

Operating Manual

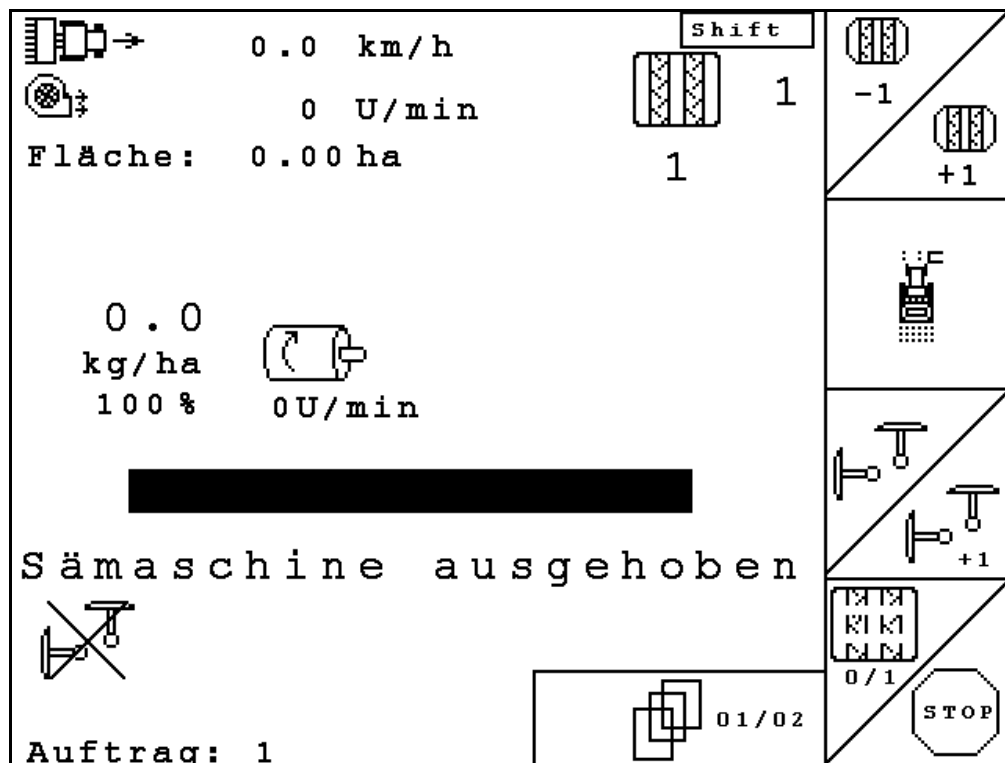
AMAZONE

Software **AMABUS**

and

TwinTerminal 3

AD-P Cayena Citan Cirrus



MG4604
BAG0122.6 10.16
Printed in Germany

Please read this operating
manual before first commis-
sioning.
Keep it in a safe place for
future use!

en



READING THE INSTRUCTION

manual and adhering to it should not appear to be inconvenient and superfluous as it is not enough to hear from others and to realise that a implement is good, to buy it and to believe that now everything should work by itself. The person concerned would not only harm himself but also make the mistake of blaming the implement for the reason of a possible failure instead of himself. In order to ensure good success one should go into the mind of a thing, make himself familiar with every part of the implement and to get acquainted with its handling. Only in this way would you be satisfied both with the implement as also with yourself. To achieve this is the purpose of this instruction manual.

Leipzig-Plagwitz 1872. Rud. Sark.

Identification data

Enter the implement identification data here. You will find the identification data on the type plate.

Implement identification number:
(ten-digit)

Type:

AMABUS

Year of manufacture:

Basic weight (kg):

Approved total weight (kg):

Maximum load (kg):

Manufacturer's address

AMAZONEN-WERKE

H. DREYER GmbH & Co. KG

Postfach 51

D-49202 Hasbergen

Tel.: + 49 (0) 5405 50 1-0

E-mail: amazone@amazone.de

Spare part orders

Spare parts lists are freely accessible in the spare parts portal at www.amazone.de.

Please send orders to your AMAZONE dealer.

Formalities of the operating manual

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Foreword

Foreword

Dear Customer,

You have chosen one of the quality products from the wide product range of AMAZONEN-WERKE, H. DREYER GmbH & Co. KG. We thank you for your confidence in our products.

On receiving the implement, check to see if it was damaged during transport or if parts are missing. Using the delivery note, check that the implement was delivered in full including the ordered special equipment. Damage can only be rectified if problems are signalled immediately!

Before first commissioning, read and understand this operating manual, and particularly the safety information. Only after careful reading will you be able to benefit from the full scope of your newly purchased implement.

Please ensure that all the implement operators have read this operating manual before commissioning the implement.

Should you have problems or queries, please consult this operating manual or contact your local service partner.

Regular maintenance and timely replacement of worn or damaged parts increases the lifespan of your implement.

User evaluation

Dear Reader,

We update our operating manuals regularly. Your suggestions for improvement help us to create ever more user-friendly manuals..

AMAZONEN-WERKE

H. DREYER GmbH & Co. KG

Postfach 51

D-49202 Hasbergen

Tel.: + 49 (0) 5405 50 1-0

E-mail: amazone@amazone.de

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1 User Information

The User Information section supplies information on use of the operating manual.

1.1 Purpose of the document

This operating manual

- Describes the operation and maintenance of the implement.
- Provides important information on safe and efficient handling of the implement.
- Is a component part of the implement and should always be kept with the implement or the traction vehicle.
- Keep it in a safe place for future use.

1.2 Locations in the operating manual

All the directions specified in the operating manual are always seen from the direction of travel.

1.3 Diagrams used

Handling instructions and reactions

Activities to be carried out by the user are given as numbered instructions. Always keep to the order of the handling instructions. The reaction to the handling instructions is given by an arrow.

Example:

1. Handling instruction 1

Reaction of the implement to handling instruction 1

2. Handling instruction 2

Lists

Lists without an essential order are shown as a list with bullets.

Example:

- Point 1
- Point 2

Number items in diagrams

Numbers in round brackets refer to the item numbers in the diagrams. The first number refers to the diagram and the second number to the item in the figure.

Example: (Fig. 3/6)

- Figure 3
- Item 6

2 General Safety Instructions

Comply with the instructions in the operating manual

Knowledge of the basic safety information and safety regulations is a basic requirement for safe handling and fault-free implement operation.



The operation manual

- Must always be kept at the place at which the implement is operated.
- Must always be easily accessible for the user and maintenance personnel.

Check all the available safety equipment regularly.

2.1 Representation of safety symbols

Safety instructions are indicated by the triangular safety symbol and the highlighted signal word. The signal word (DANGER, WARNING, CAUTION) describes the gravity of the risk and has the following significance:



DANGER

Indicates an immediate high risk which will result in death or serious physical injury (loss of body parts or long term damage) if not avoided.

If the instructions are not followed, then this will result in immediate death or serious physical injury.



WARNING

Indicates a medium risk, which could result in death or (serious) physical injury if not avoided.

If the instructions are not followed, then this may result in death or serious physical injury.



CAUTION

Indicates a low risk which could incur minor or medium level physical injury or damage to property if not avoided.



IMPORTANT

Indicates an obligation to special behaviour or an activity required for proper implement handling.

Non-compliance with these instructions can cause faults on the implement or in the environment.



NOTE

Indicates handling tips and particularly useful information.

These instructions will help you to use all the functions of your implement to the optimum.

3 Product description

AMAZONE implements are easy to control, operate and monitor when using the **AMABUS** software and the in-cab terminal **AMATRON 3**.

Main menu (Fig. 1)

The main menu consists of several submenus in which, before work

- data must be entered,
- settings are determined or must be entered.

Maschinentyp:		Auftrag
Auftrags-Nr.: 6		
Fahrgassenrhythmusnr.: 5		
Arbeitsbreite: 6.0m		
		Drille abdrh.
		Maschi.
		Setup
Arbeits- menü		Fahrgassen- rhythmen

Fig. 1

Work menu (Fig. 2)

- During operation, the work menu indicates all necessary work data.
- The implement is operated via the work menu during use.

→ Press  :
Change from the main menu to the work menu.

0.0 km/h		Skill		-1	
0 U/min		1		+1	
Fläche: 0.00 ha		1			
0.0 kg/ha	0 U/min	0.0 kg/ha	0 U/min	100 %	
Auftrag: 1					

Fig. 2

Tramline rhythms menu

To find the correct tramline rhythm.

→ Press  :
Change from the main menu to the tramline rhythms menu

mögliche Fahrgassen:	
Nr. 1:	0; 1
Nr. 2:	0; 0; 1; 2
Nr. 3:	0; 1; 2
Nr. 4:	0; 1; 2; 3
Nr. 5:	0; 1; 2; 3; 4
Nr. 6:	0; 1; 2; 3; 4; 5
Nr. 7:	0; 1; 2; 3; 4; 5; 6
1 / 12	

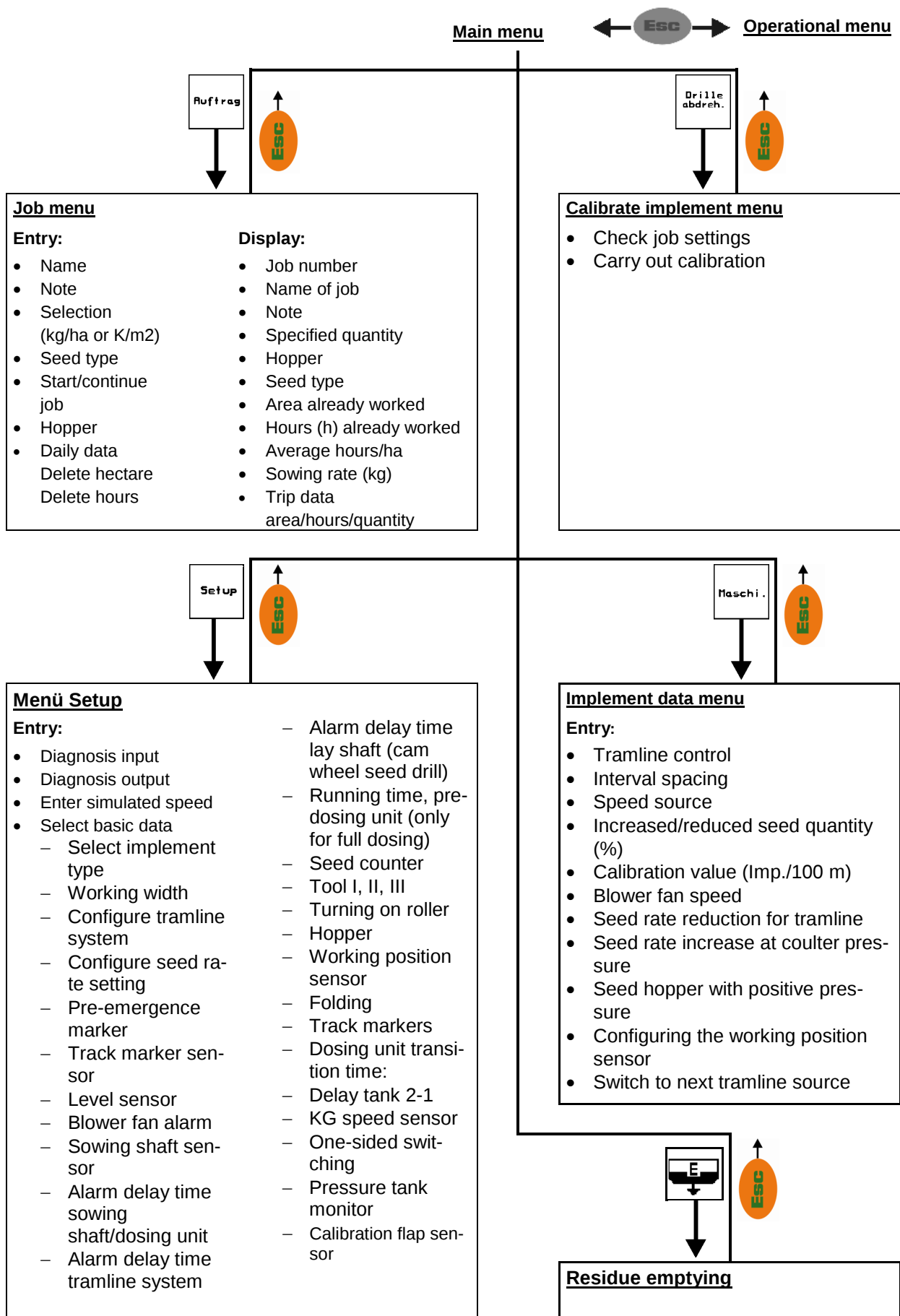
Fig. 3

3.1 Software version

This operating manual is valid from software version:

MXH-version: 6.07

3.2 Hierarchy of the software



4 Commissioning

4.1 Main menu

	Job menu: Entry of data for a job. Before commencement of sowing, start the job (see on page 19).
	Menu – Calibration: Carry out calibration test before starting sowing (see on page 25).
	Menu - Residue emptying: for emptying the hopper / both hoppers (see page 29).
	Implement data menu: Entry of implement-specific or individual data (see on page 11).
	Setup menu: Entry and readout of data for customer service in event of maintenance or fault (see on page 30).



Fig. 4

4.2 Implement data entry



Page 1  in implement data menu (Fig. 5):

-  Enter the required tramline rhythm (see tables on page 11 and 13).
-  Enter the interval tramline control (see on page 18).
-  Select source for speed.
 - Of implement
 - Basic equipment
-  Calibrate the distance sensor (see on page 19).

