

Operator's manual

Vibratory rammer

DS70



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Errors excepted.

The machine on the cover may have special equipment (options).



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Original operator's manual



CALIFORNIA Proposition 65 Warning



WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.



WARNING

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



WARNING

Cancer and Reproductive Harm -
www.P65Warnings.ca.gov.



WARNING

Batteries, battery posts, terminals and related accessories contain lead and lead compounds, and other chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. WASH HANDS AFTER HANDLING.



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1 Preface

This operator's manual contains important information and procedures for the safe, proper and economic operation of this Wacker Neuson machine. Carefully reading, understanding and observing is an aid to avoiding hazards, repair costs and downtime, and therefore to increasing the availability and service life of the machine.

This operator's manual is not a manual for extensive maintenance or repair work. Such work should be carried out by Wacker Neuson service or by technically trained personnel. The Wacker Neuson machine should be operated and maintained in accordance with this operator's manual. An improper operation or improper maintenance can pose dangers. Therefore, the operator's manual should be constantly available at the location of the machine.

Defective machine parts must be exchanged immediately!

If you have any questions concerning the operation or maintenance, a Wacker Neuson contact person is always available.

2 Introduction

2.1 Using the manual

This manual is to be considered part of the machine and should be carefully stored during the entire service life of the machine. This manual shall be transferred to subsequent owners or users of the machine.

2.2 Storage location of the manual

This manual is part of the machine and must be kept in the immediate vicinity of the machine and made accessible to staff at all times.

If this manual is lost, or if a second copy is required, there are two options to obtain a replacement:

- Download from the Internet: www.wackerneuson.com
- Contact your Wacker Neuson contact partner.

2.3 Accident prevention regulations

In addition to the notes and safety instructions in this manual, the local accident prevention regulations as well as the national health and safety regulations apply.

2.4 More information

This manual applies to various machine types from one product series. For this reason, some figures may vary slightly in appearance from the machine purchased. Depending on the model, there may be descriptions of components that are not included in the standard package.

The information contained in this manual is based on machines manufactured up to the time of printing. Wacker Neuson reserves the right to change this information.

The manufacturer shall immediately include any modifications or additions in this manual.

2.5 Target group

Individuals working with this machine must be regularly trained on the dangers of handling the machine.

This manual is intended for the following people:

Operating personnel:

These individuals have been trained on the machine and informed about the possible dangers in the event of improper conduct.

Technically trained personnel:

These people have professional training as well as additional knowledge and experience. They are able to assess the tasks assigned to them and recognize possible dangers.

2.6 Explanation of symbols

This manual contains specially emphasized safety instructions in the following categories: **DANGER**, **WARNING**, **CAUTION** and **NOTICE**.

Before performing any work on or with this machine, the notes and safety instructions must be read and understood. All notes and safety instructions in this manual must be passed on to the maintenance, repair, and transport personnel.



DANGER

This combination of symbol and signal word indicates a hazardous situation that will lead to death or serious injury if it is not avoided.



WARNING

This combination of symbol and signal word indicates a hazardous situation that can lead to death or serious injury if it is not avoided.



CAUTION

This combination of symbol and signal word indicates a hazardous situation that can lead to minor injury or damage to the machine if it is not avoided.

NOTICE

Supplementary information.

2.7 Wacker Neuson Contact partner

Depending on the country, the Wacker Neuson contact partner is a Wacker Neuson service department, a Wacker Neuson subsidiary, or a Wacker Neuson dealer.

On the Internet at www.wackerneuson.com.

2.8 Disclaimer

For the following violations, Wacker Neuson dismisses any liability for personal injury or material damage:

- Failure to follow this manual.
- Unintended use.
- Deployment of untrained personnel.
- Using non-approved spare parts and accessories.
- Improper handling.
- Structural modifications of any kind.
- Failure to observe the "General Terms and Conditions" (GT&Cs).

2.9 Product identification of the machine**Data of the nameplate**

The nameplate contains information that uniquely identifies this machine. This information is required for ordering spare parts and when inquiring about technical issues.

- Enter information about the machine in the following table:

Designation	Your information
Group and model	
Year of manufacture	
Machine number	
Version no.	
Item number	

3 Security

NOTE

Read and obey all the notes and security instructions in this manual. Failure to comply with these instructions can cause electric shock, fire and/or serious injuries, as well as damage to the machine and/or damage to other objects. Keep the safety instructions and notes for future reference.

3.1 Basics

State of the art

The machine is built in accordance with state-of-art technology and accepted technical safety rules. However, if it is used incorrectly, risks to the operator's or a third party's health and safety may arise or damage to the machine or other property occur.

3.2 Intended use

The machine may be used only for the following purposes:

The machine is intended for compacting cohesive, mixed and sandy soils.

The machine may be combined and operated only with approved components.

The machine may be operated only with approved accessories Wacker Neuson.

Intended use also includes complying with all notes and safety instructions in this manual, as well as observing the stipulated care and maintenance instructions.

3.3 Incorrect use

The machine must not be used for the following purposes:

- Compacting extremely cohesive soils.
- Compacting frozen soils.
- Compacting hard, incompressible soils.
- Compacting non-load-bearing soils.
- Compacting paving stones.

Any other or further use is considered to be improper use. The manufacturer denies liability for and warranty for any resultant damage. The operator alone bears the risk.

Incorrect use is specifically deemed:

- Connecting unapproved components.
- Operating the machine outside the specification.
- Operation not complying with the notes and safety instructions attached to the machine and included in this manual.

