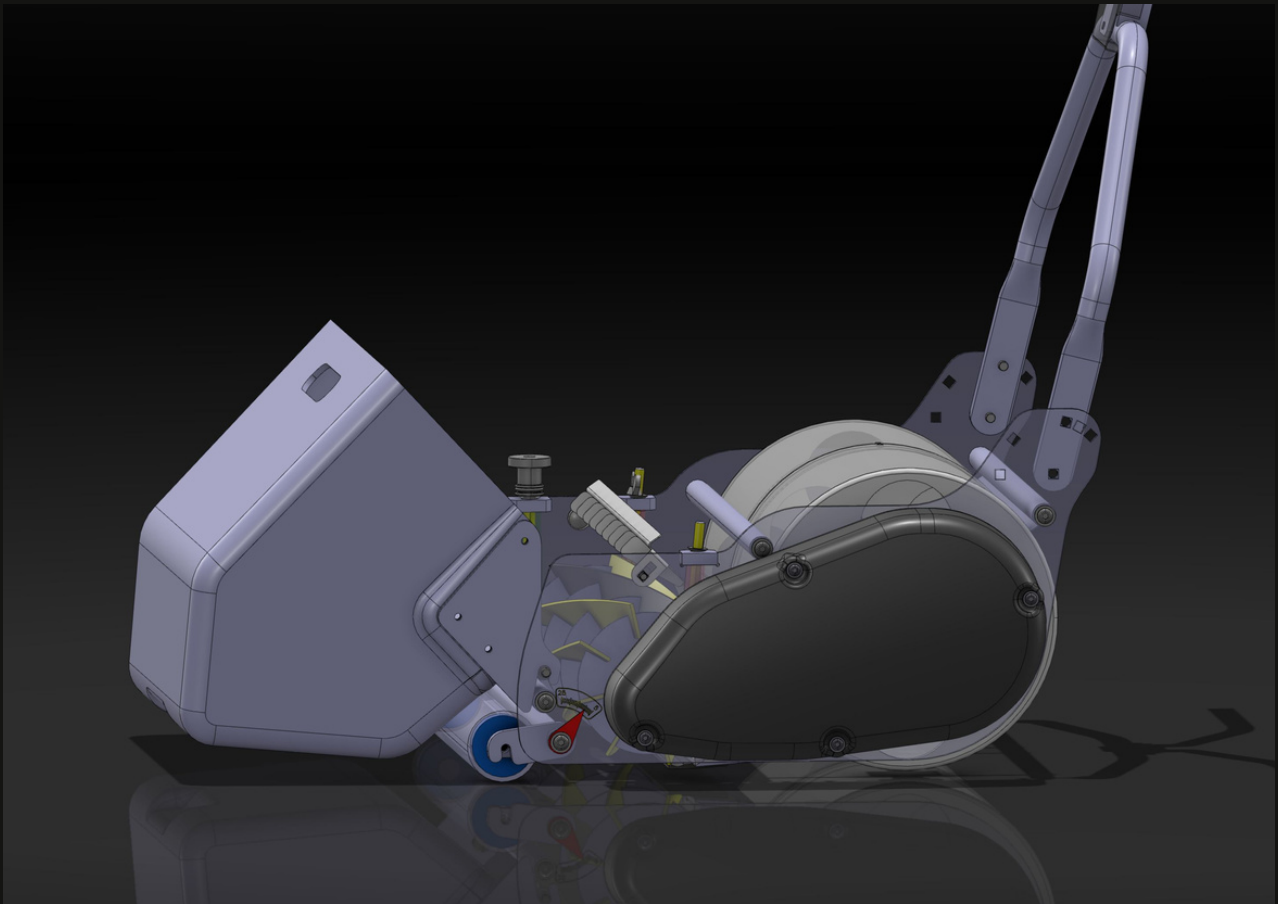




CYLINDER MOWER GERMANY

OPERATION MANUAL

FALKENSTEIN PUSH CYLINDER MOWER



JANUARY 2024

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PRODUCT DESCRIPTION

Congratulations on purchasing a Falkenstein push cylinder mower.

Please follow the safety instructions to avoid injuries. Follow our instructions and recommendations to avoid damage to the mower!

To ensure safe and efficient operation of your mower, please take some time to read the following information in this owner's manual.

This push cylinder mower was developed for the highest quality and durability.

Please note that this hand cylinder mower is more suitable for mowing at low cutting heights. It is not suitable for mowing tall grass!

We recommend not breaking the so-called 1/3 rule when mowing, as this is not healthy for most grasses and also makes mowing more strenuous.