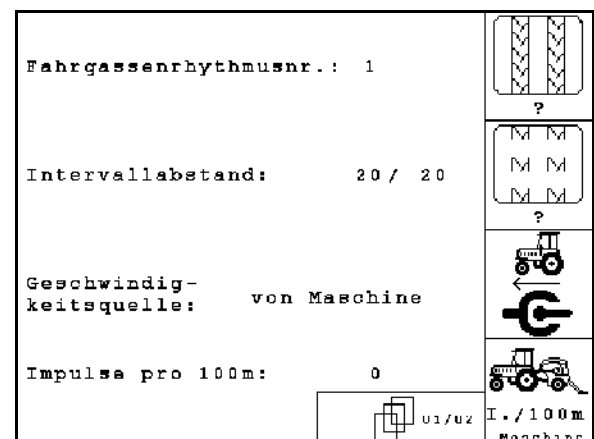


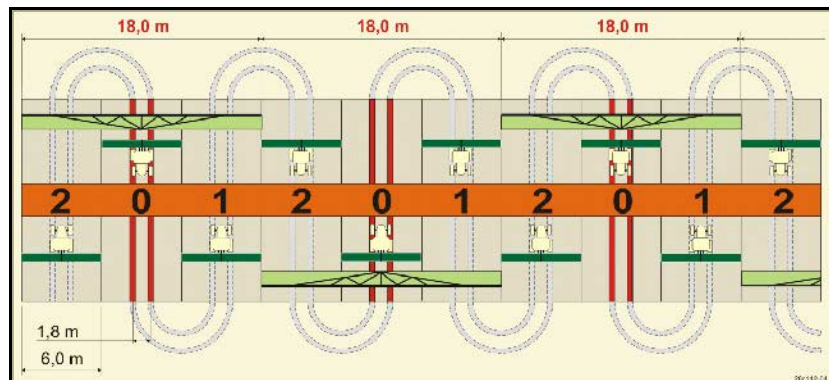
Fig. 5

4.2.1 Tramline rhythm

Simple tramline control

Example of simple tramline control, standard tramline

Tramline counter:



Simple tramline control																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	20	21	22	23	26	32	35	
Fahrgassenzähler	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	
	1	0	1	1	1	1	1	1	1	2	0	1	1	1	Switching 15 starts no tramlines.	1	1	1	0	0	0	1	0	1	
		1	2	2	2	2	2	2	2	3	3	2	2	2		2	2	2	1	1	1	2	1	2	
		2		3	3	3	3	3	3	0	4	3	3	3		3	3	3	2	2	2	3	2	3	
					4	4	4	4	4	5	5	4	4	4		4	4	4	3	3	3	4	3	4	
						5	5	5	5	6	6	5	5	5		5	5	5	4	4	4	5	4	5	
							6	6	6	0	7	6	6	6		6	6	6	6	5	5	6	5	6	
								7	7	8	8	7	7	7		7	7	7	7	6	6	7	6	7	
									8	9	0	8	8	8		8	8	8	8		7	8	7	8	
										10	10	9	9	9		9	9	9	9			8	9	8	9
												10	10	10		10	10	10	10				10	9	10
													11	11		11	11	11	11					10	11
														12		12	12	12	12						12
																13	13	13	13						13
																	14	14	14						14
																		15	15						
																			16						

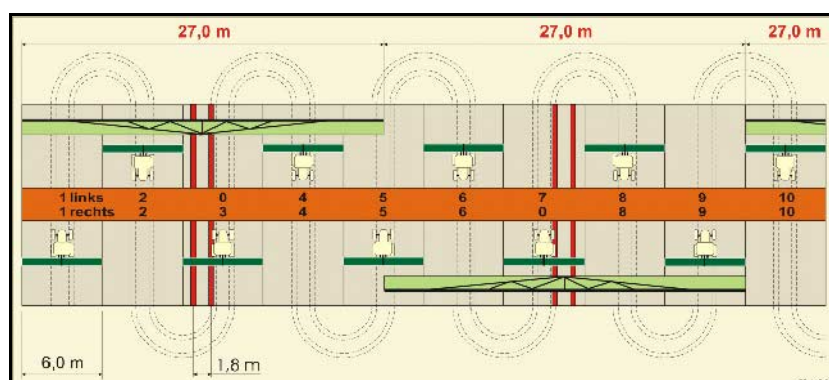


It is **not** possible for **Cayena** to establish double tramlines!

Double tramline control

Example of double tramline control, requires 2 seed distributors

Tramline counter, left side:
Tramline counter, right side:



Double tramline control																									
Tramline counte	18 left	18 right	19 left	19 right	24 left	24 right	25 left	25 right	27 left	27 right	28 left	28 right	29 left	29 right	30 left	30 right	31 left	31 right	33 left	33 right	34 left	34 right	36 left	36 right	
	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	
	2	2	2	2	2	0	2	0	2	0	2	2	2	0	0	2	2	2	2	2	2	2	2	2	2
	0	3	3	0	3	3	3	3	3	3	0	3			3	3	0	3	3	3	3	3	3	0	
	4	4	4	4	0	4	4	4	4	4	0	4			4	4	4	4	4	4	4	4	4	4	
	5	5	5	5	5	5	5	5	0	5	5	5			5	0			0	5	5	5	5	5	5
	6	6	6	6	6	6	0	6	0	6	6	0			6	6			6	6	0	6	6	6	6
	7	0	0	7	0	7	7	7	7	7									7	7	7	7	0	7	7
	8	8	8	8	8	8	8	8	8	8									8	8	8	8	0	8	8
	9	9	9	9	9	0	0	9	9	0									9	9	9	9	9	9	9
	10	10	10	10	10	10	10	10	10	10									10	0	10	10	10	10	10
	11	11	11	11			11	11														0	11	11	11
	12	0	0	12			12	12														12	12	12	0
	13	13	13	13			13	0														13	13	13	13
	14	14	14	14			14	14														14	14	14	14
	15	15	15	15																		15	15		
	0	16	16	0																		16	16		
	17	17	17	17																		17	0		
	18	18	18	18																		18	18		
																						19	19		
																						20	20		
																						21	21		
																						22	0		

Double tramline control																				
Tramline counte	37 left	37 right	38 left	38 right	39 left	39 right	40left	40 right	41 left	41 right	42 left	42 right	43 left	43 right	44 left	44 right	45 left	45 right	46left	46 right
	1	0	1	1	1	1	1	1	1	1	1	4	1	1	0	1	1	1	1	1
	2	2	2	0	0	2	2	2	2	2	2	2	2	0	0	2	2	2	2	2
	0	3	3	3	0	3	3	3	3	0	3	3	3	3	3	3	3	3	3	3
	0	4	0	4	4	4	4	0	4	4	4	0	4	4	4	4	0	4	4	0
	5	5	0	5			5	5	0	5	5	5	5	5	5	5	5	5	5	5
	6	0	6	6			6	6	0	6	6	6	0	6	6	0	6	6	6	6
			7	0			0	7	7	7	7	7	7	7	7	0	7	7	7	7
			8	8			8	8	8	8	8	8	8	8	8	8	8	8	8	8
							9	9	0	9	9	9	0	9	9	9	9	9	9	9
							0	10	10	10	0	10	10	10	10	10	10	10	10	10
							0	11	11	11	11	11	11	11			11	11	11	11
							12	12	12	12	12	12	12	12			12	0	0	12
							13	0	13	13	13	13	13	0			13	13	13	13
							14	14	14	0	14	14	14	14			14	14	14	14
							15	15	15	15	15	15					15	15	15	15
							16	16	16	16	16	16					16	16	16	16
							17	0	17	17	0	17					17	17	17	17
							18	18	18	18	18	18					18	18	18	18
							19	19	19	19	19	19					19	0	19	0
							20	20	0	20	20	20					20	20	20	20
									21	21	21	21					21	21	21	21
									22	22	22	22					22	22	22	22
											23						24	24	24	24
											24	24					25	25	25	25
											25	25					26	26	26	26
											26	26					0	27	0	27
																	28	28	28	28
																	29	29	29	29
																	30	30	30	30

Page 2 in implement data menu (Fig. 6)

-  Adopt the current fan speed (rpm) during operation as the speed to be monitored.
-  Enter the fan speed (rpm) that is to be monitored.
-  Enter the seed rate reduction (in %) while creating a tramline (see page 16, required only on implements without seed return into the hopper).
-  Entry of the seed rate increase (in %) at increased coulter pressure
-  Enter the application rate in % (value for percentage seed rate change when working with  , )

 For implements with seed return 0% must be entered for the application rate.

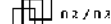
Prog. 	
Gebläsesolldrehzahl: 3500 U/min Gebläseistdrehzahl: 0 U/min	
Saatmengenreduzierung bei Fahrgasse: 0 %	
Saatmengenerhöhung bei Schardruck: 10 %	
Mengenschritt: 10 %	
	
Menge in %	

Fig. 6



Only for implements with pressure hopper:

-  Enter minimum value for positive pressure in the seed hopper.
→ Default value: 30 mbar
-  Enter maximum value for positive pressure in seed hopper.
→ Default value: 70 mbar
-  Configure the working position sensor for Citan, AD-P (see page 19)
-  Switch to the next tramline with:
 - o working position sensor
 - o track marker sensor

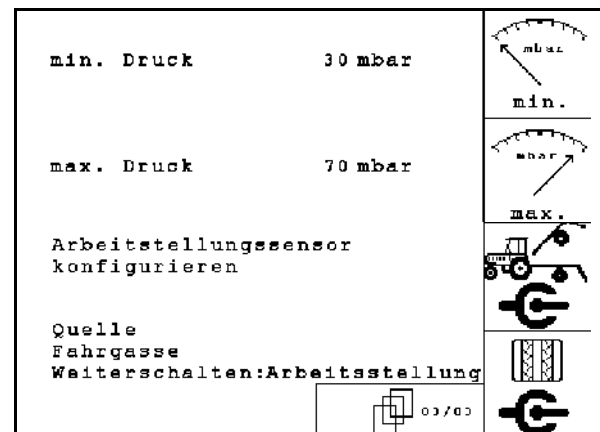


Fig. 7

4.2.2 Table for seed rate reduction while creating tramlines

Calculation of the seed rate reduction as follows:

$$\begin{array}{|c|} \hline \begin{array}{c} \text{Tramline symbol} \\ \text{~\%} \end{array} \\ \hline \end{array} = \frac{100 \times \text{number of tramline hoses}}{\text{Number of seeding coulters}}$$

Working width	Number of sowing coulters	Number of tramline hoses	 Recommended percentage seed volume reduction for starting tramlines
3,0 m	18	4	22%
	18	6	33%
	18	8	44%
	24	4	17%
	24	6	25%
	24	8	33%
3,43 m	21	4	19%
	21	6	29%
	21	8	38%
3,50 m	21	4	19%
	21	6	29%
	21	8	38%
	28	4	14%
	28	6	21%
	28	8	28%
4,0 m	24	4	17%
	24	6	25%
	24	8	33%
	32	4	13%
	32	6	19%
	32	8	25%

Working width	Number of sowing coulters	Number of tramline hoses	 Recommended percentage seed volume reduction for starting tramlines
4,5	27	4	15%
	27	6	22%
	27	8	30%
	36	4	11%
	36	6	17%
	36	8	22%
5,0 m	40	4	10%
	40	6	15%
	40	8	20%
6,0 m	36	4	11%
	36	6	16%
	36	8	22%
	48	4	8%
	48	6	12%
	48	8	17%
8,0 m	64	4	6%
	64	6	9%
	64	8	12%
9,0 m	72	4	6%
	72	6	8%
	72	8	11%
12,0 m	72	4	6%
	72	6	8%
	72	8	11%
	96	4	4%
	96	6	6%
	96	8	8%
15,0 m	90	4	4%
	90	6	7%
	90	8	9%



On implements with seed quantity return flow: set seed quantity reduction at 0 %.

4.2.3 Entering interval tramline control (implement data)

-  Enter the seeded distance (m) with interval tramline control activated.
-  Enter the unseeded distance (m) with interval tramline control activated.

besäte Strecke: 20 m	
unbesäte Strecke: 20 m	

Fig. 8

4.2.4 Calibrating distance sensor (implement

To adjust the application rate and record the worked area or determine the travel speed, the **AMATRON 3** needs the impulses from the speed sensor over a calibration distance of 100 m.

The value pul./100 m is the number of pulses which the **AMATRON 3** receives from the speed sensor during the measurement run.

The value Imp./100m must be determined:

- before initial use
- in event of different soils
- in event of deviation between the seed quantity determined in the calibration test and the seed quantity output in the field
- in event of deviation between the indicated and the actually cultivated area.



The calibration value Imp./100m must not be less than 250, otherwise **AMATRON 3** does not function properly.

There are 2 possibilities for entering Imp./100m:

-  The value is known and is entered manually on the **AMATRON 3**.
-  The value is not known and is determined by travelling a calibration distance of 100 m.

besäte Strecke: 20 m	
unbesäte Strecke: 20 m	

Fig. 9

Commissioning

Determine calibration value by travelling a calibration distance:

- On the field, measure a calibration distance of exactly 100 m. Mark the start and end point of the calibration distance (Fig. 10).



- Start the calibration.
- Travel the calibration distance exactly from start to end point (upon starting, the counter goes to 0). On the display the continuously determined impulses are indicated.
- Stop after 100 m. On the display the number of determined impulses are now indicated.



- Adopt value Imp./100m.



- Reject value Imp./100m.

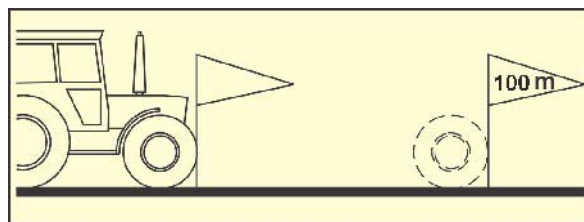


Fig. 10



- The calibration run is carried out at the working speed to be used afterwards.
- The travel speed must not fluctuate during the calibration run.

4.2.5 Configuring the working position sensor



- Teaching-in the limit values
 - Each time the tractor is changed
 - When changing the mounting position or length of the top link



When this is not observed, there may be gaps in the seeded area.



- Changing the switch points
If teaching in the limit values is not precise enough, the switch points can be adjusted manually.

Grenzwerte lernen	Start
Schaltpunkte ändern	man. Eingabe
gespeicherter Wertebereich: 0.00 - 0.00 V	

Fig. 11

Learn limit values

1. Lower the implement completely into working position (shares in the soil).



2. Confirm.

3. Lift the implement completely into headland position.



4. Confirm.

→ All switch points will be saved and shown as a percent value.

Entering the switch points manually

- Switch point metering off
- Switch point metering on
- Headlands position switch point



Large percent value for lifted implement
Small percent value for lowered implement

Schaltpunkt Dosierung aus:	20%	
Schaltpunkt Dosierung ein:	50%	
Schaltpunkt Vorgewendestellung:	68%	
Aktueller Wert:	100%	

Fig. 12

4.3 Starting a job



Select "Job" in main menu!

When the job menu is opened, the last job started appears.

A maximum of 20 jobs can be stored.



To start a new job, select a job number.

-  Enter name.
-  All data for this job are deleted.
-  Start the job so that data can be stored with this job.
-  Enter the specified quantity.
-  Select hopper 1 or 2 and enter the type and target quantity.
-  Enter the specified quantity.

Auftrags-Nr.: 1 gestartet		Shift	Name
Name: _____			Notiz
Notiz: _____			Sorte
Behälterseite: Tank 1			kg/ha K/n²
Ausbringart: Dünger			löschen
Sollmenge: 15.00 kg/ha			starten
Auftrag:			Behälter
fertige ha: 0.00 ha			Tages-
Stunden: 0.0 h			daten
Durchschnitt: 0.00 ha/h			löschen
ausgeb. Menge: 0 kg			
Tripdaten:			
Fläche: 0.00 ha			
Stunden: 0.0 h			
Menge: 0 kg		1/20	

Fig. 13



For implements with partitioned hopper, enter the variety (seed / fertiliser) and the target quantity for hopper 1 and hopper 2.

Hopper 1 - front half of the hopper

Hopper 2 - rear half of the hopper

- Call up seed type submenu:
 - Select seed type.
 - Hopper 1 – type A
 - Hopper 2 – type A or B
 - Enter the 1000 grain weight.
 - Quantity display in kg / ha or grains / m².
(not with partitioned tank)

Only with divided hopper:

- Metering settings successively / simultaneously
 - Hoppers are emptied in use one after another or simultaneously.

- Delete daily data:
 - Cultivated surface (ha/day).
 - Seed volume output (quantity/day).
 - Work time (hours/day).