3.4 Structural changes

No structural changes may be made without the manufacturer's approval. Unauthorized structural changes to this machine may occasion risks for operators and/or third parties, as well as damage to the machine itself.

In addition, the manufacturer's liability, warranty and exhaust certification will all be void if unauthorized structural changes are made.

A structural change is deemed specifically:

- Opening the machine and removing components permanently.
- Installing spare parts that are not sourced from Wacker Neuson or are not equivalent in design and quality to the original parts.
- Attachment of accessories of any kind that are not sourced from Wacker Neuson.

Spare parts or accessories that originate from Wacker Neuson and can be installed or attached without any problem are in the Internet at www.wackerneuson.com.

3.5 Operator's responsibility

The operator is that person who operates this machine for commercial or economic purposes personally or transfers it to a third party for use/application and during operation bears product responsibility for protecting personnel or third parties.

The operator must make the manual accessible to its personnel at all times and ensure that the user has read and understood it.

3.6 The operator's duties

- To know and implement the applicable health and safety regulations.
- In a risk assessment, to determine the dangers that arise through the working conditions at the place of use.
- Produce operating instructions for use with this machine.
- Check regularly whether the operating instructions comply with the current version of the rules.
- Control and establish unambiguously responsibilities for installation, operation, fault clearance, servicing and cleaning.
- Train personnel at regular intervals and inform them of potential risks.
- Hold refresher courses at regular intervals.
- Maintain records of instruction given and make them available to the responsible body on request.
- Provide personnel with the required protection equipment.

3.7 Personnel qualifications

This machine may only be started and used by trained personnel.

If it is used incorrectly, misused or operated by untrained personnel, risks will threaten the health of the user and/or third parties, as well as damage to or total machine failure.

The following requirements are also incumbent on the user:

- Physically and mentally robust.
- No influence on the ability to react caused by drugs, alcohol or medication.
- Familiar with the safety instructions in this manual.
- Familiar with the intended use of this machine.
- Instructed in independent operation of the machine.

3.8 Residual risks

Residual risks are particular dangers while handling the machine that cannot be eliminated despite a safe design in compliance with the law.

These residual risks are not obviously detectable and may be the source of a potential risk of injury or danger to health.

If unforeseeable risks arise, operation of the machine must cease immediately and the authorized line manager informed. He will make further decisions and do everything necessary to rectify the existing risk.

If necessary, the manufacturer must be informed.

3.9 General safety instructions

The general safety instructions in this section include the "General Safety Instructions" that are to be listed in the manual in accordance with the applicable standards. Notes that are not relevant for this machine may be included.

3.9.1 Workplace

- Keep your work area tidy. Untidiness or unlit work areas can lead to accidents.
- Before starting work, familiarize yourself with the work environment; e.g. the load capability of the floor or obstacles in the environment.
- Protect the work area from the public movement area.
- Keep children and other persons at a distance while working with this machine. Distractions will threaten loss of control of the machine.
- Always secure the machine against tipping, rolling, sliding and falling! Risk of injury!



3.9.2 Service

- Have the machine repaired or serviced only by qualified technicians.
- Use only original spare parts and accessories. This will achieve operational safety of the machine.

3.9.3 Safety of persons

- Working under the influence of drugs, alcohol or medications can lead to most serious injuries.
- Appropriate protective equipment must be worn for all work. Appropriate protective equipment reduces the risk of injury significantly.
- Remove tools before starting the machine. Tools that are on a rotating part of the machine can be ejected and lead to severe injuries.
- Ensure the machine is always in a safe state.
- During long periods of work with this machine, permanent damage caused by the vibrations cannot be excluded completely. See the *Technical Data* section for the machine's vibration loading.
- Wear suitable clothing. Keep loose-fitting clothing, protective gloves, jewelry and long hair away from moving/turning machine parts. Risk of being pulled in!

3.9.4 Handling and use

- Never start machines whose switches are defective. Have defective switches replaced immediately. Machines with defective switches conceal a high risk of injury.
- Keep unused machines out of reach of children. The machine may be operated only by authorized personnel.
- Treat the machine with care. Have defective parts exchanged immediately before starting this machine. Defective machines conceal a high risk of accidents.
- Use machines, accessories and plug-in tools etc. in accordance with these instructions.

3.10 Specific safety instructions - DS vibrating rammer

3.10.1 External factors

The vibrating rammer must not be operated in the presence of the following external factors:

- In an environment where there is a risk of explosion.
- Oil field environments - Methane gas emission from the ground. Risk of explosion!
- In dry, easily ignited vegetation. Risk of fire!

3.10.2 Taking breaks at regular intervals.

When this machine is operated for protracted periods, it can cause circulation problems in your fingers, hands or wrists.

Symptoms:

- Numbing of the body parts named, tingling, pain, a pricking feeling and skin color changes.

NOTE

If these symptoms are detected, consult a doctor immediately.

- If you have a personal propensity to poor circulation, it can be restricted despite gloves and regular breaks.

3.10.3 Operating safety

- When operating the machine, ensure that no gas, water, electrical lines and piping is damaged.
- Pay maximum attention when in the vicinity of gaps or slopes. Risk of falling!
- In ditches and pits, pay peak attention to side walls, ensuring these are stable and do not fall through vibration. Risk of burial!
- Never let the machine run unintentionally. Risk of injury!
- Limit the working area to a generous space and keep unauthorized persons away. Risk of injury!
- Users of this machine must ensure that persons who stay in the working area keep at least 5 meters away from the running machine.

