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OPERATOR'S MANUAL

MINIBATT

Mini-Harvester for Sampling

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Godé France, www.gode.fr

1. Introduction

WELCOME TO MINIBATT offered by Reichhardt. This mini-combine is intended to collect samples in grain, herbs and similar plants. You have just made an excellent choice. Naturally we are happy and wish to thank you for having chosen this system.

READ THIS OPERATOR'S MANUAL carefully to learn how to operate and service your machine correctly. Failure to do so could result in personal injury or equipment damage. This Operator's Manual and safety signs on your machine may also be available in other languages. (Visit our web-page or get in contact with us.)

THIS OPERATOR'S MANUAL SHOULD BE CONSIDERED as a permanent part of your system and should remain with the system when you sell it.

MEASUREMENTS in this Operator's Manual are given in customary metric units. Use only correct replacement parts and fasteners.

RIGHT-HAND AND LEFT-HAND sides are determined by facing in direction of forward travel.

WARRANTY is provided as part of Reichhardt's support program for customers who operate and maintain their equipment as described in this Operator's Manual. Should the system be modified to change its performance beyond original factory specifications, warranty will become void.

2. Contents

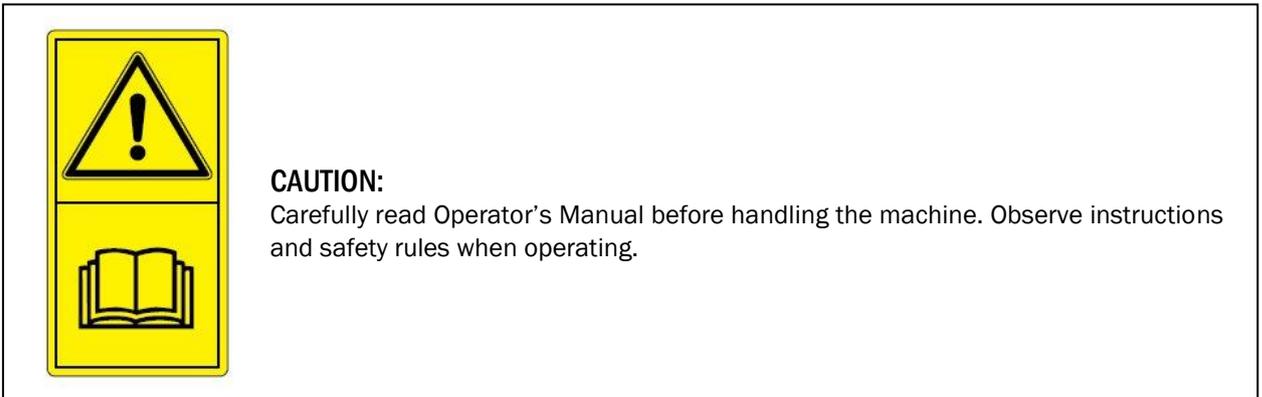
MINIBATT

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All information, figures and technical instructions in this Operator's Manual are up to date at the time of publication. Changes in construction will be possible at any time without notice.

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3. Safety Notes and Warnings



Recognize Safety Information

This is a safety-alert symbol. When you see this symbol on your machine or in this Operator's Manual, be alert to the potential for personal injury.



Understand Signals Words

A signal word – DANGER, WARNING, or CAUTION – is used with the safety-alert symbol. DANGER identifies the most serious hazards.

DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this Operator's Manual.

Follow Safety Instructions

Carefully read all safety messages in this Operator's Manual and on your machines safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from the manufacturer.

Learn to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep you machine in proper working condition. Unauthorized modifications to the machine and the system may impair the function and/or safety and affect machine life.

If you do not understand any part of this Operator's Manual and need assistance, contact the Reichhardt distributor.

Wearing Appropriate working clothes

Wear closely adjoining working clothes; always wear goggles, in case, grain flies around. Tie together your hair or cover your head.

Using MINIBATT correctly

The MINIBATT is extremely reliable. However its troublefree function depends on its careful care and maintenance, as well as its correct use.

This Operator's manual gives you all required information for the optimal use of your device.

