.
 5. Insert the engine oil dipstick again.
 6. Pull out the engine oil dipstick again.
 7. Check engine oil fill level.
 - ⇒ If the engine oil level is at lower level limit **3** top up engine oil if necessary, [see Technical Data on page 47](#).
 8. Fill engine oil up to upper level limit **2**, do not overfill.
- Tighten the engine oil dipstick again.

9.3.5 Change engine oil

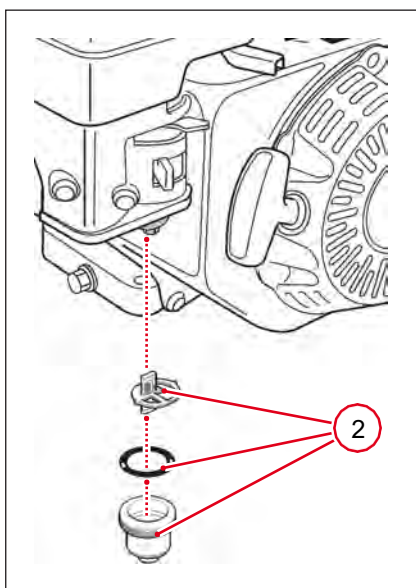


1. Remove dirt.
2. Provide a suitable container for draining the used oil.
3. Unscrew engine oil dipstick **1**.
4. Unscrew engine oil drain plug with sealing ring **2**.
5. Allow the used oil to drain completely.
6. Tighten the engine oil drain plug with a new sealing ring, tightening torque 18 Nm.
7. Place the machine in a horizontal position.
8. Fill in new engine oil.
9. Tighten the engine oil dipstick again.

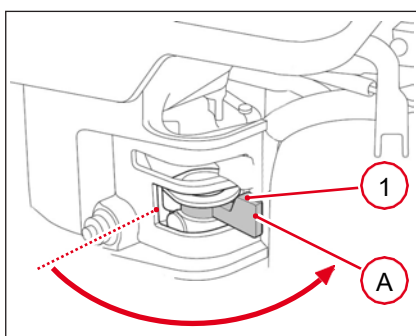
9.3.6 Cleaning the deposit cup



1. Set fuel cock **3** to position **B**.



2. Remove deposit cup, filter and O-ring **2**.
3. Clean and dry deposit cup and filter.
4. Replace the O-ring, filter and sedimentation cup.



5. Set fuel cock **1** to position **A**.
6. Check fuel system for leaks.

9.3.7 Checking spark plug

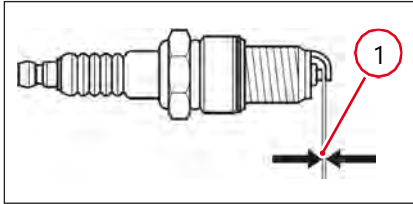


NOTICE

Hazard of engine damage!

An incorrect spark plug can cause engine damage, [see Technical Data on page 48](#).

- ▶ Correct electrode spacing.
- ▶ Free of deposits.



1. Pull out the spark plug connector.
2. Remove dirt from the spark plug area.
3. Unscrew spark plug and check.
4. Replace if damaged or heavily soiled.
5. Measure electrode gap **1**, [see Technical Data on page 48](#).
⇒ Correct the electrode spacing by carefully bending it.
6. Tighten the spark plug again, tightening torque 18 Nm.
7. Plug the spark plug connector onto the spark plug.

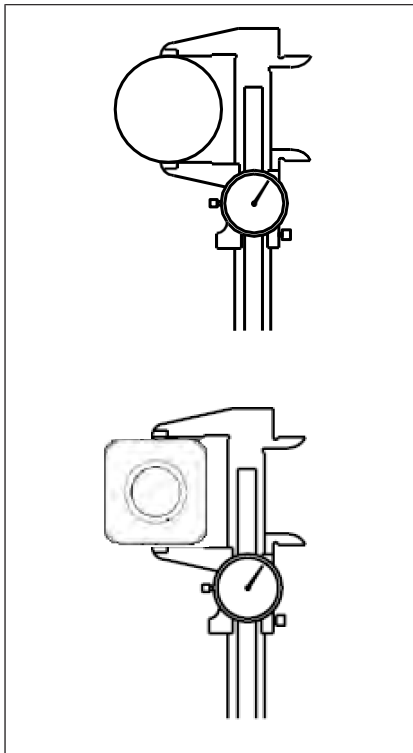
9.4 Check wear dimensions of the vibrator head

Wear dimensions:

- Minimum diameter of vibrator head (H vibrator head).
- Minimum width of the square (HA vibrator head).
- Length of vibrator head LL

The wear is highest at the end of the vibrator head.