3.11 General safety instructions - Internal combustion engines

The following instructions must be obeyed:

- Before starting work, check the engine and the fuel line, tank and fuel cap for cracks and leaks.
- Do not start a defective engine. Replace damaged parts immediately.
- The pre-set engine speed must not be adjusted. This could lead to engine damage.

- Ensure that the engine exhaust system is free from waste. Risk of fire!
- Before fueling, switch off the engine and allow it to cool.
- Use the correct fuel. Fuel must not be mixed with other fluids.
- Use clean filling aids for fueling. Do not spill fuel; wipe up fuel spills immediately.
- The engine must not be started in the vicinity of spilt fuel. Risk of explosion!
- When working in confined spaces, adequate ventilation must be provided. Do not inhale exhaust gases. Risk of poisoning!
- Engine surface and exhaust system can become very hot after a short time. Risk of burns!

3.12 General safety instructions - Fuels and lubricants

The following instructions must be obeyed:

- When handling fuels and lubricants, always wear goggles and gauntlets. Find a doctor if, say, oil or grease gets in your eyes.
- Avoid your skin coming in direct contact with fuels and lubricants. Wash your skin immediately with soap and water if this occurs.
- Do not eat and drink while working with fuels and lubricants.
- Oil contaminated by dirt or water can lead to premature wear or failure of the machine.

If fuels and/or lubricants leak from the machine, stop operating it and have it repaired immediately by the Wacker Neuson contact.

3.13 Maintenance

The following instructions must be obeyed:




- This machine must not be serviced, repaired, adjusted or cleaned while it is switched on.
- Observe servicing intervals.
- Observe the servicing schedule. Unlisted work must be performed by the Wacker Neuson contact's service department.
- Always replace worn or damaged parts of the machine immediately. Use only spare parts from Wacker Neuson.
- Keep the machine clean.
- Missing, damaged or illegible safety stickers must be replaced immediately. Safety stickers contain important information to protect the user.



Maintenance tasks must be carried out in a clean and dry environment (e.g. workshop).

3.14 Personal protective equipment

NOTE

To avoid injuries while handling it, personal protective equipment must be worn for all work on and with this machine.

Pictogram	Meaning	Description
	Use safety shoes!	Safety shoes protect against crushing, falling parts and sliding on a slippery base.
	Use goggles!	Goggles protect against flying objects and liquid sprays.
	Use gauntlets!	Gauntlets protect against scrapes, cuts, pricking and hot surfaces.

Pictogram	Meaning	Description
	Use ear defenders!	Ear defenders protect against permanent hearing damage.
	Use a hard hat!	A hard hat protects against injuries caused by falling objects.

NOTE

It is possible for this machine to exceed permitted regional noise thresholds (personal assessment level).

Ear defenders must therefore be worn. For exact noise measurement figures, refer to the section *Technical Data*.

When working with ear defender on, work particularly attentively and carefully, as noises, e.g. shouts or signals are perceived only to a limited degree.

Wacker Neuson recommends that you always wear ear defenders.

3.15 Safety devices

Safety devices protect the user of this machine in advance from being exposed to the extant risks. These are barriers (isolating protective devices) or other technical measures. These prevent the user from being exposed to danger. In certain situations, the source of the risk will be switched off or the danger reduced.

This machine has the following safety devices:



Item	Description
1	Burn protection

Burn protection

Burn protection guards the user against radiant heat.

3.16 Behavior in danger situations

Preventive measures:

- Always be prepared for accidents.
- Keep first aid equipment close at hand.
- Familiarize personnel with accident reporting, first aid and rescue equipment.
- Keep access routes free for ambulances.
- Train personnel in first aid measures.

Action in the event of a serious incident:

- Take the machine out of service immediately.
- Bring the injured and others out of the danger zone.
- Introduce first aid measures.
- Call the emergency services.
- Keep access routes free for ambulances.
- Inform management at the place of use.

4 Safety and information sticker



WARNING

Illegible symbols

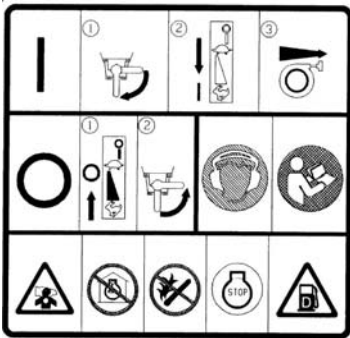
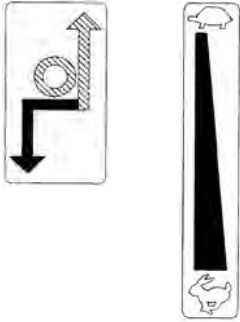
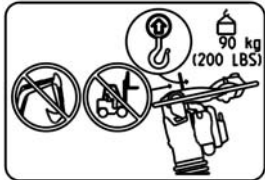
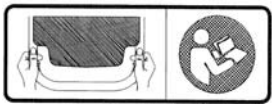
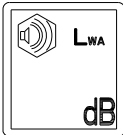
Over time, stickers and plates on the machine become dirty or illegible in some other way.



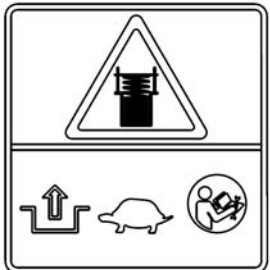
- All safety, warning and operating instructions on the machine are to be maintained in a legible state.
- Renew damaged stickers and plates immediately.

