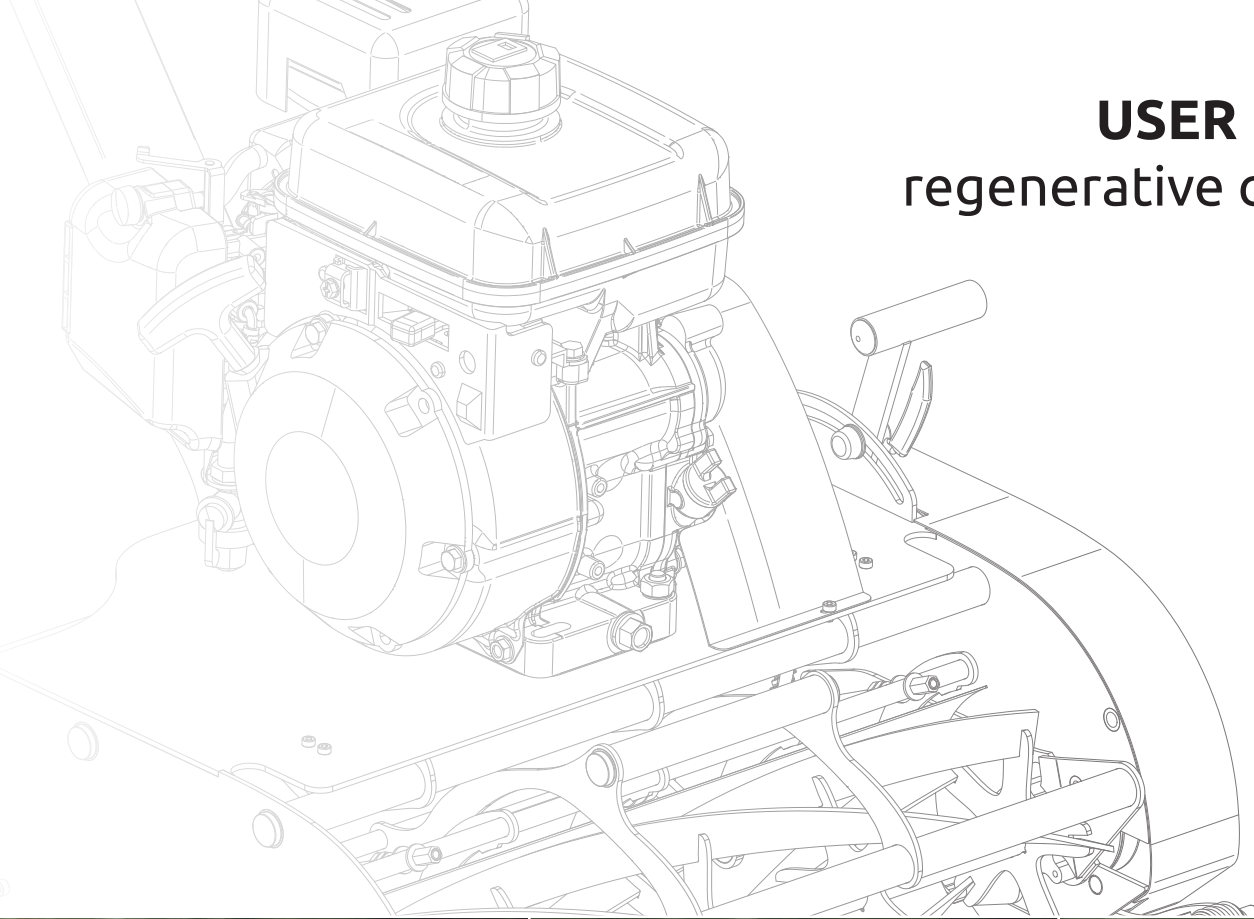
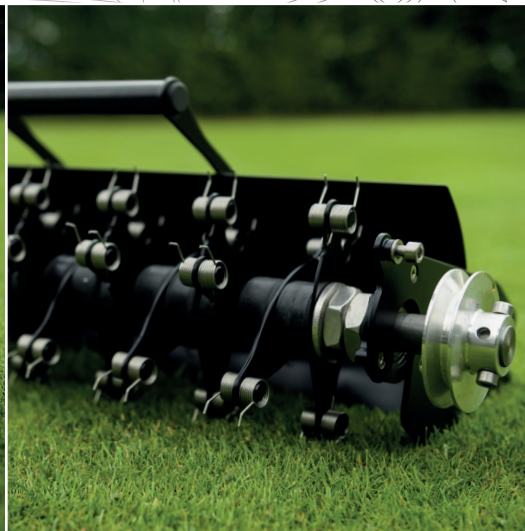


