

Husqvarna, 2018-03-12

Safety and Operating Instructions

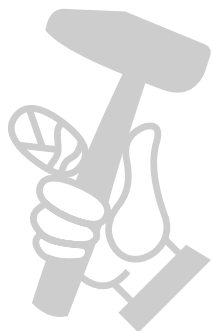
Dear customer,

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.

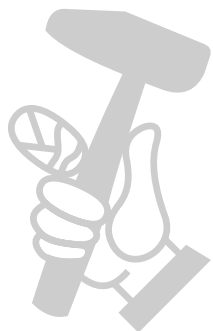
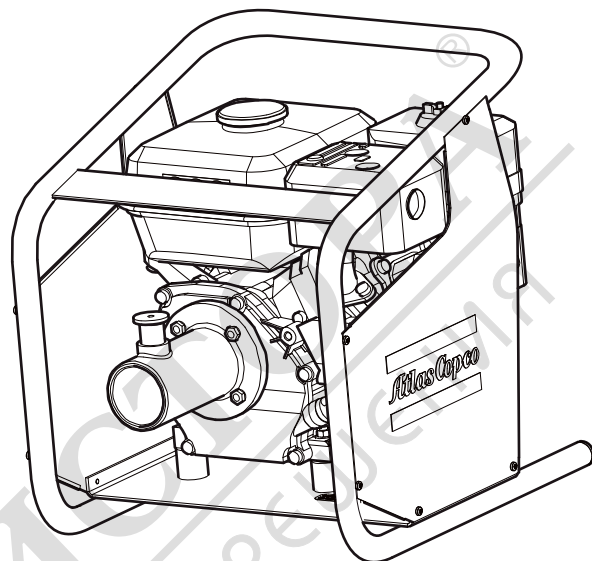
Husqvarna AB
561 82 Huskvarna, Sweden



МАГАЗИН МАЙСТОР
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ПРОФЕСИОНАЛНИ РЕШЕНИЯ

Safety and operating instructions

Petrol Drive Unit

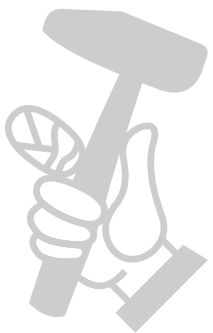


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Introduction

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

Construction Tools EOOD

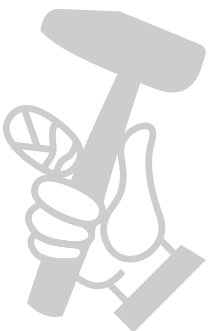
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Bulgaria

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.

Save all warnings and instructions for future reference.

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.

Work area

▲ 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 Explosion hazard

If a warm machine 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.

▲ 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 Secure the working area

Cluttered benches and insufficient lighting can cause personal accidents and result in serious injuries.

- ▶ Keep the working area clean.
- ▶ Maintain adequate lighting in the working area.

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.

Keep bystanders, children, and visitors away while operating the machine. Distractions may cause loss of control.

Personal safety

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.

▲ DANGER Electrical hazard

There is a risk of electrical shocks from electrically powered machines which can lead to serious injuries or death.

- ▶ Avoid body contact with grounded surfaces.
- ▶ Make sure that there are no concealed wires or other sources of electricity in the working area.
- ▶ When operating the machine outside, use an extension cord for outside use.
- ▶ Always check that the mains voltage corresponds with that stated on the data plate on the machine.

▲ 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 Falling parts

If a key or wrench is left attached to a rotating part of the machine it may fly off and cause personal injuries.

- ▶ Remove adjusting keys or switches before starting the machine.

▲ WARNING Slipping, tripping and falling hazards

There is a risk of slipping or tripping or falling, for example tripping on the hoses or on other objects. Slipping or tripping or falling can cause injury. To reduce this risk:

- ▶ Always make sure that no hose or other object is in your way or in any other person's way.
- ▶ Always make sure you are in a stable position with your feet as far apart as your shoulders width and keeping a balanced body weight.

▲ 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.

Operating, precautions

▲ 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 Incorrect usage

An incorrect use of the machine, accessories, and insertion tools/ cutting blades can result in serious injuries or a hazardous situation.

- ▶ Use the machine, accessories and tools in accordance with the safety instructions.
- ▶ Use the machine for what it is designed for, and in the way it is intended.
- ▶ Use the correct machine for the work that is going to be performed.
- ▶ Do not force the machine while operating.
- ▶ Take the working conditions into account.

▲ WARNING Broken power switch

The power switch does not control the machine. A broken power switch is dangerous and must be repaired.

- ▶ Do not use the machine if the power switch is broken and cannot be controlled.
- ▶ Maintain the power switch.

▲ 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 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.

▲ WARNING Unexpected movements

The machine is exposed to heavy strains during operation. If the machine breaks or gets stuck, there may be sudden and unexpected movement that can cause injuries.