To fulfil your expectations, read the Operator's manual carefully and follow exactly the instructions. Otherwise you do not receive the optimum working result of your MINIBATT.

Do not hesitate to contact us for further information for function, operation and maintenance, or with respect to a specific use.

Notice that the direction of the rotation of the thresher concave runs counter-clockwise.

Load the batteries immediately upon receipt, just as before you use them and before you store them.

Avoid an unsteady stand. Provide that you stand always firmly and certainly.

4. General Information

This machine is exclusively designed for threshing field samples of cereal grains notably wheat, summer. Barley and winter barley. After satisfying trials MINIBATT will also be able to thresh samples of other cereals, like oilseeds, certain pulse, aromatic and medical plants e.g. lavender. It might be necessary to equip the MINIBATT with additional accessory (e.g. other concaves).

MINIBATT should be handled with great care. Any not intended use is not within the reliability of the manufacturer or their agents.

BEFORE USE:

- Always maintain the machine properly to avoid arising damage.
- Before screwing on or unscrewing the sample container remove the battery.
- Before starting the MINIBATT, always check that you have one hand on the main handle and the other hand on the door handle.
- Make sure that no one else is in your working area.

- 1 – Main Handle,
- 2 – Speed Control regulator (integrated into the switch)
- 3 – Key (handle) for the adjustable air intake.
- 4 – Spring loaded door
- 5 – Threshing Drum
- 6 – Concave
- 7 – Air outlet
- 8 – Crop Sample Container
- 9 – Door Handle
- 10 – Battery
- 11 – Of a funnel
- 12 – Removable Cover

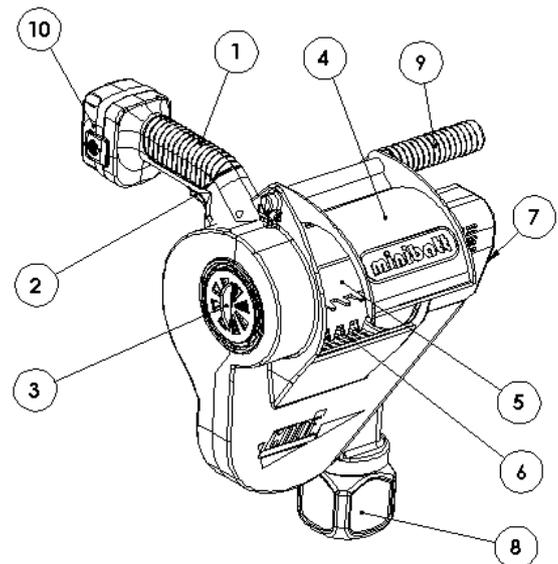


Figure 1:
Minibatt-Components

5. Operation

5.1. Preparation

Take the machine out of the suitcase. Do not pull on the lid handle (9). Take out the sample container (8) from the suitcase. Take off the lid and screw the container with a quarter of a turn on to the base of the machine (see figure), do not over tighten.



Figure 2:
Screw on sample container

5.2. Putting into operation

Grab the machine with one hand at the main handle (1) and turn the lid handle (9) with the other one in your direction to open the door (4). Adjust the speed regulator to start the MINIBATT.

The direction of the arrows indicates the speed variation:

- + = faster
- - = slower

The speed regulator controls the output from the switch. Once the switch is pressed you should always hold it until the sampling procedure is completed.

For wheat it is recommended to set the controller to the maximum position (direction + adjustable with about a third to a half turn). Close the adjustable air intake. Following this procedure will result in obtaining the best sample. Make sure that the MINIBATT always runs at the same speed. After obtaining the sample let the machine run at the the selected speed for a few seconds more and open the door to throw out the straw remainings.

1. You open the door by turning the door handle. Before going into the crop, MINIBATT must run at the selected speed.



Figure 3:
Opening door

2. Move the MINIBATT in a vertical movement with open door towards crops (see figures 4 and 5)

Notice:

It is not necessary to move the MINIBATT forward while threshing.



