



Original Instruction manual

Bedformer LEOFANT

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1. Introduction

This instruction manual is valid for the LEOFANT bedformer. It is primarily intended for the operator and provides information on the use, setting and operation of the machine. Make this instruction manual available to all persons working with the machine. Texts and images are kept neutral wherever possible. Differences are indicated by picture headings or text notes.

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2. Contents

Read this instruction manual carefully and completely before working with the LEOFANT bed former. If you follow the advice for the correct care and maintenance of your machine, you will achieve constant operational readiness and a long service life for your machine.

3. General Remarks

3.1 Special attention

The information in this instruction manual must be read, understood and observed by all persons who use, operate, maintain or check these machines in order to avoid hazards. Read the "Safety instructions" section in particular.

The use of spare parts, accessories and additional equipment that are not originally from HMF and have not been tested and approved by HMF, that negatively change the design characteristics of the HMF machine or its functionality and thereby impair active and/or passive driving safety and occupational safety (accident protection) is not permitted.

HMF accepts no liability whatsoever for damage caused by the use of non-HMF original parts, accessories and auxiliary equipment. Technical specifications, dimensions and weights are non-binding. We reserve the right to make changes in the course of technical development and errors excepted.

3.2 Description of the type plate

The serial number of the machine, the type and the year of manufacture are stamped on the type plate. This type plate is normally located on the front right-hand side of the machine. Front, rear, right and left always apply in the direction of travel.

When ordering spare parts, please provide us with the following information:

1. **Serial number of the machine**
2. **Type**
3. **Year of manufacture**



4. Safety instructions

Please read and observe this instruction manual and the safety instructions before you start working with the machine!

Labelling of warnings and hazard warnings

In this instruction manual, we have labelled all points concerning your safety and the safety of the machine with the following symbols. Please also pass on all safety instructions to other users!



Danger!

Labelling of instructions which, if ignored, could endanger the life and limb of the operator or others around them
+ Measures to avoid the danger



Caution!

Labelling of instructions that may result in damage to the machine if ignored.
+ Measures to avoid danger to the machine



Note!

Labelling of instructions that enable more effective and economical use of the machine








Environment!

Labelling of instructions which, if ignored, may pose a risk to the environment.

The following generally applies:

- a) Follow the warning signs and information signs exactly!
- b) Pass on all safety instructions to other users!
- c) Keep warning and information signs in good condition and replace if necessary!

	<p>Please read instruction manual and security advices before starting on!</p> <p>In case of all maintenance and working of repairs stop the motor and remove the ignition key.</p>
	<p>Don't stay in the working area while using the lifter!</p> <p>While using the machine it is not allowed to stay between the tractor and the machine!</p>
	<p>Don't touch machine parts until they don't move any longer!</p> <p>Don't open protection appliances while using the machine or while the engine is running!</p> <p>NEVER touch revolving parts!!!</p> <p>Don't stay near the revolving rotors and never touch moving machine parts! Wait until they don't move any longer!</p>

	<p>There is a danger of crushing !</p>
	<p>Danger of quick parts when using the machine. Be sure to leave enough safety distance</p>
	<p>Don't stand in the way of the machines.</p>

4.1. Security and accident prevention regulation

1. In addition to the instructions in this instruction manual, observe the general safety and accident prevention regulations.
2. Observe the relevant regulations when using public transport routes!
3. Before starting work, familiarise yourself with all operating devices and their function. It is too late to do this while driving!
4. Before starting the engine, make sure that no gear is engaged and that all safety devices are fitted and in the protective position.
5. Before starting off, check the immediate vicinity (children!). Ensure adequate visibility. Sound the horn for safety!
6. The driver's clothing should fit snugly. Avoid loose clothing!
7. When attaching and detaching the machine, it is forbidden to stand between the tractor and the machine when the diesel engine is running. There is a risk of crushing between the tractor and the machine when the diesel engine is running!
8. When coupling and uncoupling the hydraulic connections, tractor's diesel engine must be switched off.
9. Only mount, dismount and park the bedformer on level, firm ground.

4.2. Notes on road safety

- The permissible axle loads of the tractor and the permissible load capacity of the tractor tyres must not be exceeded when mounting the bedformer.
- When attaching to the tractor's three-point linkage, the lower links must be locked according to the tractor manufacturer in order to prevent rocking the tractor-implement combination while travelling on the road.
- The requirements and instructions of the information sheet for attachments from the road traffic regulations must be observed.
- Before driving on public roads, especially after a field operation, prevent dirt or adhering soil from falling onto the road. If the road is contaminated with dirt or soil, the danger zone must be marked and cleaned immediately.

5. Application possibilities

The Leofant bedformer may only be used as intended. With the bedformer, asparagus dams can be created in one or more operations.