- ▶ Always inspect the machine prior to use. Never use the machine if you suspect that it is damaged.
- ▶ Make sure that the handle is clean and free of grease and oil.
- ▶ Keep your feet away from the machine.
- ▶ Never sit on the machine.
- ▶ Never strike or abuse the machine.
- ▶ Pay attention and look at what you are doing.

▲ 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 while 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:

- ▶ 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 must 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.
- ▶ Make sure that the machine is well-maintained and not worn out.

- ▶ Immediately stop working if the machine suddenly starts to vibrate strongly. Before resuming the work, find and remove the cause of the increased vibrations.
- ▶ 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 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 Hot oil hazard**

When changing the oil or oil filter on a hot machine, there is a risk of burns.

- ▶ Wait until the machine has cooled down before changing the oil.

▲ **WARNING Accessory hazards**

Accidental engagement of accessories during maintenance or installation can cause serious injuries, when the power source is connected.

- ▶ Never inspect, clean, install, or remove accessories while the power source is connected.

Maintenance, 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.

▲ **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 Hot machine**

The machine becomes hot during operation. Touching it can lead to burns.

- ▶ Never touch a hot engine, exhaust pipe, or generator.
- ▶ Wait until the machine has cooled down before carrying out maintenance work.

▲ **DANGER Fuel hazard**

The fuel (petrol and oil) is extremely flammable and petrol 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, and never fill the fuel tank when the machine is hot.
- ▶ 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 petrol and oil containers must be taken care of and returned to the retailer.
- ▶ Never use your fingers to check for fluid leaks.

▲ WARNING Damaged machine parts

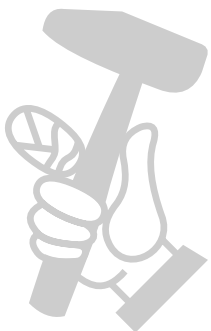
Lack of maintenance will result in damaged or worn parts that can cause accidents.

- ▶ Check the moving parts for misalignment or binding.
- ▶ Check the machine for broken or, in other ways, damaged parts.

Damaged or worn parts can effect the operation of the machine.

Storage

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



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Overview

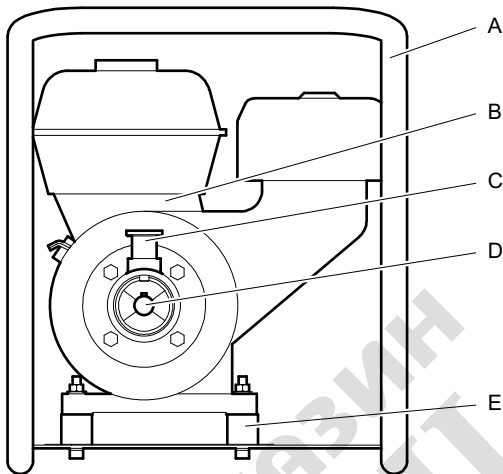
To reduce the risk of serious injury or death to yourself or others, read the Safety instructions section found on the previous pages of this manual before operating the machine.

Design and function

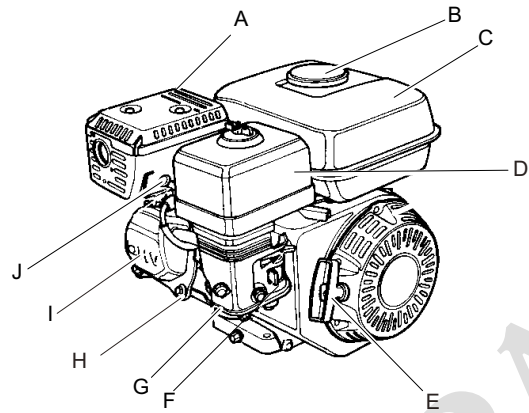
AMG3200 is a drive unit used for for the AA and AZ mechanical poker vibrators Together they form the complete application for concrete vibration. No other use is permitted.

AMG3200 consists of a petrol motor located in a lifting cage.

Main parts

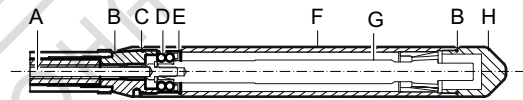


- A. Lifting cage
- B. Diesel engine
- C. Locking piston
- D. Guiding sleeve
- E. Rubber element



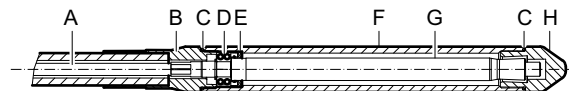
- A. Silencer
- B. Fuel cap
- C. Fuel tank
- D. Air filter
- E. Recoil starter
- F. Carburettor
- G. Engine oil/dipstick
- H. Cooling flanges
- I. Engine valves
- J. Spark plug

Vibrator head AA

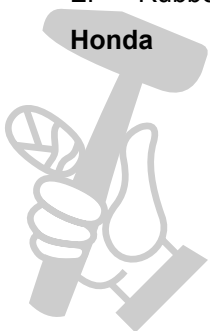


- A. Flexible shaft
- B. End shank
- C. O-ring
- D. Self-aligning ball bearing
- E. Sealing sleeves
- F. Tube
- G. Vibrator shaft
- H. End cap

