

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.

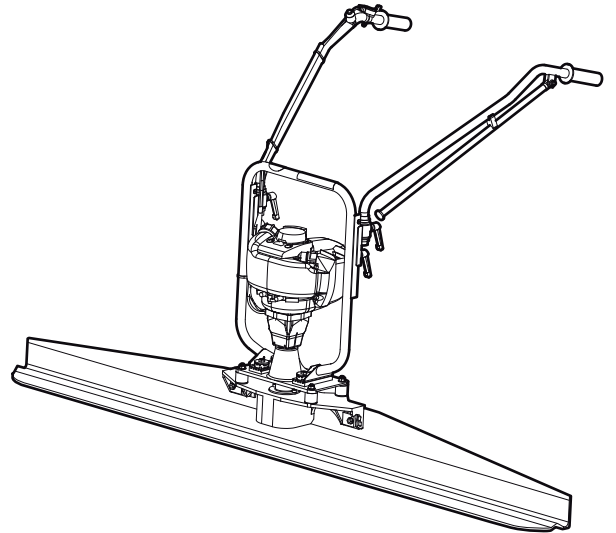
If you have any questions, please do not hesitate to contact our local sales or service point.

Husqvarna AB  
561 82 Huskvarna, Sweden

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## Safety and operating instructions

### Beams and screeds



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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.

Construction Tools EOOD

7000 Rousse

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:

|                |  |
|----------------|--|
| <b>DANGER</b>  | Indicates a hazardous situation which, if not avoided, will result in death or serious injury.   |
| <b>WARNING</b> | Indicates a hazardous situation which, if not avoided, could result in death or serious injury.  |
| <b>CAUTION</b> | Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. |

## Work area

### ▲ 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.

### ▲ 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.

#### ▲ 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

### ▲ **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 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 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 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 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

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**▲ 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.

**▲ 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

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



## Overview

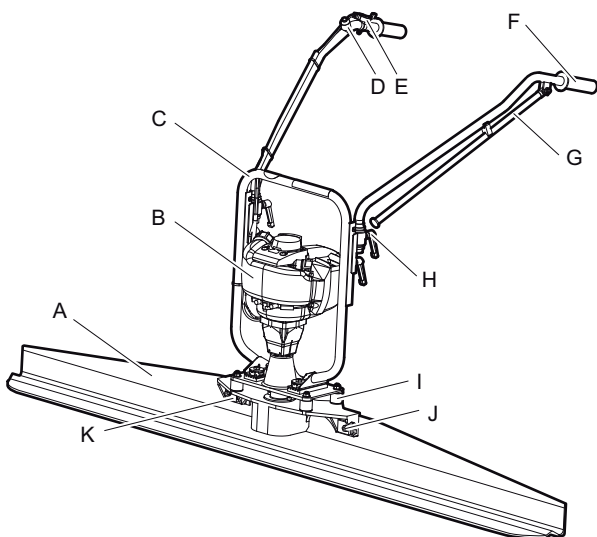
To reduce the risk of serious injury or death to yourself or others, read the Safety instructions section found on the previous pages of this manual before operating the machine.

## Design and function

BV30 is a horizontal plane vibrating screed for use on fresh concrete surfaces. The machine is used during the final phase to plane and adjust the height of the uppermost concrete surface.

BV30 moves along the concrete surface without the need of support or tracks.

## Main parts

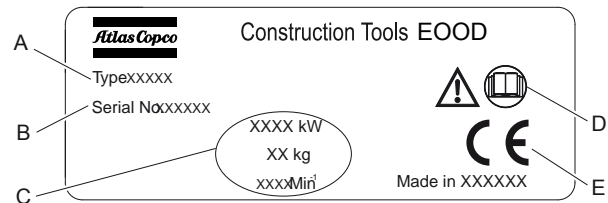


- A. Beam
- B. Motor
- C. Frame
- D. Off switch
- E. Throttle
- F. Handle
- G. Support
- H. Lockers
- I. Damper
- J. Bolt
- K. Square washer

