

Operator's manual

**Vibrating plate**

**BPU**

**4045, 5545**

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### **Manufacturer**

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**Translation of the original operator's manual in German**



**WACKER  
NEUSON**

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## 1 Foreword

This operator's manual contains information and procedures for the safe operation and maintenance of your Wacker Neuson machine. In the interest of your own safety and to prevent accidents, you should carefully read through the safety information, familiarize yourself with it and observe it at all times.

This operator's manual is not a manual for extensive maintenance and repair work. Such work should be carried out by Wacker Neuson service or authorized specialists.

The safety of the operator was one of the most important aspects taken into consideration when this machine was designed. Nevertheless, improper use or incorrect maintenance can pose a risk. Please operate and maintain your Wacker Neuson machine in accordance with the instructions in this operator's manual. Your reward will be troublefree operation and a high degree of availability.

Defective machine parts must be replaced immediately!

Please contact your Wacker Neuson representative if you have any questions concerning operation or maintenance.

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Any type of reproduction, distribution or storage on data media of any type and form not authorized by Wacker Neuson represents an infringement of copyright and will be prosecuted.

We expressly reserve the right to make technical modifications – even without special notice – which aim at further improving our machines or their safety standards.

## 2 Introduction

### 2.1 Use of the manual

This manual is considered as part of the machine and must be kept in a safe place throughout the entire lifecycle. This manual must be handed over to every subsequent owner or user of the machine.

### 2.2 Storing the manual

This manual is part of the machine and must be stored in the immediate vicinity of the machine and be available to staff at all times.

In the case of loss or if a second copy of this manual is required, there are two options for obtaining a replacement:

- Download from the Internet - [www.wackerneuson.com](http://www.wackerneuson.com)
- Contact your Wacker Neuson representative.

### 2.3 Accident prevention regulations

Local accident prevention regulations and national occupational safety provisions apply in addition to the notes and safety information contained in this manual.

### 2.4 Further information

This manual is valid for different machine types from a product range. As such, some illustrations may differ from the appearance of your machine. Variant-dependent components may also be described that are not included in the delivery.

The information contained in this manual is based on machines which have been manufactured at the time of printing. Wacker Neuson reserves the right to amend this information without notification.

It must be ensured that any potential amendments or supplements from the manufacturer are included immediately in this manual.

## 2.5 Target group

**Note:** Persons working with this machine must receive regular training about the risks and hazards of this machine.

**This operator's manual is aimed at the following persons:**

**Operatives:**

These persons are introduced to the machine and informed about potential hazards arising from improper behavior.

**Specialist staff:**

These persons have specialist training, as well as additional knowledge and experience. They are able to assess the tasks entrusted to them and recognize potential risks and hazards.

### 2.6 Symbol explanation

This manual contains prominent safety information relating to category types: **DANGER, WARNING, CAUTION** and **NOTE**.

Before commencing any work on or with this machine, notes and safety information must be read and understood. All notes and safety information contained in this manual must also be shared with maintenance, repair, and transport staff.

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#### **DANGER**

This combination of symbol and signal word indicates a hazardous situation, which, if ignored, will lead to death or serious injuries.

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#### **WARNING**

This combination of symbol and signal word indicates a hazardous situation, which, if ignored, may lead to death or serious injuries.

---



#### **CAUTION**

This combination of symbol and signal word indicates a potentially hazardous situation, which, if ignored, may lead to minor injuries and damage to the machine.

#### **Notes**

**Note:** Further information.

## 2.7 Wacker Neuson representative

Depending on your country, the Wacker Neuson representative is a Wacker Neuson service, a Wacker Neuson affiliate or a Wacker Neuson dealer.

On the Internet at [www.wackerneuson.com](http://www.wackerneuson.com).

The address of the manufacturer is located at the beginning of this manual.

## 2.8 Limitation of liability

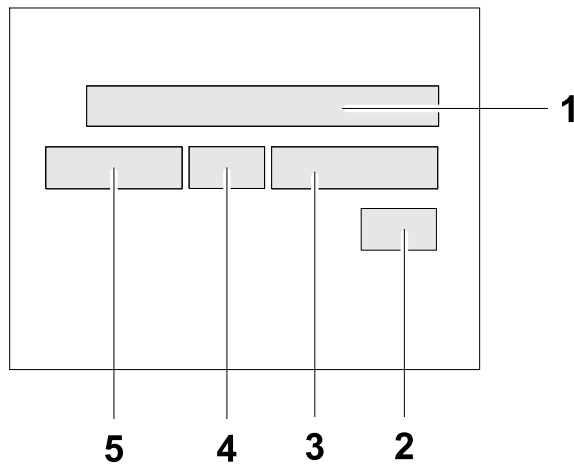
Wacker Neuson will refuse to accept liability for injuries to persons or for damage to materials in the following cases:

- Failure to comply with this manual.
- Improper use.
- Use of untrained staff.
- Use of non-authorized spare parts and accessories.
- Improper handling.
- Any type of structural alteration.
- Non-compliance with with the General Terms and Conditions of Business (T&C).



### 2.9 Identification of the machine

#### Nameplate data



The nameplate lists information that uniquely identifies this machine. This information is needed to order spare parts and when requesting additional technical information.

► Enter details on the machine in the following table:

Item	Designation	Your information
1	Group and type	
2	Construction year	
3	Machine no.	
4	Version no.	
5	Item no.	

## 2 Safety

### 2.1 Principle

#### State of the art

This machine has been constructed with state-of-the-art technology according to the recognized rules of safety. Nevertheless, when used improperly, dangers to the life and limb of the operator or to third persons or damage to the machine or other materials cannot be excluded.

#### Proper use

The machine must only be used for the following purposes:

- Compaction of soils.
- Compaction of asphalt.
- Shaking in of paving stones.

The machine may not be used for the following purposes:

- Compaction of intensely cohesive soils.
- Compaction of frozen soils.
- Compaction of hard, non-compactable soils.
- Compaction of soils that are not capable of bearing a load.

Its proper use also includes the observance of all instructions contained in this operator's manual as well as complying with the required service and maintenance instructions.

Any other use is regarded as improper. Any damage resulting from improper use will void the warranty and the liability on behalf of the manufacturer. The operator assumes full responsibility.

#### Structural modifications

Never attempt to modify the machine without the written permission of the manufacturer. To do so will endanger your safety and the safety of other people! In addition, this will void the warranty and the liability on behalf of the manufacturer.

Especially the following are cases of structural modifications:

- Opening the machine and the permanent removal of components from Wacker Neuson.
- Installing new components which are not from Wacker Neuson and not equivalent to the original parts in design and quality.
- Installation of accessories which are not from Wacker Neuson.

It is no problem to install spare parts from Wacker Neuson.

It is no problem to install accessories that are available in the Wacker Neuson product range of your machine. Please refer to the installation regulations in this operator's manual.

### Requirements for operation

The ability to operate the machine safely requires:

- Proper transport, storage and setup.
- Careful operation.
- Careful service and maintenance.

### Operation

Operate the machine only as intended and only when in proper working condition.

Operate the machine in a safety-conscious manner with all safety devices attached and enabled. Do not modify or disable any safety devices.

Before starting operation, check that all control and safety devices are functioning properly.

Never operate the machine in a potentially explosive environment.

### Supervision

Never leave the machine running unattended!

### Maintenance

Regular maintenance work is required in order for the machine to operate properly and reliably over time. Failure to perform adequate maintenance reduces the safety of the machine.

