

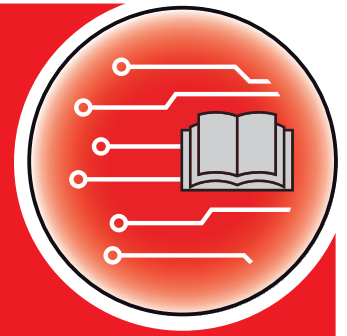
OPERATOR'S MANUAL



**Please read carefully
before using the ma-
chine.**

Keep for future reference.

This instruction manual/assembly instruction is to be considered as part of the machine. Suppliers of new and second-hand machines are required to document in writing that the instruction manual/assembly instruction was delivered with the machine and handed over to the customer.



AERO GT ISOBUS

Version 1.02.00

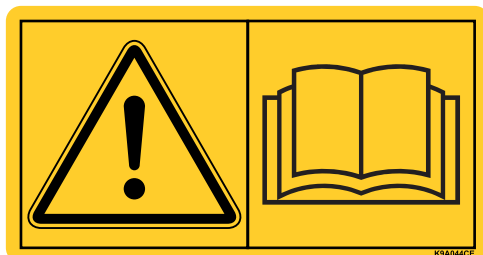
Original manual

5903001-a-en-0420

Foreword

Dear Customer,

By purchasing the **machine control unit AERO GT ISOBUS** for the boom mineral fertiliser spreader AERO GT, you have shown confidence in our product. Thank you! We want to justify this confidence. You have purchased a powerful and reliable **machine control unit**. If any unexpected problems occur, our Customer Service is always ready to help.



Please read this operating manual and the operating manual for the machine carefully before operating the control unit and follow all instructions.

This manual may also describe equipment that is not included in your **machine control unit**.

Please note that damage caused by incorrect operation or improper use is not covered by warranty claims.

NOTE

Note the serial number of the machine control unit and of the machine

The AERO GT ISOBUS machine control unit is factory-calibrated for the fertiliser spreader with which it has been delivered. It cannot be connected to another machine without additional calibration.

Please enter the serial number of the machine control unit and the machine here. You must check these numbers when connecting the machine control unit to the machine.

Serial number of electronic machine control unit

Serial number AERO GT

Year of construction
AERO GT

Technical improvements

We are continuously improving our products. Therefore, we reserve the right to make any improvements and changes to our machine that we consider necessary without notice. This constitutes no obligation to make such improvements or changes on machines that have already been sold.

We will be pleased to answer any other questions that you might have.

Yours sincerely

RAUCH

Landmaschinenfabrik GmbH

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1 User instructions

1.1 About this operating manual

This operating manual is an **integral part** of the **machine control unit**.

The operating manual contains important information for **safe, appropriate** and economic **use** and **maintenance** of the machine control unit. Adherence to the manual helps to **avoid dangers**, reduce repair costs and downtime, and increases the machine's reliability and service life.


The operating manual must be kept in an easily accessible location close to where the machine control unit is used (e.g. on the tractor).

The operating manual does not replace your **own responsibility** as the operator and operating personnel of the machine control unit.

1.2 Significance of warnings

The warning instructions in this manual have been structured according to the degree of danger and the probability of their occurrence.

Danger signs and symbols inform the user about other construction-related and unavoidable residual risks that may be encountered when operating the machine. The warning notes used are structured as follows:

Signal word	
Symbol	Explanation
Example	
▲ DANGER	
	<p>Risk to life if warning is not observed</p> <p>Description of the danger and possible consequences.</p> <p>Ignoring these warnings will result in very serious or even fatal injury.</p> <p>▶ Measures to prevent the danger.</p>

Warning severity level

The degree of danger is indicated by the signal word. The levels are classified as follows:

⚠ DANGER



Type and source of danger

This warning warns of a danger posing an immediate threat to the health and life of persons.

Ignoring these warnings will result in very serious or even fatal injury.

- ▶ Always observe the measures described to prevent this danger.

⚠ WARNING



Type and source of danger

This warning warns of a possible dangerous situation for the health of persons.

Ignoring these warnings will result in very serious injury.

- ▶ Always observe the measures described to prevent this danger.

⚠ CAUTION



Type and source of danger

This warning warns of a potentially dangerous situation for personal health or of material and environmental damage.

Ignoring this warning can result in injuries and damage to the product or the general area.

- ▶ Always observe the measures described to prevent this danger.

NOTICE

General information containing application tips and particularly useful information, but which constitutes neither warnings nor hazards.

1.3 Instructions and procedures

Steps that the operator must carry out are shown as a numbered list.

1. Instruction for action step 1
2. Instruction for action step 2

Instructions involving only one step are not numbered. The same applies for action steps that do not have a specific sequence.

A bullet is placed in front of these instructions:

- Handling instruction

1.4 Listings

Listings without a specific sequence are shown with bullet points (level 1) and dashes (level 2):

- Property A
 - Point A
 - Point B
- Property B

1.5 References

References to other text passages in the document are indicated with section number, headline text and page number:

- **Example:** See also Chapter [3: Safety, page 5](#).

References to other documents are indicated as note or instruction without exact chapter or page number:

- **Example:** Please also observe the instructions contained in the manual for the universal drive shaft.

1.6 Menu hierarchy, keys and navigation

Menus are the entries listed in the **Main menu** window.

In the menus, **submenus and/or menu items** are listed in which settings can be implemented (selection lists, text or number entries, starting a function).

The various menus and buttons of the machine control unit are illustrated in **bold** letters:

The hierarchy and the path to the requested menu item are marked with an > (arrow) between menu, menu item/s:

- **System / test > Test/diagnosis > Voltage** means that you can access the **Voltage** menu item via the **System / test** menu and the **Test/diagnosis** menu item.

2 Layout and function

NOTICE

Due to the large number of different ISOBUS-compatible terminals, this chapter is limited to describing the functions of the electronic machine control unit without specifying a specific ISOBUS terminal.

- Follow the instructions for operating your ISOBUS terminal in the corresponding operating manual.
-

2.1 Display

The display shows the current status information as well as the selection and input options for the machine control unit.

The most important information on the operation of the mineral fertiliser spreader is displayed on the **operating screen**.

2.1.1 Description of the working screen

NOTICE

The exact representation of the working screen depends on the currently selected settings.

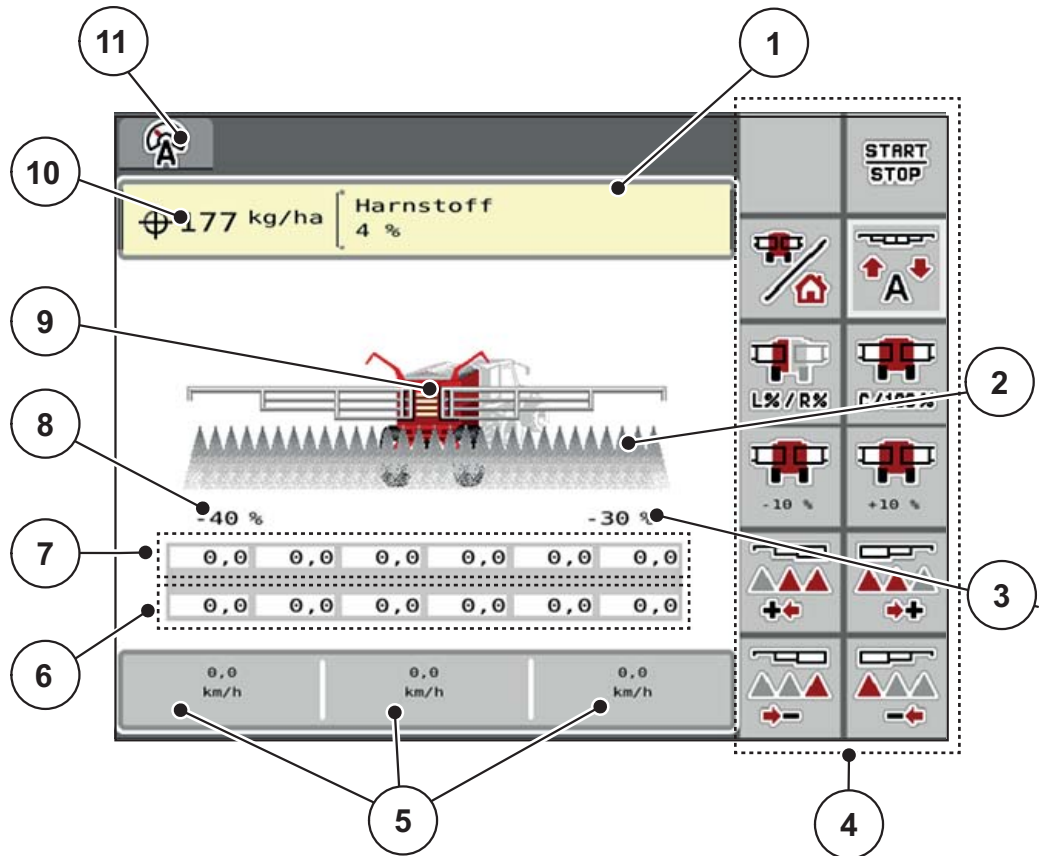


Figure 2.1: Machine control unit display

- [1] Display fertiliser settings information (designation of fertiliser and composition)
Button: adjustment in the fertiliser chart
- [2] Display of the sections and the individual fertiliser outlets
- [3] Application rate adjustment on the right sections
- [4] Function keys
- [5] User-definable display fields
- [6] Actual speed of the metering units
- [7] Target speed of the metering units
- [8] Application rate adjustment on the left sections
- [9] Display of mineral fertiliser spreader
- [10] Current application rate from the fertiliser settings or the task controller
Button: direct input of the application rate
- [11] Selected operating mode

2.1.2 Display fields

You can customise the three display fields on the working screen ([Figure 2.1](#) [9]) and optionally assign the following values to them:

- Forward speed
- ha trip
- kg trip
- m trip
- kg left
- m left
- ha left

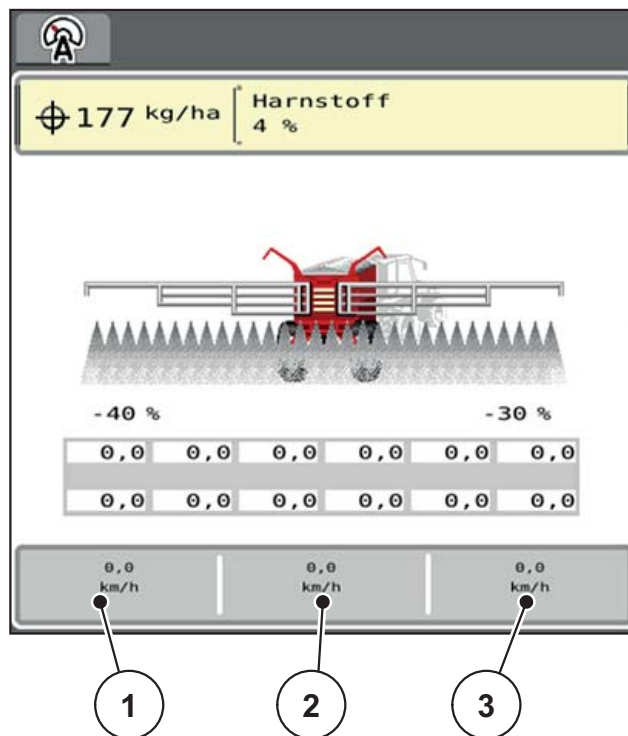


Figure 2.2: Display fields

- [1] Display field 1
[2] Display field 2
[3] Display field 3

Selecting a display

1. Press the respective **display field** on the touch screen.
 - ▷ The available displays are shown in a list.
2. Select the new value to be assigned to the display field.
3. Press the **OK button**.
 - ▷ The **working screen** is displayed. The new value is now displayed in the respective **display field**.

