



USE, MAINTENANCE, AND SAFETY MANUAL

STUMP CRUSHER 850 mm PRO

Weight 575 kg



24.03.2021



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1. WARRANTY

Upon receipt of the product, make sure:

- * that the product has not been damaged during shipment;
- * that all accessories are present.

1.1 WARRANTY CONDITIONS

1.1.1 General warranty conditions

Dipperfox Ltd provides warranty to the final consumer independently of Estonian national warranty requirements and pursuant to the legislations in force in each independent country for at least one (1) year as of the date of purchase. The warranty applies exclusively to the deficiencies that are the result of a faulty material or a manufacturing error. Only service providers authorized by Dipperfox Ltd may repair products under the warranty. The warranty does not cover incompetent handling (e.g. overburdening the product or using unsuitable accessories), excessive use of force, damages caused by externalities or foreign bodies (e.g. sand, rocks), damages caused by failure to follow the user manual, or regular deterioration. The warranty does not apply for a partially or entirely disassembled product. A purchaser does not have the right to transfer their rights under the Dipperfox Ltd warranty coverage.

- The guarantee coverage does not apply if the operator has damaged the product as a result of improper use. Neither does it apply to the parts that are most commonly worn or broken, such as blades, the stump screw, etc.

- The manufacturer is not liable for any accidents caused by incorrect use of the product by either the client or third persons.

- The guarantee is not valid under the following conditions:

- a) the product was fixed or repaired by unauthorized persons or companies;
- b) the product has been previously repaired or modified with non-authentic spare parts;
- c) insufficient maintenance and/or oil change;
- d) permissible power limits were exceeded;
- e) any of the instructions in this manual were not duly complied with;
- f) the product has been modified without the approval of the manufacturer.

- Deficiencies in the device that occur during or after the guarantee period do not justify a suspension of payments for the product that has already been delivered. No breakage or malfunction is an acceptable excuse for delayed payments.

- The manufacturer reserves always the right to implement any modifications necessary for improving the product, but is not obligated to add these modifications to any products that have already been manufactured or delivered or that are currently assembled.



1.1.2 FoxExtra warranty conditions

Pursuant to applicable legislations, Dipperfox Ltd extends the warranty for faulty materials and manufacturing defects voluntarily for up to two (2) years as of the date of purchase. The warranty extension applies if you register your Dipperfox device on the web site <https://dipperfox.com/foextra-warranty/> within a week as of the date of purchase. The product may be registered either by a sales representative or by a purchaser. At the end of the registration process, you will receive your FoxExtra warranty certificate. The certificate verifies the FoxExtra warranty. The extended warranty period applies exclusively to a single device, meaning that each purchased device must be registered separately as a FoxExtra product. A purchaser does not have the right to transfer their rights under the Dipperfox FoxExtra warranty coverage.

1.1.3 Data processing for the FoxExtra warranty

Personal data are processed (collected, forwarded, used, etc.) exclusively for justifying and performing the FoxExtra warranty and, if necessary, withdrawing products. The data are saved in the database of the Estonian service provider who is obligated to follow applicable data protection legislations. If a vendor registers a product in the name of a purchaser, their data are submitted to the Dipperfox Ltd server by the vendor. Vendors, importers, and subsidiaries engaged in sales are obligated to process personal data pursuant to the applicable legislations in a manner that follows the data protection standards in force in Estonia or the target country.



2. INTRODUCTION

2.1 FOREWORD

This manual contains instructions for operating and maintaining the product and means for preventing accidents.

We advise you to read the instructions carefully and attentively, and to follow each procedure for installing, using, and maintaining the product, because:



THE MANUFACTURER IS NOT LIABLE FOR ANY DAMAGE THAT OCCURS AS A RESULT OF IGNORING THE STANDARDS AND INSTRUCTIONS IN THIS MANUAL.



The manual includes a series of pictograms to facilitate reading. They help to bring attention to potential hazards and situations that must not be ignored. These apply to either technical equipment or measures and methods for the organization of work. In other words, these pictograms can inform you of potentially hazardous objects and situations.



WARNING:



Using this product may create dangerous situations: read this manual carefully before any operations.

Following these instructions is in the best interests of yourself and everyone in close proximity of the product. If the product is used by multiple persons, every one of them must read this manual.



WARNING:

Being in close proximity or reaching an arm or a leg toward the product while it is operated may be fatal. Wait until the machine is in full halt and the engine shut off.