- Strictly observe the prescribed maintenance intervals.
- Do not use the machine if it requires maintenance or repairs.

### Malfunctions

If you detect a malfunction, you must shut down and secure the machine immediately.

Eliminate the malfunctions that impair safety immediately!

Have damaged or defective components replaced immediately!

For further information, refer to chapter *Troubleshooting*.

### Spare parts, accessories

Use only spare parts from Wacker Neuson or such that are equivalent to the original parts in design and quality.

Only use accessories from Wacker Neuson.

Non-compliance will exempt the manufacturer from all liability.

### Exclusion of liability

Wacker Neuson will refuse to accept liability for injuries to persons or for damage to materials in the following cases:

- Structural modifications.
- Improper use.
- Failure to comply with this operator's manual.
- Improper handling.
- Using of spare parts which are not from Wacker Neuson and not equivalent to the original parts in design and quality.
- Using of accessories which are not from Wacker Neuson.

### Operator's manual

Always keep the operator's manual near the machine or near the worksite for quick reference.

If you have misplaced the operator's manual or require an additional copy, contact your Wacker Neuson representative or download the operator's manual from the Internet ([www.wackerneuson.com](http://www.wackerneuson.com)).

Always hand over this operator's manual to other operators or to the future owner of the machine.

### Country-specific regulations

Observe the country-specific regulations, standards and guidelines in reference to accident prevention and environmental safety, for example those pertaining to hazardous materials and wearing protective gear.

Complement the operator's manual with additional instructions taking into account the operational, regulatory, national or generally applicable safety guidelines.

### Operator's controls

Always keep the operator's controls of the machine dry, clean and free of oil or grease.

Operating elements such as ON/OFF switch, gas handles etc. may not be locked, manipulated or changed without authorization.

### Cleaning

Always keep the machine clean and be sure to clean it each time you have finished using it.

Do not use gasoline or solvents. Danger of explosion!

Do not use high pressure washers. Permeating water can damage the machine. When electrical equipment is present, this can pose a serious injury risk from electric shocks.

### Checking for signs of damage

Inspect the machine when it is switched off for any signs of damage at least once per work shift.

Do not operate the machine if there is visible damage or defects.

Have any damage or defects eliminated immediately.

## 2.2 Qualification of the operating personnel

### Operator qualifications

Only trained personnel are permitted to start and operate the machine. The following rules also apply:

- You are at least 18 years of age.
- You are physically and mentally fit.
- You have received instruction on how to independently operate the machine.
- You have received instruction in the proper use of the machine.
- You are familiar with required safety devices.
- You are authorized to start machines and systems in accordance with the standards governing safety.
- Your company or the operator has assigned you to work independently with this machine.

### Incorrect operation

Incorrect operation or misuse by untrained personnel can endanger the health and safety of the operator or third persons and also cause machine and material damage.

### Operating company responsibilities

The operating company must make the operator's manual available to the operator and ensure that the operator has read and understood it.

### Work recommendations

Please observe the recommendations below:

- Work only if you are in a good physical condition.
- Work attentively, particularly as you finish.
- Do not operate the machine when you are tired.
- Carry out all work calmly, circumspectly and carefully.
- Never operate the machine under the influence of alcohol, drugs or medication. This can impair your vision, reactions and your judgment.
- Work in a manner that does not endanger others.
- Ensure that no persons or animals are within the danger zone.

## 2.3 Protective gear

### Work clothing

Clothing should be appropriate, i.e. should be close-fitting but not restrict your movement.

When on construction sites, do not wear long hair loosely, loose clothing or jewelry including rings. These objects can easily get caught or be drawn in by moving machine parts.

Only wear clothing made of material that is not easily flammable.

### Personal protective gear

Wear personal protective gear to avoid injuries or health hazards:

- Non-skid, hard-toed shoes.
- Work gloves made of durable material.
- Overalls made of durable material.
- Hard hat.
- Ear protection.

### Ear protection

This machine generates noise that exceeds the country-specific permissible noise levels (individual rating level). It may therefore be necessary to wear ear protection. You can find the exact value in the chapter *Technical Data*.

When wearing ear protection while working, you must pay attention and exercise caution because your hearing is limited, e.g. in case someone screams or a signal tone sounds.

Wacker Neuson recommends that you always wear ear protection.

## 2.4 Transport

### Switching off the machine

Before you transport the machine, it must be switched off, and the engine must be given sufficient time to cool down.

### Center pole in transport position

Before commencing transport, move the center pole to the transport position. Let the center pole latch into its lock.

### Observing hazardous materials regulations

Observe the national safety guidelines and the hazardous materials regulations that apply to the respective means of transportation.

### Lifting

When lifting the machine, observe the following instructions:

- Designate a skilled person to guide you for the lifting procedure.
- You must be able to see or hear this person.
- Use only suitable and certified hoisting gear, lifting tackle and load-bearing equipment with sufficient lifting capacities.
- Only use the attachment points described in the operator's manual.
- Attach the machine securely to the hoisting gear.
- Ensure that no one is nearby or under the machine.
- Do not climb onto the machine.

### Loading the machine

Loading ramps must be able to bear the load and be in a stable position.

Make sure that no one can be endangered if the machine slips away or tips over or if machine parts suddenly move upward or downward.

Put the operating controls and moving parts in their transport position.

Secure the machine with load-securing straps so that it cannot tip over, fall down or slide away. Only use the attachment points described in the operator's manual.

### Transport vehicle

Use only suitable transport vehicles with sufficient load-carrying capacity and suitable tie-down lugs.

### Transporting the machine

Secure the machine on the transport device against tilting, falling or slipping.

Only use the lashing points listed in the operating instructions.

Also observe the country-specific regulations, standards and guidelines.

### Restarting

Machines, machine parts, accessories or tools that were detached for transport purposes must be re-mounted and fastened before restarting.

Only operate in accordance with the operating instructions.

## 2.5 Operating safety

### Explosible environment

Never operate the machine in a potentially explosive environment.

**Work environment**

Familiarize yourself with your work environment before you start work. This includes e.g. the following items:

- Obstacles in the work and traffic area.
- Load-bearing capacity of the ground.
- The measures needed to cordon off the construction site from public traffic in particular.
- The measures needed to secure walls and ceilings.
- Options available in the event of an accident.

**Safety in the work area**

When working with the machine especially pay attention to the following points:

- Electric lines or pipes in work area.
- Gas lines or water lines in the work area.

**Starting the machine**

Observe the safety information and warning notices located on the machine and in the operator's manual.

Never attempt to start a machine that requires maintenance or repairs.

Start the machine as directed in the operator's manual.

**Vertical stability**

Always ensure that the machine is vertically stable and cannot tip over, roll or slide away.

**Proper operator position**

Do not leave the proper operator position while operating the machine.

The proper operator position is behind the center pole of the machine.

**Leaving the danger area**

Injury may be caused by moving machines or flying materials.

Ensure that other persons observe a minimum safety distance of 2 m from the machine.

**Caution with movable parts**

Keep your hands, feet and loose clothing away from moving or rotating machine parts. Parts of your body being pulled in or crushed can cause serious injuries.



### Switching off the machine

Switch off the engine in the following situations:

- Before breaks.
- If you are not using the machine.

Store the machine in such a way that it cannot tilt, fall or slip.

### Storage location

After operation, allow the machine to cool and then store it in a sealed-off, clean and dry location protected against frost and inaccessible to children.