USER MANUAL

regenerative cartridges



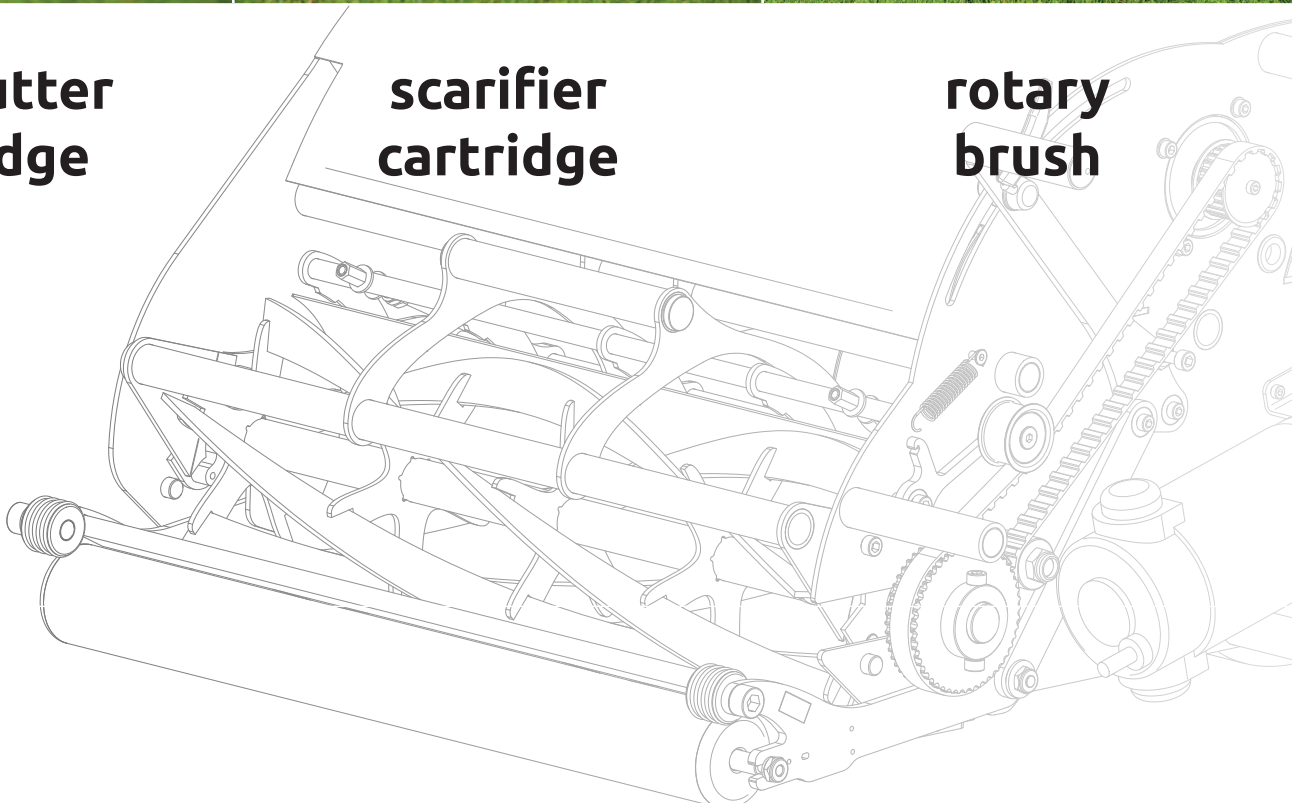
**verticutter
cartridge**



**scarifier
cartridge**



**rotary
brush**



Verticutter cartridge

Verticutter cartridge is used to cut lawns vertically. The cartridge is fitted with steel rotating blades. The denser a lawn is, the more it needs verticutting. We recommend to verticut the lawn 3 - 5x per year during the grass season, always before each fertilization to a depth of 3 - 5 mm.

Verticutting the lawn before fertilizing will remove the thatch and dead parts of the plants, prevent the fertilizer from being washed away by rain and ensure absorption into the soil and to the roots of the lawn. At the same time the grass sods are being broken, increased water absorption and supports the growth of grass sprouts and growth of the new plants. By breaking the surface of the soil, the circulation of the air in the soil will be restored. The surface will also have better access to sunlight. All of these positive procedures result in thicker and healthier lawn.

Verticutting must be performed at high speed in order for the blades to cut correctly. When using Edwin, you can increase the power using the throttle lever on the handlebar. When using the Electra, use the regeneration mode. See the mower's user's manual for more information.

