BLASTRAC

Original instructions in English

OPERATING INSTRUCTIONS
BMC-335EHY/GHY
VERSION 2.9

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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

Table of contents

1. Introduction

Before use, operators must 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 it 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 multisaw machine BMC-335 can be supplied with a 400 Volt electric motor (EHY) or with a combustion engine (GHY), where you can mount a different quantity of saw blades underneath. By changing the pulleys and the belt, the machine can also be used as a scarifier. The manufacturer will not be liable for damage resulting from incorrect usage, in these cases the user assumes all risks.

The machine is sealed around which makes the use almost dust free when connected to an appropriate Blastrac dust collector. Due to the fine adjustment and the possibility to lock the height adjustment, the depth of cutting can be set very precisely, and the same saw depth can be maintained.

Intended use:

The multisaw machine is extremely suitable for removing hard top layers from soft floors or to remove the top layer from "floating" floors and/or "computer" floors.
Sawing is a very fast process. Ideal for removing several millimeters from a concrete floor preparing it to be polished up to the stones without using an extra scarifier.
The BMC-335 can be used during sawing in the forward or backward driving direction.
Driving in reverse direction while sawing will give a more uniform surface.
Driving in forward direction while sawing will allow more speed since it is less hard for the motor.

NEVER use the BMC-335 as a scarifier without the proper modifications.
The machine must first be converted into a BMP-335.

This is possible by changing the belt and the pulleys. (See chapter 6.4)
If the multisaw machine is converted to a scarifier, it can be used, with the appropriate cutters, for the following applications;
To roughen concrete
To clean most horizontal surfaces
To remove coatings
To corrugate concrete surfaces
To remove road markings
To make non-slip surfaces

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.

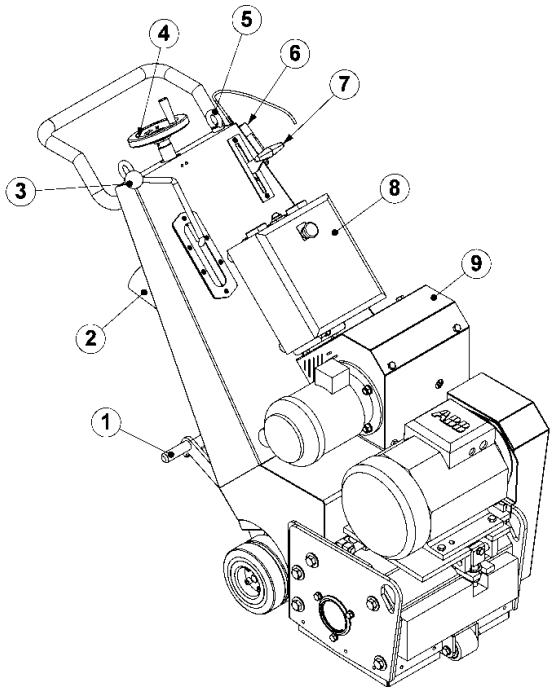
With a suitable Blastrac dust collector work can be carried out without causing excessive dust in the work area, this raises the life span of the machine and protects the health of the personnel.

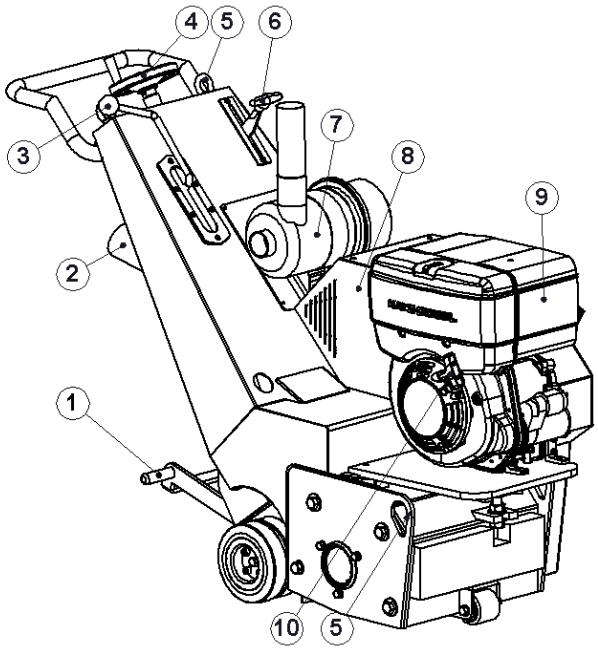
For the GHY version (Diesel engine)

Please read the enclosed OPERATOR'S MANUAL of the diesel engine before operating the machine.

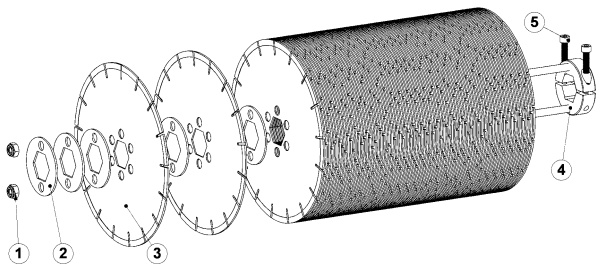
The OPERATOR'S MANUAL contains important information about getting the best performance and safe operation of the diesel engine.
The OPERATOR'S MANUAL should be considered a permanent part of the engine and should remain with the engine if resold.

	BMC-335 EHY	BMC-335 GHY
1	Treadle of drive system	Treadle of drive system
2	Dust collector connection	Dust collector connection
3	Quick lift lever	Quick lift lever
4	Handwheel working depth	Handwheel working depth
5	Lifting eye	Lifting eye
6	Dead man switch	Driving lever
7	Driving lever	Air filter
8	Electrical panel	Hydraulic pump housing
9	Hydraulic pump housing	Diesel motor
10		
11		





1	M10 lock nut
2	Spacer ring
3	Diamond blade green 30/40 Diamond blade blue 30/40 Diamond blade red 30/40
4	Drum for diamond blades
5	M8x30 hexagon socket head cap



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.

3.1 Work area safety

a) Do not use the machine in rain, damp or wet locations.
b) Avoid dangerous environments: do not 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.
c) In some cases sparks could be created by **sawing, scarifying or milling.**
d) **The surface to be treated must be clean, make sure to remove all stones, screws etc..**
e) **Do not use on wood.**
f) Make sure there is enough ambient light on the work area. Cluttered or dark areas invite accidents.
g) 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.
h) Persons who are not operating the machine must not be permitted to stay in the surrounding area of at least 5 meter from the machine.
i) Never use the machine when the surface is not clear and if there is a risk of stumbling or tripping.
j) Remove electrical cables and dust hose(s) from the surface to be treated.
k) Make sure that there are no cables or hoses in the driving direction of the machine.
l) Make sure that there is nothing standing or situated on the surface to be treated.
m) 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.
n) **Never stay in the rain with the machine.**
o) Check if there are any obstacles that can snag the cables when the machine is moving.
p) Remove all objects from the surface that can damage the machine. Remove reinforcing steel or other objects protruding from the surface in order to prevent damage to the machine.
q) **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.
r) It is necessary to provide for an adequate air change rate L in the room if the exhaust air from the dust collector is returned to the room. Comply with the National regulations.
s) Secure the work area around the machine in public areas providing an adequate safety distance from the machine. Use a red and white safety chain and danger sign to enclose the work area.
t) 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.
u) Only work on locations which are adequately ventilated.

3.2 Personal safety

a) Always wear Personal Protective Equipment while working with the machine.
-Dust mask class FFP3 or higher
-Ear protection
-Safety glasses with lateral protection
-Protecting gloves
-Safety shoes

b) Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts.
c) Personnel must tie back long hair and not wear loose clothing or jewellery including rings.
d) Stay alert, watch what you are doing and use common sense when operating the machine.
e) Always seek professional medical attention immediately in case of injury.
f) All persons surrounding the machine should wear Personal Protective Equipment.