If a degree of wear has been reached at one point, have the vibrator head replaced by a service partner.



Vibrationskörper	Verschleißmaß [mm]	Originalmaß [mm]
H 45, H 45S	41,0	45,0
H 55	52,0	57,0
H 65	58,0	65,0
H 35HA	32,0	36,0
H 45HA	39,0	45,0
H 50HA	46,0	50,0

9.5 Flexible shaft

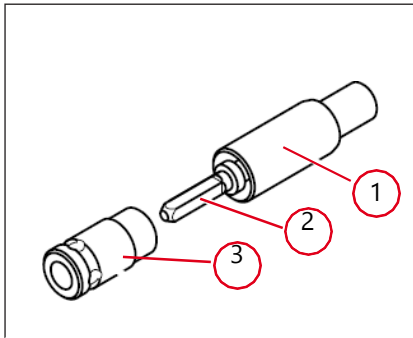
9.5.1 Remove shaft core.



NOTICE

Note on cleaning the shaft core!

- ▶ Do not clean the shaft core and protective hose with solvents.



1. Remove dirt in the area of coupling piece 3.
2. Clamp flexible shaft 1 in a vise with V-jaws.
3. Unscrew the coupling piece with a large pipe wrench or special wrench (accessories).
4. Pull shaft core 2 completely out of the protective hose.
5. Wipe the core of the shaft with a clean, lint-free cloth.
6. Clean the coupling piece thread and flexible shaft with a wire brush and cleaning agent.

9.5.2 Lubricate shaft core



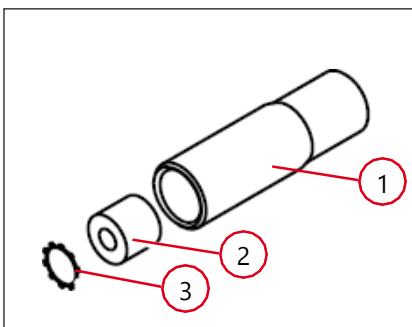
NOTICE

Note on damage to the components!

If the flexible shaft shows damage or signs of wear.

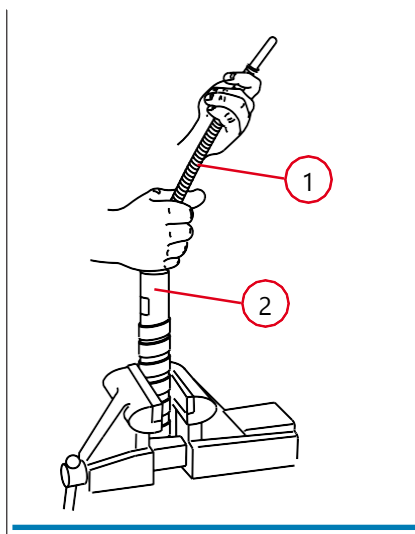
- ▶ Replace flexible shaft.
- ▶ Evenly grease the shaft core with your hands using a thin layer of special lubricant, [see Accessories on page 45](#).

9.5.3 Change plastic bushing



1. Remove circlip 3 with a screwdriver.
2. Pull out plastic bushing 2 from flexible shaft 1 if necessary.
3. Wipe bearing point with a clean, lint-free cloth.
4. Insert new plastic bushing.
5. Insert the circlip with the curve inwards until all the teeth engage in the groove.

