**Operating Manual** 

## AMAZONE

## Software **AMABUS**

and Joystick For use in conjunction with pneumatic seed

**AD-P** and **AVANT** 



MG4643 BAG0120.3 05.16 Printed in Germany Before starting to operate the machine, please carefully read and adhere to this instruction manual and safety advice!



en



# Reading the instruction

Manual and following it should seem to be inconvenient and superfluous as it is not enough to hear from others and to realize that a machine is good, to buy it and to believe that now everything should work by itself. The person in question would not only harm himself but also make the mistake of blaming the machine for possible failures instead of himself. In order to ensure success one should enter the mind of a thing, make himself familiar with every part of the machine and get acquainted with how it's handled. Only in this way could you be satisfied both with the machine and with yourself. This goal is the purpose of this instruction manual.

Leipzig-Plagwitz, 1872 Rub. Sark!



Identification data											
	Enter the machine identification data here. You will find the identification data on the type plate.										
	Machine identification number: (ten-digit)										
	Туре:	AMABUS									
	Year of manufacture:										
	Basic weight (kg):										
	Approved total weight (kg):										
	Maximum load (kg):										
Manufacturer's - address											
	AMAZONEN-WERKE										
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	D-49202 Hasbergen										
	Tel.: + 49 (0) 5405 50 1-0										
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Spare part orders											
	Spare parts lists are freely access <u>www.amazone.de</u> .	sible in the spare parts portal at									
	Please send orders to your AMAZ	CONE dealer.									
Formalities of the operating	manual										
	Decument numbers	MC4C42									

Document number:	MG4643
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#### Foreword

Dear Customer,

	Deal 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 machine, check to see if it was damaged during transport or if parts are missing. Using the delivery note, check that the machine was delivered in full including the ordered special equip- ment. Damage can only be rectified if problems are signalled immedi- ately!									
	Before first commissioning, read and understand this operating man- ual, and particularly the safety information. Only after careful reading will you be able to benefit from the full scope of your newly purchased machine.									
	Please ensure that all the machine operators have read this operating manual before commissioning the machine.									
	Should you have any questions or problems, please consult this op- erating manual or contact your local service partner.									
	Regular maintenance and timely replacement of worn or damaged parts increases the lifespan of your machine.									
User evaluation										
	Dear Reader,									
	We update our operating manuals regularly. Your suggestions for improvement help us to create ever more user-friendly manuals.									
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AMAZONE	

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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 machine.
- Provides important information on safe and efficient handling of the machine.
- Is a component part of the machine and should always be kept with the machine 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
- $\rightarrow$  Reaction of the machine 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
- ltem 6



## 2 General safety instructions

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

The	The operation manual							
•	Must always be kept at the place at which the machine is oper- ated.							
•	Must always be easily accessible for the user and maintenance personnel.							

## 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:



## 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.

 $\bigwedge$ 

### 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 machine handling.

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

1

### NOTE

Indicates handling tips and particularly useful information.

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



## 3 Product description

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

This operating manual shows operation of the **AD-P** and **AVANT** seed drills with the **AMATRON 3**.

Operation of the seed drill with the **AMATRON 3** differs according to the type and equipment of the machine.

## 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

machine t	ype:	AD-P	Order				
order No.	:	6	drill				
tramline	rhythm No.:	15	carror.				
working w	idth:	2.5m	machine				
pre-sel.s	peed:	5 km/h					
Calibrati	on tac.:	1.00	Setue				
	working menu	aid					



#### Work menu (Fig. 2)

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



Fig. 2



## 3.1 Entries on AMATRON 3



For operation of the **AMATRON 3**, the function fields appear in this operating manual in order to make clear that the key for the respective function field must be pressed.

Example:

•



Description in the operating manual:



## Action:

The operator uses the key (Fig. 3/1) assigned to the function field to perform function **A**.