Already stored jobs can be called up with and restarted with

Pressed shift key (Fig. 15):

- Scroll forward.
- Scroll backward.

Ausbringart:	Feinsämereien	Sorte
1000-Korn-Gewicht:	402.4g	g pro 1000K
Anzeige in:	kg/ha	kg/ha <--> K/m²
Dosiereinstellung der Tanks 1 und 2:	gleichzeitig	1 2

Fig. 14

Auftrags-Nr.:	2 gestartet	Auftrag vor
Name:		
Notiz:		Auftrag zurück
Sollmenge:	200kg/ha	
fertige Fläche:	0.00ha	
Stunden:	0.0 h	
Durchschnitt	0.00ha/h	
ausgeb. Menge:	0 kg	
ha/Tag:	0.00ha	
Menge/Tag:	0 kg	
Stunden/Tag:	0.0 h	
	2/20	

Fig. 15

4.3.1 External job

An external job can be transferred to the **AMATRON 3** and started via a serial ASD interface.

This job is always given the job number **external**.

The data is transferred via the serial interface.

-  End external job (data of external job are deleted).
- Restore data via the serial interface beforehand.

-  Select seed type.

-  Quantity display in kg / ha or grains / m².

Auftrags-Nr.:	extern	externen Auftrags beenden
Sollmenge:	0.80 kg/ha	
Ausbringart:	A	
1000-Korn-Gewicht:	0.0 g	Sorte
Cal.-Faktor:	1.00	
fertige ha:	0.00 ha	kg/ha <--> K/m²
Stunden:	0.0 h	
ausgeb.Menge:	0 kg	

Fig. 16



If the tasks are managed using the Task Controller, then the order started in the TaskController appears as an external order.

These orders are not processed via the order menu.

4.4 Calibration test

The calibration test checks whether the sowing rate is correct during later sowing.

The calibration test must always be carried out

- when the seed type is changed
- if the seed type is identical, but size grain, grain shape, specific weight and dressing are different
- when the dosing roller is changed
- if there are any differences between the calibration test and actual sowing rates.



See the operating manual of the seed drill for preparation of the calibration test.



- Select "Calibration" in the main menu!
- With partitioned hopper: calibrate hopper 1 (front) and hopper 2 (rear) separately.



Partitioned hopper, identical seed, simultaneous metering adjustment.

- The target quantity must be divided to the metering units.
- The calibration test must be carried out for the appropriate proportion of the target quantity per metering unit.



All entries in the Calibrate menu can also be entered in the Job menu (see Seite 19).

Commissioning

Calibration table:

- (1) Hopper 1, 2 (with partitioned hopper → rear)
- (2) Selected type (A or B)
- (3) Target quantity



When the target rate is changed by 25 % the calibration factor is automatically set to 1.00.

→ Calibration must be repeated.

- (4) Size of the metering roller in ccm

Default value: 20 ccm

- (5) Calibration factor,

Default value: 1,00

☒ shows successful calibration

- (6) Possible speed range with the entered target quantity
- (7) Intended forward speed from the job menu



Alternatively: activate TwinTerminal.



- Call up the Settings menu



- Start calibration

→ The calibration procedure can be cancelled after 10 seconds at the earliest (calibration data is determined).

Otherwise the calibration procedure runs until the calibration area is reached.



Prepare the calibration test according to the machine operating manual!

1	2	3	4	5	6	7
					Min. ↓ Max. km/h	
		kg/ha	ccm		km/h	8 km/h
1	A	310.00	600	1.00 ☐	3.0 ↓ 18.5	
2	B	210.00	600	1.00 ☐	3.0 ↓ 20.0	

Fig. 17



Carry out the settings:

1.  Select the calibration area
(Area for which an appropriate quantity is metered for the calibration procedure).
2.  Enter target quantity.
3.  Enter the size of the metering roller.
Possible sizes in ccm: 7.5-20-40-120-210-350-600-660-700-880

Einstellungen Behälter 1		
Behälter:	aktiviert	
Abdrehfläche:	1/40 ha	
Sollmenge:	310.00 kg/ha	
Dosierwalze:	600 ccm	
Sorte:	A	
Abdrehfaktor:	1.00	
vorge.Geschwin.:	8 km/h	

Fig. 18



The target quantity can also be entered in the job menu (see Seite 19).

4.  Enter calibration factor (1.0 default value prior to calibration, after a target quantity adjustment and after changing the type)
5.  Enter the intended speed

For partitioned hoppers:

-  select sequences. During operation, the hoppers will be emptied one after another or simultaneously.

Settings only for hopper 2:

-  Select type A or B.

Reihenfolge:	gleichzeitig	
Sorte:	A	



All changes made here will be applied in the job.

Carry out the calibration test:

1. Fill the cells of the metering roller via the pre-metering. The runtime is adjustable (see Seite 46).
2. Empty the collecting container.
3. Back to the calibration table.

4. Start the calibration test.
- The electric motor meters the calibration quantity into the collecting container.
5. Weigh the seed quantity in the collecting container(s) (take into account container weight) and enter the weight (kg) in the terminal.

The scale used must be accurate. Inaccuracies may cause deviations in the actual sowing rate!

The AMATRON 3 calculates the required calibration factor using the entered data from the calibration test and the electric motor is set to the correct speed.

Repeat the calibration process to check that the setting is correct.

		kg/ha	ccm		Min. ↓ Max. km/h	8 km/h
1	A	200	660	1.80 	3.0 ↓ 20.0	

Fig. 19

		kg/ha	ccm		Min. ↓ Max. km/h	8 km/h
1	Abdrehvorgang läuft, mit ESC abbrechen oder mit Eingabetaste bestätigen 0.006 ha 1.334 kg F2073					

Fig. 20

		kg/ha	ccm		Min. ↓ Max. km/h	8 km/h
1	A	200	660	1.80 	3.0 ↓ 20.0	

Fig. 21

4.5 Residue emptying



Select "Residual emptying" in the main menu!

1. Stop the implement.
2. Switch off the blower fan.
3. For partitioned hopper: select hopper.



- Front half of the hopper.



- Rear half of the hopper.

4. Secure the tractor and implement against unintentional rolling.
5. Open the flap of the injector.
6. Fasten collection bag or trough under the hopper opening.



7. Confirm.



8. Start emptying, keep the button pressed until the emptying is completed or the tank is full.

→ The running emptying is displayed on the terminal.

9. After opening, close the flap of the injector.

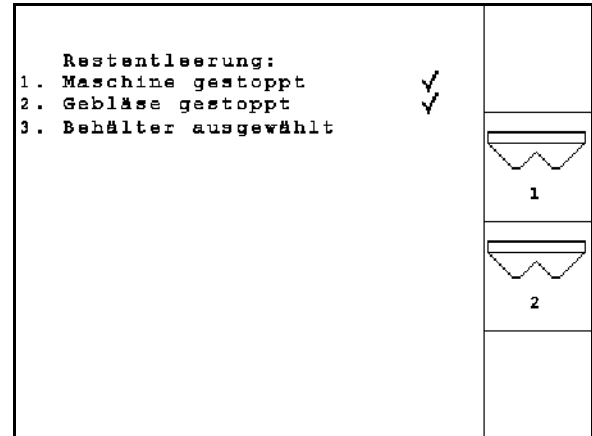


Fig. 22

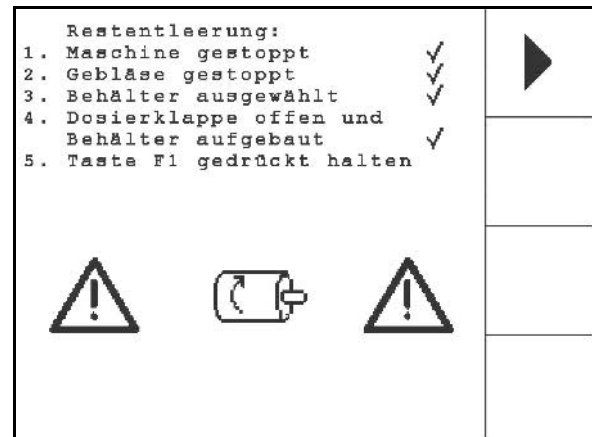


Fig. 23

4.6 Setup menu

In the setup menu

- Diagnosis data for the customer service for maintenance or malfunctions are input/output.
- Implement basic data are selected and entered or special optional equipment is switched on and off (only for customer service).



The settings in the setup menu are a workshop operation and must be carried out only by qualified personnel!



Select "Setup" in the main menu!

Page 1  of the setup menu (Fig. 24):

-  Diagnosis computer input (only for customer service).
-  Diagnosis computer output (only for customer service).
-  Enter simulated speed for continued working with defective distance sensor (see Seite 67).
-  Enter basic data.

Gesamtdaten seit Inbetriebnahme:		→ 0010
Gesamtfläche:	0 ha	← 0010
Gesamtdrillzeit:	0 h	
Gesamtmenge:	0 kg	
simulierte km/h:	0.0 km/h	km/h sim.
MEX-Version: MEX-Version: 6.02.02c MEX-Version: 6.02.01e Sprachen: DE/GB/FR IOP-Version: 8.3.5		 

Fig. 24


Page 1 Basic data (Fig. 25):

-  Selecting implement type.
-  Entry of working width (m).
-  Configure tramline system, see on page 35.
-  Configure seed rate remote control, see on page 35.

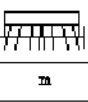
Maschinentyp:	Cirrus	
Arbeitsbreite:	6.0 m	
Fahrgassensystem konfigurieren		
Saatmengenverstellung konfigur.		

Fig. 25


Page 2 Basic data (Fig. 26):

-  Selection of pre-emergence marker:
 - o None.
 - o Hydraulically actuated.
 - o Electrically actuated.
-  Number of track marker sensors.
 - none: Cayena production year from 2012 / Citan 6000 / Cirrus Aktiv
 - one: Cayena production year up to 2011
-  Coulter pressure sensor: yes / no
-  Level sensor in seed box yes / no
-  Triggering of the alarm if the blower fan speed differs from the setpoint (in %).

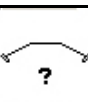
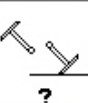
Vorauflaufmarki.: keine	
Spuranreisser-sensor: einer	
Schardrucksensor: ja	
Füllstandssensor: ja	
Gebälsealarmgrenze: 10%	

Fig. 26

-  Monitoring the dosing wheels
 - o One dosing unit.
 - o Two dosing units.
 - o No monitoring → Select.
-  Entry of dosing wheel alarm delay time..
-  Entry of tramline system alarm delay time.
-  Function not for Cirrus / Cayena / Citan/ AD-P..

Säwellensensor:	2	
Alarmzeit Säwelle:	10 s	
Alarmzeit Fahrgasse:	10 s	
Alarmzeit Stillstand der Vorgelegewelle bei Fahrgasse:	10 s	

3 / 7

Fig. 27

-  Implement-dependent setting for tool I:
 - o Cirrus Activ: KG raising
 - o Cirrus: Disc array
 - o Cayena, Citan: no
-  Implement-dependent setting for tool II:
 - o Cirrus Activ: KG depth
 - o Other implements: no
-  Implement-dependent setting for tool III:
 - o Cirrus, Citan, AD-P:: Coulter pressure (option), harrow pressure (option)
 - o Cayena: no

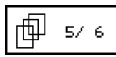
Werkzeug I:	Scheibenfeld	
Werkzeug II:	nein	
Werkzeug III:	Schardruck	

11 / 16

Fig. 28



Page 5



Basic data (Fig. 29):

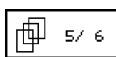
-  Turn at headlands on all wheels (yes / no).
-  Hopper
 - o divided
 - o not divided
-  Working position sensor
 - Select analogue
-  Configure the switchover point of the working position sensor, see page 37.

Wenden auf Walze:	nein	
Behälter:	geteilt	
Arbeitsstellungs- sensor:	analog	AS- Sensor
Schaltpunkte Arbeitsstellungs- sensor konfigurieren		AS- Sensor konfig.

Fig. 29



Page 6



Basic data (Fig. 30):

-  Folding (yes / no)
-  Type of track marker
 - o Manual change
Control via shuttle valve and sensor - Display in work menu of which track marker is to be used next.
 - o Automatic change
of control block, hydraulic preselection of track marker possible.
 - o None
No track marker or track marker without sensor fitted.

Klappung:	ja	
Art des Spuran- reissers:	keiner	
Übergangszeit Dosierer:	1.0 s	
Verzögerung zwischen "Tank 2 leer" und Anlauf Tank 1:	5 s	

Fig. 30

For divided hopper halves that are emptied successively:

-  Dosing unit transition period
-  Delay between hopper 2 empty and start-up hopper 1.



-  Enter the number of KG speed sensors.
 - o no – no sensor available
 - o 2 → KG3000 / 4000 (2 sensors)
 - o 3/20 → KG6000 (3 sensors /20 pulses per revolution)
 - o 3/1 → KG6001 (3 sensors / 1 pulse per revolution)

-  One-sided seed switch-off
 - o yes
 - o no

-  Pressure hopper monitor
Only with one-sided seed switch-off yes / no

-  Calibration flap sensor yes/no

KG-Drehzahlsensor:	3 / 1	KG 1/min ?
Halbseitenschaltung:	ja	 0 / 1
Druckbehälterüberwachung:	ja	
		

Fig. 31



-  Reset implement data to factory settings. All entered and accumulated data, e.g. jobs, calibration values and setup data are lost.

A d a i e Wollen Sie wirklich alle Daten auf Werkseinstellung zurücksetzen? NEIN mit ESC JA mit Eingabetaste		n - k RESET Maschinen- rechner
		02/02
		29c068

Fig. 32

4.6.1 Configure tramline system

-  Single or double tramline
 - o actuated by a tramline motor,
 - o actuated by two tramline motors.
-  Time after raising to shifting up the tramline number.

Fahrgassensystem: 1 FG-Betätig.	
Zeit bis zum Weiterschalten der Fahrgasse: 10s	

Fig. 33

4.6.2 Configure seed rate remote control

-  Select seed rate remote control:
 - o electric full dosing
 - o Vario, electrical
 - o No electrical adjustment

Saatmengenverst.: Vario	
-------------------------	---

Fig. 34

Volldosierung

-  Enter number of dosing units.
-  Enter type of motor.
 - o Disc-type motor
 - o Longitudinal motor

The following entries are used for applying sufficient seed directly after the turn when using the implement:

-  Real time entry from the starting the implement to reaching the planned speed.

Saatmengenverst.: Volldosierung	
Anzahl der Dosierungen: 1	
Motorart: Scheibenmotor	
Startpunkt des Dosierers: (% vorg. Geschw.) 50 %	
Zeit bis zum Erreichen der vorg. Geschwindigkeit: 10 s	
Laufzeit für Vordosierung: 3 s	

Fig. 35

Commissioning



- Calculated speed in % when using the implement.

This speed must be greater than the real speed.

The following entry is used to apply sufficient seed when starting from a stationary position.



- Enter the time for the pre-metering.