If the lawn is very thick and full of thatch, we recommend double verticutting in two direction crossways.

Never carry out the verticutting if the lawn is soaked or too dry. The lawn does not need to be verticut all over its area. If there are thin areas, skip them. Never perform verticutting if the soil temperature is below 10 °C (50°F).

The steel blades of the verticutter are subject to normal wear and can be replaced with new ones when worn and not functioning. Spare parts are available in the e-shop at www.swardman.com



Scarifier cartridge / Astroturf cleaner cartridge

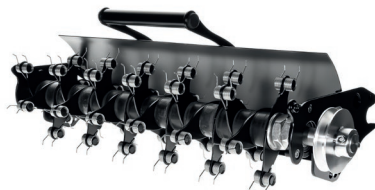
The scarifier cartridge is used to remove broken thatch and dead stalks after verticutting. It can also be used on lawns where verticutting was not performed.

Thanks to a large number of double springs and high revolutions (increase in high revs when using Edwin) or in regeneration mode (when using Electra), it is much more efficient and faster than manual raking.

The scarifier can remove undesired dirt from the lawn, such as leaves, moss, twigs, small cones and bark residues which can prevent safe mowing. The scarifier combs the grass nicely and highlights the stripes on the lawn.

The stainless steel springs of the scarifier are subject to normal wear and should be replaced with new ones when worn and not functioning. Spare parts are available in the e-shop at www.swardman.com.

Astroturf cleaner will clean your artifical grass from leaves, needles, little rocks and other small objects. It is used the same way as scarifier cartridge.



Rotary brush

The rotary brush is used for the application of sand and material, which usually follows the aeration. The sand can also be incorporated into a lawn that has not been aerated, although the resulting effect is poorer than on a previously aerated lawn.

The sand application is sufficient when the grass stalks are visible and the sand does not form accumulated hills. An uneven terrain can be levelled by repeating the sand application.

For best results, we recommend using dry and loose sand. Wet sand is not suitable for rotary brush application.



Groomer

The groomer is designed for regular and frequent care that is friendly to your lawn. While the reels mow the lawn horizontally, the groomer cuts the grass vertically. It shortens horizontally growing grass blades and removes thatch from the lawn. As a result, the grass is stimulated to grow further upwards. Regular usage of the groomer cartridge therefore helps you achieve an evenly growing, dense, and homogeneous lawn. Thanks to its narrow blades fitted close to each other, the use of the groomer is very lawn-friendly and differs significantly from verticutting.

As grooming is a gentle and lawn-friendly procedure, you can use the groomer every week. The knives of the groomer should only slightly touch the soil of the lawn – the depth should be between 0 and 1 mm. The groomer should operate at maximum machine speed. For Edwin, you can increase the power using the throttle lever on the handlebar, whereas for Electra, switch on the regeneration mode.

The groomer's blades are subject to normal wear and tear and can be replaced with new ones after excessive wear or loss of original function.



Technical Data

	Verticutter cartridge		Scarifier cartridge		Rotary brush		Groomer	
Model	45 cm 18in	55 cm 22in	45 cm 18in	55 cm 22in	45 cm 18in	55 cm 22in	45 cm 18in	55 cm 22in
Range width	450 mm 18in	550 mm 22in	450 mm 18in	550 mm 22in	450 mm 18in	550 mm 22in	450 mm 18in	550 mm 22in
Number of blades / springs	10	12	36	44	-	-	34	42
Maximum designed depth	- 10 mm -0.4in	- 10 mm -0.4in	0 mm 0in	0 mm 0in	0 mm 0in	0 mm 0in	2 mm 0,08in	2 mm 0,08in
Maximum permissible working depth	- 5 mm -0.2in	- 5 mm -0.2in	0 mm 0in	0 mm 0in	0 mm 0in	0 mm 0in	1 mm 0,04in	1 mm 0,04in

Note: The working depth of the verticutting cartridge mentioned above is indicative. The actual working depth decreases with increasing the soil hardness and in case of solid particles such as stones which can also damage the verticutter blades.