Ideally, mowing should take place in dry weather. Use in rain and wet conditions should be avoided as this makes care significantly more difficult.

Our Falkenstein has a robust and torsion-resistant housing made of powder-coated 5 mm (0.2") steel and a cutting width of 40 cm (15.8"). The chain drive takes place via partially hardened gears that are specifically designed for the required drive range.

The split rear roller with differential function protects the lawn when turning. In addition, the freewheel allows for easy and energy-saving handling of the cylinder mower when reversing. The rear roller made of stainless steel with a 20 mm (0.8") precision stainless steel axle is almost wear-free thanks to multiple dust-protected ball bearings and guarantees a long service life.

The weight distribution of the device on the same sides ensures an equal cutting pattern, optimal balance and easy handling of the cylinder mower.

The mower's spindle and bedknife are made of wear-resistant and hard material (carbon steel). This makes them particularly durable and guarantees a clean and precise cut every time you use them.

The spindle of the Falkenstein is handmade and has a precise, solid 25 mm (1.0") spindle shaft and high-quality, dust-protected pendulum bearings. The relief grind enables a non-contact cut and thus minimizes wear on the cutting blades. The KTL coating on the spindle prevents the coating from chipping and the thinly applied layer ensures a better cut thanks to less material buildup.

The special grinding geometry, the so-called "Tournament Cut", ensures an optimal position of the lower knife in relation to the cutting height. The careful angle grinding and the use of wear-resistant materials make the bedknife extremely durable.





PRODUCT DESCRIPTION

With a weight of approx. 47 kg (104 lbs) (without collecting basket), the cylinder mower enables optimal streaking on the lawn. The handle is height adjustable and adapts to different body sizes from approx. 1.65m (5`5") to 2m (6`8"). The handle is foldable and has a convenient maintenance position that allows for easy cleaning and maintenance.

With the manual backklapping function, the cylinder mower can be re-sharpened regularly to achieve optimal results and significantly reduce the grinding intervals.

The stepless and play-free cutting height adjustment is easy to use and allows for individual adjustment of the cutting height from 5-25 mm (0.2" - 1.0").

The Falkenstein has a double chain transmission. This is necessary to achieve a higher spindle speed. However, in order to obtain a good cutting image, a certain cutting frequency per meter (FoC=Frequency of Cut) is required depending on the cutting height (HoC=High of Cut). The aim of this coordination is to ensure that as many blades of grass as possible are taken along during the cut and at the same time that no so-called rib/wave pattern is created in the cutting image. For this reason we have grouped the cutting heights as follows:

- 6-blade spindle: recommended cutting height 15-25 mm (0.6" - 1.0") (71 cuts per meter / per 3.2 ft)
- 8-blade spindle: recommended cutting height 10-15 mm (0.4" - 0.6") (95 cuts per meter / per 3.2 ft)
- 10-blade spindle: recommended cutting height 5-10 mm (0.2" - 0.4") (118 cuts per meter / per 3.2 ft)

The closed plastic grass catcher basket ensures that the clippings are picked up cleanly and neatly and prevents the unwanted spread of foreign grasses.

SAFETY INSTRUCTIONS

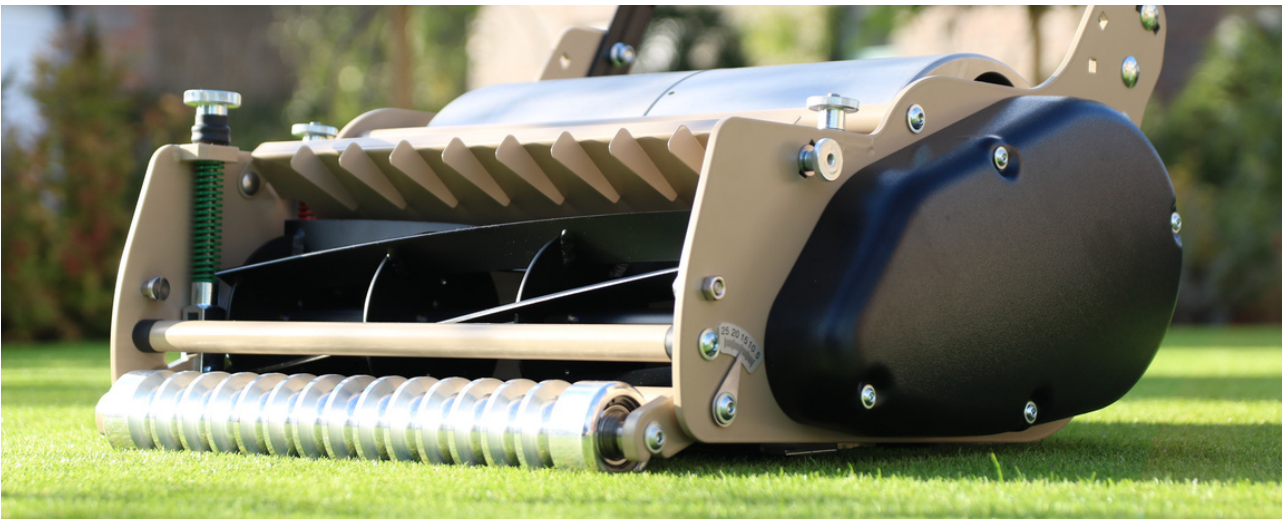
ATTENTION: READ AND FOLLOW THE INSTRUCTIONS FOR USE CAREFULLY BEFORE USING THE DEVICE!