4.6.3 Configure the switchover point of the working position sensor

- 
 Metering switch point off, when lifting with running metering
- 
 Metering switch point on, when lowering with stationary metering
- 
 Headlands position switch point, restricts lifting at the headlands
- 
 Switch point fold position

Schaltpunkt Dosierung aus:	1.78 U	
Schaltpunkt Dosierung ein:	2.50 U	
Schaltpunkt Vorgewendstellung:	4.50 U	
Schaltpunkt Klappstellung:	4.50 U	

Fig. 36

Default values

Switch point Implement	 metering off	 metering on	 headlands position	 fold position
Citan 6000	1,78 V	2,50 V	2,58 V	4,00 V
Cayena up to 2011	1,20 V	1,22 V	3,10 V	3,20 V
Cayena as from 2012	1,00 V	2,50 V	4,44 V	4,45 V
Cirrus Aktiv	1,78 V	1,80 V	3,10 V	3,20 V
Cirrus 03	1,30 V	2,50 V	3,20 V	3,40 V
AD-P	2,95V	3,30V	3,50V	4,00V

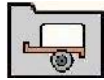


Deviating from the default values, the voltages for the switch points can be adjusted within the range of +/- 0.2 V on the implement.

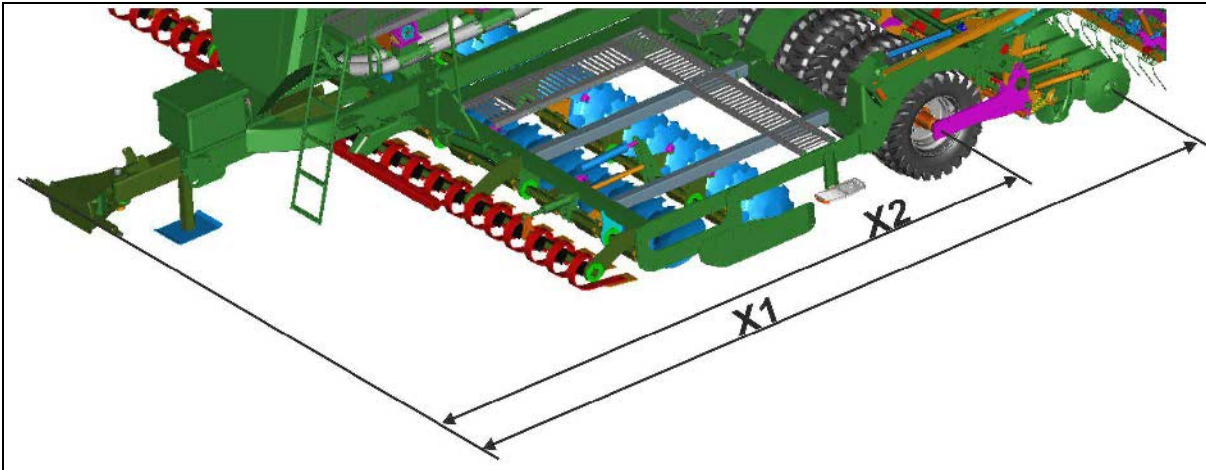


Implement lifted out → high tension value
Implement lowered → low tension value

4.7 Geometry data for implement menu



For the GPS switch application, it is necessary to determine and enter the geometry data X1 (and X2) with maximum precision in the AMA-TRON 3 implement menu.



Implement		X1 [cm]		X2 [cm]	
		min	max	min	max
AD-P	303 Special WS	224	236		
	303 Special RoteC	210	221		
	353 Special	224	236		
	403 Special	210	221		
	303 Super RoteC	205	209		
	303 Super RoteC+	217	221		
	403 Super RoteC	205	209		
	403 Super RoteC+	217	221		
Citan	6000	649- 666- 682 (Standard)		474 491 507(Standard)	
	8000	771		599	
	9000	771		599	
	12000	921		749	

Implement		X1 [cm]		X2 [cm]	
		min.	max.	min.	max.
Cirrus	6000 Activ	685		527	
	6001 Activ	685		527	
	6002 Activ	685		527	
	3001	718		505	
	4001	718		567	
	6001	718		567	
	3002	718		505	
	4002	718		567	
	6002	718		567	
Cirrus	3003	588	703	457	572
	3003 compact	612	727	481	596
	3503	612	727	481	596
	4003	612	727	481	596
	6003 -2 min.	612	727	481	596
Cayena	6001	583	423	583	503
	6001-C	583	423	583	503

4.8 GPS switch settings



For the GPS switch application, it is necessary to enter the on/off point delays in the AMATRON 3 GPS settings.

- On point delay [ms]
- Off point delay [ms]

Recommended on / off point delay time sowing technology

	Delay time for [ms]	Grain kg / ha		Rapeseed kg / ha		Fertiliser kg / ha	
		100	200	2	8	40	120
AD-P 3 m	Switch on	2500	2400	2800	2600	–	–
	Switch off	2600	2800	2400	3000	–	–
CAYENA 6001	Switch on	2900	2700	3000	2400	–	–
	Switch off	3100	3500	2800	3200	–	–
CAYENA 6001-C	Switch on	2300	2100	1900	2300	2600	2600
	Switch off	2600	2700	1400	2600	2700	3000
Cirrus 3001 Special	Switch on	3000	2700	2900	2500	–	–
	Switch off	3400	3200	2900	3000	–	–
Cirrus 3001 Compact	Switch on	3000	2600	2400	2600	–	–
	Switch off	2900	2900	1800	2600	–	–
Cirrus 3003-C	Switch on	2400	2200	2200	2400	2500	2300
	Switch off	2600	2800	1900	2200	3000	3300
Cirrus 4002	Switch on	2600	2500	2800	2600	–	–
	Switch off	2900	3100	2800	2900	–	–
Cirrus 6002	Switch on	2800	2600	2900	2700	–	–
	Switch off	3400	3600	3400	3800	–	–
Cirrus 6003-2	Switch on	3800	3500	3800	3400	–	–
	Switch off	3800	3700	3600	3700	–	–
Cirrus 6003-2C	Switch on	2500	2300	3000	2700	2700	2700
	Switch off	2800	2900	3100	3600	3400	3500
Citan 6000	Switch on	2600	2300	2700	2400	–	–
	Switch off	2800	3100	2500	2800	–	–
Citan 12000	Switch on	3200	3100	2000	2000	–	–
	Switch off	3600	3700	1600	1600	–	–



The stated values are recommendations, they should be checked in every case.

5 Use on the field



CAUTION

During travel to the field and on public roads, the **AMATRON 3** should always be switched off!

Incorrect use leads to the risk of accidents!

Before starting the sowing, the **AMATRON 3** must have received the following data:

- Job data (see Seite 19)
- Implement data (see Seite 11)
- Calibration test data (see Seite 25).

5.1 Specified quantity adjustment

The sowing rate can be changed at will during the work at the press of a key.



Each press of the key increases the sowing rate by the rate increase (Seite 14) (e.g.:+10%).



Reset sowing rate to 100%.



Each press of the key decreases the sowing rate by the rate increase (Seite 14) (e.g.: -10%).

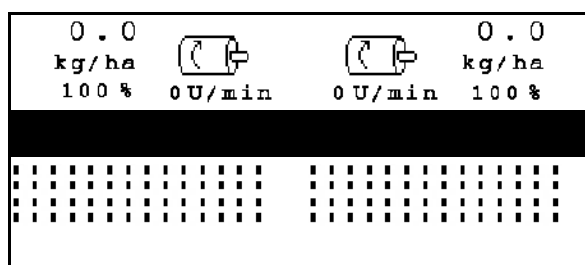


Fig. 37



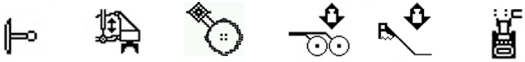
The changed specified value is indicated in the work menu in kg/ha and per cent (Fig. 37)!



Functions which

- are switched off in the setup menu
- do not belong to the implement equipment (options)
- are not indicated in the work menu (function fields are not assigned).

5.2 Displaying work menu

		4 1 2	(1) Tramline system active (2) Tramline counter (3) Interrupt tramline rhythm (4) shifting on of tramline
Speed-	 0.0 km/h		
Blower fan speed-	 0 U/min	 5	
Worked area-	Fläche: 0.00 ha	8 3	
Hopper 1 (Standard)	Alarm - fill level 1 	Alarm - fill level 2 	Hopper 2 (Option)
	Metering unit 1	Metering unit 2	
Specified quantity in kg / ha	0.0 kg/ha	0.0 kg/ha	Specified quantity in kg / ha
Percent	100 %	100 %	Percent
	 0 U/min	 0 U/min	
	Speed of metering unit		
Track marker left active			Track marker right active
Work modes:			
Implement receives no impulses from the distance sensor.			Dosing unit not running.
Implement receives impulses from the distance sensor.			Dosing unit running, implement in operational position
			One side of implement switched off (option)
			Dosing unit not running, implement is raised.
Preselection of hydraulic functions -			
Current job -	Job 6	 01/02	- Open page in work menu.

5.3 Preselection for hydraulic functions

1. Preselect a hydraulic function via a function key.
 2. Operate tractor control unit.
- The preselected hydraulic function is carried out.

The hydraulic preselection functions (Fig. 38/1) are displayed in the work menu.

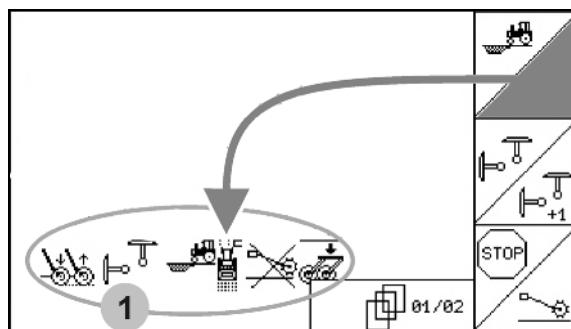
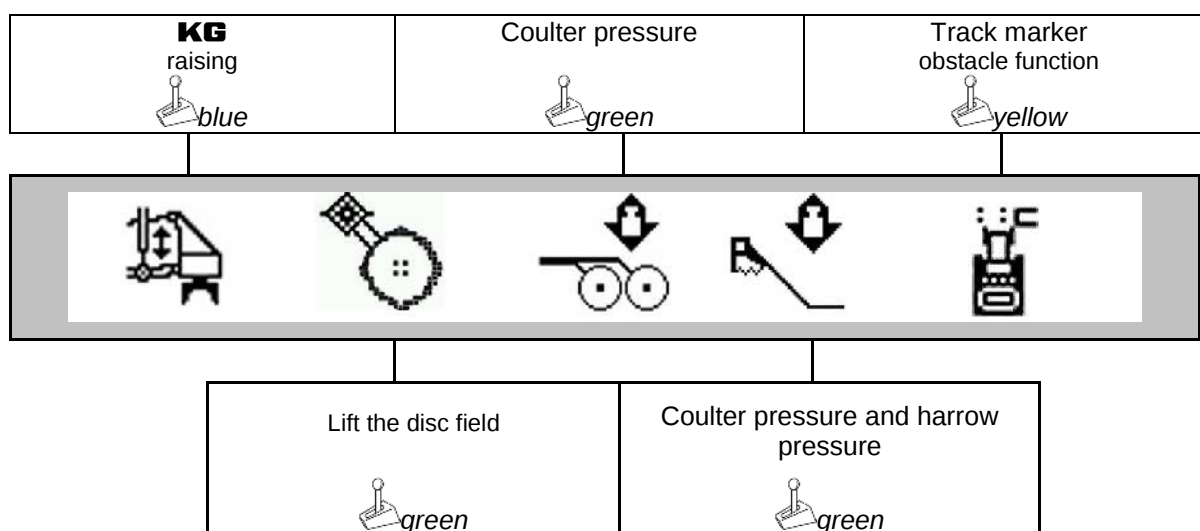


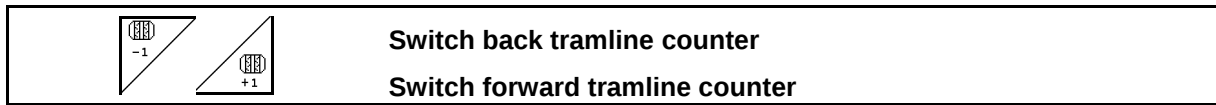
Fig. 38

Preselection of hydraulic functions (Implement-dependent and equipment dependent)



5.4 Functions in work menu

5.4.1 Tramline control



The tramline counter switches when the implement is raised.

Fig. 39/...

- (1) Tramline system display switched on
- (2) Current tramline number display
- (3) Display of tramline counter shift suppressed
- (4) Display of interval tramline control switched on
- (5) Interrupt tramline rhythm

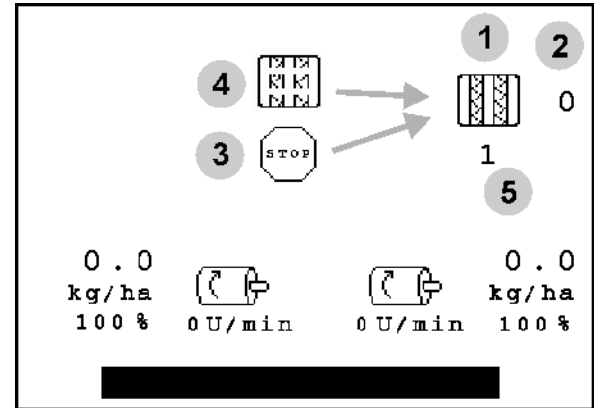
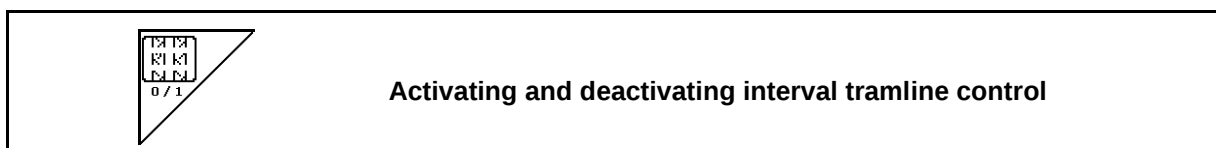


Fig. 39

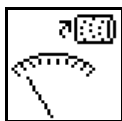
-  The number of tramlines can be corrected at any time, if it has unintentionally switched forwards one number when lifting the implement out of the ground..



1.  Stop tramline counter.
→ When the implement is raised, the tramline counter does not shift on.
2.  Cancel tramline counter stop.
→ The tramline counter switches when the implement is raised.



5.4.2 Alternative view hopper pressure



Only for seed hopper with positive pressure:

Display of positive pressure in seed hopper

1.  Display showing positive pressure in seed hopper.
2.  Back to display speed dosing motor

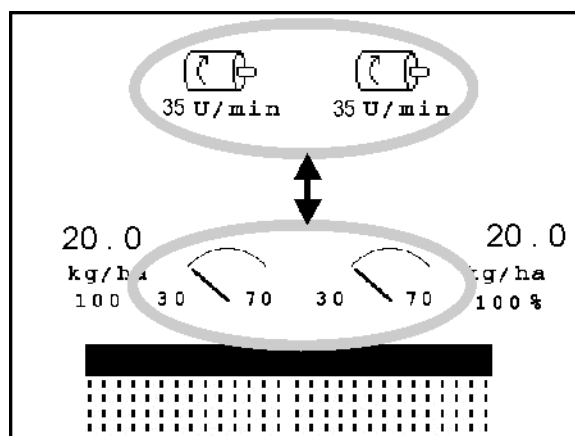
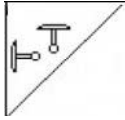


Fig. 40

5.4.3 Markers



For raising / lowering the implement, the preselected track marker is automatically actuated.



