

Huskvarna, 2018-03-12

Safety and Operating Instructions

Dear customer,

thank you for choosing a Husqvarna quality product. We hope that you will genuinely enjoy it.
Please note that the enclosed manual contains Atlas Copco references.

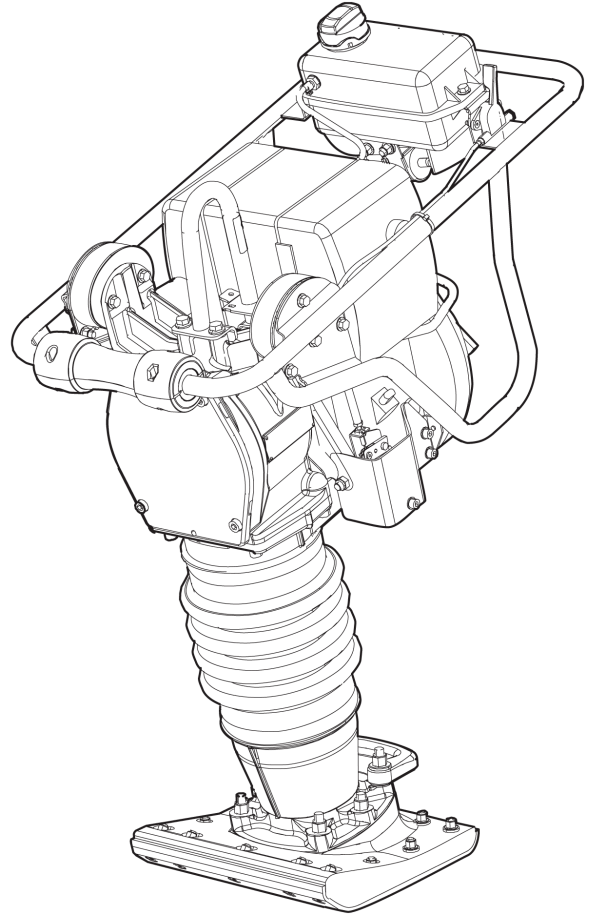
The Husqvarna Group is vouching for the quality of this product.

If you have any questions, please do not hesitate to contact our local sales or service point.

Husqvarna AB
561 82 Huskvarna, Sweden

Safety and operating instructions

Rammer



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Introduction

Thank you for choosing a product from Atlas Copco. Since 1873, we have been committed to finding new and better ways of fulfilling our customers' needs. Through the years, we have developed innovative and ergonomic product designs that have helped customers improve and rationalize their daily work.

Atlas Copco has a strong global sales and service network, consisting of customer centers and distributors worldwide. Our experts are highly trained professionals with extensive product knowledge and application experience. In all corners of the world, we can offer product support and expertise to ensure that our customers can work at maximum efficiency at all times.

For more information please visit: www.atlascopco.com

Atlas Copco Construction Tools AB
105 23 Stockholm
Sweden

About the Safety and operating instructions

The aim of the instructions is to provide you with knowledge of how to use the machine in an efficient, safe way. The instructions also give you advice and tell you how to perform regular maintenance on the machine.

Before using the machine for the first time you must read these instructions carefully and understand all of them.

Safety instructions

To reduce the risk of serious injury or death to yourself or others, read and understand the Safety and operating instruction before installing, operating, repairing, maintaining, or changing accessories on the machine.

Post this Safety and operating instruction at work locations, provide copies to employees, and make sure that everyone reads the Safety and operating instruction before operating or servicing the machine.

In addition, the operator or the operator's employer must assess the specific risks that may be present as a result of each use of the machine.

Additional instructions for the engine can be found in the manufacturer's engine manual.

Safety signal words

The safety signal words Danger, Warning and Caution have the following meanings:

DANGER	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

Personal precautions and qualifications

Only qualified and trained persons may operate or maintain the machine. They must be physically able to handle the bulk, weight, and power of the machine. Always use your common sense and good judgement.

Personal protective equipment

Always use approved protective equipment. Operators and all other persons in the working area must wear protective equipment, including at a minimum:

- Protective helmet
- Hearing protection
- Impact resistant eye protection with side protection
- Respiratory protection when appropriate
- Protective gloves
- Proper protective boots

- Appropriate work overall or similar clothing (not loose-fitting) that covers your arms and legs.

Drugs, alcohol or medication

▲ **WARNING** Drugs, alcohol or medication

Drugs, alcohol or medication may impair your judgment and powers of concentration. Poor reactions and incorrect assessments can lead to severe accidents or death.

- ▶ Never use the machine when you are tired or under the influence of drugs, alcohol or medication.
- ▶ No person who is under the influence of drugs, alcohol or medication may operate the machine.

Operation, precautions

▲ **DANGER** Explosion hazard

If a warm machine or exhaust pipe comes into contact with explosives, an explosion could occur. During operating with certain materials, sparks and ignition can occur. Explosions will lead to severe injuries or death.

- ▶ Never operate the machine in any explosive environment.
- ▶ Never use the machine near flammable materials, fumes or dust.
- ▶ Make sure that there are no undetected sources of gas or explosives.
- ▶ Avoid contact with the warm exhaust pipe or the bottom of the machine.

▲ **DANGER** Fire hazard

If a fire starts in the machine, it can cause injury.

- ▶ If possible use an ABE-class powder extinguisher, otherwise use a BE-type carbon dioxide fire extinguisher.

▲ **DANGER** Fuel hazard

The fuel is flammable and fuel fumes can explode when ignited, causing serious injury or death.

- ▶ Protect your skin from contact with the fuel. If fuel has penetrated the skin, consult a qualified health professional.
- ▶ Never remove the filler cap, or fill the fuel tank when the machine is hot.
- ▶ Fill the fuel tank outdoors or in a clean and well ventilated place, free from sparks and open flames. Fill the fuel tank at least ten meters (30 feet) from the place where the machine is to be used.

- ▶ Release the filler cap slowly to let pressure escape.
- ▶ Never overfill the fuel tank.
- ▶ Make sure the filler cap is screwed on when the machine is used.
- ▶ Avoid spilling fuel on the machine, wipe off any spilled fuel.
- ▶ Check regularly for fuel leaks. Never use the machine if it is leaking fuel.
- ▶ Never use the machine in the proximity of material that can generate sparks. Remove all hot or spark-generating devices before starting the machine.
- ▶ Never smoke when filling the fuel tank or when working with the machine or servicing it.
- ▶ Only store fuel in a container that is specially constructed and approved for the purpose.
- ▶ Consumed fuel and oil containers must be taken care of and returned to the retailer.
- ▶ Never use your fingers to check for fluid leaks.

