



ORIGINAL in English
OPERATING INSTRUCTIONS
BMP-4000E BMP-4000G
VERSION 1.8





Inspection comments

Inspection before initial operation on:	_____
By:	_____
Date of initial operation:	_____
Serial number & Year of manufacture:	_____

Recurring inspections / maintenance log

Date / Hour counter	Findings	Repairs / Cleaning	Test on	By*

*Competent person

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Contact



1. Introduction

Before use, operators shall be provided with information, instruction and training for the use of the machine and the substances for which it is to be used, including the safe method of removal and disposal of the material collected. All persons who are working with or maintaining this machine must read the manual carefully and understand it fully. In case you sell the unit, hand the operating instructions on to the next owner. Keep this manual always with the machine, to enable it to be referred to at any time. Any other work not covered by this operating manual must not be carried out. Always use common sense when working with machines.

This machine is designed for industrial use by professionals. **Only authorized and trained personnel may operate this machine.** This machine is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge. **Blastrac BV** offers a course on the use of the machine in order to make the operating and maintenance personnel familiar with all elements of the machine.

Always read the enclosed OWNER'S MANUAL of the Hatz diesel engine before operating the machine.

The OWNER'S MANUAL contains important information about getting the best performance and safe operation / maintenance of the diesel engine. The OWNER'S MANUAL should be considered a permanent part of the engine and should remain with the engine if resold.

2. Machine description

The Blastrac self ride scarifier BMP-4000 can be supplied as an electric version or a diesel version. The diesel version is for outdoor use only (BMP-4000G), the electric version is for indoor use only (BMP-4000E). This BMP-4000 can be used for milling concrete, asphalt, for removing of coatings or for sawing concrete.

Because of the heavy weight of the machine, you can remove a lot of material at once and in combination with a suitable Blastrac dust collector, which is obliged, the machine works almost dust free. Due to the fine adjustment of both legs and the integrated height levelling system, you can adjust the work depth of the machine up to the millimetre accurate. Because of the accurate adjustment it is possible to give the surface a light or heavy treatment. The milling picks are positioned in a way to create a very nice and fine milling pattern.

Applications

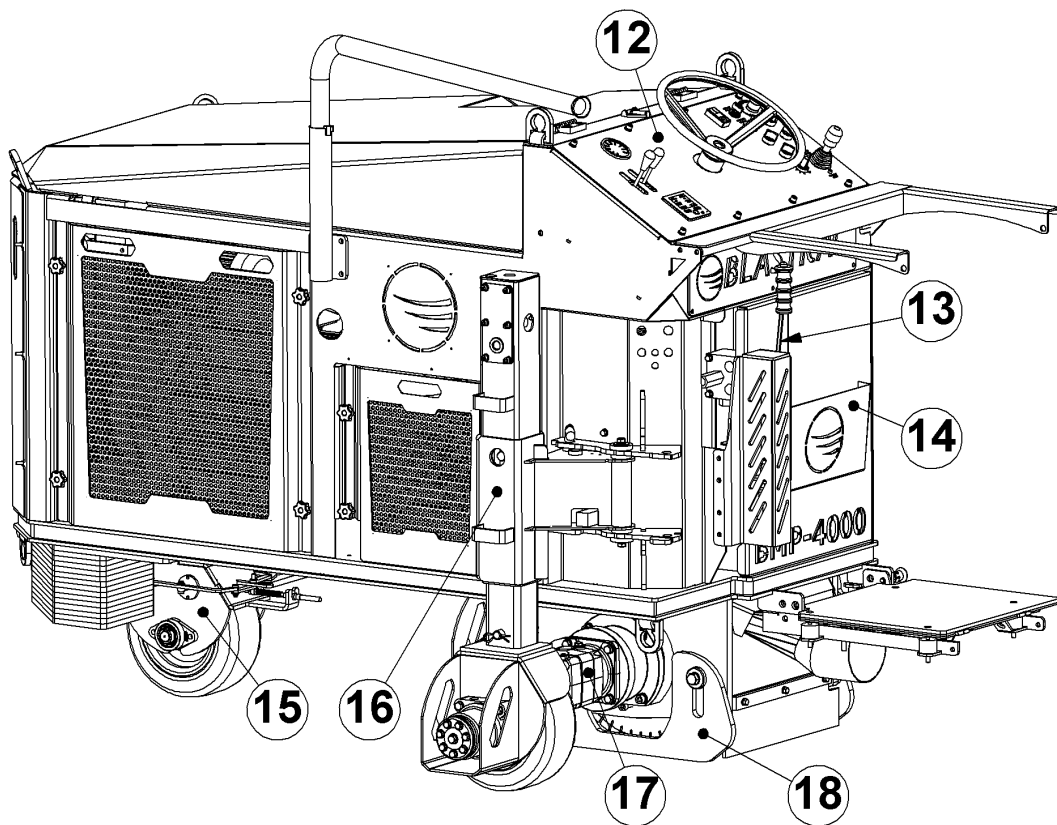
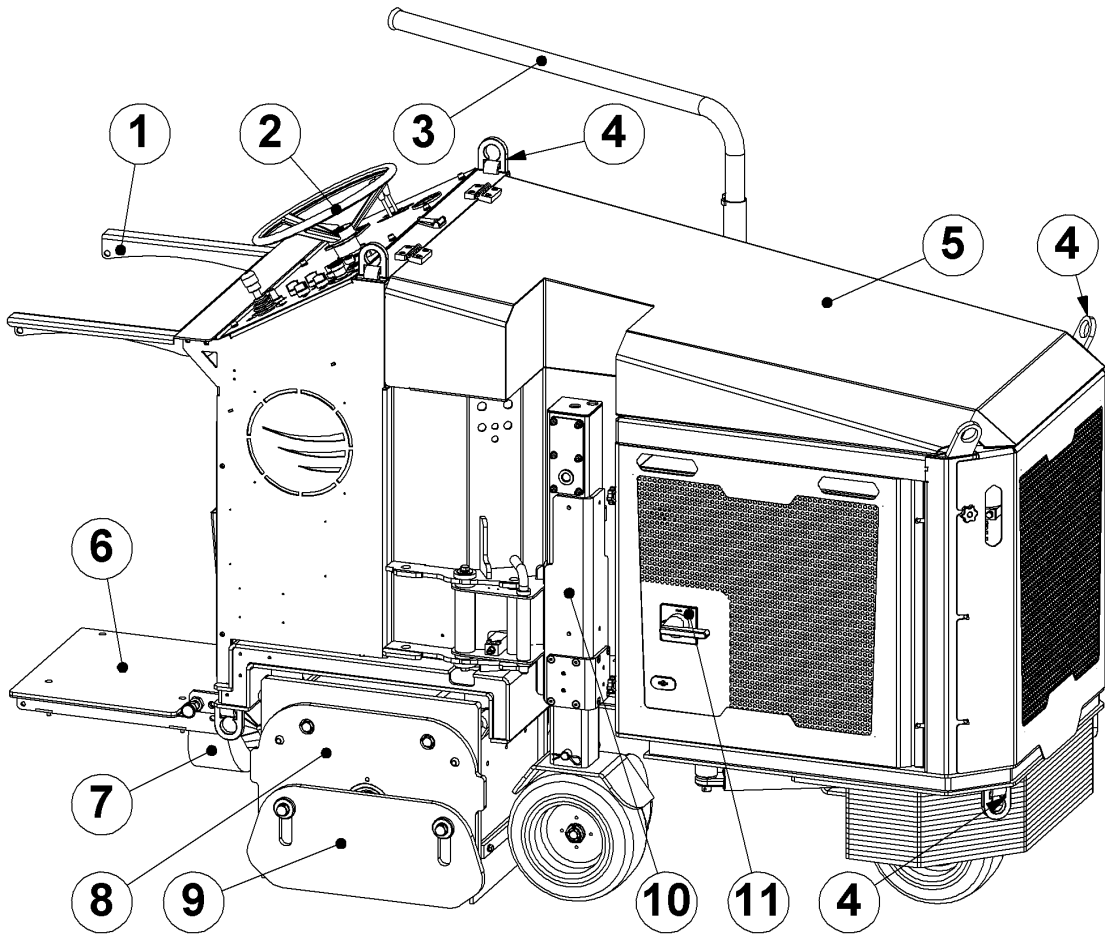
The scarifier is a very versatile machine and with the appropriate picks on the drum or with the sawing drum it may be used for the following applications:

- Remove layers of concrete or asphalt
- To roughen concrete or asphalt
- To clean most horizontal surfaces
- To remove coatings
- To remove road markings
- To make non-slip surfaces
- To make lines in concrete
- To shave off thin layers of concrete

The force of impact of a cutter is controlled by the depth adjustment. With the right depth adjustment, the best performance is obtained to give a desired result.

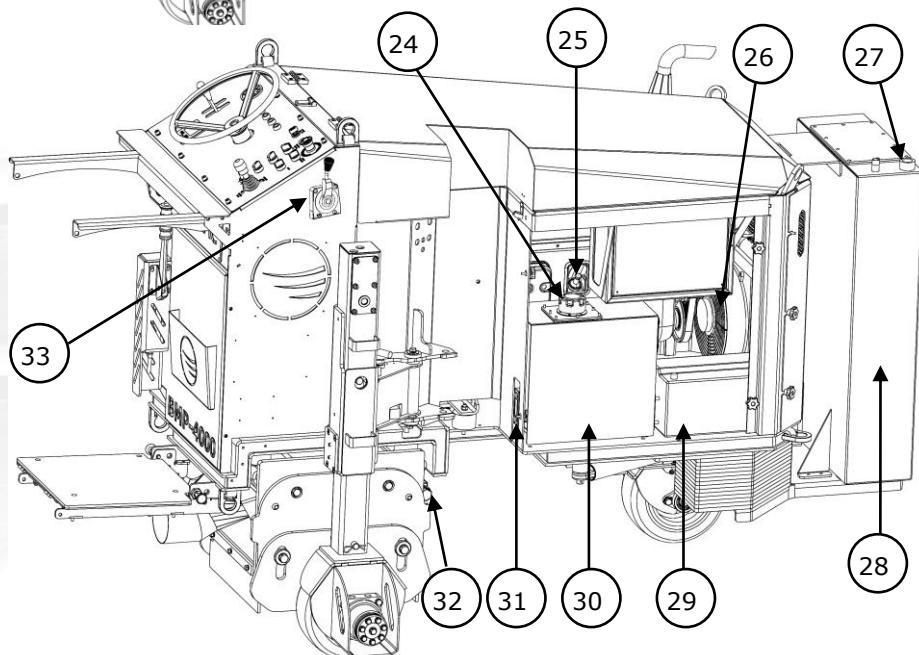
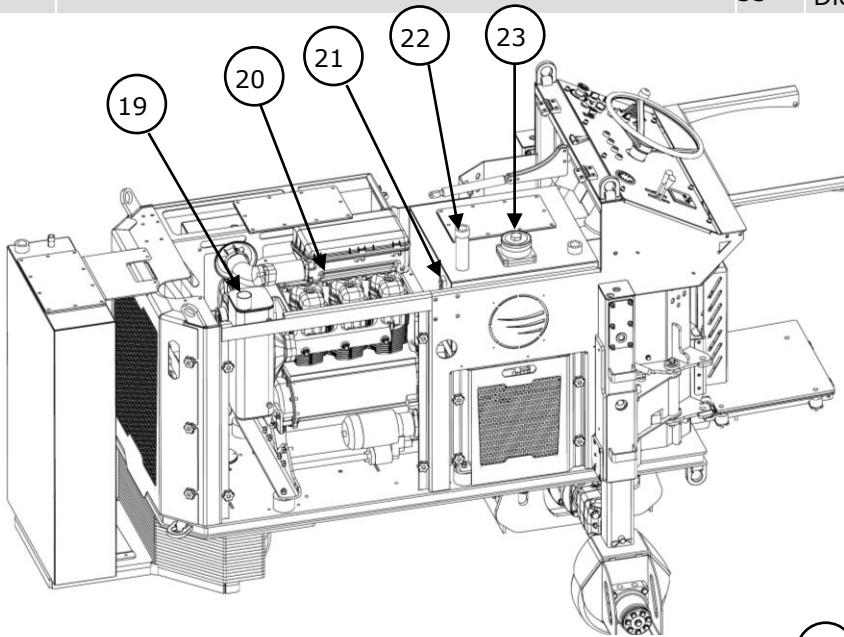
The use of a suitable Blastrac dust collector ensures dust-free operation of the machine, clean air at the workspace and raises the life span of the machine.

