

# 1 Safety Information

## 1.1 Signal Words Used in this Manual

This manual contains DANGER, WARNING, CAUTION, *NOTICE*, and NOTE signal words which must be followed to reduce the possibility of personal injury, damage to the equipment, or improper service.



This is the safety alert symbol. It is used to alert you to potential personal hazards.  
► Obey all safety messages that follow this symbol.



### **DANGER**

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

- To avoid death or serious injury from this type of hazard, obey all safety messages that follow this signal word.



### **WARNING**

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

- To avoid possible death or serious injury from this type of hazard, obey all safety messages that follow this signal word.



### **CAUTION**

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

- To avoid possible minor or moderate injury from this type of hazard, obey all safety messages that follow this signal word.

**NOTICE:** Used without the safety alert symbol, NOTICE indicates a situation which, if not avoided, could result in property damage.

**Note:** A Note contains additional information important to a procedure.

## **1.2 Machine Description and Intended Use**

This machine is a vibratory rammer. The Wacker Neuson Rammer consists of a gasoline or diesel engine, a clutch, a fuel tank, a spring-loaded ramming system, a ramming shoe, and a handle. The engine transmits power through the ramming system and ramming shoe, generating percussive impact force to compact soil. The operator guides and controls the machine from behind using the handle.

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This machine is intended to be used for compacting cohesive, mixed, and granular soils in confined areas.

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This machine has been designed and built strictly for the intended use described above. Using the machine for any other purpose could permanently damage the machine or seriously injure the operator or other persons in the area. Machine damage caused by misuse is not covered under warranty.

The following are some examples of misuse:

- Using the machine as a ladder, support, or work surface
  - Using the machine to carry or transport passengers or equipment
  - Using the machine as a hammer or for other demolition work
  - Attaching the machine to any other machine
  - Operating the machine outside of factory specifications
  - Operating the machine in a manner inconsistent with all warnings found on the machine and in the Operator's Manual
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This machine has been designed and built in accordance with the latest global safety standards. It has been carefully engineered to eliminate hazards as far as practicable and to increase operator safety through protective guards and labeling. However, some risks may remain even after protective measures have been taken. They are called residual risks. On this machine, they may include exposure to:

- Heat, noise, exhaust, and carbon monoxide from the engine
- Fire hazards from improper refueling techniques
- Fuel and its fumes
- Personal injury from improper lifting techniques or operating techniques

To protect yourself and others, make sure you thoroughly read and understand the safety information presented in this manual before operating the machine.

### 1.3 Safety Guidelines for Operating the Machine

#### Operator training

Before operating the machine:

- Read and understand the operating instructions contained in all manuals delivered with the machine.
- Familiarize yourself with the location and proper use of all controls and safety devices.
- Contact Wacker Neuson for additional training if necessary.

When operating this machine:

- Do not allow improperly trained people to operate the machine. People operating the machine must be familiar with the potential risks and hazards associated with it.

#### Operator qualifications

Only trained personnel are permitted to start, operate, and shut down the machine. They also must meet the following qualifications:

- have received instruction on how to properly use the machine
- are familiar with required safety devices

The machine must not be accessed or operated by:

- children
- people impaired by alcohol or drugs

#### Application area

Be aware of the application area.

- Keep unauthorized personnel, children, and pets away from the machine.
- Remain aware of changing positions and the movement of other equipment and personnel in the application area/job site.
- Identify whether special hazards exist in the application area, such as toxic gases or unstable ground conditions, and take appropriate action to eliminate the special hazards before using the machine.

Be aware of the application area.

- Do not operate the machine in areas that contain flammable objects, fuels, or products that produce flammable vapors.

#### Safety devices, controls, and attachments

Only operate the machine when:

- All safety devices and guards are in place and in working order.
- All controls operate correctly.
- The machine is set up correctly according to the instructions in the Operator's Manual.
- The machine is clean.
- The machine's labels are legible.

To ensure safe operation of the machine:

- Do not operate the machine if any safety devices or guards are missing or inoperative.
- Do not modify or defeat the safety devices.
- Only use accessories or attachments that are approved by Wacker Neuson.

## Safe operating practices

When operating this rammer:

- Remain aware of the rammer's moving parts. Keep hands, feet, and loose clothing away from the rammer's moving parts.
- When working near the edges of pits, slopes, trenches, and platforms, always operate the rammer in such a way that there is no possibility of it tipping over or falling in.

When operating this rammer:

- Do not operate a rammer in need of repair.
- Do not tamper with or disable the function of the operating controls.
- Do not leave the rammer running unattended.
- Do not consume the operating fluids used in this machine. Depending on your machine model, these operating fluids may include water, wetting agents, fuel (gasoline, diesel, kerosene, propane, or natural gas), oil, coolant, hydraulic fluid, heat transfer fluid (propylene glycol with additives), battery acid, or grease.

## Personal Protective Equipment (PPE)

Wear the following Personal Protective Equipment (PPE) while operating this machine:

- Close-fitting work clothes that do not hinder movement
- Safety glasses with side shields
- Hearing protection
- Safety-toed footwear

## After Use

- Stop the engine when the machine is not being operated.
- Close the fuel valve on engines equipped with one when machine is not being operated.
- Ensure that the machine will not tip over, roll, slide, or fall when not being operated.
- Store the machine properly when it is not being used. The machine should be stored in a clean, dry location out of the reach of children.