### Not using starter sprays

Highly flammable starter sprays pose a fire hazard.

Do not use any starter sprays.

Starter sprays are highly flammable and can cause backfiring and engine damage.

### Vibrations

When manually operated machines are intensively used, long-term damage caused by vibrations cannot be precluded.

Observe the relevant legal instructions and guidelines to minimize vibration stress.

Details on vibration stress associated with the machine can be found in the chapter *Technical Data*.

## 2.6 Safety during the operation of vibratory plates

### Belt guard

Never operate the machine without a belt guard!

Exposed belts and belt pulleys are dangerous and can cause serious injuries if they pull in any part of your body or if parts are ejected.

### Danger of falling over

Operate the machine so that it cannot tip over or fall down from bordered areas, edges and steps.

### Load-carrying capacity of the ground

Keep in mind that the load-carrying capacity of the earth to be compressed or bed can be greatly reduced by the effects of vibration, for example near slopes.

### Avoiding crushing

When operating the machine, pay particular attention to avoid being squeezed between the machine and an obstacle. Always look in the direction of travel!

### Compacting on slopes

The following points must be observed if you plan to compact inclined surfaces (slopes, escarpments):

- Always stand above the machine on a slope.
- Start at the bottom of a slope (slopes that can be easily managed in an upward direction can be safely traveled in a downward direction also).
- Never stand in a position where the machine could possibly fall. A slipping or tipping machine can cause serious injuries.

### Not exceeding the maximum tilt position

- Do not exceed the maximum tilt position (see chapter *Technical Data*).
- Only operate the machine at maximum tilt for short periods of time.

If you exceed the maximum tilt, the engine lubrication system will fail and thus inevitably damage important engine parts.

### Check the effects of vibration

Compacting work in the vicinity of buildings can lead to structural damage. For this reason you must always check the possible effects of vibrations on surrounding buildings in the run-up to work.

You must take the following points into special consideration when evaluating the effects of vibration:

- Vibration behavior, sensitivity and resonance frequency of surrounding buildings.
- Distance of the buildings from the vibrationsite (= worksite).
- Condition of the soil.

You may need to carry out measurements to determine the vibration speed.

You must also comply with the relevant guidelines and regulations, particularly DIN 4150-3.

The foundation must also have sufficient load-bearing capacity to withstand the compaction energy. In case of doubt involve a soil mechanics specialist in the evaluation.

Wacker Neuson is not liable for any structural damage.

## 2.7 Safety during the operation of combustion engines

### Checking for signs of damage

Check the engine while switched off for leaks and cracks in the fuel line, tank and fuel cap at least once per work shift.

Do not operate the machine if there is visible damage or defects.

Have any damage or defects eliminated immediately.

### **Dangers during operation**

Combustion engines can be dangerous, particularly during operation and when refueling.

Read and follow all safety instructions. Otherwise there is a risk of personal injury and/or damage to property!

Do not start the engine near spilt fuel or if you smell fuel – this may cause an explosion!

- Remove the machine from such areas.
- Remove the spilt fuel immediately!

### **Not changing the engine speed**

Do not change the preset engine speed, as this may cause engine damage.

### **Preventing fires**

Open flames and smoking are strictly prohibited in the immediate vicinity of the machine.

Make sure that waste, such as paper, dry leaves or grass do not accumulate around the exhaust muffler. The waste materials may ignite.

### **Safety precautions when refueling**

Please observe the following safety-relevant instructions when refueling:

- Do not refuel near open flames.
- Do not smoke.
- Turn off the engine before refueling and allow it to cool down.
- Refuel in a well-ventilated environment.
- Wear fuel-proof protective gloves and, if there is the possibility of spraying, protective goggles and clothing.
- Do not inhale fuel vapors.
- Avoid skin and eye contact with fuel.
- For refueling, use clean tools such as a hopper.
- Do not spill fuel, especially onto hot parts.
- Remove any spilt fuel immediately.
- Use the correct fuel grade.
- Do not mix fuel with other liquids.
- Fill the tank only up to the maximum marking. If there is no Maximum marking, do not fill up the tank completely.
- Lock the fuel cap securely after refueling.

**Operation in closed rooms**

In closed or partially closed rooms such as tunnels, drifts or deep trenches, ensure sufficient ventilation and extraction by, for example, providing a powerful exhaust air fan.

**Danger of poisoning!** Do not inhale exhaust fumes. They contain toxic carbon monoxide that can lead to unconsciousness or death.

**Caution with hot parts**

Do not touch any hot parts such as the engine block or exhaust muffler during operation or directly afterwards. These parts can become very hot and cause severe burns.

**Shutting off the fuel tap**

When the machine stops, shut off the fuel tap.

**Cleaning the engine**

Clean the engine when it is cool to remove any dirt.

Do not use gasoline or solvents. Danger of explosion!

**Notes on the EPA engine**

Caution

This machine is equipped with an EPA-certified engine.

Modifying the motor speed influences the EPA certification and emission. The motor may only be set by a skilled technician.

For more detailed information, contact your nearest motor or Wacker Neuson representative.

**Health hazard due to exhaust fumes**

Warning

The engine's exhaust fumes contain chemicals which are known to the State of California to cause cancer, congenital defects or other reproductive anomalies.

## 2.8 Safety during the operation of hydraulic machines

### Hydraulic oil

Hydraulic oil is harmful to health.

Wear safety glasses and safety gloves when handling hydraulic oil.

Avoid direct skin contact with hydraulic oil. Remove hydraulic oil from the skin immediately with soap and water.

Make sure that no hydraulic oil comes gets in the eyes or on the body. See a physician immediately if hydraulic oil gets into the eyes or is swallowed.

Do not eat and drink while handling hydraulic oil.

Make sure to have extreme cleanliness. Contamination of the hydraulic oil with dirt or water can cause premature wear or failure of the machine.

Dispose of left over and spilled hydraulic oil according to the applicable regulations for environmental protection.

## 2.9 Maintenance

### Maintenance work

Service and maintenance work must only be carried out to the extent described in these operating instructions. All other procedures must be performed by your Wacker Neuson representative.

For further information, refer to chapter *Maintenance*.

### Switching off the engine

Before carrying out care or maintenance work, switch off the engine and allow it to cool down.

For gasoline powered engines, you must pull off the spark plug cap.

### Assembling safety devices

If it was necessary to dismantle safety devices, they must be reassembled and checked immediately after completing maintenance work.

Always tighten loosened screw connections, complying with prescribed starting torque.