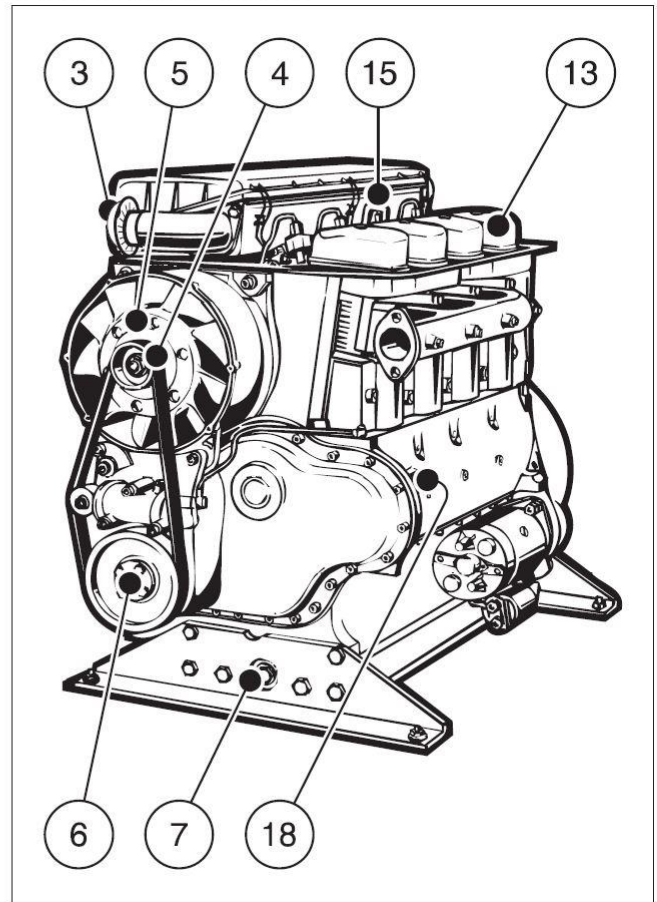
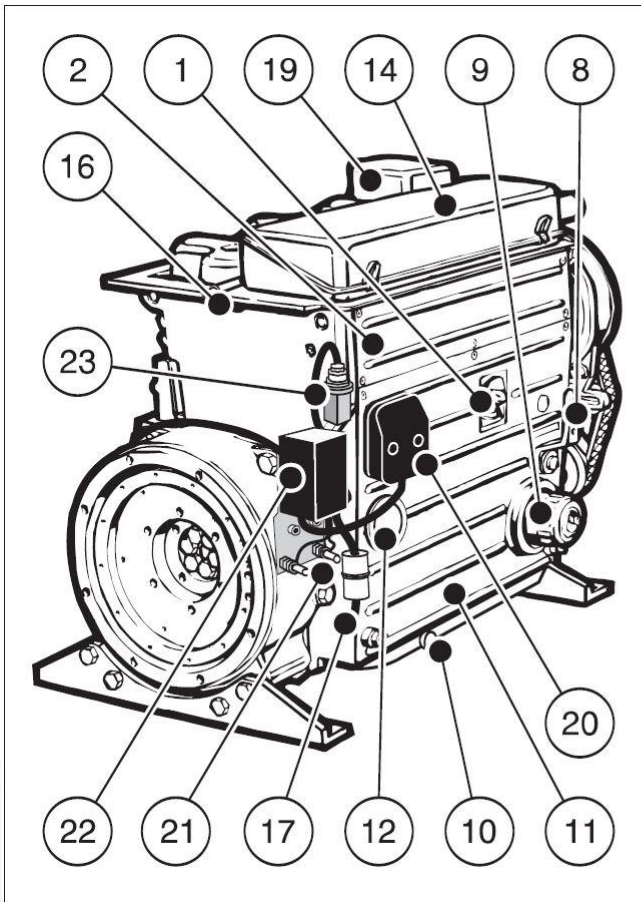
Due to the dust collector the picks will keep turning in the drum and this will help the picks to wear off even.



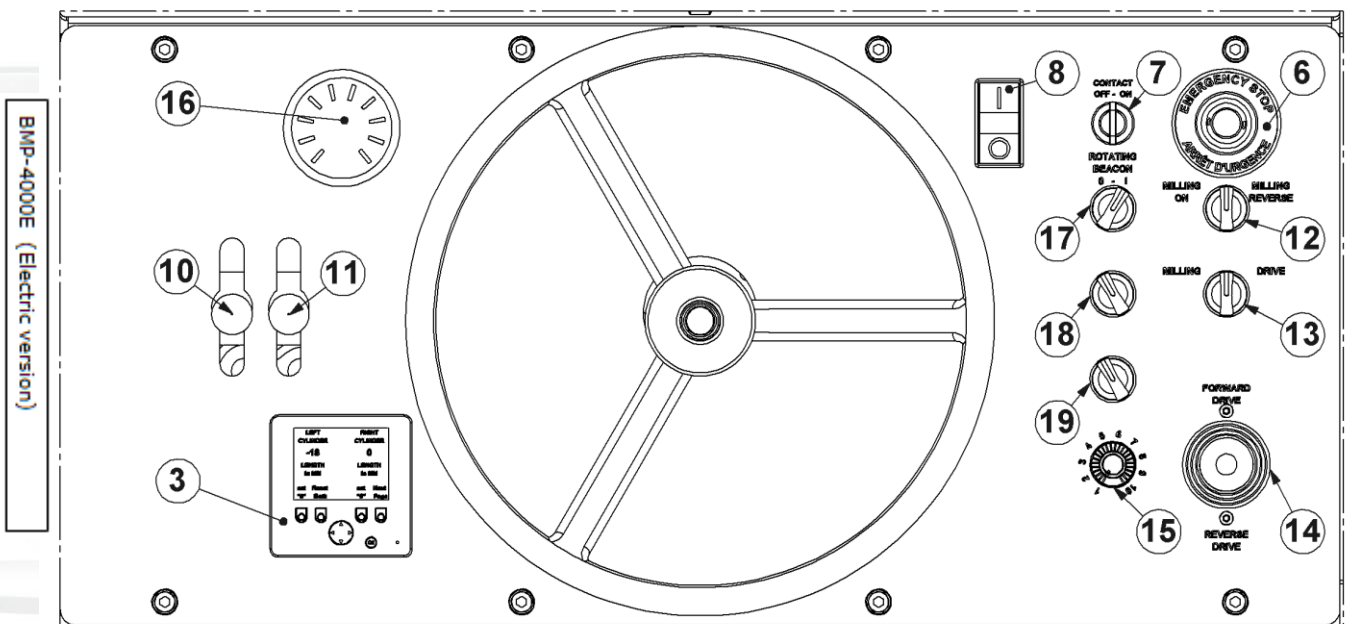
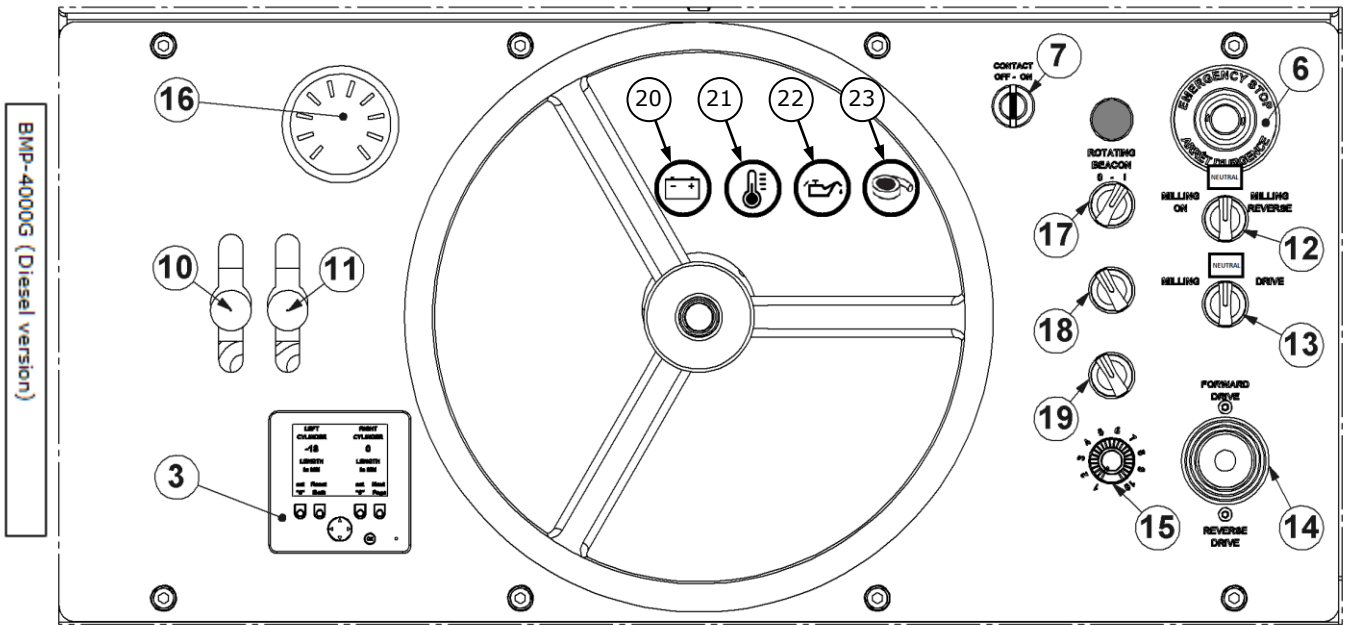


1	Operator support bracket	17	Hydraulic milling motor
2	Steering wheel	18	Left Hand slide plate
3	Electric cable guide (E-version)	19	Exhaust diesel engine (G-version)
4	Lifting points	20	Diesel engine (G-version)
5	Bonnet	21	Oil level and temperature gauge of hydraulic oil tank
6	Operator platform with safety switch	22	Filler cap for hydraulic oil
7	Dust hose connection 150mm	23	Hydraulic oil return filter
8	Side plate drum housing	24	Diesel fuel cap with filter
9	Right Hand slide plate	25	Oil filling opening and dipstick of diesel engine
10	Right Hand back wheel (measuring system optional)	26	Cooling fan for hydraulic system
11	Electro box with main switch (E-version)	27	Filler cap for water tank
12	Control panel	28	Water tank (Option)
13	Hand brake	29	Battery for diesel engine
14	Manual storage compartment	30	Diesel tank
15	Front steering wheel	31	Diesel level gauge
16	Left Hand back wheel with measuring system	32	Water spray nozzles (option)
		33	Diesel throttle





Diesel engine		Hatz 3M41	
1	Oil filling opening and dipstick	13	Cylinder head cover
2	Side trim panel	14	Air filter housing cover
3	Intake opening for combustion air	15	Lifting eye, max. load 5000 N
4	Cooling fan belt	16	Fuel return line
5	Cooling fan with installed three phase alternator	17	Fuel feed line with fuel prefilter
6	1/2-inch square socket for turning the engine	18	Type plate
7	Oil drain screw	19	Silencer
8	Speed control lever	20	Central connector for electrical equipment
9	Oil filter	21	Battery connections
10	Oil drain screw (on oil sump)	22	Powerbox
11	Cooling air guide for oil cooler	23	Electrical maintenance switch for air filter
12	Access cap for fuel feed pump	24	Cylinder head cover



Control elements

3	Control panel	16	Hydraulic pressure gauge
6	Emergency stop button	17	Switch for rotating beacon ON/OFF (optional)
7	Contact with key ON/OFF	18	Worklight ON/OFF (optional)
8	Hydraulic motor ON/OFF	19	Water pump ON/OFF (optional)
10	Left Hand back wheel UP/DOWN	20	Battery charge control
11	Right Hand back wheel UP/DOWN	21	Engine temperature display
12	Switch for milling motor: MILLING ON/NEUTRAL/MILLING REVERSE	22	Oil pressure display
13	Switch for operating mode: MILLING/NEUTRAL/DRIVE	23	Air filter maintenance display
14	Joystick for driving forward/backwards		
15	Driving speed selection button (1-10)		



3. Safety



Warning!

Read all safety warnings and all instructions.

Failure to follow the warnings and instructions may result in electric shock, fire, explosions and / or serious injuries.

Only authorized and trained personnel may operate this machine !

This machine is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge.

It is the responsibility of the user to analyse the surface to be treated. The surface may not contain any substances which could pose a fire-, explosion- or health risk when treated. The user should make a risk assessment on the basis of the information obtained about the surface to be treated and take proper precautions for the work to be performed.

In case of any inappropriate usage, improper operation or repair, the producer shall be exempt from liability.

Maintenance work that goes beyond the scope described in this manual must only be performed by qualified technicians.

3.1 Work area safety

- a) Do not use the machine in heavy rain or very wet locations.
- b) Avoid dangerous environments: never work in the presence of explosive atmospheres, in the presence of flammable liquids, gases or dust. Remove materials or debris that may be ignited by sparks.**
In some cases sparks could be created by milling / sawing.
- c) Keep work area clean and make sure there is enough ambient light on the work area. Cluttered or dark areas invite accidents.
- d) Keep children and bystanders away while operating the machine. They are likely not to foresee the potential dangers of the machine. Distractions could cause you to lose control of the machine.
- e) Persons who are not operating the machine must not be permitted to stay in the surrounding area of at least 15 meter from the machine.
- f) Never use the machine when the surface is not clear and if there is a risk of stumbling or tripping.
- g) Remove electrical cables and dust hoses from the surface to be treated and driving direction of the machine.
- h) Make sure that there is nothing standing or situated on the surface to be treated.
- i) Make sure the machine can travel over all inequalities on the surface.
- j) Check if there are any obstacles that can snag the cables or dusthoses when the machine is moving.
- k) Remove reinforcing steel or other objects protruding from the surface in order to prevent damage to the machine.
- l) Warning! Make sure that the surface to be treated does not contain dangerous materials such as:**
 - combustible or explosive dusts or substances.
 - carcinogenic or pathogenic dusts or substances.
- m) Effective organizational measures must be taken to prevent that employees are present in the work area of this machine. If this is not possible, effective traffic rules must be adopted.
- n) If the proper execution of the work requires the presence of workers in the work zone, it is mandatory to take effective measures to prevent them from being injured by the machine.
- o) It is forbidden to use/drive the machine on public roads, pavements, etc. unless they are closed off from the general public and other traffic.
- p) Danger to life from inhaling exhaust gases. Toxic engine exhaust gases can lead to loss of consciousness and even death in closed-off and poorly ventilated rooms.
 - Never operate the machine in closed-off or poorly ventilated rooms.
 - Do not breathe in the exhaust gases.
- q) Only work on locations which are adequately ventilated.