3.3 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) Do not use the machine when it is damaged.
f) Do not **open** or **remove protective guards** while driving gears are running.
g) The temperature of the machine can be above 37° C.
h) The machine, specially the handle grips and control devices must be dry and free of fats/oils.
i) All repair work has to be done by qualified Blastrac personnel, this guarantees a safe and reliable machine.
j) Always use original Blastrac spare parts, sawing blades and cutters. This will ensure the best performance. Only original parts meet the factory specifications and quality. Otherwise Blastrac BV cannot guarantee the safety of the machine. The part numbers can be found in the Service Manual.
k) Check the rotating direction of the motor before operation. The correct direction is given with an arrow on the housing of the motor.
l) Make sure the drum with blades is in good condition.
m) **In some cases sparks could be created by sawing, milling or scarifying.**
n) If safety-critical changes occur to the machine or its working method, the machine must be shut down immediately! The cause of the fault must be established, and rectified.
o) In the event of operational malfunctions the machine must be shut down immediately and secured!
p) **Never use the machine without a suitable (Blastrac) dust collector!**

3.4 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.
c) Any damage to the electric cables and/or electrical components is not permitted.
d) If the power supply cable or plug is damaged, it must be replaced immediately. Only use original Blastrac parts.
e) The voltage on the identification plate must comply with the power supply.
f) Use an electrical power supply connection with earth connection and earth leakage circuit breaker.
g) 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 machine on.
h) **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.
i) Inspect and test the electrical components regularly. The electrical components have to satisfy with the requirements set out in the harmonised norm EN60204-1.
j) Always call a skilled electrician or your distributor when you have questions about the safety of the electrical components.
k) 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.
l) Always use tools that are insulated against voltages.
m) Do not abuse the cables. Never use the cables for carrying, pulling or unplugging the machine. Keep cables away from heat, oil, sharp edges or moving parts. Damaged or entangled cables increase the risk of electric shock. Do not fold the cable or clamp it.
n) Don’t pull out the power supply cable out by the wire, but by the connector.

o) Be careful with water on the treated surface. Electrical cables must not come into contact with water.
p) During a long standstill of the machine, pull out the main plug.
q) If the machine is to be operated using power from a generator, the generator must be operated in accordance with the current legal regulations and directives in force. (this applies to the protective earth conductor in particular) in order to ensure that all safety devices are functioning and to eliminate possible damage to electrical components.

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 cap is closed securely.
p) Don't leave the machine laying backwards for a long time, because this may result in fuel spillage.
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 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 or other defects.
d) Hydraulic fluid under pressure is dangerous and can cause serious injury.
e) Never look for a leak when the unit is under pressure.
f) Avoid leaks by keeping fittings and hoses tight, only check and service when not under pressure.
g) 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.
h) 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!
i) 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.
j) 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.

k) Do not eat, drink or smoke near the hydraulic oil.
l) HV46 hydraulic oil holds no danger of intoxication.
m) 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.
n) Avoid sparks, open flames, extremely high temperatures and other sources of ignition.
o) Please read the Safety Data Sheets for additional information regarding the hydraulic oil.
p) Only use HV46 hydraulic oil (E00481), non-compatible fluids could cause damage to the unit or serious injury.
q) At least one time during year oil from system and the filter should be replaced.
r) 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.
s) Hoses and pipe work can be under high (hydraulic) pressure. The temperature can be above 37° C. Use only hoses and pipe work that are sized and marked in accordance with the overall power consumption of the machine.
t) A second person must be deployed who can disengage the hydraulics in an emergency if work on live parts is necessary. The work area must 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.

3.7 Dust collector safety

a) **Always use a Blastrac dust collector** 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) Read the operating instructions of the dust collector before using it.
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!

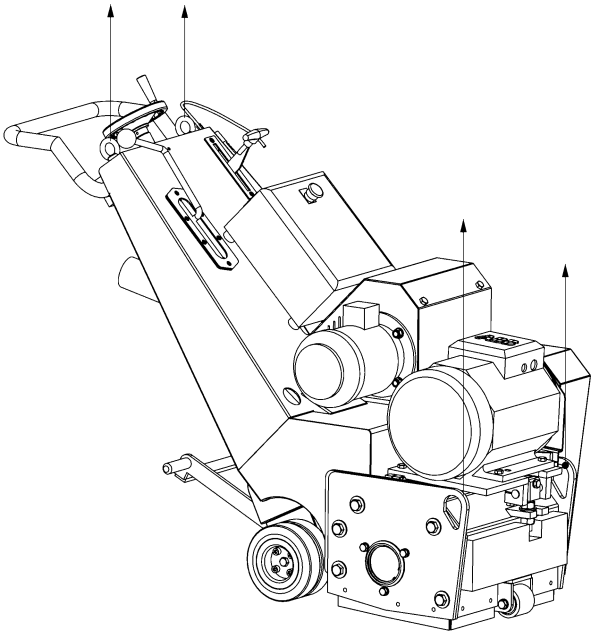
3.8 Maintenance safety

a) Pull out the main plug and place it in sight, before changing the drum or starting inspections and repairing on the machine. Pull out the key of the dead man's switch and keep it in your pocket.
b) Wait for a standstill of all drives before any inspections, adjustments and/or maintenance work is started.
c) Block the machine in a 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) Do not use any **aggressive** cleaning materials!
h) Use lint-free **cleaning cloths**!
i) 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.
j) 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.
k) Always read the enclosed OWNER'S MANUAL of the Hatz diesel engine before operating the machine.
l) The OWNER'S MANUAL contains important information about getting the best performance and safe operation / maintenance of the diesel engine.
m) The OWNER'S MANUAL should be considered a permanent part of the engine and should remain with the engine if resold.

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 BMC-335EHY is 405 kilogram without diamond blades. The weight of the BMC-335GHY is 359 kilogram without diamond blades. Use a crane or lift when transporting the machine, use the lifting eyes on the machine.
c) Before every use check the lifting eyes and welds for: deformation, damages, cracks, corrosion and wear.
d) 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.
e) During hoisting make sure to be at a safe distance from the machine with the most optimal view on the machine and working environment.
f) Never stand directly below the machine.
g) 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.
h) The lifting eyes can also be used to fasten the machine on a pallet or during transport.
i) Always drive backwards when driving up to a ramp or grade, and forwards when driving of the ramp.
j) Chock wheels for transport and keep the treadle in engaged position, this will function as a brake on the wheels.
k) Don't leave the machine unsecured on jobsites.
l) Park the machine always on a flat horizontal and levelled surface.
m) Remove the dirt, dust and debris from the machine before transport.
n) Make sure the electrical cable and dust hose are disconnected before transport.
o) Store the cleaned and dry machine in a humid free room. Protect the motor from moisture, heat dust and shocks.

p) Never use the machine for lifting persons or items.
q) It is possible to transport the machine without the use of the motor by pushing up the treadle (pos. 11, page 5). The drive wheels are declutched of the drive motors now. Make sure that the floor is flat, because the machine is uncontrolled now! **It is very dangerous to drive the machine on a grade or ramp when the treadle is in upwards position!** Never load or unload the machine on a ramp or incline when the wheels are in the disengage mode. Failure to do so could cause machine to run away, damage to the machine, damage to property or cause serious injury.
r) Only lift the machine as shown in the picture below. Use the existing lifting points to lift the machine.



NEVER use the BMC-335 as a scarifier without the proper modifications!
The machine must first be converted into a BMP-335.

This is possible by changing the belt and the pulleys. (See chapter 6.4)

3.10 Signs on the machine

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

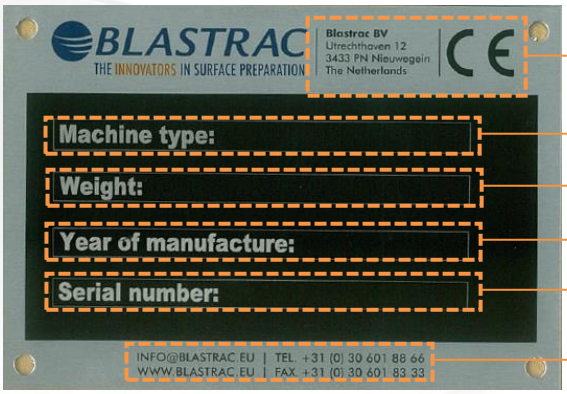
! Danger Hazardous voltage in motor even when solid state controller is OFF. Disconnect main power before servicing motor, controller or associated wiring.

Warning! Hot surface.

DANGER Rotating parts inside.
Keep hands clear.
Lock-out / shut down before servicing.

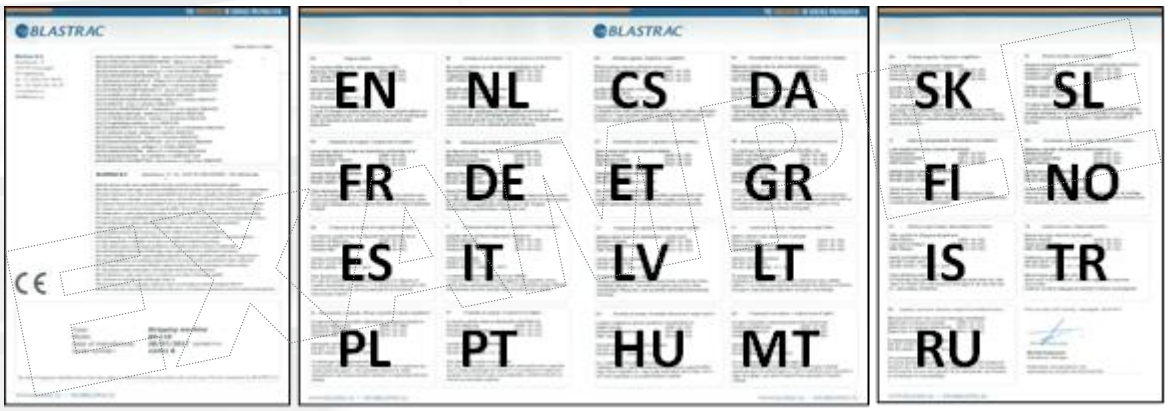
Wear a dust mask class FFP3 or higher.
Hearing protection is obliged.
Safety glasses with lateral protection are obliged.
CE-mark on this machine.
Wear protecting gloves.
Safety shoes obliged.
Consult the manual before operating the machine.