- 1) ATTENTION: Read these instructions carefully before using the device. Familiarize yourself with the operation and correct use of the device. Save all application instructions and operating instructions for later use.
- 2) Never allow children or other people who do not know the operating instructions to work with the device. Local regulations may specify the minimum age of the user.
- 3) The device may be used by children aged 12 and over and people with limited physical, sensory or mental abilities or a lack of experience and knowledge if they have been supervised or instructed in the safe use of the device and have understood the associated dangers. Children are not allowed to play with the device. Cleaning and maintenance must be carried out by the user. They must not be carried out by children unsupervised.
- 4) Never operate the device in the presence of people, especially children or animals.
- 5) Never use the device if the user is tired or unwell, or if the user has taken medication, drugs, alcohol or other substances that impair responsiveness and attention.
- 6) Remember that the driver or user is responsible for accidents and incidents involving other people or their property. It is the user's responsibility to assess the potential risks of the terrain on which work is carried out and to take all necessary precautions for their own safety and that of others, especially on slopes, rough, slippery or loose terrain.

7) When renting the device, make sure that the user familiarizes himself with the instructions for use in this manual.

PREPARATORY ACTIONS

- 1) Always wear sturdy, non-slip shoes and long trousers when working with the device. Never use the device barefoot or with sandals. Do not wear necklaces, bracelets, clothing with flapping parts or ties, or ties. Tie up long hair. Always wear hearing protection when mowing.
- 2) Carefully inspect the area where the machine will be used and remove any objects that can be thrown by the machine (stones, branches, wires, toys, etc.).
- 3) Before each use, a general check must be carried out, in particular: of the cutting tool. Check screws and cutting tools for wear and damage. To avoid imbalance, worn or damaged cutting tools and screws may only be replaced as a set. Any repairs may only be carried out by an authorized customer service center.



DURING USE

- 1) Only work in daylight or good artificial lighting and good visibility. Keep people, children and animals away from the work area.
- 2) Avoid mowing wet grass if possible. Do not work in rain or thunderstorms. Do not work with the device in bad weather, especially when there is a risk of lightning.
- 3) Always ensure secure footing on slopes. Only drive at walking speed. Do not allow yourself to be pulled by the cylinder mower. Be particularly careful when pulling the reel mower towards you. Look behind you to make sure there are no obstacles.
- 4) Work particularly carefully near obstacles that obscure visibility.
- 5) Cut the grass across the slope and never in the up/down direction of the slope. When changing direction, ensure that the roller or rear roller does not hit any obstacles (stones, branches, roots, etc.) that could cause the machine to slide sideways or cause loss of control.
- 6) The device may be driven with a maximum inclination of 10° in relation to the slope, regardless of the direction of travel.
- 7) Be particularly careful when pulling the reel mower towards you. Look behind you to make sure there are no obstacles
- 8) If the reel mower is to be transported over surfaces other than grass, stop the cutting tool by reversing. Transport the reel mower backwards to the mowing area to prevent the reel from rotating, or use a suitable dolly.
- 9) Always pay attention to traffic when working near roads.