The stickers on the machine are:





Item	Sticker	Description
1		<p>Start engine</p> <ol style="list-style-type: none"> 1. Open fuel cock. 2. Set gas regulating lever to SLOW. 3. Pull the starter rope of the reverse starter. <p>Stopping the machine</p> <ol style="list-style-type: none"> 1. Set gas regulating lever to OFF. 2. Close fuel cock. <p>Warning</p> <ul style="list-style-type: none"> ■ Wear ear defenders. ■ Read the operating instructions. <p>Risk of suffocation</p> <ul style="list-style-type: none"> ■ Engines emit carbon monoxide. ■ Do not operate the machine in confined spaces. ■ Sparks, naked flames or burning objects are not allowed in the vicinity of the machine. ■ Stop the machine before filling with fuel.
2		<p>Gas regulator lever 0 = OFF</p> <p>Tortoise = no load/low engine speed Hare = high/fast engine speed</p>
3		<p>Lift and transport the machine at the central suspension point.</p> <ul style="list-style-type: none"> ■ Use only suitable and tested lifting gear and slings (safety load hooks) with adequate lifting capacity. ■ Do not lift the machine with an excavator bucket or a forklift.
4		<p>For best possible output control and minimum hand and arm vibration, secure the left and right guidance clips.</p> <p>Read the operating instructions.</p>
5		<p>Guaranteed sound output level</p>

Item	Sticker	Description
6		Warning: Hot surface.
7		Contact protection <ul style="list-style-type: none"> ■ Warning: Hot surface. ■ Do not operate the machine without a guard plate. ■ Operate the machine only with a guard plate.
8		Warning Release the cover slowly, so that the spring is not ejected. Read the repair manual.

5 Set-up and function

5.1 Deliverables

The deliverables include:

- Vibrating rammer
- Operating Manual

5.2 Uses

The vibrating rammer serves to compact ground and is used in gardening and landscaping, excavations and road building.

5.3 Brief description

The vibrating rammer consists fundamentally of an engine, rammer system, rammer base and guidance clips.

It is driven by a diesel engine and started via a reversing starter. The rotary motion of the engine is converted into a lifting motion via a centrifugal clutch, a single stage helical gear transmission and a crank mechanism. The power is transferred to the ramming system and generates a striking force to compact the ground.

It receives its preliminary impulse through the inclination of the vibrating rammer.

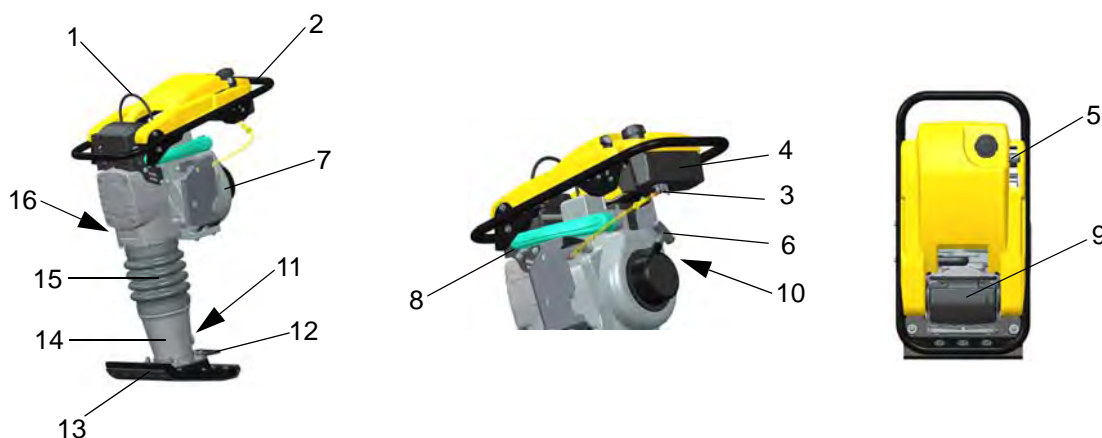
Rubber elements decouple the guidance clips from the rammer system. This reduces the vibration transferred to the operator.

5.4 Alternatives

Various types of machine are listed in this operating manual:

Alternatives	Description
Y	Yanmar engine

6 Components and operating elements



Item	Designation	Item	Designation
1	Central suspension	9	Air filter system
2	Guidance clip	10	Exhaust
3	Fuel cock	11	Oil sight glass
4	Fuel tank	12	Handle
5	Gas regulating lever	13	Rammer base
6	Reversing starter	14	Rammer system
7	Drive motor	15	Bellows
8	Vibration damper	16	Maker's plate

7 Transport



WARNING

Incorrect handling can lead to injury or serious damage to property.

- Read and follow all the safety notes in these operating instructions.



WARNING

Danger from falling.

The falling machine can cause serious injuries through crushing.

- Use only suitable and tested lifting gear and slings with adequate lifting capacity.
- Secure the machine reliably to the lifting gear.
- Do not lift the machine with an excavator bucket or a forklift.
- Leave the danger area while lifting and do not stand under a suspended load.



WARNING

Danger of fire and explosion from fuel.

Escaping fuel can start a fire and cause serious burns.

- Lift the machine in an upright position.

7.1 Preparing the machine

Carry out preparations

1. Stop the machine.
2. Lean the machine in an upright position against a solid object and secure it against tipping over.
3. Allow the machine and engine to cool.

7.1.1 Emptying the fuel system

NOTE

The fuel cap has over- and under pressure valves, through which fuel can escape in hot conditions (e.g. under solar radiation).



Item	Designation
1	Fuel cap

4. Remove dirt in the area of the fuel cap.
5. Unscrew and remove the fuel cap.
6. Pump the fuel off into a suitable vessel or a tank, e.g. with a siphon.
7. Put the fuel cap on and tighten it.
8. Start the engine and allow it to run on no load until the fuel in the carburetor is consumed and the engine stops.