9.5.4 Assembling the flexible shaft



1. Insert shaft core **1** completely into protective hose **2** and turn it as you do so. The special lubricant is distributed by turning the shaft core.
2. Insert the shaft core into the shaft core adapter of the vibrator head.
3. Apply pipe thread sealant to the coupler threads, [see Accessories on page 45](#).
4. Screw the coupling piece onto the flexible shaft and screw tight with a large pipe wrench or special wrench, [see Accessories on page 45](#).
5. Check the shaft core for ease of movement, turning with a special wrench, [see Accessories on page 45](#).



NOTICE

Note on cleaning the shaft core!

- Do not clean the shaft core and protective hose with solvents.



NOTICE

When the shaft core of the flexible shaft is new, the drive must run for approx. 5 minutes with the flexible shaft and vibrator head connected.

9.5.5 Change the oil in the vibrator head

Open vibrator head

1. Remove dirt in the area of the connecting piece.
2. Clamp the flexible shaft in a vise with prismatic jaws.
3. Unscrew the vibrator head from the flexible shaft using a large pipe wrench (note the left-hand thread!).
4. Clean the threads of the vibrator head and flexible shaft with a wire brush and cleaning agent.
5. Clamp the vibrator head in the area of the connection piece.
6. Unscrew the housing from the connection piece using a large pipe wrench.

Changing oil

1. Pour out the oil and dispose of it in an environmentally friendly manner.
2. Clean the threads of the connecting piece and vibrator head with a wire brush and cleaning agent.
3. Fill the housing with a suitable quantity of oil according to the specification, see *chapter Technical Data*.

Assemble the vibrator head

1. Apply pipe thread sealant to the housing threads.
2. Screw the housing onto the connection piece and screw tight with a large pipe wrench.
3. Apply pipe thread sealant to the flexible shaft threads.
4. Push the vibrator head thread onto the flexible shaft, inserting the shaft core into the shaft core adapter of the vibrator head.
5. Screw the vibrator head onto the flexible shaft (note the left-hand thread!) and screw tight with a large pipe wrench.
6. Allow pipe thread sealant to cure for 24 hours.

10 Malfunctions

10.1 Troubleshooting machine



⚠ WARNING

Danger to life due to unauthorized troubleshooting!

- ▶ If faults not described in these operating instructions occur on this machine, contact the manufacturer.
- ▶ Do not rectify faults on your own.

Fault	Possible cause	Remedy
The engine cannot be started.	Engine switch off.	Engine switch on.
	Throttle lever in stop or idle position.	Throttle lever on.
	Fuel cock is closed.	Open the fuel cock.
	Not enough fuel.	Refill with fuel. Check fuel filter and fuel lines.
	Incorrect valve clearance.	Check valve clearance, have it adjusted if necessary.*
	Valves worn.	Have the machine repaired.*
	Cylinder and/or piston ring worn.	
	Spark plugs worn.	Replace spark plug.
	Engine oil level too low.	Add engine oil.
The engine stops shortly after starting.	Empty fuel tank.	Refill with fuel.
	Fuel filter clogged.	Have the fuel filter changed.*
	Soiled air filter.	Clean or replace the air filter.
Engine does not work.	Soiled air filter.	Clean or replace the air filter.
Motor cannot be switched off.	On/off switch is defective.	Have the machine repaired.*

Malfunctions

Engine runs normally but overheats.	Too much special lubricant in the flexible shaft.	Remove excess special lubricant with a rag.
	Too much oil in the vibrator head.	Remove excess oil.
Motor runs slowly and overheats.	Wrong combination of vibrator head and flexible shaft.	Only use the combination according to the table, see chapter Technical Data.
	Shaft core of the flexible shaft is not sufficiently lubricated.	Lubricating shaft core.
	Vibrator head bearing or drive is worn.	Have device parts replaced.*
* Have this work carried out by a service partner.		

11 Shutdown

11.1 Temporary shutdown



Information

For further information and detailed descriptions, see [Maintenance on page 31](#).

Storage requirements

- Store dust-free and dry.
- Do not store outdoors.
- Protect from direct sunlight.
- Observe the storage temperature, see [Technical Data on page 47](#).
- Store in a locked place that is not accessible to children.