Vibrator head AZ



- A. Flexible shaft
- B. End shank
- C. O-ring
- D. Self-aligning ball bearing

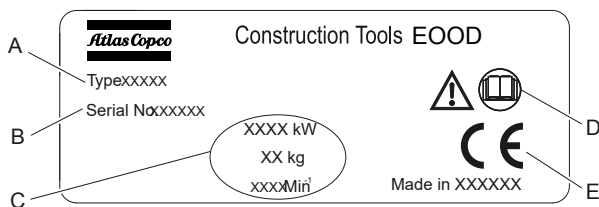


- E. Sealing sleeves
- F. Tube
- G. Vibrator shaft
- H. End cap

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. Technical characteristics of the machine
- D. The warning symbol associated with the symbol of a book means that the user must read the Safety instruction part before using the machine for the first time.
- E. 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.

Safety label



Instruction manual. The operator must read the Safety and operating instructions before operating the machine.

- ◆ Use protective gloves.
- ◆ Use ear protectors.

Operation

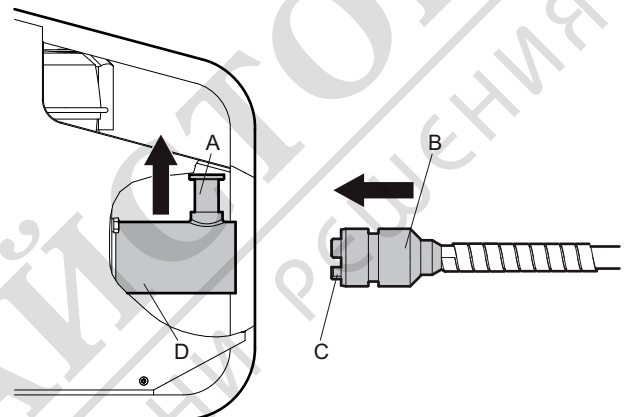
Preparations before vibrating

Operating speed

The maximum speed of the engine may not exceed the factory setting of 3600 r.p.m. When maintaining the engine the speed must be controlled and adjusted to a maximum of 3600 r.p.m. For more information of the adjustment, start and stop of the engine, see the instructions for the engine.

Connect the shaft on the drive unit

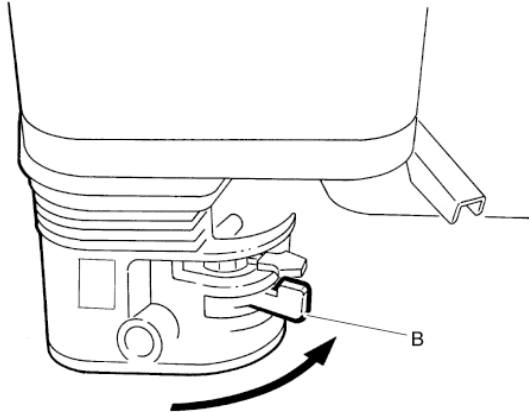
1. Lift the locking piston (A) on the drive unit (D).



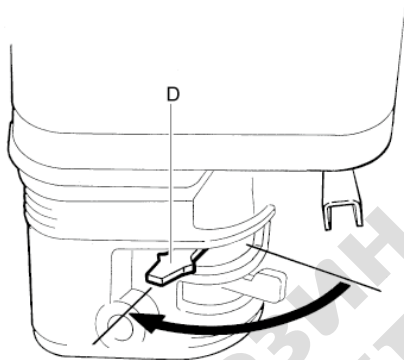
2. Insert the shaft (B) into the hole in the drive unit..
3. Make sure that the fitting of the shaft (C) fits the tube on the drive unit (D).
4. Secure the vibrator tube to the flexible shaft.
5. Start the machine.

Starting the engine, Honda

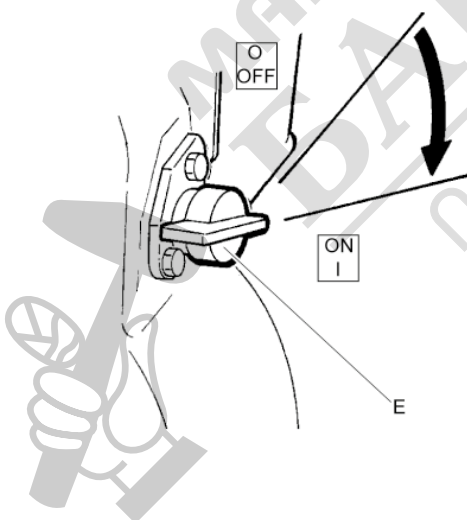
1. Set the main switch to position ON.
2. Open the fuel cock (B).