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:



4. Initial operation

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

4.1 Checkpoints of electrical safety (EHY-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.
- Electrical cables must be fully unwind of their reels.
- No damage is permitted for electrical cables.
- Use an electrical power supply connection with earth connecting.
- Make sure the power supply is in accordance with the machine specifications.
- 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 machine on.
- If the machine is to be operated using power from a generator, the generator must be operated in accordance with the current legal regulations and directives in force. (this applies to the protective earth conductor in particular) in order to ensure that all safety devices are functioning and to eliminate possible damage to electrical components.

Checkpoints of diesel engine safety (GHY-version)

- Make sure the location is adequately ventilated.
- Make sure there is a sufficient amount of fuel in the fuel tank.
- Make sure 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 the machine

- Safety functions and operating functions must work correct.
- Check all screws and other fasteners for tightness. No loose bolts and/or nuts are permitted.
- Check the electrical components, cables and connections for wear and/or damages.
- Check the hydraulic components on the machine for damages and wear.
- Dust hose connections must be reliable: use hose clamps and industrial tape.
- Dust hose must be undamaged and free of obstructions.
- Check the tension of the belt after a drum is placed in the machine.
- Make sure the drum and the diamond blades are in good condition.
- Make sure the drum is assembled as shown in the service manual.
- Check if the motor turns in the right direction and if the turning direction of the diamond blades is the same as the motors turning direction.

Turning direction of the axle

Turning direction of the diamond blades

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 Manual moving of the machine

To move the machine manually push the treadle up with your foot. The wheels are now disengaged from the drive motors. The machine can now be pushed around on its wheels.

Make sure that the floor is flat, because the machine is uncontrolled now! **It is very dangerous to drive the machine on a grade or ramp when the treadle is in upwards position!** Never load or unload the machine on a ramp or incline when the wheels are in the disengage mode. Failure to do so could cause machine to run away, damage to the machine, damage to property or cause serious injury.
Push the treadle down when parking the machine, engaging the wheels to the drive system will act like a parking brake when the machine is turned off.

The machine should only be moved around when the dust hose, and power supply cable are disconnected.

WARNING! Always make sure all rotating parts have come to a complete standstill before moving the machine around.

Be careful! Make sure nobodies feet get under the wheels. Wear appropriate safety shoes when you drive the machine to or from the work area.

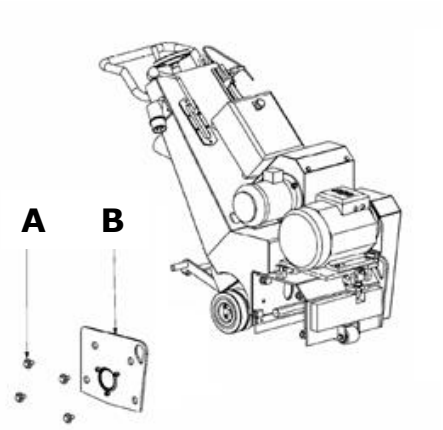
Make sure that no vehicles, such as forklift trucks and other equipment run over the electric cable and the dust hose.

4.4 Mounting the diamond blades

- 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.

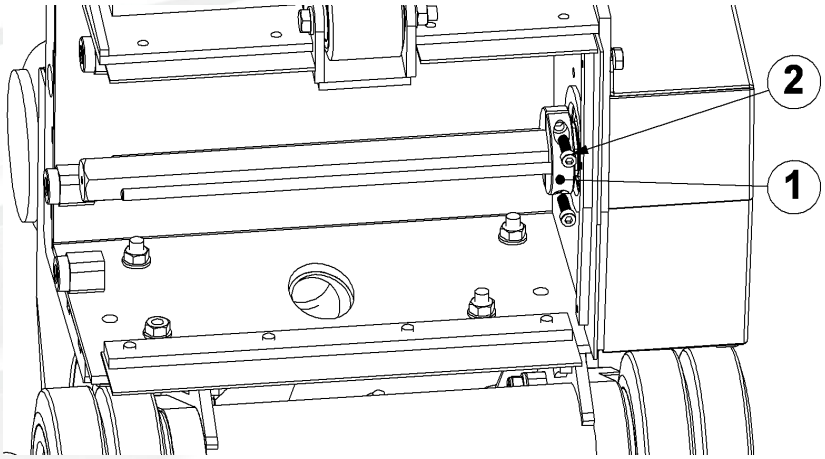
Make sure all moving parts of the machine have come to a complete standstill before mounting the blades.
-Pull out the main plug of the machine.
-Pull out the key of the deadman's switch and put it in your pocket.

Warning!
Always wear Personal Protective Equipment!
The dust can be hazardous to the health!
ALWAYS wear a dust mask!
ALWAYS wear protective gloves during mounting or dismounting the blades!

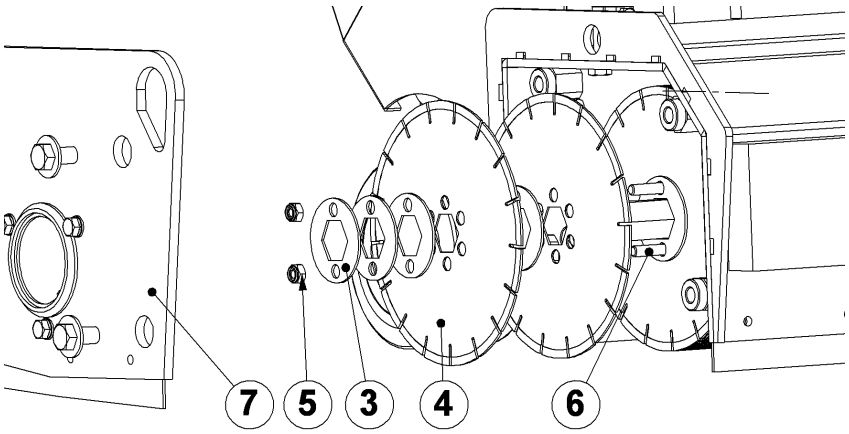


A. Loosen the 4 bolts of the side plate

B. Remove the side plate (2)



- Slide the hexagon clamp bush with the stud bolts (1) over the hexagon axle until it is about 3mm from the end of the axle. Tighten both bolts (2) very tight, It is advisable to use a locking solution such as Loctite 243 on these bolts.



- Assemble the spacer rings (3) and diamond blades (4) one by one over the axle until the end of the drum.
- There has to be at least one spacer ring between the diamond blades.

NOTE:
80 sawing blades is always the maximum allowed amount of blades on the drum for EHY
54 sawing blades is always the maximum allowed amount of blades on the drum for GHY

	BMC-335 EHY		BMC-335 GHY	
Width of sawing [mm]	Qty. of blades	Qty. of Spacer ring 2.5mm	Qty. of blades	Qty. of Spacer ring 2.5mm
340	80	85	54	103
300	71	92	54	103
250	59	100	54	103
200	47	108	47	108
150	35	116	35	116
100	24	125	24	125
50	12	133	12	133

For a finer sawing result:
Replace the normal standard Spacer ring 2.5mm (E06079) by Spacer ring 1.0mm (E07497).
For a coarser sawing result:
Replace the normal standard Spacer rings 2.5mm (E06079) by Spacer ring 3.0mm (E07549).

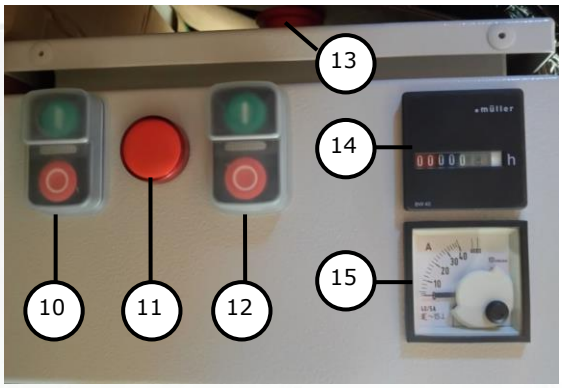
- Clamp all diamond blades and spacer rings together by turning 2 lock nuts (5) at the end of the tap ends (6). Make sure that there are at least 2 spacer rings at the end of the drum.
- Mount the side plate. A side plate which is incorrectly mounted or mounted with force will shorten the lifetime of the drum bearings.
- Always check the belt tension after mounting a drum (see chapter 6.3)

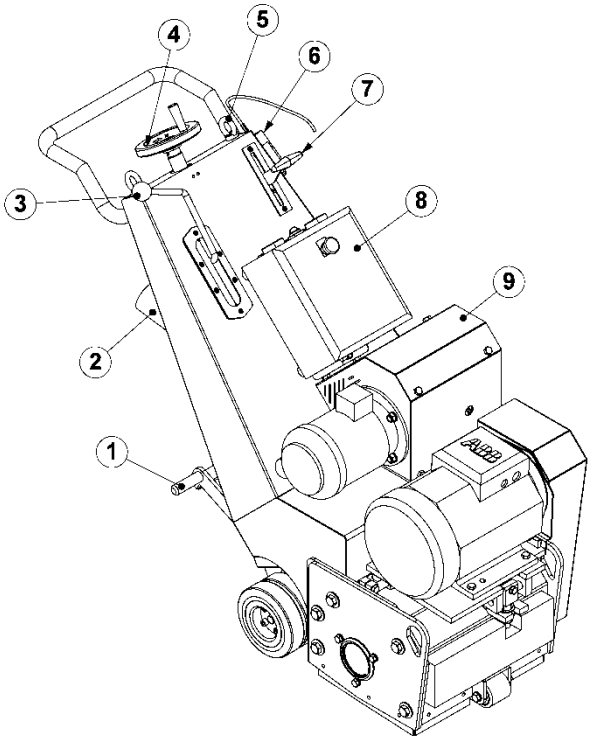
Never use the machine without a side plate or with an incorrect mounted side plate!

