



# Instruction manual

## Dam-former LEOFANT 24 ABB2471

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Dear Customer!

The dam-former **Leofant 24 ABB2471** is a product of high quality coming from the HMF Hermeler Maschinenbau GmbH company.

Please read carefully and follow the instruction manual to be able to use all the advantages of your new machine.

We have to refuse warranty claims, which are attributed to operating errors.

Please give us the following information's in each case of ordering replacement parts:

**1. Machine number**

**2. Type**

**3. Construction year**

Machine number, type and construction year are hammered into the identification plate at the right front side of the machine. Descriptions "left" or "right" are always meant in moving direction.

You have to apply only original spare parts of our company.

### Specifications

Type	Dam-former Leofant 24 ABB2471
Total width	~ 2350 mm
Total height	~ 1390 mm
Total length without additional parts)	~ 1650 mm
Total weight	~ 730 kg
Needed power	~ 50 kW
Propulsion:	mechanical by PTO drive shafts
Width of the dam top:	300-470 mm
Lower width of the dam	800-1300 mm
Height of the dam	300-700 mm

Right of technical modifications reserved

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## **1. Preamble**

This instruction manual is valid for the dam-former Leofant. It is made for the persons who work with this machine and it gives you advices for the use, the adjusting and the operation of the dam-former Leofant.

Texts and pictures are neutral as far as possible. To differences it is drawn the attention by picture headings or text tips.

Take the advice for the right servicing and maintenance of your machine, then you will achieve a constant operational readiness and long life span of the dam-former Leofant.

If they also allow to carry out regular inspections by your professional workshop. Omissions in the servicing or wrong service lead to achievement decrease and bring time delays. Use by right service and careful care our many years' experiences in construction and development of machines for the asparagus cultivation, then your Leofant will always perform good work.

## **2. General Remarks**

### **2.1 Attention!**

All people who would use, care or control the dam-former Leofant have to read, comprehend and pay attention to the instructions of this instruction manual to avoid danger.

Especially pay attention to the "Security and accident prevention instructions".

The use of spare parts, accessories and additional devices which do not come original from HMF and are not checked and released from HMF, constructively given qualities of the HMF machine or her functional ability negatively change and thereby affect the active and/or passive safe driving as well as working security (accident protection), is not permitted.

For damages, in this respect by the use of Non-HMF-Original-Spare Parts, accessories and additional devices every liability is excluded from HMF.

Technical designations, measures and weights are non-binding. We reserve ourselves changes in the course of the technical development and mistakes. In front, behind, right and left is valid always in direction of the traffic.

### 3. Accident prevention



This sign on the machine or in the instruction manual draws your attention to the security advices. If you don't pay attention to it, there is danger for your life and serious injuries. Please observe all rules and instructions and give them to all other users, too!

#### 3.1 Security and accident prevention instructions

##### For your own security

- Please test all functions of the machine before starting to work, to be ready for working with the machine!
- The operation of the machine is done by the driver of the tractor and happens while sitting on the driver's seat. Further persons have to be removed out of the dangerous range of the machine.
- Attention! Between tractor and machine there is danger of contusion. It is not allowed to stay in the dangerous area.
- Before every use do switch the handles for the lifter and the PTO shaft to "0".
- Approximately 10 hours after starting up you have to check and – if necessary – tighten all screws and bolts! This is especially important for the wheel-bolts.
- While adjusting the working depth the front tins may tumble down after loosen the fixing screw. There is danger of contusion!
- Never do workings of maintenance, service, cleaning or repair while the engine is running!
- All protection installations ever have to be mounted duly!
- Attention! Even the stationary milling rotors are dangerous and can do injuries, too. Therefore you have to wear protection gloves while all working at the rotors (for example resetting of the sticks).

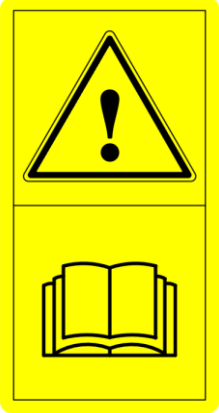




Additional to the instructions for accident protection written above the generally accepted rules of technical, work, medical and traffic security advices are valid, like them of the professional associations.