- 10) Do not use the device if the protection devices are damaged.
- 11) Particular caution is required near steep slopes, ditches or dams.
- 12) Never place hands, feet or head near or under rotating parts. Always stay away from the discharge opening.
- 13) Only use accessories approved by the manufacturer.
- 14) After an impact with a foreign object, the device must be checked for damage and repaired before use.
- 15) Always maintain a safe distance from the rotating cutting tool. This distance corresponds to the length of the handle.
- 16) CAUTION - A stop by the user is only a conditional stop of the rotating spindle (cutting tool). It is important to ensure that the spindle can continue to rotate for a short time; this depends on the setting of the cutting tool. This is the responsibility of the user!
- 17) CAUTION - In the event of malfunctions or accidents during work, the device must be removed to avoid further damage. In the event of an accident involving personal injury or property damage, immediately initiate first aid measures and go to a hospital for medical treatment. Carefully remove any debris that could otherwise cause harm to people or animals.
- 18) FOR YOUR SAFETY: If you need to lift or transport the mower, have two people lift it. Wear cut protection gloves. Secure the spindle against free rotation by placing the bedknife close to the spindle. The mower weighs approximately 47 kg (104 lbs). Lifting alone can lead to back injuries!



IMPROPER USE

Any improper use is dangerous and can lead to personal injury or property damage. Cases of improper use (examples):

- Transporting people, children or animals on the device
- Ride on the device
- Using the device to collect waste
- Using the device to cut plants other than lawn
- Use of the device by more than one person.

MAINTENANCE AND STORAGE

- 1) CAUTION - Before any cleaning or maintenance, secure the cylinder mower against rolling away and read the relevant instructions. Wear appropriate protective clothing and cut-resistant gloves in all situations where hands are at risk.

- 2) CAUTION - Never work with worn or damaged parts. Worn or worn parts must be replaced and never repaired. Use only original spare parts: the use of non-original or incorrectly assembled spare parts can compromise the safety of the device, lead to accidents or injuries and releases the manufacturer from any liability.

- 3) All adjustment and maintenance work not described in this manual must be carried out by a professional who has the necessary knowledge and tools to carry out the work correctly and maintain the original safety level of the machine. Interventions that are not carried out by a specialist workshop or by unqualified personnel generally void the warranty and the manufacturer's liability.

- 4) After each use, check the machine for any damage.

- 5) Make sure all nuts and bolts are tightened so that the machine is always in good working condition. Regular maintenance is essential for safety and maintaining performance.

- 6) Regularly check the tightness of the cutting tool screws.

- 7) Always use suitable cut-resistant work gloves when removing and installing the cutting tool.

8) When grinding the cutting tool, make sure it is balanced. All work on the cutting tool (removal, sharpening, installation and/or replacement) is complex work that requires not only the use of special tools but also special specialist knowledge. For safety reasons, this work must always be carried out by a specialist workshop.

9) When making adjustments to the device, ensure that your fingers are not caught between the rotating cutting tool and the fixed parts of the device.

10) Do not touch the cutting tool until it has come to a complete stop. When working on the cutting tool, ensure that it can move.

11) Replace damaged warning and information signs.

12) Keep the device out of the reach of children.

TRANSPORT AND HANDLING

1) When moving, lifting, transporting or tilting the machine, the following instructions must be followed:

- Use sturdy work gloves.
- Handle the machine, taking into account the weight and weight distribution, in places that ensure a secure grip and prevent contact with the cutting tool.
- Use a number of people appropriate to the weight of the machine and the characteristics of the means of transport or the installation position.
- Secure the machine during transport with suitable straps or ropes.

ENVIRONMENTAL PROTECTION

- 1) Environmental protection is an important and priority aspect when using this device and benefits both the neighborhood and our environment. Disturb your neighbors as little as possible, even if the mower is very quiet.
- 2) Follow local regulations for disposal of packaging materials, defective or highly polluting components; This waste does not belong with normal household waste, but must be recycled separately at the appropriate collection points.
- 3) Follow local regulations for disposal of clippings.
- 4) The old device must not simply be disposed of in the environment, but must be handed in at a collection point in accordance with applicable regulations.



PREPARATION FOR USE, ASSEMBLY

Danger! For unpacking and final assembly, select a flat and solid surface with sufficient space for handling the device and packaging and always use suitable tools.

Read all safety instructions beforehand! (page 5-12)

The packaging must be disposed of in accordance with local regulations. Be aware of the weight and have an extra person help you.