3.2 Electrical safety

- a) Use only extension cables for extending the main cable that are sized and marked in accordance with the overall power consumption of the machine. Do not use damaged extension cables.
- b) Electrical cables must be rolled entirely off of the reels before use.



- c) Any damages to the electric cables and/or electrical components is not permitted.
- d) The voltage on the identification plate must comply with the power supply.
- e) Use an electrical power supply connection with earth connection and earth leakage circuit breaker.
- f) The circuit breaker of the power supply must have a "D" characteristic. Circuit breakers with a "C" or "B" characteristic can give problems when switching the motor on.
- g) **Keep the machine original; The machine is always equipped with an earthed connection, do not change this** and always use earthed cables with an earthed plug.
- h) Inspect and test the electrical components regularly. The electrical components have to satisfy with the requirements set out in the harmonised norm EN60204-1.
- i) Always call a skilled electrician or your distributor when you have questions about the safety of the electrical components.
- j) Work on electrical equipment or operating materials may only be undertaken by a skilled electrician or by trained persons under the guidance and supervision of a skilled electrician as well as in accordance with the electrical engineering regulations.
- k) Do not abuse the cord. Never use the cord for unplugging the machine. Keep the cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
- l) Be careful with water on the treated surface. Electrical cables must not come into contact with water.
- m) The main power switch on the machine must be in the "Off" position before connecting to the power supply.
- n) During a long standstill of the machine, pull out the main plug.

3.3 Personal safety

a) Always wear Personal Protective Equipment while working with or around the machine!

- Dust mask class FFP3 or higher
- Hearing protection
- Safety glasses with lateral protection
- Protecting gloves
- Safety shoes
- b) Always wear close-fitting protective clothing. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts.
- c) Stay alert, watch what you are doing and use common sense when operating the machine.
- d) The cord of the deadman switch key should always be fastened on your arm or on to your clothing.
- e) Pull out the key of the deadman switch before any inspections, adjustments and/or maintenance work is started.
- f) Always use the operator support bracket for your own safety.
- g) Always seek professional medical attention immediately in case of injury.

3.4 Machine safety general

- a) Safety functions and operating functions must work correct.
- b) No loose bolts and nuts permitted.
- c) Never operate machine without the guards and/or safety devices in place.
- d) Never change anything on the safety devices on the machine!
- e) The machine, specially the handle grips and operator platform must be free of fats/oils and have to be dry.
- f) All repair work has to be done by qualified Blastrac personnel, this guarantees a safe and reliable machine.
- g) Always use original Blastrac spare parts, cutters, sawing blades and picks. Otherwise Blastrac BV cannot guarantee the safety of the machine. Only original Blastrac parts meet the factory specifications and quality. This will ensure the best performance.
The part numbers can be found in the Service Manual.
- h) Make sure the drum with picks/cutters is in good condition and the picks/cutters can turn free in the drum.
- i) Caution! The machine can heat up during milling/cutting, don't risk getting burned, always wear protective clothing and gloves.
- j) The machine contains rotating parts, which are protected with a sliding cover.
- k) Warning! Milling can create sparks under certain conditions!

3.5 Diesel version safety

- a) **Read the enclosed Operating Instructions of the diesel engine before using it.**
- b) Make sure there is no oil or diesel leaking out of the diesel engine.
- c) Always make a pre-operation inspection before you start the engine. You may prevent an accident or equipment damage.
- d) Look for signs of damage and remove any excessive dirt or debris.



- e) To prevent fire hazards and to provide adequate ventilation, keep the engine at least 1 meter (3 feet) away from buildings and other equipment during operation. Do not place flammable objects close to the engine.
- f) Anyone who is not operating this machine must be kept away from the area of operation due to a possibility of **burns from hot engine components**. Parts will remain hot for a while after stopping the engine. Let the engine cool before transporting it or storing it indoors.
- g) When transporting or storing the engine, turn the fuel valve OFF and keep the engine horizontal.
- h) Know how to stop the engine quickly, and understand the operation of all controls. Never permit anyone to operate the engine without proper instructions.
- i) Do not place flammable objects such as gasoline, matches, etc., close to the engine while it is running. Do not place anything on the engine.
- j) Refuel in a well-ventilated area with the engine turned OFF. Gasoline / diesel is highly flammable and explosive under certain conditions. Let the engine cool before refueling.
- k) Do not overfill the fuel tank. There should be no fuel in the filler neck.
- l) Do not smoke or allow flames or sparks where the engine is refueled or where gasoline / diesel is stored.
- m) **! Exhaust gas contains poisonous carbon monoxide !** Avoid inhalation of exhaust gases. **Never run the engine in a closed garage or confined area!** Always wear a dust mask. Breathing carbon monoxide can cause unconsciousness or death.
- n) If any fuel is spilled, clean it up completely and allow petroleum vapours to dissipate before starting the engine.
- o) Make sure the fuel and oil level are correct and that the filler caps are closed securely.
- p) Incorrect cable connections and incorrect operation of the electrical equipment can lead to sparking and must be avoided.
- q) Comply with all notices and warning labels on the engine and keep them in a legible condition. If a label should become detached or difficult to read, it must be replaced promptly. For this purpose, contact your nearest HATZ service station.
- r) Any improper modification of the engine will result in a loss of liability coverage for resulting damage.
- s) Only regular maintenance, as specified in the Hatz manual, will maintain the operating readiness of the engine.
- t) Disconnect the negative battery terminal before carrying out maintenance work.

3.6 Maintenance safety

- a) Pull out the main plug before starting inspections and repair on the machine. The main switch can be locked in the "OFF" position by using a padlock and placing it through the main switch. (E-version) Turn the contact key to OFF and pull out the deadmanswitch. (G-version)
- b) Wait for a complete standstill of all drives before any inspections, adjustments and / or maintenance work is started.
- c) Block machine in stable position before doing any maintenance work.
- d) Failures due to inadequate or incorrect maintenance may generate very **high repair costs** and long standstill periods of the machine. **Regular** maintenance therefore is imperative.
- e) Operational safety and service life of the machine depends, among other things, on proper maintenance.
- f) Prevent premature wear by keeping the machine as dust free as possible. Clean the machine for this reason regularly with a dust collector and non-aggressive materials. Never use a high pressure water cleaner to clean the machine.
- g) It is advisable to stock all spare parts or wear parts that cannot be supplied quickly. As a rule, production standstill periods are more expensive than the cost for the corresponding spare part.
- h) To allow the user to carry out maintenance operations, the machine must be disassembled, cleaned and inspected as far as reasonably possible, without causing hazards for the maintenance staff or other people.
- i) The suitable precautions include decontamination before disassembling the machine, adequate filtered ventilation of the exhaust air from the room in which it is disassembled, cleaning of the maintenance area and suitable personal protection equipment.
- j) The external parts of the machine must be decontaminated by cleaning and vacuuming methods, de-dusted before being taken out from the hazardous zone. All parts of the machine must be considered as contaminated when they are removed from the hazardous zone and appropriate actions must be taken to prevent dust from dispersing.
- k) When maintenance or repair procedures are carried out, all the contaminated elements that cannot be properly cleaned, must be destroyed.
- l) These elements must be disposed of in sealed bags according to the applicable regulations and in accordance with the local laws governing the disposal of such material.
- m) This procedure must also be followed when the filters have to be disposed.
- n) A second person must be deployed who can disengage the hydraulics and switch off the PTO (Hydraulic unit) in an emergency if work on live parts is necessary. The work area must be sealed off using a red and white safety chain and a danger sign. For the electrical parts, use a tool that is insulated against voltages.



- o) WARNING! Do not weld, flame cut or perform grinding works on or near the machine. Danger of fire or explosion exists!**
- p) Provide adequate ventilation when working in a confined space.
- q) Secure the maintenance area if necessary.
- r) Always read the enclosed OWNER'S MANUAL of the Hatz diesel engine before operating the machine.
- s) The OWNER'S MANUAL contains important information about getting the best performance and safe operation / maintenance of the diesel engine.
- t) The OWNER'S MANUAL should be considered a permanent part of the engine and should remain with the engine if resold.

3.7 Dust collector safety

- a) **Always use a suitable Blastrac dust cleaner** to ensure a dust-free operation of the machine and clean air at the workspace. Also the airflow helps to cool the machine and prevents overheating.
- b) Carefully read the Operating Instructions of the dust collector before use.
- c) **The dust container/bag of the dust collector must be emptied regularly.** Comply with the local waste treatment regulations considering the removed material.
- d) The dust hose must be connected properly with a hose clamp and industrial tape.
- e) The dust hose must be undamaged and free of obstructions.
- f) Always switch on the dust collector first!

3.8 Hydraulic safety

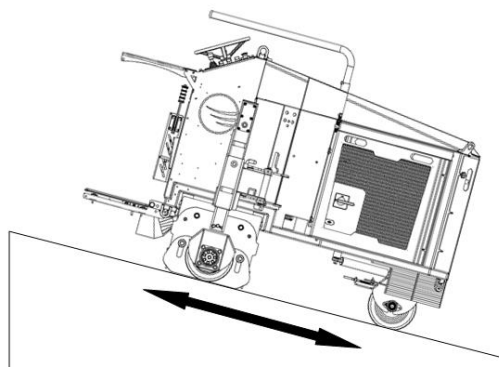
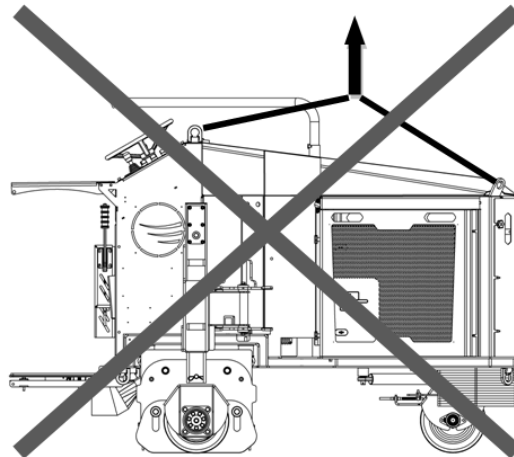
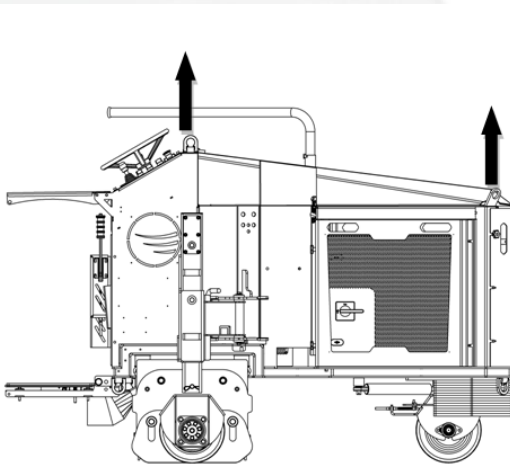
- a) Make sure all hydraulic hose connections are tightened and there is no leakage of oil.
- b) Over-tightening could damage O-rings. If a leak still persists, remove fitting and replace O-ring.
- c) Make sure the hydraulic hoses have no damages, signs of wear and tear or other defects.
- d) Hydraulic fluid under pressure is dangerous and can cause serious injury.
- e) Hoses and pipe work can be under high hydraulic pressure. The temperature can be above 37° C.
- f) The system runs at or below 170 bar. Never look for a leak when the unit is under pressure.
- g) Avoid leaks by keeping fittings and hoses tight, only check and service when not under pressure.
- h) Leaking hydraulic fluid is not only unsightly, it's dangerous. It could make workplace floors slippery, contaminate the environment and could create a possible fire/explosion hazard.
- i) Never change the oil pressure of the machine! Changing the oil pressure could cause serious damage to the machine and could result in very dangerous situations!
- j) Only work with the hydraulic oil in an area that is well-ventilated, otherwise you must wear suitable respiratory protection. Always wear Personal Protective Equipment when handling the oil:
-Protecting gloves (preferably made of nitrile or neoprene.)
-Safety goggles.
-Hydrocarbon-proof clothing and safety shoes.
- k) Avoid long and repeated contact with the skin, after contact wash thoroughly with water and soap.
Contact with eyes: Immediately flush eyes with cold, fresh water for a minimum of 15 minutes. Seek professional medical attention.
- l) Do not eat, drink or smoke near the hydraulic oil.
- m) HV46 hydraulic oil holds no danger of intoxication.
- n) The hydraulic oil is stable at normal temperatures for storage, handling and use. However, the hydraulic oil is flammable when exposed to certain conditions; Empty containers may contain flammable or explosive vapors. Rags that are soaked with the product and paper or materials which have been used for absorbing the spilled product are inflammable. Make sure that no accumulation occurs. Remove safely after use.
- o) Avoid sparks, open flames, extremely high temperatures and other sources of ignition.
- p) Please read the Safety Data Sheets for additional information regarding the hydraulic oil.
- q) Level should be half the glass of the level indicator. If you don't see the oil in the indicator, the level is too low. If the level is above the glass, the level is too high.
- r) Only use HV46 hydraulic oil (Part nr. E00481), non-compatible fluids could cause damage to the unit or serious injury.
- s) The hydraulic oil and the filter should be replaced at least annually.
- t) Work on hydraulic equipment or operating materials may only be undertaken by a skilled hydraulic engineer or by trained persons under the guidance and supervision of a skilled hydraulic engineer as well as in accordance with the hydraulic engineering regulations