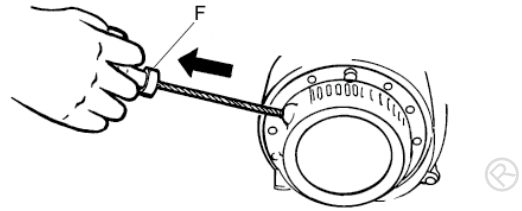
3. Close the choke valve (D) if the engine is cold. If the engine is warm or the ambient temperature is high, close the choke valve halfway or leave it open.



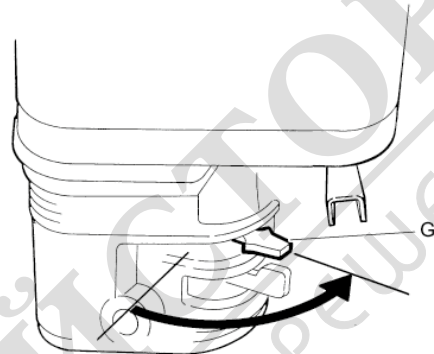
4. Turn the engine start switch (E) to ON.



5. Grip the handle of the recoil starter (F) and pull until resistance is felt. Release the handle to the initial position, then pull until the engine starts.



6. Move the choke valve (G) gradually to the fully open position.



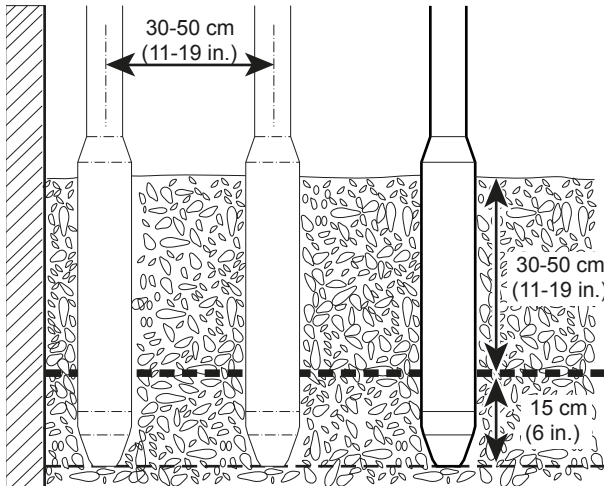
NOTICE When you have started the engine, leave it for a few minutes to warm up before loading the generator.

Refueling

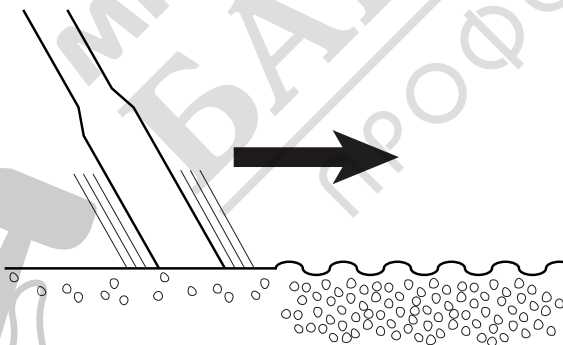
- Stop the engine and open the fuel cap.
- Top up with fuel. Always use a fuel filter when refueling.
- Close the fuel cap and wipe off any spilled fuel before starting the machine.

Vibrating

1. Allow the vibrator to penetrate about 15 cm (6 in.) down into the nearest lower layer to ensure that the various layers merge well with each other.
2. Fill the concrete evenly in the form work in 30 - 50 cm (12 - 19 in.) layers.



3. Insert the poker vibrator vertically at a distance of 8-10 times the tube diameter between insertions.
4. Vibrate systematically.
5. Slowly withdraw the vibrator to allow the concrete to refill the cavity left by the vibrator.
6. The concrete is thoroughly vibrated when the area around the vibrator turns shiny and no air bubbles rise to the surface. This will normally take about 10-20 seconds.



NOTICE Never use the poker vibrator to move the concrete sideways.

When taking a break

- ◆ During all breaks you must place the machine in such a way that there is no risk for it to be unintentionally started. Make sure to place the machine on the ground, so that it can not fall.
- ◆ Switch off the power supply in the event of a longer break or when leaving the workplace.

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 hazard".
- ◆ 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.

Every 10 hours of operation (daily)

Maintenance routines:

- ◆ Clean the machine. After every working shift concrete splashes must be removed from the surfaces while they are still fresh.
- ◆ Make sure that the controls are undamaged and do not jam. Replace if necessary.
- ◆ Check bolts and nuts.
- ◆ Check the engine oil and top up if necessary.

NOTICE Never use high-pressure water to clean the drive unit.

Before undertaking any maintenance, turn the machine off.

- ◆ Inspect the machine before starting. Inspect the entire machine so that leakages or other faults are detected.
- ◆ Check the ground under the machine. Leakages are more easily detected on the ground than on the machine itself.

