

Operator's manual



**Flail mower
Park Ranger 2150**

Introduction

Dear Customer

Congratulations with your Egholm product

The Park Ranger 2150 is a Danish designed and manufactured product, which offers a very flexible way of maintaining outdoor areas.

Optimal use of your Park Ranger 2150 flail mower

To ensure optimal performance of your Park Ranger 2150 flail mower, please read this manual carefully before using the machine. Failure to do so can result in personal injury and damage to the machine.

Safety

The flail mower is equipped with various devices to ensure optimal operational safety both for the user and the surroundings. We ask you to pay particular attention to section 1.1 Safety.

The machine must only be serviced by professionals.

The flail mower is designed only for use by professionals. On delivery, the user will receive thorough training to become a competent operator.

Do not lend the flail mower to anyone who has not been thoroughly trained and has not read this manual carefully.

The operator's manual should be considered as a permanent part of the machine and must remain with it if the machine is sold.

Warnings

Some items in this operator's manual are marked with this warning symbol.

The warning indicates areas where extra care has to be taken to avoid personal injury or damage to the machine and its accessories. The warning also shows what you should pay special attention to.



Reservations

As it is the Egholm policy to make continuous improvements, we reserve the right to alter the specifications and equipment at any time without notice. Egholm accepts no liability for errors or omissions in the operator's manual.

Contact us

Should you have questions of any kind regarding your Egholm product, do not hesitate to contact Egholm.

Best regards

Egholm A/S · Transportvej 27 · DK-7620 Lemvig

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The Park Ranger 2150 is perfect for cutting very high grass or for chemical-free weed control of lawns.

Flail mower

For rough grassed areas which are not regularly mown, the Egholm flail mower is the perfect tool. Watching it Cutting very high grass, with a cutting width of 1,226 mm is an impressive sight.

The verticutter

The verticutter is the perfect means to keep a lawn neatly mown and improve the resistance of the grass to weeds without the use of weed killers. Grass needs lots of light and air, and the verticutter removes moss and also cuts a thin score in the lawn to allow air to the roots.

The verticutter is fitted to the Park Ranger 2150 in a floating position and has four wheels to ensure the correct scoring depth. It operates very close to the ground and provides a thoroughly level and even lawn surface.

The flail mower must not be used for any purpose other than cutting grass and removing moss from lawns in accordance with this operator's manual.

Useful tips

Make sure the snap couplings are clean before attaching, as this protects the hydraulic system.

Daily cleaning and maintenance will extend the lifetime of both the machine and the attachment.

General information

**Honest
Machines**

General information

1.1 Safety



Make sure that no one is standing near the machine while it is in use

Make sure that no one is near the machine while it is in use as there is a danger of crushing.



Attention

As it is articulated, the rear end of the machine swings out when turning. Make sure that no one is standing near the machine while it is in use. (Picture 1)



Attention! Rotating parts!



Make sure no one puts their fingers or toes under the flail mower while it is moving to avoid personal injury. (Picture 2)



Attention! Avoid flying stones

Remove stones and branches from the lawn as they can be unintentionally thrown out and cause damage to people and property. Regularly check the protective screens on the front and back edges of the mower guard for cracks or wear.



Avoid roll-overs

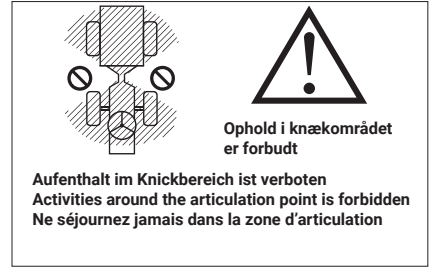
Do not drive the machine in a place where it can slide, tip or roll. Do not drive on slopes with an incline of more than 10°. (Picture 3)

It is recommended that counterweights are fitted to the rear wheels to prevent the machine tipping forwards. Counterweights are available at Egholm dealers.

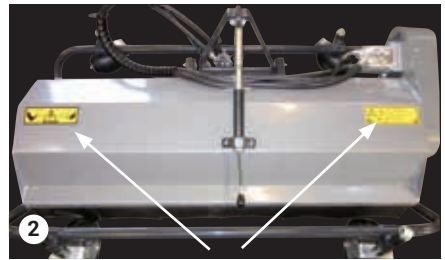


Avoid hearing damage

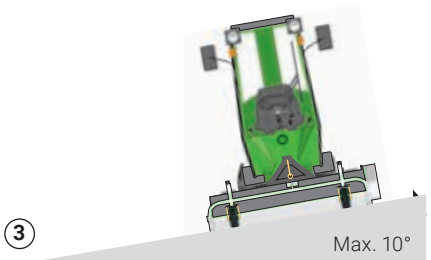
Use earmuffs when operating the machine.