7.1.2 Lifting and lashing the machine

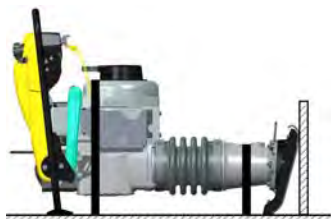
NOTE

Appoint an expert guide for a safe lifting process.



Item	Designation
1	Central suspension

1. To lift the machine, hang suitable slings on the central suspension.
2. Load the machine carefully in or on a load-bearing and stable means of transport.
3. Move the machine forwards on to the transport roller.



4. After loading, lash the machine to the means of transport so that it is secured against rolling off, slipping off and tipping over. At the same time, fit tensioning belts tightly over the vibration rammer.

8 Storage

If the machine is not to be operated for a protracted period, e.g. during the winter months, carry out the following activities:

- Do not store in the open.
- Store in a dry and dust-free place.
- Empty the fuel system.

9 Use and operation



WARNING

Incorrect handling can lead to injury or serious damage to property.

- Read and follow all the safety notes in these operating instructions.
-

9.1 Tests prior to start-up

- Check the machine and components for damage. If there is visible damage, do not use the machine and contact a Wacker Neuson dealer immediately.
- Check control elements for serviceability.
- Ensure that loose packing material has been removed from the machine.
- Follow current local authority regulations on noise emissions.
- Check fuel level.
- Check oil level.
- Check screw joints for firm seating.
- Check air intake area for dirt.

NOTE

Carry out the checks in accordance with the *Maintenance* section; if need be, top-up low fuel and lubricant levels; see *Technical Data* section.

9.2 Operating notes



WARNING

Risk of tipping

Serious risk of injury through machine sliding or tipping.

- Always secure the machine against tipping.
 - Set the machine down on a level surface with a firm base.
-



WARNING

Risk of crushing

Crushing of hands and feet possible.

- Work carefully.
-



CAUTION

Take precautions against injuries caused by vibration.

Increased hand and arm vibration.

- Do not overload the machine.
 - Take a break at regular intervals.
-



CAUTION

Injuries or damage to property

Severe recoiling can occur on solid, hard, or unyielding ground.

- Avoid these soils.
-

- The proper place for the operator is behind the machine.
- Guide and steer the machine at the guide clip.
- While working, exploit the machine's own weight.

- Allow the machine to pull forwards independently. Do not use force to push or pull it forward or backward.
- For best possible control output and minimum hand and arm vibration, secure the left and right guidance clips.
- To avoid damage to the machine, it must not be turned over while it is running.
- Caution is advised with rough material. To avoid extreme wear of the rammer base, this must always be parallel to the ground for compacting.

Operation in channels

- At the edges of breaks, pits, heaps and embankments, at pit sides and sections, operate the machine so that there is no risk of it falling or tipping over.
- Take care with side walls and their stability. Collapse and spillage risk!
- Stability!

Operation at temperatures below freezing

Cold oil in the striking mechanism can increase the resistance to the point where the centrifugal clutch slips.

- Allow the machine to warm up at low speed, as otherwise the centrifugal clutch will wear in a very short time.

9.3 Starting

NOTE

The machine must be upright and on a suitable base on starting.

9.3.1 Start engine



WARNING

Hot silencer
Contact can lead to burns.

- Hold the machine only at the guidance clip.
 - Wear protective gloves.
-



CAUTION

Improper handling on starting can lead to minor injuries.

- Only pull the starter rope if adequate space is available and nobody is standing in the immediate vicinity.
-

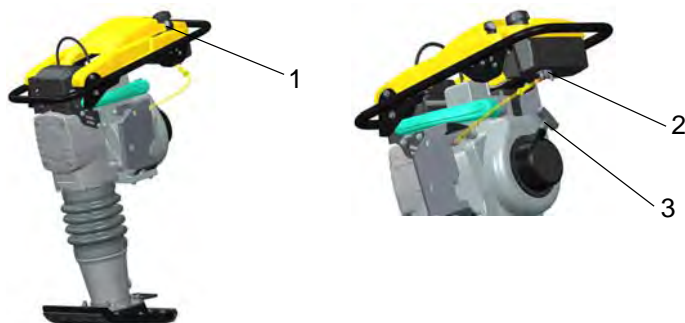
NOTE

Incorrect handling can lead to damage to the machine.

- Do not pull the starter rope out to the stop.
 - Allow the starter rope to reel in slowly.
-

NOTE

To start the engine, stand at least 3 m away from the filling station.



Item	Designation	Item	Designation
1	Gas regulating lever	3	Reversing starter
2	Fuel cock		

1. Hold the machine at the guidance clip.
2. Open fuel cock.
3. Set gas regulating lever to SLOW.
4. Pull the starter rope several times until the engine starts.
5. Allow the engine to warm up.
6. The machine starts and vibration works in the forward direction.

9.4 Operation

Guide and steer the machine only at the guide clip.

9.4.1 Compacting material



WARNING

Injuries due to an uncontrolled machine.

- Always hold the machine with both hands and in a firm position.

1. Guide the machine with both hands on the guidance clip.
2. Operate the gas regulating lever until the desired speed is reached.
3. If the material is compressed, lift and reset the machine.
 - When lifting the machine, set the gas regulating lever to NO LOAD, so that the engine continues to run at a low speed.

9.5 Stopping the machine



1. Move gas regulating lever slowly to OFF.
2. Close fuel cock.
3. Wait until the machine has come to a complete standstill.



CAUTION

Hot surfaces

- Wear protective gloves.