**Handling operating fluids safely**

Observe the following points when handling operating fluids, e.g. fuels, oils, greases, coolants etc.:

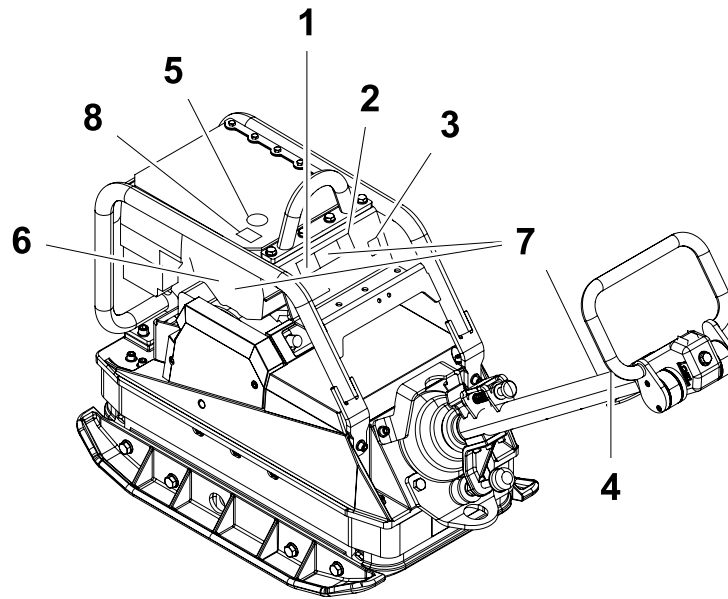
- Always wear personal safety clothing.
- Avoid skin and eye contact with operating fluids.
- Do not inhale or swallow operating fluids.
- In particular, avoid contact with hot operating fluids. Burn and scalding hazard.
- Dispose of replaced or spilled operating fluids according to the applicable regulations for environmental protection.
- If operating fluids escape from the machine, cease operation of the machine and have it repaired immediately by your Wacker Neuson representative.




### 2.10 Safety and information labels






Your machine has adhesive labels containing the most important instructions and safety information.

- Make sure that all the labels are kept legible.
- Replace any missing or illegible labels.

The item numbers for the labels are in the parts book.



Item	Label	Description
1		Wear personal protective gear to avoid injuries or health hazards: <ul style="list-style-type: none"> <li>■ Ear protection.</li> </ul> Read the operator's manual before start-up.
2		If the machine falls, it can cause severe crushing injuries. <ul style="list-style-type: none"> <li>▶ Only lift the machine with certified hoist and lifting tackle (safety load hook).</li> <li>▶ Do not lift the machine with the excavator shovel by the central suspension.</li> <li>▶ Do not lift the machine with a forklift by the central suspension.</li> </ul>
3		Guaranteed sound power level.

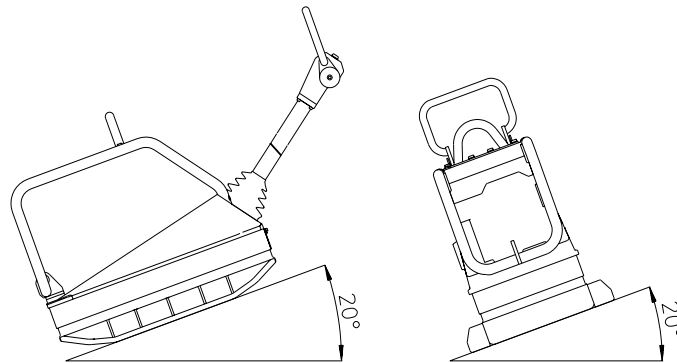
Item	Label	Description
4		If the machine falls, it can cause severe crushing injuries. ▶ Do not lift the machine by the guide handle or the center pole.
5		Danger of fire. Smoking and open flames are prohibited.
6		Warning of hot surface.
7	US machines 	Warning
8	US machines 	Danger



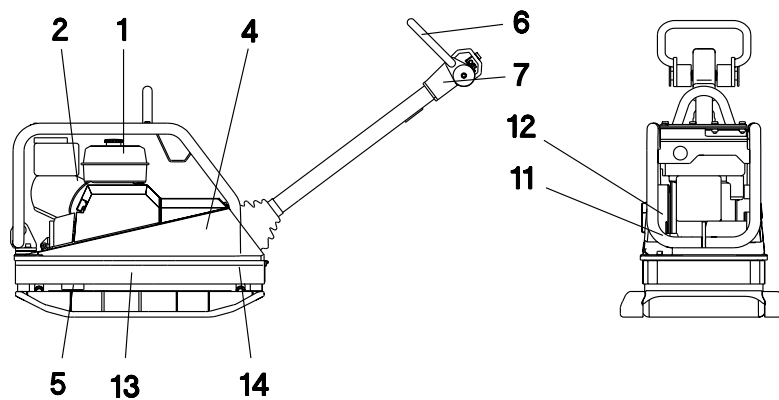
## Description

### 2. Description

#### 2.1 Max. admissible inclination



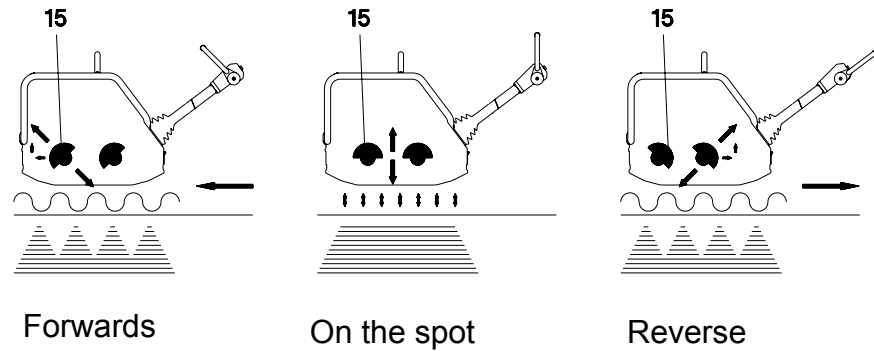
#### 2.2 Description of function



- 2.2.1 The vibration required for compaction is produced by the exciter (13) which is firmly joined to the lower mass (5). This exciter (13) is designed as a central vibrator with aligned vibrations. Such a principle permits the direction of vibration to be changed by turning the eccentric weights (15). In this way an infinitely variable transition between vibration in forward motion, at standstill and in reverse motion is possible. This process is hydraulically controlled with the operating control handle (6) on the centre pole head (7).



If the machine loses its hydraulic oil it will start traveling backwards (danger of crushing).



- 2.2.2 The drive engine (1) anchored to the upper mass (4) drives the exciter (13). The torque is transmitted by means of a friction connection through the centrifugal clutch (11) and the exciter V-belt (12).
- 2.2.3 The centrifugal clutch (11) interrupts flow of power to the exciter (13) at low engine speeds and thus permits perfect idling of the drive engine (1). The speed of the drive engine (1) can be infinitely varied by way of the throttle control lever (2).
- 2.2.4 The upper (4) and lower (5) masses are connected to each other by 4 vibration-damping shock mounts (14). This damping system prevents the very high frequencies from being transmitted to the upper mass (4). As a result the functionality of the drive engine (1) is retained in spite of the high compaction performance.
- 2.2.5 The drive engine (1), is started by way of a rewind starter.

## Transport to work site/Recommendations on compaction

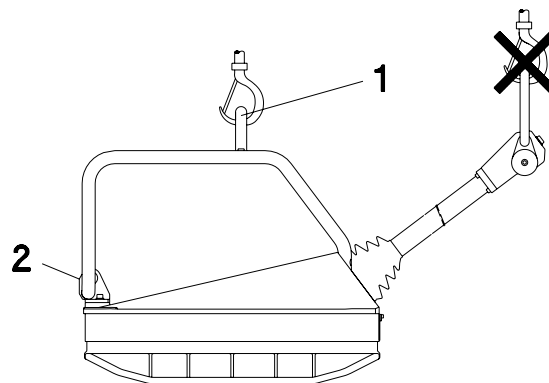
### 3. Transport to work site/Recommendations on compaction

#### 3.1 Transport to work site

Conditions:

- \* To transport the vibration plate, use only suitable lifting equipment with a minimum load-bearing capacity of 400 kg.
- \* Always switch off engine before transporting the machine!
- \* Vertically set guide handle head and lock into place.
- \* Only attach suitable tackle at the central lifting point (1) provided (torque wrench setting = 85 Nm).
- \* During transport on the loading area of a vehicle, tie down the vibration plate using the lugs (2).