Prevent people from standing in the working area



Warning label



Do not drive on slopes with an incline of more than 10°



4 points of lifting

General information

1.2 EC Declaration of Conformity

Manufacturer: **Egholm A/S**
Address: **Transportvej 27 · DK-7620 Lemvig**
Telephone: **+45 97 81 12 05**

hereby declares that

The machine: **Flail mower 2150**
Type: **21SLK**

· has been manufactured in conformity with the provisions of the Machinery Directive, Directive 2006/42/EU

Any alteration, rebuilding or addition of implements, accessories or other equipment not manufactured by Egholm automatically results in the cancellation of type approval, CE approval, any other approval, as well as any warranty on machine and attachments.

Unless otherwise agreed in writing between the operator, customer and Egholm, Egholm is the data originator (data originator) of all data generated by the machine and attachments during use.

Place: Lemvig
Date: _____
Signature: 
Knud Olsen, Senior Engineer

General information

1.3 Technical data

Dimensions

Length (L)	2,895 mm	955 mm
Width (W)	1,475 mm	1,475 mm
Height with cab	1,935 mm	530 mm

Attached

Storage dimensions

Technical data

Type	21SLK
Own weight	180 kg
Rotor rpm, max.	2,800/m
Noise level of seat: without cab	85.9 dB
with cab	88.4 dB

Vibration test of the basic machine:

Whole body, EN 13059	0.6 m/s ²
Hand/arm, EN 13059	2.4 m/s ²

Flail mower

Clearing width	1,226 mm
Clearing height	0–110 mm
No. of flails	76 stk.
Performance/hour	approx. 10,000 m ²

Verticutter

Clearing width	1,172 mm
Cutting depth	0–15 mm
No. of vertical blades	38

Attention

Specifications may change without notice.

Extra equipment

Vertical blades: Used for vertical cutting which provides air to the root system of the lawn and removes moss.

Counterweights: To be fitted on the rear wheels of the machine

Large radiator cover (90203171) recommended for lawn mowing.

Operator's manual

**Honest
Machines**

2.1 Assembly / Disassembly

1. The locking handle on the A-frame of the basic machine must be in the unlocked position. (Picture 1)

2. Drive the base machine right up to the A-frame of the flail mower, so the A-frames fit into each other.

3. Raise the A-frame by pulling lever A until the flail mower is suspended and free of the ground. (Picture 2)

4. Stop the machine.

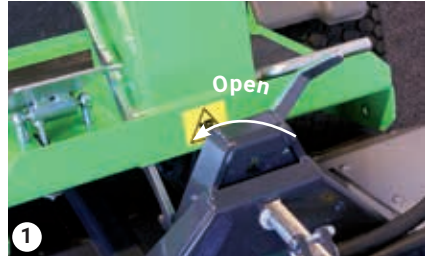
5. Lock the flail mower in place with the locking handle on the A-frame. (Picture 3)

6. Fit the hydraulic hoses to the D-connectors. (Picture 4)

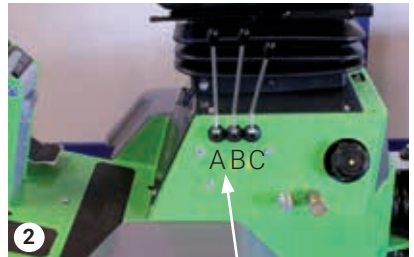
7. Attach the hydraulic hoses with the rubber ring under the running board to ensure that they run correctly over the screen.

Removing

Follow the procedure for fitting in the reverse order. Put the protective caps on the snap couplings to protect them from dirt.



