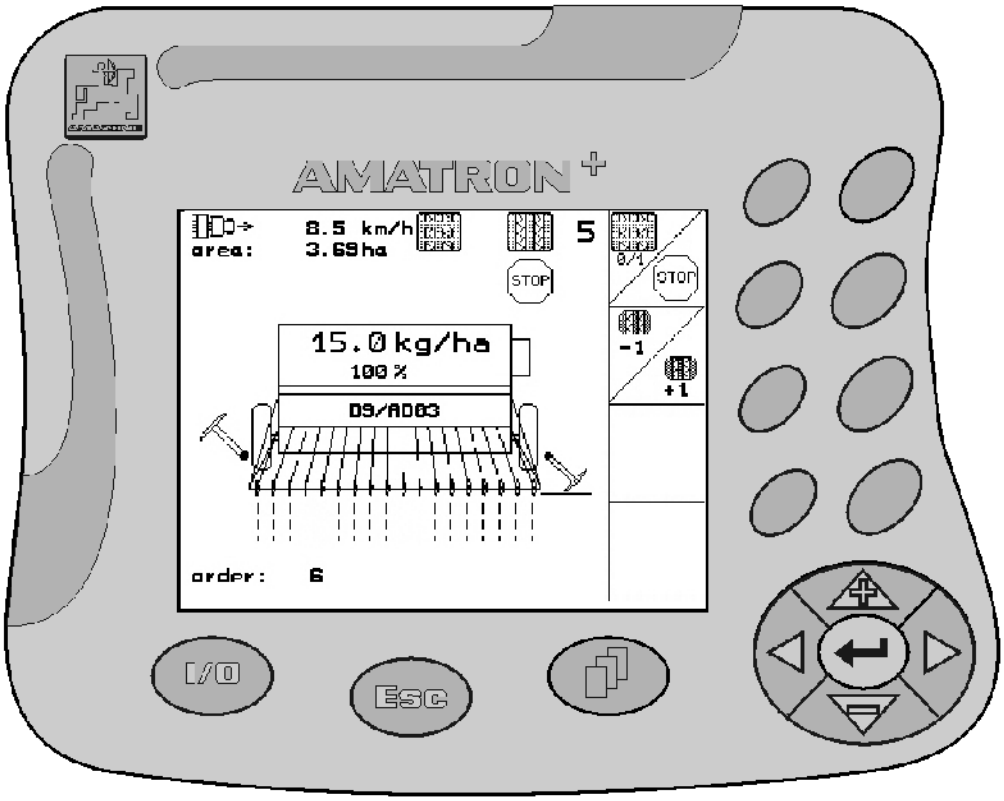
AMAZONE

Operator's Manual

On-board computer
AMATRON+

For use in conjunction with mechanical seed drills

D9 and AD03



MG 1010
BAG0001.2 04.06
Printed in Germany

GB

CE

Before starting to operate the machine, please carefully read and adhere to this instruction manual and safety advice!

BBG

AMAZONE

Preface

Dear customer,

The **AMATRON+** on board computer is yet another quality product from the comprehensive range of farm equipment manufactured by AMAZONEN-WERKE, H. Dreyer GmbH & Co. KG.

In order to ensure you make the fullest use of your on-board computer in conjunction with **D9** and **AD03** seed drills we recommend that you carefully read and observe the information within this instruction manual and adhere to the advice given therein.

Please ensure that this instruction manual is made available to any operator before he or she starts to operate the machine.

This instruction manual refers to the **AMATRON+** on board computer when used in conjunction with **AMAZONE-** mechanical seed drills.

AMAZONEN-Werke

H.Dreyer GmbH & Co. KG

Contents

1. Details about the computer and its range of application

The computer displays, controls and monitors the implement to which it is connected.

1.1 Manufacturer

AMAZONEN-WERKE

H. DREYER GmbH & Co. KG

Postfach 51, D-49202 Hasbergen-Gaste

1.2 Conformity declaration

The board computer fulfils the EMV-guide line 89/336/EC.

1.3 Details when making enquiries and ordering

When ordering spare parts always state the serial number of the on-board computer.

The safety requirements are fulfilled only when, in the event of a repair, only original AMAZONE spare parts are used. The use of non-genuine parts may rule out any liability for resulting damage!

1.5 Identification

Type plate on the on board computer.

The type plate is of documentary value and may not be changed or disguised!

1.4 Intended use of the on-board computer

The computer has been exclusively designed for normal operation in agriculture as a display, monitoring and controlling system in combination with a wide range of **AMAZONE** equipment (in this instance **AMAZONE D9** and **AD03** seed drills.

Use for any other purpose than that stipulated above is no longer regarded as intended use. The manufacturer does not accept any responsibility for damage resulting from this and therefore, the operator himself carries the full risk.

Under "intended use" the operator must adhere to the manufacturer's prescribed operation, maintenance and repair conditions and **exclusively use original AMAZONE spare parts**.

The implement may only be operated, maintained and repaired by persons who are familiar with it and who have been informed about the possible dangers.

All applicable accident prevention advice as well as any further generally accepted safety, working, medical and road traffic rules and regulations should be adhered to.

Though our machines having been manufactured with the greatest of care deviations in use cannot totally be excluded even when used as intended. These deviations may be caused by, for example:

Blocking up or bridging (e.g. by foreign particles, bag residues, damp fertiliser, seed, spray chemicals etc.),

Normal wear and tear

Damage by external influence,

Wrong input PTO input speed or travelling speeds,

Wrong adjustment of the machine (incorrect mounting, not adhering to the instruction manual, setting chart).

Before and also during every operation check the proper function of the accuracy of application.

Claims for damage that has occurred anywhere but on the on-board computer itself will be rejected. This also applies to damage due to application errors when fertilising, seeding or spraying. Arbitrary modifications to the on-board computer may result in damage and therefore, the manufacturer does not accept liability for such damage.

Arbitrary changes on the implement may cause consequential damage and rule out the liability of the supplier/manufacturer for this damage.

2. Safety

This instruction manual contains basic advice that must be adhered to when mounting, operating and maintaining the machine. Ensure that this instruction manual has been read by the user/operator before starting to operate the device and that it is made really available at all times to the user.

Please strictly observe and adhere to all safety advice given in this instruction manual.

2.1 Dangers when not adhering to this safety advice

Not adhering to the safety advice given

- may result in endangering the user or other persons, the environment and/or the machine itself.
- may result in the loss of any claim for damage.

Not paying attention to the safety advice may cause the following risks:

- Danger to persons present within the operational range.
- Failure of important functions of the machine.
- Failure of prescribed measures for maintenance and repair.
- Danger to persons from mechanic or chemical affects.
- Danger to the environment from leaking hydraulic oil.

2.2 Qualification of operator

The implement may only be operated, maintained and repaired by persons, who are acquainted with it and have been informed of the relevant dangers.

2.3 Symbols in this instruction manual

2.3.1 General danger symbol

Not adhering to the safety advice in this instruction manual may cause danger to health and life of persons. They are identified by the general danger symbol (Safety symbol according to DIN 4844-W9).

2.3.2 Attention symbol

Safety advice, where damage may be caused to the machine and it's function when not being adhered to, are identified with the attention symbol.

2.3.3 Advice symbol

Advice regarding the machine's specific particularities, which have to be adhered to for a faultless function of the machine are identified with the tip symbol.

2.4 Safety advice for retrofitting electric and electronic devices and/or components

The function of the implements' electronic components and parts may be affected by the electro-magnetic transmittance of other devices. Such affects may endanger people if the following safety advice has not been adhered to:

When retrofitting electric and electronic devices and/or components of the implement with a connection to the tractor's on-board electric circuit, the onus is on the user to ensure that the installation will not cause any disturbance to either the tractor's electronics or other components.

Special attention must be paid that the retrofitted electric and electronic parts correspond to the EMV-guideline 89/336/EC in the relevant valid edition and that they bear the CE-mark.

For retrofitting mobile communication systems (e.g. radio, telephone) the following requirements must be fulfilled:

Only install devices that have officially been authorised for the country of use.

Fix the device securely.

For cabling and installation, as well as for the maximum permissible current supply, adhere to the fitting instructions of the implement manufacturer.

2.5 Safety advice for repair work

Before carrying out any repair work on the electric system or arc welding on the tractor or the mounted implement, disconnect all connections to the on-board computer!

3. Fitting instruction

3.1 Mounting of the terminal

Fit the base tractor equipment (Fig. 1/1) (console and distributor) within reach and sight to the right hand side of the operator. It must be installed in the tractor cab free from vibration and disturbance from electrical conductivity. The distance from a radio transmitter or an antenna should at least be 1 m.

Via the console the computer housing must have a conductive connection to the tractor chassis. Before fitting, scratch off the paint around the contact area of the bracket to avoid any electrostatic charging.

Fig. 1

The terminal is attached with a fixing bracket (Fig. 2/1) to the console and then locked tight with the thumb bolt (Fig. 2/2).

Fig. 2

3.2 Connecting the terminal

The terminal (Fig. 3/2) is designed for use in conjunction with all AMAZONE machines via the **AMATRON+** job computer.

To enable a quick exchange of the terminal from tractor to tractor then connect the terminal (Fig. 3/2) to the console (Fig. 3/1) as follows:

- Connect the battery cable (Fig. 3/4) from the console (Fig. 3/1) with the tractor battery. For advice regarding the power supply, please refer to para. 3.3
- Connect the intermediate cable (Fig. 3/5) from the terminal (Fig. 3/2) to the console (Fig. 3/1).
- Connect the seed drill to the base tractor equipment via the machine plug (Fig. 3/3).