Manual track marker preselection

Track marker preselection:

-  Always left track marker 
-  Always right track marker 
-  Always both track markers 
-  No track marker 
-  Alternating mode left / right 

(Active track marker automatically changes at headlands)

- (1) Display of active track marker
- (2) Display of track marker preselection
- (3) Display pre-selection track marker obstacle switching

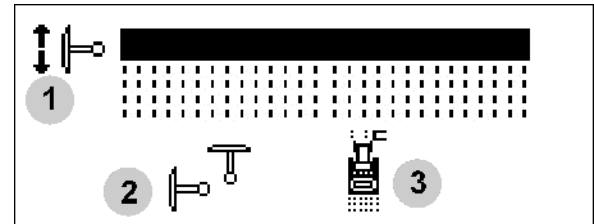
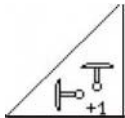
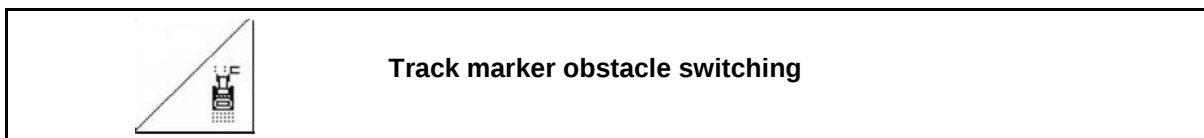


Fig. 41



Track marker shifting on in alternating mode

The track marker shifting allows the changing of the active track marker from left to right and vice versa.



For passing obstacles on the field.

1.  Preselect obstacle switching (Fig. 41/3).
2. Operate tractor control unit *yellow*.
→ Raise track marker.
3. Pass obstacle.
4. Operate tractor control unit *yellow*.
→ Lower track marker.
5.  Cancel preselection.

5.4.4 Boom partwidth sections

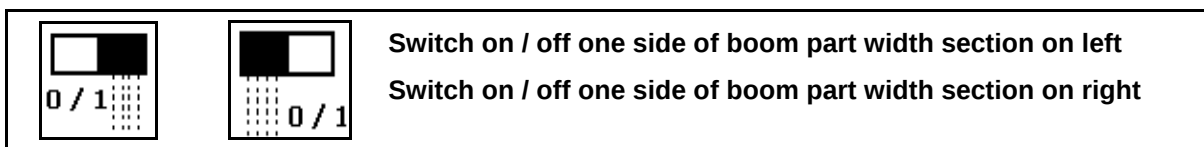


Fig. 42 → Display of partial width section left switched off.

 In case of malfunction, the fault message appears and the display shows the switched-off part-width section on the right.

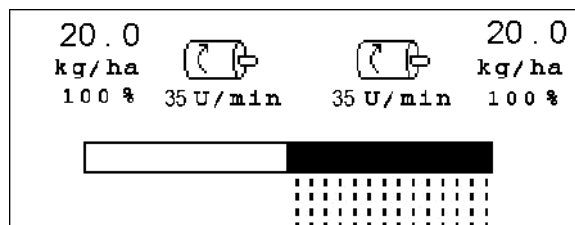


Fig. 42

5.4.5 Electric full dosing



- At the start of sowing: When starting from standstill, activate full dosing in order to ensure sufficient seed discharge over the first metres.
- To fill the seed wheels before calibration.

1.  Start predosing.
→ The predosing provides the coulter with seed for a specified running period (Fig. 43).

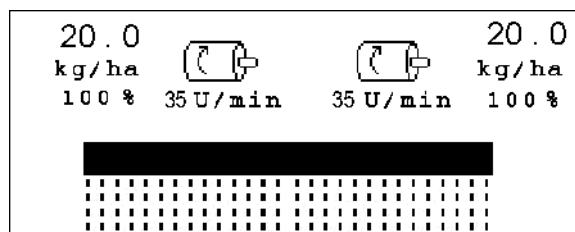
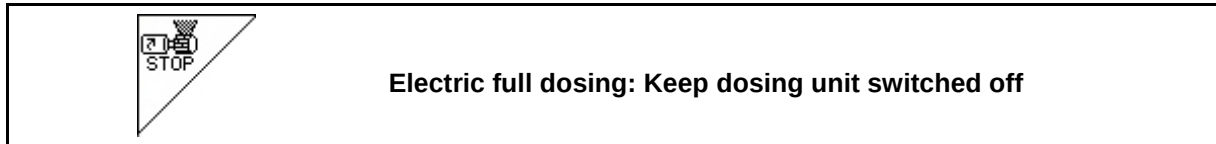


Fig. 43



In order to prevent unintended starting of the dosing unit, it can be switched off.

This may be useful, as even just minor rotations of the star wheel may cause the dosing unit to start

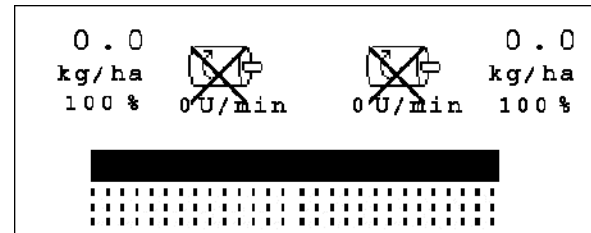


Fig. 44: Display: the dosing unit is switched off.

Fig. 44

5.4.6 Disc array working depth (Cirrus)



1.  Preselect disc array (Fig. 45).
 2. Operate tractor control unit *green*.
- Increase / reduce working depth.
- The scale on the disc array serves as a check

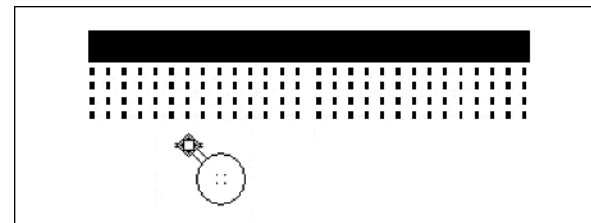


Fig. 45

5.4.7 **KG**



1. Preselect  **KG** (Fig. 46).
 2. Operate tractor control unit *blue*.
- Increase / reduce working depth.

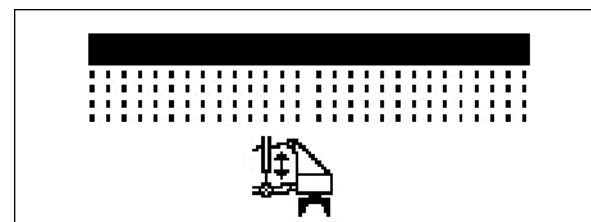


Fig. 46

5.4.8 Coulter pressure



Set increased / reduced coulter pressure (Cirrus, Citan)



1. Preselect coulter pressure (Fig. 48).
 2. Operate tractor control unit *green*.
- Set increased pressure.
- Set reduced pressure.

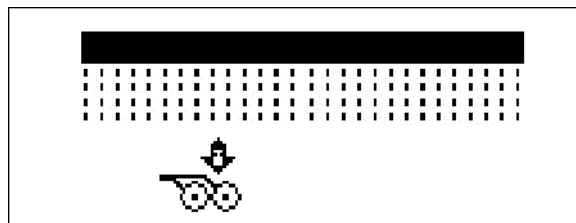
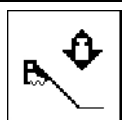


Fig. 47

5.4.9 Coulter pressure and harrow pressure



Set increased / reduced coulter and harrow pressure (Cirrus, Citan)



1. Preselect coulter/harrow pressure (Fig. 48).
 2. Operate tractor control unit *green*.
- Set increased pressure.
- Set reduced pressure.

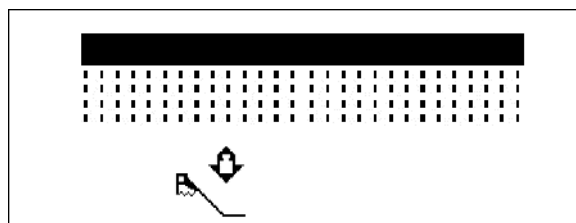


Fig. 48

5.4.10 Folding the implement



-  Change to Folding submenu (Fig. 49).

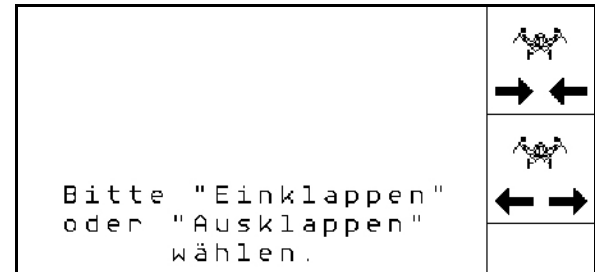
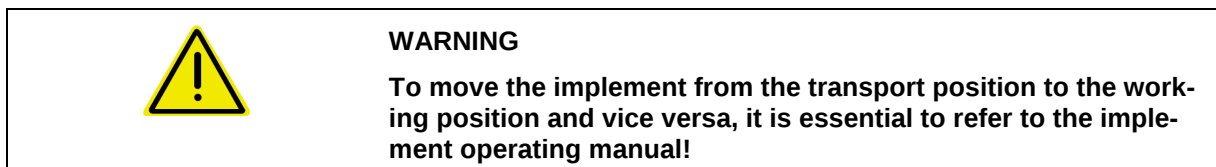


Fig. 49



5.4.10.1 Folding Citan 6000

Folding out

1.  Select folding out.
 2. Operate control unit 1.
- Lift the implement extension arm out of the transport locking mechanism.

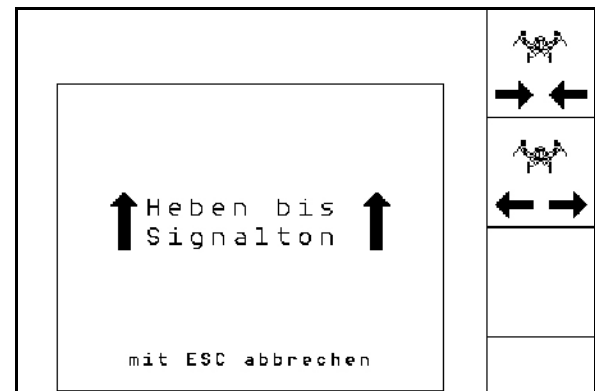


Fig. 50

3. Operate tractor control unit *green*.
- Extension arms fold out.
4.  Confirm folding.
 5. Operate control unit *yellow*.
- Lower the implement extension arm.

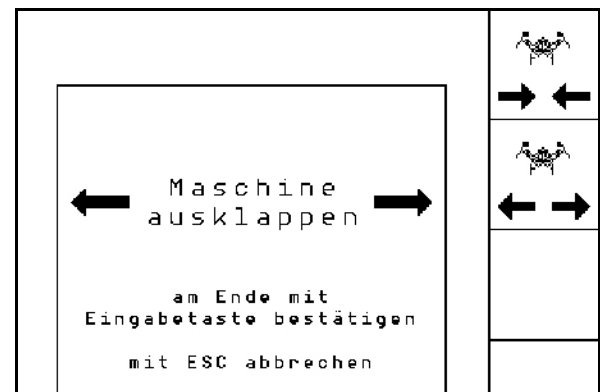


Fig. 51

Folding in

1.  Select folding in.
 2. Operate control unit *yellow* until the signal tone.
- Lift the implement extension arm..

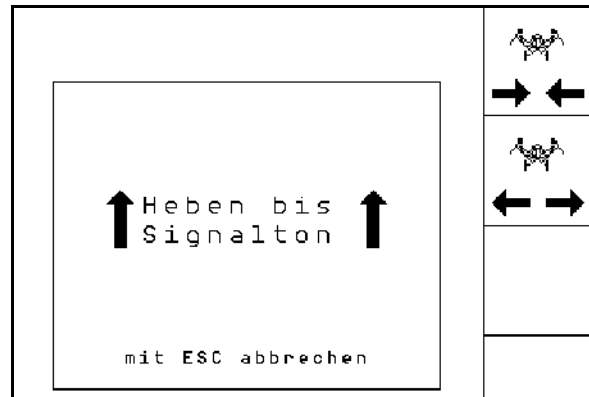


Fig. 52

3. Operate control unit *green*.
- Fold in the implement.
4.  Confirm folding.
 5. Operate control unit *yellow*.
- Lower the implement extension arm into the transport locking mechanism.

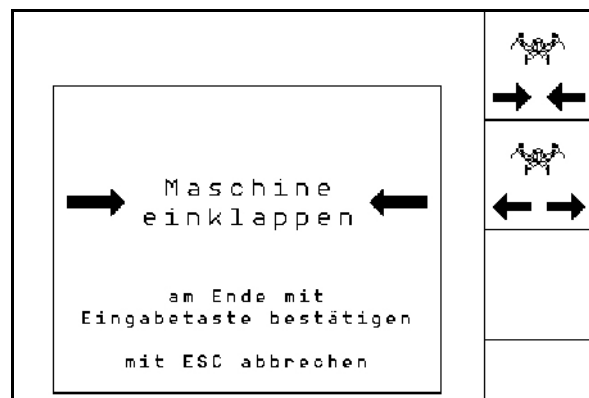


Fig. 53

5.4.10.2 Folding Cayena 6001/Cirrus

Folding out

1.  Select folding out.
 2. Operate control unit *yellow* until the signal tone.
- Raise the implement.

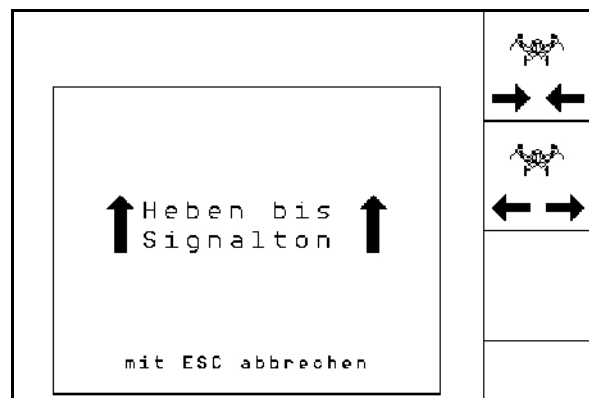


Fig. 54

3. Operate control unit *green*.
- Extension arms fold out.
4. Cirrus Aktiv: Also operate control unit *blue*.
- KG folds out.
5.  Confirm folding.