▲ WARNING Unexpected movements

The machine is exposed to heavy strains during operation and may break due to fatigue after a certain amount of use. If the machine breaks or gets stuck, there may be sudden and unexpected movement that can cause injuries. Furthermore, losing your balance or slipping may cause injury.

- ▶ Make sure that you always keep a stable position with your feet as far apart as your shoulder width, and keeping a balanced body weight.
- ▶ Always inspect the equipment prior to use. Never use the equipment if you suspect that it is damaged.
- ▶ Make sure that the handles are clean and free of grease and oil.
- ▶ Keep your feet away from the rammer shoe.
- ▶ Stand firmly and always hold on to the machine with both hands.
- ▶ Never start the machine when it is lying on the ground.
- ▶ Never 'ride' on the machine with one leg over the handle.
- ▶ Never strike or abuse the equipment.
- ▶ Check regularly for wear on the machine, and check whether there are any signs of damage or visible cracks.
- ▶ Pay attention and look at what you are doing.

▲ WARNING Dust and fume hazard

Dusts and/or fumes generated or dispersed when using the machine may cause serious and permanent respiratory disease, illness, or other bodily injury (for example, silicosis or other irreversible lung disease that can be fatal, cancer, birth defects, and/or skin inflammation).

Some dusts and fumes created by compaction work contain substances known to the State of California and other authorities to cause respiratory disease, cancer, birth defects, or other reproductive harm.

Some examples of such substances are:

- Crystalline silica, cement, and other masonry products.
- Arsenic and chromium from chemically-treated rubber.
- Lead from lead-based paints.

Dust and fumes in the air can be invisible to the naked eye, so do not rely on eye sight to determine if there is dust or fumes in the air.

To reduce the risk of exposure to dust and fumes, do all of the following:

- ▶ Perform site-specific risk assessment. The risk assessment must include dust and fumes created by the use of the machine and the potential for disturbing existing dust.
- ▶ Use proper engineering controls to minimize the amount of dust and fumes in the air and to minimize build-up on equipment, surfaces, clothing, and body parts. Examples of controls include: exhaust ventilation and dust collection systems, water sprays, and wet drilling. Control dusts and fumes at the source where possible. Make sure that controls are properly installed, maintained and correctly used.
- ▶ Wear, maintain and correctly use respiratory protection as instructed by your employer and as required by occupational health and safety regulations. The respiratory protection must be effective for the type of substance at issue (and if applicable, approved by relevant governmental authority).
- ▶ Work in a well ventilated area.
- ▶ If the machine has an exhaust, direct the exhaust so as to reduce disturbance of dust in a dust filled environment.
- ▶ Operate and maintain the machine as recommended in the operating and safety instructions
- ▶ Wear washable or disposable protective clothes at the worksite, and shower and change into clean clothes before leaving the worksite to reduce exposure of dust and fumes to yourself, other persons, cars, homes, and other areas.

- ▶ Avoid eating, drinking, and using tobacco products in areas where there is dust or fumes.
- ▶ Wash your hands and face thoroughly as soon as possible upon leaving the exposure area, and always before eating, drinking, using tobacco products, or making contact with other persons.
- ▶ Comply with all applicable laws and regulations, including occupational health and safety regulations.
- ▶ Participate in air monitoring, medical examination programs, and health and safety training programs provided by your employer or trade organizations and in accordance with occupational health and safety regulations and recommendations. Consult with physicians experienced in relevant occupational medicine.
- ▶ Work with your employer and trade organization to reduce dust and fume exposure at the worksite and to reduce the risks. Effective health and safety programs, policies and procedures for protecting workers and others against harmful exposure to dust and fumes must be established and implemented based on advice from health and safety experts. Consult with experts.

▲ DANGER Exhaust gas hazard

The exhaust gas from the machine's combustion engine contains carbon monoxide which is poisonous, and chemicals known to the State of California and other authorities to cause cancer, birth defects, or other reproductive harm. Inhalation of exhaust fumes can cause serious injury, illness, or death.

- ▶ Never inhale exhaust fumes.
- ▶ Ensure good ventilation (extraction of air by fan if necessary).

▲ WARNING Projectiles

Failure of the work piece, of accessories, or even of the machine itself may generate high velocity projectiles. During operating, splinters or other particles from the compacted material may become projectiles and cause personal injury by striking the operator or other persons. To reduce these risk:

- ▶ Use approved personal protective equipment and safety helmet, including impact resistant eye protection with side protection.
- ▶ Make sure that no unauthorised persons trespass into the working zone.
- ▶ Keep the workplace free from foreign objects.

▲ WARNING Motion hazards

When using the machine to perform work-related activities, you may experience discomfort in the hands, arms, shoulders, neck, or other parts of the body.

- ▶ Adopt a comfortable posture whilst maintaining secure footing and avoiding awkward off-balanced postures.
- ▶ Changing posture during extended tasks may help avoid discomfort and fatigue.
- ▶ In case of persistent or recurring symptoms, consult a qualified health professional.

▲ WARNING Vibration hazards

Normal and proper use of the machine exposes the operator to vibration. Regular and frequent exposure to vibration may cause, contribute to, or aggravate injury or disorders to the operator's fingers, hands, wrists, arms, shoulders and/or nerves and blood supply or other body parts, including debilitating and/or permanent injuries or disorders that may develop gradually over periods of weeks, months, or years. Such injuries or disorders may include damage to the blood circulatory system, damage to the nervous system, damage to joints, and possibly damage to other body structures.

If numbness, persistent recurring discomfort, burning sensation, stiffness, throbbing, tingling, pain, clumsiness, weakened grip, whitening of the skin, or other symptoms occur at any time, when operating the machine or when not operating the machine, stop operating the machine, tell your employer and seek medical attention. Continued use of the machine after the occurrence of any such symptom may increase the risk of symptoms becoming more severe and/or permanent.

Operate and maintain the machine as recommended in these instructions, to prevent an unnecessary increase in vibration.

The following may help to reduce exposure to vibration for the operator:

- ▶ Let the machine do the job. Use a minimum hand grip consistent with proper control and safe operation.
- ▶ If the machine has vibration absorbing handles, keep them in a central position, avoid pressing the handles into the end stops.
- ▶ When the percussion mechanism is activated, the only body contact with the machine you should have are your hands on the handle or handles. Avoid any other contact, for example supporting any part of the body against the machine or leaning onto the machine trying to increase the feed force. It is also important not to keep the start and stop device engaged while extracting the machine from the broken work surface.