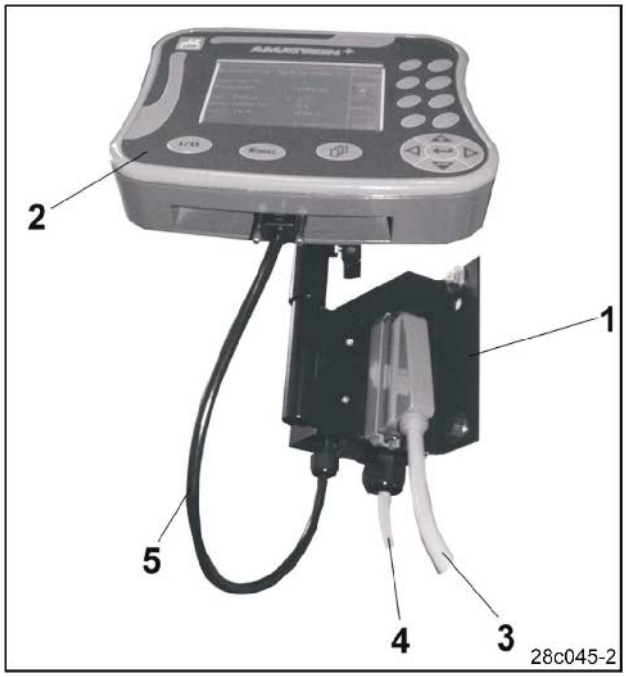


Fig. 3

- Insert the plug of the intermediate cable (Fig. 3/5) into the central 9-pin Sub-D socket (Fig. 4/1).
- The serial interface socket (Fig. 4/2) allows an additional connection to a GPS-terminal.

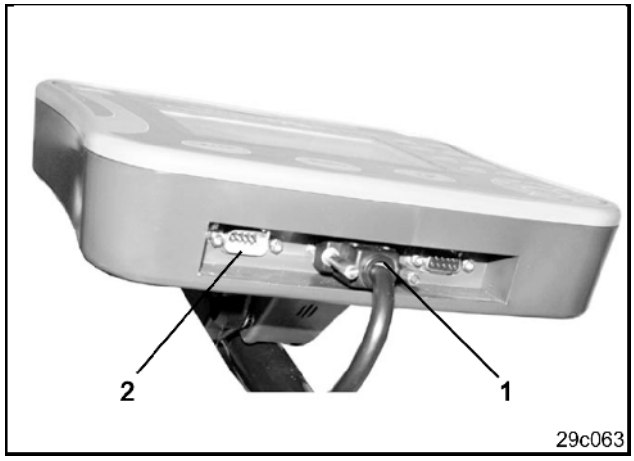


Fig. 4

3.3 Battery connecting cable

The required power supply of **12 V** should be provided directly from the battery or from the 12 V starter motor.

Before connecting AMATRON+ with a tractor that is equipped with several batteries, please refer to either the tractor's manual to ascertain the battery to which the computer should be connected, or ask the tractor manufacturer.

- tractor cab to the tractor battery and secure. Ensure that the battery connecting cable cannot be trapped.
- Shorten the battery connecting cable as necessary.
- Use crimping pliers to make the joint.
- Strip the cable end (Fig. 5) by approx. 250 to 300 mm.
- Individually remove the insulation from the cable ends (Fig. 5) by 5 mm.

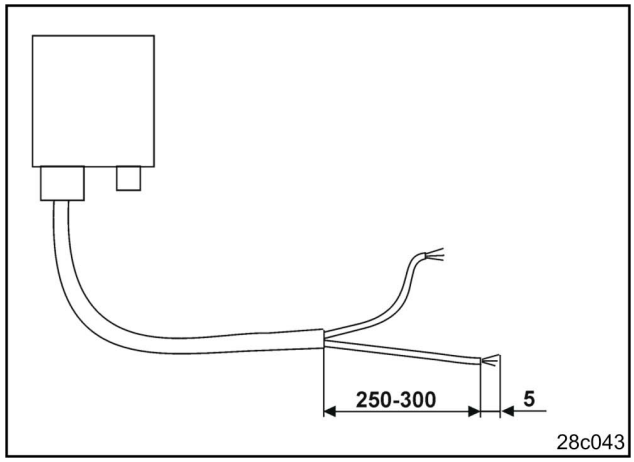


Fig. 5

- Insert the blue cable (earth cable) into the loose ring tongue (Fig. 6/1).
- Use crimping pliers to secure the joint.
- Insert the brown cable (+ 12 Volt) into the free butt joint (Fig. 6/2) on the fuse holder.
- Use crimping pliers to secure the joint.
- Shrink the casing over the butt joint (Fig. 6/2) by using a heat source (lighter or hair dryer) until the adhesive escapes.
- Connect battery cable to tractor battery:
  - Brown cable with **+**.
  - Blue cable with **-**.

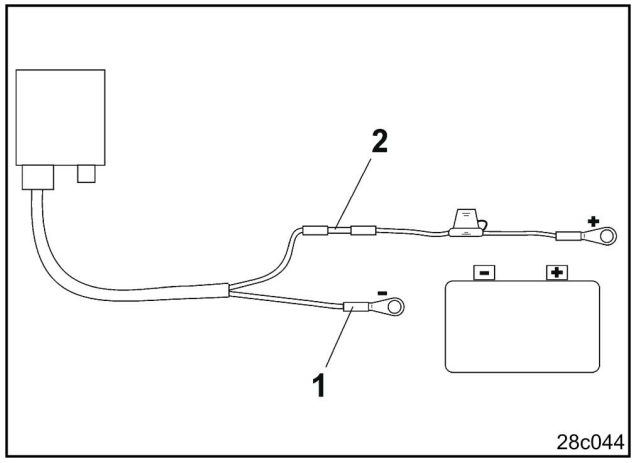


Fig. 6

Before connecting AMATRON+ with a tractor that is equipped with several batteries, please refer to either the tractor's manual to ascertain the battery to which the computer should be connected, or ask the tractor manufacturer.

4. Description of product

AMATRON+ can be used to control, actuate and monitor these appropriately equipped seed drills

- **AMAZONE D9**
- **AMAZONE AD03**

komfortabel überwacht und bedient werden.

Der **AMATRON+** consists of the terminal (Fig. 7), the basic tractor equipment (fixed in the cab) and the job computer on the machine.

Any possible malfunction problems are automatically indicated visually and/or audibly.

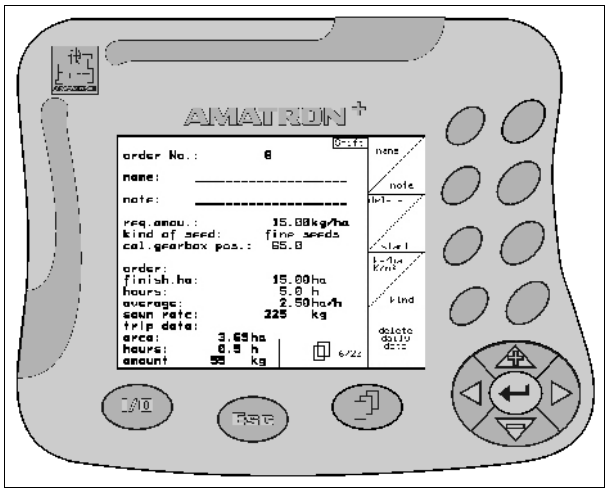


Fig. 7

This instruction manual refers from terminal-software version:

-Machine:	MHX-Version.:	2.14
-Terminal:	IOP-Ver.:	3.3.2
	BIN-Ver.:	3.14

4.1 Description of keys

The main screen functions are indicated on the right hand margin of the display by an icon (complete icon Fig. 8/1 or diagonally divided icon Fig. 8/2). These are accessed with the two rows of keys next to the right hand side of the display.

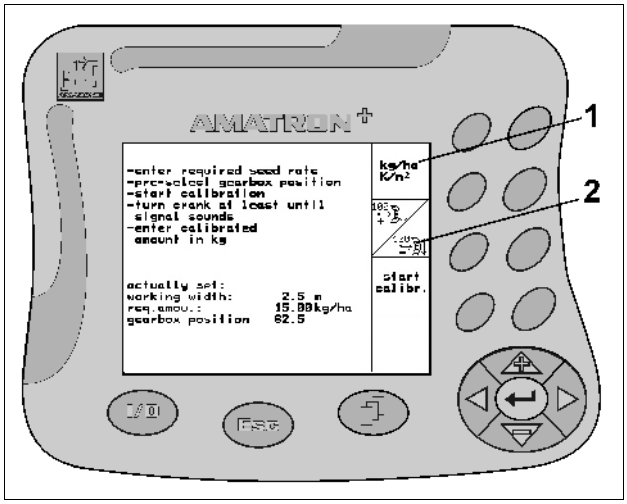


Fig. 8

When the fields are diagonally divided:

- the left hand key relates to the top left function icon (Fig. 9/1).
- the right hand key relates to the bottom right hand function icon (Fig. 9/2).

If a complete icon appears on the display only the right hand key relates to that function (Fig. 9/3).

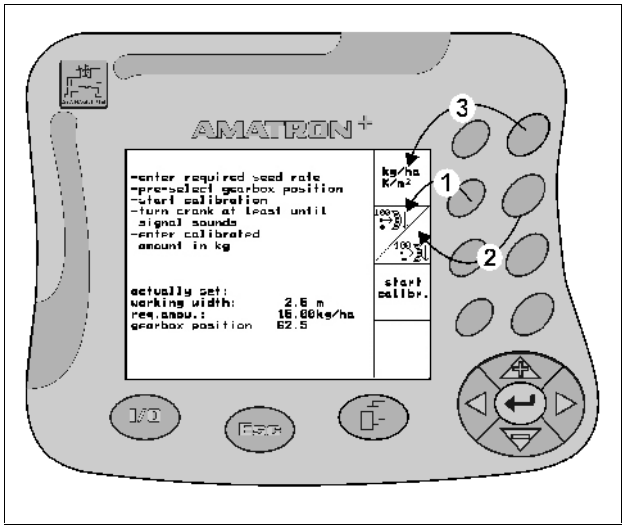


Fig. 9

- On / Off (travel on public roads only with the **AMATRON+** switched off).

- Return to the previous screen
- Change from job menu / main menu
- Delete input
- To return to the operational menu (keep key pressed for at least 1 second)

- Page on to other menu pages (only possible when the page symbol (9.1/1) appears in the display)
- Help menu only possible from the main menu.