NOTE

Set the machine down so that it cannot tip over, fall over or slip.

10 Maintenance



WARNING

Incorrect handling can lead to injury or serious damage to property.

- Read and follow all the safety notes in these operating instructions.
-



WARNING

Risk of poisoning by exhaust gases.

Exhaust gases contain toxic carbon monoxide, which can lead to loss of consciousness or death.

- Perform maintenance tasks only with the machine switched off.
-



WARNING

Danger of fire and explosion from fuel and fuel vapors.

Fuel and fuel vapors can be ignited or start a fire and cause severe burns.

- Don't smoke.
 - Do not fill up with fuel in the presence of a naked flame.
 - Before fueling, switch off the engine and allow it to cool.
-



WARNING

Warning: Hot surfaces.

The crankcase, with engine and rammer system can heat up considerably after only a short time, which can lead to severe burns if it comes in contact with the skin.

- Always allow the machine to cool down after use.
 - If the cooling phase cannot be observed (e.g. in an emergency) - wear heat-resistant gloves.
-



WARNING

Risk of injury caused by missing or unserviceable safety devices.

- Operate the machine only if the safety devices are fitted correctly and are serviceable.
 - Do not change or remove safety devices.
-



10.1 Servicing schedule

Servicing tasks	daily	weekly/after 25 hours	monthly/after 100 hours	3-monthly/after 300 hours	Every 5 months/500 hours
Clean the machine Visual check for completeness. Visual check for damage.	■				
Clean air filter, change if necessary.	■				
Check oil level, top up if necessary. ■ Engine. ■ Hammer mechanism.	■				
Check fuel lines and connections for cracks and leaks, change if necessary.	■				
Check screw joints on the rammer base and retighten if necessary.		■			
Clean the engine cooling fins.		■			
Oil change** ■ Engine.			■		
Oil change** ■ Hammer mechanism.				■	
Clean starter.				■	
Check central suspension for wear and damage.				■	
Check valve play, reset if necessary.*					■
Clean oil filter, change if necessary.**					■
Clean fuel filter, change if necessary.					■
* Change the oil after the first 25 hours run. ** Change the oil after the first 50 hours run. *** Have these tasks carried out by the Wacker Neuson contact.					

10.2 Servicing tasks



CAUTION

Risk to health from fuels and lubricants.

- Do not inhale fuels, lubricants and vapors.
- Avoid skin and eye contact with fuels and lubricants.

Carry out preparations:

1. Set the machine down on a level surface.
2. Stop the machine.
3. Allow the machine to cool.

10.2.1 Clean the machine

NOTE

Do not use a high pressure cleaner!
Water penetrating can damage the engine, electrical operating elements or components of the machine.

1. After cleaning, check cables, lines and unions for loose connections, chafing points and other damage.
2. Rectify faults found immediately.

10.2.2 Refueling



WARNING

Danger of fire and explosion from fuel and fuel vapors.

- Don't smoke.
 - Do not fill up with fuel in the presence of a naked flame.
 - Switch off the engine and allow to cool before fueling.
-



CAUTION

Danger to health from fuel.

- Fill up in a well ventilated environment.
 - Do not inhale fuel vapors.
 - Avoid skin or eye contact with fuel.
-



Item	Designation
1	Fuel cap

1. Remove dirt in the area of the fuel cap.
2. Unscrew and remove the fuel cap slowly.

NOTE

Screw the fuel cap on slowly so that any excess pressure can discharge slowly.

3. Refuel using a clean funnel.
 - For fuel specification, see section *Technical Data*.
 - For fuel mixing table, see section *Technical Data*.
4. Tighten fuel cap.

10.2.3 Screw joints

All screw joints in vibrating rammers must be checked at regular intervals for firm seating. Loose screw joints must be retightened to the prescribed or standard torque.

10.2.4 Cleaning/changing the air filter



WARNING

Explosion and fire risk

- Do not use fuels or other solvents with a low flash point to clean the air filter.
- Use compressed air, a mild detergent or warm water.

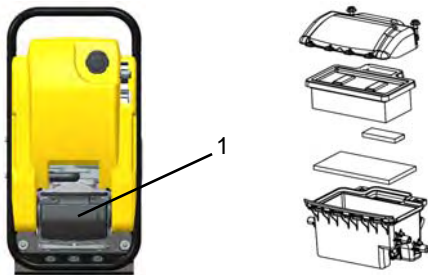
NOTE

Do not operate the machine without its air filter - this can lead to severe damage to the engine.

NOTE

During cleaning, dirt must not get into the engine air intake - this can lead to damage to the engine.

1. Take off the air filter cover.



Item	Designation
1	Air filter cover/air filter

2. Remove the main filter element and the pre-filter and check for holes or cracks; change the filter elements if necessary.
 - Main filter element: Change the filter element if it is heavily soiled.
 - Pre-filter: Only use compressed air at a low pressure to clean the pre-filter. If it is heavily soiled, the filter element must be washed out with a mild detergent and warm water; reflush with clear water. Allow it to dry completely before installation.

NOTE

Do not oil or grease the pre-filter.

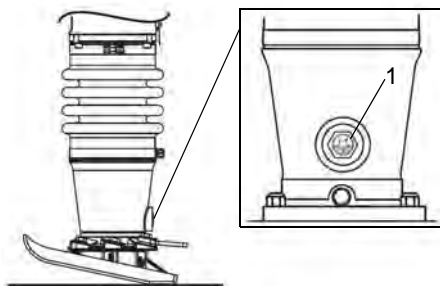
3. Wipe out the filter housing with a clean cloth. Do not use compressed air!
4. Ensure that the pre-filter dirt ejection slot is clean.
5. Insert both filter elements into the filter housing and screw the air filter cover on.

