Operating instructions – Scarifier with electric motor

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Information on rating plate
These details are very important as they will not only be needed for identifying your machine when
ordering replacement parts but they will also be required by Customer Service. The rating plate is found
near the engine. Enter all information on the rating plate of your unit in the following box.

This and other information about the unit can be found on the separate CE Declaration of Conformity which
is a component of this operating manual.

Illustrations

Fold out the illustrated pages at the start of the operating manual.
Various models are described in these operating instructions. The graphical representation may differ
in detail from the unit which you purchased.

For your safety
Use the appliance properly
This appliance is approved solely for use
– in accordance with the descriptions and safety instructions
specified in this user’s guide
– as a scarifier for scarifying and
aerating lawns.
Any other use is not as intended.
Improper use is not covered by the
warranty and the manufacturer will
reject any liability. The user is liable
for all damage caused to third
parties and their property.
Unauthorized modifications made to
the appliance rule out any liability on
the part of the manufacturer for
damage resulting therefrom.

Observe the safety and
operating information
Before using the appliance for the first time, read and follow these
operating instructions carefully.
Comply with the operating manual
and keep it for subsequent use.
Never allow children or other
persons to use the appliance who
do not know the operating
instructions.
If the unit changes ownership, hand
over the operating manual.

General safety information
In this section you will find general
information about safety. Warnings that apply specifically to individual
parts of the scarifier, functions or
activities are shown at the
corresponding point in this user’s
guide.

Before working with the
appliance
Persons using the appliance must
not be under the influence of
intoxicants e.g. alcohol, narcotics,
medication, etc.
Persons younger than 16 years of
age must not use this appliance –
local regulations can determine the
minimum age of the users.

This appliance is not intended for
use by persons (including children)
with reduced physical, sensory or
mental capabilities, or lack of
experience and knowledge, unless
they have been given supervision or
instruction concerning use of the
appliance by a person responsible
for their safety.
Children should be supervised to
ensure that they do not play with the
appliance.
Before you begin work, make sure
that you are familiar with all attachments
and operating controls as well as
their functions.
Use outdoors with the permitted and
appropriately identified power cord
only, e.g. H07RN – F 3 x 1.5 mm²
(max. 50 m).
Connecting parts of the power cord
must be splash-proof and made of
rubber or covered with rubber.
Before using the unit, always check
whether the power cord is
damaged, brittle or tangled.
To do this, switch off the unit and
pull out the mains plug. Use only
a power cord which is in perfect
condition. Immediately have a
damaged power cord replaced by
a specialist company.
Before using the appliance,
– whether the grass catcher works
and the deflector doses correctly.
Replace damaged, worn out or
missing parts immediately.
– check for any wearing or damage
to the cutters, fastening pins, and
the whole cutter unit. Have worn
or damaged parts replaced by
a specialist company and only in
sets to exclude imbalances.
– whether the scarifier shaft/aerator
shaft is correctly and securely
attached.
– whether the power cord is
damaged between the motor
and switch/plug combination.
Immediately have a damaged
power cord replaced by
a specialist company.
Spare parts and accessories must satisfy the requirements specified by the manufacturer. Therefore use original spare parts and original accessories only or spare parts and accessories authorised by the manufacturer. Have repairs carried out by a specialist company only.

When working with the appliance
When working with or on the appliance you must wear protective clothing. This includes:
- safety shoes,
- trousers,
- close-fitting garments,
- ear protection,
- protective goggles, etc.
Operate the vehicle only when it is in good technical condition as stipulated and delivered by the manufacturer.

Before all work on this appliance
To prevent injury before performing any work (e.g. maintenance and adjustments) on this unit
- switch OFF the engine,
- wait until all rotating parts have come to a standstill,
- pull out the mains plug,
- leave the motor to cool down (approx. 30 minutes).

After working with the appliance
Before leaving the unit, always
- pull out the mains plug.

Safety devices
Figure 1

⚠️ Danger
Never use an appliance if it has damaged safety devices or if there are no safety devices fitted.

Discharge flap (1)
The discharge flap is a safety device. The discharge flap prevents injuries from the cutter deck or ejected solid objects. The lawn scarifier should never be operated with the deflector detached.