3.9 Transport safety

- a) Be aware of your surroundings and machine operating level. Do not side hill, do not run on steep incline, this could cause machine to tip over.
- b) The weight of the BMP-4000E is 1550 kg without drum. Use a crane or lift when transporting the machine, use the existing lifting eyes / lugs of the machine.
- c) Before every use check the lifting eyes/lugs and welds for: deformation, damages, cracks, corrosion and wear.
- d) Each lifting lug has a WLL of 1500kg, only lift the machine as shown in the picture below.
- e) When lifting the machine from the ground, always use the lowest lifting speed. The cables must first be tensioned at this speed; they must not be slack when the machine is lifted from the ground.
- f) During hoisting make sure to be at a safe distance from the machine with the most optimal view on the machine and working environment.
- g) Never stand directly below or behind the machine.
- h) When transporting the machine do so in such a manner that damage due to the effects of the use of force or incorrect loading and unloading is avoided.
- i) The lifting eyes/lugs can also be used to fasten the machine on a pallet or during transport.
- j) Always drive backwards when driving up to a ramp or grade, and forwards when driving of the ramp.
- k) Chock wheels for transport and keep control handles in neutral position.
- l) Don't leave the machine unsecured on jobsites.
- m) Always use the handbrake when machine is parked.
- n) Always park the machine on a flat horizontal and levelled surface.
- o) Make sure the electrical cable and dust hose are disconnected between the BMP-4000 and the dust collector.
- p) Store the cleaned and dry machine in a humid free room. Protect the electrical motor from moisture, heat dust and shocks.
- q) Never use the machine for lifting persons or items.
- r) Drive preferably with the wheels folded out, this provides the most stability.

Never allow other persons besides the operator to be transported by the machine.





3.10 Signs on the machine

The following stickers are placed on the machine. Meanings of these symbols are:

	! Danger Hazardous voltage in motor even when solid state controller is OFF. Disconnect main power before servicing motor, controller or associated wiring.
	Lifting point.
	No lifting point.
	DANGER Rotating parts inside. Keep hands clear. Lock-out / shut down before servicing.
	Warning! Hot surface.
	Hearing protection and safety glasses are obliged.

	Wear a dust mask class FFP3 or higher.
	Hearing protection is obliged.
	Safety glasses with lateral protection are obliged.
	CE-mark on this machine.
	Wear protecting gloves.
	Safety shoes obliged.
	Consult the manual before operating the machine.

	No unauthorised person may operate this machine
No unauthorised person may operate this machine.	

Type plate:

	Name, address and CE mark.
	The machine type.
	The net weight of the machine in kilogram.
	The year of manufacture.
	The serial number of the machine.
	Email address, Website, Telephone & fax number.

EU Declaration of Conformity:

	EN	NL	CS	DA	SK	SL
	FR	DE	ET	GR	FI	NO
	ES	IT	LV	LT	IS	TR
	PL	PT	HU	MT	RU	



4. Initial operation

Before using the machine it is of great importance to inspect the machine every day. It is not permitted to use the machine if the machine safety is not according the checkpoints below.

4.1 Checkpoints of electrical safety (E-version)

- Use only extension cables for extending the main cable that are sized and marked in accordance with the overall power consumption of the machine.
- Any damage to electric cables is not permitted and they must be rolled entirely off of the reels.
- Check the cable and plug of the dust collector.
- The main power switch on the machine must be in the "Off" position before connecting to the power supply.
- Always use an electrical power supply connection with earth connection.

4.1 Checkpoints of Diesel engine safety (G-version)

- Make sure the location is adequately ventilated.
- Make sure There is a sufficient amount of fuel in the fuel tank.
- There is a sufficient amount of engine oil in the engine.
- Make sure No persons are located in the danger zone of the engine or machine.
- All safety equipment is in place.

4.2 Checkpoints of machine safety

Check if:

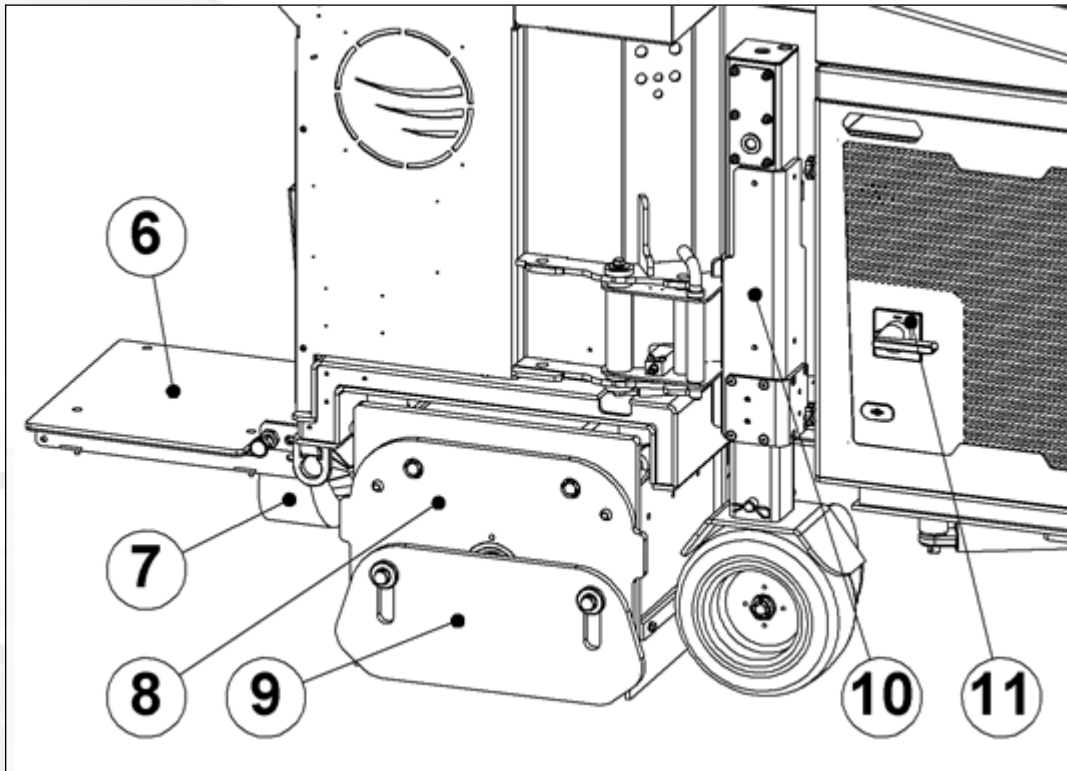
- All hydraulic hose connections are tightened and there is no leakage of oil.
- The safety functions and operating functions work correct.
- The drum with picks is in good condition and the picks can turn free in the drum.
- The rubber seals around the drum housing are not damaged.
- There are not any loose nuts or bolts.
- There is not any damage to the dust hose and if it is connected correctly with a hoseclamp and industrial tape.

Work area

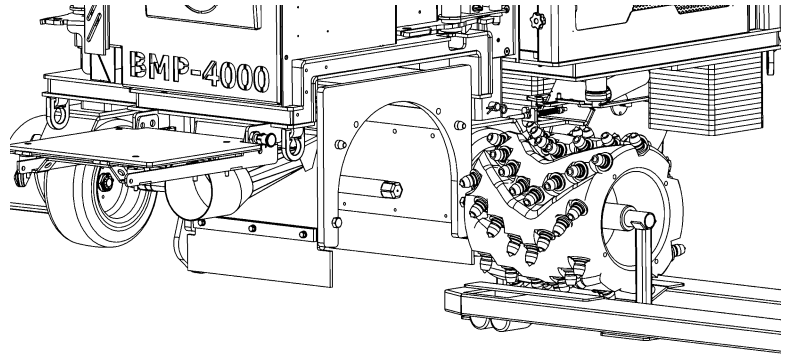
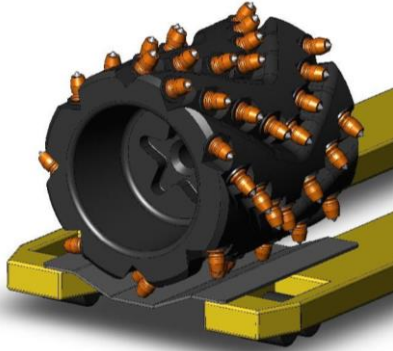
- Check the surface to be treated for loose parts (stones, screws, etc.) The surface must be swept if necessary. Make sure the machine can travel over all inequalities on the surface. Small inequalities like weld seams or floor joints are no barriers for the machine.
- Secure the work area around the machine providing an adequate safety distance from the machine. Use a red and white safety chain and danger sign to enclose the work area.
- Remove reinforcing steel or other objects protruding from the surface in order to prevent damage to the machine.
- **Warning! Make sure that the surface to be treated does not contain dangerous materials such as:**
 - combustible or explosive dusts or substances.
 - carcinogenic or pathogenic substances.

4.3 Removing the drum

- Pull out the main plug before starting removing the drum.
- Always wear protecting gloves and a **dustmask** of at least **class FFP3**.
- Use an additional vacuum cleaner in order to work as dust free as possible.



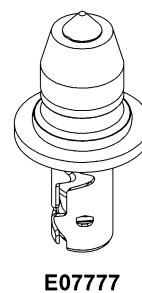
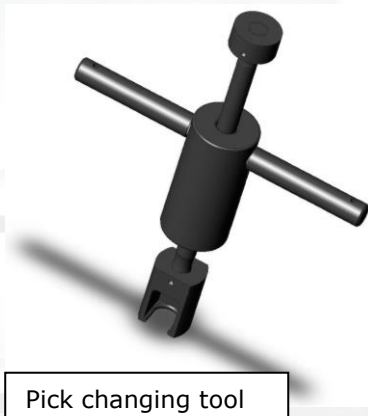
- Always wear a dust mask during these operations, class FFP3 or higher.
- Fold the right wheel (10) in. (see chapter 5.5 how to fold in the wheels)
- Remove the right hand slide plate (9).
- Loosen the bolts of the side plate (8) and remove it.
- Use a pallet truck with the metal plate of the E08965 – Drum changing kit, and position it underneath the drum.



- Lift the pallet truck so the drum will be supported by the pallet truck.
- Mount a rope on the two eyes which are mounted inside the drum.
- Pull the drum from the axle, and support the drum.

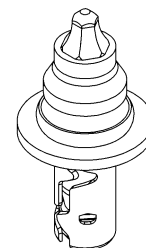
4.4 Changing picks on the drum

- Lift the pallet truck up and put the drum on the drum supports.
- Use the pick tool to take out the picks and use a (bronze) hammer to put in the new picks.
 - Clean the pick holes with a vacuum cleaner if necessary.
- It is important that the picks can keep turning around their axles inside the drum, this helps the picks to wear off even. If the picks wear off uneven they will have to be replaced sooner.
- The picks for concrete E07777 have a round point and
- The picks for asphalt E07766 have a hexagon point.



E07777

Concrete



E07766

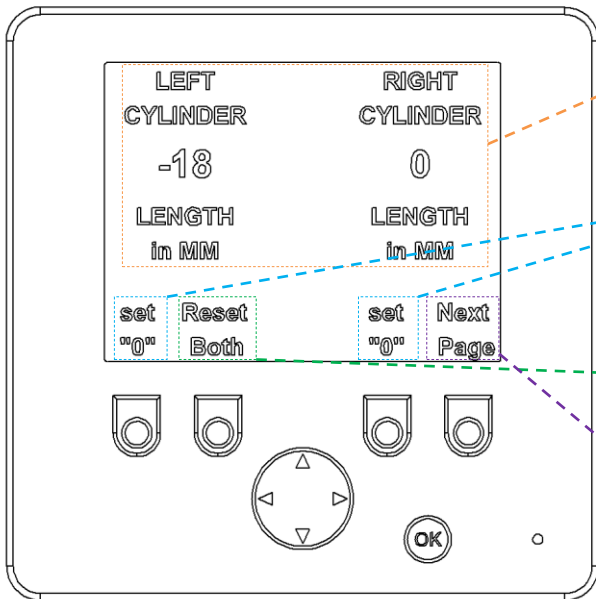
Asphalt

4.5 Mounting the drum

- Clean the hexagon axle and the hexagon support inside the side plate.
- Position the drum in front of the axle.
- Make sure the axle and drum are at the correct height and slide it back in the machine.
- Mount the side plate and right hand slide plate.