The machine is also suitable for re-creating dams during the harvesting season.

6. Mode of operation

The bed former can be used to create any desired dam shape on any soil. Two rotating, counter-rotating double stars with screwed-on square rods ensure an even, clod-free filling of the dam. The height and width of the bolted-on dam mould plates can be adjusted. The dam is filled from bottom to top and is therefore resistant to heavy downpours. Two height-adjustable support wheels ensure good depth control. Track harrow tines mounted behind the support wheels ensure optimum levelling of the inter-rows.

7. Before commissioning

To take full advantage of your new machine, please read and follow this instruction manual before using your machine. Before commissioning, check that the machine has been delivered complete. Any loose parts supplied must be fitted before first use. All grease nipples must be lubricated and all sliding parts must be thoroughly lubricated with grease or oil. Check the oil level before using the machine for the first time. When using the machine with a tractor with more than 120 HP, we recommend the use of "**Carter SH 320**" high-performance oil. The oil must be changed every year! Please always observe the safety instructions.

We must reject any warranty claims arising from improper handling!

8. Commissioning

8.1. Attachment to tractor

8.1.1. Settings

Before starting, ensure that the bedformer hangs horizontally behind the tractor in the working position and that the lower link arms are of equal length.

- Attach the bedformer to the tractor's three-point linkage
- Adjust the length of the top link so that the implement hangs behind the tractor in the working position, lowered approx. 5 cm to the wheels.
- The lower links must be locked in such a way that when operating in the field a sideways 1 cm to either side is possible when operating in the field.

- Before first use, the length of the PTO shaft must be checked in all operating conditions to avoid compression or insufficient profile overlap. The manufacturer's operating instructions must be observed.
- The PTO shaft guard must be in place and in proper condition! Damaged parts must be replaced immediately at a specialised workshop!

8.2. Creating a dam

The following setting must be carried out to create a dam:

- The **front harrow tines** should be adjusted so that they loosen the soil in the tractor track. The working depth should be adjusted to the blades of the star rotors.
- The **support wheels** (Fig.3 pos.5) can be continuously adjusted in height. The selected setting is based on the desired dam height.
- The soil thrown up by the rotors towards the centre is formed into a trapezoidal or rounded shape by the bedformer.
- The dam width at the bottom can be continuously adjusted by **spindles**. (Fig.3 pos.4).
- At the top, the width of the dam can be changed by moving the **pivot points**. (Fig.3 pos.1).

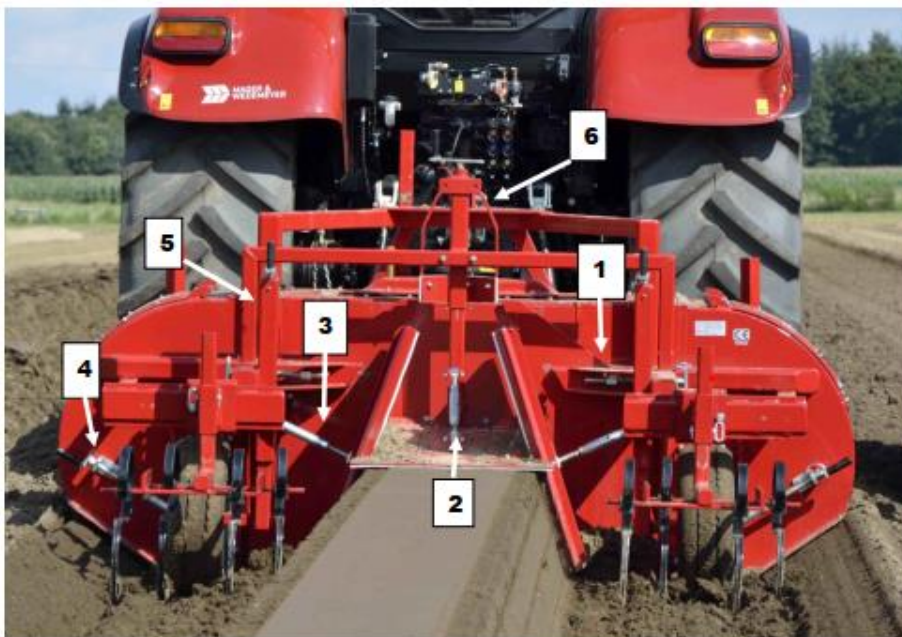
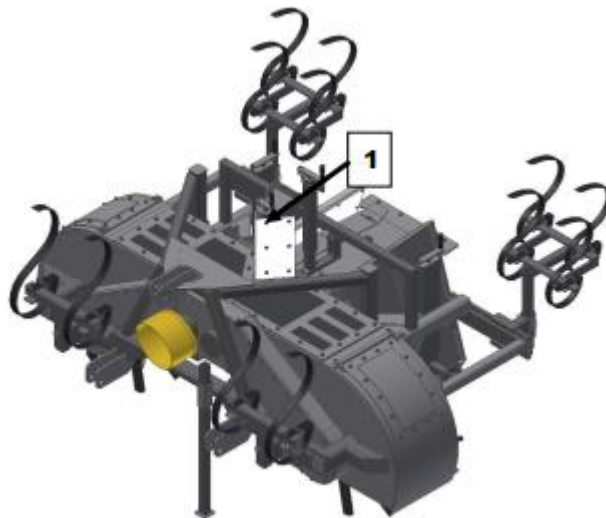