2.1.3 Display of the spreading operating states

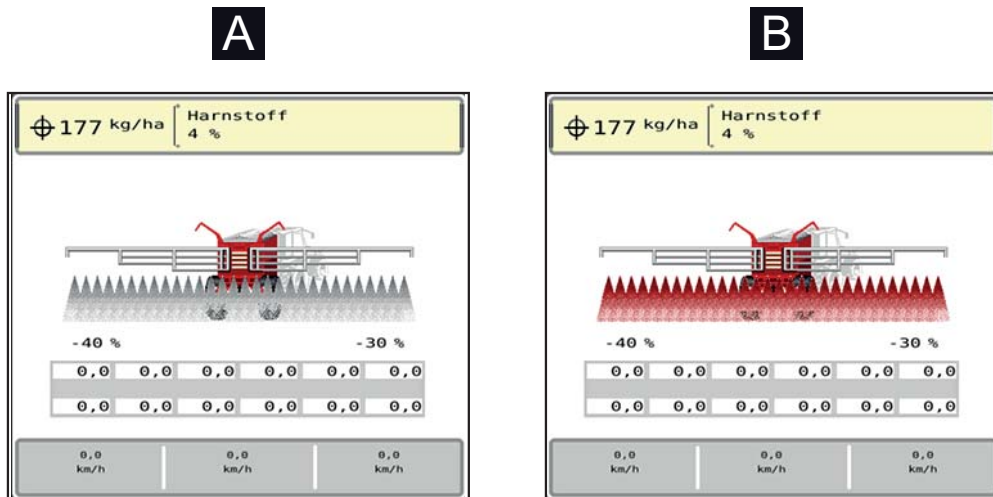


Figure 2.3: Display of the section width status

- [A] Spreading operation inactive (STOP)
- [B] Machine in spreading operation (START)

2.1.4 Display of the section widths

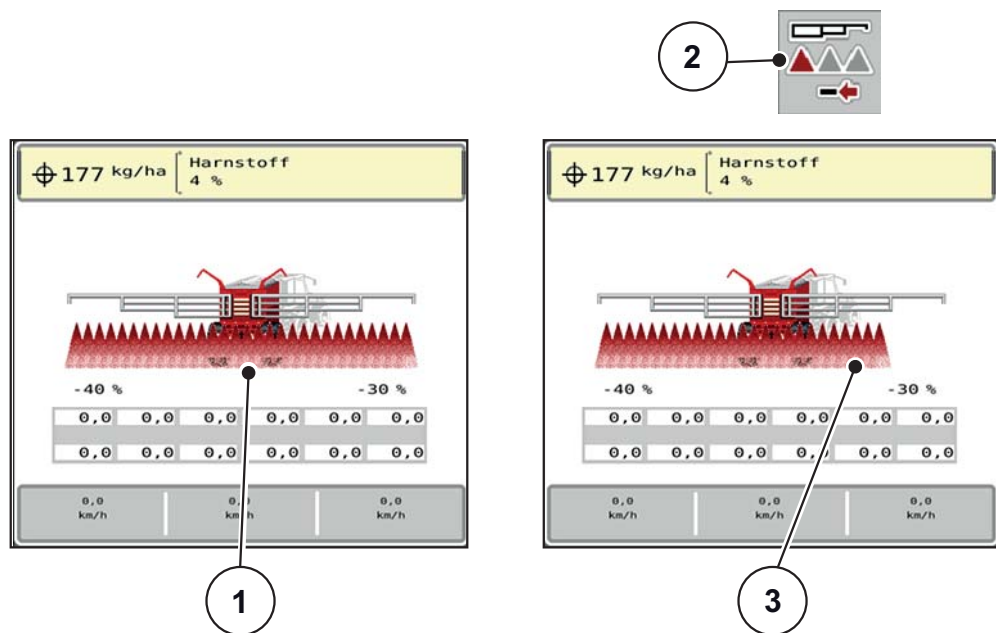


Figure 2.4: Display of the section width status








- [1] Activated sections across the entire working width
- [2] Key: reduce right section width
- [3] The right boom section has been reduced by one section

Further display and setting options are explained in the chapter [5: Spreading operation with the machine control unit AERO GT ISOBUS, page 55](#).











2.2 Library of symbols used

The machine control unit AERO GT ISOBUS shows symbols for the menus and functions on the screen.





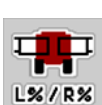





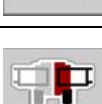

2.2.1 Navigation




Symbol	Meaning
	To the left; previous page
	To the right; next page
	Back to the previous menu
	Back to main menu
	Switch between working screen and menu window
	Acknowledge warning messages
	Escape; close dialogue window

2.2.2 Menus










Symbol	Meaning
	Switch directly from a menu window to the main menu
	Switch between working screen and menu window
	SpreadLight operating lights
	Working screen
	Hydraulic axle
	Fertiliser settings
	Machine settings
	System/Test
	Information
	Weighing - Trip count.

2.2.3 Working screen symbols

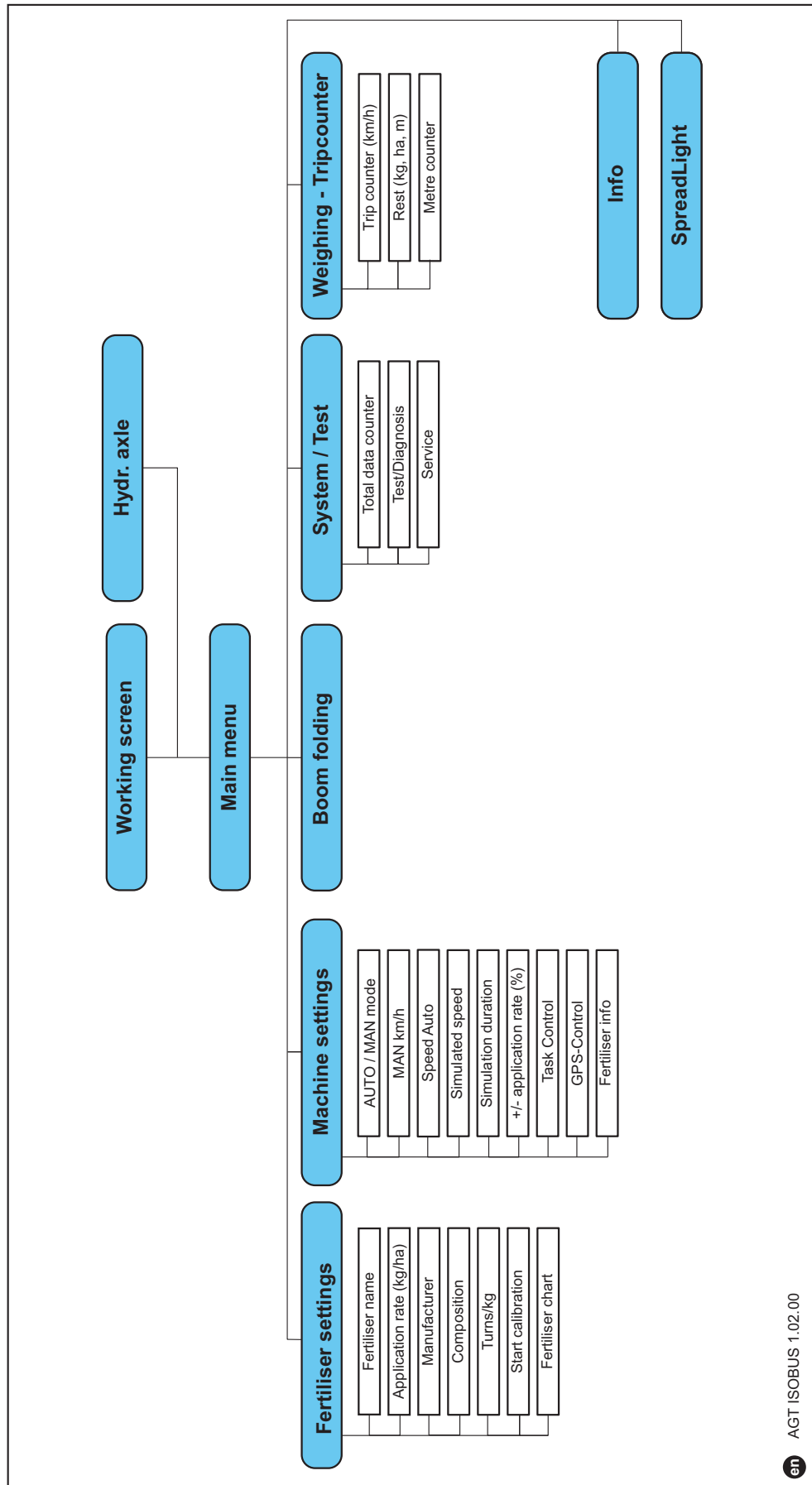
Symbol	Meaning
	Start regulation of the application rate
	The spreading operation has started; stop regulation of the application rate
	Reset the quantity adjustment of the application rate to the preset application rate.
	Switch between working screen and menu window
	Selection of the boosted/reduced application rate on the left side, right side or both spreading sides (%)
	Quantity adjustment + (plus)
	Quantity adjustment - (minus)
	Quantity adjustment, left + (plus)
	Quantity adjustment, left - (minus)
	Quantity adjustment, right + (plus)
	Quantity adjustment, right - (minus)
	Increase left section widths (plus)

Symbol	Meaning
	Reduce left sections (minus)
	Increase right sections (plus)
	Reduce right sections (minus)

2.2.4 Other symbols

Symbol	Meaning
	Fold in the end sections of the boom
	Fold out end sections of the boom
	Fold in the initial and middle sections of the boom
	Fold out the initial and middle sections of the boom
	Unlock boom
	Lock boom
	Automatic axle suspension switched off
	Lift axle suspension; also for calibration
	Lower axle suspension; also for calibration

2.3 Structural menu overview AERO GT ISOBUS



3 Attachment and installation

3.1 Tractor requirements

Before attaching the machine control unit, check that your tractor meets the following requirements:

- A minimum voltage of **11 V** must be guaranteed **at all times**, even when several consumers are connected at the same time (e.g. air conditioning, lights).
- Oil supply: **max. 210 bar**, single or double-acting valve (depending on the equipment),
- The PTO speed must be at least **540 rpm** and must be observed (basic requirement for a correct working width).