Safety lever (2)
The switch lever is for your safety to stop the motor and cutter deck in an emergency. Never attempt to disable its function.

Symbols on the appliance
On the appliance you will find various symbols on adhesive labels. They have the following specific meanings:

⚠️ Warning! Please read the operating instructions before putting appliance into operation!

⚠️ Keep third parties away from the danger area!

⚠️ Before working on the cutters, pull out the mains plug! Keep fingers and feet away from the cutters! Before adjusting or cleaning the unit or before checking whether the power cord is entangled or damaged, switch off the unit and pull out the mains plug. Keep the power cord away from the cutters.

Always wear eye and ear protection!

Keep connection cable away from the cutters!

Always keep these symbols on the appliance in a legible state.

Symbols in the user's guide
This manual uses symbols which identify dangers or indicate important information. They have the following specific meanings:

⚠️ Danger
They refer to dangers which are connected with the described activity and which may result in injury.

⚠️ Caution
They refer to dangers which are connected with the described activity and which may result in damage to the unit.

ℹ️ Note
Indicates important information and application tips.

Disposal instructions
Dispose of packaging remnants, old units, etc., in accordance with local regulations.

パソコン Old electrical equipment is recyclable and should therefore not be thrown in the dustbin!
We request that you support us with your active contribution in the conservation of resources and protection of the environment and to dispose of this unit at collection points, if available.

Assembling the unit
Illustrations at the end of the instructions or in a supplementary sheet show you how to assemble your unit in a few steps and make it ready for use.

Functional description
The lawn scarifier is pushed by hand over the area of grass to be cut. The unit is powered via the power cord. The cutter deck is driven by an electric motor. The depth of cut is set by varying the central height-adjustment mechanism individually.
Scarification:
The cutter deck rotates and removes the felt layer formed by moss, lichen and weeds and conveys the scarified material to the outside or into the grass catcher. During cutting the cutters penetrate the ground and therefore ensure that the lawn is loosened and absorbs nutrients better.
We recommend scarifying the lawn in spring (April/May) and autumn (October).

Aerating (with optional aerator shaft):
The cutter deck (aerator shaft) rotates and combs the lawn or aerates the slightly mossy areas. The removed moss is conveyed outwards or into the grass catcher. During aeration the surface of the ground is scratched; this improves water drainage and facilitates the absorption of oxygen.
We recommend aerating the lawn during the entire growing period as and when required.

Operating

⚠️ Danger
Electric shock
- Use a safety switch on your mains socket (= residual current operated device with a release current not exceeding 30 mA).
- If you sever the power cord while aerating your lawn, you are at risk of being killed or injured. Slowly move away in short steps from the unit. Pull the plug out of the socket. When aerating your lawn, ensure that the power cord never gets into the cutting area.

Accident
- Persons, particularly children or animals, must never be near the appliance when scarifying. Risk of injury due to ejected stones or other objects.

Falling over
- Operate the vehicle at walking speed only.
- When cutting grass on a steep slope, the lawn scarifier could tip over and cause an injury. Steer the appliance directly across inclines, never up and down them. Never scarify on slopes with an inclination of more than 20%.
- Be particularly careful when changing the direction and always pay attention to a good position.
- Be especially careful if pulling the unit backwards towards yourself.
- There is a risk of injury when scarifying along borders. Scarifying near edges of lawns, hedges or steep banks can be dangerous. Always keep the safety distance when scarifying.
- If aerating damp grass, the unit may slip due to reduced adhesion and you may fall. Only scarify the lawn when the grass is dry.
- Work only by daylight or in good artificial lighting.