- Cursor in the display to the right

- Cursor in the display to the left

- Accepting selected figures and letters
- Confirmation of a warning alarm
- Return to 100% application rate in the operational menu

- Cursor upwards in the display
- Increasing the sowing rate by the pre-set increment during operation (e.g:+10%) (to set the quantity step please refer to para.5.2.1.)

- Cursor downwards in the display
- Reducing the sowing rate by the pre-set increment during operation (e.g: -10%) (to set the quantity step please refer to para.5.2.1.)

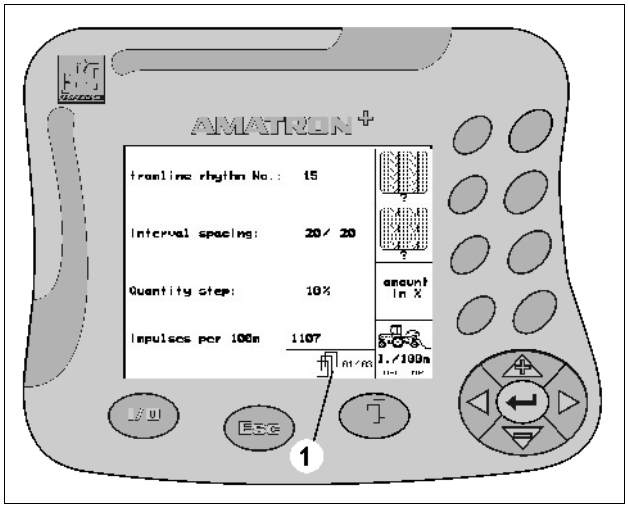


Fig. 10

4.2 Shift – key

The shift key is located on the rear of the terminal (Fig. 11/1).

Active in the job menu.

If the shift key (Fig. 11/1) on the rear of the terminal is pressed, the function icons 

and 

appear in the menu windows to page the jobs up and down.

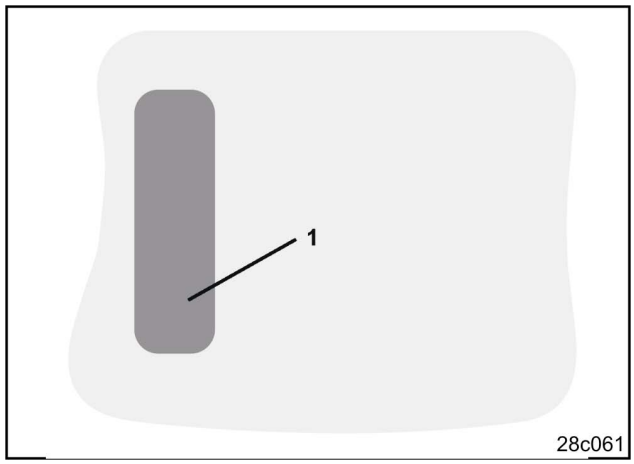
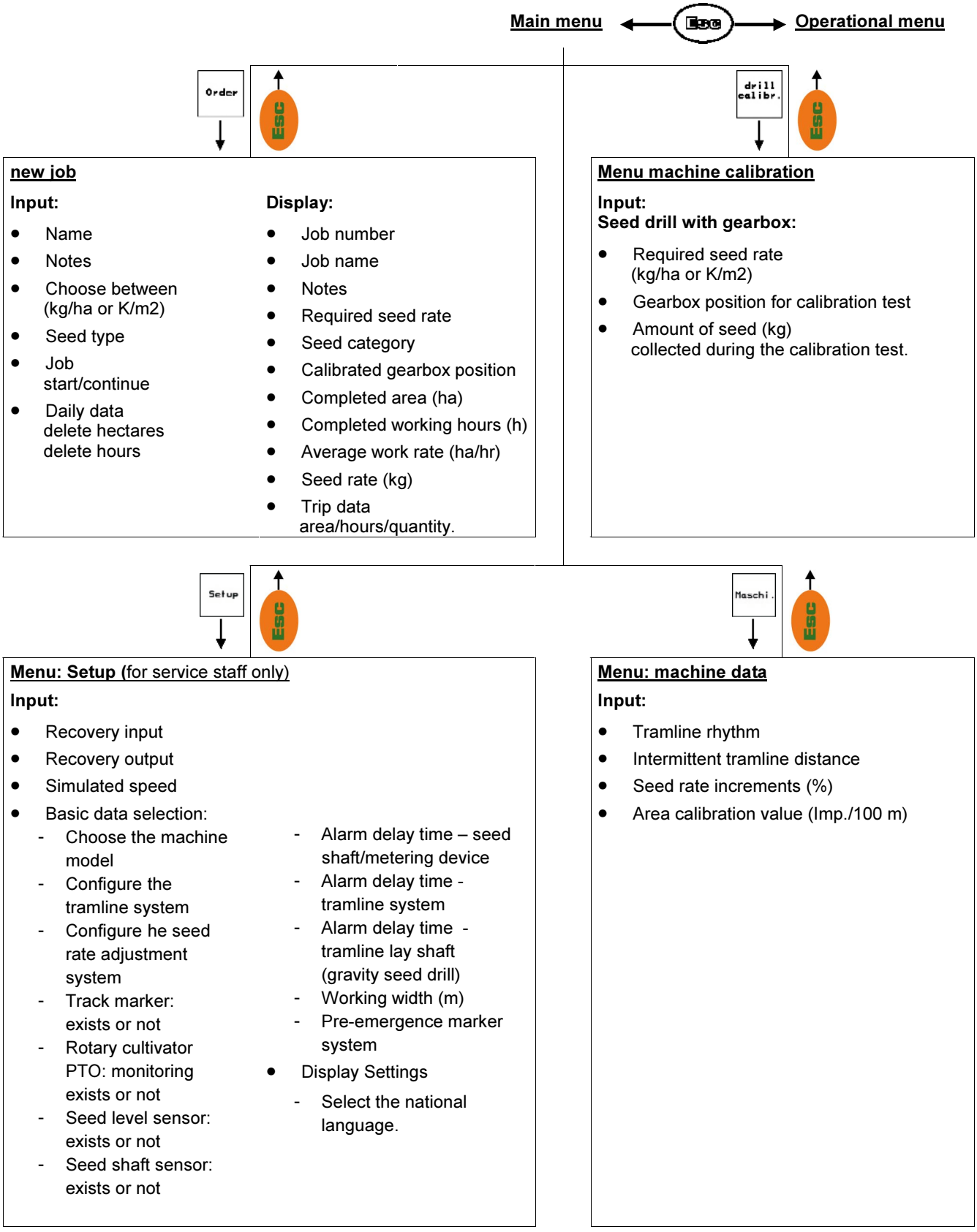


Fig. 11

4.3 Hierarchy of the AMATRON+



4.4 Input of information into AMATRON+

To assist you in operating AMATRON+ the function icons are illustrated in this instruction manual in order to make clear that the key related to that function icon should be pressed.

Example:

Function icon  .

Description in the operator's manual:

 Reduces the gearbox lever setting to a lower position.

Action:

The operator actuates the key (Fig. 12/1) relating to function icon  (Fig. 12/2), to reduce the seed rate.

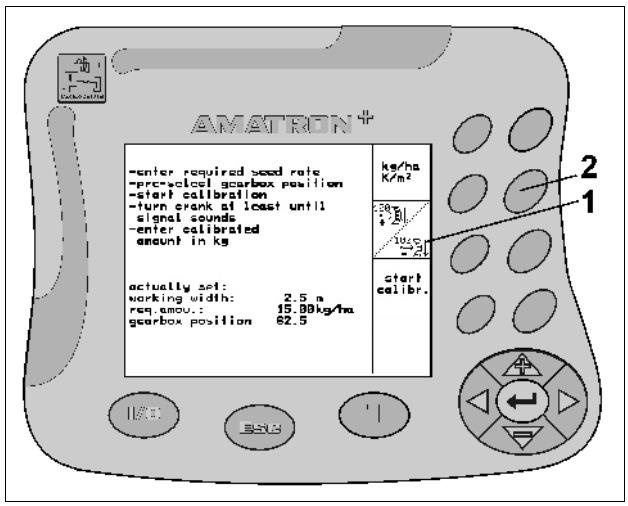


Fig. 12

4.5 Input of text and figures

If AMATRON+ requires the input of text or figures the entry menu (Fig. 13) appears.

The input block (Fig. 13/1) showing letters, figures and arrows, via which an entry (Fig. 13/2) (text or figure) can be made appears in the lower half of the display).

 selecting letters or figures in the input block (Fig. 13/3).

 Accept the entry (Fig. 13/3).

 Delete the last entry.

 Change the letter case.

 Confirms input having finished the entry.

The ←→ arrows (Fig. 13/4) allow the movement along the text line in the input block.

The arrow ← in the input block (Fig. 13/4) deletes the last entry.

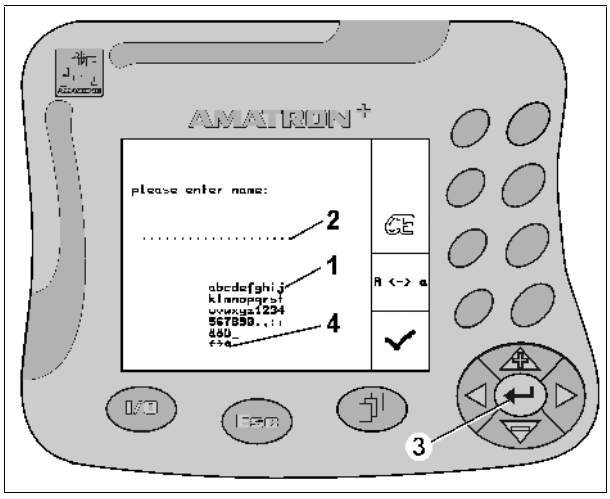


Fig. 13

4.5.1 Selection of options

Position the cursor (Fig. 14/1) with  and  .

 Accept the entry (Fig. 14/2).