4.5 Removing the diamond blades

- Pull out the main plug and the key of the deadman's switch. (EHY-version)
- Push the control lever all the way to the "Stop" position. (GHY-version)
- Loosen the bolts of the side plate and remove the side plate (7)
- Loosen the lock nuts (5) and remove the spacer rings and diamond blades.
- Turn both bolts (2) loose and remove the hexagon clamp bush (1).

4.6 Control device BMC-335 EHY





	BMC-335 EHY
1	Treadle of drive system
2	Dust collector connection
3	Quick lift lever
4	Handwheel working depth
5	Lifting eye
6	Dead man switch
7	Driving lever
8	Electrical panel
9	Hydraulic pump housing
10	"Sawing - scarify motor" ON/OFF buttons
11	Control light "Phase incorrect"
12	"Hydraulic pump motor" ON/OFF buttons
13	Emergency shutdown button
14	Hour counter
15	Ampere meter
16	Plug for power supply

Using a Screwdriver the phases can be inverted

1. **Treadle of drive system**
   It is possible to transport the machine without the use of the motor by pushing up the treadle (1). The drive wheels are declutched of the drive motors now. In the downward position the wheels are engaged to the drive motors. Make sure that the floor is flat, because the machine is uncontrolled now! **It is very dangerous to drive the machine on a grade or ramp when the treadle is in upwards position!**

2. **Dust hose connection**
   The dust hose to the dust collector must be connected here. Use hose clamps and industrial tape for a reliable connection.

3. **Quick lift lever**
   In the upright position the drum is lifted off of the ground, in the downwards position, the drum is put on the ground. The quick lift lever enables the operator to lift the complete drum without changing the fine adjustment of the working depth. The lever must be in the upright position before start-up, in order to prevent a run out of the motor under full load.

4. **Fine adjustment**
   The working depth can be adjusted by turning the fine adjustment wheel. The sawing depth must be adjusted considering the surface to be treated. The progressively depth adjustment enables the sawing blades to saw into the surface being treated only at the required and necessary depth. When the depth adjustment is correctly selected, the machine will run quiet and constant.

6. **Dead man's switch**
   The key of the dead man's switch is attached to a cord. The cord should be fastened on the arm of the operator. When the key is pulled out, the machine will stop immediately.

7. **Driving lever**
   The drive unit control lever is used to control the machine's drive unit. The function of the drive unit control lever begins after adjusting the working depth of the machine with the quick lift. You should pay attention that the drive unit control lever is locked in the neutral position before manipulating the quick lift.

10. **"Sawing - scarify motor" ON/OFF buttons**
    Pressing the green start button will start the sawing - scarify motor. Before starting the sawing - scarify motor, the treadle of the drive system must be in de downwards position and the quick lift lever must be in the upwards position.

11. **Control light "Phase incorrect"**
    This lamp shines when the phases of the power supply are incorrect. The power plug has a built in phase inverter for easy and quick changing of the phases if the control light "Phase incorrect" lights up.

12. **Hydraulic pump motor ON/OFF buttons**
    Pressing the green start button will start the driving motor, use the driving lever to start driving. The hydraulic motor hast to be switched on before switching on the sawing motor. The red button will stop the hydraulic motor.

13. **Emergency shutdown button**
    Red mushroom-shaped shutdown push button, this button cuts off the power to the motors.
    Turn to unlock the emergency stop button.

14. **Hour counter**
    Shows the number of working hours. Useful for maintaining a proper maintenance schedule.

15. **Amp meter**
    This meter shows the power consumption of the saw / scarify motor in ampere.

16. **Plug for power supply**
    The plug for the power supply has a built in phase inverter.
    If the motor turns the wrong way, just unplug the machine and change the phase inside the plug.

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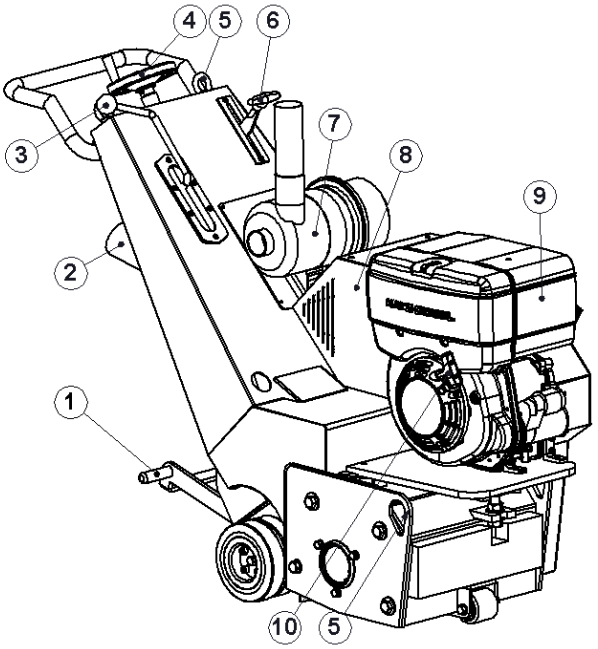
4.7 Control device BMC-335 GHY

Photo 1.



	BMC-335 GHY
1	Treadle of drive system
2	Dust collector connection
3	Quick lift lever
4	Handwheel working depth
5	Lifting eye
6	Driving lever
7	Air filter
8	Hydraulic pump housing
9	Diesel motor
10	Ignition lock
11	Speed control lever
O	Position 0
I	Position I
II	Position II
A	Engine temperature display
B	Oil pressure display
C	Charge control
D	Operating display
E	Earth switch

1 Treadle of drive system
It is possible to transport the machine without the use of the motor by pushing up the treadle (1). The drive wheels are declutched of the drive motors now. In the downward position the wheels are engaged to the drive motors. Make sure that the floor is flat, because the machine is uncontrolled now! **It is very dangerous to drive the machine on a grade or ramp when the treadle is in upwards position!**

2 Dust hose connection
The dust hose to the dust collector must be connected here. Use hose clamps and industrial tape for a reliable connection.

3 Quick lift lever
In the upright position the drum is lifted off of the ground, in the downwards position, the drum is put on the ground. The quick lift lever enables the operator to lift the complete drum without changing the fine adjustment of the working depth. The lever must be in the upright position before start-up, in order to prevent a run out of the motor under full load.

4 Fine adjustment
The working depth can be adjusted by turning the fine adjustment wheel. The sawing depth must be adjusted considering the surface to be treated. The progressively depth adjustment enables the sawing blades to saw into the surface being treated only at the required and necessary depth. When the depth adjustment is correctly selected, the machine will run quiet and constant.

6 Driving lever
The drive unit control lever is used to control the machine's drive unit. The function of the drive unit control lever begins after adjusting the working depth of the machine with the quick lift. You should pay attention that the drive unit control lever is locked in the neutral position before manipulating the quick lift.

10 Ignition lock
The ignition lock is used to start the BMC 335 GHY electrical.

11 Speed control lever
With the speed control lever you can change the speed of the diesel engine. The speed control lever is also used to shut down the engine.

A Engine temperature display
If the engine temperature display lights up, the cylinder head temperature is too high. Do not start the engine. If the engine is running, switch off the engine immediately! Danger of engine damage.

B Oil pressure display
If the oil pressure display lights up, switch off the engine immediately! Danger of engine damage.

C Charge control
If the charge control lights up during operation, there is a fault in the alternator. In position (I) the display lights up, but after starting the engine it will go out.

D Operating display
Lights up during operation when there is no engine fault.

5. Operating

During operating the BMC-335, the following additional safety instructions must be followed closely. Before switching on the machine make sure that no-one can be endangered when the machine starts up.

> All persons in the proximity of the machine must wear safety glasses with lateral protection as well as safety shoes and ear protection. The operator is obliged to wear close-fitting protective clothing and a dust mask.