## 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



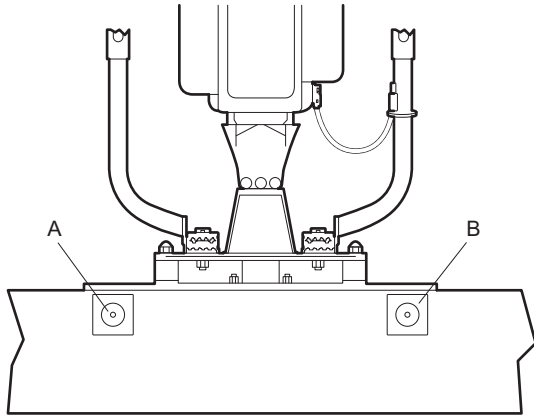
- ◆ Instruction manual. The operator must read the Safety and operating instructions before operating the machine.
- ◆ Use protective gloves.
- ◆ Use ear protectors.

## Operation

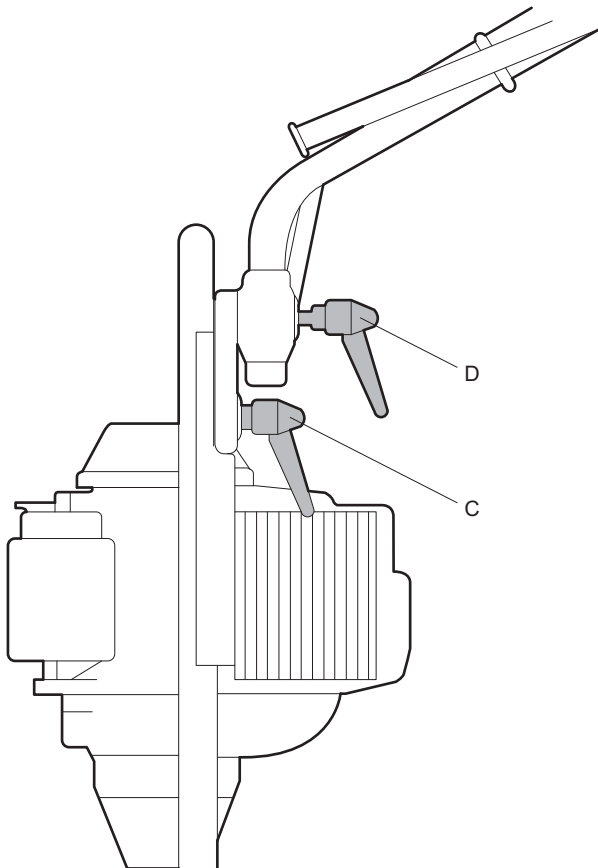
### Preparations before vibrating

#### Assembly

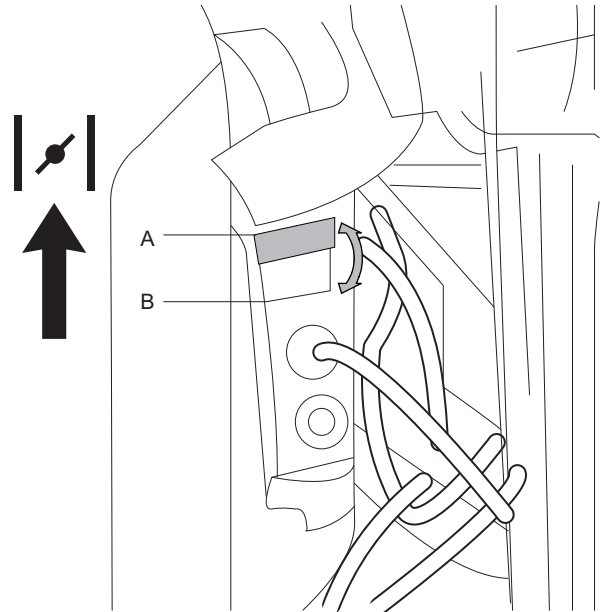
1. Use the provided M12 screws (A) and the square (B) washers to fit the suitable profile on the drive unit. Tighten the screws with a torque of 80 Nm.