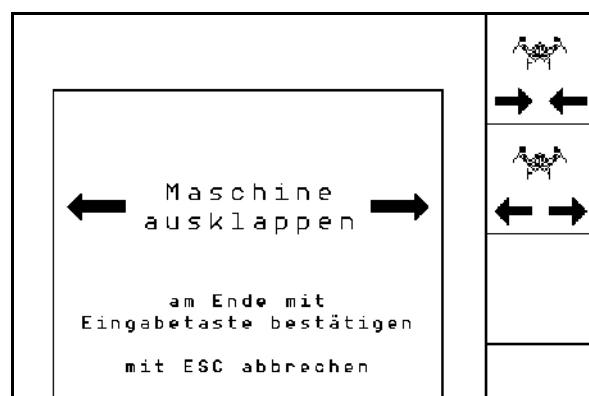


Fig. 55

Folding in

1.  Select folding in.
 2. Operate control unit *yellow* until the signal tone.
- Raise the implement.

3. Operate control unit *green*.
- Fold in the implement.
4. Cirrus Aktiv: Also operate control unit *blue*
- KG folds in.

5.  Confirm folding.

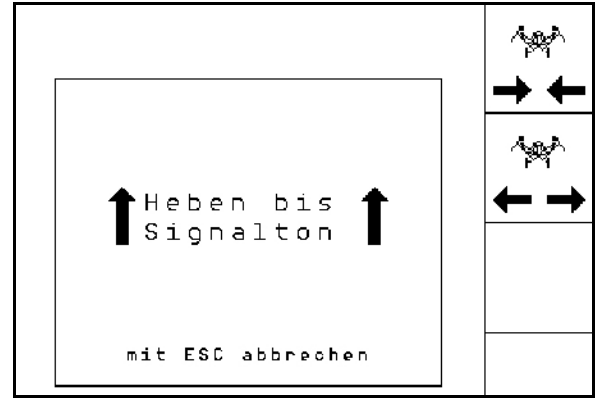


Fig. 56

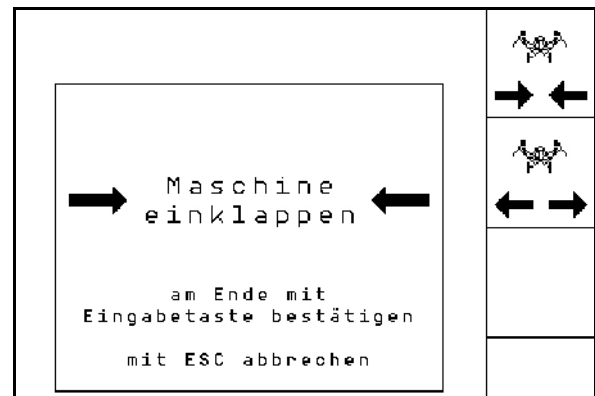
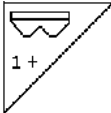
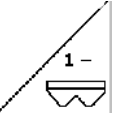
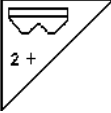


Fig. 57

5.4.11 Application rate with partitioned hopper

		Increase / reduce the target quantity of hopper 1 by the application rate
		
		Increase / reduce the target quantity of hopper 2 by the application rate

Each time the key is pressed, the target quantity is increased by the application rate (e.g.: +10%).

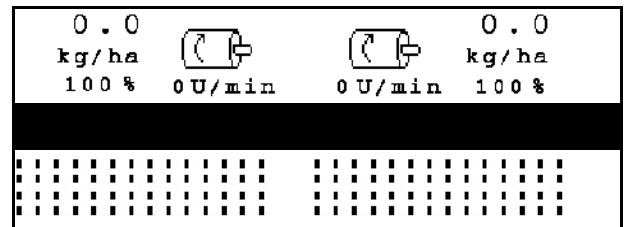


Fig. 58

5.4.12 Work lights

	Switching the work lights on and off
---	--------------------------------------

5.5 Procedure for use

1.  Switch on the **AMATRON 3**.
 2. Create / select a job and check the settings.
 3.  Start the job.
 4.  Select the work menu.
 5. Move the implement into working position..
 6. Lower the desired track marker.
 7. Check the displayed tramline counter for the first field run and correct as necessary.
 8. Start the sowing.
 9. After approx. 30 m, stop and check the sowing.
- During the sowing, the **AMATRON 3** shows the work menu. From here, all functions relevant to the sowing procedure can be actuated.
- The data determined are stored for the started job.

5.6 Use with a partitioned hopper



When sowing, the hoppers can either be emptied one after another or simultaneously. Select the setting in the Job menu.



Metering setting of the hopper:

- Simultaneously: for spreading two different substances in hopper 1 and hopper 2.
Both hoppers run during operation.
- One after another: for sowing identical seed in hopper 1 and hopper 2.
In implementation only one metering unit is running. When hopper 2 is empty, the metering unit of hopper 1 starts.
The following settings are important for correct switch-over from hopper 2 to hopper 1:
 - Correct adjustment of the fill-level sensor. The fill-level sensor initiates the change-over.
 - Entry of the metering unit transition time (setup)
 - Entry of the delay between hopper 2 empty and start-up of hopper 1 (setup).



Special case:

Partitioned hopper, identical seed, simultaneous metering adjustment.
Both hoppers run during operation.
→ The target quantity must be divided between the metering units.



The hoppers are emptied consecutively:

When the first hopper is empty, the following message appears:
Hopper is changed.

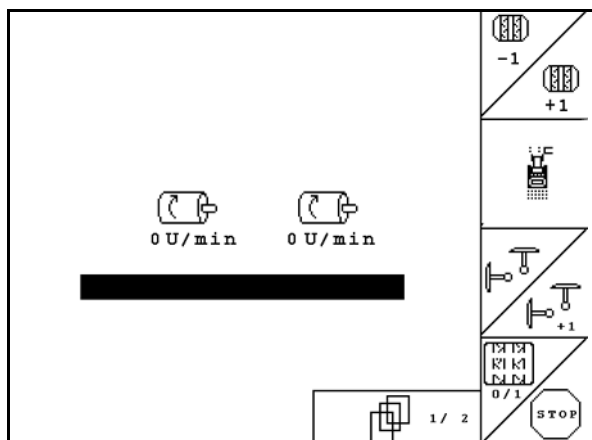
→ The metering unit starts on the second hopper.

5.7 Key assignment in work menu **Citan 6000**

Description of the function fields:



Page 1:



See
section

5.4.1	Tramline control
5.4.3	Markers – obstacle function
5.4.3	Markers
5.4.1	Tramline control



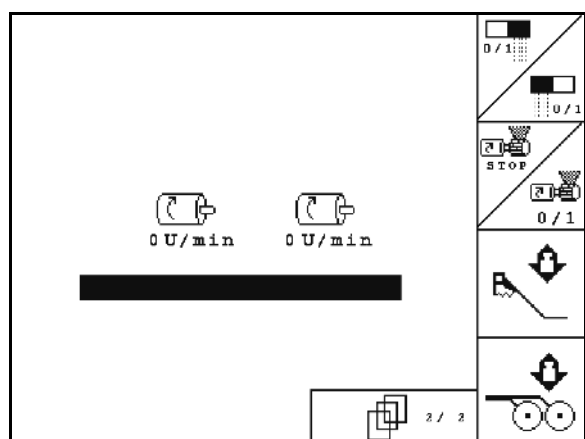
Shift key pressed



5.4.10	Folding the implement
5.4.12	Work lights



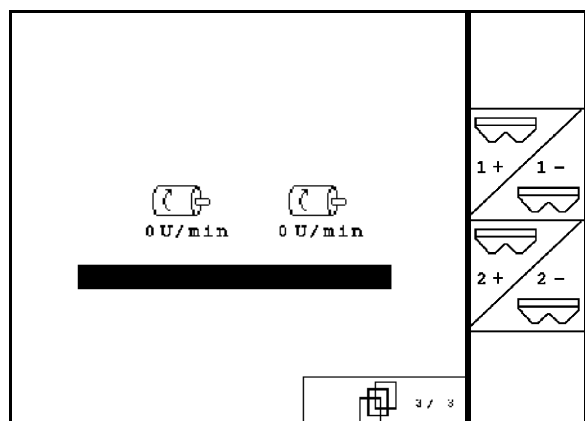
Page 2:



5.4.4	Switching one side of the boom part width sections
5.4.5	Electric full dosing
5.4.9	Coulter pressure and harrow pressure
5.4.8	Coulter pressure



Page 3:



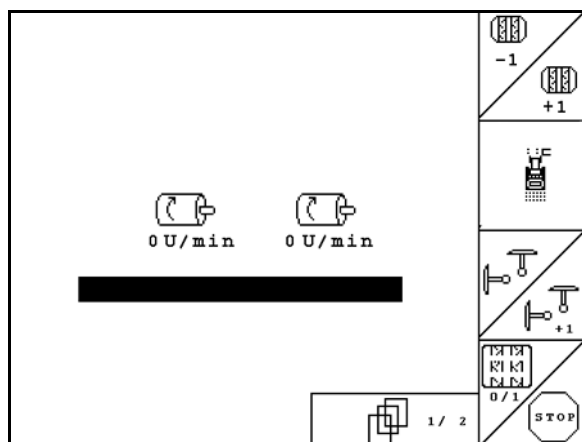
5.4.11	Application rate with partitioned hopper 1
5.4.11	Application rate with partitioned hopper 2

5.8 Key assignment in work menu **Cayena 6001**

Description of the function fields:



Page 1:



Shift key pressed

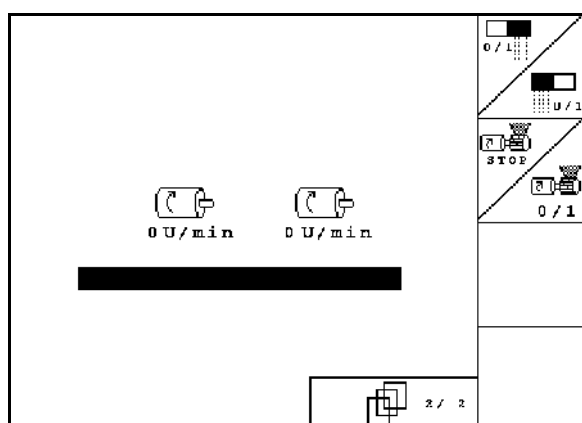


5.4.1	Tramline control
5.4.3	Markers – obstacle function
5.4.3	Markers
5.4.1	Tramline control

5.4.10	Folding the implement
5.4.12	Work lights



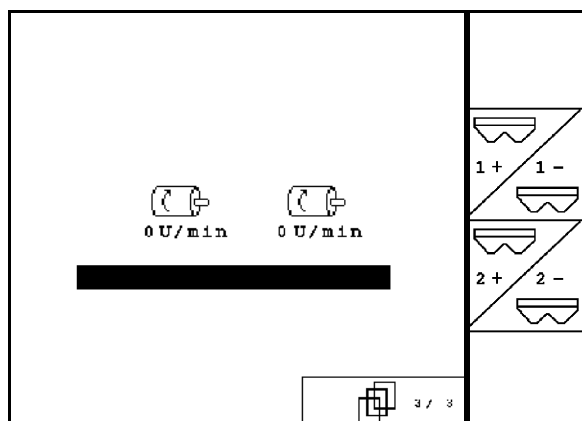
Page 2:



5.4.4	Switching one side of the boom part width sections
5.4.5	Electric full dosing



Page 3:



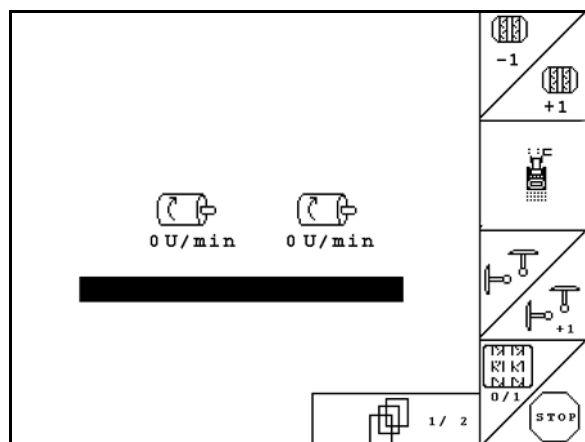
5.4.11	Application rate with partitioned hopper 1
5.4.11	Application rate with partitioned hopper 2

5.9 Key assignment in work menu **Cirrus / Cirrus Activ**

Description of the function fields:



Page 1:



See
section

5.4.1	Tramline control
5.4.3	Markers – obstacle function
5.4.3	Markers
5.4.1	Tramline control



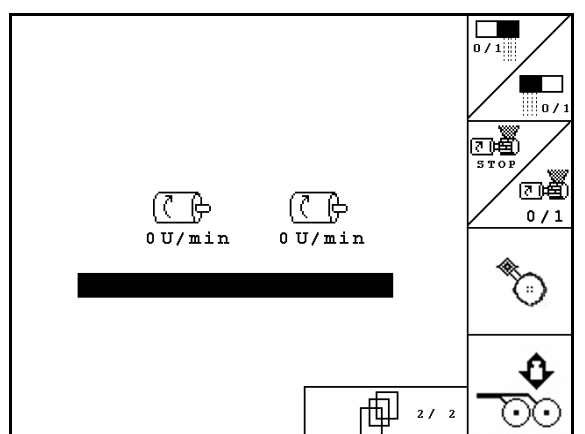
Shift key pressed



5.4.10	Folding the implement
5.4.12	Work lights



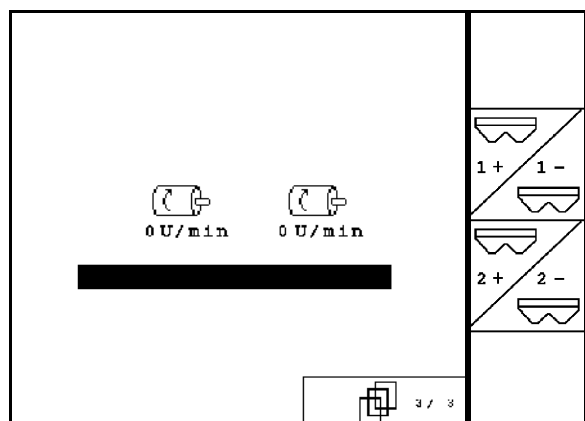
Page 2:



5.4.4	Switching one side of the boom part width sections
5.4.5	Electric full dosing
5.4.6	Disc array working depth (Cirrus)
5.4.6	Coulter pressure



Page 3:



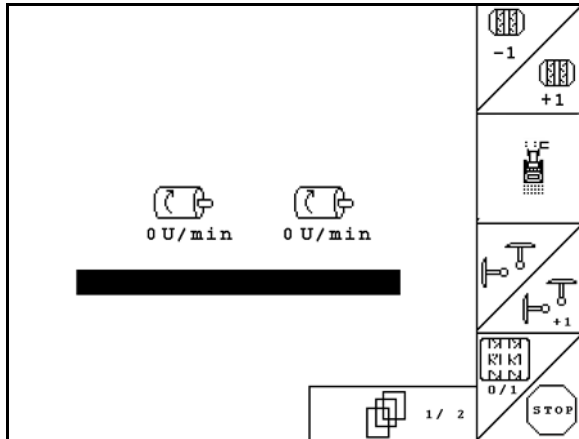
5.4.11	Application rate with partitioned hopper 1
5.4.11	Application rate with partitioned hopper 2

5.10 Key assignment in work menu **AD-P**

Description of the function fields:



Page 1:

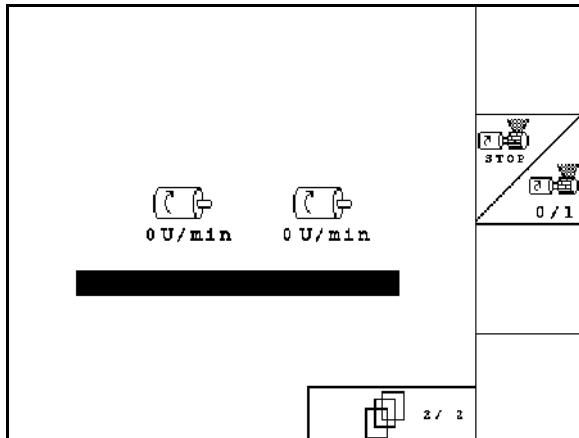


See
section

5.4.1	Tramline control
5.4.3	Markers – obstacle function
5.4.3	Markers
5.4.1	Tramline control



Page 2:



5.4.5	Electric full dosing

6 TwinTerminal 3

6.1 Product description

The TwinTerminal 3 is located directly on the implement and is used

- for convenient calibration of the seed.
- for convenient residual emptying.