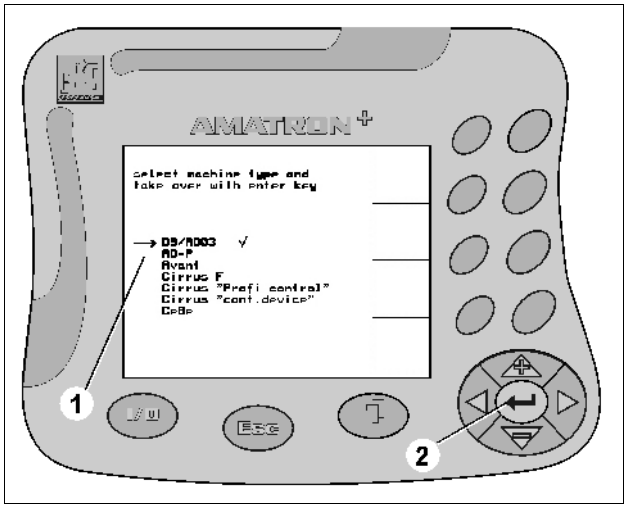


Fig. 14

4.5.2 Toggle Function

On / off switching of functions, e.g. seed level sensor on / off.:

- Press function key (Fig. 15/2) once
  ➔ Function **On** (Fig. 15/1).
- Press function key once again
  ➔ Function **Off**.

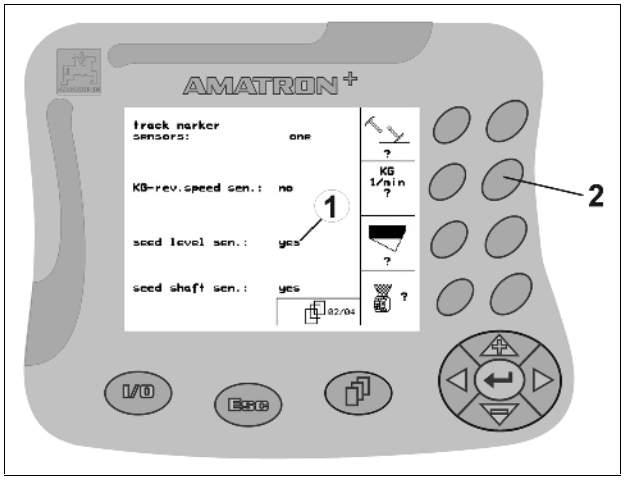


Fig. 15

5. Operation

5.1 Start screen

Having switched on the terminal, with the machine connected, the start menu (Fig. 16) will appear. It shows the terminal software version. After approx. 2 seconds **AMATRON+** automatically jumps into the main menu.
After switching on the terminal **AMATRON+** may load data from the machine's job computer after, for example:

- installation of a new job computer,
- installation of a new **AMATRON+** terminal
- a RESET of the **AMATRON+** terminal,

the start screen will show this message (Fig. 16).

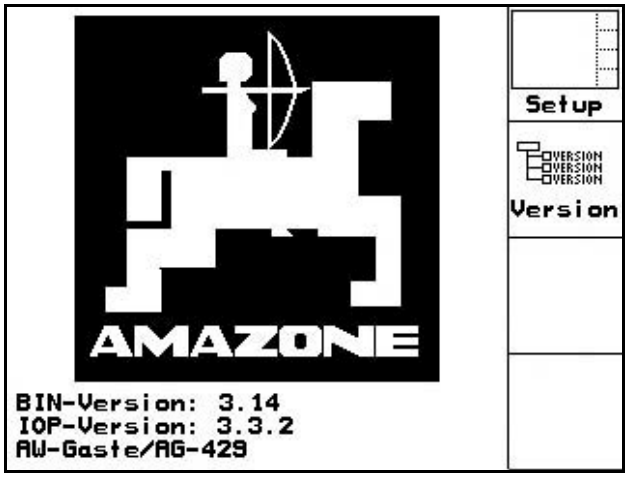


Fig. 16

5.2 Main menu

Order	Menu job: input of data for a new job. Always start a job prior to drilling (see para. 5.2.2).
drill calibr.	Menu calibration: always carry out a calibration test prior to any sowing operation (see para.5.3).
machine	Menu Machine data: input of machine specific or individual data (para. 5.2.).
Setup	Menu: Setup - input of data or information recall for service staff during maintenance or trouble-shooting (para. 5.2.4).

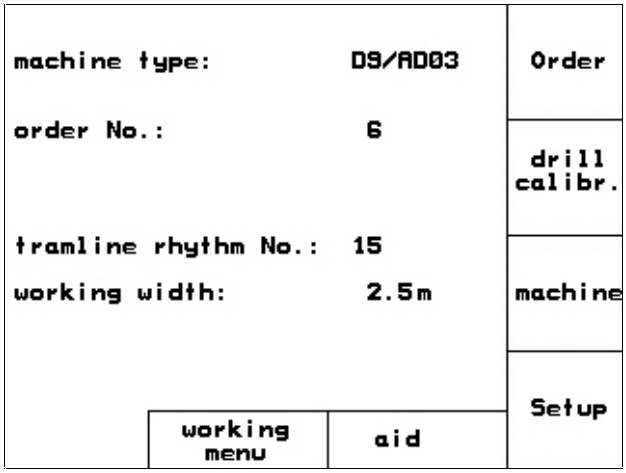


Fig. 17

5.2.1 Input of machine data

Page one 01/03 menu: machine data (Fig. 18):

- Inputting the required tramline rhythm (see tables Fig. 19 to Fig. 21).
- Inputting the intermittent tramline function (see para. 5.2.1.1).
- Inputting the application rate increase (as % that the seed rate changes via the , during operation).
- I./100m Maschine Calibration of hectare meter sensor (see para. 5.2.1.2).

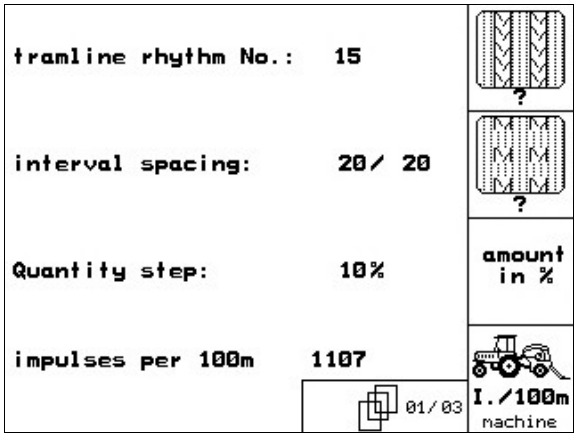


Fig. 18

Tramline rhythm	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Tramline counter	0	0	0	0	0	0	0	0	0	1	1	0	0	0
	1	0	1	1	1	1	1	1	1	2	0	1	1	1
		1	2	2	2	2	2	2	2	3	3	2	2	2
		2		3	3	3	3	3	3	0	4	3	3	3
					4	4	4	4	4	5	5	4	4	4
						5	5	5	5	6	6	5	5	5
							6	6	6	0	7	6	6	6
								7	7	8	8	7	7	7
									8	9	0	8	8	8
										10	10	9	9	9
												10	10	10
												11	11	11
													12	12
														13

Fig. 19

Tramline rhythm	15	16	17	20	21	22	23	26	32					
Tramline counter	1	0	0	0	0	0	0	0	0					
	Rhythm 15 does not crate any trmlines.	1	1	1	0	0	0	1	0					
		2	2	2	1	1	1	2	1					
		3	3	3	2	2	2	3	2					
		4	4	4	3	3	3	4	3					
		5	5	5	4	4	4	5	4					
		6	6	6		5	5	6	5					
		7	7	7		6	6	7	6					
		8	8	8			7	8	7					
		9	9	9			8	9	8					
		10	10					10	9					
		11	11						10					
		12	12											
		13	13											
		14	14											
		15	15											
			16											

Fig. 20

Double tramline																				
Tramline rhythm	18 left hand	18 right hand	19 left hand	19 right hand	24 left hand	24 right hand	25 left hand	25 right hand	27 left hand	27 right hand	28 left hand	28 right hand	29 left hand	29 right hand	30 left hand	30 right hand	31 left hand	31 right hand	33 left hand	33 right hand
Tramline counter	1	1	1	1	1	1	1	1	1	1	1	0	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
	0	3	3	0	3	3	3	3	3	3	0	3			3	3	0	3	3	3
	4	4	4	4	0	4	4	4	4	4	0	4			4	4	4	4	4	4
	5	5	5	5	5	5	5	5	0	5	5	5			5	0			0	5
	6	6	6	6	6	6	0	6	0	6	6	0			6	6			6	6
	7	0	0	7	0	7	7	7	7	7									7	7
	8	8	8	8	8	8	8	8	8	8									8	8
	9	9	9	9	9	0	0	9	9	0									9	9
	10	10	10	10	10	10	10	10	10	10									10	10
	11	11	11	11			11	11												
	12	0	0	12			12	12												
	13	13	13	13			13	0												
	14	14	14	14			14	14												
	15	15	15	15																
	0	16	16	0																
	17	17	17	17																
	18	18	18	18																

Fig. 21

5.2.1.1 Input of the sown and unsown distances (m) for the intermittent tramline

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

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

Fig. 22

5.2.1.2 Calibration of forward speed sensor

The adjustment of seed rate, the acccumulation of the worked area or an indication of forward speed, **AMATRON+** 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+** 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.

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

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

- manual Entry The value is known and is entered manually on the **AMATRON+** terminal.
- Start The value is unknown and will have to be determined by driving down a measured calibration distance of 100 m.

Calibration travel by driving down a test distance:

- Carefully measure the test distance of 100 m in the field. Mark beginning and end of the test distance (Fig. 24).
- Start Start calibration.
  - 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.
  - Stop after 100 m. The display now shows the final determined number of impulses.
  - ⏎ Input the value 'Imp./100m'. The value can be related to the tractor by selecting it from the memory.
- Esc Reject the new 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. 25).