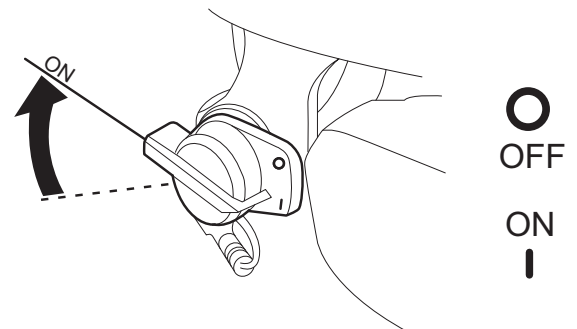
2. Set the operating handles in working position by using the lock levers.



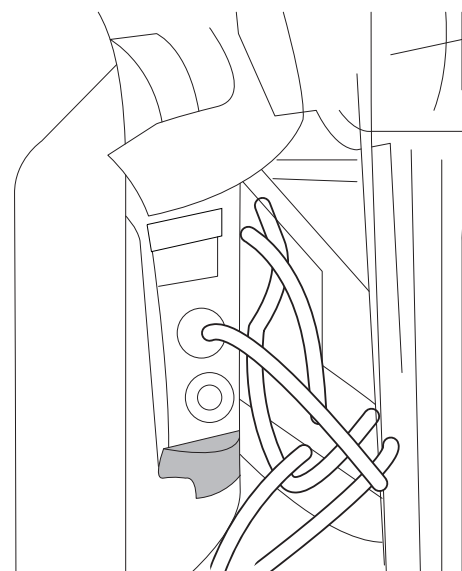
4. Check that the engine speed lever is set to idle.



5. Set the switch to "ON" position.



6. Press the primer until the fuel can be seen in the fuel return pipe.



**Vibrating**

**Operation  
Starting up BV30**

1. Control the petrol level. Top up with unleaded 95 octane petrol.
2. Open the fuel valve.
3. If the engine is cold, close the choke.

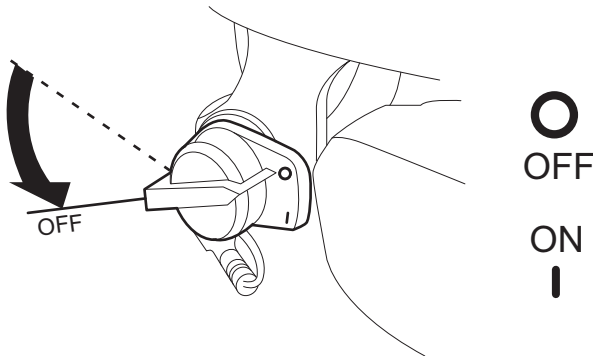
7. Pull the starter to start the engine.
8. Immediately open the choke if it was closed and allow the engine to warm up for a few minutes.
9. Increase the engine speed with the control lever.

**The vibrations starts.**

*NOTICE* Never run the engine at a too low speed. This can cause the centrifugal clutch to slip. Engaging speed is 1,750 r.p.m.

**Stopping BV20G**

1. Reduce the speed by turning the control lever to position 0.
2. Set the switch to the "OFF" position.



3. Close the fuel valve.  
*NOTICE* The vibration decreases with the drop of engine speed and stops completely when the engine is switched off.

**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)**

**Cleaning**

Clean the beam with water and a brush after use. Hardened concrete is difficult to remove and a clean surface is important for a good work result. Apply a thin coat of lubricant (oil) to the beam to facilitate the next cleaning operation.  
*NOTICE* If a water jet is used, clean the beam with care. Never direct the water jet towards the engine. This can damage the machine.

**Every 75 hours of operation (or every second week)**

**Every day**

1. Check the tightening of the screws.
2. Check the engine oil (see the engine instruction book).
3. If necessary fill up the oil to its maximum level. Use oil of SAE 10W-30 API SE, SF, SG type.

*NOTICE* Replace the engine oil after the first 10 hours of use.

