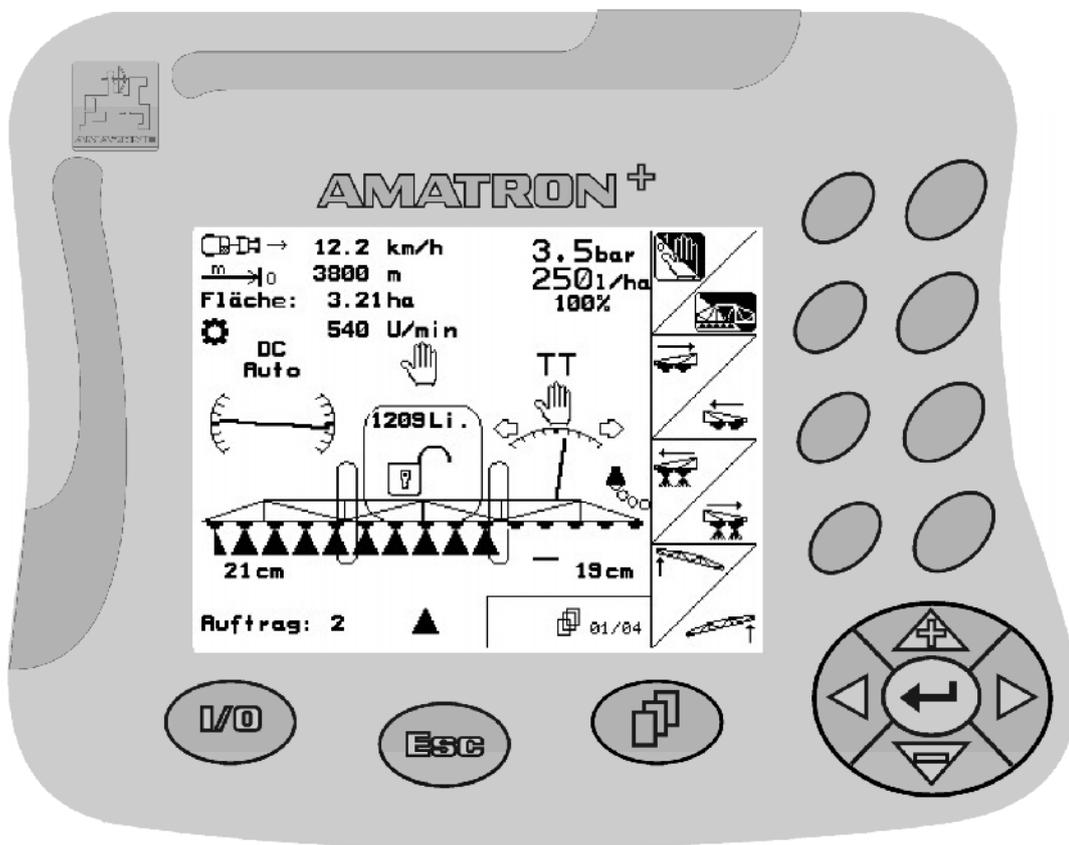


Operating Manual

AMAZONE

On-board computer **AMATRON⁺** for field sprayers



MG3620
BAG0037.6 10.12
Printed in Germany

Please read this operating
manual before first
commissioning.
Keep it in a safe place for
future use.

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. Rud. Sark.

Identification data

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

Machine identification number:
(ten-digit)

Type:

Amatron+

Year of manufacture:

Basic weight (kg):

Approved total weight (kg):

Maximum load (kg):

Manufacturer's address

AMAZONEN-WERKE

H. DREYER GmbH & Co. KG

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D-49202 Hasbergen

Tel.: + 49 5405 501-0

Fax: + 49 5405 501-234

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

Document number: MG3620

Compilation date: **10.12**

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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 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 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 machine.

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

Should you have problems or queries, please consult this operating manual or give us a call.

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

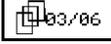
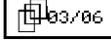
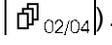
User evaluation

Dear Reader,

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

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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
→ 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
- Item 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 operation manual

- Must always be kept at the place at which the machine is operated.
- 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:



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 machine handling.

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



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 Installation instructions

3.1 Connection



- The tractor's basic equipment (Fig. 1/1 console with distributor) must be installed to the right of the driver in the cab, within visual range and easy reach, so that it is vibration-free and electrically conductive.
- Remove the paint from the mounting points to prevent electrostatic charging.
- The distance from the radio unit or aerial must be at least 1 m.