### 3.2 Warning and information signs

Generally this is very important:

- a) Please comply exactly with all warnings and signs!
- b) Give all security instructions also to all other users of this product!
- c) Please keep all signs and warning signs in good condition or replace them 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!</p> <p>Wait until they don't move any longer!</p>



There is danger of contusion!



Caution!  
There is danger of hurled-out pieces while machine is running!  
Pay attention to keep a safe distance to the machine!



Don't stay in the swerving area of the machines!

#### **4. Remarks to the road safety**

While using public roads and ways the combination of tractor and asparagus dam-former must fulfil the rules of road traffic.

You have to pay attention to the maximum axle load and the maximum load capacity on the tire of the tractor gets not overstepped.

You have to prevent the machine from swinging while the driving by fixing the lower fixing points.

After the working you have to prevent that the public streets will be polluted with soil.

#### **5. Using possibilities**

The dam-former Leofant has to be used only as agreed. You can build with the dam-former Leofant in one or several processes asparagus dams. This machine is also suitable for re-building the dams during the harvesting-season.

#### **6. Functioning**

With our dam-former Leofant you can build every form of a dam desired with every kind of soil. Two counter-rotating double-stars of screwed square sticks make sure the evenly, clod-free building of the asparagus dam. The dam-formers are adjustable in the height and in the width. The asparagus dam is build up from bottom to top and therefore it is very solid and durable against heavy rain. With two adjustable supporting wheels you have a regular depth control. Metal soil leveller mounted behind the supporting wheels make the driving lines optimally level.



## **7. Starting up**

Please check up before the starting up, whether the machine is delivered completely. Parts, which are delivered separately, have to be mounted before the first using. All lubrication points have to be lubricated; all gliding pieces have to be fitted intensively with grease or oil. You have to check the content of oil before the first using.

**For using with a tractor of more than 120 HP, we recommend the use of „Carter SH 320“ High performance oil. You have to change the oil at least once per year!**

### **7.1 Mounting to the tractor**

#### **7.1.1 Adjustments**

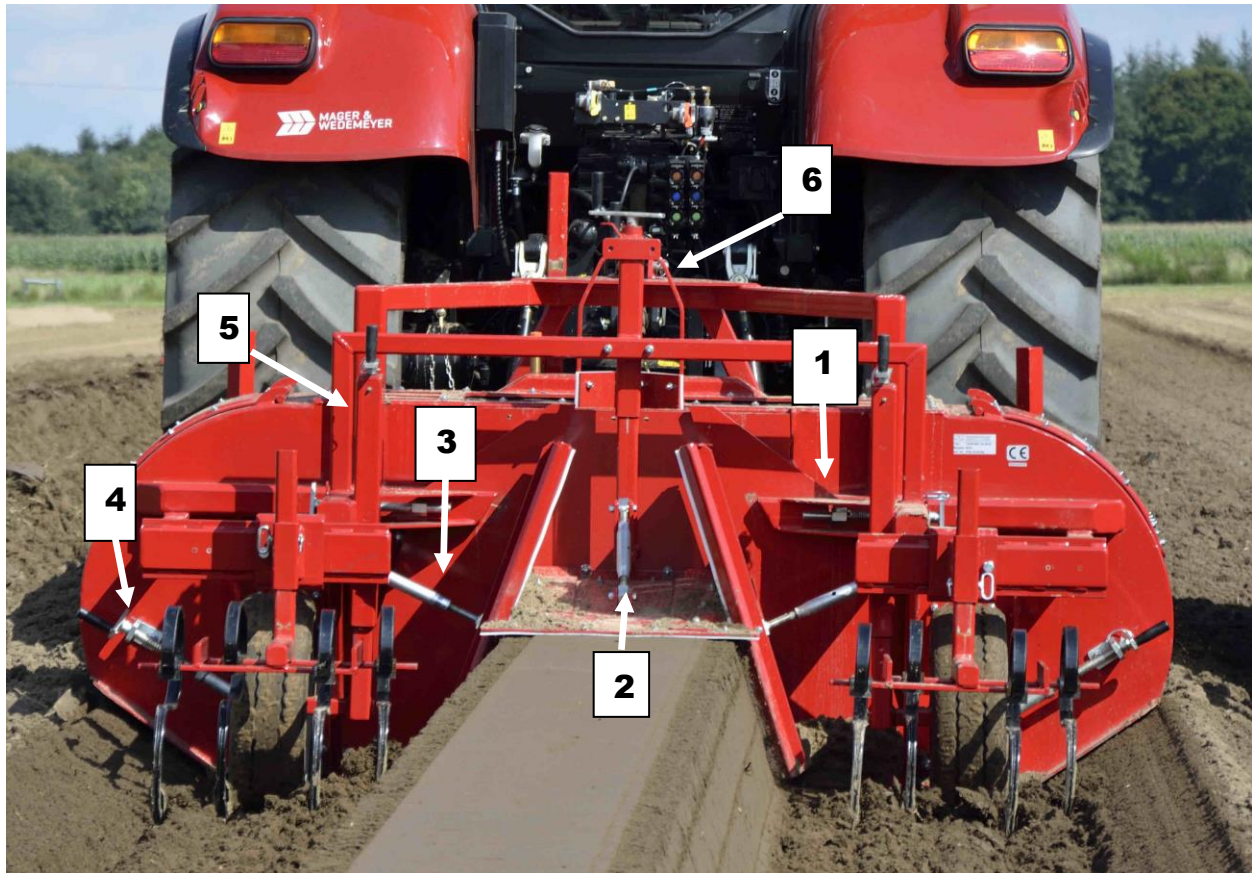
Before starting the adjustments you have to pay attention to the fact, that the dam-former Leofant has to hang horizontally behind the tractor and that the lower links are uniform in the length.