Figure 4:
Vertical movement with open door



Figure 5:
Plunch into the field

3. Do not collect the sample if the machine does not run at the selected speed. To harvest a sample, shut the door, by turning the door handle. You should close the door step by step and limit the pressure on the handle. Move the machine in vertical movements.

Notice:

In order to collect and to clean the sample, let the machine run another moment on the selected speed. If the rotation is stopped too early you will not receive a representative sample.

Notice:

Don't keep the door-closed too long. This might result in a blockage of the machine with fine straw. Hold the ears (wheat, barley, etc.) in order to receive a representative sample.



Figure 6:
Closing the door and vertical movement upwards

7. Through the sample container (8) you can check the quality of the sample of grains collected:

- Too much small straw: increase wind by referring to section adjustments
- Grain loss through the funnel (7) exit :decrease wind. You should see some grains flying in the channel. Take care not not get grain in your eyes and your face.
- Unthreshed grain: increase the speed of the threshing cylinder and use the detachable de-awning plate.

8. As soon as the container is filled, unscrew it, empty it, and put it back in place if you want to select another sample. Do not over tighten.

9. If the grain has not reached full maturity it is more difficult to thresh. You can pass the sample through Minibatt a second time.

- Unscrew the full container, ensuring the machine is vertical, then put down the container (see figure)
- Screw an empty container onto the bottom of the machine
- Remove the lid on the top door funnel and turn the machine upside down.
- Screw the full container onto the door funnel



Figure 7 :
Screw off full container

- Make sure to keep the door closed. (see figure)
- Before turning over the machine, press the switch to start.



Figure 8 :
Screw off empty container

- Turn the machine the right way up without hesitating, keep it running, and return it to normal operating position. (see figure)
- The sample is threshed a second time.
- Stop the machine. Remove the now empty container and put o again the cover.

Notice:

The machine is delivered with a 5 x 20concave especially for wheat and barley with detachable de-awning plate. This plate must be removed if there is a bigger quantity of grain in the probe. The use of the de-awning plate increases the cleanness of the grain, but decreases the output of the machine.



Figure 9 :
Threshing grain again

10. To remove the de-awning plate, first you must extract the concave. Remove the screw while the concave is still in the machine. Pull the concave into position above the screw holes

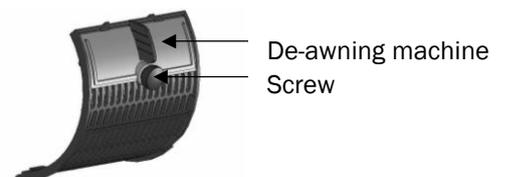


Figure 10 :
Remove de-awning machine

5.3. Adjustments

The threshing drum and the fan are fixed on the same axle. The speed of the threshing drum and the strength of the fan depend from the grain you want to thresh. In order to receive a good sample always match the adjustments on the machine with the specific grain.

Notice:

Changing the speed of the cylinder changes the air output of the fan.

- **Speed adjustment:** The speed regulator on the switch influences the speed of the threshing drum. If the button is depressed towards the bottom of switch, you will always receive the same speed.
- **Adjustment of the air flow:** The adjustable air intake (3) controls the air flow. The more open the stronger the air flow.

Notice:

In order to receive optimal results it is recommended only to adjust one parameter at the time (threshing drum rotation or air quantity)

Notice:

After taking a probe leave the sample in the closed container in the sun for some minutes. You will get best results especially when using a whole grain moisture tester.

Collect the probes on different spots in the field. Don't hesitate to go to green grain (e.g. trams, following nitrogen treatment, ...)

5.4. Replacement of the Concave

In order to allow a bigger variety of applications, the MINIBATT has been designed with interchangeable concaves.

Originally the MINIBATT is equipped with a concave with perforation 5*18, and one detachable de-awning plate specially designed for wheat, barley, oats, buckwheat, rice, and sorghum (kind of grass cultivated for grain). It can be very well suited for other applications after research trials.

Further options are:

Concave diameter	- 3.5x7	- oilseed*) and small grains
Concave diameter with rectangles	- 9.5x23	- peas and soy beans
Concave diameter with rectangles	-12.5x32	- broad bean, horse bean/dried kidney bean*

*)The use of these different concaves requires a particular adaptation for drawing the crop into the machine. This adaptation should be available for the 2006 harvest.