- ▶ Make sure that the rammer shoe is well-maintained, not worn out, and of the proper size. Rammer shoes that are not well-maintained, or that are worn out, or that are not of the proper size result in longer time to complete a task (and a longer period of exposure to vibration) and may result in or contribute to higher levels of vibration exposure.
- ▶ Immediately stop working if the machine suddenly starts to vibrate strongly. Before resuming the work, find and remove the cause of the increased vibrations.
- ▶ Never grab, hold or touch the rammer shoe when using the machine.
- ▶ Participate in health surveillance or monitoring, medical exams and training programs offered by your employer and when required by law.
- ▶ When working in cold conditions wear warm clothing and keep hands warm and dry.

See the "Noise and vibration declaration statement" for the machine, including the declared vibration values. This information can be found at the end of these Safety and operating instructions.

▲ WARNING Trapping hazard

There is a risk of neck ware, hair, gloves, and clothes getting dragged into or caught by rotating machine parts. This may cause choking, scalping, lacerations, or death. To reduce the risk:

- ▶ Never grab or touch a rotating machine part.
- ▶ Avoid wearing clothing, neck ware or gloves that may get caught.
- ▶ Cover long hair with a hair net.

▲ DANGER Electrical hazard

The machine is not electrically insulated. If the machine comes into contact with electricity, serious injuries or death may result.

- ▶ Never operate the machine near any electric wire or other source of electricity.
- ▶ Make sure that there are no concealed wires or other sources of electricity in the working area.

▲ WARNING Concealed object hazard

During operating, concealed wires and pipes constitute a danger that can result in serious injury.

- ▶ Check the composition of the material before operating.
- ▶ Watch out for concealed cables and pipes for example electricity, telephone, water, gas, and sewage lines.
- ▶ If the machine seems to have hit a concealed object, switch off the machine immediately.

- ▶ Make sure that there is no danger before continuing.

▲ WARNING Involuntary start

Involuntary start of the machine may cause injury.

- ▶ Keep your hands away from the start and stop device until you are ready to start the machine.
- ▶ Learn how the machine is switched off in the event of an emergency.

▲ WARNING Noise hazard

High noise levels can cause permanent and disabling hearing loss and other problems such as tinnitus (ringing, buzzing, whistling, or humming in the ears). To reduce risks and prevent an unnecessary increase in noise levels:

- ▶ Risk assessment of these hazards and implementation of appropriate controls is essential.
- ▶ Operate and maintain the machine as recommended in these instructions.
- ▶ If the machine has a silencer, check that it is in place and in good working condition.
- ▶ Always use hearing protection.

▲ WARNING Slippery machine surface hazard

There is a risk that the machine (for example, the handles and other surfaces) are slippery due to grease, oil, or other substances. If the machine is slippery, there is a risk that you might lose your grip, drop the machine, and/or come in contact with the rammer shoe during operation of the machine. Any such event can cause injury. To reduce this risk:

- ▶ Always make sure that the handles and other gripping surfaces of the machine are not slippery.
- ▶ Always make sure that the handles and other gripping surfaces are free from grease and oil.

Transport, precautions

▲ WARNING Loading and unloading hazard

When the machine is lifted by a crane and similar appliance, this can lead to injury.

- ▶ Use marked lifting points.
- ▶ Make sure that all lifting devices are dimensioned for the weight of the machine.
- ▶ Never remain under or in the immediate vicinity of the machine.

Maintenance, precautions

▲ WARNING Fuel spill hazard

When the machine is laid down, there is a risk of fuel spill. This may lead to fire, which can cause injury.

- ▶ Make sure that the machine is laid down horizontally, with the front side down. It must not differ more than 40 mm (1.6 in.) from the rammer shoe to the top of the machine.

▲ WARNING Machine modification

Any machine modification may result in bodily injuries to yourself or others.

- ▶ Never modify the machine. Modified machines are not covered by warranty or product liability.
- ▶ Always use original parts and accessories approved by Atlas Copco.
- ▶ Change damaged parts immediately.
- ▶ Replace worn components in good time.

▲ CAUTION High temperature

The machine's engine exhaust pipe, and bottom become hot during operation. Touching them can lead to burns.

- ▶ Never touch a hot machine.
- ▶ Never touch the bottom of the machine when its hot.
- ▶ Wait until the engine, exhaust pipe, and bottom of the machine have cooled down before carrying out maintenance work.

Storage, precautions

- ◆ Keep the machine in a safe place, out of the reach of children and locked up.

Overview

To reduce the risk of serious injury or death to yourself or others, read the Safety instructions section found on the previous pages of this manual before operating the machine.

Design and function

LT rammers are designed for the compaction of fill, including fill that contains clay.

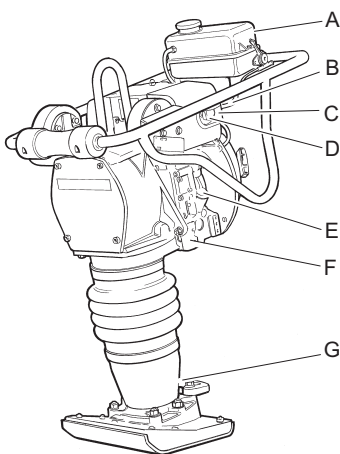
Applications include house foundations, and bearing courses for roads and parking areas etc.

They can be used to advantage in pipe trenches and for compacting round posts etc.

LT rammers must only be used in well-ventilated areas, as is the case for all combustion engine machines. Do not lift the machine in any way during operation.

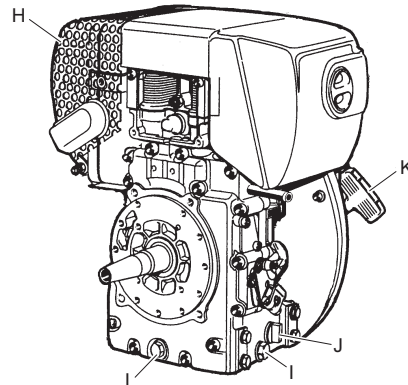
No other use is permitted. To choose the correct accessories, see the spare parts list.