10.2.5 Checking oil level and topping up.

NOTE

If the vibrating rammer is transported in a horizontal position or has even been shifted, it must stand for 15 minutes in an upright position before the oil level can be checked.

1. Remove dirt around the oil sight glass.

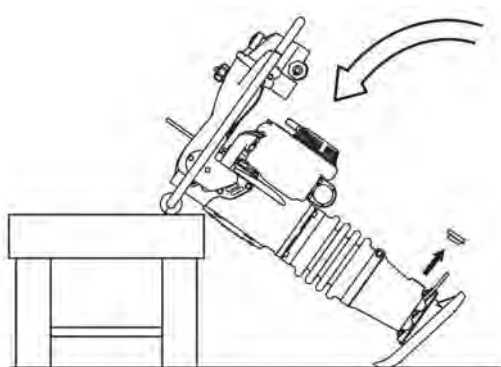


Item	Designation
1	Oil sight glass

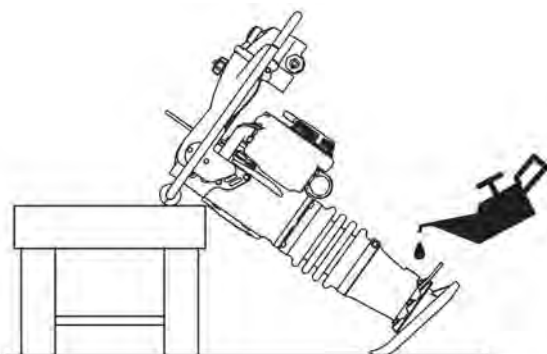
2. Tilt the vibrating rammer so that it forms a right angle with the ground.
3. Check the oil level through the oil sight glass. The oil must fill 1/2 to 3/4 of the oil sight glass.
4. If the oil level is too low, top it up; for the oil specification, see the section *Technical Data*.

NOTE

Do not overfill the rammer system. If the oil level is too high, this can lead to a blockage in the ramming system. This can lead to defective operation and damage to the rammer system.



5. Tilt the vibrating rammer forward and secure it in this position.
6. Unscrew the oil sight glass. Clean the thread on the oil sight glass and wrap with Teflon tape.



7. Fill the housing with oil through the opening in the oil sight glass.
8. Screw the oil sight glass on again, but do not tighten.
9. Place the vibrating rammer in an upright position to check the oil level.

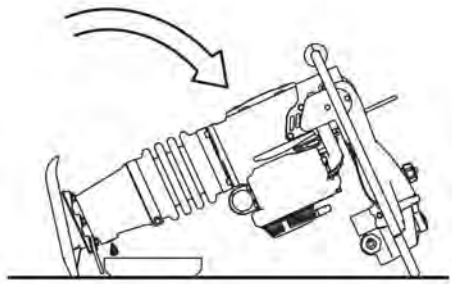
- 10.If need be, top up with oil until the oil sight glass is 1/2 to 3/4 full.
- 11.Now tighten the oil sight glass. Tightening torque 9 Nm.
- 12.Wipe the area around the oil sight glass with a clean cloth.

10.2.6 Oil change

1. Remove dirt around the oil sight glass.
2. Unscrew the oil sight glass. Clean the thread on the oil sight glass and wrap with Teflon tape.

NOTE

Waste oil must be disposed of in accordance with the applicable local environmental protection regulations.



3. Tilt the vibrating rammer backwards until it comes into contact with the guide clip and drain the waste oil into a suitable container.

NOTE

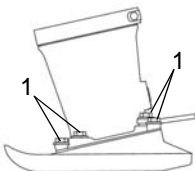
This can take up to 10 minutes.

4. Tilt the vibrating rammer forward and secure it in this position.
5. Fill the housing with oil through the opening in the oil sight glass. For oil specification, see section *Technical Data*.
6. Screw the oil sight glass on again, but do not tighten.
7. Place the vibrating rammer in an upright position to check the oil level.
8. If need be, top up with oil until the oil sight glass is 1/2 to 3/4 full.
9. Now tighten the oil sight glass; tightening torque 9 Nm.
- 10.Wipe the area around the oil sight glass with a clean cloth.

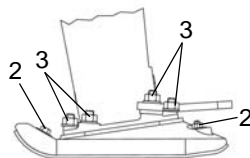
10.2.7 Check/retighten screw joints on the rammer base.

All screw joints on the rammer base in vibrating rammers must be checked at regular intervals for firm seating.

6"



11", 13"



Item	Tightening torque in Nm (ft-lbs.)		
	6"	11"	13"
1	86 (63)		
2		19 (14)	18 (13)
3		79 (58)	85 (63)

10.2.8 Cleaning the engine cooling fins.

Clean cooling fins on the engine allow fresh air to circulate unobstructed around the combustion chamber. Unobstructed air circulation is necessary so that the engine is not overheated.

- Use compressed air to clean dirt and residues off the engine cooling fins.

10.2.9 Cleaning/changing the fuel filter

Item	Designation
1	Fuel filter

1. Unclamp the fuel line and then pull it off the fuel filter.
2. Unscrew and remove the fuel filter.
3. Wipe visible residues and dirt particles off the outside of the fuel filter with a clean, dry, lint-free cloth.
4. Check the fuel filter for cracks, damage and dirt particles; if it is damaged and soiled, replace it.
5. Reinstall the fuel filter.

