



EcoVal

EN

Operating manual

Spindle wedge for timber harvest

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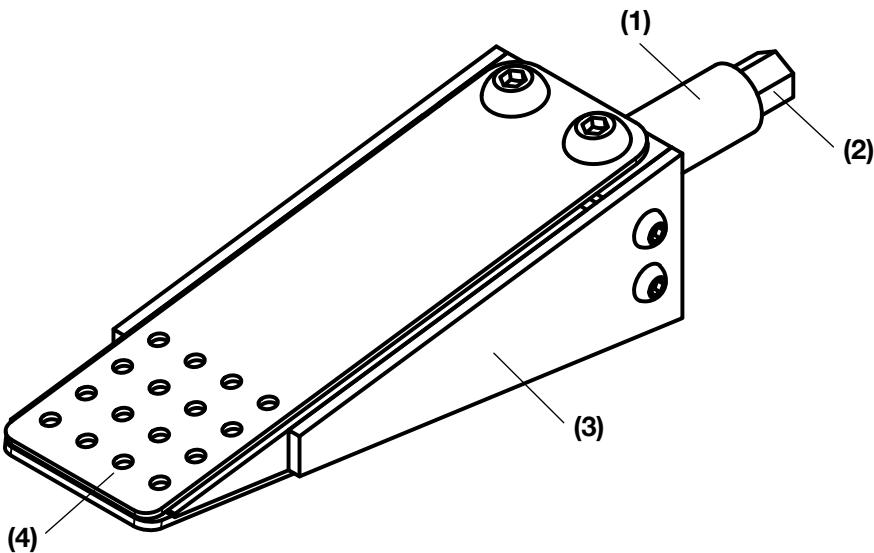
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1. Technical data

Term	EcoVal
Max. lifting capacity (to)	12
Mass (kg)	2
Length (mm)	280
Width (mm)	70
Height (mm)	70
Lift/Turn (mm)	8
Max torque impact drive (Nm)	1,000
Max torque static (Nm)	120

2. Product description



(1)	Exposed spindle	(3)	Side cover
(2)	Drive hexagon 13 mm	(4)	Knobs

3. Intended use

The intended use of the EcoVal is the harvesting of timbers. Here it is used to lift trees on the side turned away from the fall candle and thus cut the tree in the desired direction. It can also be used to loosen chainsaws.

The EcoVal does not replace a winch or rope train. Use it only if you think you would bring the tree down with classic wedges. Strong rear or side catchers cannot be felled with the mechanical spindle wedge, i.e. it can be overloaded or could tear down the fracture bar. Wood weakened by fungal infestation and rot must not be brought down with the EcoVal. The fracture bar can break off prematurely or the EcoVal cannot press into the wood as usual, as the wood does not bring with it the necessary stability. Use this device only if you are familiar with it.

A creak or battery-powered impact screwdriver can be used as a drive for the EcoVal. The maximum torque applied with the ratchet is 120 Nm. Impact wrenches can be used up to a hard torque value of 1,000 Nm.

If the EcoVal

- not used as intended
- overloaded
- wrong or not serviced

the manufacturer assumes no liability for any damage caused!

4. Safety advice

In the event of disregard for safety warnings, serious injuries can result in death!



Wear a head protection combination, face protection, gloves, cut protection clothing and all other protective clothing prescribed for chainsaw work.



When working with the EcoVal, always observe the current UVV guidelines for chainsaws and forestry work!



Always use plastic or aluminum wedges as safety wedges when working with the EcoVal. When operating the EcoVal, always push the wedges into the saw joint to be on the safe side.



If the EcoVal is damaged, the EcoVal must no longer be used.



If the lifting force is not sufficient to bring the tree down, use additional wedges, ram jacks or a cable winch.



The maximum lifting capacity of the EcoVal is 12 t.



The EcoVal does not replace a winch or cable. Only use this device if this tree could also be wedged over. Pronounced back or side hangers must not be felled with the EcoVal, as this can be overloaded. Do not use this device unless you are familiar with it.



Incorrect operation can cause serious damage to health and even death. The EcoVal may only be used by qualified persons with appropriate training. We generally recommend: Attend a course on the use of felling aids.



Before commissioning, the EcoVal must be checked for possible damage and suitability for use ensured.



Do not use the system if you are not familiar with it.



Use the system only if you have the physical and mental aptitudes feature.