**Note: Also observe the regulations in the safety instructions.**



# Transport to work site/Recommendations on compaction

## 3.2 Recommendations on compaction

### 3.2.1 Ground conditions

The max. compaction depth depends on several factors relating to the ground condition, such as moisture, grain distribution etc, it is therefore not possible to specify exact values.

**Recommendation:** In each case determine the max. compaction depth with compaction tests and soil samples.

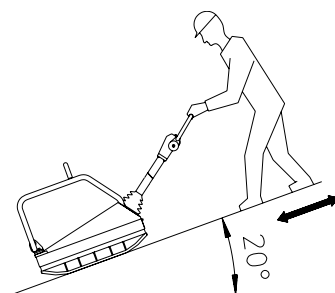
### 3.2.2 Compaction on slopes

The following points are to be observed when compacting on sloped surfaces (slopes, embankments):

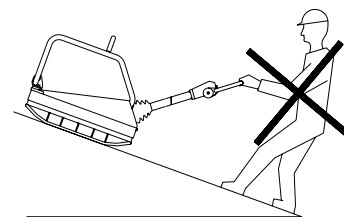
- \* Only approach gradients from the bottom (a gradient which can be easily overcome upwards, can also be compacted downwards without any risk).
- \* The operator must never stand in the direction of descent (see chapter “safety instructions”).
- \* The max. gradient of  $20^{\circ}$  must not be exceeded.



If this gradient were exceeded, this would result in a failure of the engine lubrication system and thus inevitably lead to a breakdown of important engine components.



Right!



Wrong!

# Operation

## 4. Operation

### 4.1 Starting

#### 1. Oil level check

Insert dipstick in oil filler neck, but without screwing in. If oil level is low, fill to the top of the oil filler neck with high grade Fuchs Titan Unic 10W40 MC oil.

#### 2. Dual-air cleander >Dual element type<

Check the air cleaner elements to be sure they are clean and in good condition. Clean or replace the elements if necessary.

#### 3. Fuel

Use any regular grade automotive gasoline (unleaded gasoline is preferred) with a pump octane rating of 86 or higher.

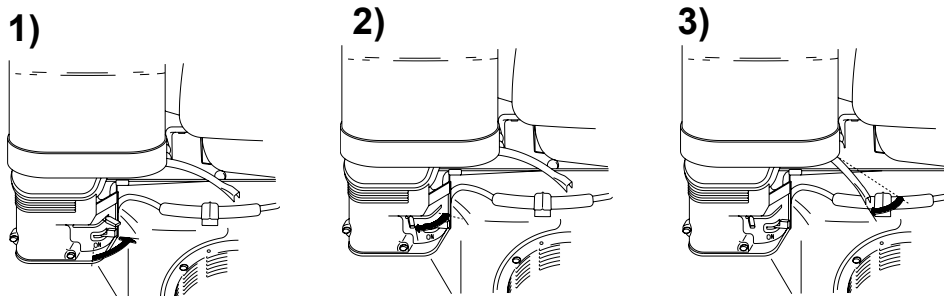
Never use an oil/gasoline mixture or dirty gasoline: Avoid getting dirt, dust or water in the fuel tank.



**Caution:** Gasoline substitutes are not recommended, they may be harmful to the fuel system components.

## 4.2 Starting the engine

Once these points have been observed, you can start the engine as follows:

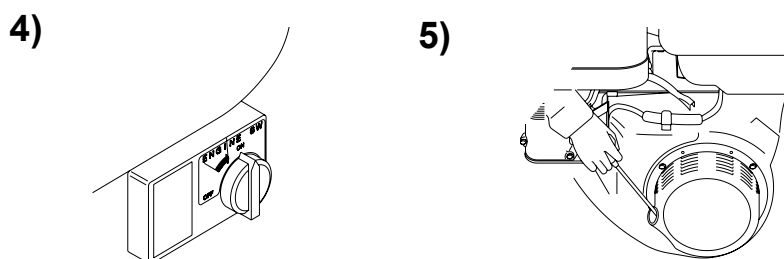


1. Turn the fuel valve to the ON position.
2. Move the choke lever to the CLOSE position.

**Take notice:** If the engine is warm or the air temperature is high, move the control lever away from the CHOKE position as soon as the engine starts.

3. Move the throttle lever slightly to the left.

**Take notice:** With recoil starter:



4. Turn the engine switch to the ON position.
5. Pull the starter grip lightly until resistance is felt, then pull briskly.

**Caution:** Do not allow the starter grip to snap back against the engine. Return it gently to prevent damage to the starter.



# Operation

## 4.3 Handling

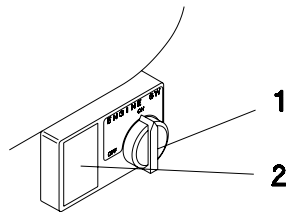
As the engine warms up, gradually move the choke lever to the OPEN position.

Position the throttle lever for the desired engine speed.



### Oil alert system

The oil alert system is designed to prevent engine damage caused by an insufficient amount of oil in the crankcase. Before the oil level in the crankcase drops below a safe limit, the oil alert system will automatically shut down the engine (the engine switch will remain in the ON position).



- 1 Engine switch
- 2 Note:  
If engine does not start  
check oil level

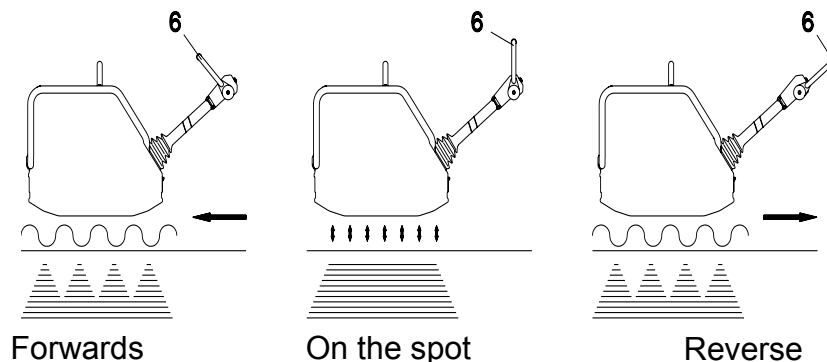
## 4.4 Forward and reverse motion

The engine speed can be infinitely varied on the throttle control lever.

The direction of travel is determined with the shift lever (6).

Depending on the position of the shift lever (6), the vibration plate compacts in forward direction, at standstill or in reverse direction.

The forward and reverse speeds can be varied by selecting intermediate positions of the shift lever (6) or the machine can be employed for particularly intensive compaction at standstill.