Locking handle



Lever A



Locking



D-connectors

Operator's manual

2.2 Before start-up

During transport – use the transport lock to fix the flail mower in its raised position. (Picture 1) (Refer to the basic Park Ranger 2150 Operator's Manual Section 1.5)

Check the blades are sharp, intact and free from cracks before fitting the flail mower. This avoids unnecessary breakdown while mowing. (Picture 2)

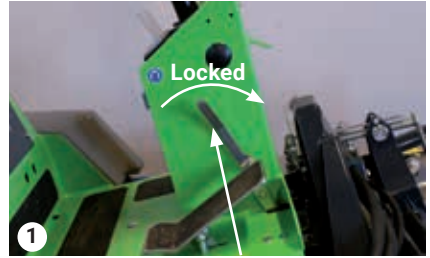


Attention! Avoid flying stones:

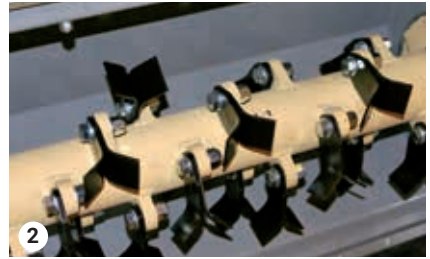
Remove stones and branches from the lawn as they can be unintentionally thrown out and cause damage to people and property. Check the protective screens on the front and back edges of the mower guard regularly for cracks or wear.

Large radiator cover

We recommend the use of a large radiator cover while mowing grass. This can be ordered from an authorised Egholm distributor. (Picture 3)



Transport lock



Checking blades



Large radiator cover

2.3 Start-up

1. Start the machine.
2. Move lever A down into position 2 to lower the flail mower. (Picture 1)
3. Press lever A down for approx. 2 seconds, as the mower is then in a floating position and will follow the contours of the terrain.
4. Turn the throttle until it is at least half open. (Billede 2)
5. Start the flail mower by moving lever D slowly and smoothly up into position 1. (Picture 3)
6. Now open the throttle fully (full power) to achieve the correct blade speed. (Picture 2)
Adjust the driving speed to suit the conditions.



Attention!

To avoid damaging the blades and guard, avoid manhole covers and similar obstacles.



Attention!

Make sure no one is standing close to the machine while it is in use.



Attention!

When turning, the rear of the machine swings out, so there is a risk of crushing or collision.

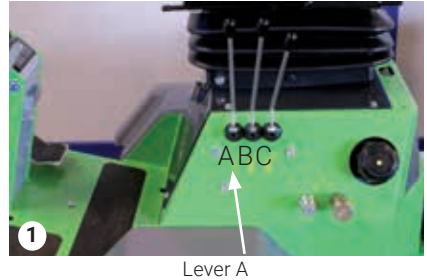


Attention! Rotating parts!

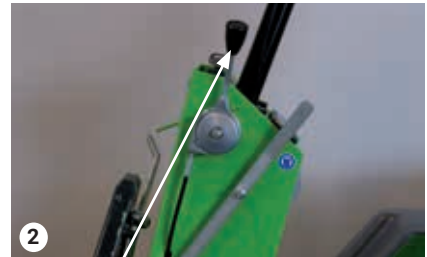


Make sure no one puts their fingers or toes under the flail mower while it is moving to avoid personal injury.

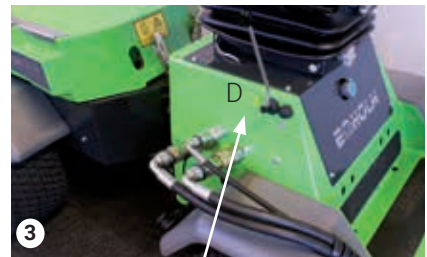
7. Stop the flail mower by moving lever D into neutral position. (Picture 3)



Lever A



Turn the throttle until it is half open



Lever D

Operator's manual

2.4 Adjustment

Adjusting the cutting height (flail mower)

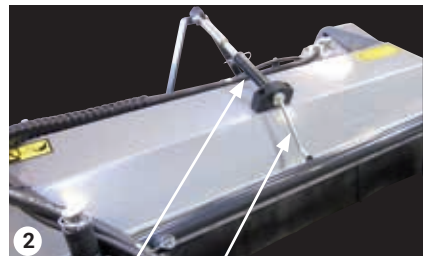
Adjust the cutting height as follows:

1. Stop the machine.
2. Rough adjustment using seven adjusting rings in interval 0–110 mm. (See table)
Remove the locking ring. Take off the wheel and place the required number of adjusting rings between the wheel and the mower bracket (the same number on both front wheels). (Picture 1)
For example, 4 adjusting rings between the wheel and the mower bracket allow the mower to be finely adjusted to a height of between 25 and 78 mm.
3. Fine adjustment is made with the variably adjustable handle, which adjusts the height of the rear edge of the flail mower.
4. For very tall grass, the mower should have a larger opening at the back, sufficient to eject the grass without squeezing it into clumps. (Picture 2)
In other words it is an advantage to use as few adjusting rings as possible to achieve the required cutting height.