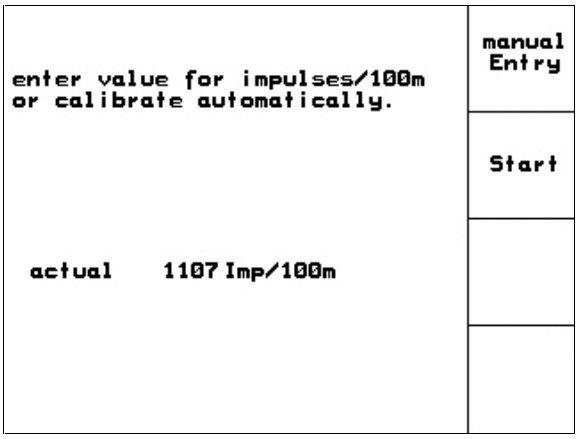


Fig. 23

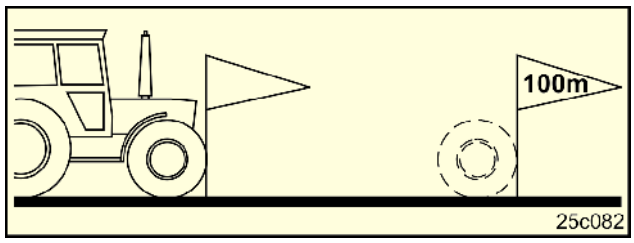


Fig. 24

The "Imp./100m" calibration value depends on both the seed drill model and the soil type.	Mechanical tyre packer Pack Top seed drills **AD03**	Mechanical seed drills **D9**
	Calibration value“Imp/100m”	
Field 1		
Field 2		

Fig. 25

5.2.2 Creating a job

When the job menu is opened the last started (last worked) job appears.
20 jobs in maximum can be stored (Job no's.1-20).

For creating a new job select the desired job no (Fig. 26/1); then:

- Name — Enter name
- Note — Enter note
- delete — all data in this existing job is deleted
- start — Starting the job so that data for this job can be accumulated.
- ka/ha K/m² — Enter desired application rate.
- kind — Enter the kind of seed, the 1000-grain weight and the seed count
- Delete the data of day — Delete daily data
  - Worked area (ha/day)
  - Quantity applied (amount/day)
  - Working hours (hours/day)

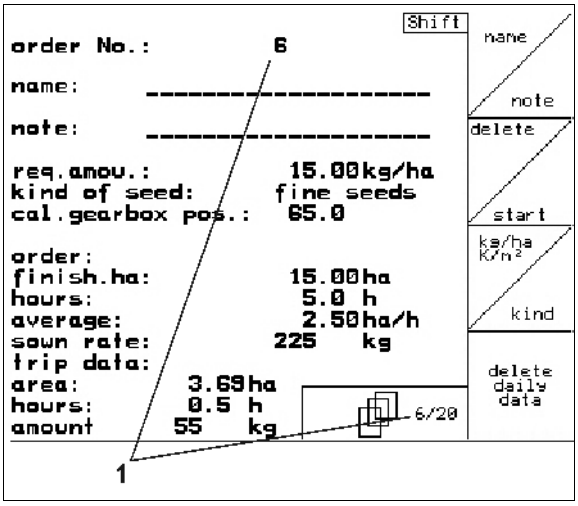


Fig. 26

Select  **for calling up saved datas and**  **for starting the job again.**

Pressed shift key  **(Fig. 27):**

- next job — Page forward in order.
- prev. job — Page backward in order

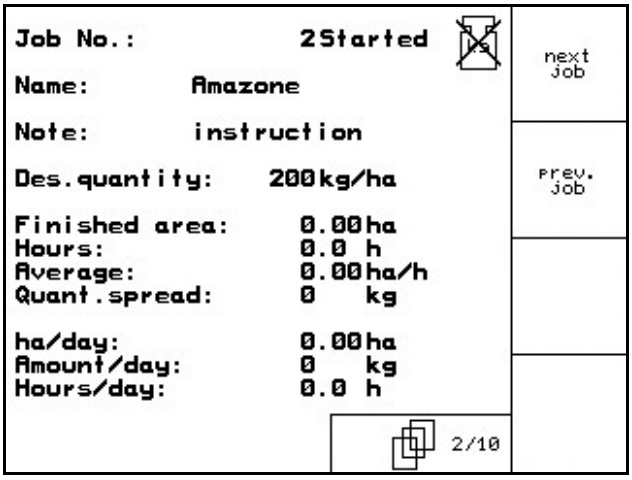


Fig. 27

5.2.3 External job

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

This order always takes job number 21.

The data transfer takes place via the serial interface.

- finish external job. (finish external job)
- Enter the required amount. (l/ha)

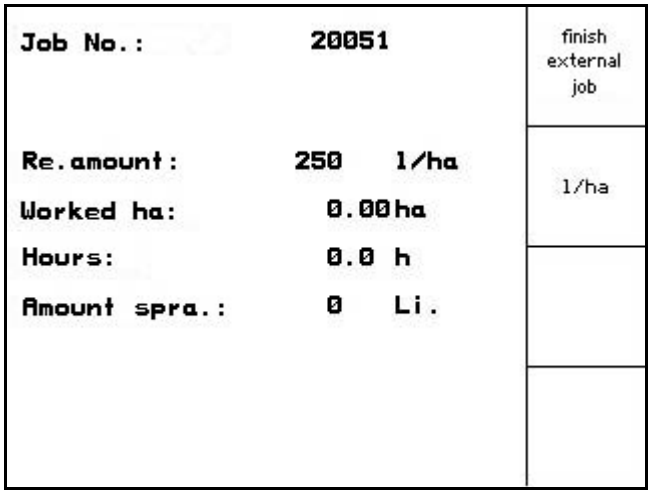


Fig. 28

5.2.4 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.

5.2.4.1 Calibration of the drill with remote seed rate control

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).

kg/ha K/m² Check/enter the desired seed rate.

Tip:
This figure can also be entered via the job menu (para. 5.2.2).

Press the 100 + / 100 − keys to set the gearbox lever to an estimated position

Gearbox position "50": Sowing with the main metering wheels

Gearbox position "15": Sowing with the fine seed wheels

The gearbox position which is indicated on the AMATRON+ must coincide with that indicated on the gearbox setting scale.
If not first calibrate the gearbox .

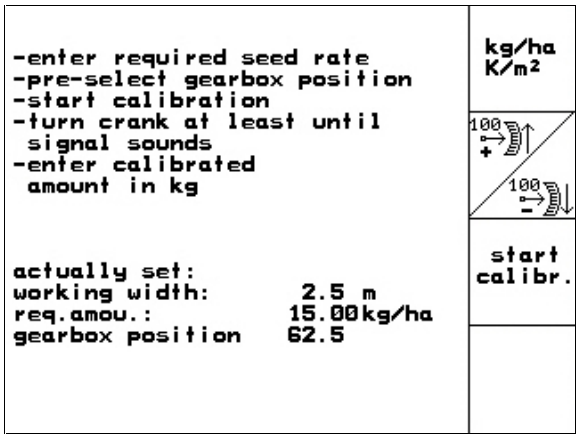


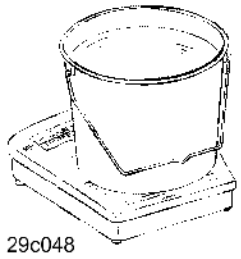
Fig. 29

- 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).
- Empty the collecting tray(s).

Press start calibr. 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+ registers any additional turns after the horn sounds in its calculation.
- To accept the calibration procedure after the horn sounds, press the ↵ key.
- 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+ 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.

Use the new determined gearbox position during repeating the calibration procedure (do not start in gearbox position 15 or 50!)

5.2.5 Setup

Applications in the Setup menu

- Input and output of diagnosis data for customer service staff during maintenance work or in case of problems
- Changing the settings on the display
- Selecting and entering machine basic data or activating and isolating special options (for customer service staff only).

The settings in the Setup menu are fundamental to the machine's function should only be carried out by qualified personnel!

Page one 01/02 of menu: setup (Fig. 30):

Diagnosis of computer inputs (for customer service staff only)

Diagnosis of computer outputs (for customer service staff only).

km/h sim. Enter simulated speed (allows continued operation in spite of a defect in the forward speed sensor) (see para.5.2.1.2)

Settings display (see para. 5.2.6).

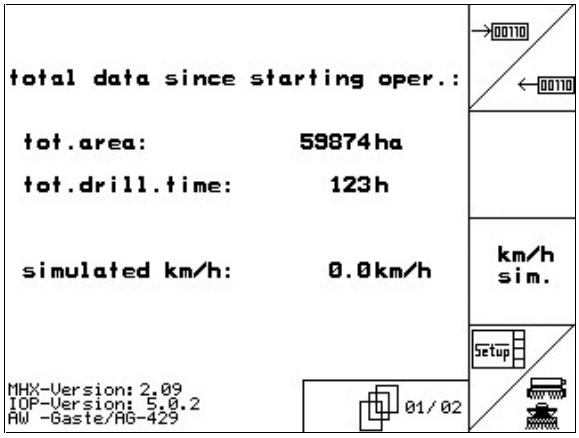


Fig. 30

select page one 01/04 of the basic data (Fig. 31):

- Selection machine type
- konfig. Selection tramline system:
  - Contractor
  - Single tramline - actuation by linear tramline motor
  - Double tramline - actuation by two linear tramline motors

  The last selected value will be stored.
- konfig. Configure remote seed rate control:

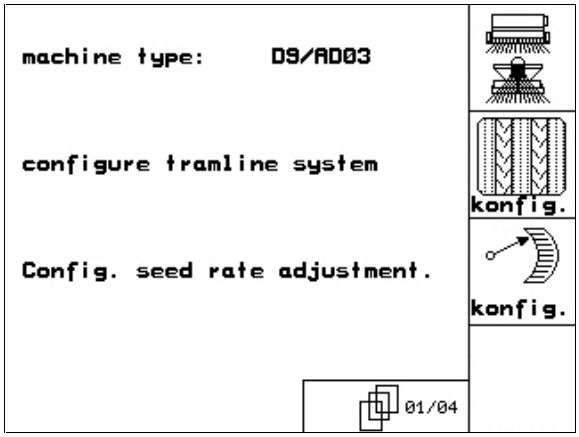


Fig. 31

-  Configure remote seed rate control
  - no remote seed rate control
  - remote seed rate control via Vario gearbox
    The last selected value will be stored.
-  Calibrate gearbox (see para.5.2.1.2).