5.1 Before starting up

- Make sure that the diamond blades do not hit the ground. The quick lift lever must be in upper position and the fine adjustment must be turned up.
- Connect the BMC-335 to the dust collector with the dust hose. Make sure there is a good and airtight connection, use hose clamps and industrial tape.
- Check if the diamond blades are mounted the right way.
- Connect the BMC-335 and the dust collector with the power supply. Make sure the right electrical connection is available for the machine. (only EHY)
- Check if both motors turn in the correct direction. (only EHY)

5.2 Starting up the machine (EHY version)

- Turn on the dust collector
- Put the cord of the dead man switch around the left wrist.
- Check if the treadle (pos. 1 page 17) of the drive system is down, and the driving lever (pos. 7 page 17) is in the neutral position.
- Start the machine by pushing first the green button of the drive motor and then the green button of the sawing motor.
- Slowly let down the quick lift lever.
- Turn the fine adjustment clockwise until the desired sawing depth is reached.
- Lock the fine adjustment so the depth cannot change during sawing.
- Set the drive speed with the driving lever (pos. 7 page 17).

Starting up the machine (GHY version)

- Turn on the dust collector
- Check if the treadle (pos. 1 page 19) of the drive system is down, and the driving lever (pos. 6 page 19) is in the neutral position.
- Turn the earth switch into a vertical position (pos. E page 19). See photos 2.1.
- Turn the starting key to position "0", every time you want to start the engine. (See photo1 page 19.).
- Check the speed control lever (pos. 11, page 19), first move the control lever to the stop position. (see photo 2)

Photo 2.

Photo 2.1

- Depending on the situation, place the speed control lever in either the "½" or "start"position.(see photo 3 and 4).

Photo 3. "½" position

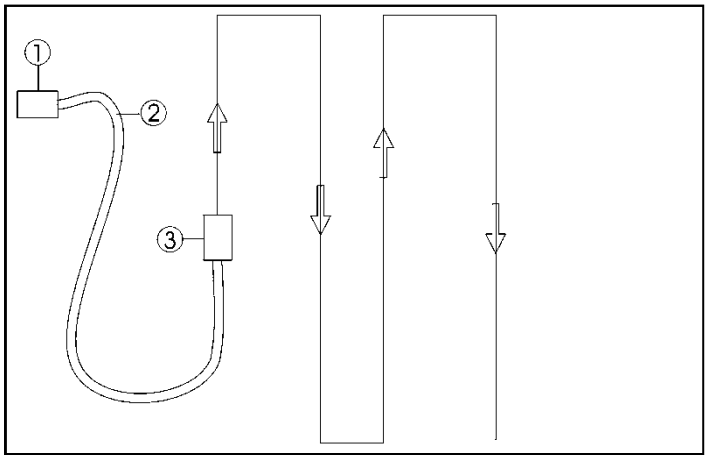
Photo 4. "start" position.

- Insert the starting key all the way and turn to position (I). (see photo1 page 18)
- Turn the key to position (II). (see photo1 page 19). As soon as the engine is running, release the starting key. The starting key springs back into position "I" and remains in this position during operation.
- Lock the fine adjustment so the depth cannot change during sawing. This must be done with the machine in the lower position (quick lift lever in lower position)
- Slowly let down the quick lift lever.
- Turn the fine adjustment clockwise until the desired sawing depth is reached.
- Lock the fine adjustment so the depth cannot change during sawing.
- Set the drive speed with the driving lever (pos. 6 page 19). This must be done once the machine is on the floor.

5.3 Operating during sawing

- Driving in reverse direction while sawing will give a more uniform surface.
- Driving in forward direction while sawing will allow more speed since it is less hard for the motor.

Carry out work in parallel tracks in such a way that the dust hose and electric cable do not become twisted. The next figure shows the recommended working paths leading away from the dust collector.



1	Dust collector
2	Dust hose and electric cable
3	Sawing machine

Make sure that no vehicles, such as forklift trucks and other equipment run over the electric cable and the dust hose.

The selection of the correct advancing speed of the machine is important for a good result. In the case that the surface has different characteristics (e.g. different hardness or different coating thicknesses), a uniform result can be achieved by varying the advancing speed during sawing.

The advancing speed depends on the material of the surface to be treated and the desired profiling.

The correct advancing speed can be found out by observing the treated surface and varying the speed during the sawing process.

Slight profiling on concrete allows a higher speed than coarse profiling.

5.4 Switching off the machine EHY and GHY versions

Switch off the machine EHY

- Pull the quick lift lever up and turn the fine adjustment until the blades do not hit the ground anymore.
- Push both red buttons on the electrical box.
- Wait until all turning parts have reached a standstill.
- Switch off the dust collector.
- Disconnect the power supply.
- Pay attention that all twisting and turning machine parts have reached a standstill before inspection or maintenance duties are carried out.

Switch off the machine GHY

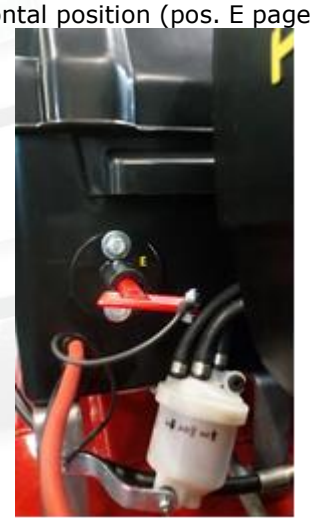
Versions up to serial number: 25697B (11-2018)

- Pull the quick lift lever up and turn the fine adjustment until the blades do not hit the ground anymore.
- Push the speed control lever all the way to the "Stop" position. (see photo)

Photo speed control lever.

Stop position.

- Wait until all turning parts have reached a standstill.
- Remove the starting key.
- Seal the ignition lock with the protective cap.
- Switch off the dust collector.
- Turn the earth switch into a horizontal position (pos. E page 19). See photos below.



- Pay attention that all twisting and turning machine parts have reached a standstill before inspection or maintenance duties are carried out.

Switch off the machine (GHY)
Versions from serial number: 25697B (11-2018).

There are two options of switching off the machine.

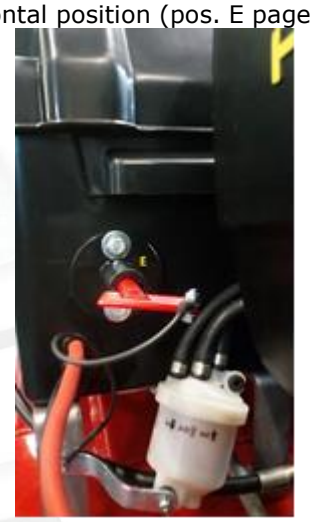
First option.

- Pull the quick lift lever up and turn the fine adjustment until the blades do not hit the ground anymore.
- Push the speed control lever all the way to the "Stop" position. (see photo)

Photo speed control lever.

Stop position.

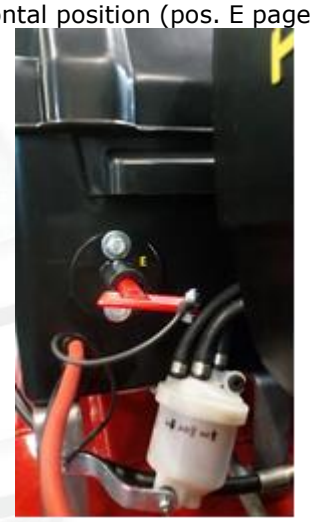
- Wait until all turning parts have reached a standstill.
- Remove the starting key.
- Seal the ignition lock with the protective cap.
- Switch off the dust collector.
- Turn the earth switch into a horizontal position (pos. E page 19). See photos below.



- Pay attention that all twisting and turning machine parts have reached a standstill before inspection or maintenance duties are carried out.

Second option.

- Pull the quick lift lever up and turn the fine adjustment until the blades do not hit the ground anymore.
- Switch the starting key to position "0", the fuel shut-off valve shuts off the fuel supply to the injection pump. The engine switches off.
- All indicator lamps go out.
- Remove the starting key.
- Seal the ignition lock with the protective cap.
- Wait until all turning parts have reached a standstill.
- Switch off the dust collector.
- Turn the earth switch into a horizontal position (pos. E page 19). See photos below.



- Pay attention that all twisting and turning machine parts have reached a standstill before inspection or maintenance duties are carried out.

5.5 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.

CAUTION

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 5.6 Fuel type, page 25.
- The use of fuel that does not meet specifications requires approval by Motorenfabrik HATZ (main plant).