## 3.2 Software version

This operating manual is valid from software version::

Machine:

MHX-version: 2.23.01



Fig. 3



## 3.3 Hierarchy of the software





## 4 Operation

## 4.1 Main menu



- o Data entry for new job.
- o Start job before beginning spreading.
- o The data for up to 20 jobs are stored
- drill calibr.
- **Calibration** menü (see page 23)
  - o always carry out a calibration test prior to any sowing operation.

machine t	ype:	AD-P	Order										
order No.	:	6	drill calibr.										
tramline	tramline rhythm No.: 15												
working w	idth:	2.5m	machine										
pre-sel.s calibrati	peed: on fac.:	5 km/h 1.05											
			Setup										
	working menu	aid											



## machine

- Machine data menu (see page 13)
  - o Input of machine-specific or individual data.
  - Setup
    - Setup menu (page 28)
    - o Input of basic settings



• Residual emptying menu only with electrical metering (see page 27)



## 4.2 Machine data menu



(see chapter 4.2.3).



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n

prog.

<u>\_</u>



X-Sensor Schlepper: nein

Fig. 7

standard value: 1  $\rightarrow$ 

tric metering drive.



Schlerrer Tractor equipped with distance sensor (yes/no).

Only required for machines without

Inputting the norm factor for the elec-

seed return to hopper.

Impulses via tractor signal socket.  $\rightarrow$ 



			kg	
chine hoppe	۲			
i.:	30 kg	@ 02/03	I <del>/7711174</del> 1 alarm	

╓╋┓ 03 / 03

**5-0** 

X-Sensor Schlepper



## 4.2.1 Tramline rhythm (machine data

Refer to the following tables for the number of the tramline rhythm.

### Simple tramline rhythm





											Sim	ole t	raml	ine o	conti	rol								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	20	21	22	23	26	32	35
	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		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	es.	4	4	4	3	3	3	4	3	4
P						5	5	5	5	6	6	5	5	5	mlin	5	5	5	4	4	4	5	4	5
l te							6	6	6	0	7	6	6	6	tra	6	6	6		5	5	6	5	6
								7	7	8	8	7	7	7	eate	7	7	7		6	6	7	6	7
je (									8	9	0	8	8	8	ot cr	8	8	8			7	8	7	8
nlir										10	10	9	9	9	s nc	9	9	9			8	9	8	9
rar												10	10	10	doe	10	10					10	9	10
												11	11	11	: 15	11	11						10	11
													12	12	rcuit	12	12							12
														13	Ö	13	13							13
																14	14							14
																15	15							
																	16							



#### **Double tramline control**

Example, double tramline con-trol, requires 2 seed distributors





									Do	bubl	e tra	amli	ne c	ontr	ol									
	18 left side	18 right side	19 left side	19 right side	24 left side	24 right side	25 left side	25 right side	27 left side	27 right side	28 left side	28 right side	29 left side	29 right side	30 left side	30 right side	31 left side	31 right side	33 left side	33 right side	34 left side	34 right side	36 left side	36 right side
	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
	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
	6	6	6	6	6	6	0	6	0	6	6	0			6	6			6	6	0	6	6	6
	7	0	0	7	0	7	7	7	7	7									7	7	7	7	0	7
-	8	8	8	8	8	8	8	8	8	8									8	8	8	8	0	8
nte	9	9	9	9	9	0	0	9	9	0									9	9	9	9	9	9
Ino	10	10	10	10	10	10	10	10	10	10									10	0	10	10	10	10
Ŭ	11	11	11	11			11	11													0	11	11	11
line	12	0	0	12			12	12													12	12	12	0
am	13	13	13	13			13	0													13	13	13	13
μ	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																			
	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
nte							0	11	11	11	11	11	11	11			11	11	11	11
no							12	12	12	12	12	12	12	12			12	0	0	12
с ө							13	0	13	13	13	13	13	0			13	13	13	13
lin							14	14	14	0	14	14	14	14			14	14	14	14
am							15	15	15	15	15	15					15	15	15	15
μ							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	20	19	20
							20	20	21	20	20	20					20	20	20	20
									21	21	22	22					21	21	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

## 4.2.2 Input of the sown and unsown distances (m) for the intermittent tramline (Machine data 🗐 01.04)

•	Setting the sowing distance (m) when the intermittent tramline function is switched on.
---	---



when the intermittent tramline function is switched on.

sown distance:	20 m	
n.sown distance:	20 m	





## 4.2.3 Calibration of forward speed sensor (Machine data

The adjustment of seed rate, the acccumulation of the worked area or an indication of forward speed, **AMATRON 3** requires the impulses of the seed drill drive wheel over a measured distance of 100 m.