Main parts



- A. Fuel tank
- B. Engine throttle wire
- C. Fuel filter
- D. Air filter
- E. Oil dipstick
- F. Oil drain plug

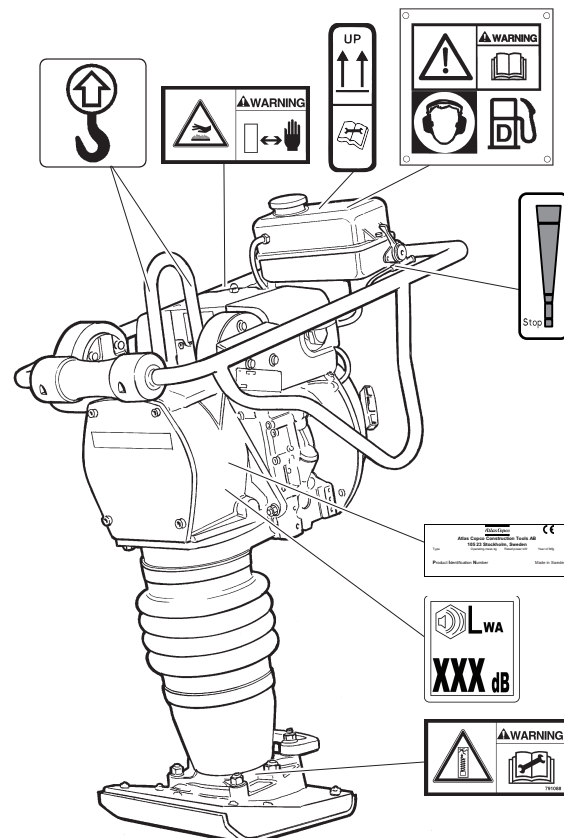
- G. Spring-loaded leg oil, sight glass



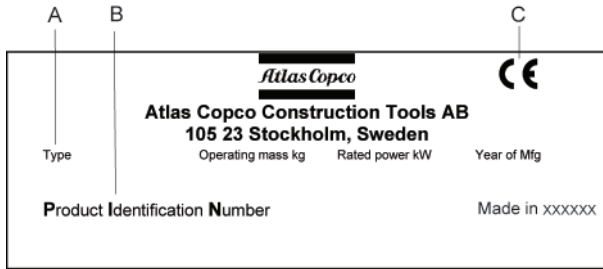
- H. Silencer
- I. Drainage plugs
- J. Oil strainer
- K. Recoil starter

Labels

The machine is fitted with labels containing important information about personal safety and machine maintenance. The labels must be in such condition that they are easy to read. New labels can be ordered from the spare parts list.

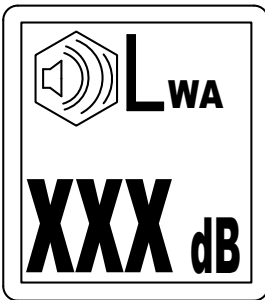


Data plate



- A. Machine type
- B. Product Identification Number
- C. The CE symbol means that the machine is EC-approved. See the EC Declaration of Conformity which is delivered with the machine for more information.

Noise level label



The label indicates the guaranteed noise level corresponding to EC-directive 2000/14/EC. See "Technical data" for accurate noise level.

Warning label - Compressed spring package



Read the service manual.

Warning label - Hot surfaces

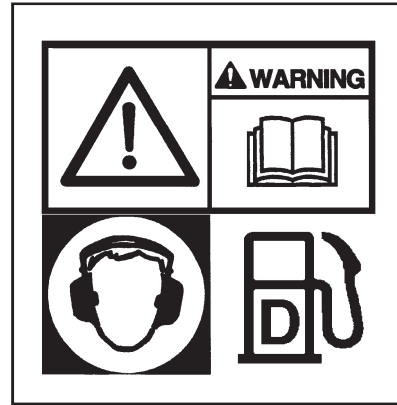


Never touch the silencer and exhaust system.

Lifting point label



Safety label

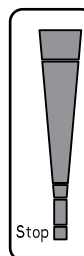


- ◆ The operator must read the safety, operation and the maintenance instructions before operating the machine.
- ◆ Use ear protectors.
- ◆ Fuel.

Keep upright



Throttle indication



Transport

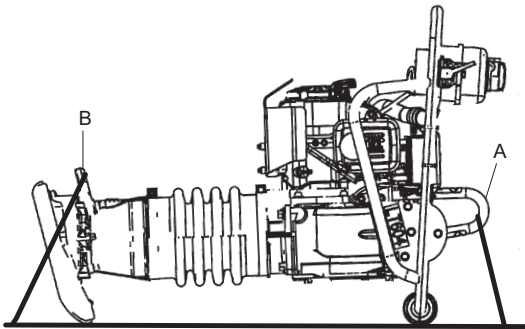
▲ WARNING Transport

During transportation the machine can overturn and cause serious injury.

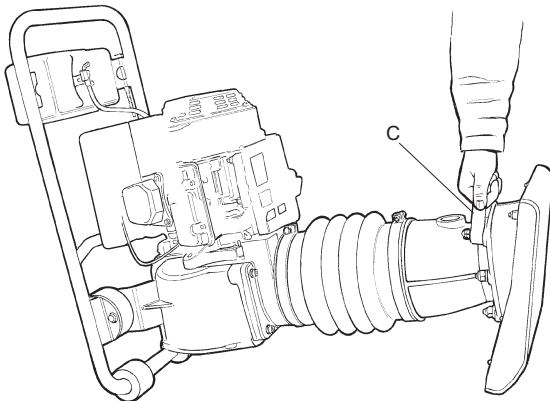
- ▶ Always strap the machine.
- ▶ Keep your feet away from the machine.

NOTICE When the machine is laid down, there is a risk for the oil in the crankcase running into the combustion chamber and/or the air filter. This leads to starting difficulties.

- ◆ Make sure that the machine is laid down horizontally with the front side down. It must not differ more than 40 mm (1.6 in.) from the rammer shoe to the top of the machine.
- ◆ Lay the machine down when it is switched off and not being used.
- ◆ Secure the machine via the lifting hook (A) and the lower lifting handle (B).



- ◆ When moving short distances the machine can be tilted forward, so that it rests on the plastic wheels on the handle. Lift with the lower lifting handle (C) and roll the machine forwards or backwards.

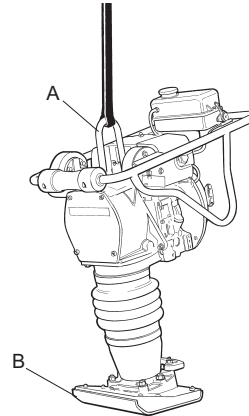


Lifting

▲ WARNING Lifting hazard

During lifting the machine can fall down this can cause serious injury.

- ▶ Never walk or stand under a lifted machine.
- ▶ Keep your feet away from the machine.
- ◆ Always use the machine's lifting eye (A) to lift the machine.



- ◆ The lifting equipment must be in dimensioned in order to fulfil all regulations. Before lifting check that lifting eye (A) and rammer shoe (B) are correctly attached and not damaged.

Installation

Fuel

Filling

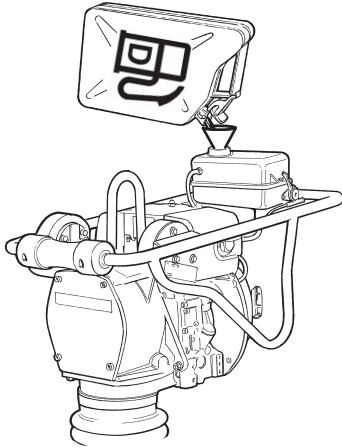
▲ WARNING Fuel hazard

The fuel is extremely flammable and fuel fumes can explode when ignited, causing serious injury or death.