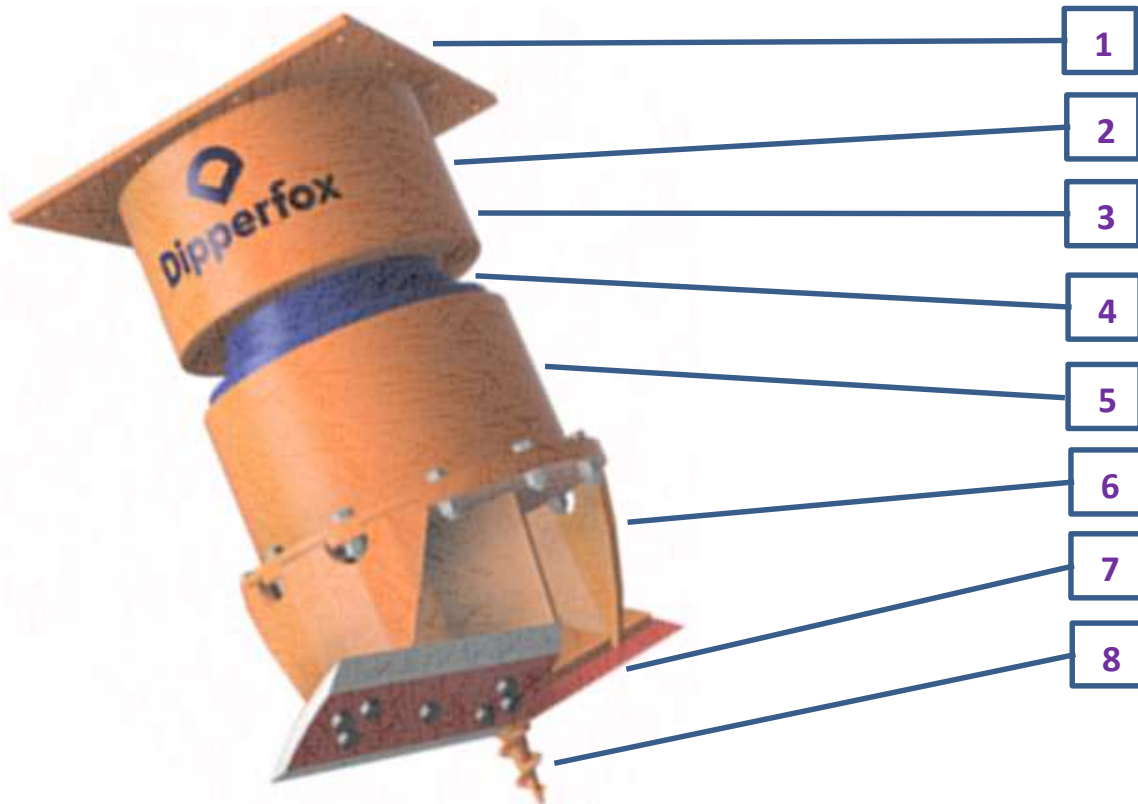
WARNING:

On certain occasions, the machine might exhaust shredded materials: always make sure that yourself and others are in a safe distance!



3. MODEL AND BASIC COMPONENTS OF THE PRODUCT

3.1 BASIC COMPONENTS OF THE MACHINE



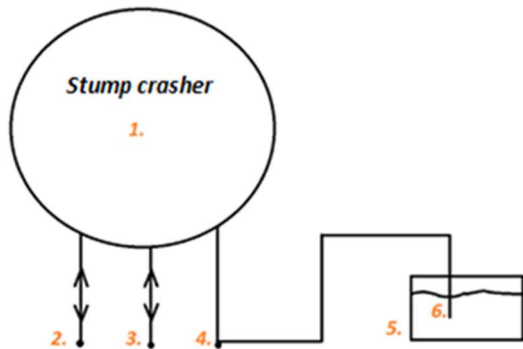
1. Default blade
2. Hydraulic pipes connector
3. Engine case
4. Engine and transmission
5. Transfer case
6. Attachment
7. Replaceable blade
8. Replaceable stump screw

3.2 PRODUCT DESIGN

The product is designed for grinding stumps. It weighs 575 kg.

The Stump Crusher 850 can be installed on excavators with:


- A minimum power of 74 kW (100hp);
- A pressure of 180-350 bar;
- An oil flow of 100-220 l/min;
- A weight of 14-30 tons.



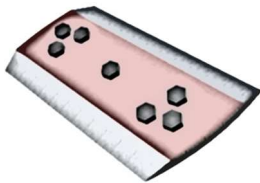
1. Stump crusher
2. Oil forward and backflow, M 36 x 2
3. Oil forward and backflow, M 36 x 2
4. Anti-drain back valve, M 22 x1,5
5. Oil tank
6. Oil level

Figure 1. Oil flow

3.3 STANDARD EQUIPMENT

 The product may be damaged if you replace the cutting blade or the stump screw with an equivalent part of a wrong shape or weight.