## 1.4 Safety Guidelines for Lifting and Transporting the Machine

When lifting the machine:

- Make sure slings, chains, hooks, ramps, jacks, forklifts, cranes, hoists, and any other type of lifting device used is attached securely and has enough weight-bearing capacity to lift or hold the machine safely. See chapter *Technical Data* for machine weight.
- Remain aware of the location of other people when lifting the machine.
- Only use the lifting points and tie-downs described in the Operator's Manual.
- Make sure the transporting vehicle has sufficient load capacity and platform size to safely transport the machine.

To reduce the possibility of injury:

- Do not stand under the machine while it is being lifted or moved.
- Do not get onto the machine while it is being lifted or moved.

## 1.5 Service Safety

### Service training

Before servicing or maintaining the machine:

- Read and understand the instructions contained in all manuals delivered with the machine.
- Familiarize yourself with the location and proper use of all controls and safety devices.
- Only trained personnel shall troubleshoot or repair problems occurring with the machine.
- Contact Wacker Neuson for additional training if necessary.

When servicing or maintaining this machine:

- Do not allow improperly trained people to service or maintain the machine. Personnel servicing or maintaining the machine must be familiar with the associated potential risks and hazards.

### Precautions

When servicing or maintaining the machine:

- Read and understand the service procedures before performing any service to the machine.
- All adjustments and repairs must be completed before operating the machine. Do not operate the machine with a known problem or deficiency.
- All repairs and adjustments shall be completed by a qualified technician.
- Turn off the machine before performing maintenance or making repairs.
- Remain aware of the machine's moving parts. Keep hands, feet, and loose clothing away from the machine's moving parts.
- Re-install the safety devices and guards after repair and maintenance procedures are complete.

### Machine modifications

When servicing or maintaining the machine:

- Use only accessories/attachments that are approved by Wacker Neuson.

When servicing or maintaining the machine:

- Do not defeat safety devices.
- Do not modify the machine without the express written approval of Wacker Neuson.

## Replacing parts and labels

- Replace worn or damaged components.
- Replace all missing and hard-to-read labels.
- When replacing electrical components, use components that are identical in rating and performance to the original components.
- When replacement parts are required for this machine, use only Wacker Neuson replacement parts or those parts equivalent to the original in all types of specifications, such as physical dimensions, type, strength, and material.

## Cleaning

When cleaning and servicing the machine:

- Keep the machine clean and free of debris such as leaves, paper, cartons, etc.
- Keep the labels legible.

When cleaning the machine:

- Do not clean the machine while it is running.
- Never use gasoline or other types of fuels or flammable solvents to clean the machine. Fumes from fuels and solvents can become explosive.

## Personal Protective Equipment (PPE)

Wear the following Personal Protective Equipment (PPE) while servicing or maintaining this machine:

- Close-fitting work clothes that do not hinder movement
- Safety glasses with side shields
- Hearing protection
- Safety-toed footwear

In addition, before servicing or maintaining the machine:

- Tie back long hair.
- Remove all jewelry (including rings).

## Safe service practices

- Do not alter engine speeds. Run the engine only at speeds specified in *Technical Data*.
- Do not operate the machine without an air cleaner.
- Disconnect the spark plug before servicing to avoid accidental start-up.
- Do not crank a flooded engine with the spark plug removed. Fuel trapped in the cylinder will squirt out the spark plug opening.
- Do not test for spark if the engine is flooded or the smell of gasoline is present. A stray spark could ignite the fumes.



## 1.6 Operator Safety while Using Internal Combustion Engines



### WARNING

Internal combustion engines present special hazards during operation and fueling. Failure to follow the warnings and safety standards could result in severe injury or death.

- Read and follow the warning instructions in the engine owner's manual and the safety guidelines below.



### DANGER

Exhaust gas from the engine contains carbon monoxide, a deadly poison. Exposure to carbon monoxide can kill you in minutes.

- NEVER operate the machine inside an enclosed area, such as a tunnel, unless adequate ventilation is provided through such items as exhaust fans or hoses.

### Operating safety

When running the engine:

- Keep the area around the exhaust pipe free of flammable materials.
- Check the fuel lines and the fuel tank for leaks and cracks before starting the engine. Do not run the machine if fuel leaks are present or the fuel lines are loose.

When running the engine:

- Do not smoke while operating the machine.
- Do not run the engine near sparks or open flames.
- Do not touch the engine or muffler while the engine is running or immediately after it has been turned off.
- Do not operate a machine when its fuel cap is loose or missing.
- Do not start the engine if fuel has spilled or a fuel odor is present. Move the machine away from the spill and wipe the machine dry before starting.

### Refueling safety

When refueling the engine:

- Clean up any spilled fuel immediately.
- Refill the fuel tank in a well-ventilated area.
- Re-install the fuel tank cap after refueling.
- Do not smoke.
- Do not refuel a hot or running engine.
- Do not refuel the engine near sparks or open flames.
- Use suitable tools for refueling (for example, a fuel hose or a funnel).
- Do not refuel if the machine is positioned in a truck fitted with a plastic bed liner. Static electricity can ignite the fuel or fuel vapors.