- ▶ Protect your skin from contact with the fuel.
- ▶ Never remove the filler cap or fill the fuel tank when the machine is hot.
- ▶ Never smoke when filling the fuel tank or when working with the machine or servicing it.
- ▶ Avoid spilling fuel and wipe off any fuel spilled at the machine.

Filling procedure

1. Stop the engine and let it cool down before filling the tank.
2. Release the filler cap slowly to let any pressure escape.
3. Fill the fuel tank to the lower edge of the filler pipe.



4. Never overfill the tank. Due to the movement of the fuel within the tank, it is possible to have fuel at a higher level than the tank cap, which can lead to a spillage of fuel if the tank cap is opened. This can be avoided by only opening the tank cap, when the machine is tilted and the tank cap is at the fuel tank's highest point.

Operation

▲ WARNING Involuntary start

Involuntary start of the machine may cause injury.

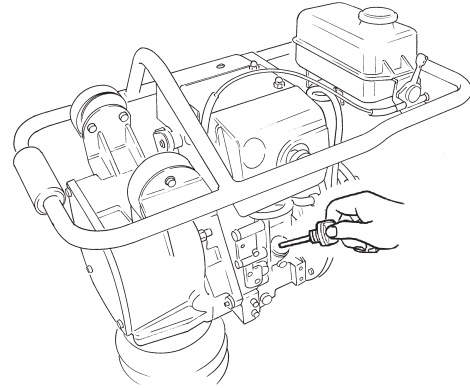
- ▶ Keep your hands away from the start and stop device until you are ready to start the machine.
- ▶ Learn how the machine is switched off in the event of an emergency.

Start and stop

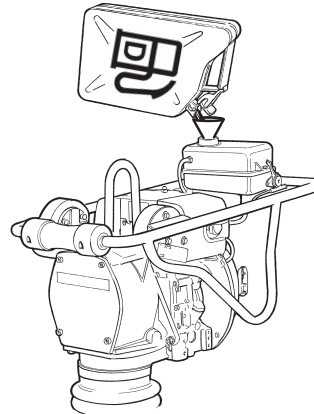
Before starting

Follow the general safety precautions supplied with the machine at delivery. We recommend that you study the engine manual supplied with the machine. Check that the maintenance routines have been carried out.

- ◆ Check the engine oil level on the dipstick. The rammer must be standing straight up when the oil level is checked.



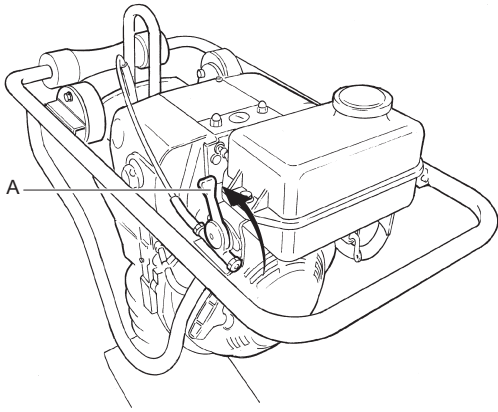
- ◆ Fill the fuel tank with fuel.



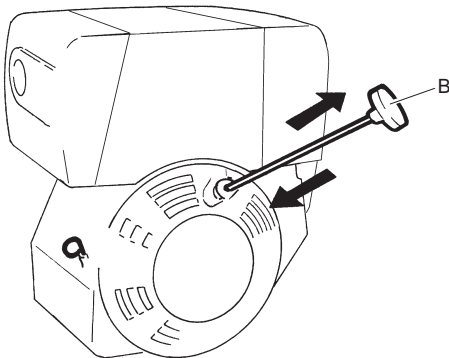
- ◆ Check that all the controls are working.
- ◆ Make sure that there is no oil leakage, and that all bolted joints are tightened.

Starting the engine

1. Set the throttle control (A) to half revs.



2. Pull out the starter rope (B) until resistance is felt. Release the handle so the starter rope goes back again, and then pull the starter rope until the engine starts.



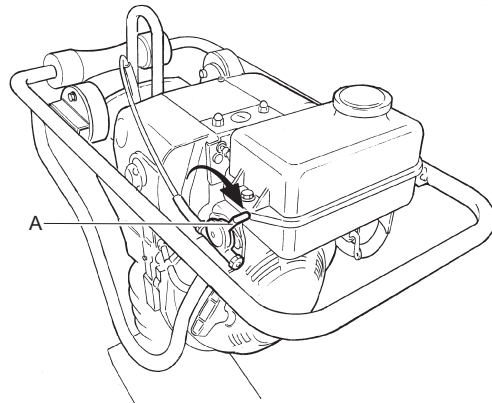
3. Set the throttle in idle position and allow the engine to idle for a few minutes before increasing to full power.

If the exhaust begins to emit white smoke, after several attempts of starting, do the following:

1. Move the throttle control to the stop position.
2. Slowly pull the starting cable out 5 times.
3. Repeat the starting procedure.

Stopping the engine

1. Set the throttle control (A) in idle position. Let the engine run for a few minutes.
2. Set the throttle control (A) in the stop position.



Operating

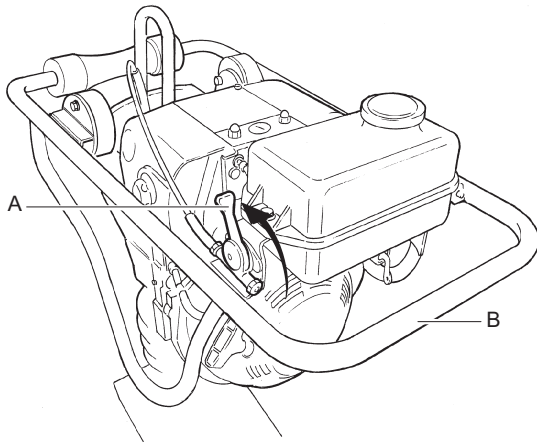
NOTICE During operation, the engine must always work at full throttle (working mode).

NOTICE When operating in narrow trenches, there is a risk of the rammer leg fastening between the trench walls. The rammer can then miss-strike and become damaged. The rammer shoe in particular could be severely damaged. When operating in trenches, make sure that they are wide enough before starting.