If the machine is idle for more than 1 month, carry out the following measures:

Entire machine	• Clean thoroughly. • If necessary, rectify all defects. • Check for leaks, rectify any defects if necessary.
Fuel tank	Fuel tank: • Drain fuel completely. Metal tank: • Refill with fuel.
Engine	• Check engine oil level, fill engine oil if necessary. • Check and clean air filter. • Clean fuel filter.
Components susceptible to corrosion	Oil and grease.

If the machine is shut down for more than 6 months, contact a service partner.

11.2 Permanent shutdown

If the machine is no longer in use and is shut down for good, - operating fluids must be drained.

Have the machine professionally dismantled and disposed of by a state-approved recycling company.

Professional disposal of this machine avoids negative effects on human health and the environment, helps with the targeted treatment of pollutants and makes it possible to recycle valuable raw materials.

12 Accessories



⚠ CAUTION

Risk of injury and possible machine damage!

Using non-original spare parts or accessories can lead to injuries or machine damage.

- ▶ Only use original spare parts and accessories.
- ▶ In case of disregard, no liability will be accepted.



NOTICE

Hazard of engine damage!

Excessively long flexible shafts can overload the motor,
[See Technical Data on page 47.](#)

- ▶ Maintain a total length of 9 m.

SS adapter

To extend the S-flexible shafts, you can connect two S-flexible shafts with the SS adapter.



Sliding disc

Sliding disc for easier transport on the construction site.

Special disc for flexible shaft

Special wrench for easier disassembly of the flexible shaft coupling piece.

Pipe thread sealant

For sealing the threaded connections between the vibrator head and flexible shafts.

Special lubricant for flexible shafts

For lubricating flexible shaft cores in flexible shafts.

13 Technical data

13.1 General instructions



Information

For system technical reasons, empty columns can be displayed in the technical data, and numbers and letters written in superscript or subscript may be displayed incorrectly, e.g:

- ▶ Sound power level LWA instead of L_{WA}
- ▶ Sound pressure level LpA instead of L_{pA}
- ▶ Total vibration value ahv instead of a_{hv}
- ▶ Carbon dioxide CO2 instead of CO_2
- ▶ Unit m/s2 instead of m/s^2

13.2 Noise and vibration data

Noise and vibration data listed were determined according to the following guidelines for machine-typical operating states / special test conditions and using harmonized standards:

- Machinery Directive 2006/42/EC

In operational use, depending on the prevailing operating conditions, deviating values may result.

Sound pressure level at operator station

- L_{pA} was determined according to EN ISO 11203 and EN 12649.

Sound power level

- L_{WA} was determined according to EN ISO 3744.

Weighted vibration total value hand-arm vibration

- a_{hv} was determined according to EN ISO 20643.

13.3 A5000-160 Briggs&Stratton

Designation	Unit	A 5000/160B
Material number machine		5100068212
Material number engine		5100066073
Length	mm (in)	567 (22,3)
Width	mm (in)	421 (16,6)
Height	mm (in)	371(14,6)
Weight	kg (lb)	23,7 (57,5)
Rated speed	rpm	10.800
Rated power	kW	1,3
Storage temperature range	°C (°F)	-0 – +40 (32 – +104)
Operating temperature range	°C (°F)	-0 – +35 (-32 – +95)
Sound pressure level L_{pA} *	dB(A)	91
Standard		EN 12649
Sound power level L_{wa}		
Measured	dB(A)	99
Standard		EN ISO 3744
Vibration total value a_{hv} **	m/s ² (ft/s ²)	6,0 (19.7)
Standard		EN ISO 20643
Uncertainty of measurement of vibration total value a_{hv}	m/s ² (ft/s ²)	1,0 (3.28)
* These measurements were obtained when the device was operated freely suspended in the air at a distance of 1 meter.		
** Measured at a distance of 2 m (6.6 ft) from the lower tube, freely suspended in the air, at nominal speed.		