HANDLE ASSEMBLY

When delivered, the handle is folded into the transport position. Raise the handle upwards and hand-tighten the lower handle frame to the upper handles using the centering screw and knurled nut. (see Fig.1-3)

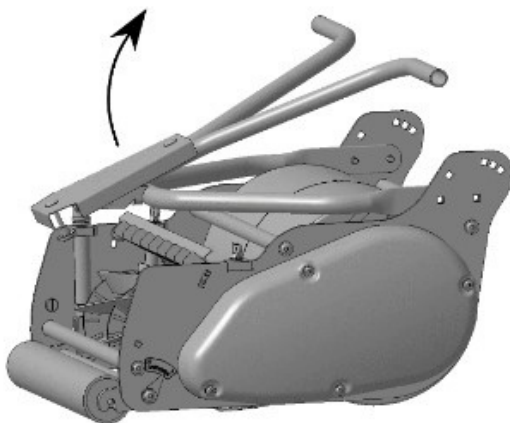


Abb.1



Abb.2

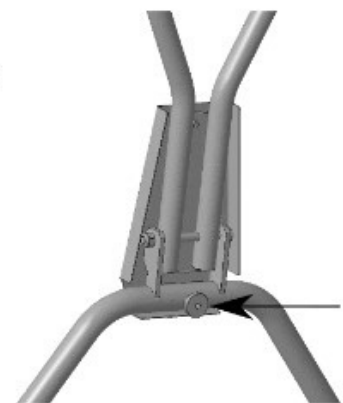
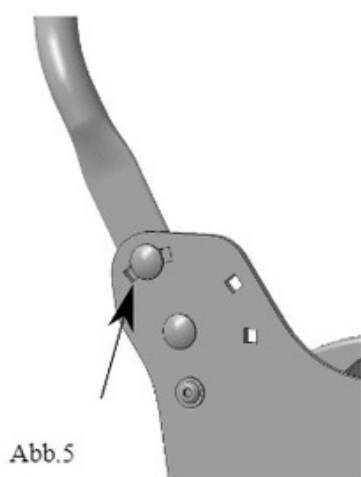
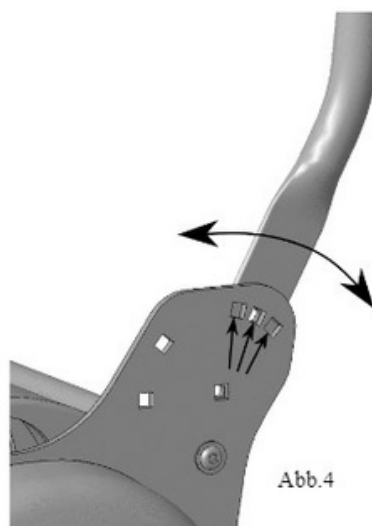


Abb.3

PREPARATION FOR USE, ASSEMBLY

The handle height can be adjusted using the three positions provided. (see Fig.4)



Choose your appropriate handle height and attach the lower handle frame with the screws provided (see Fig.5). Make sure that the round head of the screw is on the outside. Tighten the safety nuts slightly. The handle should be screwed tight so that it does not move while mowing.

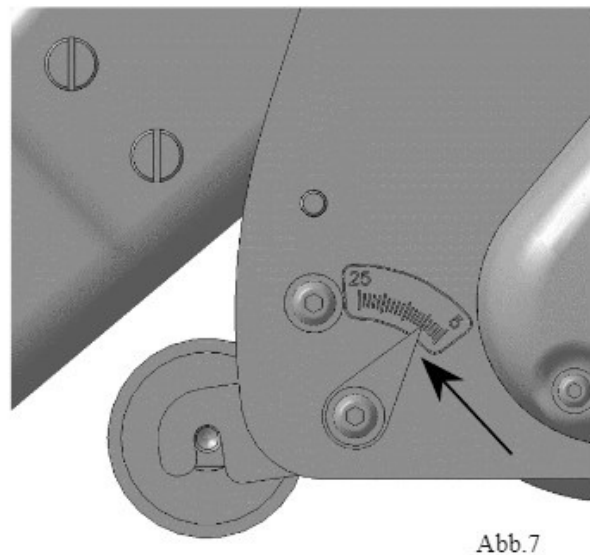
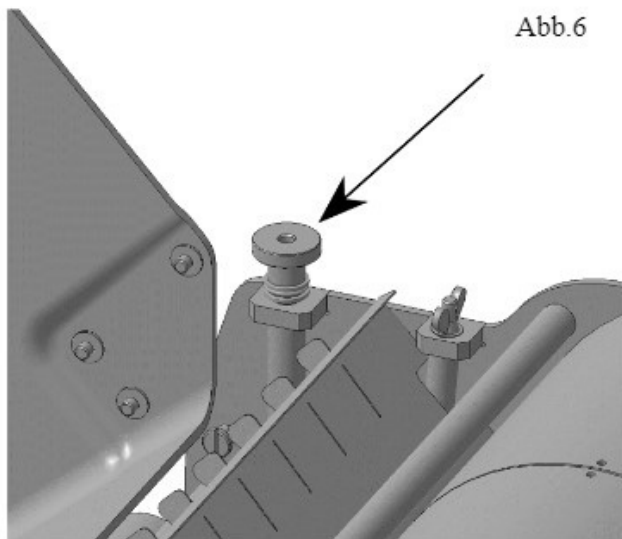
COMMISSIONING AND SETTINGS