NOTICE

For tractors without power shift transmissions, the forward speed must be selected by the right gear ratio so that it corresponds to a PTO speed of **540 rpm**.

- 9-pin socket (ISO 11783) at the rear of the tractor for connecting the machine control unit to the ISOBUS,
- 9-pin terminal connector (ISO 11783) for connecting an ISOBUS terminal to the ISOBUS.

NOTICE

If the tractor does not have a 9-pin socket at the rear, a tractor installation kit with 9-pin socket for the tractor (ISO 11783) and a forward speed sensor can be purchased as optional equipment.

3.2 Connections, sockets

3.2.1 Power supply

The machine control unit is powered via the 9-pin socket on the rear of the tractor.

3.3 Connecting the machine control unit

Depending on the equipment, there are different methods for connecting the machine control unit to the mineral fertiliser spreader. Further details can be found in the operating manual for your machine control unit.

3.3.1 Schematic connection diagram

- ["AERO GT: Schematic connection diagram" on page 19](#)

AERO GT: Schematic connection diagram

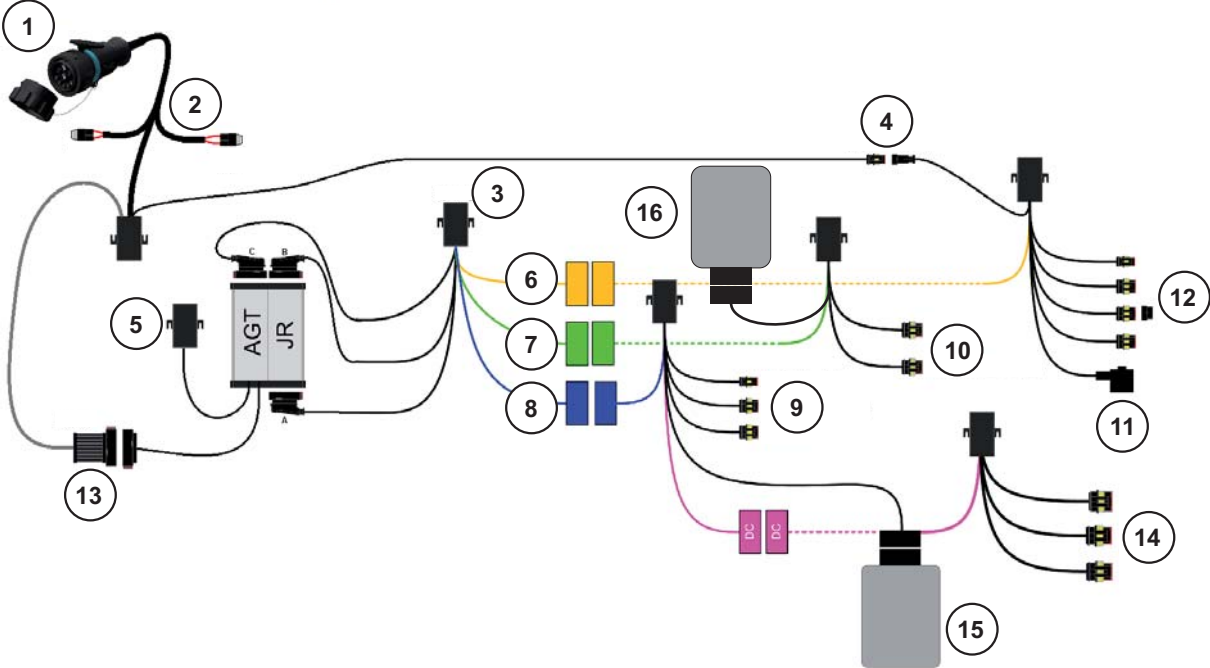


Figure 3.1: Electrical system overview

- [1] ISOBUS connection
- [2] 30 A and 60 A fuses
- [3] Splitting
- [4] Ub oil cooler
- [5] CAN filter
- [6] Front machine cable
- [7] Middle machine cable
- [8] Rear machine cable
- [9] Connections:
 - Axis valves (3 x)
 - Axis angle encoder (2 x)
 - Wheel speed
- [10] Connections:
 - Pulse generator DW (6 x)
 - Metering motor valves (6 x)

- [11] Hydraulic block valves (12 x)
- [12] Connections:
 - Fan
 - Empty detector L + R
 - Frame tilt sensor frame (DC)
 - Temperature sensor
- [13] ISOBUS cable
- [14] Connections:
 - Distance sensors (2 x)
 - Angle encoder boom
 - Boom tilt sensor
- [15] Axle suspension controller
- [16] Metering controller

4 Operation AERO GT ISOBUS

⚠ CAUTION



Risk of injury due to ejected fertiliser!

In the case of a fault, the metering slider may open unexpectedly during transportation to the spreading location. There is a risk of slipping and personal injury due to ejected fertiliser.

- ▶ Be sure to always switch off the electronic machine control unit **before driving to the spreading location.**

NOTICE

The operating manual describes the functions of the machine control unit **as of software version 1.01.03.**

4.1 Switching on the machine control unit

Requirements:

- The machine control unit is connected correctly to the tractor (for an example, see chapter [3.3: Connecting the machine control unit, page 18](#)).
 - A minimum voltage of **11 V** is guaranteed.
1. Start the machine control unit.
 - ▷ After a few seconds, the **start-up screen** of the machine control unit appears.
 - ▷ Shortly after, the machine control unit displays the **Activation menu** for a few seconds.



2. Press the **enter key**.
 - ▷ **Subsequently, the working screen appears.**

4.2 Navigation within the menus

NOTICE

Important information regarding the display and navigation between menus are provided in chapter [1.6: Menu hierarchy, keys and navigation, page 3](#).

In the following sections, we describe calling up the menus or menu items **by touching the touchscreen or pressing the function keys**.

- Follow the operating manual of the terminal used.
-

Accessing the main menu



- Press the **Working screen/Main menu** function key. See [2.2.2: Menus, page 11](#).
 - ▷ The main menu appears on the display.

Accessing the submenu via the touchscreen:

1. Press the button of the desired submenu.

Windows appear prompting to perform various actions.

- Text input
- Value input
- Settings made in further submenus

NOTICE

Not all parameters are displayed simultaneously in one menu window. You can use the **left/right arrow keys** to jump to the adjacent window.

Exiting the menu



- Confirm the settings by pressing the **Back** key.
 - ▷ You return to the **previous menu**.
- Press the **Working screen/Main menu** key.
 - ▷ This returns you to the **Operating screen**.
- Press the **ESC** key.
 - ▷ The previous settings are retained.
 - ▷ You return to the **previous menu**.

4.3 Main menu

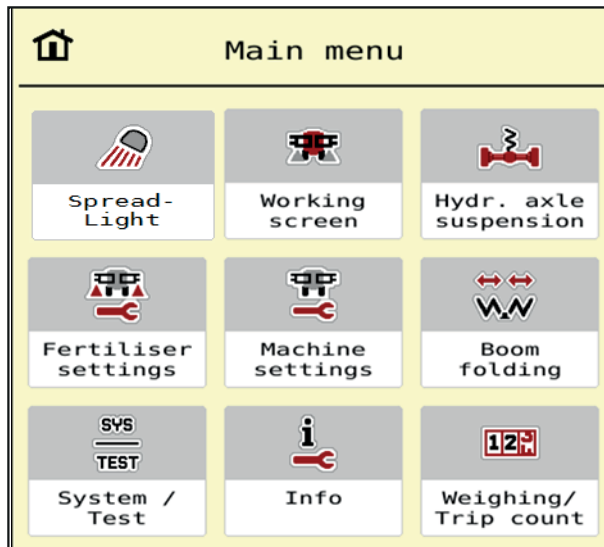


Figure 4.1: Main menu with submenus

Submenu	Meaning	Description
SpreadLight	No function for this software version	
Working screen	Switch to the working screen	
Hydr. axle suspension	Calibration of the automatic axle suspension	Page 24
Fertiliser settings	Fertiliser and spreading operation settings	Page 26
Machine settings	Settings for tractor and machine	Page 35
Boom folding	Folding the boom in/out	Page 41
System/Test	Settings and diagnosis of the machine control unit	Page 45
Info	Display of the machine configuration	Page 48
Weighing - Trip count.	Values for spreading work completed and functions for weighing	Page 49



In addition to the submenus, you can select the boom **height** and **inclination** function keys in the **main menu**.

- See [4.8: Manual setting of the boom, page 44](#).

4.4 Hydraulic axis

- Call up menu **Main menu> Hydr. axle suspension.**

In this menu, you can activate the automatic suspension.

⚠ CAUTION



Damage to the boom mineral fertiliser spreader

If the suspension is not operated in automatic mode, there is a risk of damage to the boom mineral fertiliser spreader.

- ▶ Make sure that the tractor hydraulic system and control unit are switched on.



- Call up menu **Main menu> Hydr. axle suspension.**

Hydr. axle suspension			
Status	00000		8
Mode	CALIBRATION		
POSITION	0		0
VALVES	0	0	0
CYL CALIB	2		2
Error			

Figure 4.2: Automatic suspension menu

[1] Display of active automatic suspension symbol

2. Press the **automatic suspension** function key.

▷ The **automatic suspension** symbol appears in the **Hydr.axle** menu and in the **working screen**.

▷ The automatic suspension of the boom mineral fertiliser spreader is activated.



NOTICE

The height of the hydro-pneumatic suspension can be manually adjusted for calibration or maintenance. Follow the operating manual for your boom mineral fertiliser spreader.

▲ CAUTION**Risk of injury by adjusting the hydro-pneumatic suspension!**

After pressing the **function keys**, the hydraulic cylinders are retracted or extended. This can cause injuries.

- ▶ Before manually adjusting the suspension, make sure that there are no people in the danger zone of the machine.



3. Press the **Retract cylinder** function key.
or



4. Press the **Extend cylinder** function key.

4.5 Fertiliser settings



In this menu, you can make the fertiliser and spreading operation settings.

- Open the menu **Main menu > Fertiliser settings**.