Warning! Never use the machine without a side plate or with an incorrect mounted side plate!

5. Operating BMP-4000

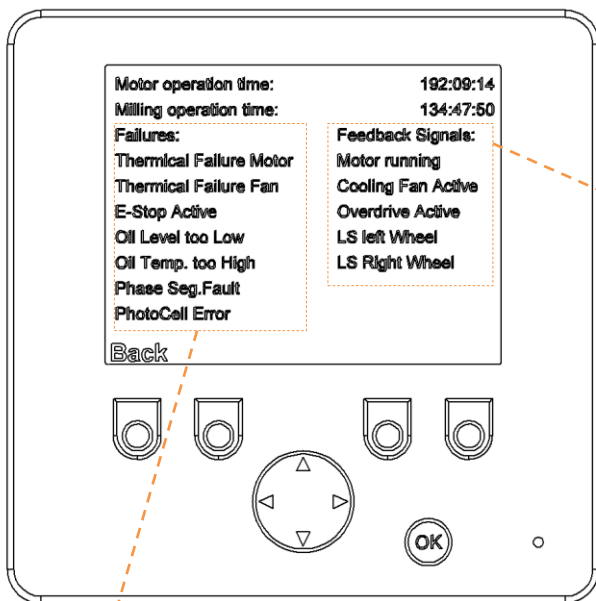


LEFT / RIGHT CYLINDER : the numbers will indicate the height of the back wheels in millimetres. (The right cylinder measuring system is optional)

set "0" : these buttons are used to set the indication of the height to zero.

Reset Both : pushing this button will undo the set "0" of both cylinders and thus indicate the actual height of the wheels.

Next Page : push this button to go to the next screen, as indicated below.



Motor operation time indicates the total running time of the machine.

Milling operation time indicates the total milling time of the machine.

Feedback Signals:

Motor running will light up green when the hydraulic pump motor is working.

Cooling Fan Active will light up blue when the oil cooling fan is working.

LS left Wheel will light up green when the left-hand wheel is folded out (LS = Limit Switch).

LS Right Wheel will light up green when the right-hand wheel is folded out (LS = Limit Switch).

Failures:

Thermal Failure Motor will light up red when the thermal protection of the motor is activated.

Thermal Failure Fan will light up red when the thermal protection of the fan is activated.

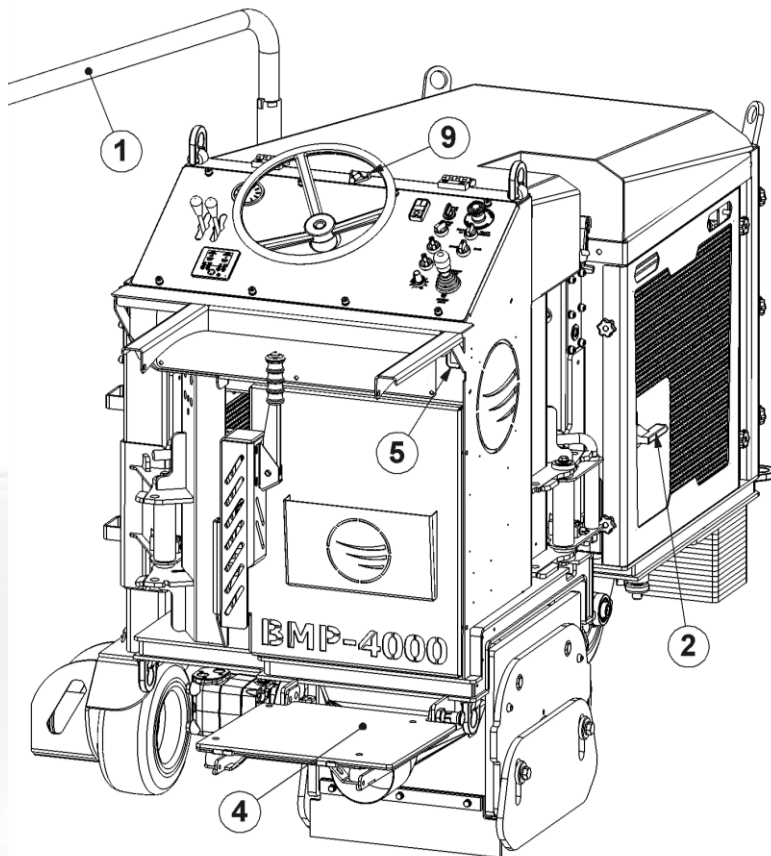
E-Stop Active will light up red when: the emergency stop button is pushed in, or when the contact key is turned in the OFF-position, or when the dead man's switch is pulled out.

Oil Level too Low will light up when the hydraulic oil level is too low.

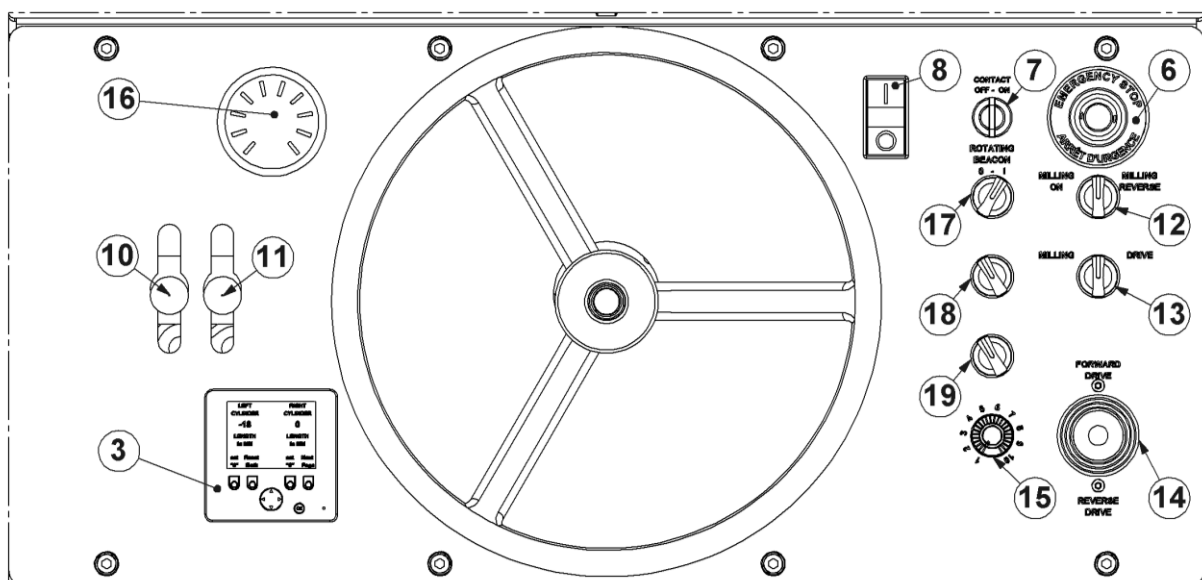
Oil Temp. too High will light up when the temperature of the hydraulic oil is too high for safe operation.

Phase Seq. Fault will light up red when the phase sequence of the power supply is not correct.

PhotoCell Error / LS platform will light up red when there is no one on the platform. Driving and/or milling will not be possible.



1	Electric cable guide
2	Electro box with main switch
3	Control panel
4	Operator platform with safety switch
5	Dead mans switch
6	Emergency stop button
7	Contact with key ON/OFF
8	Hydraulic motor ON/OFF
9	Leveller
10	Left Hand back wheel UP/DOWN
11	Right Hand back wheel UP/DOWN
12	Switch for milling motor: MILLING ON/NEUTRAL/MILLING REVERSE
13	Switch for operating mode: MILLING/NEUTRAL/DRIVE
14	Joystick for driving forward/backwards
15	Driving speed selection button (1-10)
16	Hydraulic pressure gauge
17	Switch for rotating beacon ON/OFF (optional)
18	Work light ON/OFF (optional)
19	Water pump ON/OFF (optional)



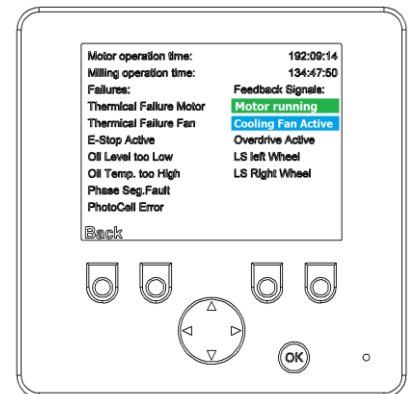


During operating the BMP-4000, the following additional safety instructions must be followed closely.

5.1 Switching on the machine (E-version)

- Connect the machine with the power supply. (1)
- Turn on the main switch (2) on the side of the machine.
Check the display (3) on the control panel, push the right button of the display, this will open the information screen
 - The machine won't start if the line "Phase Seq. Fault" is indicated red.
- If there is a phase incorrect, make sure this will be changed.
 - Never change anything on the plug, cable or electrical box of the BMP-4000.

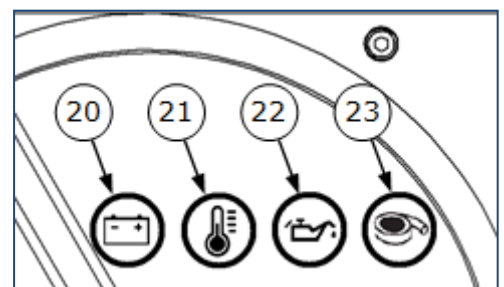
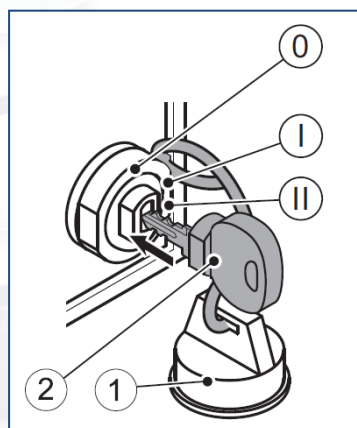
- If there is no "Phase Seq. Fault" u can take place on the operator platform (4)
 - The platform is fitted with a safety switch so there is no milling and driving possible when there is no one on the platform.
- Attach the cord of the deadman switch (5) to your arm or clothing.
- Pull out the emergency switch (6)
- Turn the key contact switch (7) to the right.
- Push the green "Start" button (8)
- Wait till the line "Motor running" is green and the "Cooling Fan Active" is blue.



5.1 Switching on the machine (G-version)

Always read the enclosed OWNER'S MANUAL of the Hatz diesel engine before operating the machine.

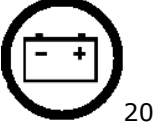



1	Protective cap
2	Starting key
20	Battery charge control
21	Engine temperature display
22	Oil pressure display
23	Air filter maintenance
Ignition lock	
0	Off
I	Operation
II	Start



Indicators

The function of all indicators is checked when the starting key is turned. They flash or light up for different times. If there is a fault, the applicable indicator does not go out after the engine start or it lights up again during operation.



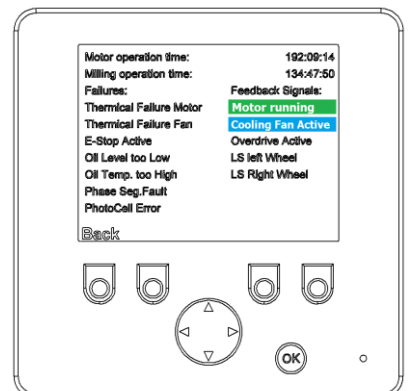
Symbol	Meaning
	Battery charge control Fault in the alternator or alternator charging circuit. The battery is no longer charged. Eliminate the fault immediately. Consult the Hatz manual!
	Oil pressure display Switch off the engine immediately! Danger of engine damage. Check the oil level. Consult the Hatz manual! Contact Hatz service if the oil level is correct.
	Engine temperature display Switch off the engine immediately! Danger of engine damage. Engine temperature is impermissibly high. For details of troubleshooting, consult the Hatz manual.
	Air filter maintenance display This lights up if the air filter is dirty. Clean or renew the filter cartridge at the next opportunity. For more information, see the Hatz manual.

NOTES:

- Start for max. 30 seconds. If the engine is still not running after that, turn the starting key back to position "0" and eliminate the cause (Consult the Hatz manual).
- Turn the starting key to position "0" every time you want to start the engine.
- The anti repeat device in the ignition lock makes it impossible for the starter to engage while the engine is running and become damaged.
- The starter protection module is required when the user cannot detect at the ignition lock if the engine is still running or is already at a standstill.
- In models equipped with a starter protection module, the starting key must be kept in the 0 position for at least 8 seconds before another start is possible after the engine is switched off.