In order to ensure that the machine remains within the stated vibration level values, the following checks must be performed:

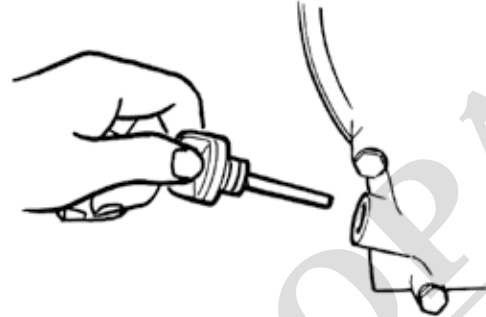
Maintenance routines:

- ◆ Check and replenish fuel.
- ◆ Check and replenish engine oil.
- ◆ Check for oil leaks.
- ◆ Check the tightness of all nuts and bolts.
- ◆ Clean the machine.
- ◆ Check and clean the engine's cooling flanges. See the engine manual for more information.
- ◆ Check the engine's air filter indicator. See the engine manual for more information.
- ◆ Clean and refit air filter.
- ◆ Check that the controls are not damaged and do not jam.

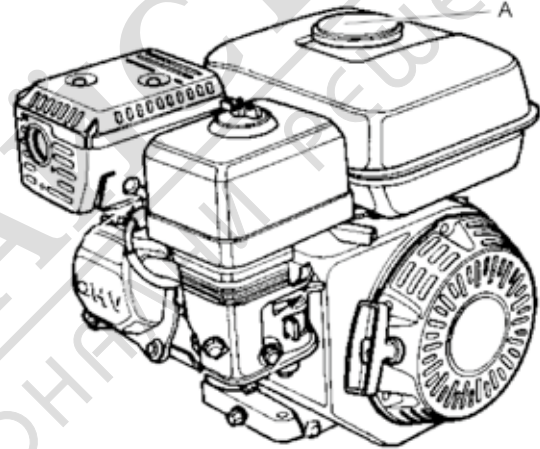
After the first 20 hours of operation

Checking the engine, Honda

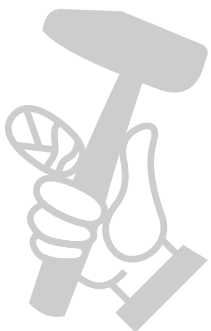
- ◆ Check the oil level on the dipstick.



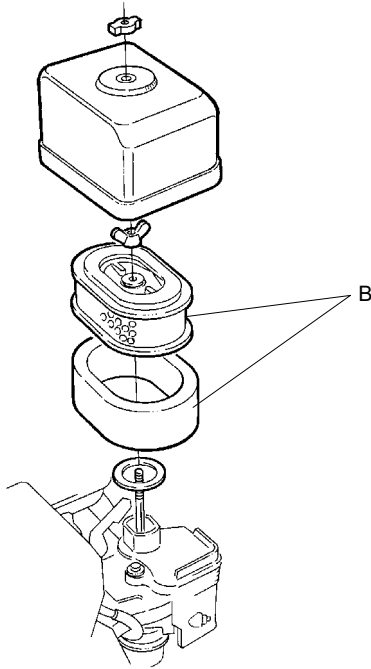
- ◆ Check the fuel level (A).



- ◆ Check the engine for oil leaks.



- ◆ Clean and replace the air filter (B) if necessary.



Every 50 hours of operation (or weekly)

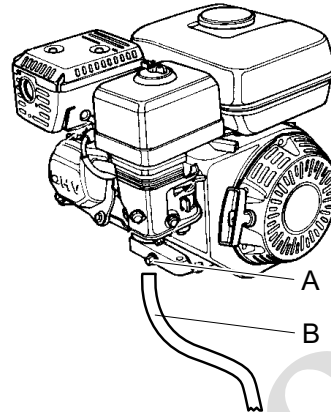
Maintenance routines:

- ◆ Change engine oil. (The first change is after 20 hours).
- ◆ Clean the spark plug.
- ◆ Clean the air cleaner.

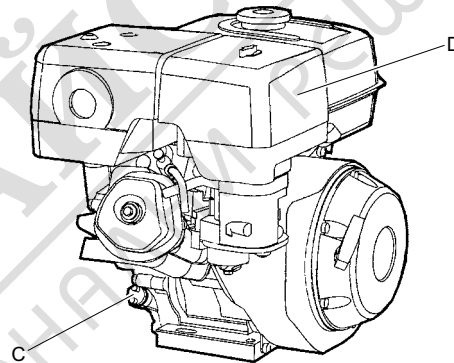
Changing the engine oil and air filter, Honda

Only drain engine oil when engine is warm.

1. Unscrew the drain plug (A) for the oil and drain off all the oil. Use a draining hose (B).
2. Refit the drain plug (A) and tighten.



3. Fill the engine oil to the maximum mark on the dipstick (C).



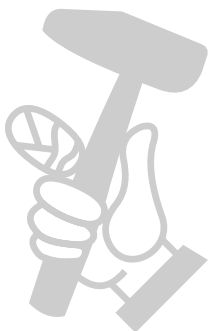
4. Loosen and replace the air filter (D).

See the engine manual for more information.