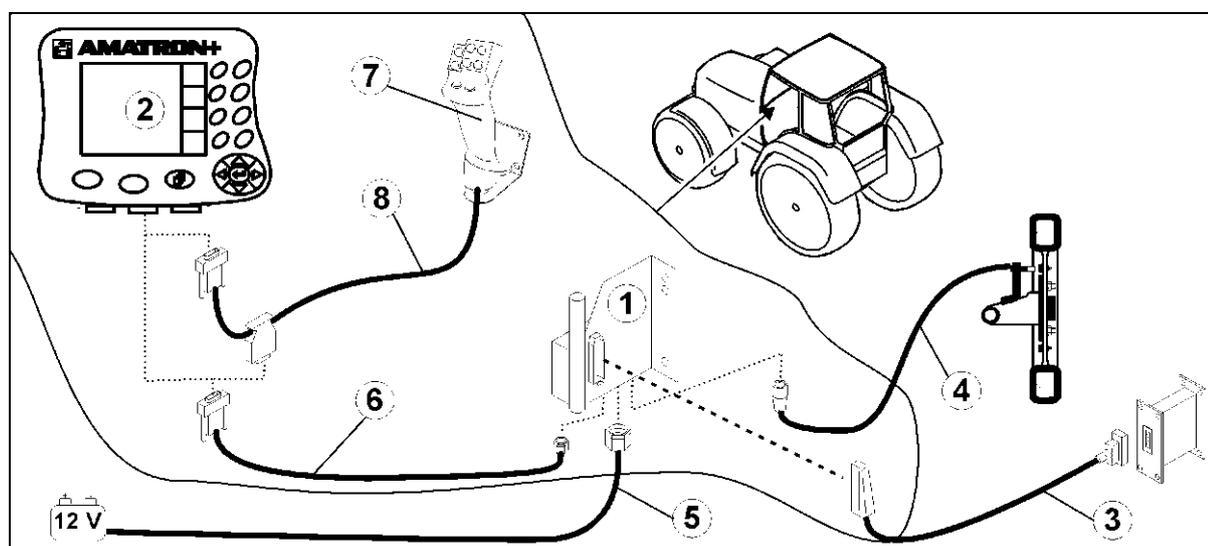


Fig. 1

Connections to tractor's basic equipment:

- The battery cable (Fig. 1/5).
- Signal cable from the tractor signal socket or distance sensor (Fig. 1/4).
- Connecting cable to AMATRON⁺ (Fig. 1/6).

To operate

- Plug the AMATRON⁺ (Fig. 1/2) into the tractor's basic equipment.
- Insert the connector of the connecting cable (Fig. 1/6) into the middle 9-pin Sub-D bushing (Fig. 2/1).
- Connect the machine via the connector (Fig. 1/3) to the AMATRON⁺.

The multifunction stick (Fig. 1/7) is connected using a Y-cable (Fig. 1/8).

- The serial interface (Fig. 2/2) allows a PDA to be connected.

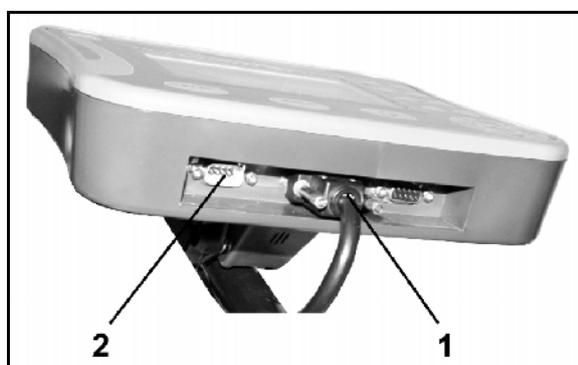


Fig. 2

3.2 Battery cable

The required operating voltage is 12 V and must be taken directly from the battery.



Before connecting the AMATRON⁺ to a tractor with several batteries, you need to clarify which battery the computer should be connected to by referring to the tractor operating instructions or by asking the tractor manufacturer.