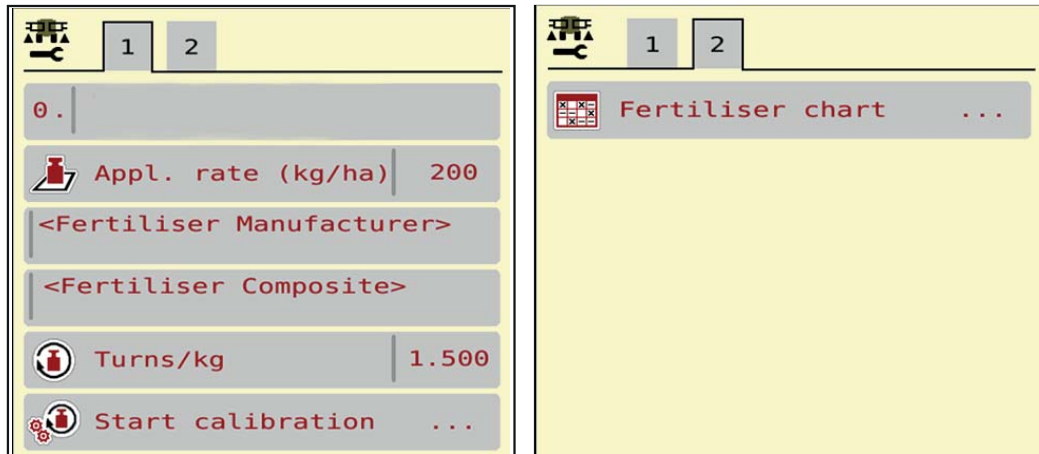


Figure 4.3: Fertiliser settings menu, tabs 1 and 2

NOTICE

Not all parameters are displayed simultaneously on one screen. You can use the **left/right arrow keys** to jump to the adjacent menu window (tab).

Submenu	Meaning/possible values	Description
Fertiliser name	Fertiliser selected from the fertiliser chart	Page 32
Application rate (kg/ha)	Input of target value for the application rate in kg/ha	Page 27
Manufacturer	Enter the fertiliser manufacturer	
Composition	Percentage of chemical composition	
Turns/kg	Enter the turns of the metering units	Page 28
Start calibration	Open the submenu for carrying out the calibration	Page 29
Fertiliser chart	Management of fertiliser charts	Page 32

4.5.1 Application rate



In this menu, you can enter the target value for the desired application rate.

Entering the application rate:

1. Open the menu **Fertiliser settings > Appl. rate (kg/ha)**.
 - ▷ The display shows the **currently active** application rate.
2. Enter the new value in the input field.
3. Press **OK**.
 - ▷ **The new value is saved in the machine control unit.**

You can also enter or adjust the application rate directly on the working screen.

1. Press the Application rate [1] button on the touchscreen.
 - ▷ The number input window opens.

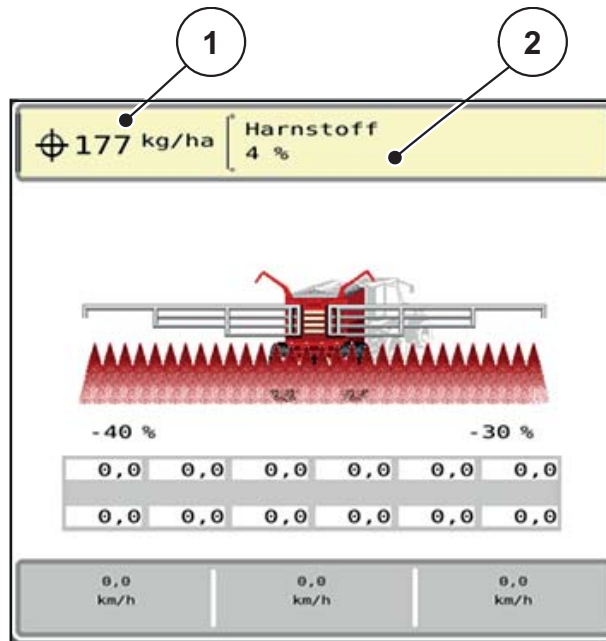


Figure 4.4: Entering the application rate on the touchscreen

- [1] Application rate button
- [2] Fertiliser chart button

2. Enter the new value in the input field.
3. Press **OK**.
 - ▷ **The new value is saved in the machine control unit.**

4.5.2 Turns/kg



In this menu, you enter the target value of the desired turns per kilogram for the metering rollers.

If you know the flow factor from earlier calibration tests or from the fertiliser chart, enter it **manually** here.

1. Open the menu **Fertiliser settings > Turns/kg**.
 - ▷ The **currently set** number of turns per kilogram appears on the display.
2. Enter the value from the fertiliser chart in the input field.

NOTICE

If your fertiliser is not listed in the fertiliser chart, enter the value **1.5** turns/kg.

We strongly recommend that you carry out a **calibration test** to determine the exact value for this fertiliser.

3. Press **OK**.
 - ▷ **The new value is saved in the machine control unit.**

4.5.3 Calibration test



You perform the calibration test to calibrate the exact amount of fertiliser. Fertiliser must be poured into the hopper. Calibration samples for up to 4 types of fertiliser can be saved.

Execute the calibration test:

- Before spreading for the first time.
- If the fertiliser quality has changed significantly (moisture, high dust content, grain breakage).
- If a new type of fertiliser is used.

The calibration must be carried out either while the PTO shaft is running while the tractor is stationary, or while driving on a test track.

1. Call up the **Fertiliser settings > Start calibration** menu.

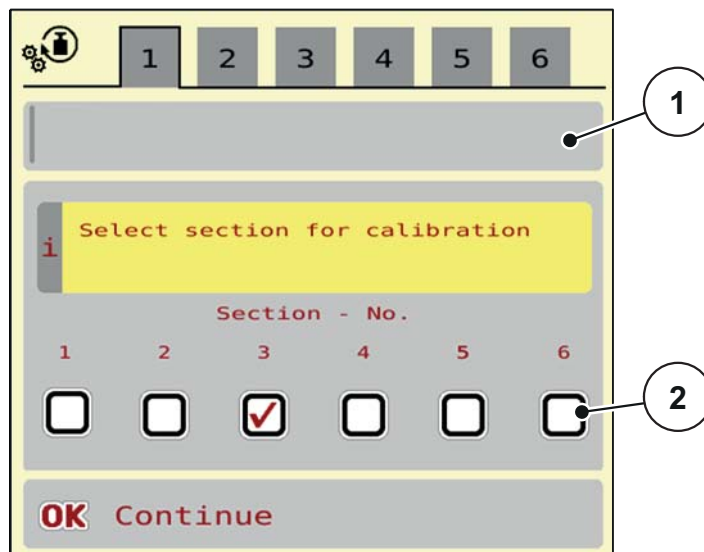


Figure 4.5: Calibration test menu, page 1

- [1] Fertiliser name
- [2] Selection of the section width on which calibration test is carried out

2. Enter the new name in the **Fertiliser name** input field.
3. Select the desired section width for the calibration test.
To do this, put a tick under the section width number.
By default, the 3rd section width is selected.
4. Press **OK**.
▷ Page 2 appears.
5. Enter the average working speed.

⚠ WARNING



Risk of injury during the calibration test

Rotating machine parts and escaping fertiliser can lead to injuries.

- ▶ **Before starting** the calibration test, make sure all requirements are met.
- ▶ Observe the **Calibration test** chapter in the operating manual of the machine.

6. Press OK.

- ▷ The new value is saved in the control unit.
- ▷ The display changes to page 3.
- ▷ The metering roller now fills the spreading trough and automatically stops after **15 s**.
- ▷ The display changes to page 4.

7. Empty the fertiliser collection container and then put it back under the metering device.

8. Press OK.

- ▷ The display changes to page 5.
- ▷ The calibration process now runs automatically until the metering unit switches off automatically after **80 s**.

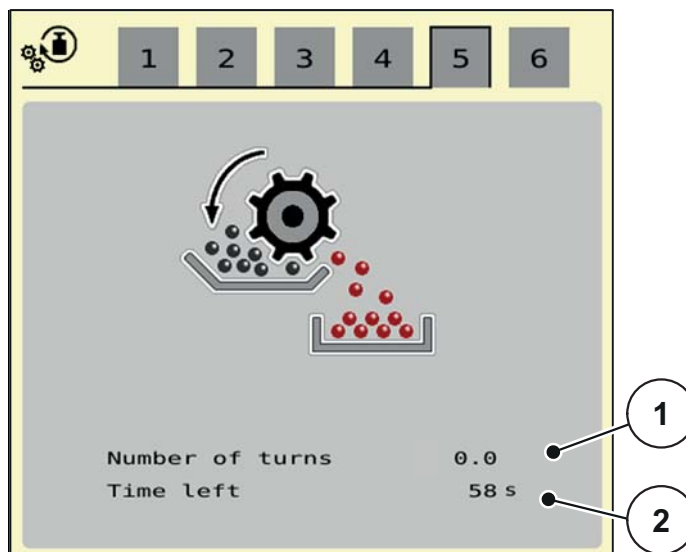


Figure 4.6: Menu calibration test and input window (example)

- [1] Number of turns of the metering roller
- [2] Time remaining until the end of the calibration test

9. Weigh the amount of fertiliser collected.
10. Enter the value of the amount of fertiliser collected in page 6.
 - ▷ The machine control unit calculates the value **turns/kg** from the data.
11. Press **OK**.
 - ▷ **The new calculated turns/kg are applied in the corresponding menu.**
 - ▷ **You return to the Fertiliser settings menu.**
 - ▷ **The calibration test has been carried out and is now complete.**
12. Press **Start/Stop**.



4.5.4 Fertiliser charts



In this menu, you can create and manage your own **fertiliser charts**.

NOTICE

Selecting a fertiliser chart has an effect on the fertiliser settings, the machine control unit and the boom mineral fertiliser spreader. The set application rate is overwritten by the stored value from the fertiliser chart.

NOTICE

You can automatically manage spreading charts and transfer them from your ISOBUS terminal.

- **FertChart app:** Contact your dealer to install the FertChart app on your ISOBUS terminal.
- If your ISOBUS terminal (e.g. CCI ISOBUS 1200) allows it, the spreading tables can be managed via a WLAN module and your smartphone.

Creating a new fertiliser chart

You can create up to **30** fertiliser charts in the electronic machine control unit.