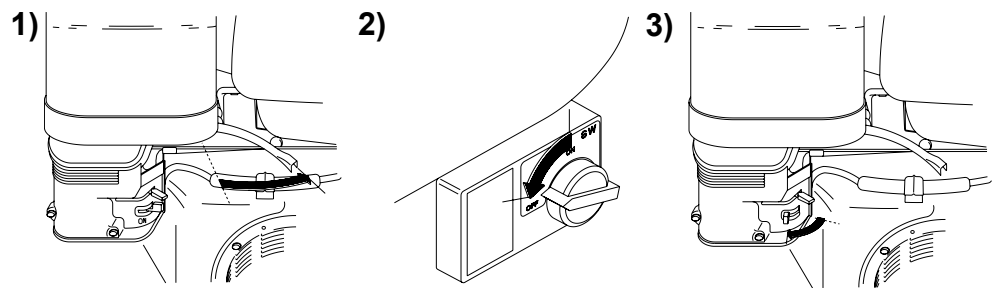


## 4.5 Stopping the engine



To stop the engine in an emergency, turn the engine switch to the OFF position. Under normal conditions, use the following procedure:

- 1 Move the throttle lever fully to the right.
- 2 Turn the engine switch to the OFF position.
- 3 Turn the fuel valve to the OFF position.





# Maintenance

## 5. Maintenance

### 5.1 Maintenance schedule

Parts	Maintenance jobs	Maintenance interval
Air filter	Check for external damage and tight fit. Check filter cartridge, clean or replace if necessary.	daily
Fuel tank	Check tank lid for tight fit, replace if necessary.	
Drive engine	Check oil level, top up if necessary.	
Exciter	Check for tightness.	
Drive engine	First oil change.	20 hours
Centre pole	Grease moveable locking device, and spindle for pole height adjustment.	monthly
Drive engine	Clean spark plug, check spark plug gap 0,7 mm.	
Centre pole head	Check oil level, top up if necessary.	
V-belt	Check V-belt tension - retension, if need be.	
Protective frame	Check fastening screws of protective frame and central suspension for tight fit.	
Drive engine	Oil change.	100 hours
Exhaust muffler	Remove combustion residue from spark arrester.	
Exciter	Oil change.	150 hours
	Check oil level-fill up, if need be.	
	Oil change.	250 hours
Drive engine	Valve clearance - Check, set - 0,15 mm intake valve, 0,20 mm exhaust valve.	300 hours

## 5.2 Engine oil

### 5.2.1 Oil change:

Drain the oil while the engine is still warm to assure rapid and complete draining.

1. Remove the oil filler cap and the drain plug to drain the oil.
2. Install the drain plug, and tighten it securely.
3. Refill with the recommended oil and check oil level.
4. Install the oil filter cap.

Place machine in horizontal position before checking engine oil level.



**Take notice:** Please pay attention to the corresponding environmental laws when disposing of used engine oil. We recommend you carry the oil in a container to a central collecting point for used oils. Do not pour used engine oil into the garbage nor into the sewer system, waste pipes or even on the ground.

## 5.3 Air filter

### Air filter service

A dirty air filter will restrict air flow to the carburettor. To prevent carburettor malfunction, service the air filter regularly. Service more frequently when operating the engine in extremely dusty areas.



**Warning:** Never use gasoline or low flash point solvents for cleaning the air cleaner element. A fire or explosion could result.



**Caution:** Never run the engine without the air cleaner. Rapid engine wear will result.

## Maintenance

### 5.4 Dual type air filter

- 5.4.1 Remove the wing nut and the air filter cover. Remove the elements and separate them. Carefully check both elements for holes or tears and replace if damaged.
- 5.4.2 Foam element: Wash the element in a solution of household detergent and warm water, then rinse thoroughly, or wash in nonflammable or high flash point solvent. Allow the element to dry thoroughly. Soak the element in clean engine oil, and squeeze out the excess oil. The engine will smoke during initial start-up if too much oil is left in the foam.
- 5.4.3 Paper element: Tap the element lightly several times on a hard surface to remove excess dirt, or blow compressed air through the filter from the inside out. Never try to brush the dirt off; brushing will force dirt into the fibers. Replace the paper element if it is excessively dirt.

### 5.5 Fuel tank

#### Fuel strainer cup cleaning

Turn the fuel valve to Off. Remove the sediment cup and O-ring, and wash them in nonflammable or high flash point solvent. Dry them thoroughly, and reinstall securely. Turn the fuel valve on, and check for leaks.

### 5.6 Spark plug

#### Spark plug service

Recommended spark plug: BP6ES-11, BPR6ES-11 (NGK), W20EP-U11, W20EPR-U11 (ND).

**Caution:** Never use a spark plug of incorrect heat range.



To ensure proper engine operation, the spark plug must be properly gapped and free of deposits.

1. Remove the spark plug cap, and use a spark plug wrench to remove the plug.



**Warning:** If the engine has been running, the muffler will be very hot. Be careful not to touch the muffler.

2. Visually inspect the spark plug. Discard it if the insulator is cracked or chipped. Clean the spark plug with a wire brush if it is to be reused.

3. Measure the plug gap with a feeler gauge. The gap should be 0,7 mm. Correct as necessary by bending the side electrode.
4. Check that the spark plug washer is in good condition, and thread the spark plug in by hand to prevent cross-threading.
5. After the spark plug is seated, tighten with a spark plug wrench to compress the washer.



**Take notice:** If installing a new spark plug, tighten 1/2 turn after the spark plug seats to compress the washer. If reinstalling a used spark plug, tighten 1/8-1/4 turn after the spark plug seats to compress the washer.



**Caution:** The spark plug must be securely tightened. An improperly tightened spark plug can become very hot and may damage the engine.

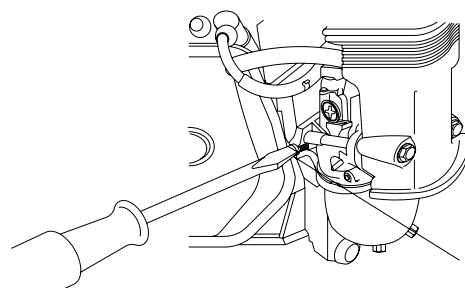
### 5.7 Vergaser

#### Carburettor adjustment

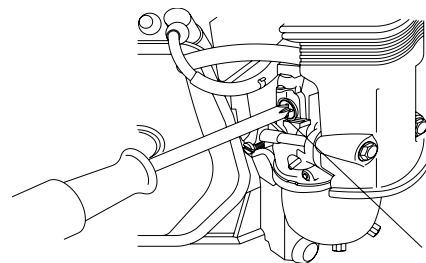
- \* Start the engine and allow it to warm up to normal operating temperature.
- \* With the engine idling, turn the pilot screw in or out to the setting that produces the highest idle rpm. The correct setting will usually be approximately 2 1/4 turns from the fully closed position.



**Caution:** Do not tighten the pilot screw against its seat as this will damage the pilot screw or seat. After the pilot screw is correctly adjusted, turn the throttle stop screw to obtain the standard idle speed. Standard idle speed: 1 400 + 150 rpm.



1 Pilot screw



2 Throttle stop screw

### 5.8 Service instructions

### 5.8.1 Adjusting the V-belt tension

Remove belt guard. Loosen nuts situated on the motor V-belt pulley and remove outer V-belt pulley half. Remove necessary number of shims (the removal of one shim is usually sufficient). Install the removed shims on the outside of the V-belt pulley. (If one shim is removed, install it on the outer half of the pulley, if two, one on the outer and one on the inner V-belt pulley half, etc.). Thus V-belt alignment is maintained. Install spring washer in a way such that the large collar comes to lie on the motor V-belt pulley. Loosen nuts and under continual rotation of the engine V-belt pulley tighten nuts alternately. Allow engine to run for a short while, if necessary retighten nuts.