13.4 Combustion engine

Engine manufacturer	Briggs & Stratton
Material number engine	5100066073
Engine type	XR750
Combustion processes	four-stroke
Cooling	Air
Cylinder	1
Cubic capacity [cm ³]	163
Inclined position max. [°]	15
Fuel type	Gasoline
Fuel consumption [l/h]	1.2
Tank volume [l]	3.1
Oil specification	SAE 5W-30
Oil filling max. [l]	0.6
Output max. [kW]	4.1
RPM [1/min]	3600
Standard	SAE J1940
Exhaust-emission level	EU Stage V, US Phase 3
CO ₂ emission* [g/kWh]	966.16
Spark plug type	Torch F6TC
Electrode gap [mm]	0.76
* Calculated value of the CO ₂ emission during engine certification without considering the application on the machine.	

13.5 Conversion table

The following conversion tables enable the conversion of the metric values from the instructions, in particular the technical data, into the imperial.

Conversion table	
Volume units	
1 cm ³	0.061 in ³
1 m ³	35.31 ft ³
1 ml	0.034 US fl.oz.
1 l	0.26 gal.
1 l/min	0.26 gal./min
Length units	
1 mm	0.039 in
1 m	3.28 ft
Weights	
1 kg	2.2 lbs
1 g	0.035 oz.
Pressure	
1 bar	14.5 psi
1 kg / cm ²	14.22 lbs/in ²
Force/output	
1 kN	224.81 lbf
1 kW	1.34 hp
1 PS	0.986 hp
Torque	
1 Nm	0.74 ft.lbs
Velocity	
1 km/h	0.62 mph
Acceleration	
1 m/s ²	3.28 ft./s ²

13.6 Flexible shafts

S flexible shafts

Designation	Unit	SM0-S	SM1-S	SM2-S	SM3-S
Length	m	0.5	1.0	2.0	3.0
Weight	kg	1.3	2.7	4.3	5.9

Designation	Unit	SM4-S	SM5-S	SM7-S	SM9-S
Length	m	4.0	5.0	7.0	9.0
Weight	kg	7.1	9.3	12.9	15.1

E flexible shafts

Designation	Unit	SM1-E	SM2-E	SM4-E
Length	m	1.0	2.0	4.0
Weight	kg	1.5	2.5	4.3

13.7 Vibrator head

Standard vibrator head

Designation	Unit	H45	H45S	H55	H65
Diameter	mm (in)	45 (1.8)	45 (1.8)	57 (2.2)	65 (2.6)
Length	mm (in)	385 (15.2)	305 (12.0)	410 (16.1)	385 (15.2)
Weight	kg (lb)	3.4 (7.5)	2.8 (6.2)	5.3	6.2
Oil quantity	ml (oz)	22 (0.7)	19 (0.6)	33	44 (1.5)
Oil specification			4 UH1-46N		

HA vibrator head

Designation	Unit	H 35HA	H 45HA	H 50HA
Width across flats	mm (in)	36 (1.4)	45 (1.8)	50 (2.0)
Length	mm (in)	405 (16.0)	390 (15.4)	395 (15.6)
Weight	kg (lb)	2.3 (5.1)	3.3 (7.3)	3.9 (8.6)
Oil quantity	ml (oz)	20 (0.7)	30 (1.0)	50 (1.7)
Oil specification			4 UH1-46N	

13.8 Permissible combinations of drive – flexible shaft – vibrator head

ATTENTION

Too large vibrator head or too long flexible shaft overloads the drive. Excessive wear and damage to components is possible.

- Only use permitted combinations of components.

Vibrator head	Drive	Flexible shafts		
		SM1-E	SM2-E	SM4-E
H 25	A 5000	+	+	+
H 25S	A 5000	+	+	+
H 25HA	A 5000	+	+	+

Explanation:

- + This combination is permitted.
- This combination is not allowed.

Vibrator head	Drive	Flexible shafts							
		SM0-S	SM1-S	SM2-S	SM3-S	SM4-S	SM5-S	SM7-S	SM9-S
H 35HA	A 5000	+	+	+	+	+	+	+	+
H 45	A 5000	+	+	+	+	+	+	+	+
H 45S	A 5000	+	+	+	+	+	+	+	+
H 45HA	A 5000	+	+	+	+	+	+	+	+
H 50HA	A 5000	+	+	+	+	+	+	+	+
H 55	A 5000	+	+	+	+	+	+	+	+
H 65	A 5000	+	+	+	+	+	+	+	+