1. Install and secure the battery cable from the tractor cab to the tractor battery. When installing the battery cable, make sure there are no kinks.
 2. Shorten the battery cable to the appropriate length.
 3. Strip the cable end (Fig. 3) approx. 250 to 300 mm.
- Strip the cable ends (Fig. 3) individually 5 mm.
4. Insert the blue cable core (earth) into loose ring lug (Fig. 4/1).
 5. Pass pinch through with pliers.
 6. Insert brown cable core (+ 12 volts) into free end of connector (Fig. 4/2).
 7. Pass pinch through with pliers.
 8. Shrink-fit connector (Fig. 4/2) with heat source (lighter or hairdryer) until the adhesive emerges.
 9. Connect the battery cable to the tractor battery:
 - Brown cable core to +.
 - Blue cable core to -.

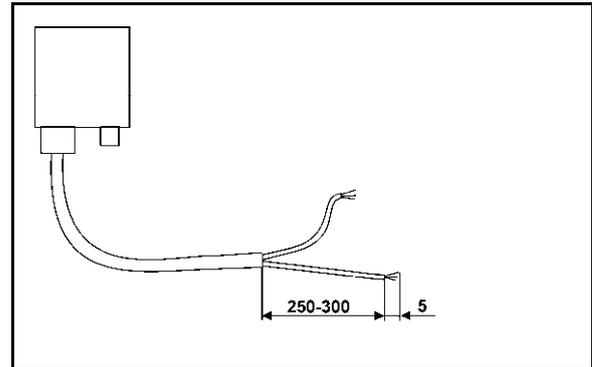


Fig. 3

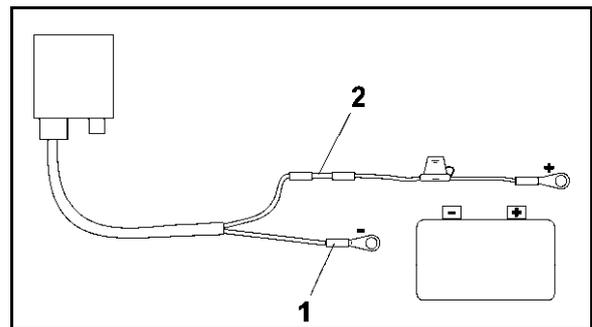


Fig. 4

4 Product description

The AMATRON⁺ makes it easy to control, operate and monitor AMAZONE machines.

The AMATRON⁺ can be used for various machine types.

This operating manual shows how to operate the UF, UX, UG and PANTERA field sprayers using the AMATRON⁺.

The operation of the field sprayer with the AMATRON⁺ differs according to the type of the boom folding and the equipment of the machine or implement.

AMAZONE field sprayers can be equipped with the following boom foldings:

- Profi I/II, Profi LS for load-sensing hydraulic system
- Pre-select folding
- Standard folding with/without tilt adjustment

The AMATRON⁺ controls a machine computer, providing it with all the necessary information and taking charge of the area-based regulation of the spray rate, depending on the current operational speed.

Once a job has been started, the AMATRON⁺ stores the data.

The AMATRON⁺ consists of the main menu and the work menu.

Main menu

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

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

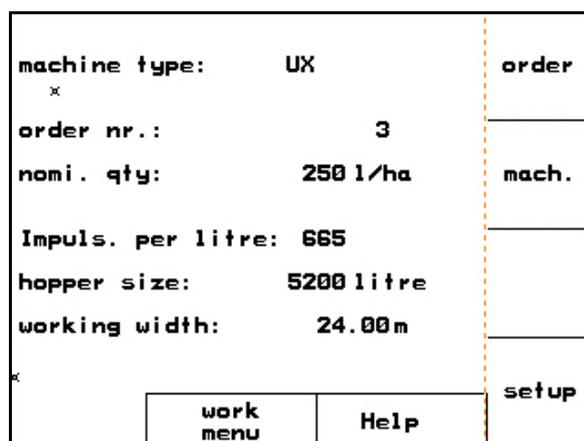


Fig. 5

Work menu

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

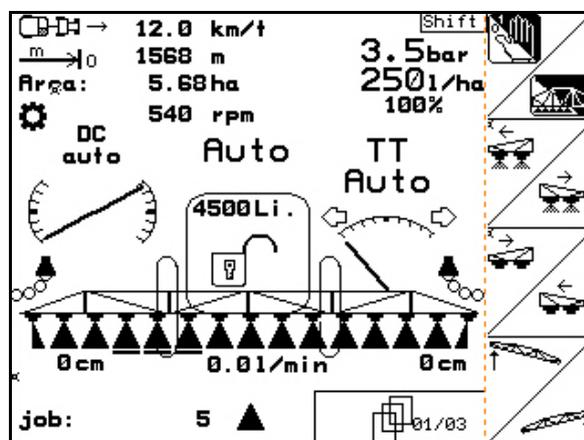


Fig. 6

4.1 Keys and function fields

The functions indicated at the right display edge by a function field (box or diagonally divided box) are controlled via the two rows of keys to the right of the display.