Please note that there is a risk of pinching if the wedge is retracted and extended quickly. The EcoVal may only be used with intact safety equipment!



When using the EcoVal in combination with a cordless impact wrench, the safety instructions and operating instructions of the impact wrench manufacturer must also be observed.

5. Guarantee

For the EcoVal, we guarantee the function and accuracy of the material from 12 months from the date of delivery. This does not cover the consequences of common wear and tear, overload, improper treatment or the installation of foreign spare parts.

A warranty can only be accepted if the device is not disassembled for testing. Damage caused by material or manufacturer errors is removed free of charge through replacement delivery or repair.

6. Operation



Tip: Read the operating instructions first before using the system!

The following work must be carried out before the start of felling:

- Before starting up the EcoVal, the exposed spindle (1) and the inner part of the spindle must be moistened with grease using a spray or a brush. A maximum lifting force and a maximum service life can only be guaranteed with sufficient lubrication.
- Wet the wedge surface on which the knobbed plates slide with grease.
- The EcoVal is driven by means of an impact wrench-proof hexagon socket on the drive hexagon (2) with a 13 mm wrench size. This hexagon socket is to be fixed securely on the impact wrench.
- When using a cordless impact wrench, check whether there is sufficient battery capacity for felling the tree or, if the battery is empty, whether there are alternative drive options (ratchet) or felling tools (hammer and plastic wedge).
- The hexagon socket must be placed on the drive hexagon (2) with a 13 mm wrench size of the EcoVal when the machine is stationary.
- The maximum extension path of the EcoVal is that a thread of the exposed threaded spindle (1) is not screwed into the spindle nut of the bearing block.

The clues apply to the case of regularly-shaped trees. The content of this chapter is not to show and explain different forgery techniques (foreheads, back supporters...) etc.

The content of this guide is how the EcoVal can be applied to a shifted support band cut.

In principle, a technical forgery technique appropriate to the tree should be applied!

Felling cut technique: Highs shifted support band cut

1. Preparation of the tree

Before the saw work on the tree can begin, the usual control of the tree must be carried out.

- How strong does the tree hang in a certain direction?
- Are there any visual sloth spots?
- Are loose branches in the crown of trees?
- Is the tree chopped up in other trees by means of the branches?
- ...

Afterwards, moss, strong root start-ups and thick layers of bark are removed in the area of the fall.

2. Preparing the felling cut

Saw a directional cut into the tree, similar as during work with regular wedges.

3. 60 % reduction of the tree

After the directional cut is applied, the felling cut is executed, whereby the current one is completed only 60 %. The fracture bar must be cut in this 60 % already final. Strong root start-ups or thick bark must be cut off before, as they can be easily squeezed off with the EcoVal.

Below is the 60 % finished cut visible.



This felling cut is then extended a few millimeters, evenly upwards and downwards. The following image shows this expansion.

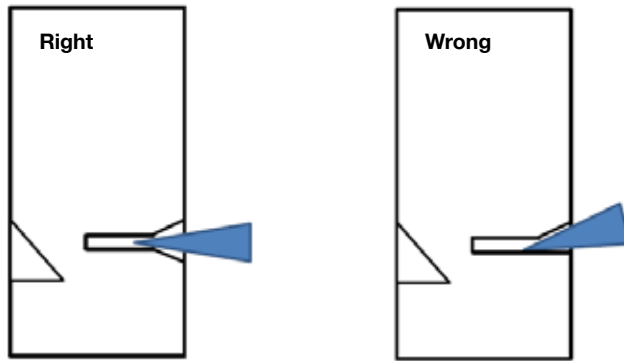
This extension is the easiest to carry out if the chainsaw is pulled out a bit, then slightly tilted forward.



You should not saw the extension similar to the direction cut, means from the outside of the tree. This would cause unsimilar extension.



Warning: If the cut is not extended similar upwards and downwards it can happen that the spindle of the EcoVal bends.



In addition, assure that the upper and lower notch-sheet is equally in the tree, otherwise it can also lead to a bending of the shaft.

4. Attaching the EcoVal

The fully drive-in wedge is now inserted into the felling cut by hand. It is important that enough notches are in the wood claw up. They prevent the wedge from pushing out of the wood while turning the spindle. To do this, there must be enough notches in the wood according to the necessary lifting force, but at least the first three rows.