5.6 Fuel type

All types of diesel fuel that meet the minimum requirements of the following specifications are suitable:
- Europe: **EN 590** or
- UK: **BS 2869 A1 / A2** or
- USA: **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

5.7 Checking and refilling the engine oil

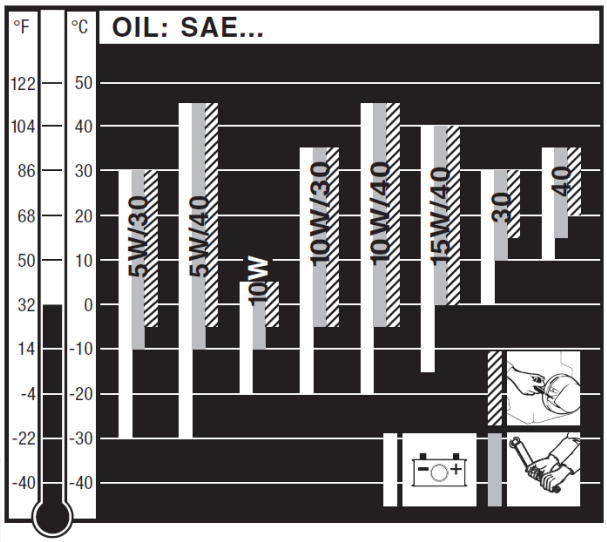
Oil quality

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 fulfils 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.

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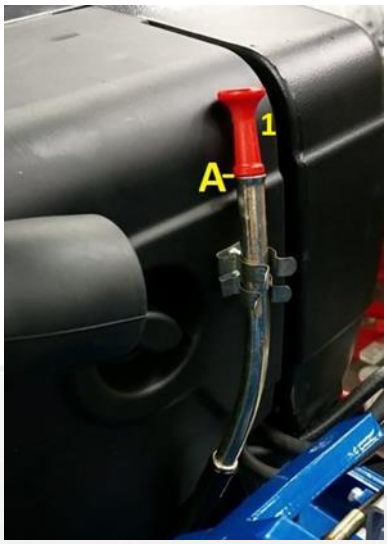
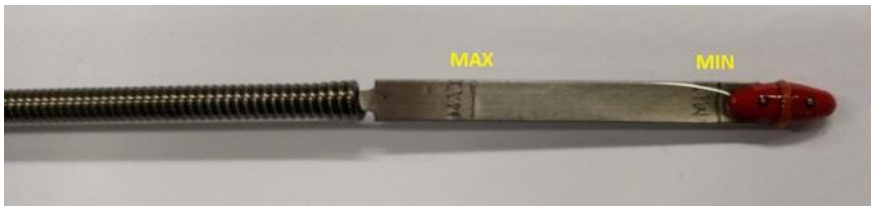
CAUTION	
	Danger of later engine damage. • Operating the engine with an oil level below the **min.** mark or above the **max.** mark can lead to engine damage. • When checking the oil level, the engine must be horizontal and have been switched off for a few minutes.

Valid for GHY versions from serial number: 25697B (11-2018).

Checking oil level/adding oil





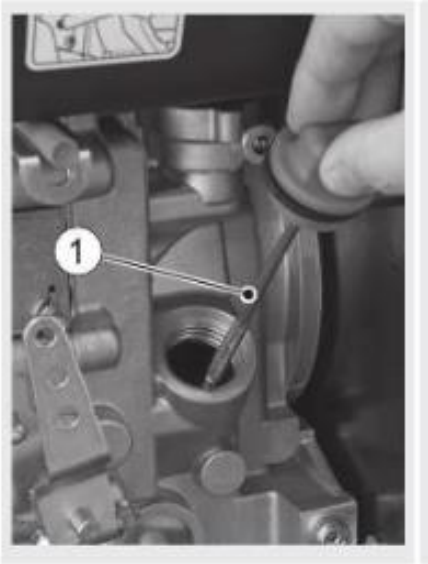
1	Dipstick
2	Oil plug

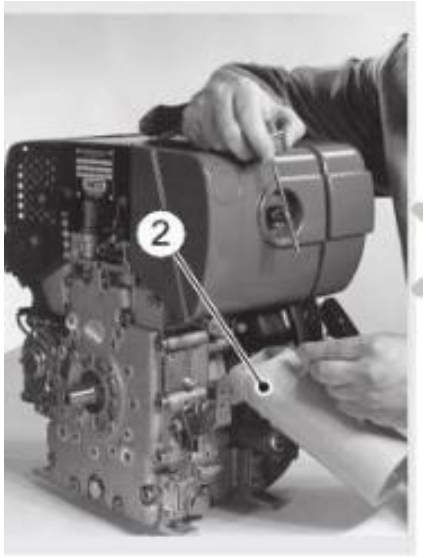
Procedure.

1 Switch off the engine and wait several minutes for the engine oil to collect in the crankcase. engine must but level.
2 Remove contamination on the engine in the area of the dipstick.
3 Pull out the dipstick (1) and clean it.
4 Reinsert the dipstick (1) all the way to pos. A.
5 Pull out the dipstick again and check the oil level.
6 If the oil level is close to the min. mark, add engine oil to the engine.
7 Remove contamination on the engine in the area of the Oil plug (2).
8 Remove Oil plug (2)
9 add engine oil to the max. mark.
10 Close Oil plug (2)
11 For the specification and viscosity, see chapter **5.7 Checking and refilling the engine oil**.
12 Reinsert the dipstick(1) all the way to pos. A.

Valid for GHY versions up to serial number: 25697B (11-2018).

Checking oil level/adding oil





1	Dipstick
2	Oil refilling container

Procedure.

1 Switch off the engine and wait several minutes for the engine oil to collect in the crankcase. engine must but level.
2 Remove contamination on the engine in the area of the dipstick.
3 Pull out the dipstick (1) and clean it.
4 Reinsert the dipstick and screw it tight.
5 Pull out the dipstick again 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 and screw it tight.
8 For the specification and viscosity, see chapter **5.7 Checking and refilling the engine oil**.

6. Maintenance

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.

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 whether there is any foreign matter between the sawing blades. Clean the sawing blades especially in case of moist surfaces. Check the sawing blades, lateral axles, tools and housing for wear. Check the tension of the belt, stretch again if necessary. Check the electric connections for sediments of dirt or foreign bodies. Check the electric motors for dirt and other contaminants. Check the function of the residual current operated device. Check the hose connections for tightness and fixed seat. Make sure that the dust bin is emptied. Check the oil level in the hydraulic reservoir.
Every month	Grease the bearing.
Annually	Full overhaul and cleaning of the complete machine.

The time indications are based on uninterrupted operation. When the indicated number of working hours is not achieved during the corresponding period, the period can be extended. However a full overhaul must be carried out at least once a year.

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 inspection schedule considering your own working conditions and experience.

Pay attention to unusual noises or strong vibrations. Check for the cause of every big change. Call a technician if you have doubts about the cause or when a repair without a technician seems not possible without damages. Only use genuine Blastrac spare parts.

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.

The machine is in a safe condition when it cannot generate any hazard.

Follow additional operating and maintenance of instructions of original equipment manufacturer if included during your service and maintenance work.

Further is advised:
Store the cleaned and dry machine in a dry and humid free room. Protect the 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:

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

Screws, bolts etc. that have been removed must be replaced with those of the same quality, strength, material and design.

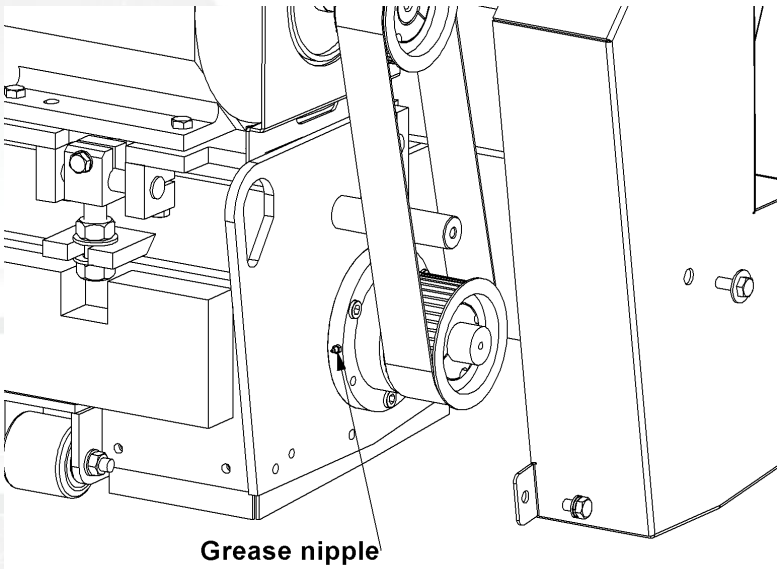
Do not weld, flame cut or perform grinding works on or near the machine. Danger of fire or explosion exists!
Provide adequate ventilation when working in a confided space.
Secure the maintenance area if necessary.

Prevent premature wear by keeping the machine as dust free as possible. Clean the machine for this reason regularly with a vacuum cleaner.
Clean the machine every day with air and non-aggressive materials. Never use a high pressure water cleaner to clean the machine.