- Mount the dam-former Leofant to the 3-point link of the tractor.
- Please adjust the length of the top link that the machine is hanging in its working position, lowering about 5cm to the wheels, behind the tractor.
- You have fix the lower links in that way that while working on the field a tolerance of 1 cm on both sides is possible.
- Now put on the PTO shaft. The minimum covering of the profile pipe may not be remained under 250mm.
- The guarding and protection installations of the PTO shaft have to be mounted and to be good condition. Damaged parts have to be replaced immediately.

### **7.2 Milling of an asparagus dam**

You have to do the following adjustments to mill an asparagus dam:

- The front tins (optional) should have been adjusted the way that loosen the soil in the driving line of the tractor. The working depth has to be adapted to the sticks on the rotors.
- The supporting wheels (image 3, pos.: 5) may be adjusted in the height from 0-300 mm infinitely variable. The chosen adjustment depends on the desired height of the asparagus dam.
- The soil which is thrown by the rotors to the middle will build a trapezium-shaped dam by dam former.
- The width of the bottom of the dam can be adjusted infinitely variable by adjustment-spindles (image 3, pos.: 4).
- At the top you can adjust the width by the turning points (image 3 pos.: 1).



**Image 3:** Adjustment possibilities of the dam-former

- You can adjust infinitely variable from 300-800 mm the height of the dam you wish by the help of the spindle (image 3 pos.: 6). Due to that fact also the width of the top of the dam is changing. The changing of the dam height by this spindle has no effect on the compression in the dam.
- With another spindle (image 3, pos. 2 and 3) you can adjust the compression inside the dam.
- The **front tins** (optional) should have been adjusted in a position to loosen and level the area directly beneath the bottom of the dam.
- **Working order:** You should build the dams of your asparagus field in order of building every second dam at first. Afterwards you build the dams between, that way you avoid getting the tractor and the dam former in a slant.
- The **speed** should have been adapted to the structure of the soil, but it should not be more than 4-6 km/h.

## How to adjust the dam-former:

- Adjust the front tins (optional) concentric to the driving track of the tractor.
- Adjust the backside dam forming plates approximately to the dimensions desired:
- Adjust the desired height of the dam by the spindle (image 3, pos.:6).
- Adjust the desired upper dam width by moving the fulcrum, if necessary (image 3, pos.: 1).
- Adjust the bottom dam width. You should pay attention to the sides of the dam not to be adjusted too steep.
- Now build with the dam-former a dam of 5 m length, the dam should not be filled fully. If this is not the result, you should adjust the supporting wheels longer, until the result is satisfactory.
- When the machine is adjusted in this way, you should turn the supporting wheels now each one turn higher.
- Now you should check the form of the dam again.
- A further modification of the dam height has now to happen simultaneously at the adjustment for the wheels (image 3, pos.:5) and at the spindle for the aperture (image 3, pos.: 6).