- If boxes appear on the display, only the right key (Fig. 7/1) is assigned to the function field (Fig. 7/A).
- If the boxes are diagonally divided:
 - the left key (Fig. 7/2) is assigned to the top left function field (Fig. 7/B).
 - the right key (Fig. 7/3) is assigned to the bottom right function field (Fig. 7/C).

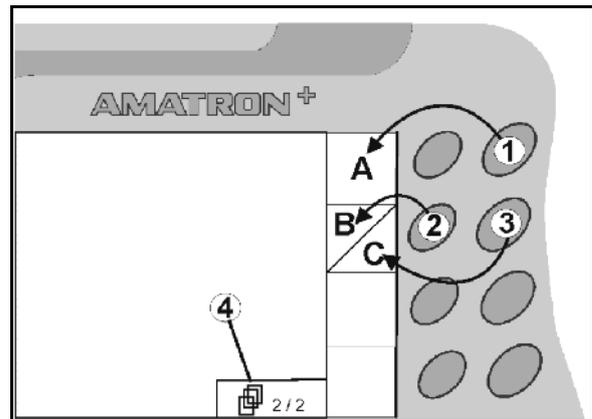


Fig. 7

	On/Off (Always switch off the AMATRON ⁺ when driving on public roads).
	<ul style="list-style-type: none"> • Return to last menu • Switch between work menu - main menu • Cancel entry • To work menu (hold down key at least 1 second)
	<ul style="list-style-type: none"> • Scroll to other menu pages (only possible if (Fig. 7/4) appears in display) • Multi-function stick learning menu
	<ul style="list-style-type: none"> • Move cursor left in display
	<ul style="list-style-type: none"> • Move cursor right in display
	<ul style="list-style-type: none"> • Take over selected numbers and letters • Confirm critical alarm • 100% quantity in work menu
	<ul style="list-style-type: none"> • Move cursor up in display • Increase specified quantity during work by percentage application rate increase (e.g.:+10%) (Adjusting percentage application rate increase, see page 22)
	<ul style="list-style-type: none"> • Move cursor down in display • Reduce specified quantity during work by percentage application rate increase (e.g.: -10%) (Adjusting percentage application rate increase, see page 22)

4.1.1 Shift key

- The shift key is located on the back of the unit  (Fig. 8/1).
- When the Shift-key is activated, this is indicated on the display (Fig. 9/1).
- When the Shift-key is actuated, further function fields appear (Fig. 10) and the assignment of the function keys is altered accordingly.