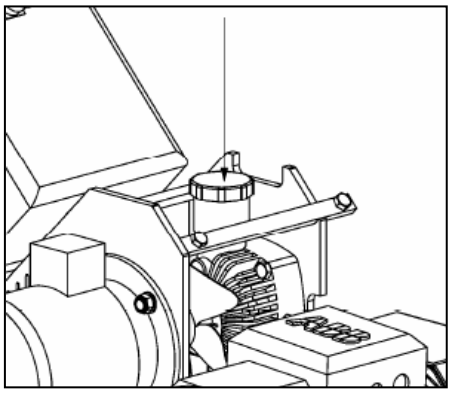
6.1 Maintenance of the bearings

On the left hand side, there is an open bearing. This bearing should be greased to keep the dust out of the bearing.
With normal daily use the bearing should be greased once a month.
The quantity of grease should be 5-10 gram. This is equal to 2-6 pumps of grease.
Be careful, too much grease is not good for the bearing!

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.



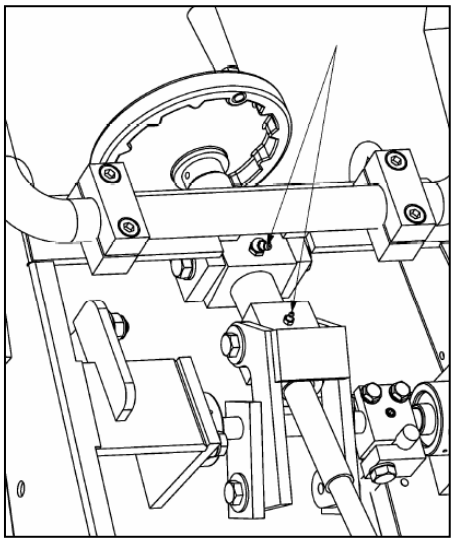
6.2 Lubrication



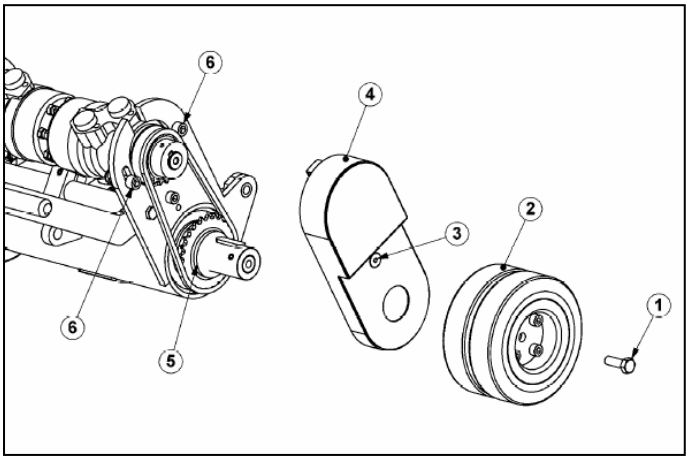
The observance of our lubrication instructions will protect against premature maintenance and repair work on the machine.

Dirt and foreign bodies could considerably reduce the working life of the bearings or other moving parts of the machine. Therefore the lubrication points must be cleaned thoroughly before lubricating.

Lubrication and all required work has to be done while the machine is disconnected from the power supply, and in its safety off position.



- Check the oil level in the hydraulic reservoir.
- Check the hand wheel depth adjustment for smooth running.
- Lubricate the 2 nipples under the hand wheel for depth adjustment.



Disassemble the drive wheel (2) by loosening the bolt (1).

Remove chain guard (4) by loosening the bolt (3).

Apply oil only in this section and clean up all parts in order to remove excessive oil.

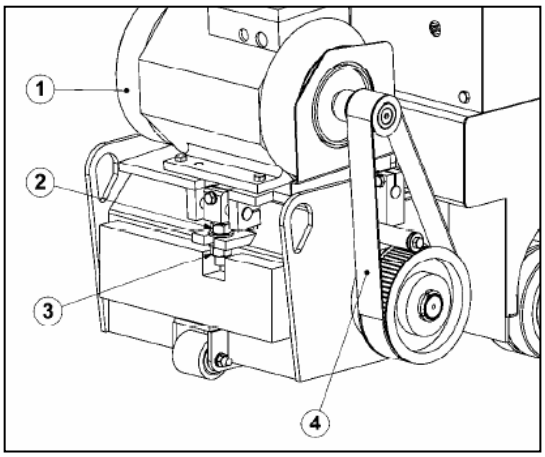
Regularly check the correct tension of the chain. Adjust the tension by loosening the bolts (6), turn hydraulic motor clockwise and tighten the bolts again.

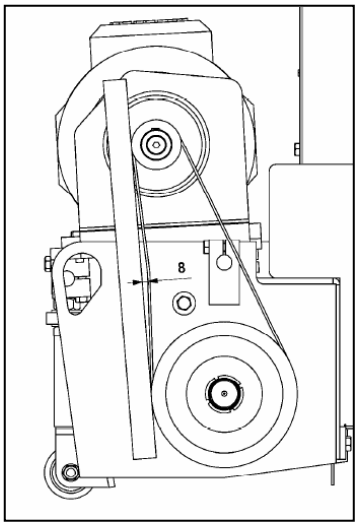
Apply oil behind felt seal (5) when it is hard to move the machine around in free-wheel position.

6.3 Belt drive

The correct belt tension is of utmost importance in order to obtain a perfect power transmission and to reach the usual working life of the belt. Too low or to high tension can cause a premature breakdown of the belt. Excessive belt tension results in damaged bearings.
If you change the height of the motor plate, the tension of the belt can be adjusted.
Unscrew the counter nut (2) and turn the adjusting nut (3) to change the height of the motor plate and thus the belt tension. Check the tension by pressing on the belt, it has the correct tension if you can press it in for approximately 8 mm (between 70 and 75Hz). Fix the setting with the counter nut.
Always check the belt tension after mounting a drum.

1	Motor
2	Counter nut
3	Adjusting nut
4	Belt



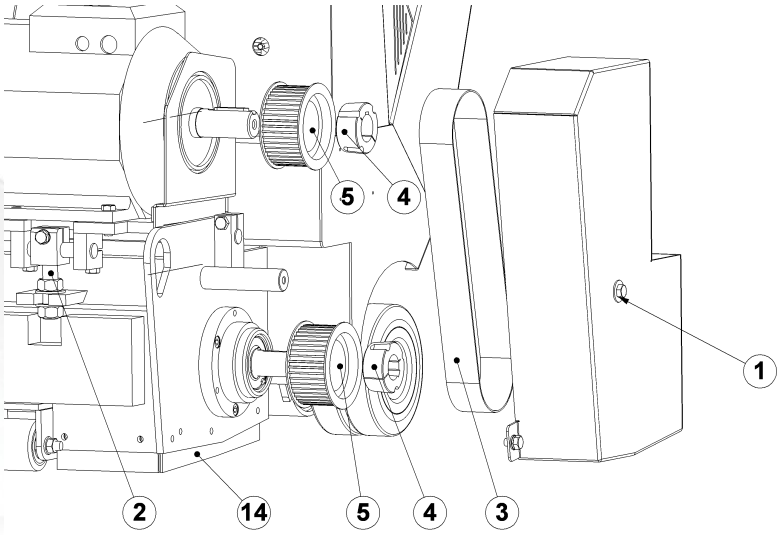


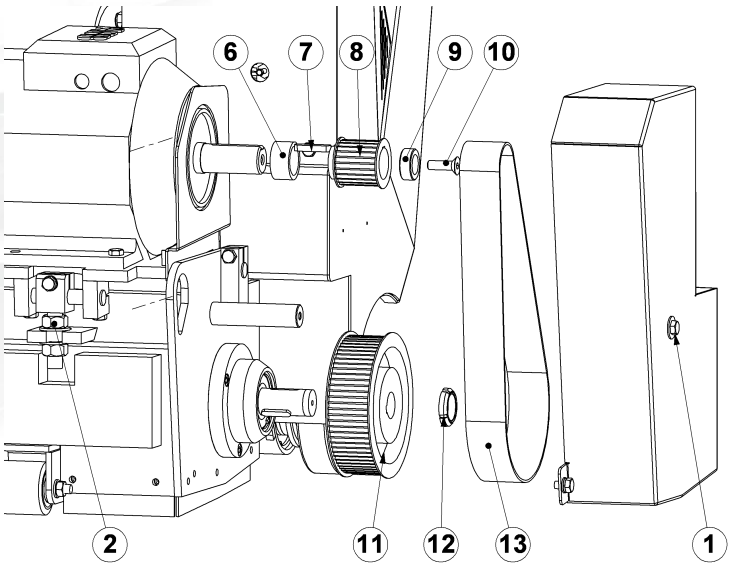
6.4 Rebuild to scarifier

The BMC-335 can be rebuilt into a scarifier by changing the drive belt and both pulleys. Part numbers for this modification can be found in the service manual.