### 5.8.2 Lubricating the exciter

On delivery of the machine, the exciter is filled with oil. Change oil after every 250 hours of operation, use 0,75 l Oil (see technical specifications). For this purpose place the vibration plate on level ground. Remove drain plug situated on the outside of the vibration plate. Correct oil level = lower edge of threaded bore. If necessary, remove the extension plate before draining the oil. This will avoid unwanted spillages. The oil level should reach no higher than the lowest part of the thread in the filler opening when refilling oil.

Screw sealing plug back in and tighten firmly (torque setting = 100 Nm or 73.78 ft. lbs.).

## 5.9 Hydraulic control

When checking the oil level in the motor and exciter, also check oil level in the centre pole head and top up if necessary. Top up to mark when centre pole is placed in vertical position. If there is too much oil in the centre pole head the reverse motion is hard to engage, if the quantity of oil is insufficient the advance speed is reduced. We use hydraulic oil (see Technical Specifications), suitable also for low temperatures, in the hydraulic systems as standard.

## 5.10 Mounting instruction

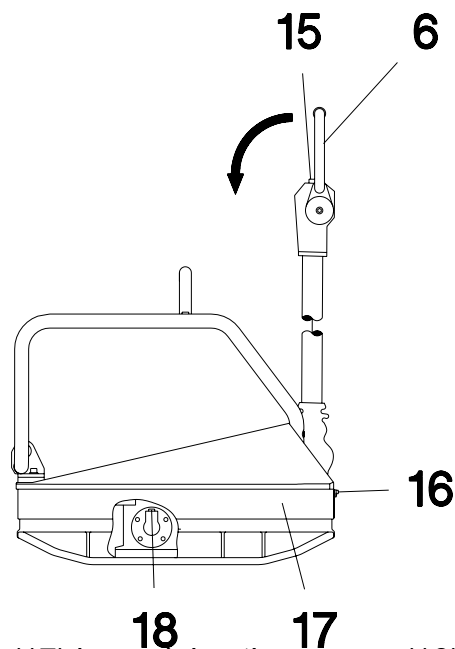
### 5.10.1 Exciter

When disassembling exciter components, always remove eccentric weights first. When assembling, the eccentric weights have to be installed last of all. When installing exciter shafts mind marking of toothed gears. Assembly of exciter shaft is correct when all eccentric weights point down while piston is at half stroke. During assembly of eccentric weights on exciter shaft, keep shafts blocked to avoid pinching of fingers. Mind lefthand thread when assembling V-belt pulley. Tighten all screws with the prescribed torque, mind qualities of screws (see screw head).

### 5.10.2 Hydraulic control

Bleed hydraulic system after having topped up with oil, then check oil level again (total quantity required approx. 0,4 liters).

### 5.10.3 Bleeding hydraulic control:



1. Remove apron (17) by undoing the screws (16).
2. Move centre pole into vertical position, move control handle (6) right into the reverse position, open filler bore (15).
3. Loosen connecting screw (18).

## Maintenance

4. Slowly push the control handle (6) in forward direction until hydraulic oil emerges bubblefree at the connection screw.
5. Tighten connecting screw (18), mount apron (17).
6. Replenish hydraulic oil (see technical Specifications) as required, then close filler bore (15).

### 5.10.4 Centre pole head



When disassembling the centre pole head, please mind that the piston is installed under spring tension. When assembling, locate toothed rod in toothed gear in a way such that the handle is set a 90° to the centre pole head when piston is fully extended.

### 5.10.5 Test-run equipment for approx. 5 min. to bleed air from system.

## 6. Engine

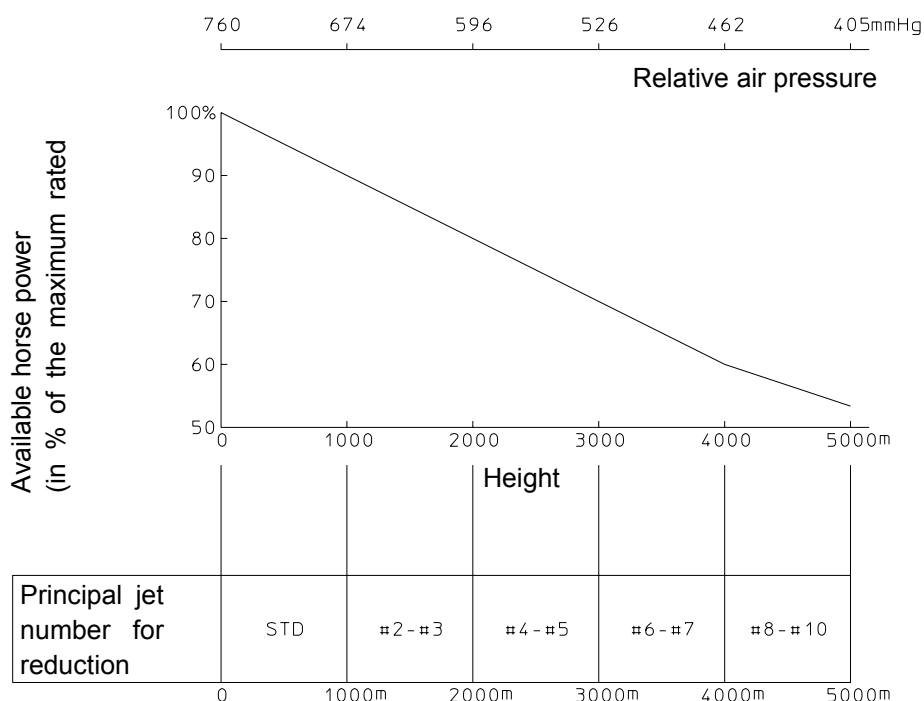
### 6.1 Maschineneinsatz in größeren Höhen

6.1.1 Air is rarer at greater altitudes and the main jet of the standard carburettor supplies the engine with an extremely rich fuel-air mixture. This, in turn, leads to a loss of engine power and the consequent increase in fuel consumption.

High altitude engine power can in general be improved when installing a smaller main jet and through adjustment of the pilot screw. The engine only loses approximately 10 % of its performance number per 1000 m (3000 feet) height increase if the carburettor jet is correctly set. The engine loses yet more power if no main height jet is installed.

The following graph shows the relation between height influence and performance number for a correctly set jet.

Always check out the built-in standard jet before proceeding to order or calculate additional jets. These can vary in some types of equipment, models or countries.





## Engine

**Example:** A jet size factor of 85 % should be used for a height of 1500 m (3000 feet).

If the equipment is fitted out with a standard main jet # 68, the recommended jet for a height of 1500 m (3000 feet) would be # 65 jet ( $68 - 3 = 65$ ).

For quick reference:

The size of the jet is easily determined by means of part number.

Example:

99101-ZF5-0850 Jet # 85

99101-ZF5-0800 Jet # 80

99101-ZF5-0820 Jet # 82

Comment:

At a height of 1500 m (3000 feet), a correctly set engine will deliver approximately 85 % of the maximum power delivered at sea level. Do not demand more than 85 % of the maximum power delivered at sea level if you are going to be running the machine continuously.

## 7. Faults

### 7.1 Forward speed too low

Cause	Remedy
To little hydraulic oil in the centre pole head.	Top up hydraulic oil.
Air in hydraulic control.	Bleed system.

### 7.2 Reverse speed too low

Cause	Remedy
Too much hydraulic oil in centre pole head.	Correct oil level in accordance with mark.

### 7.3 No reverse motion

Cause	Remedy
Mechanical fault.	Contact Wacker Neuson service dept.