3.3.1 Replaceable blade



Authentic cutting blades made of quality steel guarantee long-lasting endurance and durability. Each blade requires 7 bolts.



WARNING:

- ATTACH ONLY AUTHENTIC BLADES ON THE STUMP CRUSHER!
- THE BLADES ARE EXTREMELY SHARP! Always wear protective clothes when changing the blades.

3.3.2 Replaceable stump screw



The stump screw is made of special steel and has undergone comprehensive testing to guarantee that stumps are always grinded efficiently.



WARNING: ATTACH ONLY AUTHENTIC STUMP SCREWS ON THE STUMP CRUSHER!



4. INSTALLING THE MASCHINE

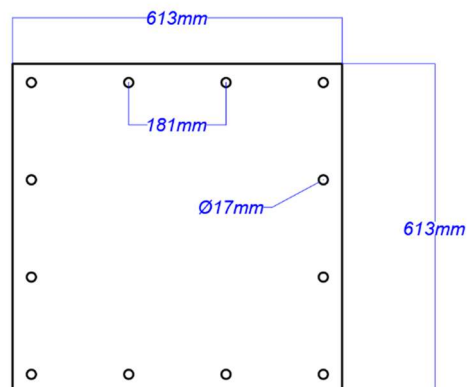
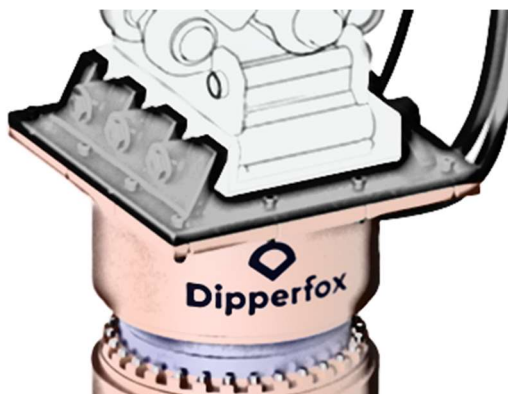


WARNING: The following procedures may cause dangerous situations.

Operate as follows:

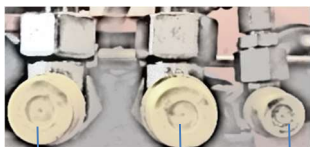
- The engine of an excavator/tractor must be shut off before installing the stump crusher.
- Attach the adapter plate.
- Connect the oil forward flow hose pipe.
- Connect the oil backflow hose pipe.
- Connect the anti-drain back valve (make sure that the oil can be drained freely).
- Run the machine for a few minutes with a low oil-level (minimal engine rotation) to make sure that the oil flows to all hose pipes.
- Make sure that the oil is not leaking.
- The stump crusher is now ready for work.

4.1 ATTACHING THE ADAPTER PLATE



Each machine is different. The adapter plate that connects the stump crusher to an excavator or a tractor is manufactured to fit the model of a relevant machine. Adapter plates can also be ordered from us.

4.2 CONNECTING HYDRAULICS



A B C



The product is only suitable for hydraulic excavators and tractors.

Which hydraulic pipe hose (forward flow or backflow) is connected on the left and which one on the right side does not make a difference. Once connected, the product works either way.

- A. Oil forward and backflow, M 36 x 2
- B. Oil forward and backflow, M 36 x 2
- C. Anti-drain back valve, M 22 x 1,5



5. UNINSTALLING THE MACHINE



The following operations are dangerous!

- DO NOT STAND BY THE MACHINE WHEN AN EXCAVATOR/TRACTOR IS BEING OPERATED!
- ANY PERSON NOT INVOLVED IN THE OPERATIONS IS PROHIBITED FROM BEING IN A CLOSE PROXIMITY OF THE EXCAVATOR/TRACTOR!

Follow these instructions to uninstall the machine from an excavator:

- Lower the stump crusher on a stand.
- Shut off the excavator/tractor.
- Close all hose valves.
- Disconnect all pipe hoses and close them with corks.

6. USER MANUAL

6.1 GENERAL PROVISIONS

This product is designed for the following purposes:

- to use on 14–30-ton hydraulic excavators and tractors;
- to drill up to 900 mm deep.

Stump crushers with smaller or larger proportions are also available for ordering.