Now turn the EcoVal until it sits firmly. The pretensing of the wedge prevents, on the one hand, a clamping of the saw when cutting the final the support band. Secondly, it ensures that the EcoVal is set up correctly and does not push itself easily out of the wood.

An aluminum or plastic wedge is used to secure it.

5. Crossing the support band

Then saw fall cut with a offset in height to the first cut. Due to the height offset, it is assured that the chainsaw does not get in contact with the steel parts of the EcoVal. Do not cut directly above or below the EcoVal!

6. Lifting the tree by means of EcoVal

By further turning the EcoVal apart, the tree is raised until it finally falls. The backup wedge must be constantly pushed by hand.

The wedge should only be turned apart until the maximum disbursements are reached. If the debit length has been reached, but the tree has not yet fallen over, it is not allowed to continue to rotate at the EcoVal. The tree must be brought down by additional wedges.

Alternatively, the tree can be secured by aluminum or plastic wedges. Afterwards, the EcoVal is solved by turning together. It can now be pushed in further to reach a higher lift height. It is important to ensure that the plastic wedge does not contact the fracture bar of the tree!

Supporting the EcoVal in the hinge is only permitted if the tree can no longer fall in the opposite direction to the felling notch. This is the case, for example, if it has got stuck in neighboring trees at a steep incline to the direction of felling.

As soon as the tree starts to fall independently, retreat quickly and safely to reach a place of rest! When turning back the wedge, make sure to avoid squeezing or pinching the moving parts.

7. Maintenance/Examination

Please note the maintenance instructions:



The EcoVal must undergo a visual inspection for damage before each use.

Before commissioning and after each working day:

- **Lubrication of the threaded spindle:**

The exposed spindle (1) must be lubricated before commissioning. To do this, move the EcoVal completely apart and apply spray grease or lubricant over the entire length of the spindle.

- **Lubrication of the plastic wedge surface:**

Extend the EcoVal completely and unconsciously moisten the plastic wedge surface with grease by hand.

- **Visual inspection for personal damage.**

- **Check the spindle for freedom of movement.**

- **Check the knobbed sheets for damage/cracks.**

Approved greases are common multi-purpose greases, no adhesive grease, under own LIQUI MOLY 3552 multi-purpose grease.

After a working week:

- **Clean the spindle with a brake and parts cleaner (e.g. LIQUI MOLY AIII 3389).**
- **Check the spindle for cracks or spindle play.**
- **Mistakes You have to remove the dirt from the EcoVal.**

8. Malfunction and repair

When replacing components, only original spare parts will be used. Replacement of spare parts is only possible through owed personal actions. Learning documents and information on the correct replacement of spare parts are available when you buy.

Chisel tip damaged

Proceed as follows to replace the plastic wedge tip:

- Cleaning the felling wedge.
- Using a 13 mm socket and then turn the spindle by hand until the spindle of the EcoVal can be removed.
- Loosen the retaining screws of the wedge point and remove the threaded nut from the wedge point
- Insert the threaded nut into the new wedge tip.
- Screw in the retaining screws of the wedge tip.
- Mount the chisel tip in the reverse order to disassembly, making sure that the grease nipple is in the correct position.
- Make sure that the wedge tip and the EcoVal housing are screwed in equally, otherwise the thread of the spindle nut can be damaged.

Wedge tip moves left/right

- The exposed spindle was bent during operation. The exposed spindle is replaced by turning the spindle with a 13 mm socket and then by hand until the spindle of the EcoVal can be removed.
- The assembly is carried out in reverse order. It must be ensured that the chisel tip and the EcoVal housing are screwed in equally.

9. Proper disposal

Dispose of the EcoVal properly, e.g. recycling center. Remove the side covers and the chisel tip. The plastic parts (polyethylene) and the metal parts can now be recycled depending on the material. There are no questionable hazardous substances installed.

10. Customer service and application advice

Customer service answers your questions about the operation, maintenance, repair and disposal of the product.

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Phone: +49 (0)179/433 79 56

11. EC Statement of Conformity

The manufacturer: **BaSt-Ing GmbH**
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hereby declares that the following product:

Product name: **EcoVal**

Built: **from 08/2021**

complies with all relevant provisions of the **Machinery Directive (2006/42/EC)**.

The following harmonised standards were applied:

EN ISO 12100 Safety of Machines – General Design Guidelines
Risk assessment and risk reduction



Weipertshausen, 30.07.2021