Cutting height for the flail mower	
Total no. of rings	Clearing height (mm)
0	0 - 50
1	3 - 58
2	11 - 63
3	18 - 70
4	25 - 78
5	33 - 95
6	40 - 103
7	47 - 110



Adjusting rings



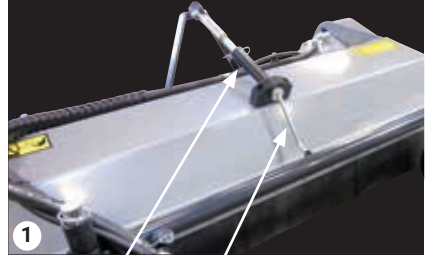
R-cotter pin Fine adjustment handle

2.4 Adjustment . continued

Adjusting the cutting height (verticutter)

Adjust the depth of the verticutter as follows:

1. Stop the machine.
2. Remove the locking ring. Take off the wheel and place the required number of adjusting rings between the wheel and the mower bracket (the same number on both front wheels) to achieve the required scoring depth. We recommend a cutting depth of between 5 and 10 mm.
3. For vertical cutting, the R-cotter pin must be removed so that the mower is in floating position, as this ensures an even depth and results in an even and thorough treatment of the lawn.
(Picture 1)



R-cotter pin Fine adjustment handle

Service and maintenance

**Honest
Machines**

Service and Maintenance

3.1 Cleaning

Cleaning the flail mower

Daily cleaning and maintenance will extend the lifetime of both the machine and the attachment.

Tip the flail mower forward to make cleaning easier. (Picture 1)

We recommend cleaning the flail mower immediately after operation to avoid the grass adhering to the guard and blades. Avoid high pressure cleaning of the snap couplings.

Cleaning the water cooler

We recommend the use of a large radiator cover while mowing grass. (Picture 3)

1. Remove the water cooler cover/large radiator cover by turning the two spring-loaded handles out to the side. (Picture 2)
2. Blow the cover and cooler clean with compressed air.
3. The cooler can be washed using clean water.



Warning!

Do not use hard implements when rinsing the cooler, as this can damage the fins.

Cleaning the oil cooler

1. Remove the oil cooler cover. (Picture 4)
2. Blow the cover and cooler clean with compressed air.



Warning!

Blow the cooler with compressed air before washing the machine. Otherwise the dirt will not wash off.



Flail mower tipped forward



Water cooler cover

Spring-loaded handle



Large radiator cover



Oil cooler cover

Service and Maintenance

3.2 Maintenance

Lubricating the bearings - checking and adjusting the drive belts

The rotor axle bearings must regularly (approx. every 10 hours of operation) be lubricated with good quality grease.

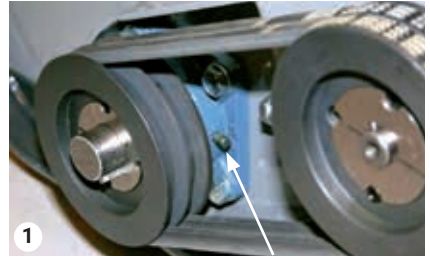
1. Stop the machine.
2. Take off the guard which protects the drive belts on the left-hand side of the flail mower.
3. Clean the lubricating nipple and lubricate the bearing while turning the axle until grease starts to come out of the bearing. (Picture 1)
4. Wipe off excess grease with a cloth to avoid grease on the drive belts.
5. Check the drive belts for cracks and wear, replace them if necessary. (Picture 2)
6. Tighten the drive belts so they can be twisted approximately 90 degrees with two fingers.
7. Replace the guard on the right-hand side of the flail mower.
8. Repeat the procedure for the bearing on the right-hand side. (Picture 3)

Lubricating the castor wheel forks

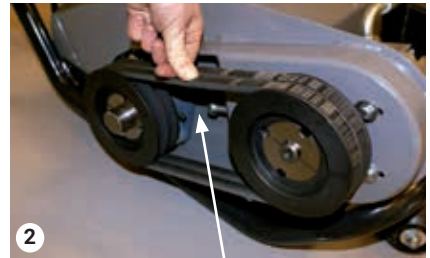
Clean the lubricating nipples and lubricate the castor wheel forks as necessary with grease. Make sure to remove excess grease. (Picture 4)

Protective screens (avoid stones being thrown out)

Check the screens on the front and rear edges of the mower guard for wear, and replace if necessary.