The value 'Imp./100m' is the number of impulses, that **AMATRON 3** receives during the calibration distance from the seed drill drive wheel.

Slip on the seed drill drive wheel may vary in changeable soil types (e.g. from heavy to light land) resulting in a change of the value Imp./100m.

It is necessary to determine the 'Imp./100m' value:

- prior to the initial operation
- in changeable soils (wheel slip)
- in cases of a deviation between the seed rate determined by the calibration test and the quantity of seed applied in the field
- in case of deviation between the displayed and the actual area drilled.

For a manual input of that value for a subsequent operation in the same field the 'Imp./100 m' calibrated value can be entered into the table (Fig. 13).



The calibration figure "Imp./100m" may never be smaller than "250", as otherwise **AMATRON 3** does not operate properly.

There are two protential possibilities to enter the Imp/100m:



 The value is known and is entered manually on the **AMATRON 3** termina (see Fig. 13).

 The value is unknown and will have to be determined by driving down a measured calibration distance of 100 m.

enter value for impulses/100m or calibrate automatically.	manual Entry
	Start
actual 1107 Imp/100m	

Fig. 11

Start



Calibration travel by driving down a test distance:

- 1. Carefully measure the test distance of 100 m in the field..
- 2. Mark beginning and end of the test distance (Fig. 7).



- 3. Start calibration.
- 4. Carefully drive test distance from the beginning to the end mark.

when driving off the counter jumps back to 0.

- → The determined impulses are continuously shown on the display.
- 5. Stop after 100 m.
- → The display now shows the final determined number of impulses.
- 6. Input the value 'Imp./100m'.
- or

Reject the new value 'Imp./100m'..



If an all-wheel drive is used on the field, it must also be switched on during distance sensor calibration.



Fig. 12



#### Operation

			A	)-P					
The "Imp./100m" calibration value depends on both the seed drill		AD-P03 Super			AD-P03 Special since 03.2006		PO2 ofi	RP-AD- PO2 Profi Pneumatic	
model and the soil type!		without	with	without	with			tyre pa Pack seed	acker Top drills
		full electr	ic metering	full el mete	ectric ering				
			C	alibration	value "l	mpulse/10	0m"		
Theoretical value	<03/2011	1575	1623	1409	1623	10	52	11	75
Theoretical value	03/2011- 06/2013		2000		2000				
Theoretical value	>06/2013		1230		1230				
Field 1									
Field 2									
			AV	ANT	•				
The "Imp./100m" calibration value depends on both		FPS PSK PSF since 0	04 (W/ )W 8.2006	FRS 04 PSKW/ PSPW since 08.2006		FPS 03 Avant since 09.2000		FRS 03 Avant since 01.2001	
the seed drill		without	with	without	with	without	with	without	with
soil type!!		full electric	metering	full el mete	full electric metering		ectric ring	full ele mete	ectric ring
			Cal	ibration v	alue "Im	pulse/100	m"		
Theoretical value		1409	1623	1409	1623	1502	1623	1558	1623
Field 1									
Field 2									

Fig. 13



## 4.2.4 Seed rate reduction during tramline creation

Refer to the following table for the recommended % of the seed rate reduction of the table.

Working width	Number of seed coulters	Number of tramline coulters	Recommended % seed rate reduction during tramline creation
	24	4	17%
2 0 m	30	4	13%
3,0 11	24	6	25%
	30	6	20%
	32	4	12%
4.0 m	40	4	10%
4,0 11	32	6	19%
	40	6	15%
	36	4	11%
4.5 m	44	4	9%
4,5 11	36	6	17%
	44	6	14%
6 0 m	48	4	8%
0,0 11	48	6	12%

## Fig. 14



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



## 4.3 Starting a job



When the Job menu is opened, the most recently started (most recently processed) job appears.

Information on max. 20 jobs can be stored (job numbers 1 to 20).

(Fig. 15/1).

Enter name

Hane

- Note Enter note
- all data in this existing job is deleted
- Starting the job so that data for this job can be accumulated.
- k9/hi
  - Enter desired application rate.
- Enter the kind of seed, the 1000grain weight and the seed count.