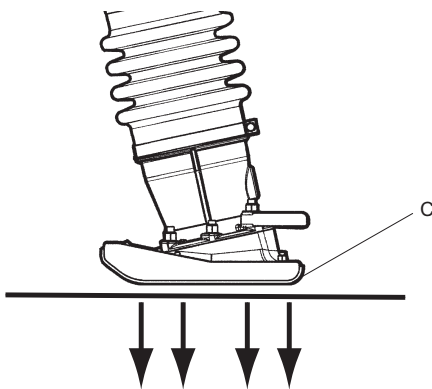
- ◆ Operate the rammer on a level surface.
- ◆ Never operate on hard surfaces (solid rock, hardened concrete etc).
- ◆ Steer the machine with the handle.
- ◆ Excessive pressure on the handle will result in poor compaction by obstructing the vibratory action.
- ◆ The rammer must not be pressed down into the material being compacted.
- ◆ If the machine tips over during operation, switch off the engine before lifting it up.

Operating

- ◆ Set the throttle control (A) to full revs and the rammer will start to move forward.
Steer the rammer with the handle (B).



- ◆ Make sure the rammer shoe (C) is impacting parallel to the ground.



- ◆ Never overload or force the machine.

When taking a break

- ◆ Stop the machine during breaks.
- ◆ During all breaks, put the machine away so that there is no risk for unintentional start.

Maintenance

Regular maintenance is a basic requirement for the continued safe and efficient use of the machine. Follow the maintenance instructions carefully.

- ◆ Before starting maintenance on the machine, clean it in order to avoid exposure to hazardous substances. See “Dust and fume hazards”
- ◆ Use only authorised parts. Any damage or malfunction caused by the use of unauthorised parts is not covered by warranty or product liability.
- ◆ When cleaning mechanical parts with solvent, comply with appropriate health and safety regulations and ensure there is satisfactory ventilation.
- ◆ For major service of the machine, contact the nearest authorised workshop.
- ◆ After each service, check that the machine's vibration level is normal. If not, contact the nearest authorised workshop.

NOTICE Never aim a water jet directly at the fuel filler cap. This is particularly important when using a high-pressure cleaner.

Cleaning the machine

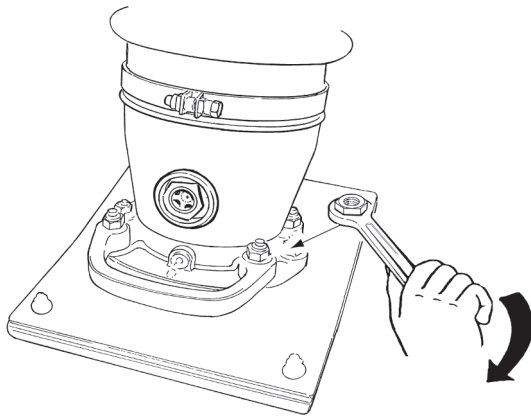
- ◆ Do not spray water directly onto electrical components or the instrument panel.
- ◆ Place a plastic bag over the fuel filler cap and secure with a rubber band. (This will prevent water from entering the venting hole in the filler cap. Otherwise this could cause operational disturbances, such as clogged filters.)

Every 10 hours of operation (daily)

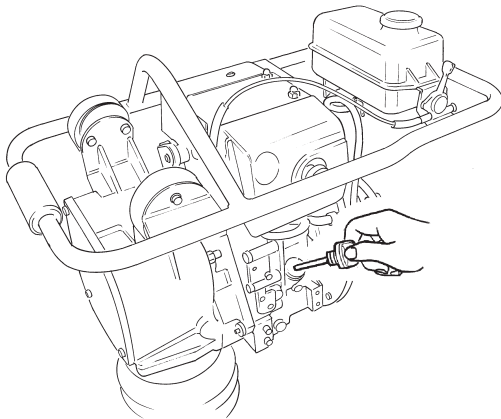
Daily maintenance routines before starting up:

- ◆ Check that leakages or other faults are detected and rectified.
- ◆ Check the ground under the machine. Leakages are more easily detected on the ground than on the machine itself.
- ◆ Check and replenish fuel and engine oil. See the engine manual for more information.
- ◆ Check and clean the air filter.
- ◆ Check the tightness of all nuts and bolts.
- ◆ Check that the machine is clean.
- ◆ Check or clean the engine's cooling flanges. See the engine manual for more information.
- ◆ Check that the controls are not damaged or do not jam.

- ◆ Check the oil level in the spring-loaded leg.
- ◆ Tighten the bolt joints on the rammer shoe.

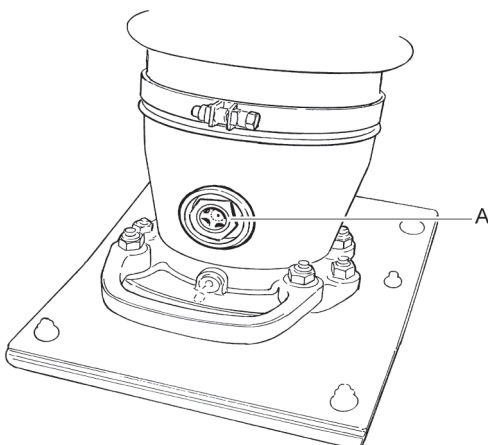


Checking the oil level



Check the oil level on the dipstick.

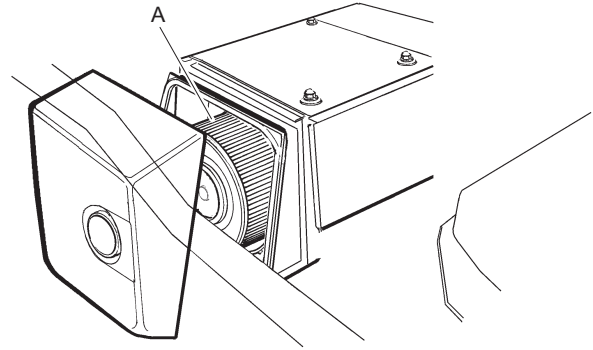
Checking the oil level in the spring-loaded leg



Check the oil level in the spring-loaded leg through the sight glass (A).

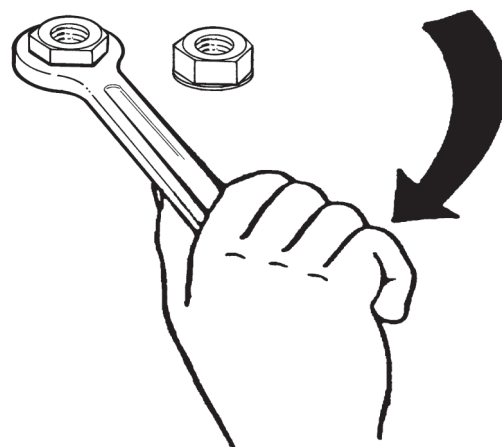
The level must be at the middle of the sight glass when the machine is in the upright position.

Check and clean the air filter



Check and clean the air filter (A).

Checking bolted joint



Check and if necessary tighten screws and nuts.