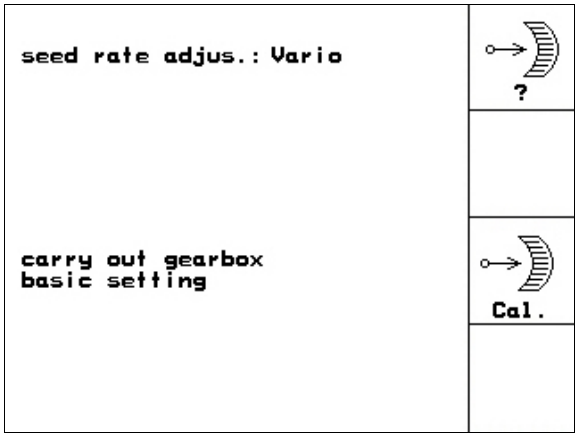


Fig. 32

 Page 2  basic data (Fig. 33):

-  Number of bout marker sensors
  - one (one bout marker sensor registers the track marker position on drill models D9, AD, Avant, AD-P)
  - none (no bout marker sensor is fitted to the drill – input for drill models – Cirrus 3000 / 4000 / 6000).
-  Rotary cultivator monitoring:
  - yes (PTO speed sensor exists)
  - no (PTO speed sensor does not exist).
-  Low level sensor in the seed hopper:
  - yes
  - no
-  Monitoring of the metering wheels
  - yes
  - no.

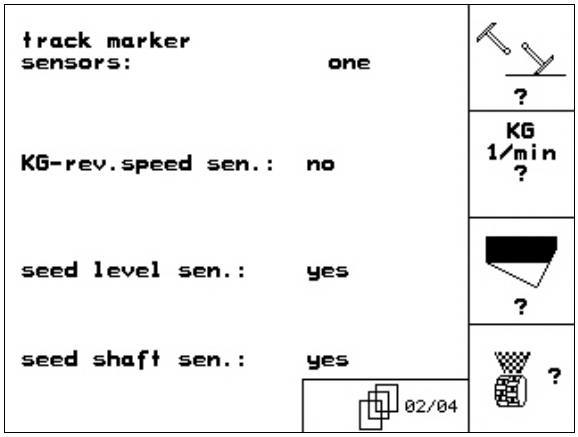


Fig. 33

Page 3  basic data (Fig. 34):

-  Input of the delay time for metering wheel alarm
-  Input of the delay time for tramline sytem alarm
-  Input of the delay time of tramline lay shaft alarm (only possible on gravity seed drills)

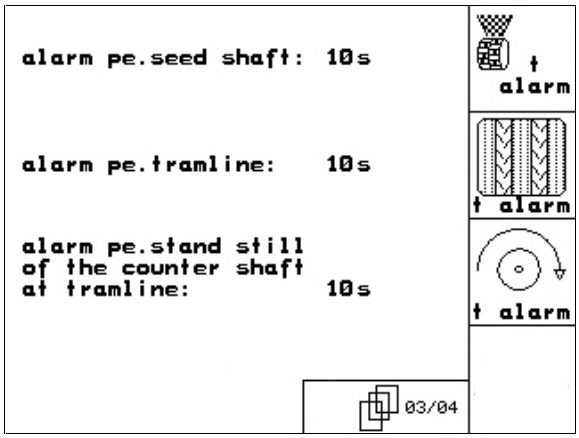


Fig. 34

Page 4  basic data (Fig. 35):

-  Input of the working width (m)
-  Pre-emergence markers:
  - none
  - hydr. actuated
  - electr. actuated.

  The last selected value will be stored.

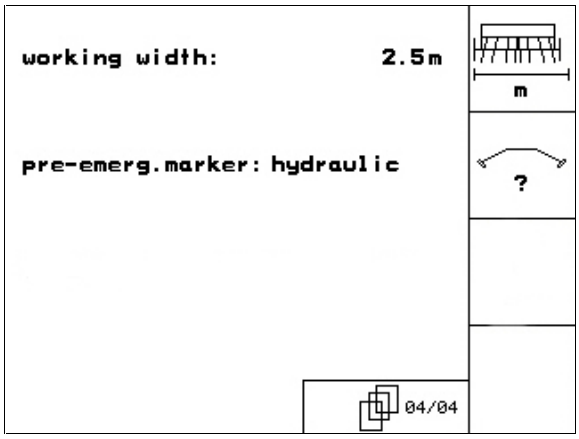


Fig. 35

Page two  menu: setup (Fig. 36):

-  Resets machine job computer to factory setting. All entered and accumulated data (job, machine data, calibration values, setup data) will get lost.

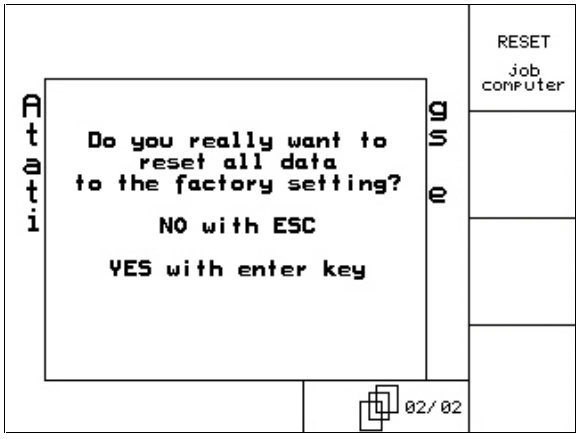


Fig. 36

5.2.6 Settings display

To change the settings of the display, simultaneously press

- the page 
- shift  keys:

- Recall via the function icon  the entering "Display settings".
-  Indication of the implements on the Bus.

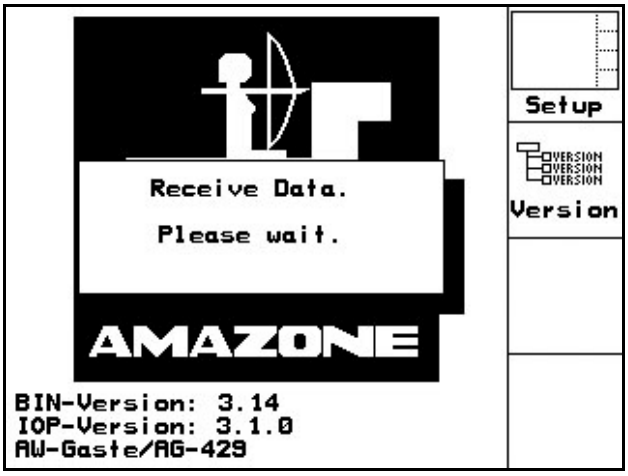
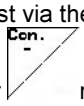
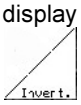


Fig. 37

 page 1  of the Terminal Setup

Via the entering "Display setting" you can change:

- the contrast via the function icons  increase contrast or  reduce contrast
- the brightness via the function icons  increase brightness or  reduce brightness
-  Push button click sound On / Off
- inverting the display black ← → white via the function icon  .
- the language of the operator terminal via the function icon  .
- deletion of the stored data via the function icon  .
-  Leave menu Terminal Setup

The actuation of the function Terminal-Reset resets all the terminal data to the factory settings. No machine data will get lost.

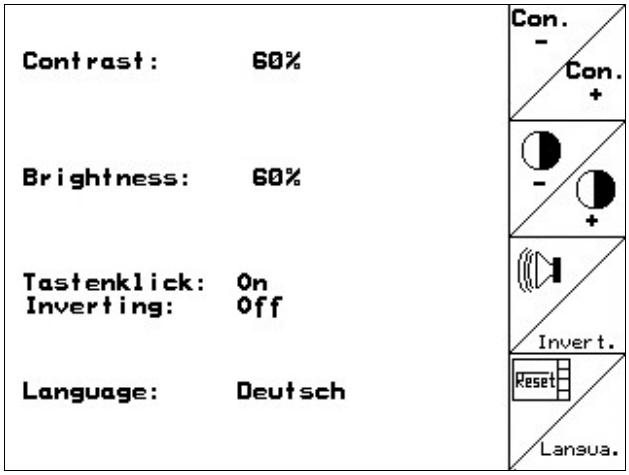


Fig. 38

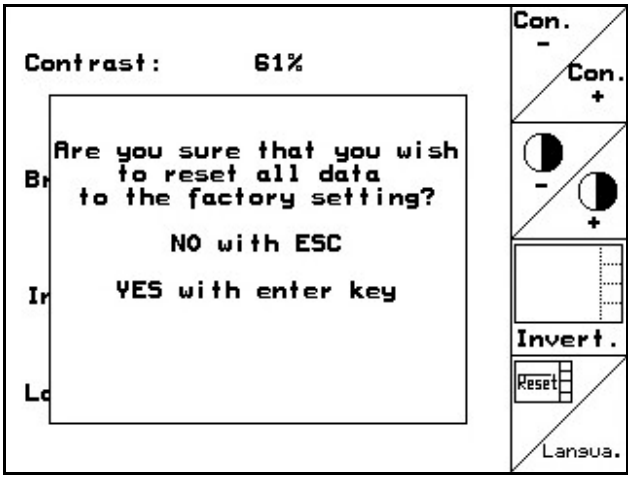


Fig. 39

Page 2 02/03 Terminal Setup

- Input of time
- Input of date
- RS232 Input of data transfer baud speed

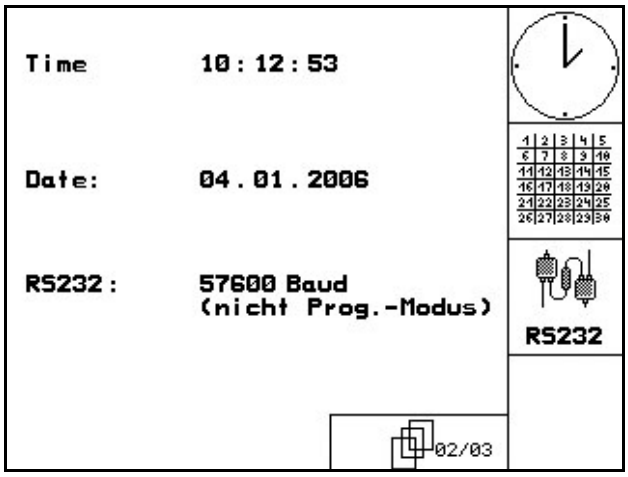


Fig. 40

Page 3 03/03 Terminal Setup

Deletion of programme:

1. , Selection of programme.
2. löschen Deletion of programme

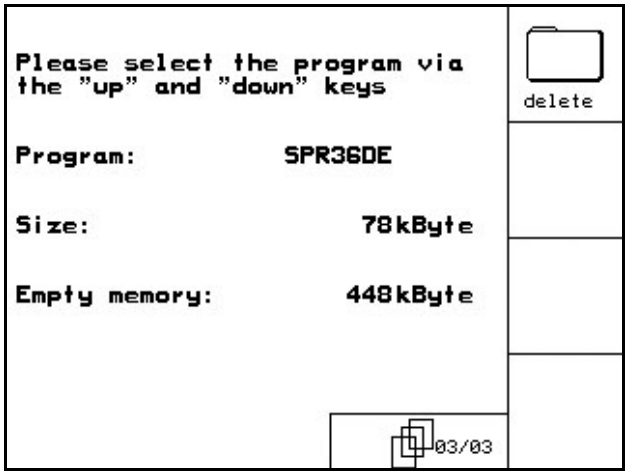


Fig. 41

6. Operation in the field

Before starting sowing the **AMATRON+** will need to be provided with the following data:

- Job data (see para. 5.2.2)
- Machine data (see para. 5.2.1)
- Calibration test data (see para. 5.2.4.1).

During operation the seed rate can be changed at random with the press of a key.

each press of this key increases the sowing rate by the preset quantity step (para. 5.2.1) across the full drill. (e.g.:+10%).

Resets the sowing rate back to 100% across the full drill.

each press of this key reduces the sowing rate by the preset quantity step (para. 5.2.1) across the full drill. (e.g.:-10%).

Ensure that AMATRON+ is switched off during transport to the field and when travelling on public roads!

6.1 Operational menu D9/AD03

6.1.1 Display - operational menu

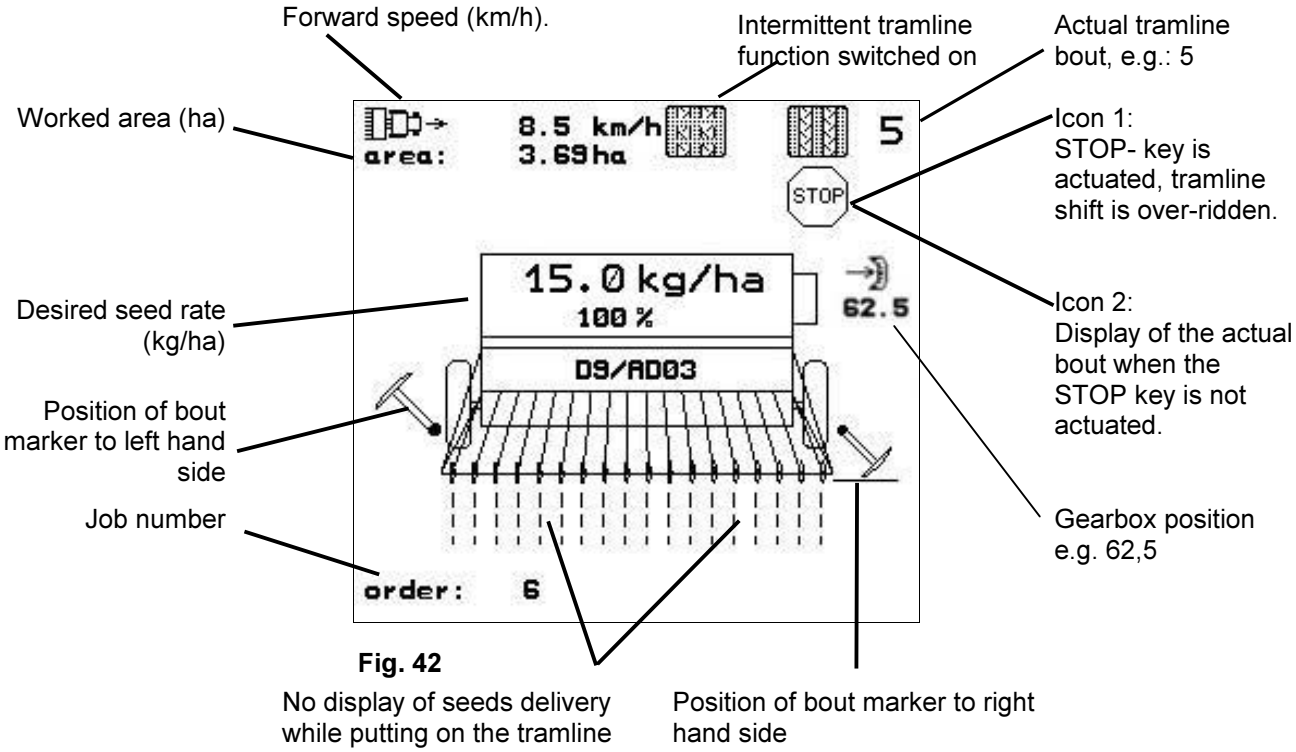


Fig. 42

No display of seeds delivery while putting on the tramline

Position of bout marker to right hand side

6.1.2 Advice on field operation

- I/O switch **AMATRON+** on.
- Select the desired job from the main menu and re-check settings
- start job
- Esc select operational menu.
  - set the bout marker to the first run in the field
  - set tramline bout counter for the first run in the field.
- Start the sowing operation.
  During the sowing operation **AMATRON+** displays the operation menu. From here the sowing operation can be controlled.
- The determined data will be stored in the started job.

After finishing operation:

- Check job data (if required).
- I/O switch **AMATRON+** off.

6.1.3 Key layout menu - operate

Page 1: operational menu (Fig. 43):

-  switching on or off the intermittent tramline control
-  over-riding the tramline bout counter (Stop key)
-  retarding the tramline bout counter
-  advancing the tramline bout counter

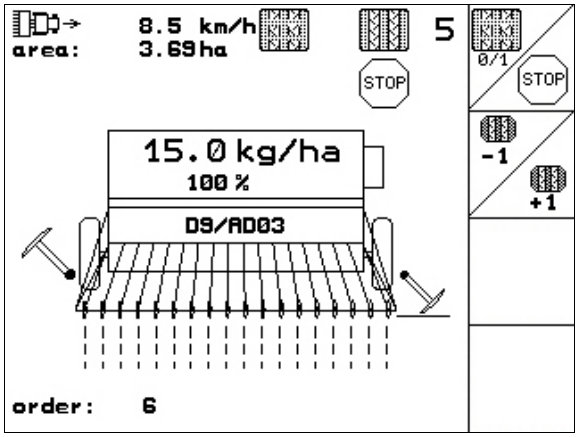


Fig. 43

6.1.4 Layout menu - joystick

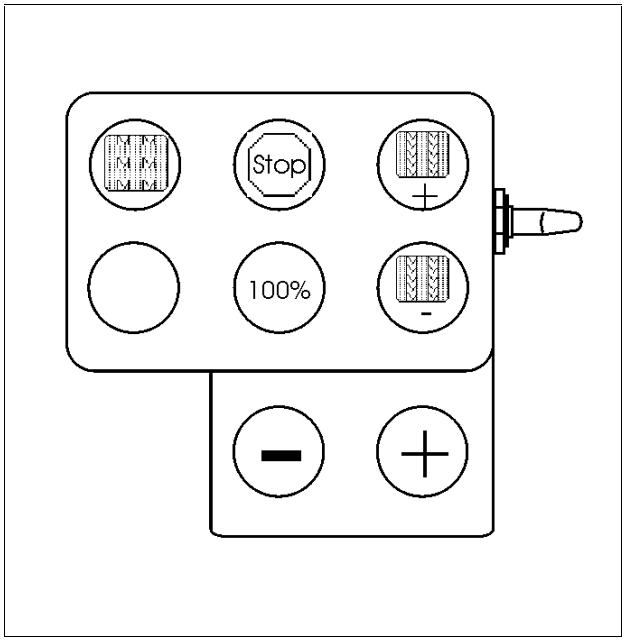


Fig. 44

7. Joystick

7.1 Fitting

Attach the joystick (Fig. 45/1) by using 4 bolts within convenient reach in the tractor cab.

Insert the plug of the basic equipment into the 9-pin Sub-D socket of the joystick (Fig. 45/2).

Insert the plug (Fig. 45/3) of the joystick into the mid Sub-D socket of **AMATRON+**.

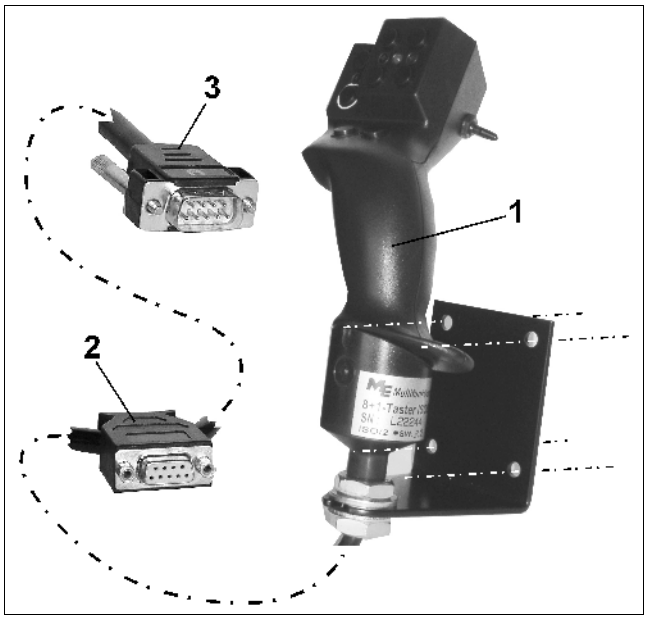


Fig. 45

7.2 Function

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

For the actuation of **AMATRON+** the joystick (Fig. 46) provides 8 keys (1 – 8). In addition the coverage of the keys can be changed 3 times by the switch (Fig. 47/2).