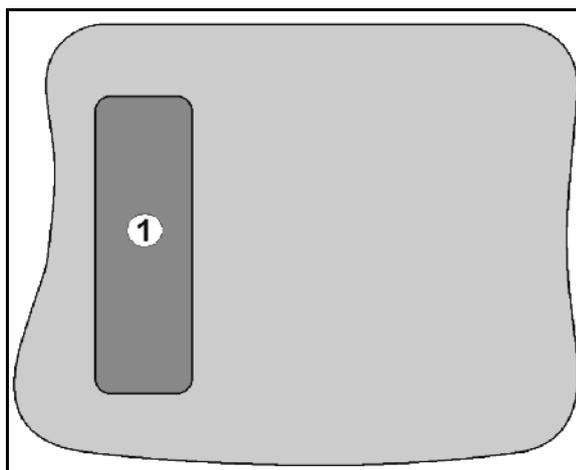


Fig. 8

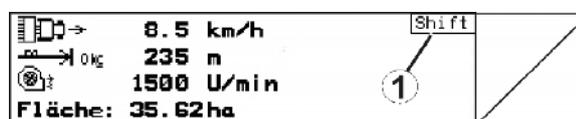


Fig. 9

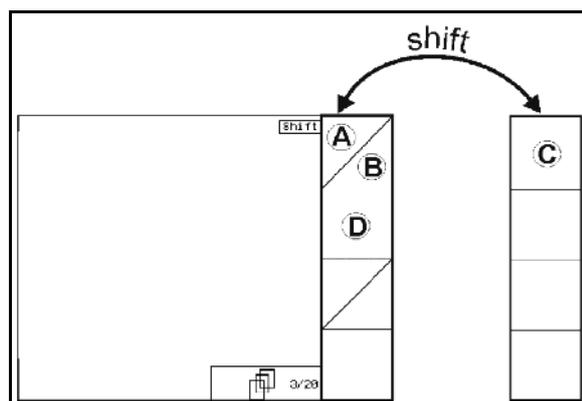


Fig. 10

4.2 Entries on AMATRON⁺



For operation of the AMATRON⁺, 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:

- Function field

Description in the operating manual:



Carry out function A.

Action:

The operator uses the key (Fig. 11/1) assigned to the function field to perform function A.

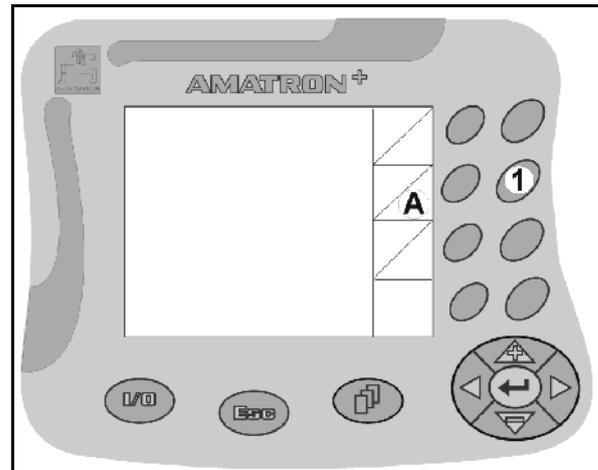


Fig. 11

4.3 Entering text and numbers

If it is necessary to enter texts or numbers on the AMATRON⁺, the input menu (Fig. 12) appears.

In the lower part of the display, a selection field (Fig. 12/1) appears with letters, numbers and arrows which can be used to compose the input line (Fig. 12/2).



Choose letters or numbers in the selection field (Fig. 12/3).

- Confirm the selection (Fig. 12/3).
- Delete the input line.
- Switch between upper and lower case.
- Confirm the text entered.

The arrows in the selection field (Fig. 12/4) allow movement in the text line.

The arrow in the selection field (Fig. 12/4) deletes the last entry.

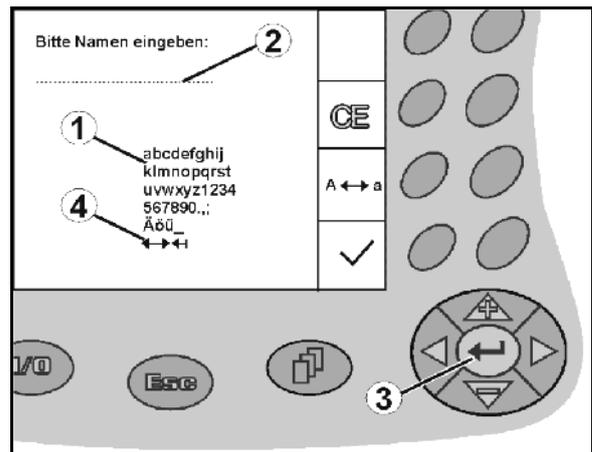


Fig. 12

4.3.1 Entering numerical values

-  Increment the number
-  Decrement the number
-  Selection of the decimal place
-  Setting the selected decimal place.

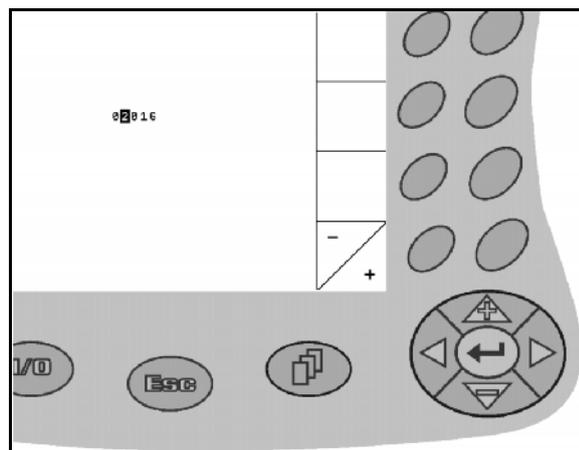


Fig. 13

4.3.2 Selection of options

1.  /  Position the selection arrow (Fig. 14/1).
2.  Apply the selection (Fig. 14/2).
3.  Confirm the selection.