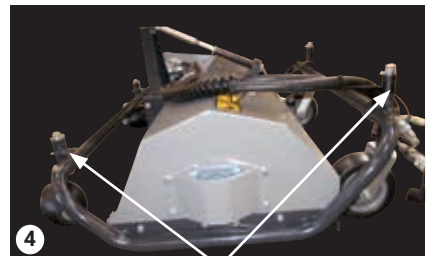
Lubricate the bearing on the left-hand side



Adjust the belts



Lubricate the bearing on the right-hand side



Lubricate the castor wheel forks

Service and Maintenance

3.2 Maintenance - continued

Replacing the flails

The flails are replaced as follows:

1. Stop the machine.
2. Remove the cutter.
3. Tip the mower forward. (Picture 1)
4. Remove the nut from the bolt that holds the flails, and then remove the flails. (Picture 2)
5. Put on the flails lying next to each other on the same side of the bolt, at its head. The nut and bolt must not be tightened too much, otherwise the flails will not move. (Picture 3)



Mover tipped forward



Bolt for blade



The flails are fitted together

Service and Maintenance

3.2 Maintenance - continued

Replacing the vertical blades

1. Stop the machine.
2. Remove the flail verticutter.
3. Tip the verticutter forward. (Picture 1)
4. Remove the nut from the bolt that holds the blades, and then remove the blades. (Picture 2)
5. Fit the vertical blades one by one onto the axle. The nut and bolt must not be tightened too much. Otherwise the vertical blades will not move. (Picture 3)



Attention!

Check the nuts and bolts for wear, and replace if necessary.

The nuts should be self-locking.

New blades, nuts and bolts can be ordered from an authorised Egholm distributor.

Winter storage

When it is time to store the flail mower for the winter, the following steps are recommended:

1. Remove any loose paint and repaint any damaged areas.
2. Spray the flail mower with protective lubricant.



Mover tipped forward



Bolt for blades



Vertical blades fitted individually

Conditions

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Conditions

4.1. Warranty

The warranty period for the materials and manufacture of this flail mower is 12 months from the date of purchase. In case of errors or defects on the machine within the warranty period, Egholm will carry out the necessary repairs without charge for materials and working hours in accordance with the terms and conditions listed below.

The scope of the warranty

1. The Egholm warranty is only valid on presentation of the original receipt, supplied with model description, serial number and date of purchase.
2. Regular checks, adjustments, services and technical alterations are not covered by the warranty.
3. All inquiries concerning the warranty are to be addressed to the distributor, from whom the machine was purchased.
4. This warranty does not cover faults and defects which cannot be traced back to defects in material or production errors.
5. This warranty is valid for persons who have legally acquired the machine within the warranty period.
6. In the event of failure to perform and substantiate service in accordance with the applicable instructions, Egholm reserves the right to reject any claim made within the warranty period.
7. Egholm reserves the right to make improvements and design-related alterations to the machine without being obliged to modify previously delivered models in relation hereto.

The warranty does not cover

- Wear and tear, accidents, damage to the equipment caused by operating errors, changes to the construction of the machine or use of non-Egholm spare parts or implements.
- Machines with illegible serial numbers.
- Damage caused by force majeure such as lightning, flood, fire, war, civil disturbance, etc. or other causes over which Egholm has no control.

4.2 Complaints

All inquiries regarding the machine should be made at the distributor from whom the machine was purchased. This applies to inquiries concerning normal use, service, maintenance and spare parts as well as any complaints.

We wish you many years of safe and satisfactory use of your machine.

Best regards
Egholm A/S

4.3 Disposal

When, in many years from now, your flail mower has reached the end of its working life, it should be disposed of in a responsible manner that conforms with relevant disposal regulations.

1. Used hydraulic oil is to be disposed of at an approved waste disposal facility or site.
2. Remove all plastic and rubber parts and dispose of.
3. After the parts mentioned have been removed, the machine is ready to be handed over to one of your local approved scrap merchants.

Wearing parts

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Wearing parts

5.1 Wearing parts - Park Ranger 2150 flail mower



E01100300 Wheel



E09700290 Stone guard, back edge



E09701270 Rubber wheel



E90203061 Vertical blade set



E01604020 Fan belt



E90501681 Flails set



E01700040 Bearing for rubber wheel



E09701530 Spacer ring



E09700280 Stone guard, front edge

Notes

Notes

Honest Work.

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