Starting the diesel engine

1. Take place on the operator platform
 - The platform is fitted with a safety switch so there is no milling and driving possible when there is no one on the platform.
2. Attach the cord of the deadman switch to your arm or clothing.
3. Pull out the emergency shut down button.
4. Check the diesel throttle (see chapter 2. Machine description, item 33).
5. Remove the protective cap from the ignition lock.
6. Insert the starting key all the way and turn to position "I", wait 10 seconds.
7. Check the display (3) on the control panel, push the right button of the display, this will open the information screen.
8. Turn the starting key to position "II".
9. As soon as the engine is running, release the starting key.
 - The starting key springs back to position "I" and remains in this position during operation.
 - The battery charge control (20) and oil pressure display (21) go out.
10. Wait till the line "Motor running" is green and the "Cooling Fan Active" is blue.
11. Connect the dusthose and turn the dustcollector on.



NOTES:

- In case of irregularities, switch off the engine immediately. Identify the fault and eliminate it. For details of troubleshooting, consult the Hatz manual.
- If the engine stops again immediately after starting, or stops independently during operation, this is an indication that a monitoring element of the automatic shutoff has been activated. Remedy the fault before making further starting attempts (Consult the Hatz manual).
- Despite the automatic switch-off, check the oil level every 8–15 operating hours and add oil if necessary, (Consult the Hatz manual).



Procedure when faults occur

- Check the indicators (21-23). After the engine comes to a standstill, the fault will continue to be displayed by the indicator for approx. another 2 minutes.
- Then the electrical equipment switches off automatically.
- Set the starting key to position "0".
- Turn the starting key back to position "I". The fault display lights up again. Remedy the fault before making further starting attempts (consult the Hatz manual). The indicator will go out at the next start.

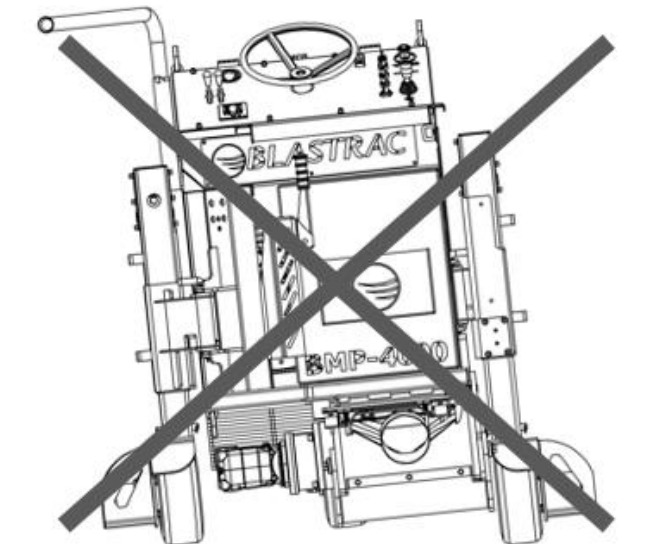
5.2 Leveling the machine (without milling)

12. Make sure the machine is always in a levelled position. You can see this by checking the leveller (9) on top of the operating panel.
13. To level the machine, you can use both handles (10) & (11).
-Always lift and lower the machine carefully and with low speed.
14. Make sure the switches (12) (13) and the joystick (14) are in the middle position.

(12) "Milling on / - / Milling Reverse"

(13) "Milling / - / Drive"

(14) "Forward / - / Reverse drive"



5.3 Driving the machine (without milling)

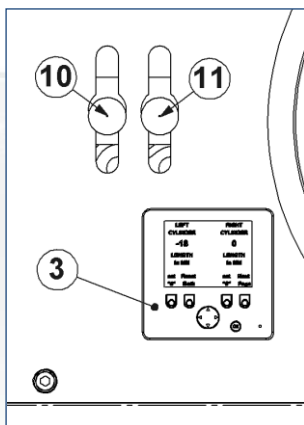
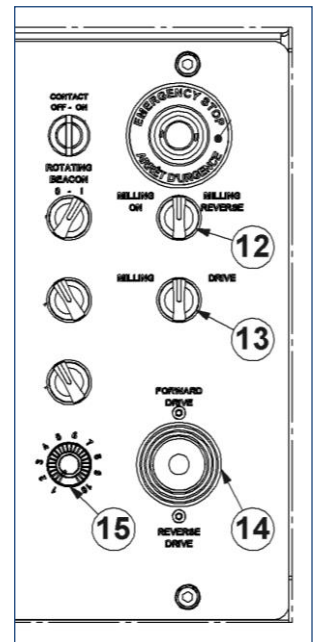
15. Make sure there are no other people in an area of 5 meters around the machine.
16. Turn switch (13) to "Drive" so you can only drive with the machine.
-In this position the milling drum cannot turn.
17. By using the joystick (14) you can drive forward and backward. Before you can use the joystick the bottom part has to be squeezed in, this is a safety device against unintentionally actuating of the machine.
 - a. Use the joystick very carefully and slowly.
18. The further the joystick is forward or backward, the faster the machine goes.
 - a. The "Speed" button (15) does not work when the machine is in "Drive" mode.





5.4 Working with the machine

- Make sure the drum is off the surface and the machine is levelled.
- Turn switch (13) from "Drive" to "Milling".
- Turn switch (12) to "Milling ON" and wait for a few seconds to start up the drum
- Set the "Speed" button (15) on "1"
 - The "Speed" button helps you to set the maximum speed. 1 is a low maximum speed and 9 is high maximum speed.



- Lower the machine carefully with both handles (10) & (11) make sure the machine stays in a levelled position.
- Lower the machine until you hear the picks hitting the floor. Make sure the machine is levelled.
- Push the left "Set 0" button on the display (3) to set the height of the left cylinder to 0. (If you also have the measuring system on the right cylinder you also push the right button "Set 0")
- Now lower the machine slowly to the essential depth, use both handles (10) & (11) to keep the machine levelled.
 - Don't try to take away too much in one pass, it is better to do more passes.
- If the depth is set, push the joystick slowly to the front. The right side of the machine is in the same line as the pattern of the drum, so you can follow this line to have a good milling pattern with having just a very small overlay with your previous line.
- If the driving speed is too low, you can set the "Speed" button(15) to 2, 3 or even higher.
- If you are almost at the end of your milling line, lower the driving speed.
- At the end of your line, stop driving and lift the machine with both handles (10) & (11) so the drum is lifted from the surface.
- Stop the drum by turning the "Milling" switch (12) to the middle position.
- If you can drive forward, you drive with the joystick.
- If you want to go backwards, you first have to change switch (13) from "Milling" to "Drive".
 - This is always the best and safest way to drive with the machine.

5.5 Folding in the wheels

Both wheels can be folded in. The right hand wheel, so the machine can be closer to the wall and the left hand wheel to change the hydraulic motor or to go through small passages. Milling is not possible when the left hand wheel is folded in.

Right hand wheel:

- To fold in the RH wheel, lower the machine in levelled position until the drum supports on the surface.
 - Use both handles (10) & (11)
 Lift the right wheel up till the end (handle 11)
- Take out the pin, turn the wheel inside and put the pin back in.
 - Be careful with all the hoses and check if the hoses and cables are not stuck between the frame.
- Lower the RH wheel (handle 11), so the machine will be lifted.
 - Notice that the right side will lift faster now the wheel is more to the front.

If there is no drum underneath the machine when you want to fold in the right hand wheel, you can use a wooden block to support the machine on.

Left hand wheel

- To fold in the left hand wheel, put a wooden block underneath the frame or the hydraulic motor to support the machine so the left wheel can be free of the surface.
- Lower the machine until it rests on the wooden block.
 - Use both handles (10) & (11)
 Lift the left wheel up till the end (handle 10)
- Take out the pin, turn the wheel inside and put the pin back in.
 - Be careful with all the hoses and check if the hoses and cables are not stuck between the frame.
- Lower the LH wheel (handle 10), so the machine will be lifted.

5.6 Tips for milling and working with the machine

- The best way to work is to start at the right side and then work from right to left, so you can use the side of the machine with your previous line.
- Put the dust hose and electric cable to one of the legs with a small chain or rope, this will help to guide the hose and cable away from the wheels of the machine during work.
- Start every job with milling off just a few mm, this to check the surface and the way the machine responds to it.
- Try to stay with one of the wheels on a flat surface, so you only have to adjust one side of the machine to stay levelled during milling.
- If possible, always work with both wheels folded out.
- When the left wheel is folded in, there is no possibility to mill with the machine. This option is only there to easily change the drum motor and to go through small passages.
- Check if the picks in the drum still can rotate around their own axle. If the picks are stuck in the housing, the picks wear off uneven. Which means they will have to be replaced sooner.
- Make sure the pressure during milling is not higher than 100 bar. When the machine is turning free, 30 bar is a normal pressure.



5.7 Switching off the diesel engine

There is a danger of injury if unauthorized persons handle the machine. Protect the starting key against unauthorized access upon breaks in operation or after completing work.

Protect the ignition lock against dirt and moisture. When the starting key is pulled out, seal the ignition lock with the protective cap.

1. Pull the diesel throttle (see chapter 2. Machine description, item 33) towards you so the engines RPM's go to idling.
2. Turn the starting key to position "0".

Note:

Danger of exhaustive battery discharge. When the machine is switched off, always turn the starting key to position "0" or else the battery may become fully discharged.

5.8 Refuelling the engine



DANGER



Fire hazard from fuel.

Leaked or spilled fuel can ignite on hot engine parts and cause serious burn injuries.



- Only refuel when the engine is switched off.
- Never refuel in the vicinity of open flames or sparks that can cause ignition.
- Do not smoke.
- Do not spill fuel.



CAUTION



Danger of environmental damage from spilled fuel.

- Do not overfill the fuel tank and do not spill fuel.
- Collect any leaking fuel and dispose of it according to local environmental regulations.

CAUTION53

Engine damage from using low quality fuel.

The use of fuel that does not meet the specifications can lead to engine damage.

- Only use the fuel specified in chapter 4.2 Fuel, page 24.
- The use of fuel that does not meet specifications requires approval by Motorenfabrik HATZ.



Fuel

Fuel type:

All types of diesel fuel that meet the minimum requirements of the following specifications are suitable:

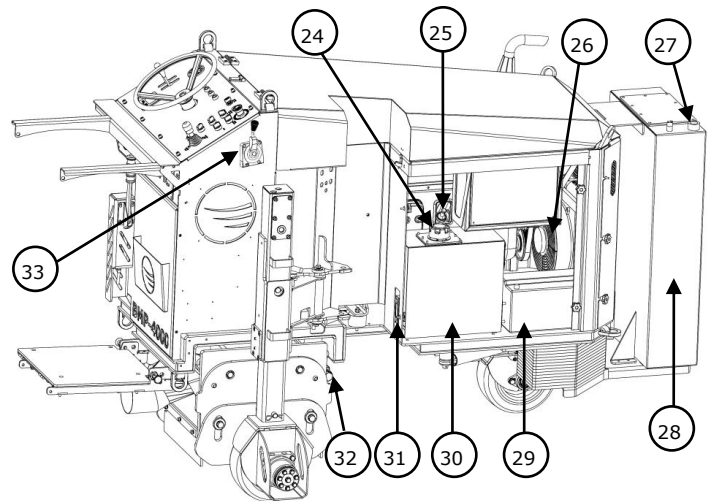
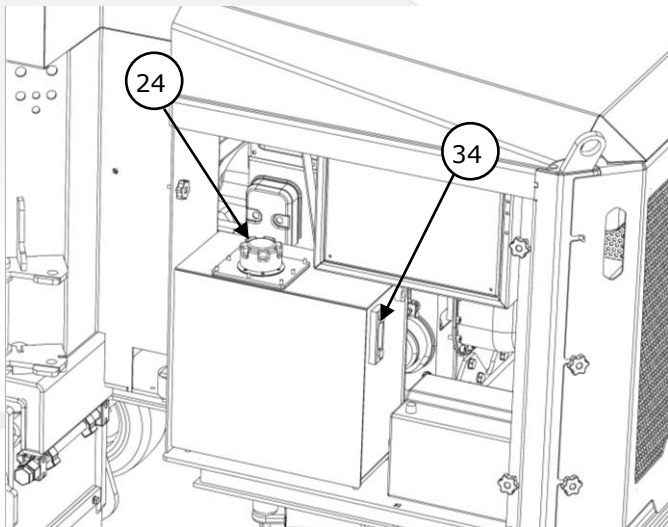
- EN 590 or
- BS 2869 A1 / A2 or
- ASTM D 975- 1D / 2D

Winter fuel

When outside temperatures drop below 0°C, use winter fuel or mix in petroleum in advance:

Lowest ambient temperature at start [°C]	Percentage of petroleum [%]for	
	Summer fuel	Winter fuel
0 to -10	20	-
-10 to -15	30	-
-15 to -20	50	20
-20 to -30	-	50

1. Make sure the machine is levelled (check the levellers).
2. Make sure the dieseltrottle (33) is closed and the engine is turned off (put the startkey in your pocket).
3. Unscrew the dieseltank fuel cap (24).
4. Carefully fill the tank with diesel fuel, check the level gauge (34).
5. Screw the diesel fuel cap back on.