1. Call up the **Fertiliser settings > Fertiliser charts** menu.

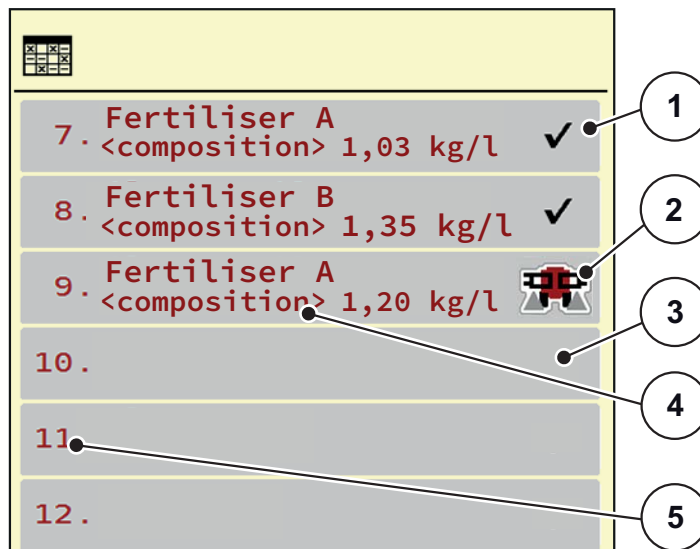


Figure 4.7: Fertiliser charts menu

- [1] Display for a fertiliser chart filled with values
- [2] Display for an active fertiliser chart
- [3] Empty fertiliser chart
- [4] Fertiliser chart name field
- [5] Chart number

2. Select an empty fertiliser chart.
The **Name field** consists of the name of the fertiliser, the working width and the disc type.
▷ The display shows the selection window.
3. Select the **Open and back to...** option.
▷ The **Fertiliser settings** menu is displayed and the selected element is loaded as **active fertiliser chart** into the fertiliser settings.
4. Call up the **Fertiliser name** menu item.
5. Enter the name for the fertiliser chart.

NOTICE

We recommend giving the fertiliser chart the name of the fertiliser. In this way, specific fertilisers can be assigned to fertiliser charts more easily.

6. Editing the parameters of the **fertiliser chart**.
See chapter [4.5: Fertiliser settings, page 26](#).

Selecting a fertiliser chart:

1. Call up the **Fertiliser settings > Fertiliser chart** menu.
2. Select the desired fertiliser chart.
▷ The display shows the selection window.
3. Select the **Open and back to...**
▷ **The Fertiliser settings menu is displayed and the selected element is loaded as active fertiliser chart into the fertiliser settings.**

NOTICE

Selecting an existing fertiliser chart overwrites all values in the **Fertiliser settings** menu with the values stored in the selected fertiliser chart, including the drop point and normal speed.

- The machine control unit will move the drop point to the value stored in the fertiliser chart.

Copying an existing fertiliser chart

1. Select the desired fertiliser chart.
▷ The display shows the selection window.
2. Select the **Copy element** option.
▷ **A copy of the fertiliser chart is now in the first free position of the list.**

Deleting an existing fertiliser chart

NOTICE

The active fertiliser chart **cannot** be deleted.

1. Select the desired fertiliser chart.
 - ▷ The display shows the selection window.
2. Select the **Delete element** option.
 - ▷ **The fertiliser chart is deleted from the list.**

Managing the selected fertiliser chart via the working screen

You can also manage the fertiliser chart directly via the working screen.

1. Press the Fertiliser chart [2] button on the touchscreen.
 - ▷ The active fertiliser chart is displayed.

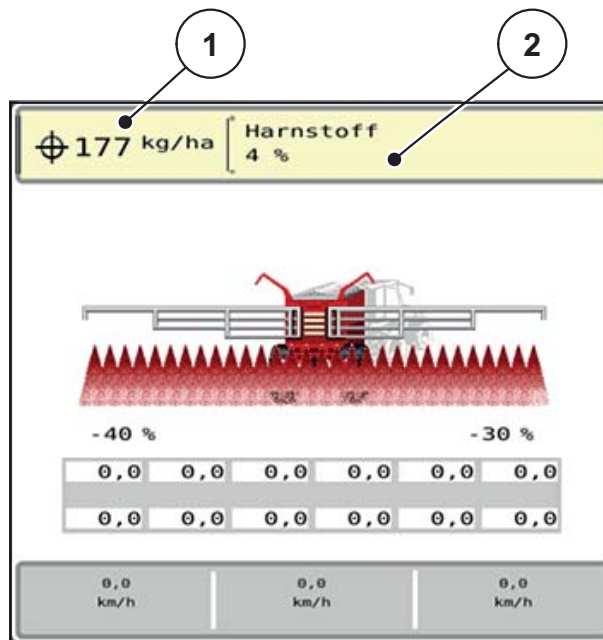


Figure 4.8: Managing the fertiliser chart via the touchscreen

- [1] Application rate button
- [2] Fertiliser chart button

2. Enter the new value in the input field.
3. Press **OK**.
 - ▷ **The new value is saved in the machine control unit.**

4.6 Machine settings



The tractor and machine settings can be configured in this menu.

- Open the **Machine settings** menu.

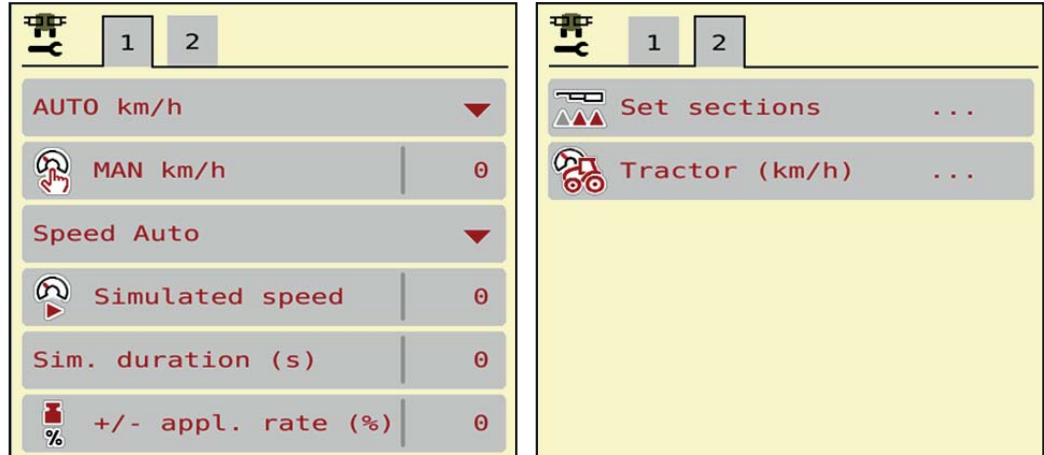


Figure 4.9: Machine settings menu, tab 1 and 2

NOTICE

Not all parameters are displayed simultaneously on one screen. You can use the **left/right arrow keys** to jump to the adjacent menu window (tab).

Submenu	Meaning	Description
Operating mode	Setting automatic or manual operating mode.	Page 36
MAN km/h	Manual speed setting. (Effective only for the relevant operating mode)	Entered in a separate input window.
Speed/signal source	Selection of the speed signal <ul style="list-style-type: none"> ● Wheel pulses 	
Simul. Speed	Presetting for spreading at simulated speed in order to spread directly from the field edge. The simulated speed is active until the actual vehicle speed is reached or after the simulation duration entered	Entered in a separate input window.
Simulation duration (s)	Enter the maximum duration in seconds of the simulated speed	Entered in a separate input window.
+/- appl. rate (%)	Presetting the application rate adjustment for the different types of spreading.	Entered in a separate input window.
Set sections	No function for this software version	
Tractor (km/h)	Determining or calibrating the speed signal.	Page 38

4.6.1 AUTO/MAN mode

The machine control unit controls the metered rate automatically based on the speed signal. In doing so, it takes into account the application rate, the working width and the flow factor.

By default, you work in **automatic** mode.

You are working in **manual** mode only:

- If there is no speed signal (radar or wheel sensor not available or defective),
- when spreading slug pellets or seeds (fine seeds).

NOTICE

For even spreading of the spreading material, you need to work at a **constant forward speed** in manual mode.

NOTICE

Spreading work with the different operating modes can be found in the chapters [5: Spreading operation with the machine control unit AERO GT ISOBUS, page 55](#).

Menu	Meaning
AUTO km/h	Selection of automatic mode
MAN km/h	Forward speed adjustment for manual mode

Selecting the operating mode

1. Start the AERO GT ISOBUS machine control unit.
2. Open the menu **Machine settings > AUTO/MAN mode**.
3. Select the desired menu item from the list.
4. Press **OK**.
5. Follow the instructions on the screen.

NOTICE

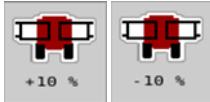
We recommend displaying the flow factor on the operating screen. In this way, you can monitor the mass flow control during the spreading work. See chapter [2.1.2: Display fields, page 7](#) and chapter [4.6.1: AUTO/MAN mode, page 36](#).

- Important information on the use of the operating modes during spreading is provided in chapter [5: Spreading operation with the machine control unit AERO GT ISOBUS, page 55](#).

4.6.2 +/- appl. rate

In this menu, you can specify the increment of the percentage change in **application rate** for the normal spreading type.

The base (100%) is the preset value for the opening of the metering slider.

**NOTICE**

During operation, you can use the **Appl. rate + / Appl. rate -** function keys to change the application at any time by the factor entered in **+/- appl. rate**.

With the **C 100% key**, you can restore the pre-settings.

Defining the quantity reduction:

1. Call up the **Machine settings > +/- appl. rate (%)** menu.
2. Enter the percentage by which you wish to change the application rate.
3. Press **OK**.

4.6.3 Forward speed calibration

The speed calibration is the basic requirement for an exact spreading result. Factors, such as e.g. tyre size, slippage between tyres and ground, ground characteristics and tyre pressure all influence the speed measurement and therefore the spreading result.

Preparing the speed calibration:

The exact calculation of the number of speed pulses over 100 m is very important for the precise spreading of fertiliser.

- Conduct the calibration in the field. This reduces the influence of the ground characteristics on the calibration result.
- Determine a **100 m** long reference track as precisely as possible.
- Fill only half of the machine, if possible.

Calling up the speed settings:

In the AERO GT ISOBUS control unit, you can save up to **4 different profiles** for the type and number of pulses. You can assign names to these profiles (e.g. tractor name).

Before spreading, check that the correct profile is opened in the control unit.

- Call up the **Machine settings > Tractor (km/h)** menu.

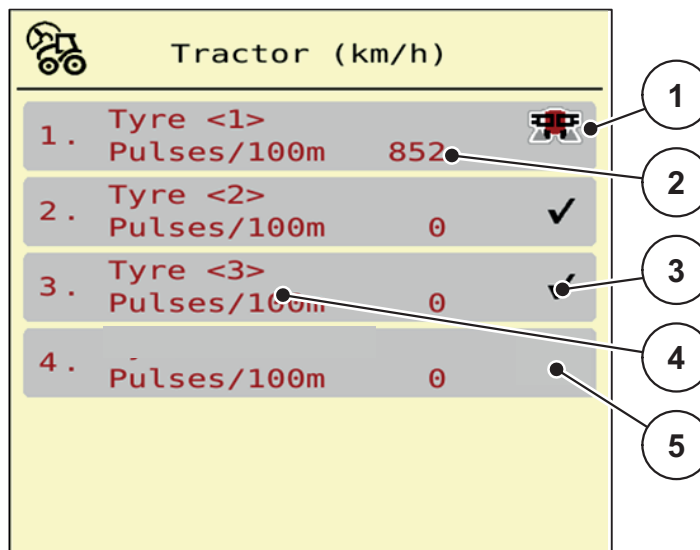


Figure 4.10: Tractor (km/h) menu

- [1] Active tractor profile
- [2] Number of pulses over 100 m
- [3] Profile is created, currently not used
- [4] Tractor designation
- [5] Empty tractor profile

Recalibrating the speed signal:

You can either overwrite an existing profile or create a profile at an empty memory location.