**Every 50 hours (6 months)**

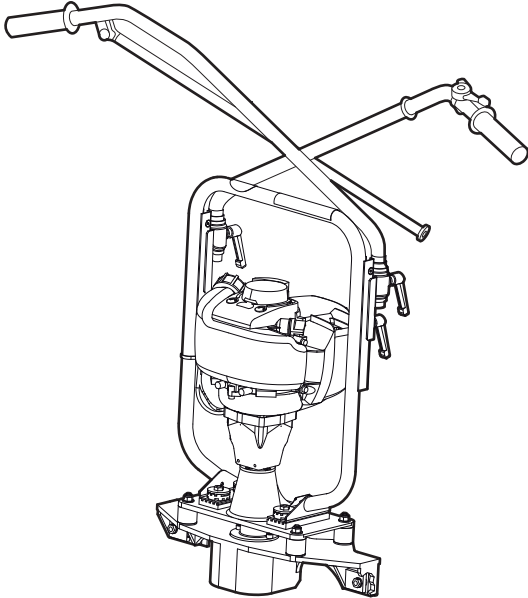
- ◆ Replace engine oil.
- ◆ Check and clean the air filter with petrol. Replace the air filter if necessary.
- ◆ Check and clean the fuel filter inside the fuel tank. Replace if necessary.

## Every 100 hours of operation (or monthly)

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### Transportation

The adjustable handles should be folded in when transporting the machine.



## 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.

## 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 screed does not start.             | The engine is set to the OFF position.                 | Set the engine to ON position.                     |
|  | The petrol tank is empty.                              | Fill the tank.                                     |
|  | The engine is cold.                                    | Use the choke.                                     |
|  | Engine failure.  | Check the engine manufactures instructions.        |
|  | The control switch cable is broken.                    | Check the cable and replace if necessary.          |
| The concrete vibration is not uniform. | Too low centrifugal force.                             | Adjust the centrifugal force.                      |
|  | Too low frequency.                                     | Adjust the vibration frequency.                    |
|  | Wrong vibration technique.                             | Operate as intended (see the "Operation" section). |
| The screed does not vibrate.           | The vibration damper on the vibrating shaft is broken. | Change the damper and the bearings.                |
|  | Incorrect eccentric settings.                          | Set the eccentric correctly.                       |
| Too high vibration in the handle.      | The vibration dampers are worn out.                    | Change the vibration dampers.                      |
| Noise level too high.                  | The vibrator bearings are broken.                      | Replace the bearings.                              |
|  | The handle knobs are not tightened.                    | Tighten the handle knobs.                          |

## Technical data

### Machine data BV30

|  | BV30           |
|--|----------------|
| Engine   | Honda GX35 OHC |
| Power (at 7,000 r.p.m.) kW (hp)                                    | 1.2<br>(1.6)   |
| Speed, r.p.m.  | 2,000-7,000    |
| Fuel   | Petrol         |
| Tank capacity, litre (gallon)                                      | 0.65<br>(0.17) |
| Oil capacity, litre (gallon)                                       | 0.1<br>(0.03)  |
| Weighted effective acceleration uncertainty (K) m/s <sup>2</sup> * | 3.25           |

\* Weighted effective acceleration measured at the handle according to EN ISO 5349.

### Weight BV30

|                              | BV30    |
|------------------------------|---------|
| Operating weight, kg (lbs) * | 14 (30) |

## Noise and vibration declaration statement

Guaranteed sound power level **L<sub>wa</sub>** according to EN ISO 3744 in accordance with directive 2000/14/EC.

Sound pressure level **L<sub>pa</sub>** according to EN ISO 11203.

Vibration value determined according to EN ISO 20643, EN ISO 5349-2. 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.