The TwinTerminal 3 is switched on via AMATRON 3.

Alternating display:



4 Softkeys:



The terminal is operated using 4 softkeys.

The function fields show the current function of the softkeys.



Back to the start screen.



On the AMATRON 3, errors or warnings are indicated via a text message. The TwinTerminal then shows the following notice:

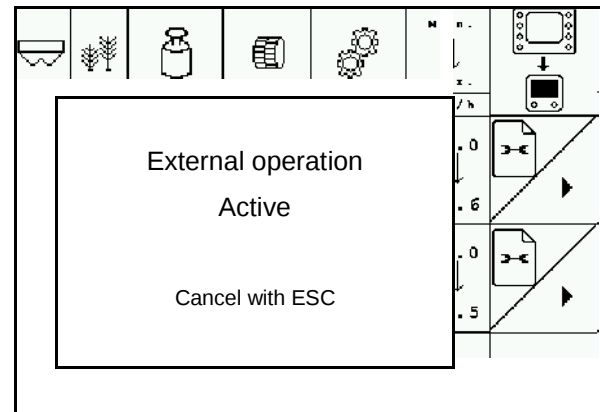




AMATRON 3:

-  In the menu, *Calibrate drill*, switch on the secondary terminal.
→ Carrying out the calibration procedure via secondary terminal
-  Switch on the TwinTerminal through the *Residual emptying* menu.
→ Residual emptying via the TwinTerminal
-  Cancel the task on the secondary terminal.
→ AMATRON 3 active again.

AMATRON 3 display, when secondary terminal is active.



Start screen with software version:



6.2 Carry out the calibration test.

Partitioned hopper:

1.   Divided hopper: select hopper 01 or 02 for the calibration.
2.  Confirm selection.



Partitioned hopper, identical seed, simultaneous metering adjustment.

- The target quantity must be divided to the metering units.
- The calibration test must be carried out for the appropriate proportion of the target quantity per metering unit.

3. Check the following entries before calibrating.
 - o Hopper 1, 2 (for partitioned hopper → 2 rear)
 - o Target quantity
 - o Size of the metering roller in ccm
 - o Calibration factor
 - o Relative area for which the implement will be calibrated
 - o Intended working speed



4.  Confirm entries.

5.  Pre-metering (hold key)

6.  Confirm that pre-metering is concluded.

→ After pre-metering, empty the collection hopper again.

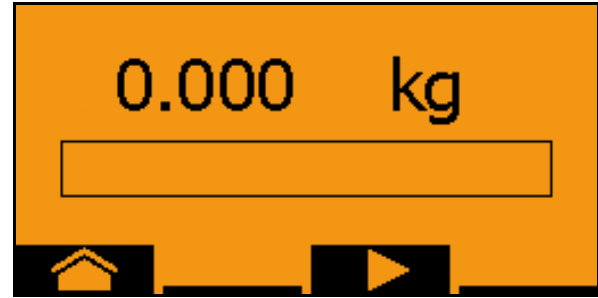


7.  Confirm that the flap under the metering unit is opened and that a collection container is placed underneath.



8.  Start with the calibration procedure (hold key).

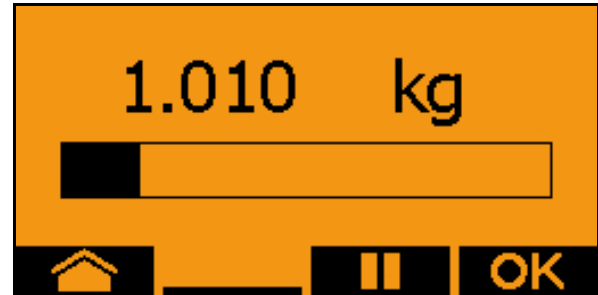
 The calibration procedure can be interrupted and started again.



→ During the calibration procedure the theoretic spread quantity will be displayed.

 As soon as OK appears, the calibration test can be ended prematurely:

 End the calibration test.



Green display: The calibration procedure ends, the motor stops automatically.

9. Release key.

10.  Go to the entry menu for the calibration quantity.



11. Weigh the collected quantity.

12. Enter the value for the collected quantity.

→ For entry of the collected quantity in kg, a decimal point with two places in before and three places after is available.

→ Each decimal place is entered separately.

- 12.1   Select decimal place.



  The selected decimal place is indicated by an arrow.

12.2 **123** Go to the menu for numeric entry.

→ The underscore indicates the possible numeric entry.

12.3 **+**, **-** Enter decimal value.

12.4 **OK** Confirm decimal value.

12.5 Enter additional decimal values.

13. **▶** Exit entry menu (activate several times if necessary)

→ until the following display appears:



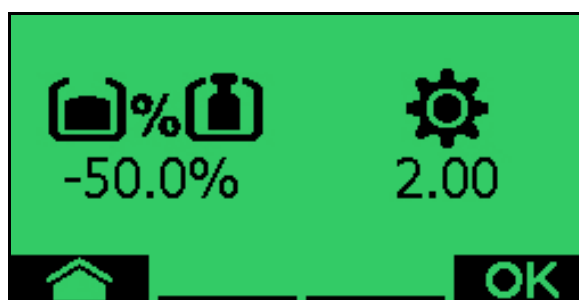
14. **OK** Confirm value for collected quantity.

→ New calibration factor will be displayed.

→ Difference between the calibration quantity and the theoretic quantity is displayed in %.

15. **OK** Exit Calibration menu, Start menu is displayed.

The calibration procedure is ended.



6.3 Residue emptying

1. Stop the implement.
2. Switch off the blower fan.
3. Secure the tractor and implement against unintentional rolling.
4. Open the flap of the injector.
5. Fasten collection bag or trough under the hopper opening.



6.   Divided hopper: select hopper 01, 02 or other for the calibration.

7.  Confirm selection.

8.  Confirm that the flap under the metering unit is opened and that a collection container is placed underneath.



9.  Emptying (press and hold the button)



7 Multi-function stick

7.1 Installation

The multi-function stick (Fig. 59/1) is attached with 4 screws at a convenient location in the tractor cab.

To connect, insert the connector of the basic equipment into the 9-pin Sub-D-bushing of the multi-function stick (Fig. 59/2).

Insert the connector (Fig. 59/3) of the multi-function stick into the centre Sub-D-bushing of the AMATRON 3.

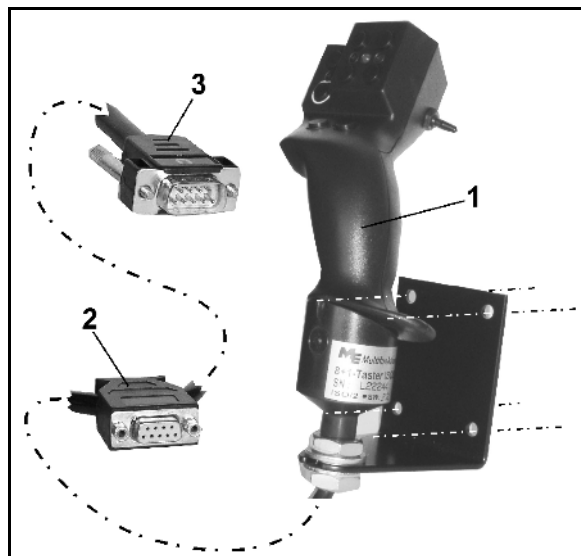


Fig. 59

7.2 Function

The multi-function stick only functions in the work menu of the AMATRON 3. It allows blind operation of the AMATRON 3 in use on the field.

For operation of the AMATRON 3, the multi-function stick (Fig. 60) has 8 keys (1 - 8) available. In addition, the assignment of the keys can be changed 3-fold by means of a switch (Fig. 61/2).

The switch default position is

-  central position (Fig. 60/A) and can be pressed
-  up (Fig. 60/B) or
-  down (Fig. 60/C)

The position of the switch is indicated by an LED lamp (Fig. 60/1) angezeigt.

-  LED display yellow
-  LED display red
-  LED display green

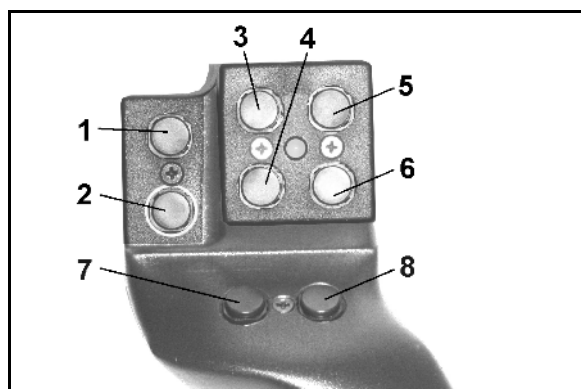


Fig. 60

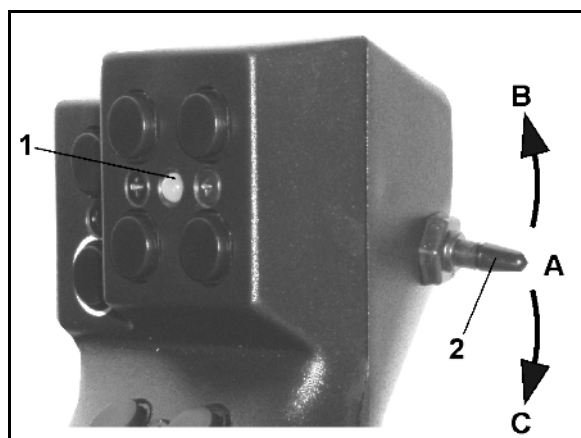
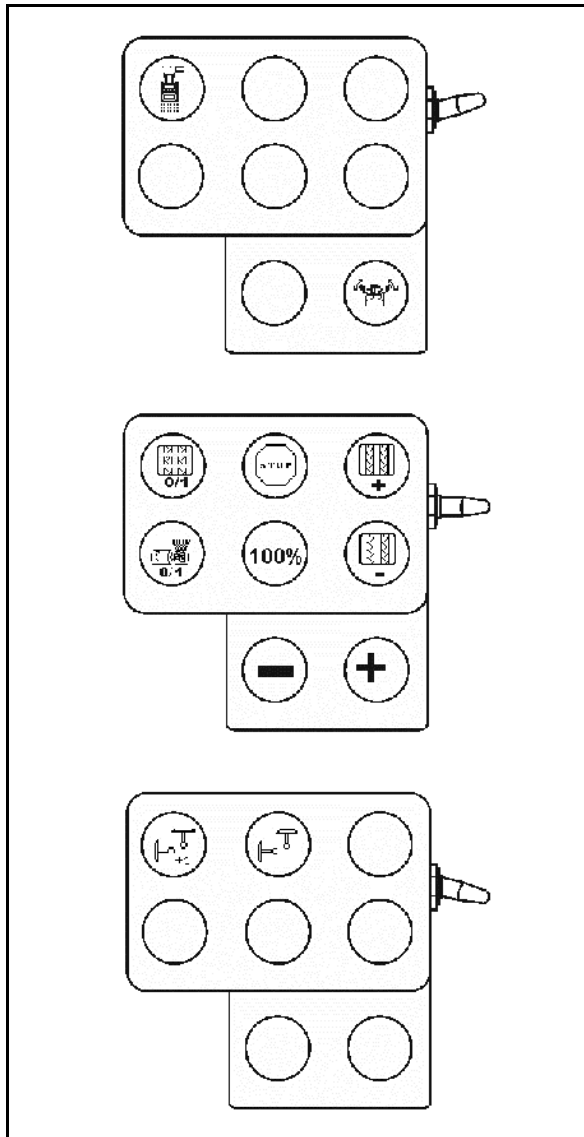


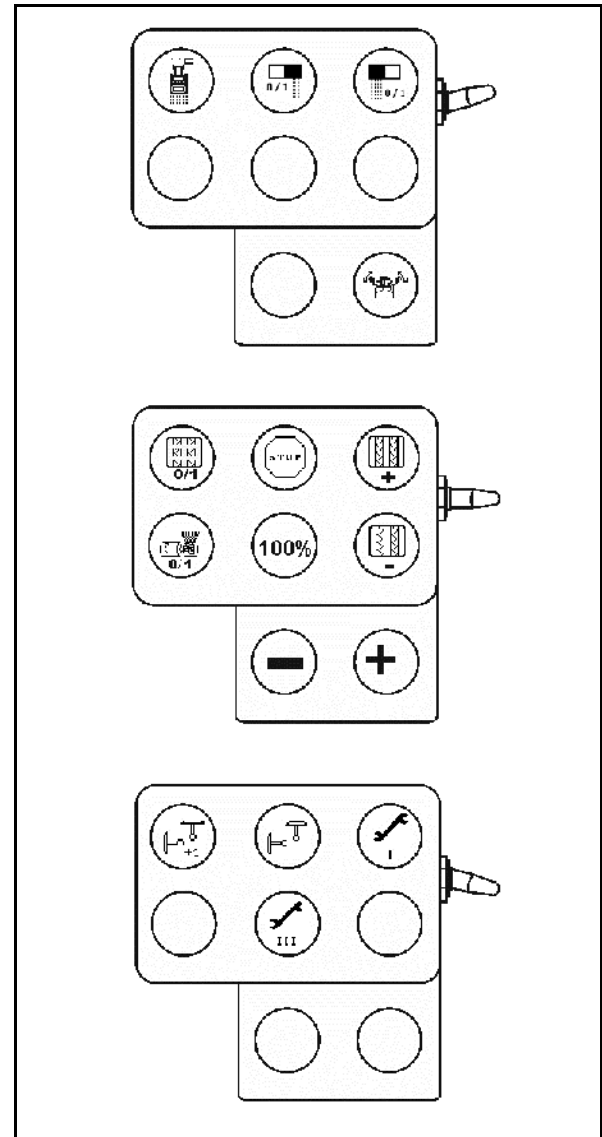
Fig. 61

7.3 Assignment of multi-function stick

Citan / Cayena



Cirrus / Cirrus Activ / AD-P



8 Malfunction

8.1 Alarm

Uncritical alarm:

A fault message (Fig. 62) appears at the bottom of the display and an acoustic alarm sounds three times.