Figure 3: Bedformer setting options

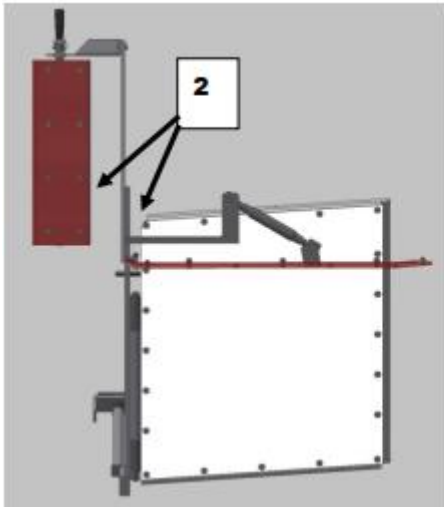
- The **dam height** can be infinitely adjusted using the spindle (Fig.3 pos.6). Adjusting the spindle also changes the upper dam width. Changing the dam height using this spindle has no effect on the dam pressure.
- The **pressure of the dam** can be adjusted via the spindle (Fig.3 pos.2+3).
- The **harrow tines** should be set so that they loosen and level the area directly to the right and left of the dam base.
- The **order in which the dams are created** should be determined in such a way that only every second dam is created first; the dams in between are then created to prevent the tractor and bedformer from tipping over.
- The **travelling speed** should be based on the ground conditions, however, do not exceed 4-6 km/h.

Setting instructions

The Leofant has been given a triangle (no. 1). This triangle (no. 1) distributes the soil over the entire width of the bedformer. In order for it to work properly, the following must be observed:



The lower edge of the wedge gate should be approx. 2 - 5 cm above the edge of the bed former (no. 2). This setting allows the pusher to spread the soil that is too much in the machine to the side. If the wedge is set too high, the dam surface will not be smooth. The dam is then often not completely filled with sand, although there is enough soil in the machine.



The machine should not run horizontally, but should be inclined backwards. This allows the rear blades work in an area that has not yet been worked through. If the machine is running horizontally, the front blades work up 80% of the soil.

Procedure for setting:

1. Adjust the front harrow tines centrally to the tractor track.
2. Roughly adjust the rear dam former to the desired dimensions.
3. Set the desired dam height using the spindle (Fig. 3 item 6)
4. Set the desired dam width by moving the pivot points if necessary (Fig. 3 item 1).
5. Set the lower dam width. Make sure that the sides of the dam are not set too steeply.
6. Draw an approx. 5 m long dam with the bedformer, the dam should not be filled. If this is not the case, the support wheels should be turned out for longer until this occurs. (This prevents the machine from being overfilled).
7. When the machine is set at this limit, turn the wheels up one turn at a time and then pull a piece of dam again until a complete filling of the dam is achieved.
8. Now check the shape of the dam.
9. A further change in the dam height must now be made simultaneously at the adjustment (Fig. 3, item 5) for the wheels and at the spindle (Fig. 3, item 6) for the orifice plate.

Please note that overfilling the interior will result in a higher power requirement and faster wear of the blades.

Setting for the intermediate dam:

When creating the intermediate dam, it may be necessary to correct the setting in order to achieve the same dam height.

8.3. Reworking a dam

During the harvesting period, it may be necessary to rework the dam for the purpose of weed control, closing the plugging holes or re-damming. For this purpose, the bedformer is equipped with **looseners** (= front harrow tines).

Please note the following:

- The harrow tines are mounted to the cross beam between the lower link plates, whereby the working height and spacing of the looseners are determined by the shape of the dam.
- The lateral tine carrier can be swivelled so that the looseners can be adjusted to the inclination of the dam flanks.
- The tines should always be set so that the top layer of dry sand trickles down to the bottom of the dam. The subsequent rotors with the blades mix the dry soil with moist soil and a new, stable dam is created.

8.4. Hydraulic cleaning slides

The hydraulic cleaning slides are used to loosen soil stuck in the machine housing if it prevents the rotors from turning. These are actuated with the hydraulic line so that the rotors can turn freely again. Please only operate when the rotors are at rest! The sliders should be in the normal position at the top of the machine. The tractor should be idling when the hydraulic sliders are actuated.