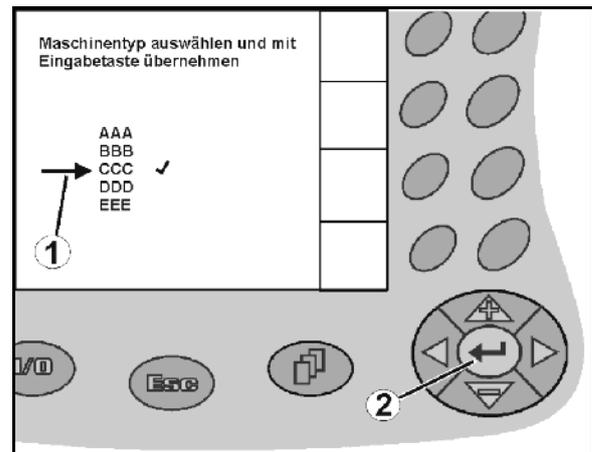


Fig. 14

4.3.3 Toggle function

Switching functions on/off:

- Press function key (Fig. 15/2) once
→ Function **on** (Fig. 15/1).
- Again press function key
→ Function **off**.

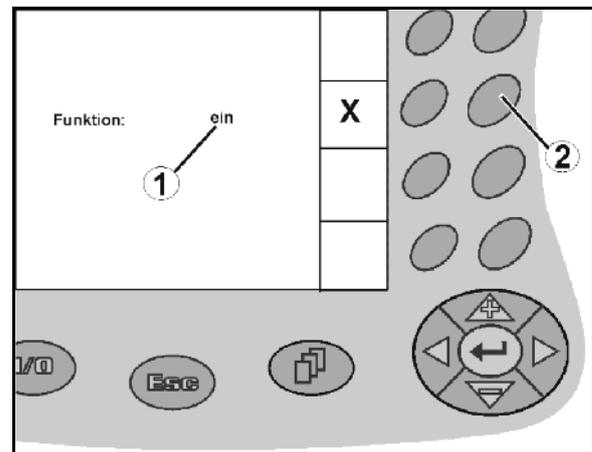


Fig. 15

4.4 Software version

This operating manual is valid from software version:

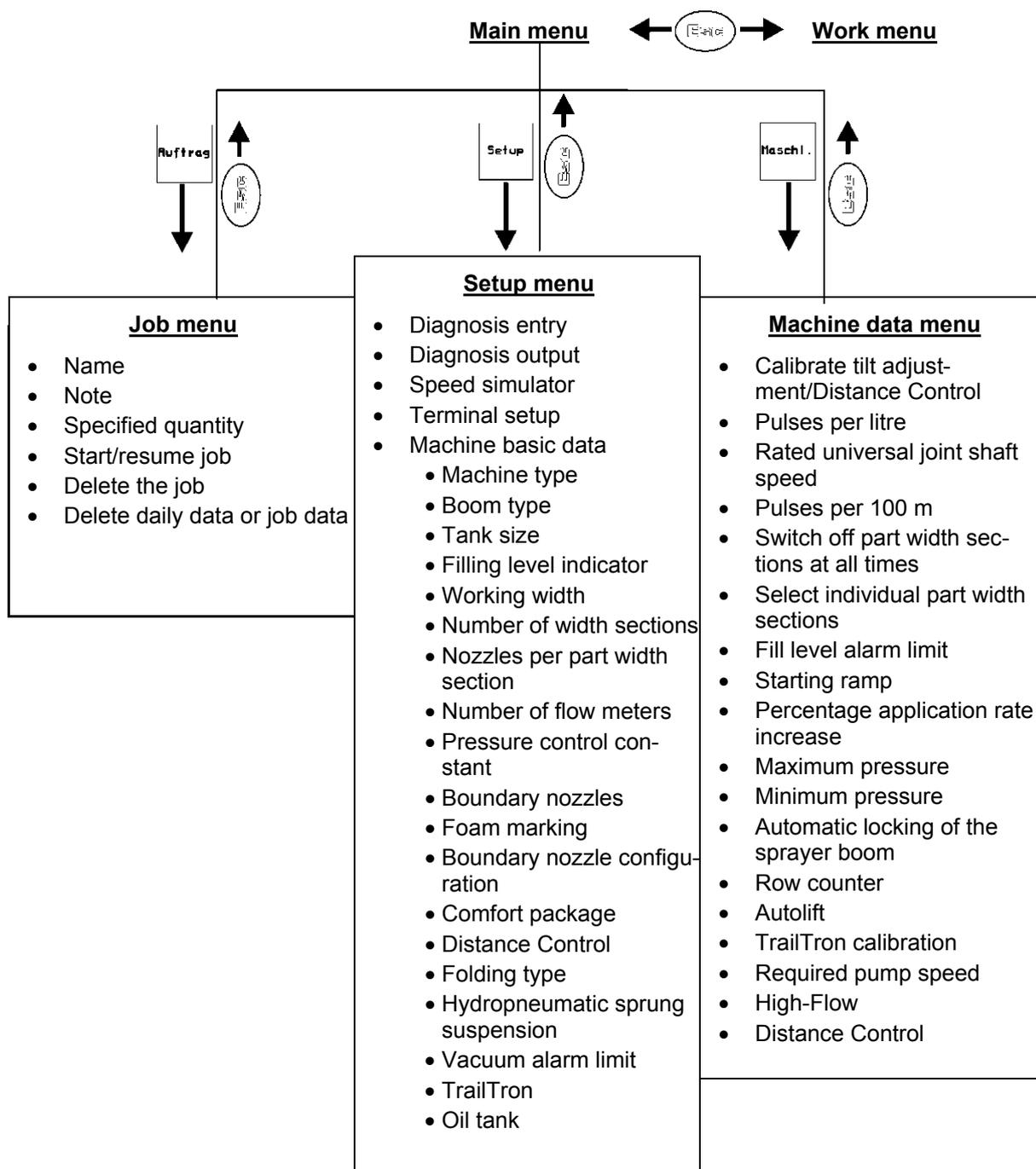
Machine:

Terminal:

MHX version: 7.15.xx

BIN version: 3.22.0

4.5 Hierarchy of the AMATRON⁺



5 Commissioning

5.1 Start screen

After the **AMATRON⁺** is switched on with the machine computer connected, the Start screen appears, indicating the terminal software version number. After approx. 2 seconds, the **AMATRON⁺** automatically shows the Main menu.

If data is loading from the machine computer after the **AMATRON⁺** is switched on, e.g. in event of

- a new machine computer being used,
- a new terminal being used,
- following a RESET of the terminal,

this is indicated on the Start screen.

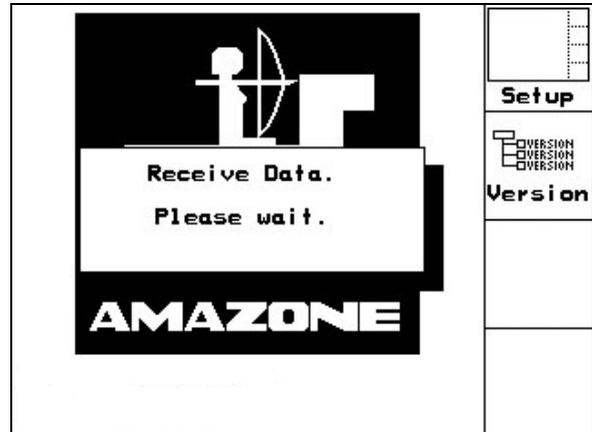


Fig. 16

5.2 Main menu

The main menu shows

- the selected machine type.
- the job No. for the job in progress.
- the specified quantity entered.
- the pulses per litre of the flow meter 1.
- the tank size for the spray liquid tank in litres.
- the entered working width for the sprayer boom in [m].