Injury
- Always maintain a safe distance from the rotating tool by means of the steering handle.
- The working area of the operator is behind the steering handle during operation.
- Never place your hands, feet, or other parts of the body near rotating parts.
- Never stand in front of the ejection holes when starting the scarifier.
- When the engine is switched off, the cutter continues turning for several seconds. Keep hands and feet away.
- Stop the motor, before tilting the appliance, for transporting over surfaces other than grass.
- Switch the motor off and pull out the mains plug.
- before you clear the ejector of blockages and other hindrances;
- before you check, clean, adjust or work on the scarifier;
- immediately after a foreign object. Check scarifier for damage and contact a specialist workshop in the event of damage;
- if the appliance starts to vibrate with unusual violence check the appliance.
- Never lift or carry the appliance when the engine is running. First, pull the mains plug out of the socket.
- When removing the grass catcher you or other persons could be injured by ejected material or by foreign bodies. Never empty the grass sack while the engine is running. Switch off the scarifier.
- Check the terrain on which the unit is being used and remove all objects which may be picked up and ejected.
- If the cutter strikes a foreign object (e.g. stone) or if the unit starts vibrating unusually: Switch off the motor immediately and pull out the mains plug. Before continuing to use the unit, have it checked for damage by a service centre.
- Never start the unit with both front wheels in the working position. The cutting tool is touching the ground and the appliance can start moving.
- Do not use the unit in adverse weather conditions, e.g. if there is a probability of rain or a storm.

Stumbling
- When turning the unit, you may trip over the power cord and injure yourself. Always guide the power cord so that it can never fall into the walking and aerating area.
- Operate the vehicle at walking speed only.

Damage to the lawn scarifier
- Stones, branches or similar objects lying about may damage the unit and its mode of operation. Remove all objects from the appliance’s path before every use.
Do not operate the machine if it is not in perfect working order. Subject the appliance to a thorough visual check before using it. Check in particular the safety equipment, electric controls, power cables and threaded connections for damage and secure attachment. Replace damaged parts before operating the unit.

Operate the unit on short, dry grass only. The height of the grass should be approx. 4–5 cm.

Operating times

Follow the national/municipal regulations with respect to times of usage (if required ask your local authority).

Directions

Details of specific locations on the lawn scarifier (e.g. left, right) are always quoted as seen from the steering handle and while facing forward.

1. Hang the grass catcher (optional, depending on model)

   Figure 2
   - Lift up the deflector flap and hook the grass sack onto the lawn scarifier.

2. Setting the depth of cut

   Figure 3
   - Caution
   The working depth must be set correctly before the unit is used for the first time. The height adjustment lever may be moved to the first working depth setting only (position 1).

   Note
   If the blades/aerator tines are worn, the working depth must be re-adjusted subsequently. An optimum working depth is obtained when the blades/aerator tines of the cutter are inserted 2–3 mm into the ground. If the working depth is too great, the unit may be overloaded and cause damage.

Therefore, ensure that the working depth is set correctly.

- Set height adjustment lever (depending on model) according to wear.
- Settings 2, 3, 4 are not required until the blades/aerator tines are worn. Depending on the degree of wear, gradually set the blades lower, starting at 2.

3. Power cord

   Figure 4
   - Attach power cord to the cord grip.
   - First plug the mains plug into the switch/plug combination on the unit and then into a 230 V socket.

4. Starting the engine

   Danger
   Keep hands and feet well away from the cutting blade.

   Figure 5
   - Keep the appliance on an even surface with little or the shortest possible grass.
   - Tilt the unit backwards until both front wheels are off the ground (Figure 5a) or move the transport lever (depending on model) to position 1/8 to prevent the cutting tool from touching the ground (Figure 5b).
   - Press and hold down the locking button (Figure 5c).
   - Pull and hold the switch lever, release the locking button (Figure 5c).
   - Slowly lower the unit forwards until the front wheels are touching the ground again or move the transport lever (depending on model) forwards to position 0/8 (Figure 5b).

   Note
   When the cutter deck is in contact with the ground, the unit can move.

5. Stopping the engine

   - Release switch lever (Figure 8a).
   The motor and the cutter deck stop after a short time.

6. Scarifying/aerating

   Figure 6
   - Start the engine as indicated.
   - Push the scarifier along parallel strips of the lawn.
   - Place the power cord in large loops on the ground.

7. Detaching and emptying the grass sack (Optional, depending on model)

   Figure 7
   - Release switch lever and wait until the motor stops.
   - Lift the deflector flap and unhook the grass sack.
   - Empty out the contents.

8. Working without the grass sack

   Whenever you detach the grass sack, the deflector flap drops down. When scarifying without the grass sack attached, the cuttings are ejected straight onto the ground.