Delete the data of day

- Delete daily data
  - o Worked area (ha/day)
  - o Quantity applied (amount/day)
  - o Working hours (hours/day)









Fig. 16

#### 4.3.1 External job

Via a PDA computer an external job can be transferred into **AMATRON 3** and started.

This order always takes job number 21.

The data transfer takes place via the serial interface



Auftrags-Nr.: Sollmenge:	21 25.00	externen Auftras beenden
Saatgutart:	Feinsämereien	
1000-Korn-Gewicht:	100.0 g	Sorte
CalFaktor:	1.00	
fertige ha: Stundon:	0.00ha	kg/ha () K/m <sup>2</sup>
	0.0 h	
ausgeb.nenge:	U Kg	

Fig. 17

### 4.4 Calibration

The calibration test is carried out to ensure that, during the sowing operation the desired seed rate is maintained.

Always carry out a calibration test

- when changing the seed type
- in cases with the same seed type, however, with a different grain size, grain shape, bulk density or different dressing
- when changing from the main seed wheel to the fine seed wheel and vice versa
- in case of a deviation between the calibration test and the actual seed rate.



For carrying out the calibration test, see also the seed drill operating manual.



#### Operation

## 4.4.1 Calibration of the drill with remote seed rate control

- 1. Fill the seed hopper with sufficient seed.
- As described in the operator's manual for the seed drill, place the collecting tray underneath the metering unit(s) and open the injector sluice(s).
- 3.

Check/enter the desired seed rate

-enter required seed rate -pre-select gearbox position -start calibration -turn crank at least until signal sounds -enter calibrated amount in kg	kg/ha K/m <sup>2</sup> <sup>100</sup> + ↓ 100 - ↓
actually set: working width: 2.5 m req.amou.: 15.00kg/ha gearbox position 62.5	start calibr.





This figure can also be entered via the job menu (see page 22).

- 100 M
- 4. Press the or zight keys to set the gearbox lever to an estimated position
  - o Gearbox position 50: Sowing with the main metering wheels
  - o Gearbox position 15: Sowing with the fine seed wheels



The gearbox position which is indicated on the **AMATRON 3** must coincide with that indicated on the gearbox setting scale. If not first calibrate the gearbox (see page 48)!

- 5. Close the inspection window on the metering wheel.
- As described in the operator's manual of the seed drill turn the star wheel clockwise with the aid of the calibration crank until all chambers of the metering wheels are filled with seed and an even seed flow is delivered into the collecting tray(s).
- 7. Empty the collecting tray(s).



start calibr.

- 8. Press and follow the advice on the display:
- As described in the operator's manual of the seed drill turn the drive wheel with the aid of the crank until the horn sounds.
  AMATRON 3 registers any additional turns after the horn sounds in its calculation.
- 10. To accept the calibration procedure after

the horn sounds, press the ev.

 Weigh the amount of seed collected in the collecting tray(s) (bear in mind the weight of the tray) and enter the weight (kg) into the terminal.



Any balance used should weigh accurately as inaccuracy will cause deviations within the seed rate actually applied!

**AMATRON 3** auomatically then calculates and sets the required gearbox position based on the calibration test data entered.

Repeat the calibration procedure to ensure the correct setting.



## 4.4.2 Calibration of the drill with full electric metering system

- 1. Fill the seed hopper with sufficient seed.
- 2. As described in the operator's manual for the seed drill, place the collecting tray underneath the metering unit(s) and open the injector sluice(s).



Check/enter the desired seed rate.



This figure can also be entered via the job menu (see page 22).





4. enter the proposed operational speed (km/h).



5. V prior to the initial calibration set the Cal. Fac. (calibration factor) to 1.00 or a pre-calculated known value.

#### Operation



6. Prime the cells of the metering wheels once. The priming time can be

- wheels once. The priming time can be adjusted and corresponds to the running time of the pre-charger system.
- 7. Check whether the correct seed type has ben selected.
- 8. Close the inspection window on the metering wheel.
- 9. Empty the collecting trays.

start alibr

- 10. Press and follow the advice on the display:
- 11. Press effect the horn sounds to accept the calibration procedure
- 12. Weigh the amount of seed collected in the collecting tray(s) (bear in mind the weight of the tray) and enter the weight (kg) into the terminal.