As standard the switch is in the

- mid position (Fig. 47/A) and can be moved
- upwards (Fig. 47/B) or
- downwards (Fig. 47/C).

The position of the switch is indicated by a LED light (Fig. 47/1).

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

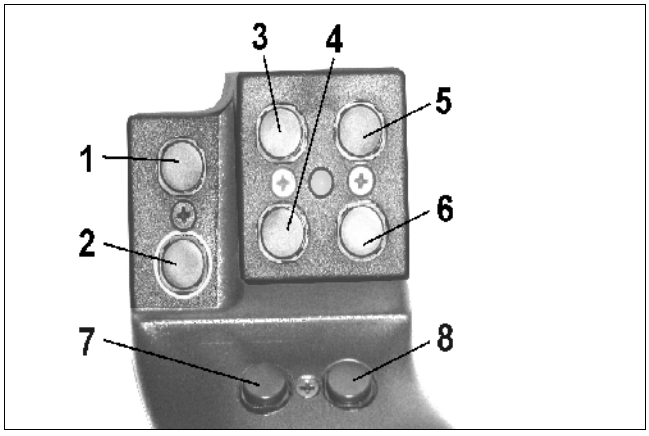


Fig. 46

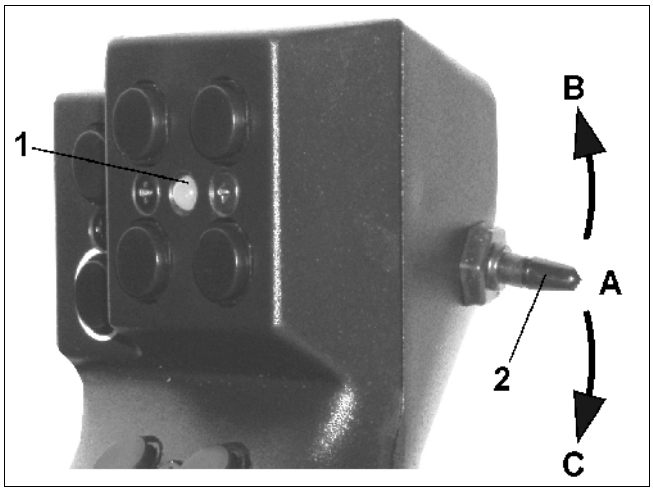


Fig. 47

7.3 Key layout

Taste	D9 / AD03
1	Switching on or off the intermittent tramline control
2	
3	Switching on or off the tramline bout counter
4	Spread rate 100%
5	Advancing the tramline bout counter (1)
6	Retarding the tramline bout counter (–1)
7	- Spread rate [%]
8	+ Spread rate [%]

In case of switch actuation upwards or downwards the keys are not covered.

8. Maintenance

8.1 Calibration of gearbox

Calibrating seed drills which are equipped with the Vario gearbox.

- prior to initial operation if **AMATRON+** 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.

Page 1:menu - setup.

Calibration of gearbox:

-  via the **AMATRON+** move the gearbox lever back to zero until the LED on the electric seed rate control motor lights up
-  take the gearbox setting lever to a figure larger than 80 on the scale
-  Confirm the setting and enter the figure that is indicated, on the scale, by the gearbox setting lever in the now open input block (Fig. 49).

  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.

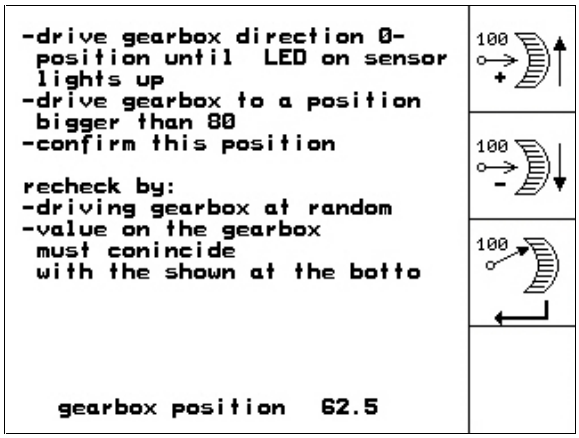


Fig. 48

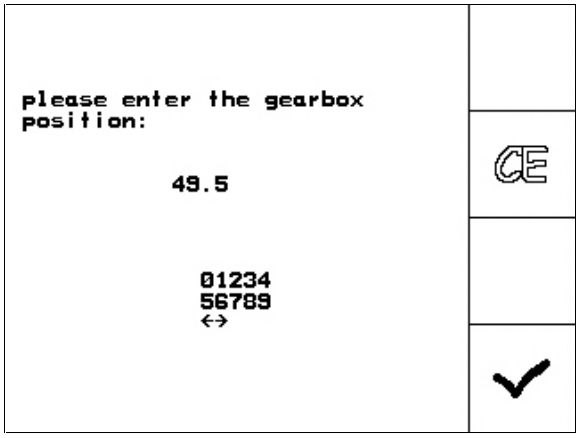


Fig. 49

9. Help menu

The help menu (Fig. 50) is opened from the main menu:

Help menu:

- [1] help on operation
- [2] help on fault messages
- [3] help on tramline creation.

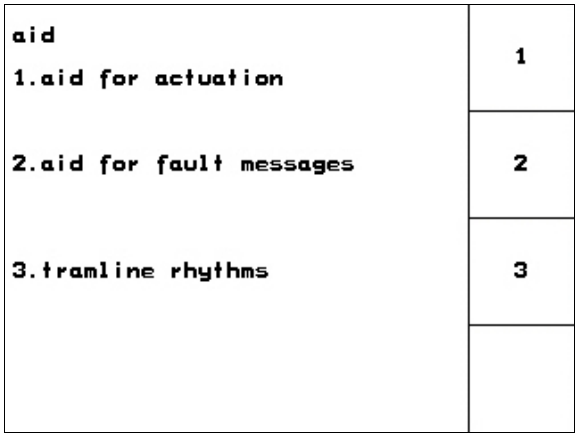


Fig. 50

10. Malfunction

10.1 Alarm

Warning message:

A warning message (Fig. 51) 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.

Remedy: Refill seed hopper.

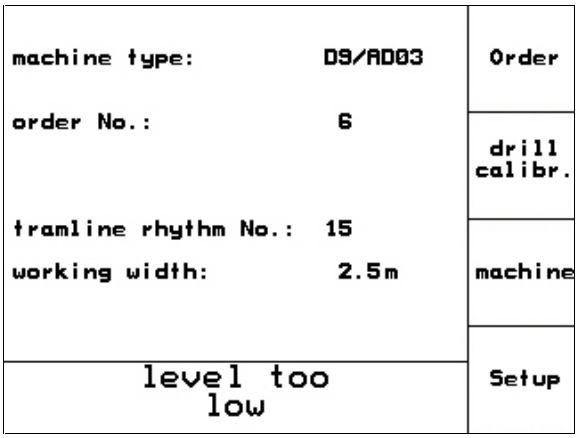


Fig. 51

Error message:

The error message (Fig. 52) appears in the middle of the display and the audible alarm sounds.

- Read alarm message on the display.
-  Recall the help text
-  Confirm the error message.

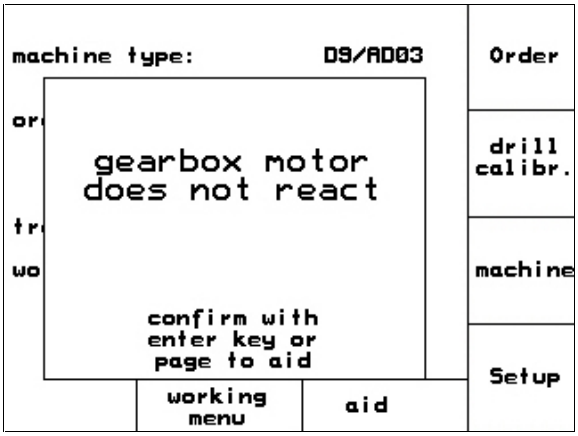


Fig. 52

10.2 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:

- Disconnect the signal cable of the defective forward speed sensor from the job computer.
- actuate [Setup] from the main menu.
- [km/h sim.] enter a simulated forward speed.
- During operation the simulated speed must be maintained.

As soon as impulses are sensed from the forward speed sensor the computer automatically changes over to the actual speed from the forward speed sensor.

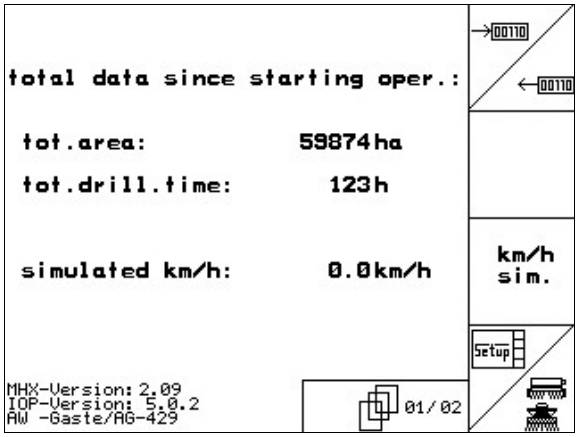


Fig. 53

AMAZONEN-WERKE

H. DREYER GmbH & Co. KG

P. O. Box 51

D-49202 Hasbergen-Gaste

Germany

Tel.: ++49 (0) 54 05 50 1-0
Fax: ++49 (0) 54 05 50 11 47
e-mail: amazone@amazone.de
http:// www.amazone.de

Branch factories: D-27794 Hude • D-04249 Leipzig • F-57602 Forbach
Subsidiaries: in England and France

Factories for mineral fertiliser spreaders, field sprayers, seed drills, soil cultivation equipment, multi purpose storage halls and groundcare municipal machinery