9. After finishing work

   - Stopping the engine.
   - Pull the mains plug out of the unit and the socket.
   - Empty grass catcher.
   - Leave the motor to cool down (approx. 30 minutes) before cleaning, servicing, storing or shutting down the unit.

10. Installing the aerator shaft (Optional, depending on model)

    This step is described in the section “Servicing/cleaning”.

About scarifying/aerating

In order that a healthy lawn can develop in the spring, it is necessary for greater amounts of air to penetrate the area around the roots of the grass. During this period the lawn must be scarified more frequently than in the summer.
Scarf the lawn
- more frequently in the spring,
- when required in the summer,
- more frequently in the summer as well if the lawn has large areas of shade.

Aerating the lawn
- during the entire growing period as and when required.

Do not scarify/ aerate the lawn if the grass is longer than 4 cm. If the grass is longer, the lawn should be mown before it is scarified/aerated.

Apply fertiliser to the areas that have been scarified and water it in, so that fresh grass can grow more quickly.

Transporting the appliance

⚠️ Caution
The cutting blades and the unit as a whole could be damaged if the scarifier is wheeled over a hard surface, for example, with the engine switched off. Avoid bringing the cutter deck into contact with the ground. Always guide the unit in a tilted position and only on the back wheels (Figure 8c) or when the front wheels are in the transport position (Figure 8b). Never lift or carry the unit without first pulling out the mains plug.

Moving front wheels into transport position (depending on model)

Figure 8b
- Move transport lever (1) backwards to position V/✓.
- or
- Move height-adjustment lever (2) backwards to position T

Short distances by hand
- Stopping the engine.
- Tilt the unit backwards slightly until the front wheels are off the ground (Figure 8c) or move the front wheels to the transport position to prevent the cutter deck from touching the ground (Figure 8b).
- Push the scarifier.

When using a vehicle

⚠️ Caution
- When transporting the scarifier in or on a vehicle, ensure that it does not move around unintentionally.
- Do not wedge or kink the power cord between the motor and switch/plug combination.

Figure 9
- The steering handle can be folded down to facilitate storage.

Servicing/cleaning

⚠️ Danger
To protect against injury before all work on the appliance
- switch OFF the engine,
- wait until all rotating parts have come to a standstill,
- pull out the mains plug,
- leave the motor to cool down (approx. 30 minutes).

Servicing

⚠️ Danger
To prevent injuries from the cutter deck, have all work, such as changing or regrinding individual cutters/aerator tines, performed by a service centre (special tools required).

Replace a brittle or damaged power cord.

Once a season
- Lubricate the joints and twist springs on the deflector flap.
- At the end of the season the appliance must be checked and serviced at a specialist garage.

Cleaning

⚠️ Caution
- Do not splash the unit with water, otherwise electric components may be damaged.
- Clean the appliance after every use. A unit which is not cleaned will result in damaged materials and impaired function.

Cleaning the unit

⚠️ Danger
Work on the cutters can cause injury. Wear safety gloves for your protection.
Whenever possible, clean the lawn scarifier straight after you have finished working on the lawn.
- Always park the unit on solid ground and secure to prevent it from rolling away.
- Tilt the unit forwards.
- Clean the cutter chamber and the ejector cover with brush, hand broom, or cloth.
- Stand the scarifier on its wheels again, and remove any remaining grass cuttings or dirt that can still be seen.

Cleaning the grass sack
The best method is to clean the grass sack straight after you have finished scarifying.
- Detach and empty the grass sack.
- The grass catcher may be cleaned with a powerful jet of water from the garden hose.
- Allow the grass sack to dry out thoroughly before using it again.

Changing scarifier shaft/aerator shaft

⚠️ Danger
Work on the cutters can cause injury. Wear safety gloves for your protection.

⚠️ Caution
Use only original scarifier/aerator shafts approved by the manufacturer.

Figure 10
- Stopping the engine.
- Pull the mains plug out of the unit and the socket.
- Remove the grass catcher (optional).
- Tilt the unit backwards.
- Removing scarifier shaft (a) or aerator shaft (b):
  - Pull out fixing bracket (c) and turn by 90° to the right (towards the shaft).
  - Push complete shaft all the way to the left out of the holder (d) and remove downwards.
- Installing scarifier shaft (a) or aerator shaft (b):
  - Pull out fixing bracket (c) and turn by 90° to the right (towards the shaft).
  - Insert complete shaft from below behind the holder (d) and then push all the way to the right into the holder (d) and hexagonal socket (e) (as far as it will go).
  - Turn fixing bracket (c) by 90° and engage in the opening (f). Ensure that it engages correctly!
- Check that scarifier shaft/aerator shaft is seated correctly.