→ Rectify the fault if possible.

Example:

- Hopper seed level too low.
- Remedy: Refill seed hopper.

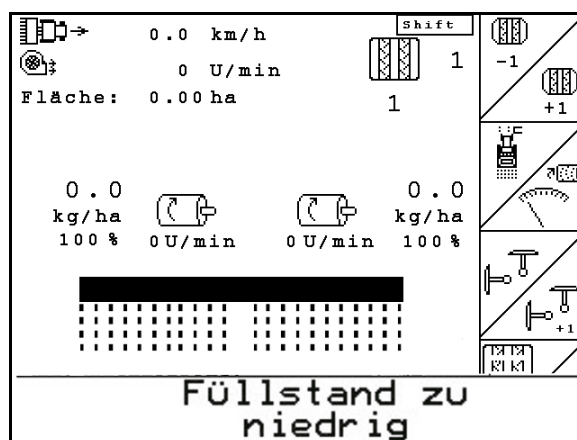


Fig. 62

Critical alarm:

A warning message (Fig. 63) appears in the middle of the display and an acoustic alarm is given.

1. Read the warning message on the display.

2.  Confirm the warning message.



Fig. 63

8.2 Failure of the distance sensor

In event of failure of the distance sensor (Imp./100m), work can continue after entry of a simulated working speed.

In order to avoid sowing errors, the defective sensor must be replaced.

If a new sensor is not immediately available, the work can be continued as follows:



In event of failure of the distance sensor, with the implement moving the seed rows in operational position are not indicated in the work menu.

1. Disconnect the signal cable of the defective distance sensor from the job computer.



2. Actuate from the main menu.



3. Enter a simulated speed.



- During the work, the simulated speed entered must be maintained.

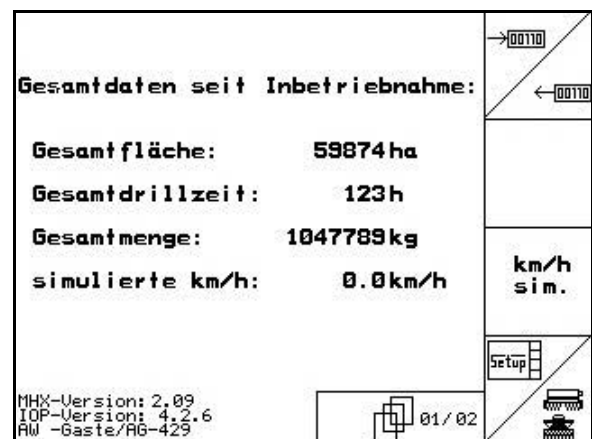


Fig. 64

8.3 Fault table

Message with the display of the fault code

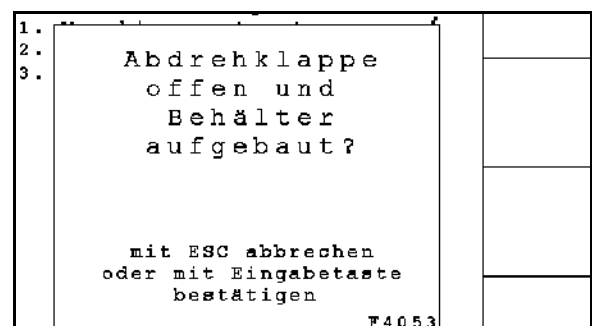


Fig. 65

Malfunction

Number	Message	Type	Cause	Remedial action
F4001	OSS: Motor 1 failed	Alarm	Motor of the one-sided switching cannot be controlled	Check the system for blockages and remove them. Move the motor via the Diagnostics menu or replace the motor
F4002	OSS: Motor 2 failed	Alarm	Motor of the one-sided switching cannot be controlled	Check the system for blockages and remove them. Move the motor via the Diagnostics menu or replace the motor
F4003	OSS: Sensor 1 failed	Alarm	Defective or incorrectly set sensor on the electric one-sided switching or cable break	Check the sensor in the diagnosis menu by moving the one-sided switching, if necessary, realign or replace
F4004	OSS: Sensor 2 failed	Alarm	Defective or incorrectly set sensor on the electric one-sided switching or cable break	Check the sensor in the diagnosis menu by moving the one-sided switching, if necessary, realign or replace
F4005	OSS: Pressure sensor 1 failed	Alarm	Defective sensor or cable break	Check the voltage of the pressure sensor in the diagnosis menu. The value should be greater than 0.5 V. Check the wiring and, if necessary, replace the pressure sensor
F4006	OSS: Pressure sensor 2 failed	Alarm	Defective sensor or cable break	Check the voltage of the pressure sensor in the diagnosis menu. The value should be greater than 0.5 V. Check the wiring and, if necessary, replace the pressure sensor
F4007	speed too high	Message	Forward speed too high	Drive slower speed calculation is wrong (check pulses per 100 m)
F4008	Fill level too low	Message	Low filling level or defective sensor or cable break	Check fill level, check sensor in the Diagnostics menu, check wiring harness
F4009	Metering speed is too low, drive faster	Alarm	Metering unit cannot turn slower	Drive faster, calibrate again adjust application rate
F4010	Metering speed is too high, drive slower	Alarm	Metering unit cannot turn faster	Drive slower calibrate again adjust application rate
F4011	Stop key still active	Message	Stop button has been selected	Deactivate stop button
F4012	"Stop metering" key activated	Message	Metering unit stop has been selected	Deactivate stop metering unit
F4013	Folding cancelled	Message	The folding process has taken longer than 3 minutes	Restart folding procedure
F4014	Fill level of hopper x too low	Message	Low filling level or defective sensor or cable break	Check fill level, check sensor in the Diagnostics menu, check wiring harness
F4015	Minimum blower speed under-ranged. Metering unit stops!	Alarm	Speed below 200 rpm, defective sensor, cable break	Check speed, check sensor in the Diagnostics menu, check the wiring harness
F4016	OSS: no communication to job computer	Alarm	Incorrect configuration, cable break between the basis and OSS computer, defective OSS computer	Check the configuration, check the wiring harness, replace OSS computer
F4017	Hopper: minimum pressure is dropped below	Message	The specified minimum pressure is dropped below	Increase blower speed of the singling blower If necessary reduce the value Call-up Diagnostics menu (e.g. sensor is defective)

F4018	Hopper: maximum pressure exceeded	Message	The maximum specified pressure is exceeded	Minimize blower speed, if necessary increase pressure: call-up diagnostics menu (e.g. sensor is defective)
F4019	Pulses per 100 m missing	Alarm	Pulse per 100 m is set to zero in the machine setup	Enter the pulses per 100 m or run in
F4020	Pulses per 100 m missing	Alarm	Pulse per 100 m is set to zero in the machine setup	Enter the pulses per 100 m or run in
F4021	Setpoint deviates significantly from calibration value	Alarm	Deviation between target quantity in the calibration menu and in the job menu	Call up the Calibration menu in order to determine a new calibration factor or ignore the error message by confirming with the input key (caution, wrong spread rate is possible!)
F4022	Entry of the target blower speed is missing	Message	No nominal blower fan speed has been entered in the implement setup	Set the nominal blower fan speed in the machine setup or accept the current speed
F4023	Geared motor does not respond	Alarm	No Vario gear motor connected or defective	Call up the diagnosis menu, control the motor and check the rotary impulse
F4024	Sowing shaft does not rotate	Alarm	Mechanical defect or defective sensor or cable break	Check the mechanical drive train or call up the diagnosis menu
F4025	Left lay shaft does not rotate	Alarm	Mechanical defect or defective sensor or cable break	Check the mechanical drive train or call up the diagnosis menu
F4026	Right lay shaft does not rotate	Alarm	Mechanical defect or defective sensor or cable break	Check the mechanical drive train or call up the diagnosis menu
F4027	Lay shaft does not rotate	Alarm	Mechanical defect or defective sensor or cable break	Check the mechanical drive train or call up the diagnosis menu
F4028	Left tramline control does not respond	Alarm	Mechanical defect or defective sensor or cable break	Checking the mechanism of the tramline gap or call up the diagnosis menu
F4029	Right tramline control does not respond	Alarm	Mechanical defect or defective sensor or cable break	Checking the mechanism of the tramline gap or call up the diagnosis menu
F4030	Tramline control does not respond	Alarm	Mechanical defect or defective sensor or cable break	Checking the mechanism of the tramline gap or call up the diagnosis menu
F4031	Left tramline is switched	Alarm	Mechanical defect on the tramline motor or cable break	Checking the mechanism of the tramline gap or call up the diagnosis menu
F4032	Right tramline is switched	Alarm	Mechanical defect on the tramline motor or cable break	Checking the mechanism of the tramline gap or call up the diagnosis menu
F4033	Tramline is switched	Alarm	Mechanical defect on the tramline motor or cable break	Checking the mechanism of the tramline gap or call up the diagnosis menu
F4034	Left rotary cultivator does not rotate	Alarm	Mechanical defect or defective sensor or cable break	Checking the mechanism of the tramline gap or call up the diagnosis menu
F4035	Rotary cultivator Right does not turn	Alarm	Mechanical defect or defective sensor or cable break	Checking the mechanism of the tramline gap or call up the diagnosis menu
F4036	2nd implement computer has failed	Alarm	Incorrect configuration, cable break between the basis and hydraulic computer, defective hydraulic computer	Check the configuration, check the wiring harness, replace hydraulics computer
F4037	Sowing shaft alarm time input missing	Alarm	Value not entered in the setup	Set the value in setup
F4038	Tramline alarm time input missing	Alarm	Value not entered in the setup	Set the value in setup

Malfunction

F4039	Lay shaft standstill alarm time input missing	Alarm	Value not entered in the setup	Set the value in setup
F4040	Blower alarm threshold input missing	Alarm	Value not entered in the setup	Set the value in setup
F4041	Blower fan speed cannot be maintained	Message	Blower fan operates outside the tolerance range set	Change tolerance range, check the sensor, check the hydraulics
F4042	Full metering unit 1 does not respond	Alarm	Mechanical defect on the metering motor or cable break	Call up the diagnosis menu, control the motor and check the rotary impulse
F4043	Full metering unit 2 does not respond	Alarm	Mechanical defect on the metering motor or cable break	Call up the diagnosis menu, control the motor and check the rotary impulse
F4044	Do you want to delete this job?	Message	A job has been selected for deletion	Press the ESC key
F4045	Attention! You are changing the basic setting of the machine	Alarm	Call up the setup button in the main menu	Continue in setup with Esc, back to the main menu with the Enter button
F4046	CAUTION! Metering flap open!	Alarm	Open metering flap, defective sensor, cable break	Close metering flap, replace sensor, check wiring harness (only with older metering units made from VA)
F4047	Calibration when travelling not possible	Alarm	Implement runs	Bring implement to a standstill when calibrating
F4048	1000 grain weight missing	Alarm	1000 grain weight missing	Enter 1000 grain weight
F4049	Hopper X calibrated	Message	With a partitioned hopper, you are informed of the second hopper after calibration	Calibrate or deactivate other hopper
F4050	Metering system not closed	Alarm	Calibration flap sensor installed and implement is in the work menu when the calibration flap is open	Close calibration flap
F4051	Metering system closed, calibration not possible	Alarm	Calibration flap sensor installed and implement should be calibrated when the calibration flap is closed	Open calibration flap
F4052	Stop implement and blower	Alarm	A speed and a blower fan speed are at hand on the job computer. To continue, the implement must be stopped and the blower must be switched off	Stop implement and blower fan
F4053	Metering flap open and tank installed?	Alarm	The user is in a running calibration procedure	Cancel calibration procedure or confirm query
F4054	Sluice closed?	Alarm	The user is in a running calibration procedure	Cancel calibration procedure or confirm query
F4055	Working width missing	Alarm	No working width was set in the setup	Adjust the working width
F4056	This value is incorrect	Alarm	This notice is currently no longer used	-
F4057	Entry of the tramline rhythm is missing	Alarm	A tramline rhythm has not been set in the implement setup	Set rhythm

F4058	Entry of the alarm limit is missing	Alarm	This notice is currently no longer used	-
F4059	KG depth sensor is defective	Alarm	This notice is currently no longer used	-
F4060	Left boom part width section does not respond	Alarm	Left full metering unit does not respond	Check the metering system, the wiring harness or call up the diagnostics menu and activate the motor
F4061	Right boom part width section does not respond	Alarm	Right electric full metering unit does not respond	Check the metering system, the wiring harness or call up the diagnostics menu and activate the motor
F4062	Bring the track marker into park position	Message	The user is attempting to fold in the implement via the folding menu	Activate the control device until the track marker is in park position
F4063	Setpoint value cannot be maintained	Alarm	Metering system reaches its performance limit	Increase / reduce speed and/or adjust target quantity. Speed calculation is wrong (check pulses per 100 m)
F4065	Emptying when travelling not possible	Message	Residual emptying has started although a speed is present	Stop the implement
F4066	Drive exactly 100 m, then stop and confirm with the enter key	Message	User calibrates the impulse per 100 m	-
F4067	Implement turned? Cell filled?	Message	The user is in a running calibration procedure	Cancel calibration procedure or confirm query
F4068	Calibration trough emptied?	Message	The user is in a running calibration procedure	Cancel calibration procedure or confirm query
F4069	Calibration procedure is running, cancel with ESC or quit with the enter button.	Message	The user is in a running calibration procedure	Cancel calibration procedure or confirm query
F4070	Do you really want to reset all data to the factory setting?	Message	User has selected a reset of the job computer	-
F4071	Faulty checksum	Note	The verification of the internal memory of the job computer found an error.	Check the implement settings in the setup and switch off the system using the ignition. If the error is still there, please contact the dealer.
F4072	Alarm limit not reached	Alarm	This notice is currently no longer used	-
F4073	Please press "Shift" and "Scroll"	Alarm	AMATRON 3 - User attempts to call-up the terminal setup	-
F4078	Supply voltage not reached	Message	The job computer has detected undervoltage on the 12 V electronics or 12 V load	Check the connection of the basic equipment on the battery, possible cable break / crushing, check voltages via Diagnostics menu
F4079	External operation active	Note	Operation has been switched over to the secondary terminal	With the Esc key switch operation back over to the tractor terminal, or carry out the operation on the secondary terminal



AMAZONEN-WERKE

H. DREYER GmbH & Co. KG

Postfach 51	Tel.:	+ 49 (0) 5405 501-0
D-49202 Hasbergen-Gaste	e-mail:	amazone@amazone.de
Germany	http://	www.amazone.de

Plants: D-27794 Hude • D-04249 Leipzig • F-57602 Forbach
Branches in England and France

Manufacturers of mineral fertiliser spreaders, field sprayers, seed drills, soil cultivation implements and communal units