- Install the product properly to the excavator and go to your work zone.
- Make sure that all screws and bolts of the product are tight.



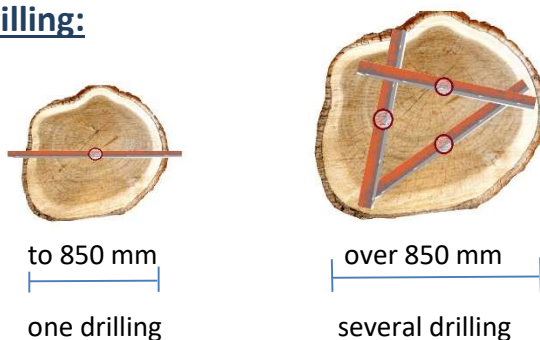
Before you begin operating the machine, make sure that nobody is present in the work zone.

- The drill must enter the stump in a vertical position



skew the machine while drilling a stump!

Stump size and drilling:





6.2 CHANGING THE BLADES

Each blade is attached with 7 bolts M20x40mm.

If a blade wears out:

1. Unscrew the bolts
2. Remove blade / worn blade
3. Clean the blade's base (make sure that there are no visible damages on the blade's base)
4. Check bolt thread holes for integrity
5. Turn the blade 180 degrees and insert in place / Insert a new blade
6. Fasten the blades with bolts
7. Tighten the bolts with 200 Nm torque (use the torque wrench)
8. Check the tightening of the bolts again with a torque wrench of 200 Nm



- **Always change the blades in pairs to guarantee equal gearing.**
- **Use only authentic blades.**
- **The blades are extremely sharp! Always use protective gloves when changing the blades.**

6.3 CHANGING THE STUMP SCREW

The stump screw must be changed when it is worn out and hinders drilling. A worn stump screw might break the stump, making it more difficult to drill..



- **The stump screw must be changed in a workshop where they weld it.**
- **Use only authentic stump screws**

6.4 MAINTENANCE/REPAIRMENT OF THE PRODUCT



Carefully follow the instructions in this manual when maintaining and/or repairing the product to avoid any risks. All maintenance and/or repairment works must be executed in suitable workshops. Use skilled professionals and special tools. Always wear personal protective equipment.

If the manual does not provide a solution for your problem, contact a specialist.



Proper workplaces are well lit with a flat and paved surface, located in front of a building.

When you are maintaining or repairing the product, make sure that it is positioned on stable ground.



Even the most basic procedures require proper tools. Incorrect use or wrong tools may cause serious risks and hazards. Always wear personal protective equipment! Maintaining and transporting the tools in a prudent manner is also a good practice.



6.4.1 Changing the oil



Collect the used oil in a special waste container.

Used oil can harm the environment and your health. When you utilize used oil, make sure to take every possible precaution.

Follow the legislations and regulations on environmental protection and waste management currently in force in your country.

When changing the oil, wearing protective gloves is always a good practice. Carefully wash all body parts that have gotten into contact with used oil.

6.4.1.1 Changing the oil of a transmission

The machine is already equipped with the Valvoline Light & HD Axle Oil 80W90 transmission oil. Quantity 3,5l.

Proper maintenance guarantees optimal operations and elongates the service life of the machine.



- Change the oil after every 300 operating hours.
- Change the oil only when the machine is in full halt and the engine of the excavator/tractor is shut off.
- Collect the used oil in special containers.

6.5 GENERAL PRECAUTIONS

1. Make sure that the product has not been damaged during transportation. When any damages occur, immediately inform the manufacturer or the vendor.
2. Make sure that all bolts are properly attached before using the product.
3. Keep the product clean to exclude the possibility of any foreign bodies damaging the machine or its operator.
4. Before handling any moving parts of the product, stop the excavator/tractor and shut off the engine.
5. Before uninstalling the machine, make sure that the excavator/tractor stands on as firm ground as possible.
6. Allow only authorized persons with a valid license for operating an excavator or a tractor to use the product.
7. Make sure that no third persons are present in the work and maneuvering area.
8. No third persons are allowed in the work zone when the product is being operated. Do not throw away this safety and use manual.
9. Never use the product for transporting people, animals, or assets.
10. Use only authentic spare parts.
11. **WARNING!** Do not wear loose clothing that may get caught between moving parts.
12. Always contact the manufacturer or an authorized vendor for any questions that you might have about maintaining the product



6.5.1 Safe use and maintenance of the product

This product was designed and produced to guarantee that all necessary precautions are applied for safe operations. Nevertheless, the use, maintenance, and repairment of the product may cause some unpredictable risks or hazards.