Mounting of the Concave:



CAUTION:

It is obligatory to remove the battery before all operations.

1. Remove the access plate by pressing on the two clips fastening the plate. It is the shape of the door, which holds the concave in position. Therefore you do not need any tools.



Figure 13 :
 Remove access disk

- In a sitting position hold the machine on your legs, or between your knees. Hold the tongue, which is on the top of the concave between the thumb and the index finger. Toggle the concave slightly. At the same time, pull the concave to extract it from its support. Remove the concave from the machine.



Figure 3:
 Remove Concave

- In order to put in another concave for a different crop, reverse the disassembling procedure. Guide and press the concave to click into place in the center of the device. Turn the cylinder slightly if necessary. This operation requires a little pressure on the concave to take it into its correct location. Close the door.



Figure 4:
 Use Concave

5.5. Air intake, threshing speed and choice of concave

These adjustments are given as a guide. They are the basis for starting adjustments, which it will be necessary to adapt according to the variety and of the physiological state of the harvest.

Closed air intake:

Rye-grass: if required, close the opening completely.

Usage for flax, small seeds, rapeseed, beets, parsley etc. Slow cylinder speed recommended. Use 3.5 x 7concave

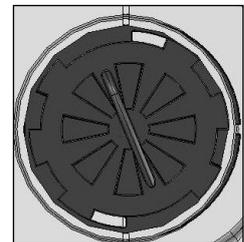


Figure 5:
 Closed air intake

Low air intake:

The low air intake is used, when the closed position does not have enough air volume to clean the probe or when the adjustment in the strong position results in too big loss.

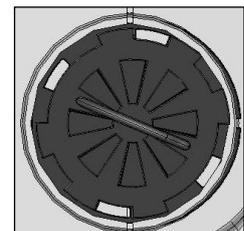


Figure 6:
 Low air intake

Medium air intake:

Recommended for barley, wheat (1), peas (2) soy beans (2), field beans (3)

Use slow cylinder speed or + 0.75*) for best threshing of field beans, peas, soy beans.

Use maximum cylinder speed - 0.25*) for best threshing of barley.

Use maximum cylinder speed - 0.5*) (a) for best threshing of wheat.

Use maximum speed cylinder -0.25*) for rice.

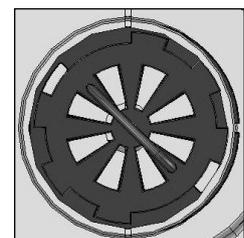


Figure 18:
 Medium air intake

Maximum air intake:

Recommended for barley, wheat (1), peas (2) soy beans (2), field beans (3)
Use slow cylinder Speed or +0.75*) for best threshing of field beans, peas, soy beans.
Use maximum cylinder speed or - 0.25*) for best threshing of barley
Use maximum cylinder speed or - 0.25*) for best threshing of wheat.

- (1) With concave 5 x 18 - Wheat & Barley
- (2) With concave 9.5x 23 - Peas
- (3) With concave 12.5 x 32 - Field Beans

*) number of turns to reduce/increase number of revolutions with switch (2). (a) adjust first

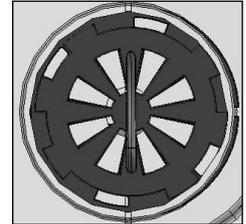


Figure 19:
Maximum air intake

6. Maintenance

6.1. General Information

! CAUTION:

- Remove the battery before any work is done to, or involving the machine.
- Clean the MINIBATT after every use.
- Do not use any sharp object to clean the MINIBATT.
- See that no liquid comes into the machine
- Any repairs must only be undertaken by qualified people using authorized spare parts.
- Avoid external influences. Do not expose the MINIBATT to rain.
- Keep handles and switch dry, clean and clear of oil and grease.
- Store your machine in a safe secure place. Keep your machine in a dry place elevated and protected, out of reach of children.