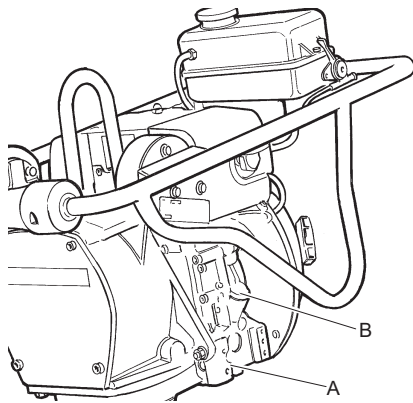
After the first 20 hours of operation

The following maintenance must be performed after the first 20 hours of operation:

- ◆ Change the oil in the spring-loaded leg.
- ◆ Change the engine oil.
- ◆ Clean the oil strainer. See the engine manual for more information.
- ◆ Clean and replace air filter. See the engine manual for more information.
- ◆ Check and adjust the engine valve clearance. See the engine manual for more information.
- ◆ Tighten the bolt joints on the rammer shoe.

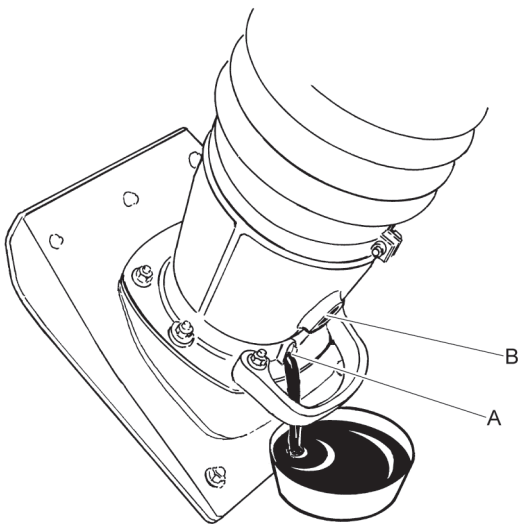
Changing the engine oil

1. Unscrew the drainage plug (A).



2. Tilt the machine sideways and let the oil drain in a drainage hose.
3. Clean around the drainage plug (A).
4. Screw on the drainage plug (A).
5. Refill with oil at (B) and refit the dipstick.
6. Start the engine and allow the engine to idle for a few minutes before increasing to full power.

Changing the oil in the spring-loaded leg



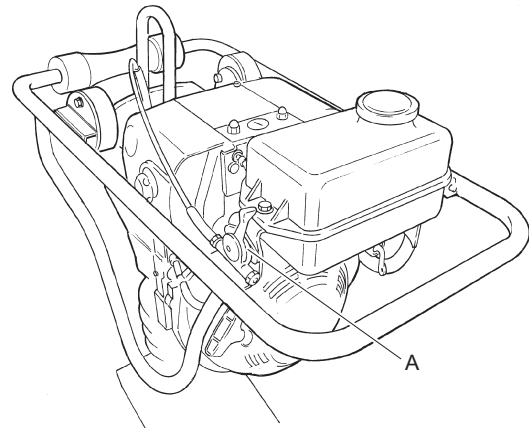
1. Unscrew the oil drain plug (A).
2. Empty the oil into a container.
3. Refit the plug and tighten, make sure that the sealing washer is undamaged.
4. Remove the sight glass (B) and fill with new oil.
5. Refit the sight glass and tighten. The oil level must be at the middle of the sight glass.

Every 100 hours of operation (weekly)

Maintenance routines:

- ◆ Replace air filter.
- ◆ Lubricate the engine throttle wire and all controls.

Lubricate controls



Lubricate controls and the engine throttle wire (A).

Every 500 hours of operation (yearly)

Maintenance routines

Applies to all:

- ◆ Change oil in the engine.
- ◆ Change the oil in the spring-loaded leg.
- ◆ Drain the fuel system of water.
- ◆ Adjust valve clearance for intake and exhaust valves. See engine manual for more information.
- ◆ Clean and check fuel filter and fuel tank. See engine manual for more information.
- ◆ Clean the oil strainer. See engine manual for more information.
- ◆ Clean the engine's cooling flanges. See engine manual for more information.
- ◆ Check the fuel injection pump. See engine manual for more information.
- ◆ Check the injection nozzle. See engine manual for more information.
- ◆ Replace piston rings. See engine manual for more information.

Disposal

A used machine must be treated and disposed of in such a way that the greatest possible portion of the material can be recycled and any negative influence on the environment is kept as low as possible, and in accordance with local restrictions.

Before a fuel driven machine is deposited it must be emptied and cleaned of all oil and fuel. Remaining oil and fuel must be dealt with in a way that does not adversely affect the environment.

Always send used filters, drained oil and fuel remnants to environmentally correct disposal.

Storage

- ◆ Empty the tank before storing the machine.
- ◆ Clean the machine. Remove clay and sand from the shoe.
- ◆ Clean the air filter.
- ◆ Carefully pull the start handle until you feel a slight resistance.
- ◆ Wipe off any oil and dust that has accumulated on the rubber parts.
- ◆ Apply a light coat of oil on the shoe to prevent it from rusting.
- ◆ Cover the machine and store it in a dry, dust-free area.

Technical data

Machine data

LT 800	Rammer leg width 280 mm (11 in.)	Rammer leg width 330 mm (13 in.)
Engine		
Manufacture/Model	Hatz 1B20, manual start	Hatz 1B20, manual start
Power kW (hp)	3 (4.0)	3 (4.0)
Rated speed (r.p.m)	3,050	3,050
Idling (r.p.m)	1,000	1,000
Compaction data		
Vibration frequency, Hz (r.p.m)	12 (720)	12 (720)
Amplitude, mm (in)	75-85 (2.9-3.3)	75-85 (2.9-3.3)
Performance		
Working speed m/min (feet/min)	13-16 (43-52)	13-16 (43-52)
Fluid volumes		
Fuel tank capacity, litres (qts)	3.0 (3.2)	3.0 (3.2)
Engine oil, litres (qts)	0.9 (0.95)	0.9 (0.95)
Fuel consumption, l/h (qts/h)	0.7 (0.74)	0.7 (0.74)
Rammer leg, l (qts)	0.3 (0.31)	0.9 (0.31)
Lubricants		
Fuel type	Use diesel oil that complies with EN 590 or DIN 51601	Use diesel oil that complies with EN 590 or DIN 51601
Engine oil	Shell Rimula R4 L 15W-40	Shell Rimula R4 L 15W-40
Rammer leg oil	Shell Rimula R4 L 15W-40	Shell Rimula R4 L 15W-40
Weights and volumes		
Weight, kg (lbs)	83 (183)	84 (185)
Operating weight, EN500, kg (lbs)	84 (185)	85 (187)

Noise and vibration declaration statement

Guaranteed sound power level **L_w** according to EN ISO 3744 in accordance with directive 2000/14/EC.