5.9 Checking and refilling the engine oil

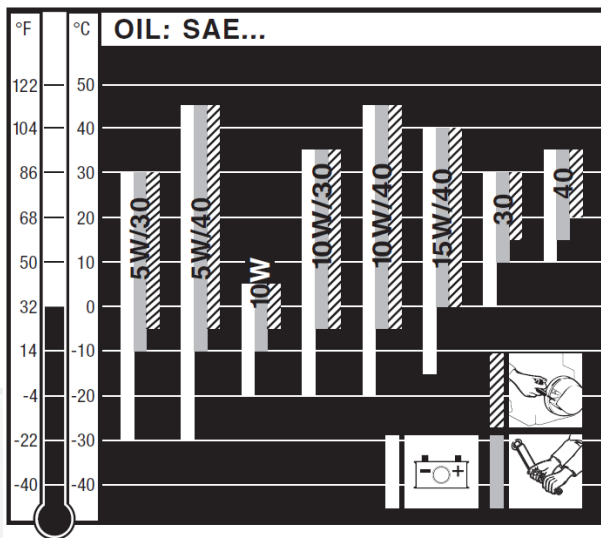
Oil quality

All brand name oils that satisfy at least the following specification are suitable:

- **ACEA – B3 / E4** or better
- **API – CF / CH-4** or better

If engine oils of a low quality standard are used, the oil change interval must be reduced from 250 to 150 or from 500 to 250 operating hours depending on the engine specification.

Oil viscosity



Choose the recommended viscosity based on the type of start (recoil, crankhandle or electric) and on the engine temperature at which the engine will be operated.

CAUTION

Engine damage from unsuitable engine oil.

Unsuitable engine oil considerably reduces engine service life.
Only use engine oil that fulfills the specifications stipulated above.



CAUTION



Danger of burns.

There is a danger of burns when working on a hot engine.

- Wear safety gloves.



CAUTION



Danger of injury.

Prolonged contact with engine oil can lead to irritation of the skin.

- Wear safety gloves.
- If there is contact with the skin, thoroughly wash the affected areas of the skin with soap and water.

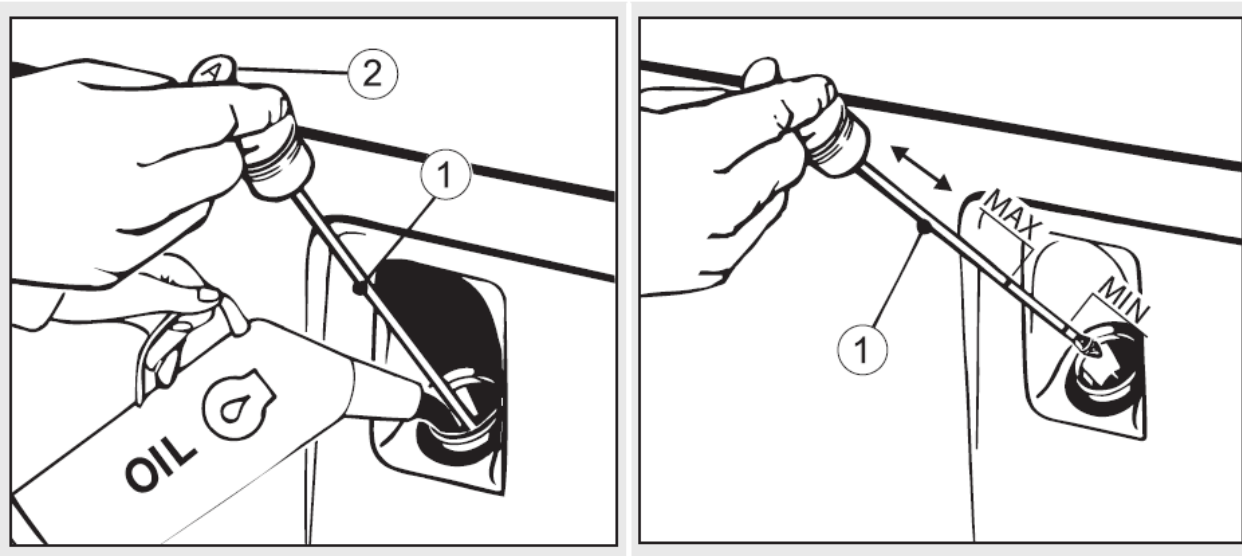


CAUTION

Danger of later engine damage.

- Operating the engine with an oil level below the **min.** mark or above the **max.** mark can lead to engine damage.
- When checking the oil level, the engine must be horizontal and have been switched off for a few minutes.

Overview – Checking oil level/adding oil



1	Dipstick
2	Code letter on the dipstick (A)

1. Switch off the engine and wait several minutes for the engine oil to collect in the crankcase. Engine must be level.
2. Remove contamination on the engine in the area of the dipstick (1).
3. Pull out the dipstick and clean it.
4. Reinsert the dipstick.
5. Pull out the dipstick and check the oil level.
6. If the oil level is close to the **min.** mark, add engine oil to the **max.** mark.
7. Reinsert the dipstick.

The **3M41** engine (without oil sump) has a capacity of approximately 8.5 liters.



6. Maintenance

Please read the OWNER'S MANUAL of the diesel engine for the proper maintenance schedules.

Pay attention to Chapter 3 "**Safety**" during maintenance and repair works.

Failures due to inadequate or incorrect maintenance may generate very **high repair costs** and long standstill periods of the machine. **Regular** maintenance therefore is imperative.

Operational safety and service life of the machine depends, among other things, on proper maintenance.

Prevent premature wear by keeping the machine as dust free as possible. Clean the machine for this reason regularly with a dust collector.

The following table shows recommendations about time, inspection and maintenance for the normal use of the machine.

Operating hours/ time period	Inspection points, maintenance instructions
12 h after repairing	Check all accessible screw connections for tight seat.
Daily and prior to starting work	Check that all safety devices working adequate. Check for loose bolts and loose hydraulic connections. Check the cables and hoses for leakage, wear and tear. Check the electric connections for sediments of dirt or foreign bodies. Check the seals around the drum housing. Check the diesel fuel level.
After each workday	Protect the ignition lock against dirt and moisture. When the starting key is pulled out, seal the ignition lock with the protective cap. Check the diesel fuel level.
Every 8-15 operating hours	Check the oil level and add oil if necessary. (Consult the Hatz manual).
Monthly	Greasing the bearings in the drum house
Annually	Full overhaul and cleaning of the complete machine.

Due to different working conditions it can't be foreseen how frequently inspections for wear, check's, inspection, maintenance and repair works ought to be carried out. Prepare a suitable maintenance schedule considering your own working conditions and experience. However a full overhaul must be carried out at least once a year.

Our specialists will be happy to assist you with more advice.

Prior to any repair works on the machine and its drives, secure the machine against unintentional switching on. Put the machine to its safety off position.

Follow additional operating and maintenance instructions of Original Equipment Manufacturer during your service and maintenance work. (For example the Diesel engine and laser-levelling system)



The maintenance and general periodic inspections of the Hatz diesel engine are not all included in this manual. Contact your local dealer / garage company to ensure the safety and appropriate maintenance intervals.

Further is advised:

Clean the machine with a dust collector and non-aggressive materials. Never use a high pressure water cleaner to clean the machine.

Store the cleaned and dry machine in a dry and humid free room. Protect the electrical motors from moisture, heat, dust and shocks.

All repair work must to be done by qualified Blastrac personnel, this to guarantee a safe and reliable machine.

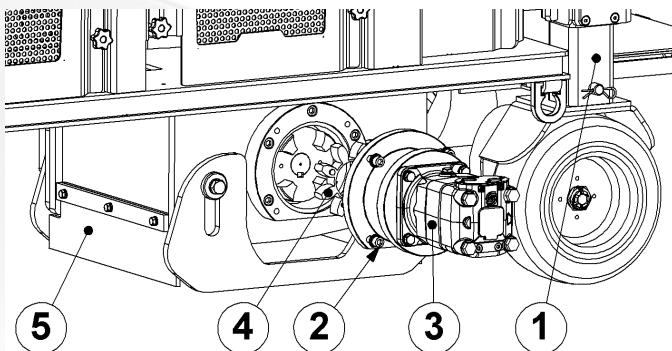
Any guarantee on the machine is expired when:

19. Non original Blastrac parts have been used
20. Repair work is not done by qualified Blastrac personnel
21. Changes, add on's or conversions are undertaken without written permission of Blastrac BV

6.1 Changing of hydraulic motor and checking coupling buffer

To check the buffer of the milling axle coupling, the hydro motor should be taken off.

- Fold the left wheel in (1) and loosen the hydraulic hoses from the motor (3)
- Unscrew the 4 bolts (2) so the motor with flange and coupling can be taken off.
- Check the buffer (4) and replace if necessary. (Part number E07782)
- Check the seals (5) around the drum housing for any damages.



Coupling buffer
Part number E07782

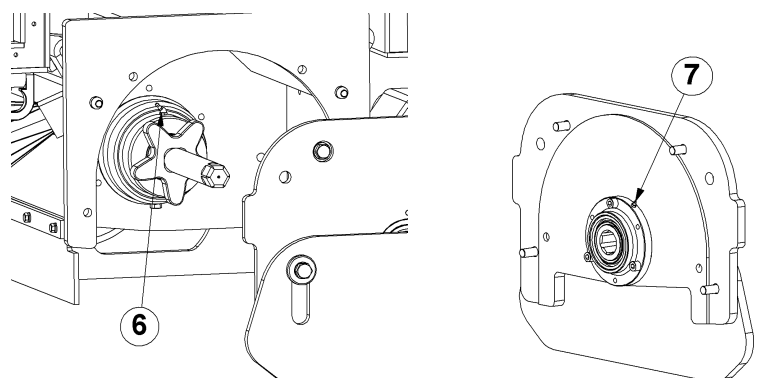
6.2 Maintenance of bearings

Both bearings in the drum housing are open bearings which are covered by special designed shaft seals. These bearings should be greased to keep the dust out of the bearings.

By normal daily use the bearings should be greased once a month.

The quantity of used grease should be 5-10 gram. This is equal with 2-6 pumps of grease (on points 6 & 7) Be careful! Too much grease is not good for the bearings!

Only use the grease which is recommended by Blastrac, this is E08729 – bearing grease. This grease is specially made for this kind of application. Using other grease will damage the bearing.

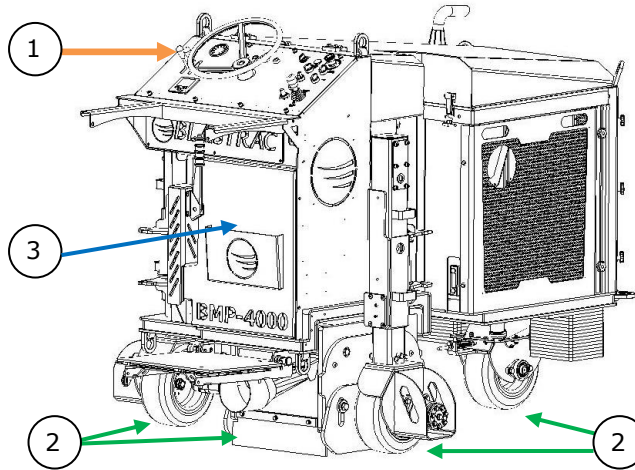




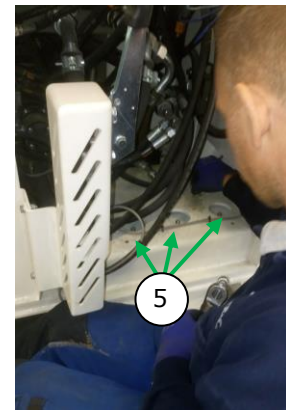
6.3 Replacing the shock absorbers

The drum housing has 6 shock absorbers designed for heavy duty operation. Excessive vibrations could indicate worn out shock absorbers. The replacement interval depends on the work that has been carried out, as a rule we advise to replace them at least annually.

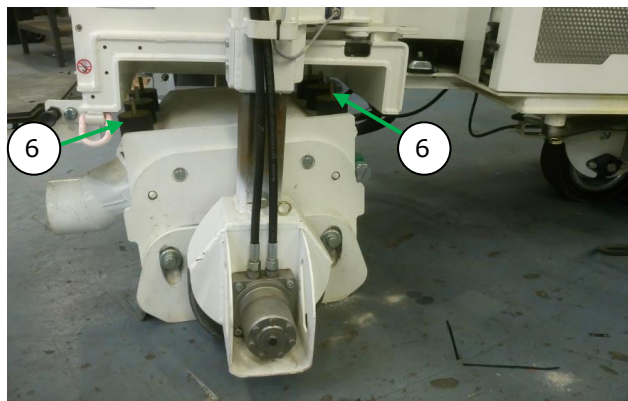
Use the handles (1.) to let the machine down as far as possible so it will stand on the **drum** and the 3 wheels (2).
Remove the back cover (3).



Use a socket wrench with flexible extension (4) to remove the six nuts of the shock absorbers on the inside of the frame (5).



Slowly lift the machine up to its maximum horizontal position.
Now the old shock absorbers can easily be replaced for six new shock absorbers (6).