1. Call up the desired profile in the **Tractor (km / h)** menu.

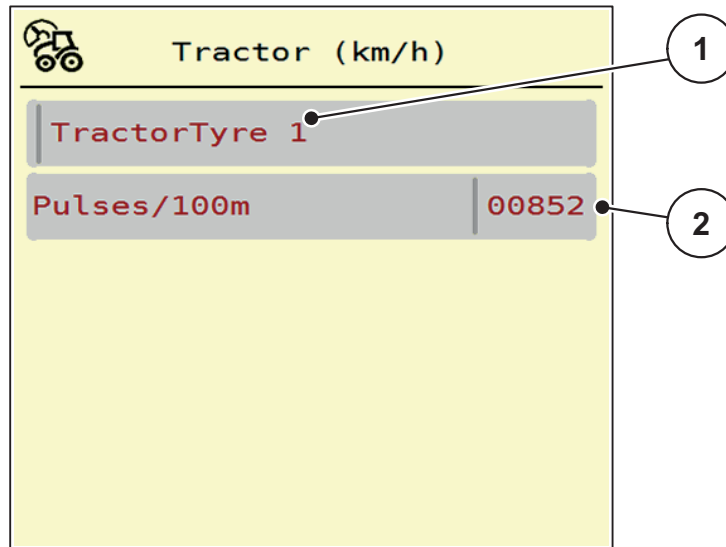


Figure 4.11: Tractor profile

- [1] Tractor name field
 [2] Display of the number of pulses over 100 m

2. Open the **name field [1]**.
 3. Enter the name of the profile.
 4. Press **OK**.
- ▷ **The profile is active.**

NOTICE

The input of the name is restricted to **16 characters**.

Use the name of the tractor for ease of understanding.

Subsequently, the number of pulses of the forward speed signal has to be defined. If the exact number of pulses is known, you can enter it directly:

5. Call up the **Pulses/100m** menu item from the selected tractor profile.
 - ▷ **The display shows the Pulses menu for the manual input of the pulse count.**

If you do **not know** the exact number of pulses, you can start a **calibration run**.



6. Press the calibration key in the tractor profile.
 - ▷ The calibration run working screen is shown on the display.



7. Press the **Start key** at the starting point of the reference track.
 - ▷ The pulse display is now zero.
 - ▷ The control unit is ready to count pulses.

8. Drive along a 100 m long reference track.
9. Stop the tractor at the end of the reference track.



10. Press the **Stop key**.
 - ▷ The number of received pulses is displayed.
 - ▷ **The new pulse count is saved.**
 - ▷ **This returns you to the profile menu.**

4.7 Fold boom in/out

4.7.1 Extending the boom

▲ WARNING



Risk of injury when extending and retracting the boom

The booms can injure people and cause material damage when extending and retracting. In particular, make sure that the booms also take up space behind the machine.

- ▶ Operate the boom only if there is sufficient free space around the spreader.
- ▶ Only extend or retract the booms when the boom mineral fertiliser spreader is attached.
- ▶ Make sure everybody leaves the danger zone.



- Call up the **Main menu > Boom folding** menu.

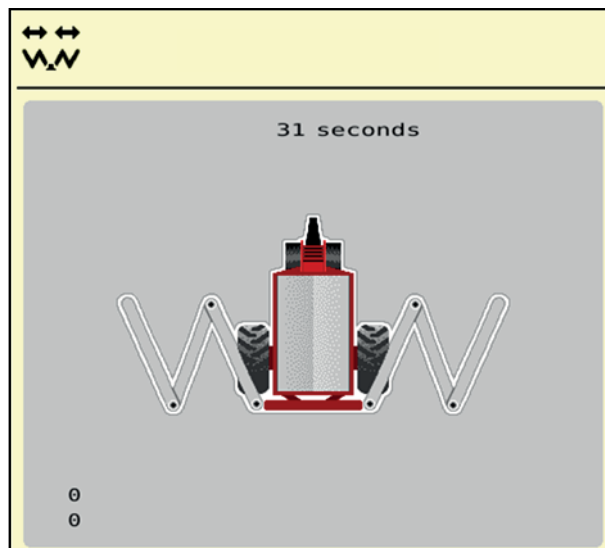


Figure 4.12: Boom folding menu



11. Press the **Raise boom** function key for at least 5 seconds.

- ▷ Open the transport locks on the left and right.
- ▷ The boom is raised in the top position.

NOTICE

If you interrupt the long press, the **Lower boom** symbol appears.



- If necessary, press the lower boom function key
 - The boom is lowered.
 - Close the transport locks.
- If there is no obstacle in the extension area of the boom, press the **raise boom** key again for at least 5 seconds.
 - The extension process continues.



12. Press the **Fold out main parts** function key for at least 10 seconds.
- ▷ The initial sections and middle sections extend completely on both sides.
 - ▷ The diaphragm accumulators fill with oil.
 - ▷ The **Unlock** function key appears in the menu.

NOTICE

Take a look at the boom to check that the initial sections and middle sections are fully extended.



13. Press the **Fold out end sections** function key until the boom end sections are fully extended on both sides.
- ▷ The end sections extend.

NOTICE

Take a look at the boom to check that the boom end sections are fully extended.



14. Press the **Unlock** function keys for **at least 3 seconds**.

- ▷ The **Lock** symbol appears in the menu screen.
- ▷ The pendulum frame lock is **unlocked**.
- ▷ The boom is prepared for spreading.

▲ CAUTION



Damage due to closed pendulum frame lock

When the pendulum frame lock is closed, vibrations caused by driving are transmitted directly to the construction. This particularly adversely affects the booms.

- ▶ Open the pendulum frame lock before each spreading run.
-

4.7.2 Retract the boom

⚠ WARNING



Risk of injury when extending and retracting the boom

The booms can injure people and cause material damage when extending and retracting. In particular, make sure that the booms also take up space behind the machine.

- ▶ Operate the boom only if there is sufficient free space around the spreader.
- ▶ Only extend or retract the booms when the boom mineral fertiliser spreader is attached.
- ▶ Make sure everybody leaves the danger zone.



1. Press the **Lock** function key for at least 3 seconds.

- ▷ The **Fold in main sections** symbol appears on the menu screen.
- ▷ The pendulum frame lock is **locked**.



2. Press the **Fold in end sections** function key so until the boom end sections are fully folded in both sides.

NOTICE

Take a look at the boom to check that the boom end sections are completely folded in.



3. Press the **Fold in main sections** function key until the boom initial sections and boom centre sections are completely folded in.

NOTICE

Take a look at the boom to check that the boom initial sections and centre sections are fully folded in.



4. Press the **Lower boom** function key for at least 5 seconds:

- ▷ The boom lies on the storage places on the side of the hopper.
- ▷ The transport locks are closed.

4.8 Manual setting of the boom

Manual settings are possible. The corresponding keys are available in the main menu.

Adjusting the height of the boom



1. Switch from the working screen to the **Main menu**.

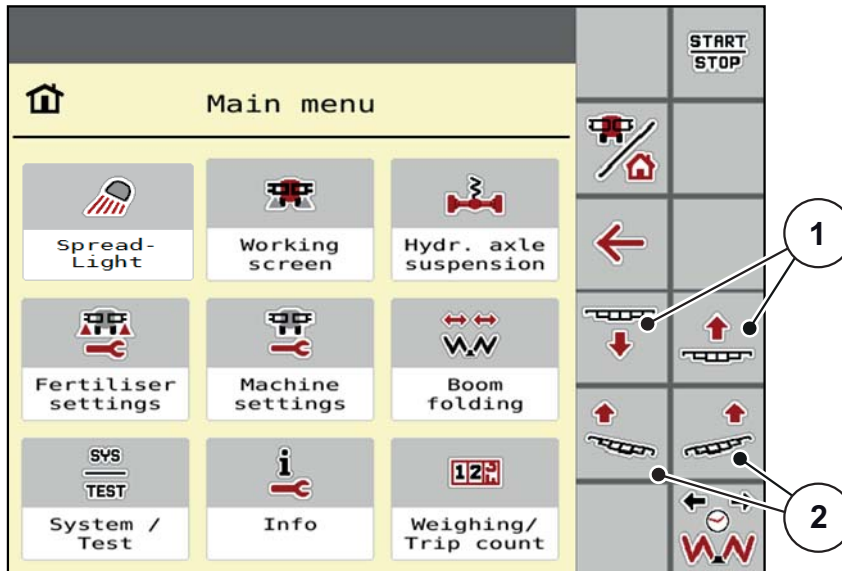


Figure 4.13: Function keys for adjusting the boom inclination/height

2. Use the function keys [1] to raise or lower the boom.

Adjusting the inclination of the boom



1. Switch from the working screen to the **Main menu**.
2. Use the function keys [2] on the left or right side to raise the slope of the boom.

4.9 System/Test



In this menu, you can configure the system and test settings for the machine control unit.

- Call up the **Main menu > System/Test** menu.

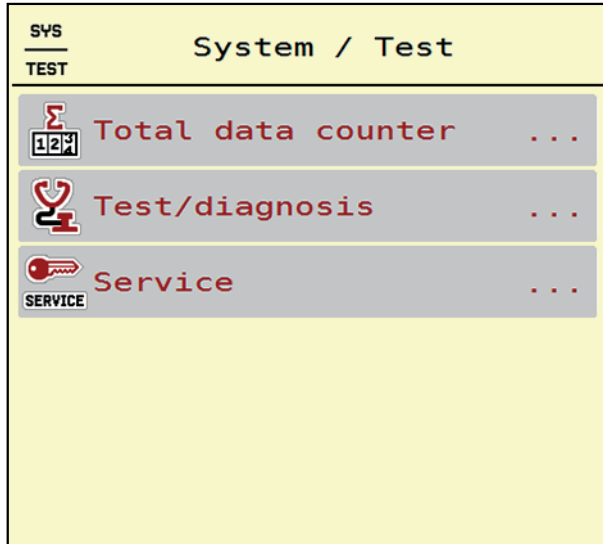


Figure 4.14: System/Test menu

Submenu	Meaning	Description
Total data counter	Display of the entire <ul style="list-style-type: none"> • Spread quantity in kg • Spread area in ha • Spread time in h • Distance travelled in km 	Page 46
Test/diagnosis	Checking of actuators and sensors.	Page 47
Service	Service settings	Password protected; accessible only for service personnel

4.9.1 Total data counter



In this menu, all of the counter readings for the spreader are displayed.