Fig. No. 1 - Swardman Edwin

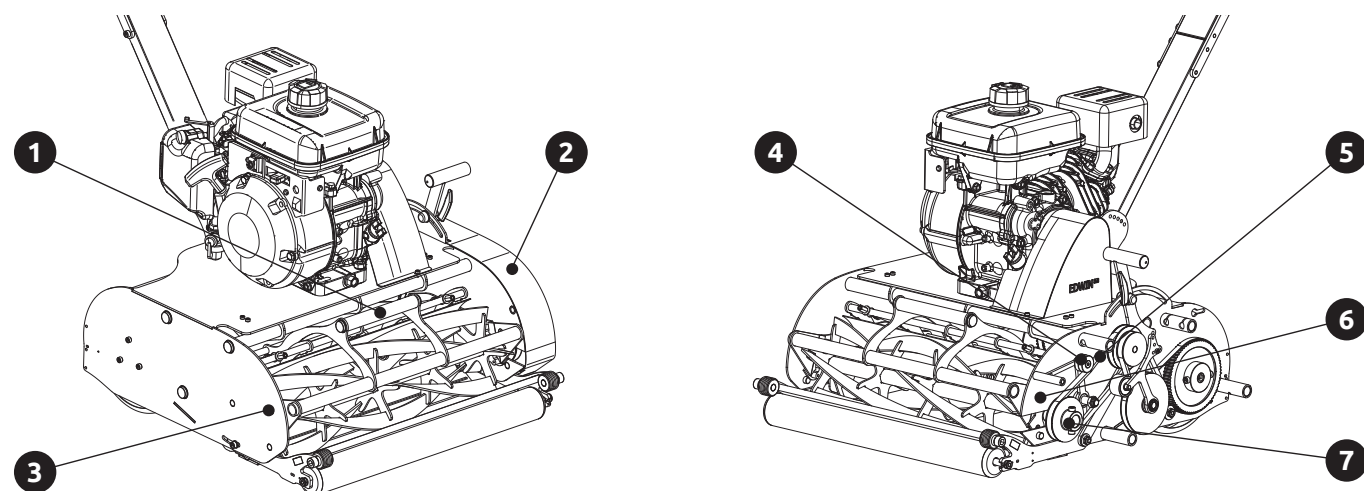
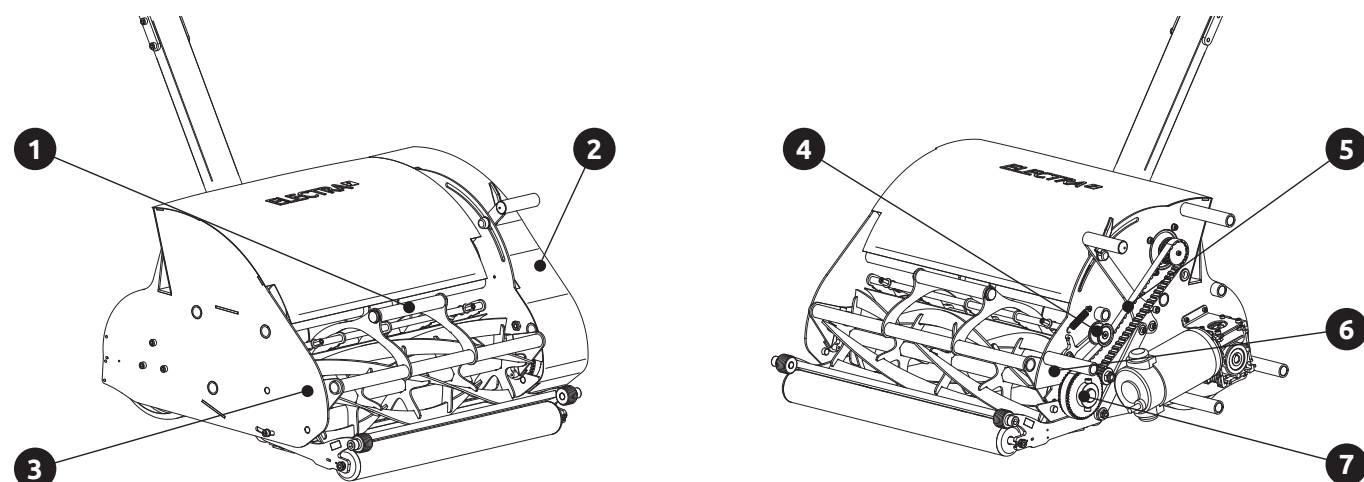


Fig. No. 2 - Swardman Electra



- 1 Cartridge handle
- 2 Side cover
- 3 Cartridge left securing screw
- 4 Cartridge clutch
- 5 Cylinder/reel drive V-belt (Edwin) / Cylinder/reel drive cog belt (Electra)
- 6 Cartridge right securing screw
- 7 Cartridge pulley