CUTTING HEIGHT ADJUSTMENT

The cutting height can be adjusted continuously using the right knurled screw (Fig.6). The arrow shows you the exact cutting height of the mower on the scale in millimeters. (Fig.7)

Turning the thumbscrew clockwise increases the cutting height.

Turning the thumbscrew counterclockwise reduces the cutting height.



MOWER ADJUSTMENT

The lower knife is permanently mounted, the height of the spindle can be adjusted to the left and right of the lower knife using the wing nut or knurled nut. (Fig.8/9)

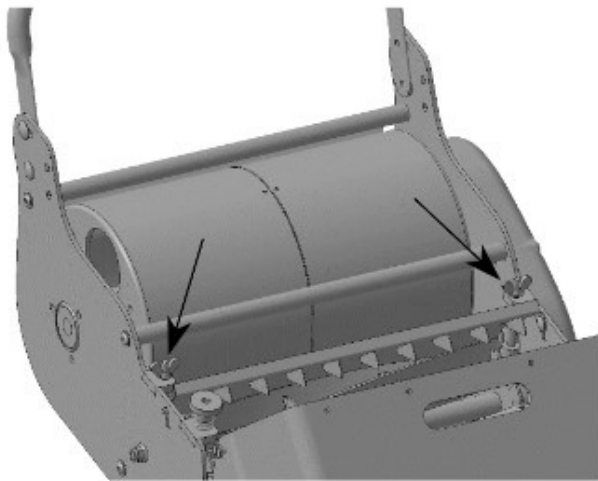


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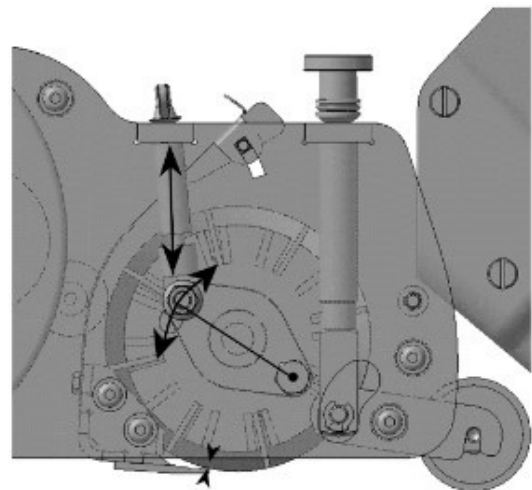


Abb.9

Turning the adjusting nut clockwise removes the reel from the bedknife.

Turning the adjusting nut counterclockwise moves the reel to the bedknife.

For fine adjustment, the adjusting nut should only be adjusted minimally. For a healthy cut, the gap (left and right) between the spindle knife and the bottom knife should be a maximum of 0.05mm (0.002") (five hundredths of a millimeter). For adjustment we ideally recommend a feeler gauge of 0.03-0.05mm (0.0012" - 0.002"). The prerequisite for a contactless cut is of course a sharp mower!

For the paper cutting test, we recommend standard dry printer paper 100g/m² (25,3 lbs/ream).

CONTACTLESS CUT ADJUSTMENT WITH FEEL GAUGE

First, tilt the mower into the maintenance position.

- 1) Slowly turn both adjusting nuts clockwise so that there is a visible gap between the spindle and the bottom knife on both sides (approx. 0.5-1mm / 0.02"-0.04").
- 2) Slowly turn both adjusting nuts again alternately counterclockwise so that the gap between the bottom knife and spindle closes. Use the feeler gauge (0.03-0.05mm / 0.0012" - 0.002") to adjust the gap on the left and right evenly
- 3) The feeler gauge should lightly touch the bedknife and reel knives. Then carry out the paper cutting test several times.
- 4) Finally, return the mower to the mowing position. If contact between the spindle and the lower knife is audible, the adjusting nuts on the left and right can/must be turned/clocked "evenly" a tick clockwise until contact is no longer audible.