- Spread quantity in kg
- Spread area in ha
- Spread time in h
- Distance travelled in km

NOTICE

This menu is for information purposes only.

Σ Total data counter	
kg calculated	712168
ha	1902.4
hours	93
km	673

Figure 4.15: Total data counter menu

4.9.2 Test/diagnosis



The **Test/Diagnosis** allows you to check the functionality of all actuators and sensors.

NOTICE

This menu is for information purposes only.
The list of sensors depends on the equipment of the machine.

▲ CAUTION



Risk of injury caused by moving machine parts.

Machine parts can move automatically during the tests.

- ▶ Ensure that there is no one in the vicinity of the mineral fertiliser spreader before carrying out the tests.

Submenu	Meaning
Voltage	Checking the operating voltage
Metering roller RPM	
Distance control	No function for this software version
Level sensors	Check the sensors in the hopper
Wheel speed	
Blower	
Hydraulic axle	
Boom folding	
Ultrasonic sensors	Checking the sensors
Oil tank	Checking the level sensor

4.9.3 Service



NOTICE

To adjust the settings in the **Service** menu, an input code is required. These settings can **only** be modified by authorised service personnel.

4.10 Info



You can find information about the machine control unit in the **Info** menu.

NOTICE

This menu provides information on the configuration of the machine.
The information list depends on the equipment of the machine.

4.11 Weighing - Trip count



In this menu, you will find values for spreading work completed and functions for weighing.

- Call up the **Main menu > Weighing - Trip count** menu.
 - ▷ The **Weighing - Trip count.** menu appears.

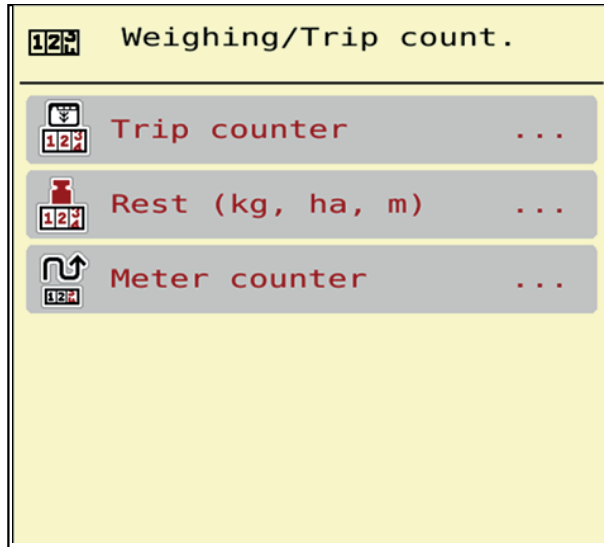


Figure 4.16: Weighing – Trip count. menu

Submenu	Meaning	Description
Trip counter	Display of the amount of material spread, the area covered and the distance covered.	Page 50
Rest (kg, ha, m)	Weighing spreader only: Display of the remaining amount in the machine hopper	Page 51
Meter counter	Displays the distance travelled since the metre counter was last reset	Reset (zero) by pressing the C 100% key

4.11.1 Trip counter



In this menu, you can query the values of the spreading work performed, observe the remaining material available for spreading, and reset the trip counter by clearing it.

- Call up the menu **Weighing - Trip count > Trip count**.
 - ▷ The **Trip count** menu appears.

During the spreading work (with the metering sliders open), you can go to the **Trip count** menu and view the current values.

NOTICE

If you wish to continuously observe the values during the spreading work, you may also assign the user-selectable display fields on the working screen to **kg trip**, **ha trip** or **m trip**; see [2.1.2: Display fields, page 7](#).

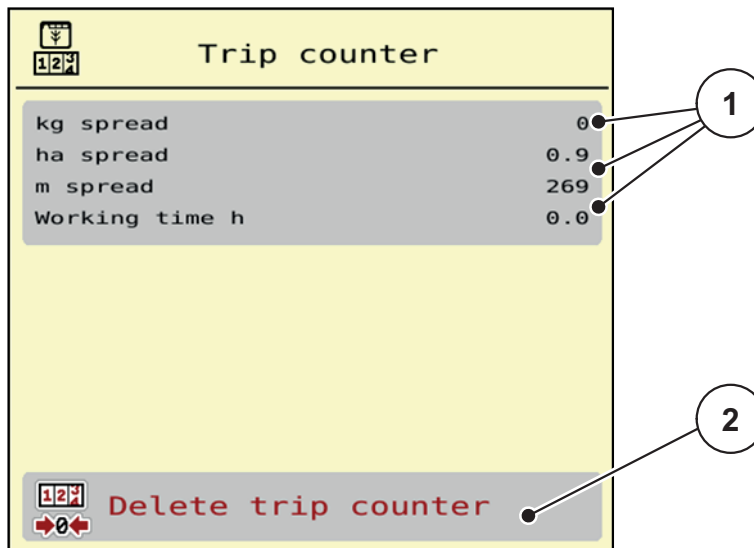


Figure 4.17: Trip counter menu

- [1] Display fields for material spread, area covered and distance covered
- [2] Delete trip count

Delete trip counter:

1. Open the sub-menu **Weighing - Trip count. > Trip counter**.
 - ▷ The display shows the values recorded for the amount of material spread, the area covered and the distance covered **since the last time the counter was cleared**.
2. Press the **Delete trip counter** button.
 - ▷ **All of the trip counter values are reset to 0.**

4.11.2 Rest (ka, ha, m)



In the **kg Rest** menu, you can query the **quantity remaining** in the hopper. The menu indicates the possible **area (ha)** and **distance (m)** that can still be spread with the remaining quantity of fertiliser.

- Call up the **Weighing - Trip count. > Rest (kg, ha, m)** menu.
 - ▷ The **Rest** menu appears.

NOTICE

The current filling weight can be determined only by weighing in the **weighing spreader**. In all other spreaders, the remaining fertiliser quantity is calculated from the fertiliser and machine settings and the driving signal, and the filled quantity must be entered manually (see below).

The values for **application rate** and **working width** cannot be changed in this menu. They are provided here for information only.

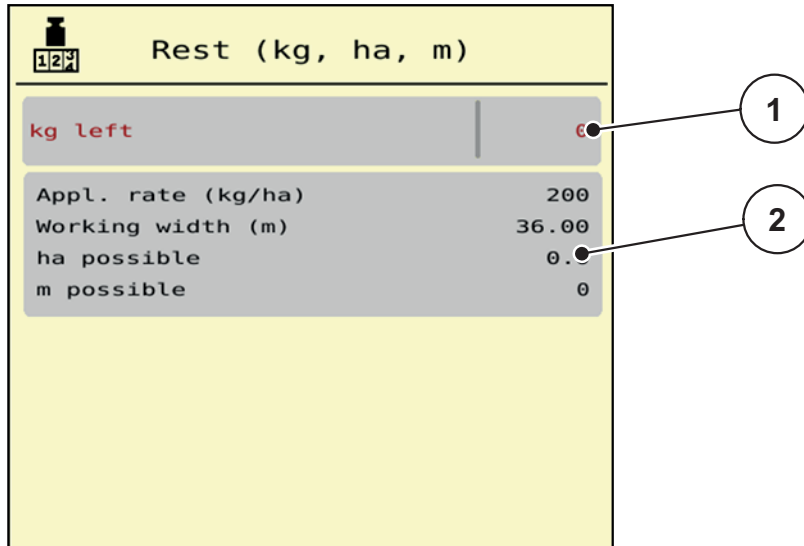


Figure 4.18: kg left menu

- [1] Rest (kg) input field
- [2] Display fields for application rate, working width and the possible area and distance that can be spread

For machines without weigh cells

1. Fill the hopper.
2. Enter the total weight of the fertiliser in the hopper in the **Rest (kg)** area.
 - ▷ The device calculates the values for the possible area and distance to be spread.

4.12 Special functions: Using a joystick

As an alternative to the settings on the working screen of the ISOBUS terminal, you can use a joystick. See [7: Optional equipment, page 59](#). The joystick we supply is pre-programmed with certain functions at the factory.

NOTICE

If you want to use a different joystick, contact your dealer.

- Follow the instructions in the operating manual for the ISOBUS terminal.

Functions of keys on the WTK joystick

- Toggle switch in upper position, (LED is red)

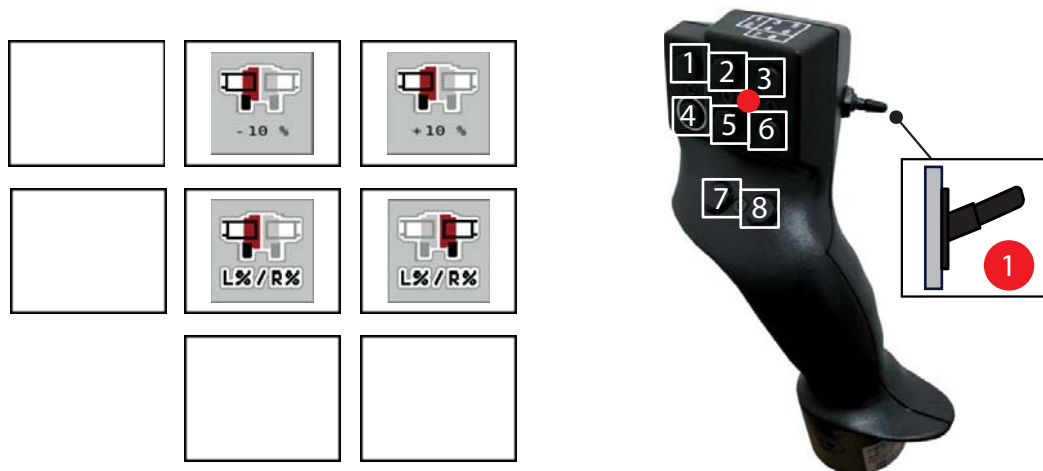


Figure 4.19: Joystick key functions

- [1] No function
- [2] Reduce the amount of working width by half (here on the left, for example)
- [3] Increase the amount of working width by half (here on the left, for example)
- [4] No function
- [5] Section width selection on the left
- [6] Section width selection on the right
- [7] No function
- [8] No function

- Toggle switch in middle position, (LED is yellow)