Sound pressure level **L_p** according to EN ISO 11201, EN 500-4:2011.

Vibration value determined according to EN ISO 20643, EN 500-4:2011. See table "Noise and vibration data" for the values etc.

These declared values were obtained by laboratory type testing in accordance with the stated directive or standards and are suitable for comparison with the declared values of other machines tested in accordance with the same directive or standards. These declared values are not suitable for use in risk assessments and values measured in individual work places may be higher. The actual exposure values and risk of harm experienced by an individual user are unique and depend upon the way the user works, in what material the machine is used, as well as upon the exposure time and the physical condition of the user, and the condition of the machine.

We, Atlas Copco Construction Tools AB, cannot be held liable for the consequences of using the declared values, instead of values reflecting the actual exposure, in an individual risk assessment in a work place situation over which we have no control.

This machine may cause hand-arm vibration syndrome if its use is not adequately managed. An EU guide to managing hand-arm vibration can be found at <http://www.humanvibration.com/humanvibration/EU/VIBGUIDE.html>

We recommend a programme of health surveillance to detect early symptoms which may relate to vibration exposure, so that management procedures can be modified to help prevent future impairment.

Noise and vibration data

	Noise			Vibration	
	Declared values			Declared values	
	Sound pressure	Sound power		Three axes values	
	EN ISO 11201	2000/14/EC		EN ISO 20643	
Type	Lp at operator's ear	Lw guaranteed dB(A) rel 1pW	Lw measured dB(A) rel 1pW	m/s ² value	permitted working hours/day
LT 800	95	107	105	11.9	0.2

Permitted working hours per day are calculated on action value of 2.5 m/s² as per 2002/44/EC.

Uncertainties, sound value

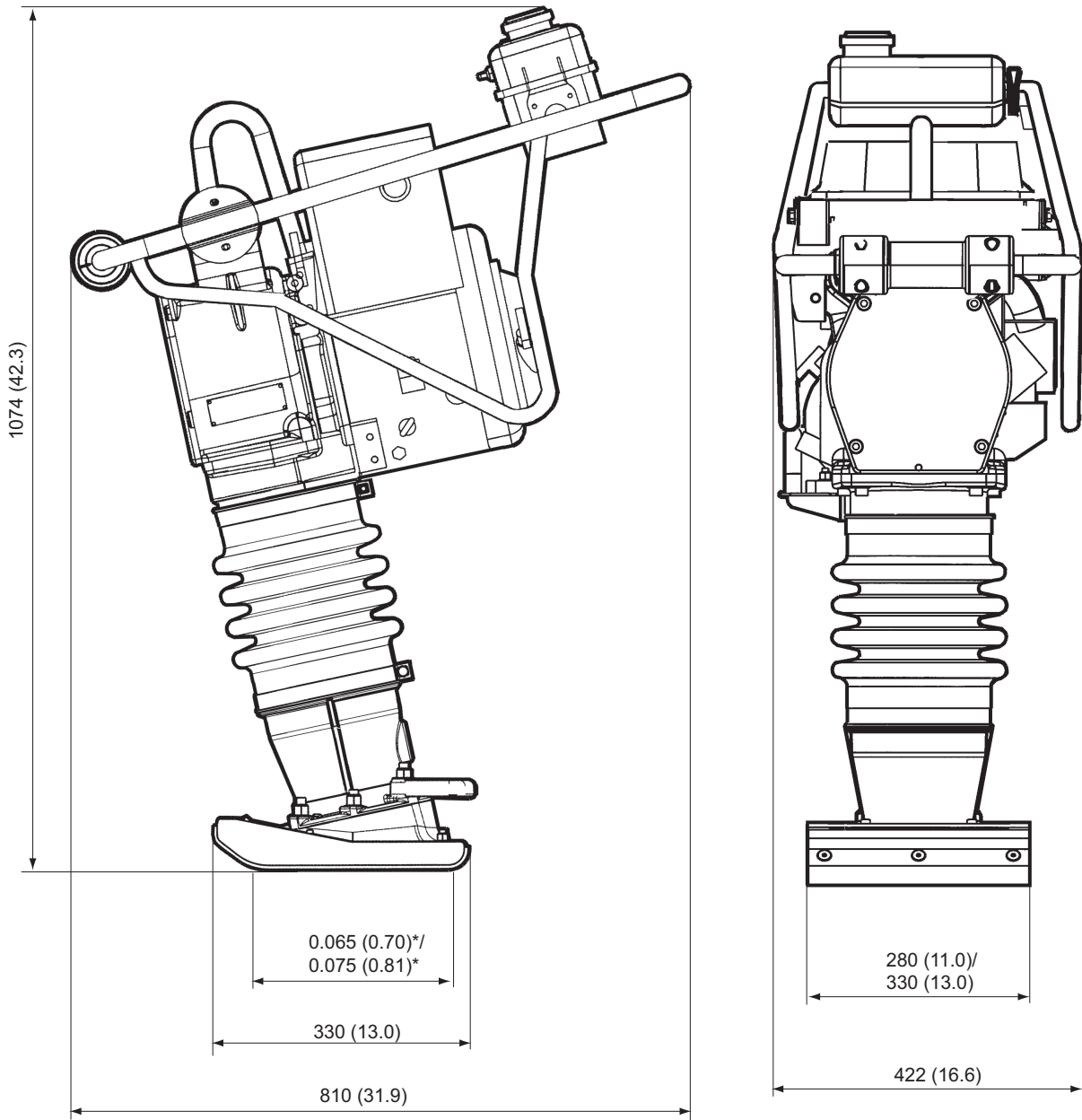
Type	Uncertainties, sound value	
	Kwa dB(A)	Kpa dB(A)
LT 800	1.5-2.5	2.5-3.5

Uncertainty factor for gravel bed.

Dimensions

mm (in.)

*Contact area, m² (sq feet).



EC Declaration of Conformity

EC Declaration of Conformity (EC Directive 2006/42/EC)

We, Atlas Copco Construction Tools AB, hereby declare that the machines listed below conform to the provisions of EC Directive 2006/42/EC (Machinery Directive) and 2000/14/EC (Noise Directive), and the harmonised standards mentioned below.

Rammer	Guaranteed sound power level [dB(A)]	Measured sound power level [dB(A)]
LT 800	107	106

Following harmonised standards were applied:

- ◆ EN500-1:2006+A1:2009
- ◆ EN500-4:2006+A1:2009

Following other standards were applied:

- ◆ 2000/14/EC, appendix VIII
- ◆ 2004/108/EC
- ◆ Lloyds Register Quality Assurance, NoBo no.0088

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