Installation of regenerative cartridges

1. Loosen the mowing height lock screw on the right side of the machine
2. Use the height setting lever to set the mowing height to maximum
3. Remove the side cover of the machine 2
4. Release manually the V-belt (Edwin) 5 or cog belt (Electra) 5 from the cartridge pulley 7.
5. Using the Allen key, loosen and remove the left 3 and the right securing screw 6 of the cartridge (the key is included)
6. Remove the cartridge from the machine using the cartridge handle 1
7. Using the handle 1 insert the desired verticutter / scarifier / rotary brush cartridge in the machine
8. Reinstall the securing screws - the left 3 as well as the right one 6 (make sure the screw can be screwed easily)
9. Install the V-belt (Edwin) 5 or the cog belt (Electra) 5 on the cartridge pulley 7
10. Guide the V-belt under the cartridge clutch 4 into its original position and at the Electra under the tensioner
11. Install the side cover 2
12. Set the correct working height of the machine.
 - a. for the **verticutter** set the height so that the front roller is maximum 5 mm (0.2in), preferably 3 mm (0.1in), lifted in the air, and always so that it moves freely above a hard surface. This corresponds to a working depth of -3 mm (-0.1in) and deeper.
 - b. for the **scarifier** set the height so that the springs slightly touch the hard surface or move over it. This corresponds to a working depth of 0 mm/in and deeper.
 - c. for the **rotary brush** lower the working height of the machine so that the bristles are in moderate contact with the surface / lawn. Replace the protective cover Fig. 3 and then cover the gap between the mower chassis and the protective with the magnetic shield Fig. 4



Fig. 3

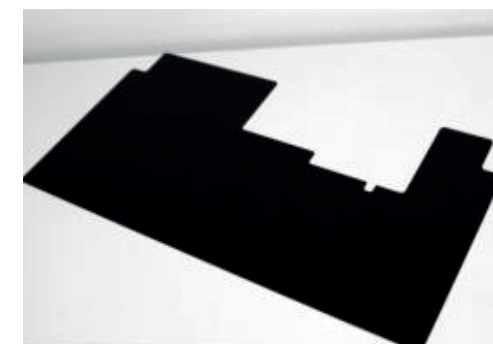


Fig. 4

13. After installation of the verticutter or scarifier cartridge, place the grass box (for the verticutting cartridge, the collection into the box is less effective, but the bin serves as a protection against flying objects). After installing the rotary brush, the grass bin is not installed.
14. The machine is then ready for work. In the case of the installation of the rotary brush according to Fig. 5



obr. č. 5



When working with the machine and also with the verticutter / scarifier cartridge, grass box should always be installed as it also serves as a protective cover. When working with the rotary brush cartridge always use the metal cover and a magnetic shield.

Cleaning

After each work, clean the machine from dirt and grass residues. Wipe the appliance using a brush and wipe with a cloth, or use a leaf blower. Never use pressure washers, their use can void the warranty for the machine or the accessories.

Winter Storage / Storage longer than 30 days

The prescribed regular maintenance to be performed at the recommended service intervals, replacing of the worn or damaged parts if needed and having repairs and maintenance of the machine performed at the Swardman service department or at the service partner before winter storage will extend the machine lifetime and reliability.



- Before storing the machine, observe the following:**
- 1. Thoroughly clean the machine. Remove all stuck grass residues
 - 2. Check the mechanical parts
 - 3. Make sure all the bolts and nuts are tightened

Acknowledgements

Thank you for purchasing a Swardman product. We believe that with proper care it will serve you for a long time and your lawn will be your pride and joy. Our team is always ready to advise you on how to correctly use this machine. If you have any questions, please do not hesitate to contact us. We will be happy if you share with us your experiences in using the Swardman machine.

Troubleshooting

The following table shows possible symptoms of problems and how to fix them if your machine is not working properly. If you cannot find or fix the problem using this table, please contact your dealer. Caution: Before troubleshooting, turn the machine off and remove the end cap from the spark plug (Edwin) or pull the main switch to the off position (Electra).

Problem	Type	Possible cause	Remedy
The cartridge does not rotate	Edwin	1. The cartridge control cable is too loose 2. Worn belt	Follow the Edwin or Electra main user’s guide in the „Troubleshooting“ section. Removal of the fault is the same as for the same symptoms of mower cylinder/reel malfunction.
	Electra	1. Low capacity of the accumulator 2. Fallen or damaged belt 3. Electronics failure	
The cartridge rotates even when the cylinder/reel control lever is not pushed	Edwin	Incorrect clutch adjustment, cartridge control cable too tight	
	Electra	Electronics failure	
The cartridge does not engage in the lawn	Edwin Electra	The working height is not adjusted properly / or the blades are worn	Use the height adjustment on the machine to lower the working height. / replace the blades.



The logo consists of the word "SWARDMAN" in a bold, white, sans-serif font, centered within a white, horizontally-oriented hexagonal frame with rounded corners.

SWARDMAN

passion for lawns



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