1

Any balance used should weigh accurately as inaccuracy will cause deviations within the seed rate actually applied!

AMATRON 3 automatically then calculates and sets the required gearbox position based on the calibration test data entered.

Repeat the calibration procedure to ensure the correct setting.





## 4.5 Residual emptying with electrical metering



- 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.







Fig. 21

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.



## 4.6 Service Setup





The settings in the Set-up menu is a workshop operation and must be carried out only by qualified personnel!

01/02 Page 1 (Fig. 22)

- Diagnosis computer input (only for customer service).
- Diagnosis computer output (only for customer service).
- Enter simulated speed (allows continued spreading despite faulty distance sensor, see page 49).



Fig. 22

• Enter basic data (see page 29).



- RESET
- Reset the machine computer to factory settings. All entered and generated data (jobs, machine data, calibration values, set-up data) will be lost.







24)

 $\rightarrow$ 



- o no remote seed rate control
- o remote seed rate control via Vario gearbox
- o Full electric metering wheel drive.
- (**7**) n ?
- Enter number of metering procedures.



Calibrate gearbox (see page 48)



Fig. 24



Fig. 25





track marker sensors:	one	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
KG-rev.speed sen.:	no	KG 1∕min ?
seed level sen.:	yes	?
seed shaft sen.:	<b>yes</b>	÷

Fig. 26



24)

28)



- ? Rotary cultivator adjuster fitted
  - yes 0
  - no 0

alarm pe.seed shaft:	10 s	₩ alarm
alarm pe.tramline:	10 s	T alarm
alarm pe.stand still of the counter shaft at tramline:	10s	i alarm
run.time of the pre-met.device	10s	(C) runni ng
	[∰] 03/04	time -









## 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 AMATRON 3 implement menu.

Implement		<b>X1</b> [cm]					
mp	lement	min	max				
	303 Special WS	224	236				
	303 Special RoteC	210	221				
	353 Special	224	236				
4	403 Special	210	221				
AD	303 Super RoteC	205	209				
	303 Super RoteC+	217	221				
	403 Super RoteC	205	209				
	403 Super RoteC+	217	221				
	RoteC	222					
PS	RoteC+	23	34				

## 4.8 GPS switch settings



Off point delay [ms]

### Recommended on / off point delay time sowing technology

•

	Delay time for	Grain kg / ha		Rapesee	d kg / ha	Fertiliser kg / ha		
	[ms]	100	200	2	8	40	120	
AD-P	Switch on	2500	2400	2800	2600	-	_	
3 m	Switch off	2600	2800	2400	3000	1	_	
AVANT 4000	Switch on	3500	3400	3900	3400	4000	3800	
AVANT 4000	Switch off	3600	3800	4300	4800	3900	4300	
	Switch on	3800	3600	4100	3700	3900	3800	
AVANT 5000	Switch off	4400	5000	4000	4300	4300	4700	
	Switch on	3600	4000	5000	4900	4300	3900	
AVANT 0000	Switch off	4600	4700	6500	6200	5100	5200	



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



## 5 Use on the field



- Job data (see page 22)
- Calibration test data (see page 23).

## 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 on both sides by the rate increase (page 19) (e.g. +10%).



Reset sowing rate to 100% on both sides.

Each press of the key reduces the sowing rate on both sides by the rate increase (page 19) (e.g. -10%).



1

The changed specified value is indicated in the work menu in kg/ha and per cent (Fig. 30).

## 5.2 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. 31/1) are displayed in the work menu.









## 5.3 Work menu display





## 5.4 Functions in work menu

### 5.4.1 Tramline control





Switch forward tramline counter

The tramline counter switches when the machine is raised.

Fig. 32/...

- (1) Display, tramline system switched on
- (2) Display, current tramline number
- (3) Display, tramline counter shift suppressed
- (4) Display, interval tramline control switched on





Suppress shift on of tramline counter.



Stop tramline counter.

→ When the machine is raised, the tramline counter does not shift on.

Cancel tramline counter stop.

→ The tramline counter switches when the machine is raised.



Activating and deactivating interval tramline control



## 5.4.2 Track marker (Avant)





Select track marker function

Active track marker automatically changes at headlands.