### 7.4 Loss of hydraulic oil

Cause	Remedy
Leaks, hydraulic hose defective.	Contact Wacker Neuson service dept.

## Faults

### 7.5 Engine does not start

Cause	Remedy
Fuel tank empty.	Fuel up.
Fuel shut-off valve closed.	Open.
Air filter dirty.	Clean.
Engine switch set to "OFF".	Set the engine switch to "ON".
Recoil starter defective.	Repair.
Oil alert system has stopped engine.	Fill up with engine oil.

## 11 Technical data

Designation	Unit	BPU 4045A US	BPU 5545A	BPU 5545A US
Item no.		5100009663	5100009657	5100009658
Centrifugal force	kN	40,00	55,00	55,00
Vibrations	rpm	4.140	4.140	4.140
	Hz	69	69	69
Surface capacity *	m <sup>2</sup> /h (ft <sup>2</sup> /h)	656 (5011)	852 (6508)	852 (6508)
Advance travel	m/min (ft/min)	24,0 (79)	27,0 (88)	27,0 (88)
Reverse travel	m/min (ft/min)	13,6 (45)	19,1 (63)	19,1 (63)
Gradeability	%	36,4	36,4	36,4
Length (guide handle in working position)	mm (in)	1.661 (65.4)	1.661 (65.4)	1.661 (65.4)
Width	mm (in)	604 (23.8)	604 (23.8)	604 (23.8)
Height	mm (in)	1.308 (51.5)	1.308 (51.5)	1.308 (51.5)
Operating weight	kg (lb)	330 (727)	340 (750)	340 (750)
Ground clearance	mm (in)	725 – 859 (28.5 – 33.8)	725 – 859 (28.5 – 33.8)	725 – 859 (28.5 – 33.8)
Rated power **	kW	5,1	6,4	6,4
Rated speed	rpm	3600	2600	2600
Exciter oil quantity	l (gal)	0,75 (0.198)	0,75 (0.198)	0,75 (0.198)
Exciter oil type		SAE 10W40	SAE 10W40	SAE 10W40
Hydraulic oil quantity	l (gal)	0,5 (0.13)	0,5 (0.13)	0,5 (0.13)
Hydraulic oil type		MR 520	MR 520	MR 520
Storage temperature range	°C (°F)	-15 – +40 (-5 – +104)	-15 – +40 (-5 – +104)	-15 – +40 (-5 – +104)
Operating temperature range	°C (°F)	-15 – +40 (-5 – +104)	-15 – +40 (-5 – +104)	-15 – +40 (-5 – +104)
Sound pressure level L <sub>pA</sub>	dB(A)	90	91	91
Standard		EN 500-4	EN 500-4	EN 500-4

Designation	Unit	BPU 4045A US	BPU 5545A	BPU 5545A US
Sound power level $L_{wa}$ Measured Guaranteed	dB(A)	104,3 108	104,9 108	104,9 108
Standard		EN 500-4, 2000/ 14/EG	EN 500-4, 2000/ 14/EG	EN 500-4, 2000/ 14/EG
Vibration total value $a_{hv}$ Standard	$m/s^2$ ( $ft/s^2$ )	1,1 (3.6)	1,5 (4.9)	1,5 (4.9)
		EN 500-4	EN 500-4	EN 500-4
Uncertainty of measurement of vibration total value $a_{hv}$	$m/s^2$ ( $ft/s^2$ )	0,4 (1.3)	0,4 (1.3)	0,4 (1.3)
* Depending on the condition of the soil.				
** Equivalent to the installed power output in accordance with the directive 2000/14/EC.				

### 11.1 Combustion engine

Designation			
Manufacturer		Honda	
Engine type		GX270 UT2-QA-4-SD	GX390 UT2-QA-4-SD
Combustion method		Four-cycle	Four-cycle
Cooling		Air cooling	Air cooling
Cylinder		1	1
Engine displacement	cm <sup>3</sup> (in <sup>3</sup> )	270 (16.5)	389 (23.7)
Max. tilt position	°	20	20
Fuel type		Ottokraftstoff	Ottokraftstoff
Fuel consumption	l/h (gal/h)	1.6 (0.42)	2.0 (0.50)
Tank capacity	l (gal)	5.3 (1.4)	6.1 (1.6)
Oil specification		SAE 10W30	SAE 10W-30
Max. oil filling	l (gal)	1,1 (0.29)	1,1 (0.29)
Max. performance	kW	6,3	8,7
Speed (max. power)	rpm	3,600	3,600
Standard		SAE J1349	SAE J1349
Rated output	kW	5,1	6,4
Rated speed	rpm	3,600	3,000
Standard		SAE J1349	SAE J1349
Operating power	kW	4,6	5,4
Operating blade speed	rpm	2,600	2,600
Standard		DIN ISO 3046 IFN	DIN ISO 3046 IFN
Upper engine speed without load	rpm	1,400	1,400
Type of spark plug		Denso W20EPR-U, NGK BPR-6 ES	Denso W20EPR-U, NGK BPR-6 ES
Spark plug air gap	mm (in)	0,7– 0,8 (0.027 – 0.031)	0,7– 0,8 (0.027 – 0.031)
Starter type		Recoil starter	Recoil starter

### 3 Emission control systems information and warranty

The Emission Control Warranty and associated information is valid only for the U.S.A., its territories, and Canada.

#### **Emission control systems warranty statement**

See the *engine owner's manual* for the applicable exhaust and evaporative emission warranty statement.

## 4 Glossary

### 4.1 Use of oxygenated fuels

Some conventional gasolines are blended with alcohol. These gasolines are collectively referred to as oxygenated fuels. If you use an oxygenated fuel, be sure it is unleaded and meets the minimum octane rating requirement.

Before using an oxygenated fuel, confirm the fuel's contents. Some states / Provinces require this information to be posted on the fuel pump.

The following are Wacker Neuson approved percentages of oxygenates:

**Ethanol** - (ethyl or grain alcohol) 10% by volume. You may use gasoline containing up to 10% ethanol by volume (commonly referred to as E10). Gasoline containing more than 10% ethanol (such as E15, E20, or E85) may not be used because it could damage the engine.

If you notice any undesirable operating symptoms, try another service station, or switch to another brand of gasoline.

Fuel system damage or performance problems resulting from the use of an oxygenated fuel containing more than the percentages of oxygenates mentioned above are not covered under warranty.





## EC Declaration of Conformity

### Manufacturer

Wacker Neuson Produktion GmbH & Co. KG, Preußenstraße 41, 80809 München

### Product

<b>Product</b>	<b>BPU 5545A</b>
Product category	Vibrating plate
Product function	Compacting soils
Item number	5100009657
Net installed power	6,4 kW
Measured sound power level	104,9 dB(A)
Guaranteed sound power level	108 dB(A)

### Conformity assessment procedure

According to 2000/14/EC, Appendix VIII, 2005/88/EC.

### Notified body

VDE Prüf- und Zertifizierungsinstitut GmbH, Merianstraße 28, 63069 Offenbach/Main

### Directives and standards

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

2006/42/EG, 2000/14/EG, 2005/88/EG, 2004/108/EG, EN 55012:2007

### Authorized person for technical documents

Axel Häret,

Wacker Neuson Produktion GmbH & Co. KG, Preußenstraße 41, 80809 München

München, 14.08.2014

Helmut Bauer  
Managing Director