6.2. Battery and Charger

Placing and withdrawing of the battery:

In order to install the battery in place, put it in the slot shown in the machine. Slide the battery in; push just until it clicks into place. Press the two release buttons to withdraw the battery from the machine.

Charging up of the battery:

The battery of the machine carries a charging indicator which determines the level of charge.

To show the correct level of charge, press the button shown in the figure with the machine in motion. The diodes flash and indicate the level of charge: 5 diodes flashed means maximum charge. 2 diodes flashed means that it is necessary to recharge the battery.



Figure 7:
Display batterystatus

The battery needs to be charged before first using and each time the performance requires. A new battery or a battery that has not been used for sometime reaches its performance level at the end of a few charging and discharging cycles. The battery can heat up during charging; this is normal and does not indicate any particular problem. After normal use, the battery must be charged for around 60 minutes before using again.

In order to charge the battery, withdraw the battery from the machine and insert it in the charger. Plug in to check if the battery is clicked in place correctly. Check if the red charging warning light flashes. As soon as the battery is charged, after about 60 minutes, the green lamp shows the end of charging. Remove the battery when charging has completed.

! CAUTION:

- In case of contact with acid coming from the battery, rinse immediately with plenty of water. In case of eye contact, rinse immediately and consult a doctor.
- Check if the voltage of the charger corresponds with the voltage of the electrical supply.
- Only charge with the charger provided for the MINIBATT.
- Protect the charger and battery from moisture.
- Handle the battery with caution, see that it is not dropped or broken.
- Do not charge the battery up if the temperature is below 10°C or above 40°C.
- Never throw a battery into a fire (risk of explosion).

7. Technical Characteristics

Speed of rotation when running empty:	1400 bis 2000 rpm.
Nominal voltage:	14,4V DC
Diameter of the threshing drum:	160 mm
Width of the threshing drum:	145 mm
speed of air flow in the air outlet:	4 bis 8 m/s
Capacity of sample container:	500 ml, optional 720 ml
Weight of MINIBATT in operation:	3,3 kg

Rapid charging of machine:

Current relating to charge:	230V AC
Duration of charging:	60 minutes

Battery:

Nominal voltage:	14.4V DC
Battery capacity:	2000 mAh
Number of samples possible with charged battery	8 bis 12, depending on conditions

Level of Noise:

Measured within a distance of 1 meter with a sonometer type - Voltcraft	329
Measurement	82 dBa
Acceleration frequency	7.5 m/s ²

REFERENCE	AMOUNT	DESIGNATION
1	1	Front casing
2	1	Back casing
3	1	Left handle
4	1	Right handle
5	1	Battery
6	1	Connector
7	1	MOS radiator
8	1	Switch
9	1	Door
10	1	Spring
11	1	Moving key
12	1	Fixed key
13	1	Aspiration Fan
14	2	Seat bearing
15	2	Bearing
16	1	Fan shaft
17	1	Cylinder
18	1	Seat concave
19	1	Motor shaft
20	1	Motor reducer
21	1	Screw CHC M5
22	25	Screw Ø4
23A	1	Pot 500ml
*23B	1	Pot 720 ml
23C	1	Lid of pot
24	1	Charger
25A	1	Concave 7x25mm
*25B	1	Concave Ø10.6
*25C	1	Concave Ø 4.6
*25D	1	Concave 13.6*15
26	1	Trap-door
27	1	Screw-nut M4
28	1	Screw M4_10
29	2	Press concave

9. Service

CUSTOMER SATISFACTION is important to Reichhardt.

Our dealers strive to provide you with prompt, efficient parts and service:

- Maintenance and service parts to support your equipment.
- Trained service technicians and the necessary diagnostic and repair tools to service your equipment.

CUSTOMER SATISFACTION PROBLEM RESOLUTION PROCESS

Your Reichhardt dealer is dedicated to supporting your equipment and resolving any problem you may experience.

1. When contacting your dealer, be prepared with the following information:
 - Product identification number
 - Date of purchase
 - Nature of problem
2. If unable to solve, explain problem to the distributor and request assistance.
3. If a problem is not resolved to your satisfaction, contact Reichhardt GmbH Steuerungstechnik, Germany
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