**Please mind that an overcrowding inside the machine leads to a higher need of power and a quicker obsolescence of the sticks.**

- In this way you build now the dam above the first asparagus line, then the one above the third asparagus line, then the fifth, and so on: you leave every second line. After having done like that, you can start to work on the left over lines. (By this working method you will avoid having different quantities of soil on both sides of each dam.)

## Adjustment for the dams between the ones you made at first:

For the building of the dams between the ones you made first, it might be necessary to correct the adjustments a few for to get the same height of the dam.

### **7.3 Reworking of the asparagus dam**

During the harvest time reworking or postdamming of the asparagus dam can be necessary for the purpose of weed control and closing of the insertion holes.

For this purpose the dam former Leofant can be equipped with dam-loose.

Besides, the following is to be followed:

- With the help of the provided fixing clips both dam-loose in the crossbeams are screwed on between the lower hitching plates, whereby working height and distance of the loose are given by the dam form.
- The lateral tine carrier is pivotable, so that the dam-loose can be adapted to the inclination of the dam flanks.
- Fundamental the spring tines must be adjusted so that the upper layer of dry sand trickles down to the dam sole. The following spike drums mix the dry ground when raising the dams with damp soil and there results a new more stable dam.

### **8. Maintenance and care**

- After the first 10 working hours you absolutely have to check the nuts at the wheels and - if necessary tighten them again.
- The tire pressure has to be checked once a month. ( $p = 2\text{bar}$ ).
- Once a year you have to do an oil-change.
- You have to do the following maintenance and service workings for to reduce the obsolescence of the dam-former Leofant:



## 8.1 Lubrication points

The regular intervals for lubrication and maintenance have to be absolutely respected. The lubrication points (image 4.1 and 2) and the PTO shaft have to be lubricated every 20 hours.