• Display, left track marker in use, right track marker not in use (Fig. 33)





## 5.4.3 Blocking the star wheel



- Only soil working, no sowing.
- Machines without full dosing: For machine calibration.



- When the machine is lowered, the star wheel is kept raised.
- 2. Cancel preselection.







## 5.4.4 Switching part widths (Avant with electric full dosing)



For sowing on half a working width, one pa width can be switched off.

Fig. 35: Display: left part width switched off



Fig. 35



(**7)**-54 U/nin

## 5.4.5 Electric full dosing



(**7)** 540/nin

Fig. 36

- 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. 36).



Electric full dosing: Switch dosing unit

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.

Display: Dosing unit switched off (Fig. 37).





## 5.4.6 Coulter pressure and harrow pressure



Set increased / reduced coulter and harrow pressure

The hydraulic connection for this function is marked yellow on the Avant and green on the AD-P.

- 1. Preselect coulter/harrow pressure (Fig. 38).
- 2. Operate tractor control unit.
- $\rightarrow$  Set increased pressure.
- $\rightarrow$  Set reduced pressure.







## 5.4.7 Folding the machine (Avant 03-2)



The hydraulic connection for this function is marked green.

#### Fold in the machine:

1. Raise the machine.



- 2. Preselect Folding the machine.
- 3. Operate tractor control unit.
- $\rightarrow$  The machine folds in.
- $\rightarrow$  The transportation lock must engage on both sides.

#### Fold the machine out:

1. Raise the machine.



- 2. Preselect Folding the machine.
- 3. Pull the cables of the transportation lock.
- → The Transportation lock is released
- 4. Operate tractor control unit.
- $\rightarrow$  The machine folds out.
- 5. When using, hold the control unit in float position.



#### WARNING

To move the machine from the transport position to the working position and vice versa, it is essential to refer to the machine operating manual!



## 5.4.8 Rotary cultivator working depth



The hydraulic connection for this function is marked yellow.

The machine is in operational position:

- <u>Oț</u>i
- 1. Preselect rotary cultivator working depth.
- 2. Operate tractor control unit.
- $\rightarrow$  Set desired working depth.





#### 5.4.9 Coulter lift



The hydraulic connection for this function is marked green.

The machine is in operational position:

- 1. Preselect coulter lift.
- 2. Operate tractor control unit.
- $\rightarrow$  Raise / lower the coulter.





## 5.4.10 Front tank lighting (Avant)





## 5.5 Advice on field operation



- 2. Select the desired job from the main menu and re-check settings.
- 3. starten start job



- 5. set the bout marker to the first run in the field.
- 6. set tramline bout counter for the first run in the field.



- Start the sowing operation. During the sowing operation **AMATRON 3** displays the operation menu. From here the sowing operation can be controlled.
- 8. The determined data will be stored in the started job.

After finishing operation:

- 1. Check job data (if required).
- 2. Move the machine to the transport position.





## 5.5.1 Key assignment in work menu **AD-P** with gearbox







## 5.5.3 Layout menu - joystick **AD-P**





## 5.5.4 Key assignment in work menu **Avant** with gearbox





## 5.5.5 Key assignment in work menu **Avant** with full dosing









Attach the joystick (Fig. 41/1) by using 4 bolts within convenient reach in the tractor cab.

Insert the plug of the basic equipment into the 9pin Sub-D socket of the joystick (Fig. 41/2).

Insert the plug (Fig. 41/3) of the joystick into the mid Sub-D socket of AMATRON 3.



Fig. 41

## 6.2 Function

The joystick only functions in the operational menu of AMATRON 3 It allows the blind actuation of AMATRON 3 during operation in the field.

For the actuation of AMATRON 3 the joystick (Fig. 42) provides 8 keys (1 - 8). In addition the coverage of the keys can be changed 3 times by the switch (Fig. 43/2).

As standard the switch is in the

- Imposition (Fig. 43/A) and can be moved
- IP upwards (Fig. 43/B) or
- Indownwards (Fig. 43/C).

The position of the switch is indicated by a LED light (Fig. 43/1).