Every 100 hours of operation (or every second week)

Maintenance routines:

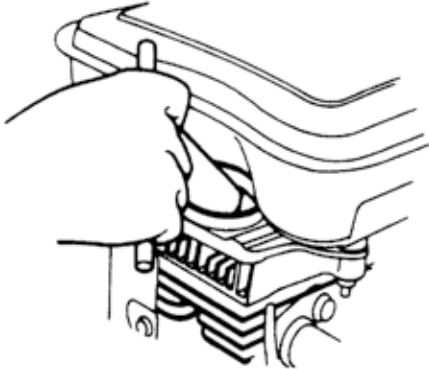
- ◆ Change the engine oil. See the engine manual for more information.
- ◆ Check and clean the spark plug. See the engine manual for more information.
- ◆ Check the shock absorbers.
- ◆ Check the air filter.
- ◆ Check the engine speed. See the engine manual for more information.
- ◆ Clean the carburettor's fuel cock. See the engine manual for more information.



- ◆ Clean the silencer spark catcher. See the engine manual for more information.

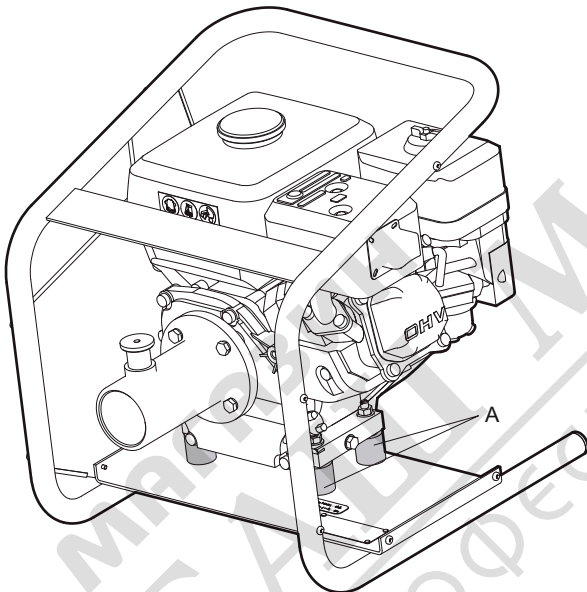
Checking spark plug, Honda

- ◆ Check, clean and replace the spark plug.



Checking the shock absorbers

1. Check all the shock absorbers (A) for cracks or if they are worn out.



2. Change the shock absorbers (A) if they are damaged.

Every 200 hours of operation (or monthly)

Maintenance routines:

- ◆ Clean the fuel strainer.
- ◆ Clean and adjust the spark plug.

Maintenance routines:

- ◆ Clean and refit the air filter. See the engine manual for more information.
- ◆ Check the injection pump. See the engine manual for more information.
- ◆ Check the fuel injector. See the engine manual for more information.
- ◆ Check and adjust engine valve clearances. See the engine manual for more information.
- ◆ Clean the fuel tank and fuel filter. See the engine manual for more information.
- ◆ Change the engine oil. See the engine manual for more information.
- ◆ Clean the engine's cooling flanges.
- ◆ Clean the engine's exhaust pipe. See the engine manual for more information.
- ◆ Check and tighten screws and nuts.
- ◆ Lubricate controls and links.
- ◆ Check all rubber elements.

Every 500 hours of operation (or yearly)

Maintenance routines:

- ◆ Clean and adjust the carburettor.
- ◆ Clean the cylinder head
- ◆ Adjust the valve clearance.

Maintenance routines:

- ◆ Adjust valve clearances for intake and exhaust valves. See the engine manual for more information.
- ◆ Clean and check the fuel filter and fuel tank. See the engine manual for more information.
- ◆ Replace the air filter.
- ◆ Clean the engine's cooling flanges. See the engine manual for more information.
- ◆ Change the oil in the engine. See the engine manual for more information.

Applies to petrol engines.

- ◆ Clean and adjust the carburettor. See the engine manual for more information.

Applies to diesel engines:

- ◆ Check the fuel injection pump. See the engine manual for more information.
- ◆ Check the fuel injection nozzle. See the engine manual for more information.
- ◆ Drain the fuel system of water. See the engine manual for more information.
- ◆ Replace the fuel filter. See the engine manual for more information.
- ◆ Change the oil filter. See the engine manual for more information.

For other maintenance routines see the instructions for the engine.

Lubrication

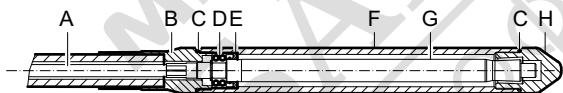
Vibrating head		AZ26	AZ36	AZ46	AZ56
	Grease	Quantity of grease (cm ³)			
Ball bearing*	Shell Alvania R3	1	1.25	1.50	1.75
Flexible shaft**	Shell Retinax HDX2	10 to 15 grams per meter			

*The ball bearings do not need a periodical re-lubrication. Grease when the bearing is changed.

**The flexible shaft must be greased every 500 hours of operation.

NOTICE Never lubricate internal parts of the poker. After every 500 hours of operation, dismantle the poker vibrator and check the components. Replace the O-rings, sealing sleeves and bearings.