- Remove the belt guard (1) and lower the tension on the belt (3) by loosening the eyebolt (2) then remove the drive belt.
- Loosen both taper lock bushes (4) en remove the taper locks and pulleys (5)
- Make sure the distance bush (6) stays on the motor axle and both keys are still on the axles.
- Slide the pulley (8) over the motor axle and mount the pulley with mounting bush (9) and the hexagon socket countersunk head screw (10). Apply threadlocker (Loctite 243) on the thread before mounting.
- Slide the pulley (11) over the drum axle and turn on the axle nut (12) make sure that the right tools will be used for this so the nut will not be damaged.
- Mount the new belt (13) and tension the belt by turning the eyebolt (2) up. The tension of the belt must be between 70 and 75Hz.
- Assemble the belt guard back on to the machine.
- **Make sure that both rubber seals (14) and the metal strips on both sides of the machine are removed before start working with the scarifier.**

Work in opposite direction to build the machine back to sawing machine BMC-335.



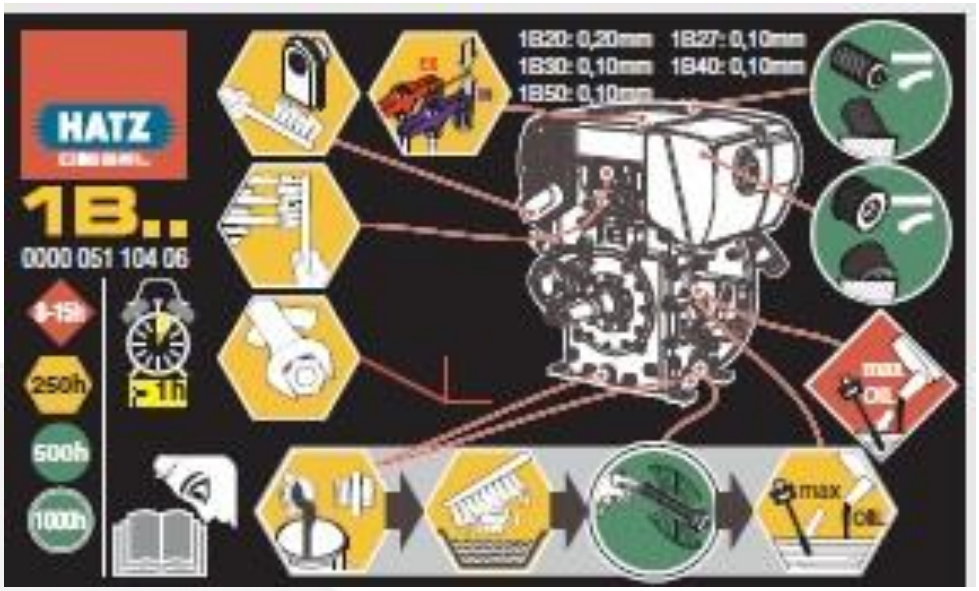


6.5 Diesel engine maintenance

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 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).



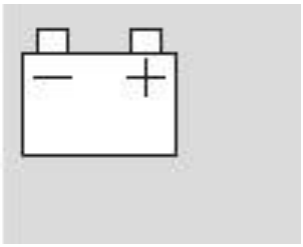
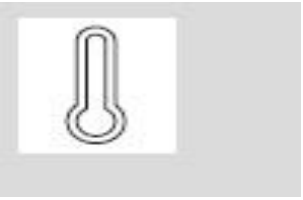
Maintenance plan
The maintenance step/check described on this page, contains only some highlights taken from the Hatz manual.

Read the OWNER'S MANUAL of the Hatz diesel engine for the proper maintenance plan.

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 and set the tappet clearance
		Clean the cooling air area.
		Check the screw connections.
		Clean the screen insert in the exhaust pipe.
		Check the water separator.
	Every 500 operating hours	Change the fuel filter.
		Maintain the dry air filter.
	Every 1000 operating hours	Change the oil filter

7. Troubleshooting

Fault	Possible cause	Remedy
Excessive vibration or/and Unusual noises	Imbalance due to worn or broken tools.	Replace all worn or broken parts.
	Defective bearing.	Check the bearing on the axle drive shaft and replace if necessary.
	Wrong tension of the belt.	Check the tension of the belt, replace the belt if necessary.
	Defective motor.	Replace the motor.
	The sawing setting is too deep.	Reduce the sawing depth.
Reduced or no sawing performance	Tools have reached the maximum permissible wear.	Replace the worn parts.
	Inappropriate tools for the application.	Replace the tools with appropriate tools for the surface to be treated.
	In case of internal combustion engine, follow the information of the manufacturer.	
Motor does not switch on	Missed phase.	Check the mains power supply and try to switch on again.
	Wrong phase.	Adjust phase.
	Defective Component.	Find fault and replace defective component.
		Follow the enclosed information of the manufacturer (Diesel-motor if applicable).
	Dead man's switch is not activated.	Put the key of the dead man's switch in.
Motor protection switch triggers while running	Motor protections switch triggered because of overload .	Reduce the sawing depth.
	Motor has a defect.	Check the motor.
Drive unit does not respond	Treadle is put down too fast.	Put treadle in downwards position slowly and move the machine forwards at the same time.
	Oil-level is too low.	Check the oil-level and refill if necessary.
	Wrong turning direction of the motor.	Check the turning direction.

	**Charge control indicator** stays on, or lights up.	Fault in the alternator or alternator charging circuit. The battery is no longer charged. Eliminate the fault immediately. Consult the Hatz engine manual.
	**Oil pressure display indicator** stays on, or lights up.	Switch off the engine immediately! Danger of engine damage. Check the oil level. Contact Hatz service if the oil level is correct.
	**Engine temperature display indicator** stays on, or lights up.	Switch off the engine immediately! Danger of engine damage. Engine temperature is impermissibly high. Consult the Hatz engine manual.

8. Technical data

	BMC-335EHY 3x400V	BMC-335EHY 3x480V	BMC-335GHY
Power consumption	12,1 kW	13,9 kW	7,5 kW
Electrical connection	3x 400V	3x 480V	-
Frequency	50Hz	60Hz	-
Amperage connection	5 pole / 32 Ampere	5 pole / 32 Ampere	-
Amperage consumption	24 Ampere	23 Ampere	-
Working width	335 mm	335 mm	335 mm
Rotation speed sawing drum Rotation speed scarifier drum	3000 min^{-1} 1000 min^{-1}	3600 min^{-1} 1000 min^{-1}	3600 min^{-1} 1000 min^{-1}
Length	1400 mm	1400 mm	1400 mm
Width	605 mm	605 mm	605 mm
Height	1075 mm	1075 mm	1075 mm
Weight	420 kg	420 kg	359 kg
Noise emission level (Under load) Uncertainty	96 dB(A) 5 dB(A)	96 dB(A) 5 dB(A)	96 dB(A) 5 dB(A)
Sound power level (Under load) Uncertainty	115 dB(A) 5 dB(A)	115 dB(A) 5 dB(A)	115 dB(A) 5 dB(A)
Vibration level (Hand-arm)*	4,17 m/s^2 *	4,17 m/s^2 *	4,17 m/s^2 *
Ambient temperature	-5°C ~ 40°C	-5°C ~ 40°C	-5°C ~ 40°C
Dust hose connection	Ø75 mm	Ø75 mm	Ø75 mm

Design and specifications are subject to change without notice by Blastrac BV

IMPORTANT NOTES:

Noise and vibration measurements were taken during heavy operation on concrete. The noise and vibration levels depend on the working depth, which is in turn determined by the unevenness of the surface. The impact force of the tools onto the surface is the biggest factor in both noise and vibration levels.

The indicated values are measured on new machines. Noise and vibration levels will vary in different circumstances. Area influences like open outside or closed inside space, ambient temperature, different surfaces to be treated, daily use, different tools or accessories, poor maintenance, etc. will give different values at all time and could increase the exposure level over the total working period.

* The declared vibration and noise emission levels represent the main applications of the machine. The values may be measurements from a representative sample of technically comparable machinery. The values may be used for a preliminary assessment of exposure.

A precise estimation of the level of exposure to vibration and noise should also take in account the times when the machine is switched off or even running, but not actually in use. This may significantly decrease the exposure level over the total working period.

Identify additional safety measures to protect the operator from the effects of vibration and noise such as: proper and regular maintenance of the machine and the accessories, keeping the hands warm, provision of proper ear protection and organization of work patterns for example by using rotation schedules. The use of anti-vibration gloves could also decrease the effects of the vibrations transmitted.

Always use ear protection when working with this machine.

Because the value is above 2,5 m/s², we recommend taking measures to decrease hand-arm vibrations.

Tips for decreasing the exposure to hand- arm vibrations:

-Protect the hands with vibration dampening gloves
E12000 – Blastrac Anti-vibration gloves

-Switch off the motor when driving backwards
-Check and replace the tools regularly
-Proper maintenance of the machine
-Scheduled replacement of the shock absorbing machine parts
-Keep the hands warm
-Prepare a work schedule and plan in rest periods

Original operating instructions are in the English language, any other language will be a translation of the original.

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.

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