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### Laying up the appliance

**Caution**

*Damage to appliance materials.*

*Store the unit in a clean and dry room only. During prolonged storage, e.g. in winter, ensure that the unit is protected against rust.*

At the end of the season or when the vehicle will not be used for longer than a month:

- Clean the scarifier and the grass sack.
- To protect metal parts from rust, wipe them all down with an oiled cloth (resin-free oil) or apply an oil spray.
- Fold down the handle and store the unit in a suitable room.

### Warranty

The warranty regulations issued by our company or the importer are valid in all countries. As part of the warranty, we remedy malfunctions on your appliance free of charge provided that this malfunction is caused by a material or manufacturing defect. In the event of a warranty claim, please turn to your dealer or the nearest branch office.

### Identifying and eliminating malfunctions

Malfunctions that occur during the operation of your appliance often have simple causes that you should know and be able to repair on your own. In cases of doubt your specialised garage will be pleased to assist you further.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible cause(s)</th>
<th>Remedial action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor does not start.</td>
<td>Household fuse overloaded.</td>
<td>Switch on fuse; if required increase the household connection fuse or have one installed by a specialist.</td>
</tr>
<tr>
<td></td>
<td>Power cord not connected or defective.</td>
<td>Check and plug in power cord; if required replace or have it repaired by a specialist.</td>
</tr>
<tr>
<td></td>
<td>Switch/plug combination defective.</td>
<td>Have it repaired by a specialist company.</td>
</tr>
<tr>
<td>Motor is humming, but not running.</td>
<td>Aerator in operating position.</td>
<td>Place aerator on a surface with short grass; to do this, tilt the unit backwards while starting it until both front wheels are off the ground.</td>
</tr>
<tr>
<td></td>
<td>Cutter deck blocked.</td>
<td>Pull out mains plug, remove blockage.</td>
</tr>
<tr>
<td>Motor suddenly stops.</td>
<td>Plug has become loose.</td>
<td>Check power cord, ensure that it is attached to the cord grip, insert plug again.</td>
</tr>
<tr>
<td></td>
<td>Overload protection has switched off.</td>
<td>Pull out mains plug, remove blockage in the discharge, wait approx. 10 min., switch on again.</td>
</tr>
<tr>
<td>Unusual noises (jangling, rattling, clattering).</td>
<td>Bolts, nuts or other mounting parts slack.</td>
<td>Tighten parts; if the noises persist: contact a specialist company.</td>
</tr>
<tr>
<td>Problem</td>
<td>Possible cause(s)</td>
<td>Remedial action</td>
</tr>
<tr>
<td>-------------------------------</td>
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<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Engine attachment slack.</td>
<td>Switch off motor immediately. Engine must be secured at specialist garage.</td>
</tr>
<tr>
<td>Motor speed drops off.</td>
<td>Depth of cut too great.</td>
<td>Select recommended working depth.</td>
</tr>
<tr>
<td></td>
<td>Grass too high.</td>
<td>Mow the lawn before scarifying.</td>
</tr>
<tr>
<td></td>
<td>Ejector channel blocked.</td>
<td>Pull out mains plug, remove blockage.</td>
</tr>
<tr>
<td>Poor scarification results.</td>
<td>Depth of cut too small.</td>
<td>Set to greater depth of cut.</td>
</tr>
<tr>
<td></td>
<td>Worn cutting blades.</td>
<td>Have cutting blades replaced in a specialist workshop</td>
</tr>
<tr>
<td>Scarified material is not</td>
<td>Grass catcher is full, clogged.</td>
<td>Switch off aerator, empty grass catcher or clean air slots in the grass catcher.</td>
</tr>
<tr>
<td>being picked up.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grass catcher is not filling</td>
<td>Ejector channel blocked.</td>
<td>Pull out mains plug, remove blockage.</td>
</tr>
</tbody>
</table>