The flexible shaft must be greased every 500 hours of operation.

Disassembly

1. Place the poker in a tube vice.
2. Unscrew the end cap (H) and the end shank (B) (left hand thread).
3. Unscrew the flexible shaft (A) from the vibrator shaft (G) (right hand thread)
4. Use pliers at the end of the vibrator shaft and on the flexible shaft.
5. Remove the vibration shaft from the front of the tube.
6. If necessary remove the ball bearing (D) and the sealing sleeve (E).

Assembly

1. Replace the O-rings, sealing sleeves and bearings each time the poker has been repaired.
2. Clean and grease the flexible shaft. See section "Lubrication".
3. Assemble the poker vibrator in reverse order of disassembly.
4. Be careful with the tube, vibrator shaft and end cap, these parts must not be lubricated. Make sure that the components are clean and dry to ensure the function of the poker vibrator.

Storage

- ◆ Clean the machine properly before storage, in order to avoid hazardous substances. See section "Dust and fume hazard".
- ◆ Always store the machine in a dry place.
- ◆ Empty the tank before storing the machine.
- ◆ Clean the machine.
- ◆ Clean the air filter.
- ◆ Carefully pull the start handle until a slight resistance appears.
- ◆ Wipe off any oil and dust that has accumulated on the rubber parts.
- ◆ Cover the machine and store it in a dry, dust-free area.

Disposal

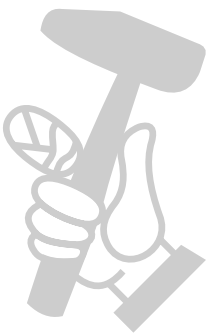
A used machine must be treated and disposed of in such a way that the greatest possible portion of the material can be recycled and any negative influence on the environment is kept as low as possible, and in accordance with local restrictions.

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.

Troubleshooting


Problem	Cause	Solution
The drive unit does not start.	No fuel in the tank.	Fill the tank
	The start switch is in off position.	Turn the switch to on position.
The drive unit starts but does not vibrate.	The poker is broken.	Repair the poker.
	The flexible shaft is broken.	Change the flexible shaft.
The poker vibrates at too low speed.	The engine speed is too low.	The engine speed must be adjusted to 2,900 r.p.m.
	Too much grease in the hose.	Remove the excess grease.
The flexible shaft is overheating.	The friction in the flexible shaft is too high.	Grease the flexible shaft.



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Technical data

Machine data

AMG3200	
Honda GX160 UT1 SXS4 SD	
Fuel	Unleaded petrol 
Engine speed, r.p.m.	2,900
Power at 2900 r.p.m., hp (kW)	3.8 (2.8)
Fuel tank capacity, l (gal)	3.10 (0.82)
Oil tank capacity, l (gal)	0.60 (0.16)
Starter	Recoil starter
Direction of rotation	Anti clockwise
Total weight, kg (lb)	30 (60,14)

* Weighted effective acceleration measured in water (m/s²), according to EN ISO 5349 and EN ISO 20643.

Tool data AA

Type	AA27	AA37	AA47	AA67	AA77
Tube diameter mm (in.)	25 (1)	39 (1.53)	50 (1.97)	63 (2.48)	75 (2.95)
Tube length mm (in.)	334 (13.15)	366 (14.40)	420 (16.53)	500 (19.68)	510 (20.07)
Total weight kg (lbs)	10 (22.04)	19 (41.88)	23 (50.70)	25 (55.11)	29 (63.93)
Flexible shaft length m (ft.)					
Max driving speed (electric drive unit) r.p.m.	3,600	3,600	3,600	3,600	3,600
Max driving speed (gasoline drive unit) r.p.m.	2,900	2,900	2,900	2,900	2,900
Weighted effective acceleration uncertainty (K) m/s ² *(ft/s ² *)	2.46 -	1.56 0.3	3.52 -	2.66 -	3.16 0.41


* Weighted effective acceleration measured in water driving one poker, on the hose, at 2 metres from the end of the poker (m/s²), according to EN ISO 5349-1.

Tool data AZ

Type	AZ26	AZ36	AZ46	AZ56
Tube diameter mm (in.)	25 (1)	35 (1.40)	45 (1.77)	55 (2.16)
Tube length mm (in.)	295 (11.60)	330 (12.99)	375 (14.76)	390 (15.35)
Total weight kg (lbs)	9.50 (21)	11.60 (25.50)	16 (35.28)	17 (37.48)
Flexible shaft length m (ft.)	4.82 (16)	4.82 (16)	4.82 (16)	4.82 (16)
Max driving speed (electric drive unit) r.p.m.	3,600	3,600	3,600	3,600
Max driving speed (gasoline drive unit) r.p.m.	2,900	2,900	2,900	2,900
Weighted effective acceleration uncertainty (K) m/s ² *(ft/s ² *)	2.00 -	5.22 -	2.42 0.07	8.27 -