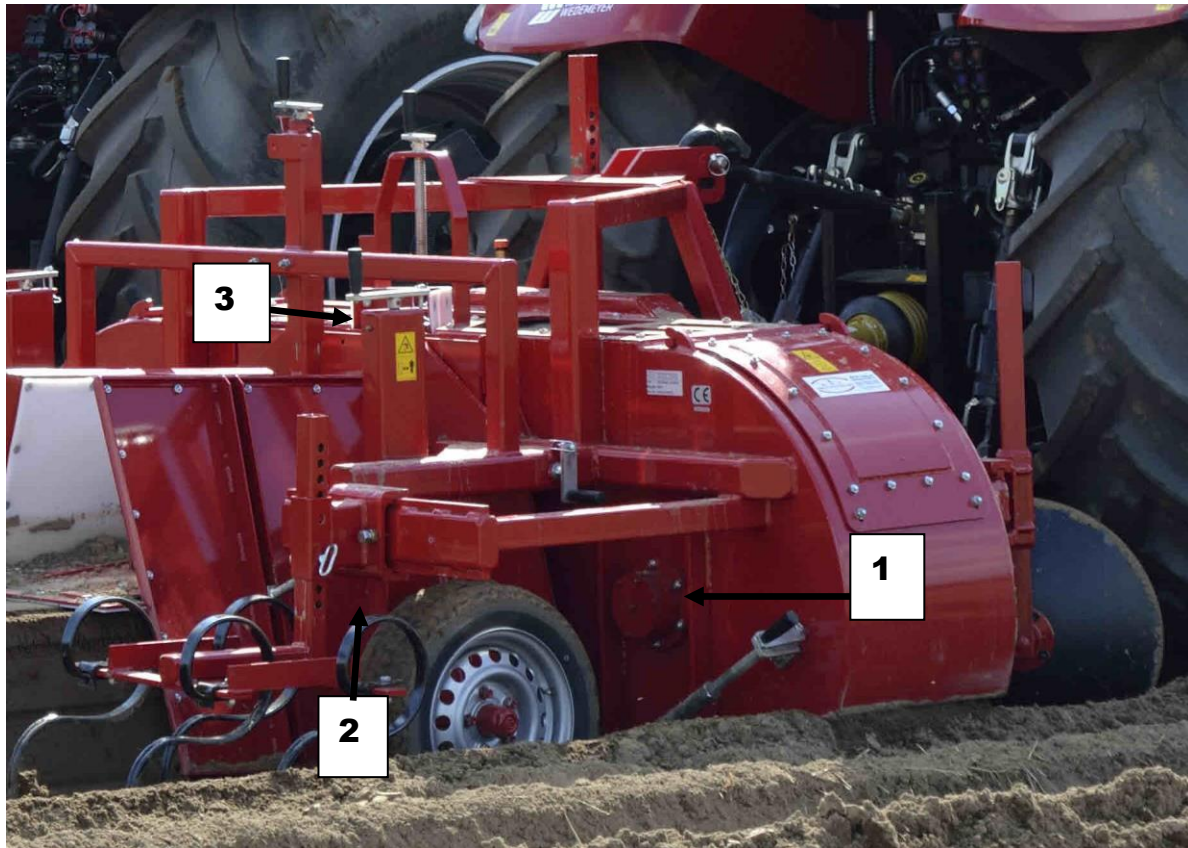


Image 4

**While re-lubrication there might get some lubricant into the soil, the ground water or into the feed. Therefore we recommend on principle the using of biodegradable lubricants!**

## 8.2 Resetting and changing of the stick

The sticks (approx. 350 mm long) are screwed to the both stick-rotors. In case of approx. **30 mm of obsolescence of the sticks** you have to unscrew them at the rotor and set them on one position further to the outside. After 2 hours of work you should check and tighten the screws in the rotor in driving direction **right** to the back, in the rotor in driving direction **left** to the front.

### **8.3 Maintenance of the propulsion**

- Before the first introduction the oil level must be checked!
- The **propulsion** has to be checked of leakage and filling quantity after 20 hours of working.
- At the front of the dam-former Leofant there is the gearbox, in which you find the propulsion for the driving and for the rotors.
- Every 20 working hours you also have to check this for leakage and filling quantity.
- The quantity of the oil is enough, when you can see the oil in the looking glass while the machine is standing horizontally.
- If necessary, fill up with gear oil **CARTER SH 320**. With use of a tractor with more than 120 HP, we recommend the use of “**CARTER SH 320**” **High quality oil**.
- Change the oil once a year.
- The filling quantity is 10 – 12.5 L at each side.

### **8.4 In case of longer breaks between using**

- Clean up the dam-former Leofant, do the lubrication as described in this instruction manual (see lubrication plan p. 7) and spray with oil.
- Front this (optional), back tins and dam forming metals (not on the plastic) have to be spread with grease after the cleaning.
- Damages in the lacquer have to be repaired.
- If you have a cardan shaft with slipping clutch, then you have to remove the air after longer non-using.

# ASSEMBLING INSTRUCTION FOR THE STICKS OF THE DAM-FORMER LEOFANT

## PLEASE PAY ATTENTION!

Dam-former in moving direction right  
(You have to see the screw with the bolt)

Dam-former in moving direction left  
(You have to see the heads of the screws)

Please tighten again the screws of the sticks  
after 2 hours of working.

HMF Hermeler Maschinenbau GmbH Füchtorf

# **EG-declaration of conformity**

## **Concerning EG-directive 89/392/EWG**

The enterprise  
HMF Hermeler Maschinenbau GmbH,  
Lohmannstr. 4, 48336 Füchtorf,  
declares in exclusive responsibility, that the product

**Dam-former Leofant 24 ABB2471**

to which this declaration refers, is satisfying the relevant elementary requirements of security and health of the EG-directive 89/392/EWG in the version of the third modified directive 93/68/EWG of 22th July 1993.

For the appropriate conversion of the mentioned EG-requirements of security and health there were applied to the following rule(s) and technical specification(s):

**EN 292 part 1+2, EN 294, EN 60204 part 1**

(Name and/or number and date of publication of the rule(s) and/or technical specification(s))

Füchtorf, .....

.....  
(Name, position und signature)