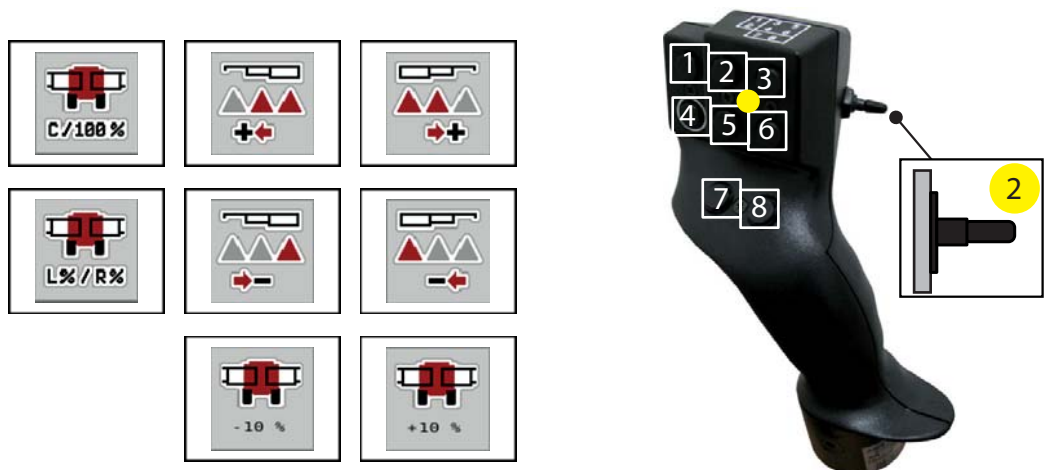


Figure 4.20: Joystick key functions

- [1] Excess quantity 100%
- [2] Switch on left section width
- [3] Switch on right section width
- [4] Switching on/off section widths: Only left, only right, both sides
- [5] Switch off left section width
- [6] Switch off right section width
- [7] Reduce excess working width: Only left, only right, both sides
- [8] Increase excess working width: Only left, only right, both sides

- Toggle switch in lower position, (LED is green)

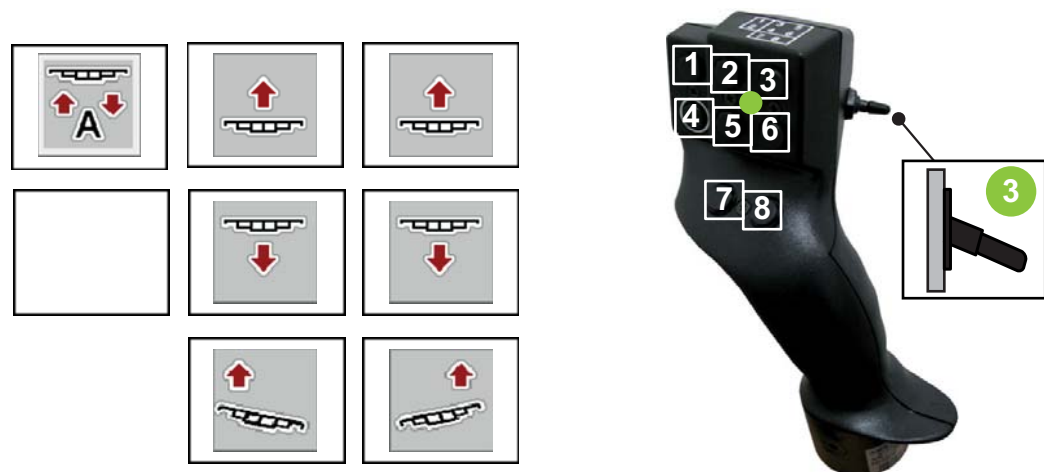


Figure 4.21: Joystick key functions





- [1] Activate/deactivate DistanceControl
- [2] Raise the boom
- [3] Raise the boom
- [4] No function
- [5] Lower boom
- [6] Lower boom
- [7] Slope uphill on the left
- [8] Slope uphill on the right

5 Spreading operation with the machine control unit AERO GT ISOBUS

The **AERO GT ISOBUS** machine control unit supports you in setting the machine before you start work. During spreading, the functions of the machine control unit are also active in the background. The quality of the fertiliser spreading can be monitored using them.

5.1 Displaying the spreading type in the working screen

You can adjust the section widths when activating or deactivating the section widths. These settings can be enabled directly in the working screen. This allows you to optimally adapt the field requirements during spreading operation.

Button	Spreading type
	Switch off the section width from left to centre
	Activate the section width from the centre to the left
	Switch off the section width from right to centre
	Activate the section width from the centre to the right

1. Keep pressing the function key until the desired working width is displayed.

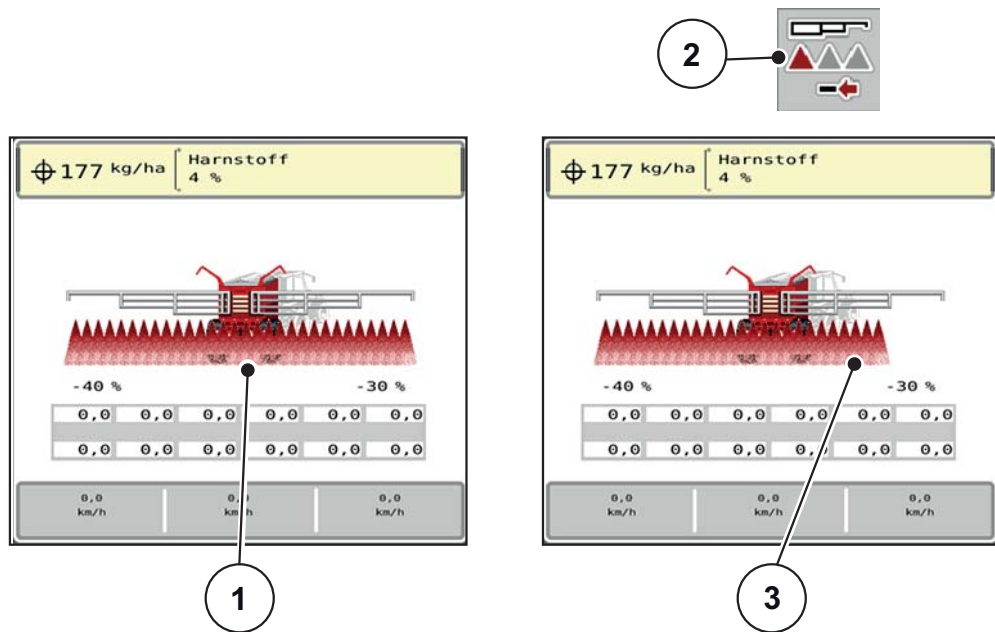


Figure 5.1: Display of section width statuses, example

- [1] Activated sections across the entire working width
- [2] Key: reduce right section width
- [3] The right boom section has been reduced by one section

6 Alarm messages and possible causes

Various alarm messages can be displayed on the ISOBUS terminal display.

6.1 Meaning of alarm messages

Message on display	Meaning and possible cause
Externally controlled parts may move. Risk of injury through squeezing and shearing! Direct ALL persons out of the danger zone. Read the instruction manual.	Parts may move unexpectedly when the machine control unit is switched on. <ul style="list-style-type: none"> Follow the instructions displayed only if all possible risks have been eliminated.
Hopper left empty.	The fill level sensor reports "empty". <ul style="list-style-type: none"> The left hopper is empty.
Hopper right empty.	The right level sensor reports "empty". <ul style="list-style-type: none"> The right hopper is empty.
Oil temp. too high	The oil temperature of the blower drive has reached the set alarm limit and the cooler does not start. <ul style="list-style-type: none"> Is the cooler supplied with electricity? Check power supply and plug connections and replace if necessary.
Low oil level!	The oil tank level sensor reports "Empty". <ul style="list-style-type: none"> Check oil quantity and top up if necessary. See the operating manual for your machine
Check blower RPM	
Spreading not possible. Boom not unfolded or not unlocked.	<ul style="list-style-type: none"> See 4.7: Fold boom in/out, page 41.
Forward speed or application rate too high	The maximum application rate alarm has been reached.

6.2 Fault/alarm

6.2.1 Acknowledging an alarm message

An alarm message is displayed with a red frame and with a warning symbol.

1. Rectify the cause of the alarm message.

See the operating manual for the machine and section [6.1: Meaning of alarm messages, page 57](#).



2. Press the **ACK** foil button.

NOTICE



In the case of different ISOBUS terminals, acknowledging the alarm messages may differ.

You can use various keys to acknowledge other messages with a yellow frame:

- Enter
- Start/stop

For this purpose, follow the instructions on screen.

7 Optional equipment

Illustration	Designation
 A coiled black cable with a red connector and a black plug.	Level sensors
 A black joystick controller with a white cable.	Joystick

Terms/conditions of warranty

RAUCH units are manufactured with modern production methods and with the greatest care and are subject to numerous inspections.

Therefore RAUCH offers a 12-month warranty subject to the following conditions:

- The warranty begins on the date of purchase.
- The warranty covers material and manufacturing faults. Our liability for third-party products (hydraulic system, electronics) is limited to the warranty of the manufacturer of the equipment. During the warranty period, manufacturing and material faults are corrected free of charge by replacement or repair of the affected parts. Other rights extending beyond the above, such as claims for conversion, reduction or replacement for damages that did not occur in the object of supply are explicitly excluded. Warranty services are provided by authorised workshops, by RAUCH factory representatives or the factory.
- The following are excluded from coverage by the warranty: natural wear, dirt, corrosion and all faults caused by improper handling and external causes. The warranty is rendered void if the owner carries out repairs or modifications to the original state of the supplied product. Warranty claims are rendered void if RAUCH original spare parts were not used. Therefore, the directions in the operating manual must be observed. In all cases of doubt contact our sales representatives or the factory directly. Warranty claims must be submitted to the factory by 30 days at the latest after occurrence of the problem. The date of purchase and the serial number must be indicated. If repairs under the warranty are required, they must be carried out by the authorised workshop only after consultation with RAUCH or the company's appointed representatives. The warranty period is not extended by work carried out under warranty. Shipping faults are not factory faults and therefore are not part of the warranty obligation of the manufacturer.
- No claims for compensation for damages that are not part of RAUCH machines themselves will be accepted. This also means that no liability will be accepted for damage resulting from spreading errors. Unauthorised modifications of RAUCH machines may result in consequential damage, for which the manufacturer will not accept any liability. The manufacturer's liability exclusion will not apply in case of wilful intent or gross negligence by the owner or a senior employee, and in cases where – according to the product liability law – there is liability for personal injury or material damage to privately used objects in the event of defects in the supplied product. It will also not apply in the event that assured properties are absent, if the purpose of the assured properties was to protect the purchaser against damage that does not involve the supplied product itself.


RAUCH Streutabellen
RAUCH Fertilizer Chart
Tableaux d'épandage RAUCH
Tabele wysiewu RAUCH
RAUCH Strooitabellen
RAUCH Tabella di spargimento
RAUCH Spredetabellen
RAUCH Levitystaulukot
RAUCH Spridningstabellen
RAUCH Tablas de abonado



<http://www.rauch-community.de/streutabelle/>



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