9. Maintenance and care

- After the first 10 hours of operation, check that the wheel nuts are tight and tighten if necessary!
- The tyre pressure must be checked 1 x per month ($p = 2$ bar).
- An oil change must be carried out once a year.
- In order to keep the wear and tear on the dam-former as low as possible, the care and maintenance work described below must also be carried out.

9.1. Lubrication points.

The lubrication and maintenance intervals must be observed. The lubrication points (Fig. 4. 1 and 2) and the cardan shaft must be lubricated every 20 hours

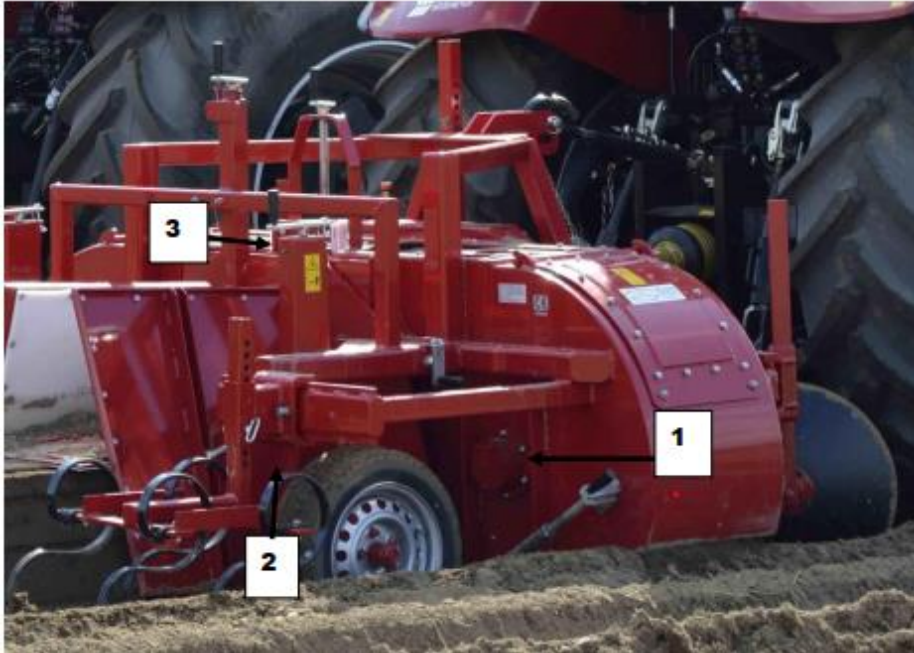


Figure 4

As displaced lubricant can get into the fodder, soil or groundwater during relubrication, we generally recommend the use of biodegradable lubricants!

9.2. Setting and replacing the blades

The approximately 350 mm long blades are bolted to the two blade rotors. If they are **worn by approx. 30 mm**, they must be unscrewed from the rotor and moved outwards by one attachment point. The screws should be retightened after two hours. Furthermore, it must be ensured that the screw head to the rear in the direction of travel on the right and to the front in the direction of travel on the left.

9.3. Drive train

- The spur gearbox must be checked for tightness and filling quantity after approx. 20 working hours.
- At the front of the dam-former is a gearbox containing the transmission gear and a spur gear for driving the rotors.
- Every 20 working hours, a check must also be made here for tightness and filling quantity.
- The oil quantity is sufficient if the oil is visible on the sight glass when the machine is in a horizontal position.
- If necessary, top up with « **CARTER SH 320** « gear oil.
- When using the machine with a tractor of more than 120 hp, we recommend using « Carter SH 320 « high performance oil.
- The oil should be changed every year.
- The filling quantity is approx. 10-12.5 litres per side.

9.4. In case of prolonged non-use

- Clean the unit, lubricate and spray with oil according to previous instructions (see lubrication schedule p.14).
- After cleaning, apply grease to spring tines and dam moulding plates if no plastic is used.
- Repair damage to the paintwork.
- If the PTO shaft has a slipping clutch, bleed the air from it, after it has been stationary for some time.

10. Notes on misuse of the machine

No persons may be carried on the machine.

11. Volume level

The LEOFANT bedformer itself does not generate any significant noise. Only the tractor unit generates noise emissions.

12. Important note on mounting the blades

MOUNTING THE BLADES FOR THE BEDFORMER

PLEASE NOTE!

Bedformer in driving direction **right**:
Bolts must be visible with nut.

Bedformer in driving direction **left**:
Bolts must be visible with head.

**Please tighten again after 2 hours of
operation!**

12. Walterscheid Power Drive cardan shaft