In the following section, we lay down all relevant instructions and information that must be considered to avoid the most common risks that may arise from using an installed machine, pursuant to the safety requirements in force. These mainly apply to:

1. Connection between an excavator and the product;
2. Moving parts of the machine;
3. Noise;
4. Personal protective equipment (PPE);
5. Stability.

6.5.1.1 Connection between an excavator and the product

The machine may get damaged in the process of installing/uninstalling it to/from an excavator or a tractor. Using excess force may also damage the product.

Keep in mind:

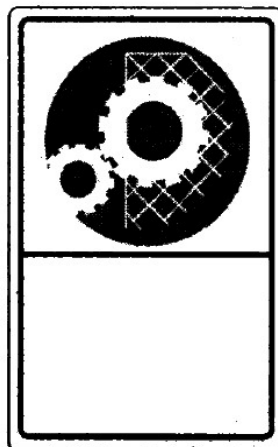
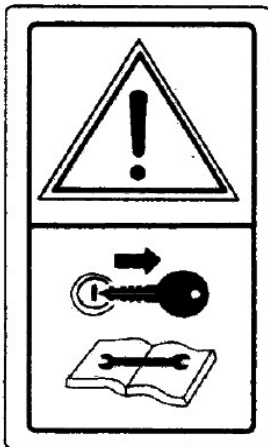
- the excavator/tractor must always be in full halt and shut off for any operations done on the product;
- always make sure that a dismantled machine is placed on flat ground in a horizontal position to prevent the machine from accidentally moving or overturning and causing serious damage to any person or possession in close proximity;
- the operator of an excavator and one working on ground must coordinate their communication and agree on the signals.

6.5.1.2 Moving parts of the product

Injuries caused by being hit by moving parts can be very severe.

Keep in mind:

- Avoid working in a close proximity of moving parts;
- Always shut off the engine of the excavator before maintaining the product;
- Always prevent children or any third persons from approaching the machine while it is operated;
- Wear suitable work clothes.



<p>Before you start operating the machine, carefully read the safety and use manual. Shut off the engine of the excavator and take the keys out from the ignition.</p>	<p>Make sure that the product is in proper working order.</p>	<p>WARNING! Do not approach a moving machine.</p>
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6.5.1.3 Noise



Protect your ears from the noise that is generated by a working excavator/tractor; use earmuffs or earplugs.

6.5.1.4 Personal protective equipment



Always use personal protective equipment relevant to your type of work that comply with the standards in force in your country. Personal protective equipment (PPE) is any gear that an operator must wear to protect themselves against one or several risks.

When choosing personal protective equipment, keep in mind:

- PPE must be in accordance with the working conditions;
- PPE cannot cause risks that exceed the severity of risks they are supposed to avoid;
- PPE must be adaptable to the ergonomic and physiologic needs of workers;
- PPE must be adaptable to the needs of each individual user;
- if the presence of different risks requires a concurrent use of several items of PPE, they must be in concordance with one another.

When you operate any machinery, it is always a good practice to wear suitable work clothes. Avoid clothes that fit too loosely.

When you are conducting regular or irregular maintenance and/or repair works, always use the following items of personal protective equipment:

- 1 – Goggles or visors that protect against any release of splinters or objects;
- 2 – Leather safety gloves that protect you from punctures, cuts, burns, etc.;
- 3 – Safety shoes



Mandatory protective goggles	Mandatory hearing protection	Mandatory safety shoes	Mandatory safety gloves	Mandatory body protection
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7. ENVIRONMENT

We always aim at sustaining the environment. Our beautiful nature can only be preserved if we leave behind a more ecological footprint.

Our manufacturing processes work 100% on solar power. We use quality materials that last longer and weigh less.

All our professional machines are designed to be fast, precise, and environmentally friendly.

The rotating blades of our stump crusher scatter the wood and push the remains to the ground. We do not leave behind voids. A new tree can immediately be planted to replace the old stump.

The Dipperfox stump crusher does the work 5–10 times faster than most of our competitor machines, crushing a stump with only 20–30 seconds. Speed means everything when you have 100 or 1000 stumps to remove.

In comparison with extirpation:

DRILLING	EXTIRPATION
20 seconds:	10 minutes + utilizing the stumps + follow-up
- The roots of a stump are drilled	- The stump is removed
- Ecological community remains	- The ground is upside down
- New trees can be planted immediately	- Must collect and utilize the stumps
	- Must replace the soil
	- Must recover the soil
- No need for follow-up maintenance	- Must refill the area in the spring because it has sunk
	- The soil is soft and needs compressing