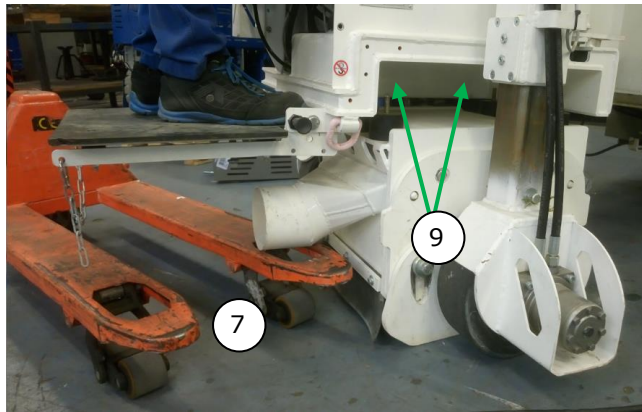


Partnumber	Item
RB270A/9	Shock absorber



Slowly and carefully let the machine down.

Use a pallet truck (7) and crowbar (8) to align the shock absorbers with the holes in the frame.



Make sure all nuts + spring washers + washers are tightened properly.



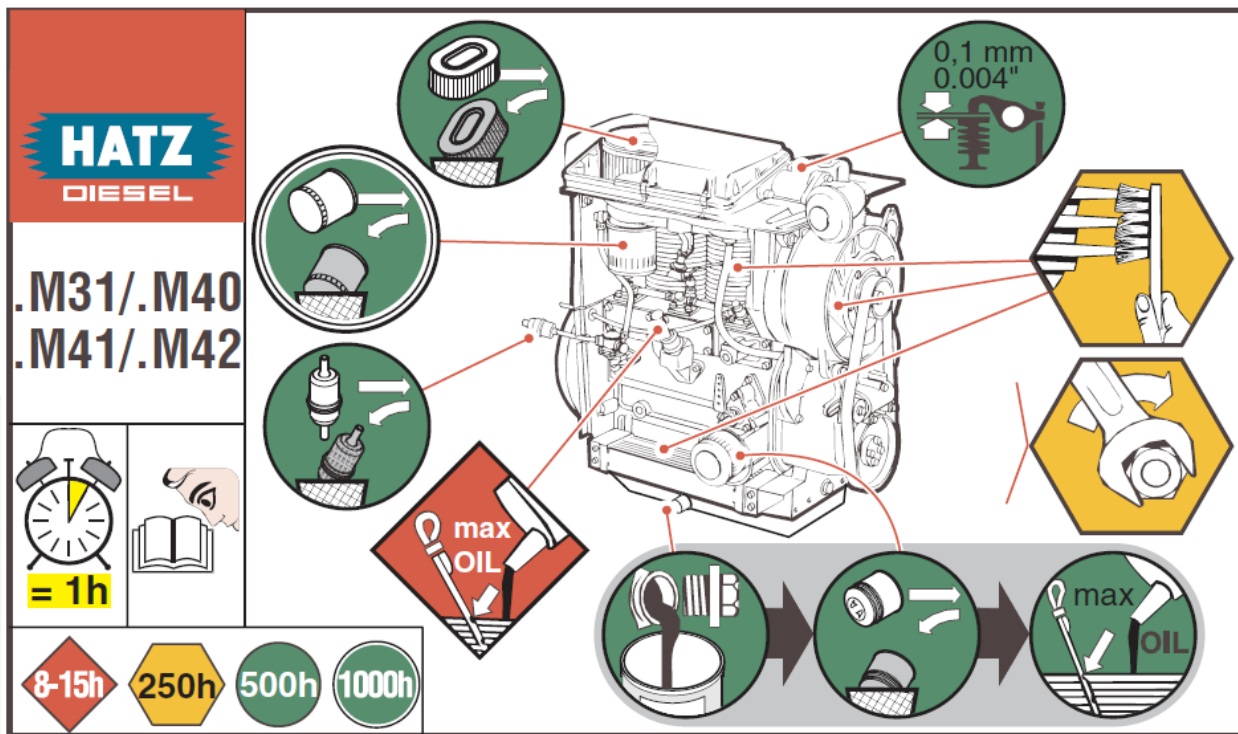
6.4 Diesel engine maintenance

The maintenance points described in this manual are only some highlights taken from the Hatz manual.

Read the OWNER'S MANUAL of the Hatz diesel engine 3M41 for the proper maintenance schedules.

The maintenance plan shown below is supplied with the engine.

- It should be mounted on the engine or machine in a clearly visible location.
- The maintenance intervals specified on the maintenance plan must be adhered to (Consult the Hatz manual).



Maintenance plan

In new and generally overhauled engines, after 25 operating hours:

- Change the engine oil
- Check the tappet clearance and adjust if necessary (consult Hatz manual.)
- Check the screw connections (do not retighten the screws for attaching the cylinder head)





In case of a low number of operating hours, change the engine oil no later than every 12 months, regardless of the actual number of operating hours.

The **3M41** engine (without oil sump) has a capacity of approximately 8.5 liters.


NOTE: In case of heavy contamination, shorten the maintenance intervals accordingly





The degree of contamination of the fuel, the care with which refueling is performed and the soiling on the inside of the fuel tank are decisive in determining the change interval of the fuel prefilter and the main fuel filter.

Consult the Hatz diesel engine's manual before performing maintenance

Symbol	Maintenance interval	Maintenance step/check
	Every 8–15 operating hours or every day before starting	Check the oil level.
		Check the intake area of the combustion air.
		Check the cooling air area.
	Every 250 operating hours	Change the engine oil
		Check the poly v belt.
		Clean the cooling fan, cooling fins and oil cooler.
		Check the screw connections.
		Clean the screen insert in the exhaust pipe.
		Check the water separator.
		Check the fuel prefilter for contamination and change it if necessary.
Check the air filter maintenance indicator.		
	Every 500 operating hours	Change the fuel prefilter.
		Maintain the dry air filter. Change the filter cartridge.
		Check and set the tappet clearance.
		Change the engine oil.
		Change the oil filter.
	Every 1000 operating hours	Change the main fuel filter
---	Every 2000 operating hours	Renew the gaskets in the belt tensioner or the complete belt tensioner. (To be carried out by a trained specialist)
		Renew the poly v belt.
---	Every 3000 operating hours	Clean the EGR valve, EGR housing, and intake area. (To be carried out by a trained specialist)

7. Troubleshooting

Fault	Possible cause	Remedy
Excessive vibration or/and Unusual noises	<p>Imbalance due to worn or broken tools.</p> <p>Defective bearing.</p> <p>Wrong tension of the belt.</p> <p>Defective motor.</p> <p>The scarifying setting is too deep.</p>	<p>Replace all worn or broken parts.</p> <p>Check the bearing on the axle drive shaft and replace if necessary.</p> <p>Check the tension of the belt, replace the belt if necessary.</p> <p>Replace the motor.</p> <p>Reduce the scarifying depth.</p>
Reduced or no scarifying performance	<p>Tools have reached the maximum permissible wear.</p> <p>Inappropriate tools for the application.</p>	<p>Replace the worn parts.</p> <p>Replace the tools with appropriate tools for the surface to be treated.</p>
Motor does not switch on	<p>Missed phase.</p> <p>Wrong phase.</p> <p>Defective Component.</p> <p>Dead man's switch is activated.</p>	<p>Check the mains power supply and try to switch on again.</p> <p>Adjust phase.</p> <p>Find fault and replace defective component.</p> <p>Follow the enclosed information of the manufacturer (Diesel-motor).</p> <p>Put the key of the dead man's switch in.</p>
Motor protection switch triggers while running	<p>Motor protections switch triggered because of overload .</p> <p>Motor has a defect.</p>	<p>Reduce the scarifying depth.</p> <p>Check the motor.</p>
<p>Engine temperature indicator lights up or flashes during operation.</p> 	<p>The engine temperature indicator only flashes during operation if a problem arises in connection with the exhaust gas return system. This includes a dirty air filter. This can be identified by the following flash code of the engine temperature indicator:</p>	<ul style="list-style-type: none"> ▪ 7 times short flash (approx. 0.5 seconds) and 1 long flash (approx. 1.5 seconds). ▪ The flash code indicates that the air filter must be cleaned or changed (consult the Hatz manual). ▪ If a different flash code appears, please contact the nearest Hatz service station.
Engine will not start	<p>Engine has shut down due to empty fuel tank</p>	<p>Fill the fuel tank. Remove the access cap for the fuel feed pump. Actuate the manual lever on the fuel feed pump until the fuel audibly flows back into the fuel tank through the return line. Install the access cap again and start the engine. (See Hatz manual for details.)</p>

<p>The engine starts, but does not continue running after the starter is switched off.</p>	<p>The speed control lever is not sufficiently set in the Start direction.</p>	<p>Set the lever to the Start position.</p>
<p> 20</p>	<p>Indicator stays on or flashes during operation.</p>	<p>Stop the machine immediately and consult the Hatz engine manual.</p>
<p> 21</p>	<p>Indicator stays on or flashes during operation.</p>	<p>Stop the machine immediately and consult the Hatz engine manual.</p>
<p> 22</p>	<p>Indicator stays on or flashes during operation.</p>	<p>Stop the machine immediately and consult the Hatz engine manual.</p>
<p> 23</p>	<p>Indicator stays on or flashes during operation.</p>	<p>Stop the machine immediately and consult the Hatz engine manual.</p>

8. Technical data

	BMP-4000E 3x400V	BMP-4000G Diesel	
Power consumption	30 kW	34 kW	
Electrical connection / fuel	3x 400 volt	Diesel	
Frequency	50Hz	-	
Power connection	5 pole / 63 ampere	-	
Working width	390 mm	390 mm	
Rotation speed drum	300 min ⁻¹	300 min ⁻¹	
Working speed	0-45 m/min	0-45 m/min	
Drive speed	0-2,7 km/h	0-2,7 km/h	
Length	1995 mm	1995 mm	
Width	840/1190/1512 mm	840/1190/1512 mm	
Height	1660 mm	1660 mm	
Weight	1550 kg (excl. drum)	1590 kg (excl. drum)	
Noise level	Up to 98,5dB(A)	Up to 98,5dB(A)	
Dust hose connection	Ø150 mm	Ø150 mm	
Engine oil	-	SAE 10W-40	
Engine oil consumption (after running-in period)		Max. 1% of fuel consumption, pertaining to full load	
Power generator	52 KVA	-	

Design and specifications are subject to change without notice by Blastrac BV.
The electrical diagrams of the electrical system are placed inside of the control panel.



Vibration level:

Measured; 2,15 RMS (ISO 5349) (Hand-arm vibration on steering wheel)

This measure allows working continuously with the mentioned equipment without having to use anti vibration precaution measures for 10,8 hours.

Measured; 0,284 RMS (ISO 2631) (Whole-body vibration on standing platform)

This measure allows working continuously with the mentioned equipment without having to use anti vibration precaution measures for 24,8 hours.

IMPORTANT NOTE:

Vibration levels can vary in different circumstances. The indicated value was measured on a new machine. The surface to be treated, the depth of milling, the speed of driving etc. will give different values at all time.

Noise level: (under load)

98,5dBa

IMPORTANT NOTE:

Sound levels can vary in different circumstances.

The indicated value was measured on a new machine.

Area influences like open outside or closed inside space, the surface to be treated etc. will give different values at all time.

Hearing protection is required with the use of this equipment.



9. Storing the machine for a lengthy period

Take the following measures if you intend to take the machine out of service for a lengthy period (3-12 months):

Step	Activity
1	Drain the fuel tank until it is nearly empty and fill with FAME*-free fuel. Operate the engine for a few minutes so that only FAME-free fuel is still in the fuel system.
2	Change the engine oil and oil filter (Consult Hatz manual)
3	Change the fuel filter (Consult Hatz manual)
4	Let the machine cool down.
5	Remove the battery and store at ambient temperature. Comply with the local regulations as well as the regulations of the battery manufacturer for the storage of batteries.
6	Close and seal all engine openings (air intake openings, air outlet openings and the exhaust gas opening) so that no foreign bodies can enter, but a small amount of air can still be exchanged. This avoids condensation.
7	After the machine has cooled down, cover it to protect it against dust and store it in a dry and clean place.

*FAME = Fatty Acid Methyl Ester

Ambient conditions during storage

- Max. permissible storage temperature: -25 °C to +60 °C
- Max. permissible humidity: 70%
- Protect the engine from direct sunlight

Recommissioning

Step	Activity
1	Remove all covers.
2	Check the cables, hoses and lines for cracks and leak tightness.
3	Check the engine oil level.
4	Install the battery.



Old equipment contains valuable materials which are valuable for re-processing. The machine parts must not be thrown away in the normal household waste, but should be disposed of at a suitable proper collection system, e. g. via your communal disposal location. This way the materials can be re-used in an environmentally responsible manner.

Dispose of the machine (including machine parts, engine oil and fuel) according to the local disposal regulations and the environmental laws in the country of use.

Because of the danger of possible environmental damage, only permit an approved specialist company to dispose of the machine.

The original operating instructions are in the English language, any other language is a translation of the original version.

Despite the fact that this guide is made with care, Blastrac takes no liability for errors in the manual and the possible consequences. We are naturally very interested in your findings and additions. No part of this publication may be reproduced and / or published in print, photocopy, or other form without prior permission by Blastrac.



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