OPERATION

The prerequisite is a well-adjusted “contactless” mower. This means you can mow easily on Sundays and public holidays. Always pay attention to foreign objects that may be on your mowing area. Stones, branches, toys, etc. can damage the mower deck. Such damage is not covered by the warranty.

We recommend pushing the mower backwards when transporting it across the lawn, as the spindle will then not rotate.

When the cylinder mower is on the lawn, simply push it. In order to achieve an optimal cutting pattern, the Falkenstein has a high gear ratio. Pushing requires some force as the spindle first has to reach high speeds. But once the mower is in motion, mowing becomes more pleasant. The high weight of the spindle and the high speed create a force that makes mowing more pleasant. Thanks to the differential function built into the rear roller, the spindle continues to rotate when turning. Even when reversing abruptly, the spindle continues to rotate in the mowing direction for a while.

We recommend mowing with a collection basket to avoid spreading unwanted grass seeds. In high corners where the collecting basket at the front interferes with mowing, it is advisable to briefly remove the basket.

IMPORTANT NOTE:

If the mower deck is very difficult to push, it is very likely that you have reduced the cutting height too much, i.e. you have not followed the 1/3 rule.

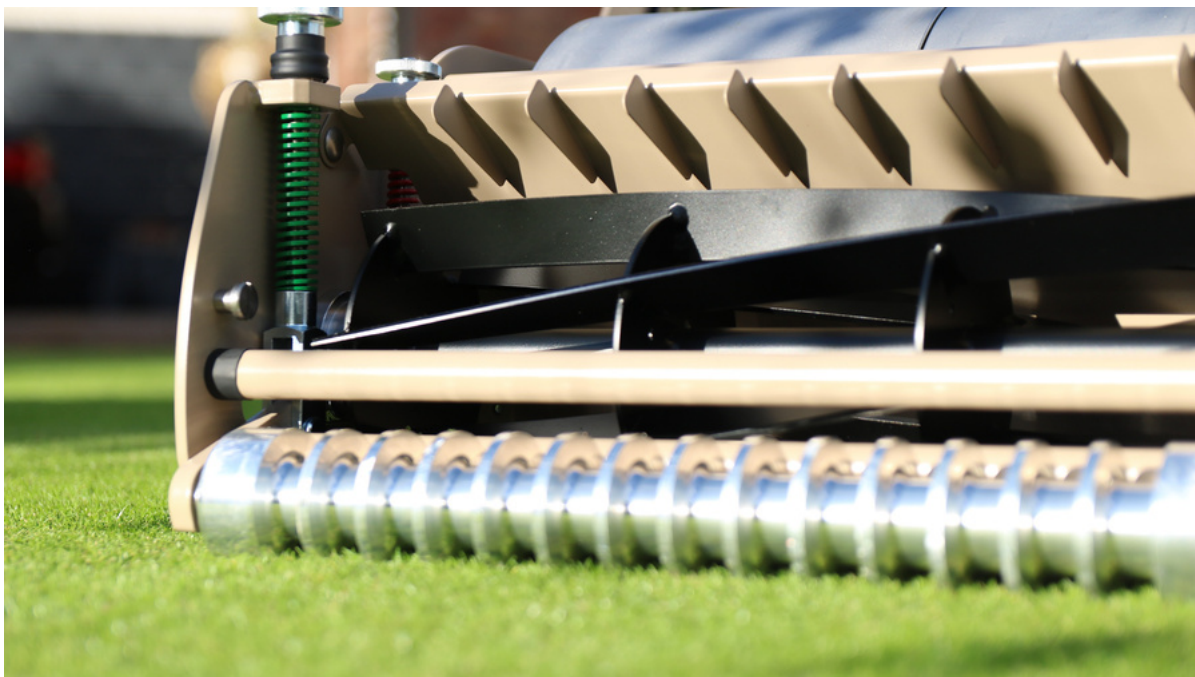
Example: The cutting height before mowing is approximately 20 mm (0.8") and your mower is set to 10 mm (0.4"). So you have halved the cutting height. In this case, it is advisable to set the cutting height to no less than 14 mm (0.55").

Regular mowing is therefore absolutely necessary.

If the grass is very tall, it must be pre-mowed with a motorized rotary mower!

At very low cutting heights, the bedknife may drag heavily on the grass surface, which also leads to high sliding resistance.

After mowing, the mower (especially the mowing deck) should be cleaned of dirt / blown dry with compressed air! When wet mowing, we recommend lightly greasing the ground cutting surfaces of the spindle and bedknife (open metal surfaces) to avoid corrosion/rust.