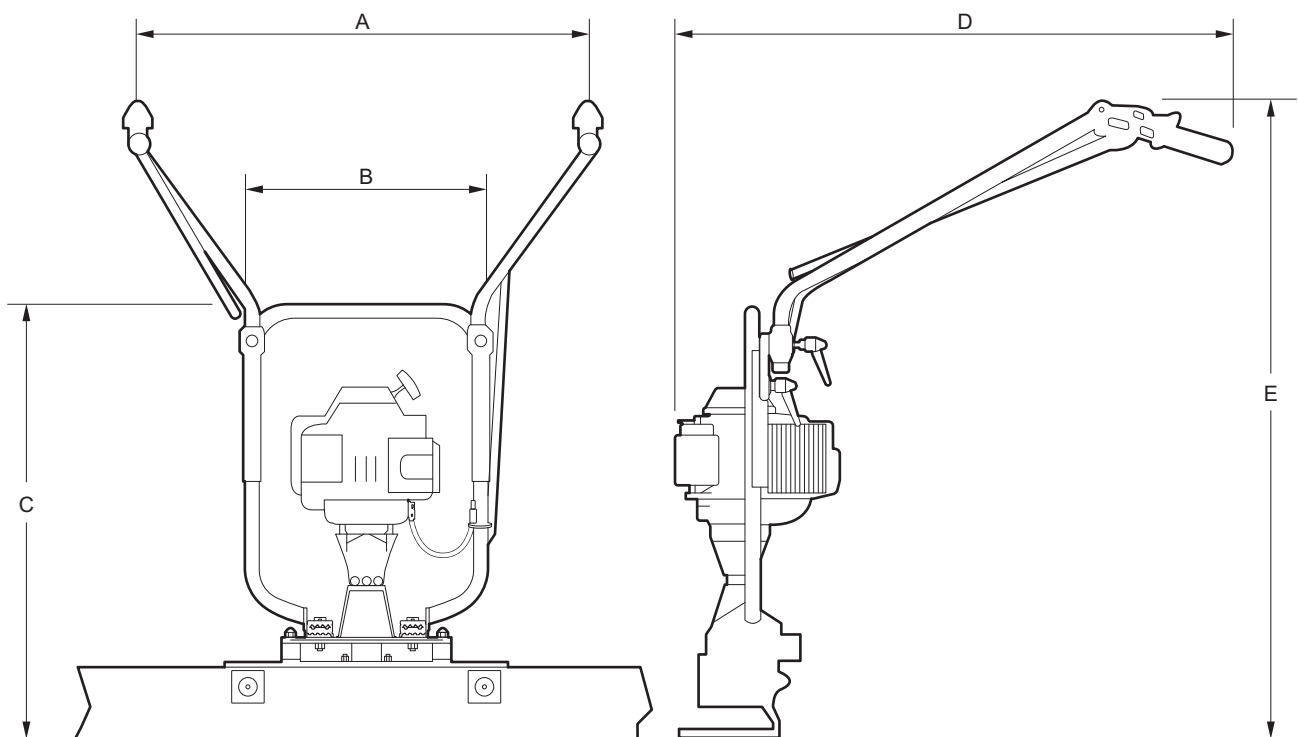
## Noise data

| Noise           |     |
|-----------------|-----|
| Declared values |     |
| Sound pressure  |     |
| EN ISO 3744     |     |
| Type            | Lpa |
| BV30            | 108 |

Noise level measured in air at 1 meter, dB(A), according to EN ISO 3744. Uncertainty  $\pm 3$ dB.

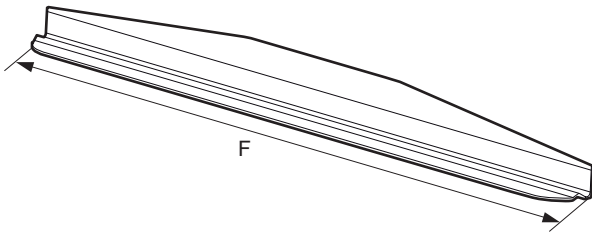
## Dimensions

### Machine



|       | A      | B      | C      | D      | E           |
|-------|--------|--------|--------|--------|-------------|
| mm    | 700    | 580    | 670    | 800    | 800-1300    |
| (in.) | (27.5) | (22.8) | (26.4) | (31.5) | (31.5-51.2) |

### Screed



|           | <b>F</b>    |
|-----------|-------------|
| m<br>(ft) | 1.8<br>(6)  |
| m<br>(ft) | 2.4<br>(8)  |
| m<br>(ft) | 3.0<br>(10) |
| m<br>(ft) | 3.6<br>(12) |
| m<br>(ft) | 4.2<br>(14) |



# EC Declaration of Conformity

## EC Declaration of Conformity

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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.

| Type | Power (kW) | Max speed (min-1) | Weight(kg) |
|------|------------|-------------------|------------|
| BV30 | 1.2        | 7,400             | 14.0       |

**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, 2013-01-16