- LED- indication yellow
- 🔛 indication red
- LED- indication green







Fig. 43



## 6.3 Key layout:

	AD-P	AD-P	AVANT	AVANT
	Vario gearbox	with full electric metering	Vario gearbox	with full electric metering
1₽				
2 🄛				
3				Switching on the left hand part width shut-off
4				Switching off the left hand part width shut-off
5 🗁				Switching on the right hand part width shut-off
6 🎞				Switching off the right hand part width shut-off
7 🄛				
8 🏴				
1 🗁	Switching on or off intermittent tramline con- trol		Switching on or off intermittent tramline con- trol	
2 🗁		start the pre-charger	_	start the pre-charger
3 🗁	Over-riding the tramline bout counter (Stop key)		Over-riding the tramline bout counter (Stop key)	
4 🗁	Amount 100%		Amount 100%	
5 🖿	Advancing the tramline bout counter (+1)		Advancing the tramline bout counter (+1)	
6 🗁	Retarding the tramline bout counter (-1)		Retarding the tramline bout counter (-1)	
7 🖿	- Amount [%]		- Amount [%]	
8 🗁	+ Amount [%]		+ Amount [%]	
1				
2			Switching on and of	f the hopper fill light
3			Switching on / off the shut	right hand part width -off
4			Switching the hydraulic valve to actuate the bout markers	
5 Þ				
6 🏷				
7				
8 🗁				



## 7 Maintenance

## 7.1 Calibration of gearbox

### Not required for machines with full dosing!

Calibrating seed drills which are equipped with the Vario gearbox,

- prior to initial operation if **AMATRON 3** has not been factory fitted to the machine, but has been retrofitted.
- in case of a deviation between the display on the terminal and the gearbox scale.





Calibration of gearbox:







take the gearbox setting lever to a figure larger than 80 on the scale



0

Confirm the setting and enter the figure that is indicated, on the scale, by the gearbox setting lever in the now open input block.



Read the figure off the scale only when directly in front in order to avoid any reading errors!

 After the calibration procedure move the gearbox setting lever to another figure. The indicated value should correspond to the scale value.



## 8 Helpmenu

The help menu (Fig. 45) is opened from the main menu: Help menu:



aid 1.aid for actuation	1
2.aid for fault messages	2
3.tramline rhythms	3

Fig. 45

## 9 Malfunction

## 9.1 Alarm

#### Warning message:

A warning message (Fig. 46) appears at the bottom of the display and the audible alarm sounds three times. Remedy fault as soon as possible.

Example:

- Warning: Seed hopper contents low.
- $\rightarrow$  Remedy: Refill seed hopper.

machine type:	AD-P	Order
order No.:	6	drill calibr.
tramline rhythm No.: working width: pre-sel.speed:	15 2.5m 5_km∕h	machine
level to low	Setup	

Fig. 46

mad	chine type:	AD-P	1	Order
or	requir.impe rev.spee cannot b maintain	ller d ed		drill calibr.
wo	confirm wit	ь	h	machine
ca	enter key o page to ai	or d		Setup
	working menu	aid		JEIOP

Fig. 47

#### Error message:

The error message (Fig. 47) appears in the middle of the display and the audible alarm sounds.

- 1. Read alarm message on the display.
- 2. Recall the help text.



## 9.2 Failure of the forward speed sensor

With the failure of the forward speed sensor (Imp./100m), which is attached to the gearbox or with the electric drive option on the land wheel, operation can be continued after the input of a simulated forward speed.

The failure of the forward speed sensor is indicated by the "seed drill lifted" mode on the display ("Drille angehoben").

In order to avoid possible sowing errors, exchange the defective sensor as soon as possible.

However, if a new sensor is not available in the short term, the sowing operation can continue as follows:

- 1. Remove the signal cable from the tractor basic equipment.
- 2. Actuate from the main menu.
- 3. Confirm change of menu.
- 4. Enter a simulated speed.
- 5. Maintain the simulated speed as you continue spreading.



		→ <b>@</b> ]
total data since si	larting oper.:	
tot.area:	59874 ha	
tot.drill.time:	123 h	5
simulated km/h:	0.0km/h	km∕h sim.
MHX-Version: 2,09	L ک	setup]
AW -Gaste/AG-429	□ □ □ <sup>01/02</sup>	







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