NOTE

To guarantee a secure connection, cut off approximately 10 mm (3/8") off the end of the fuel line and connect to the fuel filter.

6. Before restarting the machine, check the fuel system for leaks.

11 Fault clearance



DANGER

Life-threatening risks from unauthorized fault clearance.

- If faults occur on this machine that are not described in this manual, contact the manufacturer. Do not clear faults independently.

11.1 Fault table

Fault	Possible cause	Remedy
Engine does not start.	Fuel cock is closed.	Set gas regulating lever to SLOW.
	Fuel tank is empty.	Refill with fuel.
	Fuel filter is dirty.	Replace filter.
	Air filter is dirty.	Clean filter, change if necessary.
Engine does not accelerate, moves off badly or runs unevenly.	<ul style="list-style-type: none"> ■ Air filter is dirty. ■ Crankshaft seals are leaking. 	<ul style="list-style-type: none"> ■ Clean filter, change if necessary. ■ Have the machine repaired.*
Engine gets too hot.	Cooling fins and fan blades dirty.	Clean cooling fins and fan blades.
Engine is running but the machine will not ram.	<ul style="list-style-type: none"> ■ Centrifugal clutch defective. ■ Connecting rod or crank mechanism is broken. ■ Cylinder pressure low. Exhaust opening blocked. 	<ul style="list-style-type: none"> ■ Replace centrifugal clutch.* ■ Have the machine repaired.*
Engine output too low.	Air filter is dirty.	Clean filter, change if necessary.
	Fuel filter is dirty.	Replace filter.
Engine runs, but machine is running unevenly.	<ul style="list-style-type: none"> ■ Clutch plate dirty. ■ Broken/bad springs. ■ Rammer base extremely dirty. ■ Broken parts in the rammer system or crankcase. ■ Operating speed set too high. 	<ul style="list-style-type: none"> ■ Clean the machine. ■ Have the machine repaired.*
* Have these tasks carried out by the Wacker Neuson contact.		

12 Accessories



CAUTION

Accessories and spare parts not sourced from Wacker Neuson, can increase the risk of injury and potential machine damage.

- Any liability is void if accessories and spare parts not sourced from Wacker Neuson are used.
-

An extensive range of accessories for the machine is on offer.

There is further information about individual accessory parts in the Internet at www.wackerneuson.com.

Rammer base

Rammer bases are available in different widths. These are used to increase or reduce the working width of the machine.

Wheel set/trolley

For easier transport on site.

13 Technical data

13.1 Noise and vibration information

The noise and vibration information listed was determined in accordance with the following directives for typical machine operating conditions/special trial conditions and applying harmonized standards:

- Machinery Directive 2006/42/EC
- Noise Emission Directive 2000/14/EC

In operation, values differing from these may arise, depending on the operating conditions prevailing.

13.1.1 Noise information

Sound pressure level at the place of use

- L_{pA} was determined in accordance with EN ISO 11201 and EN 500-4.

Guaranteed sound output level

- L_{WA} was determined in accordance with EN ISO 3744 and EN 500-4.

13.1.2 Hand-Arm-Vibration (HAV) information

Weighted total vibration

- HAV was determined in accordance with EN ISO 20643 and EN 500-4.

13.2 DS70

Designation	Unit	DS70Y 13"
Part no.		5100030612
Impact rate	per minute	667
Impact force	kN	21
Advance	m/min	8,8
Length	mm	740
Width	mm	370
Height	mm	1,000
Length (rammer shoe)	mm	340
Width (rammer shoe)	mm	330
Weight	kg	83
Operating output	kW	3.1
Operating speed*	rpm	3,450
Standard		ISO 3046-1
Operating temperature range	°C	-10 – +40
Sound pressure level L _{pA}	dB(A)	94
Sound output level L _{WA} measured	dB(A)	107
guaranteed	dB(A)	108
Total vibration value a _{hv}	m/s ²	11.9
Measuring uncertainty of the total vibration value a _{hv}	m/s ²	1.5
Oil specification		SAE 10W-40
Oil volume	l	0.8
* Dependent on operating parameters, material properties and environmental factors.		

**13.3 Internal combustion engine**

Designation	Unit	
Part no.		5100032205
Engine type		L48EE-DWK3YC
Manufacturer		Yanmar
Combustion cycle		four-stroke
Capacity	cm ³	211
Rated output	kW	3.1
Rated speed	rpm	3,450
Standard		ISO 3046-1
Fuel type		Diesel
Fuel consumption	l/h	0.9
Fuel capacity	l	4.2

**WACKER
NEUSON**

EC Declaration of Conformity

Manufacturer

Wacker Neuson Produktion GmbH & Co. KG, Wackerstraße 6, D-85084 Reichertshofen
This declaration of conformity is issued under the sole responsibility of the manufacturer.

Product	DS70
Product type	Vibratory rammer
Function of product	Soil compaction
Item number	5100030612
Net installed power	3,1 kW
Measured sound power level	107 db(A)
Guaranteed sound power level	108 db(A)

Conformity assessment procedure

2000/14/EC, Annex VIII

Notified body

TÜV Rheinland LGA Products GmbH, Tillystr. 2, D-90431 Nürnberg (NB 0197)

Guidelines and standards

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

2006/42/EC, 2000/14/EC, EN 500-1:2006 +A1:2009, EN 500-4:2011

Person responsible for technical documents

Wacker Neuson Produktion GmbH & Co. KG, Wackerstraße 6, D-85084 Reichertshofen

Reichertshofen, 01.08.2018

Helmut Bauer
Managing Director

Original Declaration of Conformity

5100039140en_02_DS70_CE