MAINTENANCE, CLEANING AND CARE

Your Falkenstein hand cylinder mower does not require any major maintenance. All ball bearings are dust-protected and do not need to be oiled or greased as they have lifetime lubrication. It is important to clean the mower deck regularly after each mowing process. We strongly recommend a commercially available compressor, as the compressed air dries the materials at the same time. After wet mowing, the blade tips should be lightly greased with a cloth (e.g. WD-40 or Ballistol oil).

It is important to ensure that the threads of the two adjusting nuts for the spindle adjustment are always greased. The conical washer under the knurled nuts must also always be greased to ensure problem-free cutting adjustment (see Fig. 10)

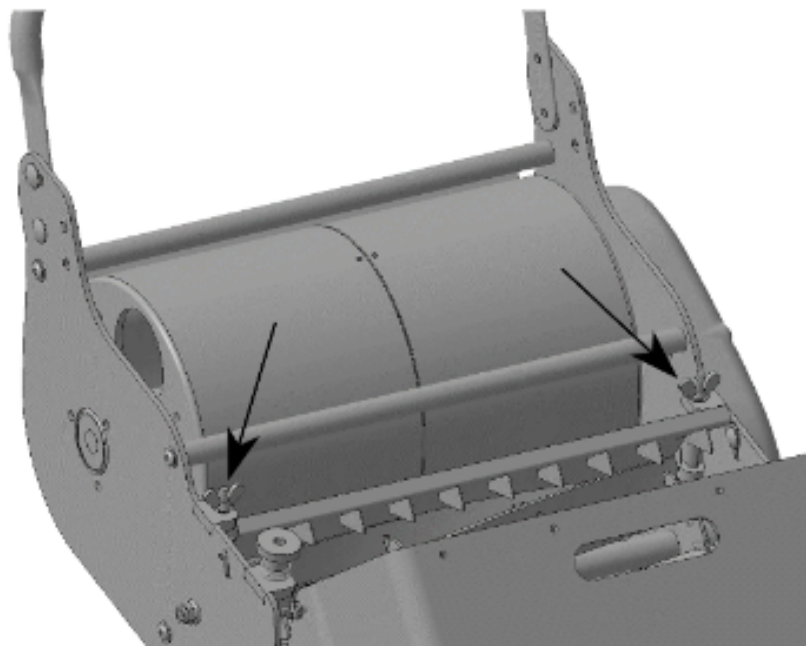


Abb. 10

MAINTENANCE, CLEANING AND CARE

The entire rear roller is made of stainless steel and therefore does not rust.

No water may get into the drive area! Occasionally treat the chain drive with dry chain spray.

Store your Falkenstein in dry rooms. Damp soil attacks the open cutting surfaces of the mower deck and can cause rusting.



MANUAL RESHARPENING “BACKLAPPING”

Backfolding is only necessary if the cut no longer works properly. The easiest way to check this is with our paper strip cutting test. Please do not use unsuitable thin paper.

The spindle of the Falkenstein is provided with a relief grind at the factory. This has many advantages!

Little contact area between spindle knife and bedknife, so little material for grinding. This leads to very short backlap times and very little grinding paste is required. Using our included professional grinding paste also shortens the baking time enormously. Rinsing off the abrasive paste with water is easy and leaves no greasy residue as the abrasive paste is silicone-based.



BACKLAPPING EXECUTION

- 1) Tilt the mower into maintenance position
- 2) Unscrew the side drive cover
- 3) Screw the lever supplied onto the drive shaft of the rear roller.
- 4) Adjust the gap between the spindle and the bottom knife to approx. 0.5mm (0.02") “equal sides”!
- 5) Turn the lever so that the spindle rotates backwards!
- 6) Now, with the spindle rotating backwards, apply the abrasive paste evenly over the entire width with the brush. Repeat the process several times.
- 7) The backlapping process should only take a maximum of 1-2 minutes.
- 8) Rinse off the grinding paste with a water hose.
- 9) Water should not get into the chain drive area!
- 10) Dry the mower and mower (e.g. with compressed air)
- 11) Adjust the mower deck with a feeler gauge
- 12) Carry out paper cutting test
- 13) Grease the ground cutting surfaces of the spindle and lower knife (protection against corrosion/rust)

REPAIR, TROUBLESHOOTING, HELP WITH MALFUNCTIONS

Please just contact us! We would be happy to advise and help you personally.

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SERVICE & PARTS

Please just contact us! We advise you and help you personally.
We have every spare part in stock.
Exploded drawing available on request.

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CYLINDER MOWER GERMANY