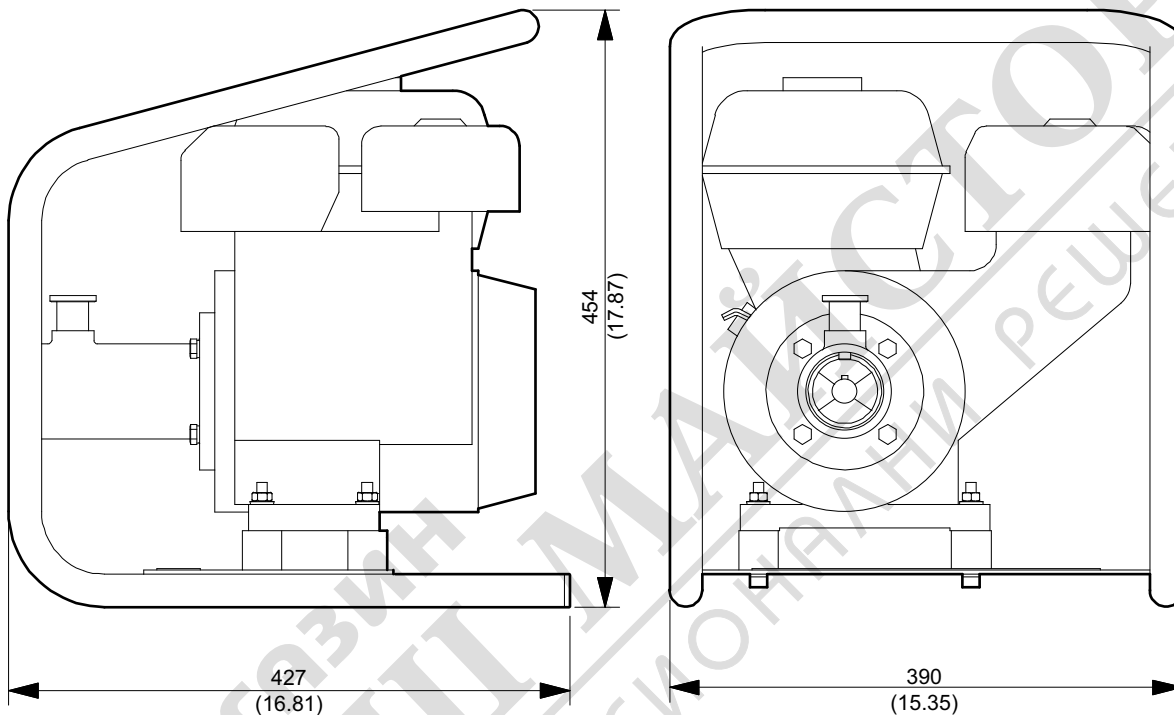
* Weighted effective acceleration measured in water driving one poker, on the hose, at 2 metres from the end of the poker (m/s²), according to EN ISO 5349-1.

Weights and dimensions

	Height, mm (in.)	Length, mm (in.)	Width, mm (in.)	Operating weight, kg (lbs)
AMG3200	454 (17.87)	427 (16.81)	390 (15.35)	30 (60,14) 

Dimensions AMG3200

mm (in.)



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 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, Construction Tools EOOD, 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.

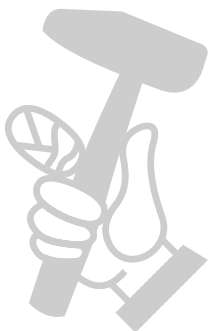
This machine may cause hand-arm vibration syndrome if its use is not adequately managed. An EU guide to managing hand-arm vibration can be found at <http://www.humanvibration.com/humanvibration/EU/VIBGUIDE.html>

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 data

Noise	
Declared values	
Sound pressure	
EN ISO 6081	
Type	Lpa
AMG 3200	75.70

Noise level measured at 4m from the motor, in dB(A), according to EN ISO 6081. Uncertainty: ± 3 dB.



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EC Declaration of Conformity

EC Declaration of Conformity

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

Drive unit	Input power (kW)	Speed at full load (min-1)	Weight (kg)
AMG3200	3.6	3,600	30

Following harmonised standards were applied:

- ◆ EN12649

Technical Documentation authorised representative:

Emil Alexandrov
Construction Tools EOOD
7000 Rousse
Bulgaria

General Manager:

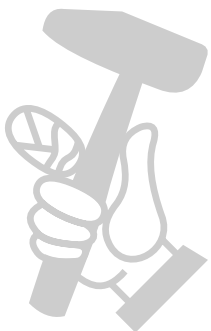
Nick Evans

Manufacturer:

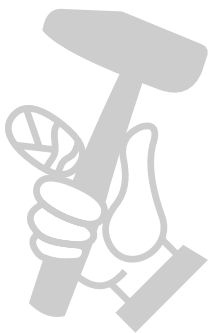
Construction Tools EOOD
7000 Rousse
Bulgaria

Place and date:

Rousse, 2012-12-05



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