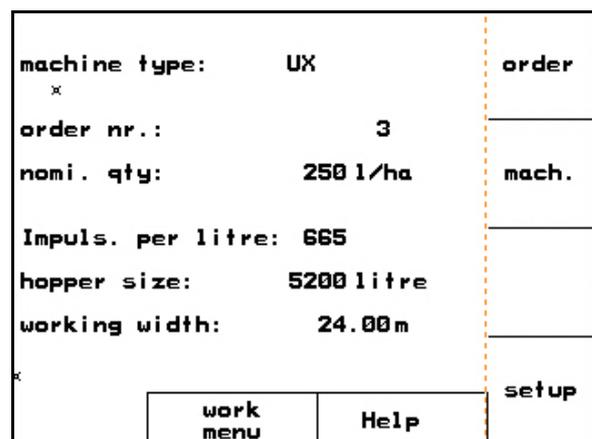


Fig. 17

Submenus of the main menu:



Call up the Job menu (see page 20)

- Data entry for new job.
- Call up the Job menu.
- The data for up to 20 jobs are stored



Call up the Machine data menu (see page 22).

- Input of machine-specific or individual data.



Call up the Setup menu (see page 40).

- Input of basic settings

5.3 Job menu

order

 Select **Job** in main menu!

The Job menu allows you to:

- create and start (or resume) individual jobs.
- call up stored data on a job. Information on max. 20 jobs can be stored (job numbers 1 to 20).

When starting or continuing a job, the current job is automatically ended and stored.

5.3.1 Create/star/call up a job

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

To create a new job, select a job number

- Delete the data for the selected job
- Enter name
- Enter note
- Enter desired quantity
- Start the job so that data can be stored with this job.
- Delete daily data
 - o Worked area (ha/day)
 - o Fertiliser quantity dispensed (quantity/day)
 - o Work time (hours/day).

order nr. :	4 started	name
name:		note
note:		1/ha
nomi. qty:	250 l/ha	start
fnshd area:	36.52 ha	delete
hours:	3.6 †	delete daily data
average:	10.05 ha/†	
qty spread:	9130 Li.	
ha/day:	3.21 ha	
qty/day:	802 Li.	
hours/day:	0.3 †	
4/10		

Fig. 18

Stored jobs can be called up with and restarted with .

With the shift key  pressed (Fig. 19):

-  Scroll forward through job.
-  Scroll backward through job.

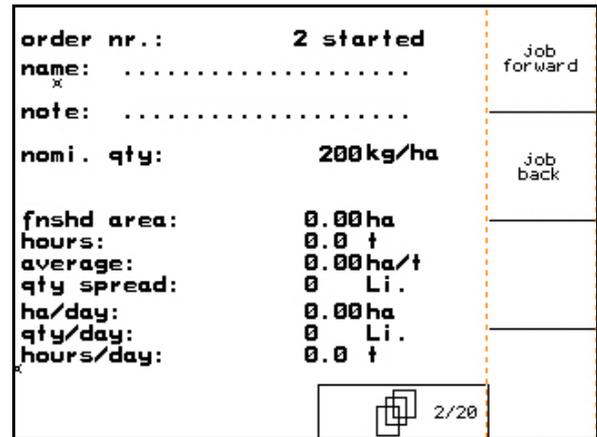


Fig. 19

5.3.2 External job

Using a PDA, an external job can be transferred to the AMATRON⁺ and then started.

This job is always given the job number 21.

The data is transferred via the serial interface.

-  End the external job.
-  Enter the specified quantity.

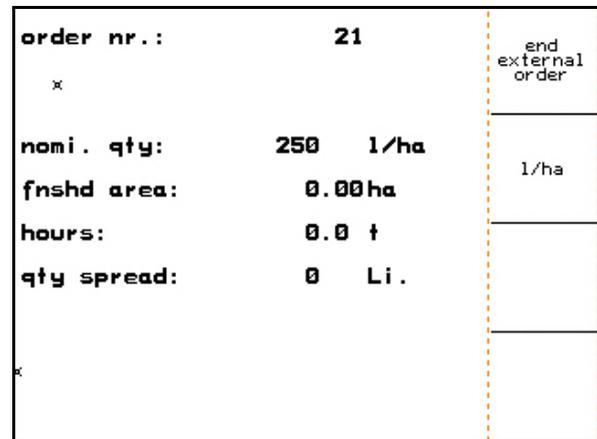


Fig. 20

5.4 Machine data menu



The machine data are entered into the AMATRON⁺ at the factory.

Before initial operation, you must check the machine-specific data and settings in the machine data menu and correct them if necessary (adjust settings/carry out calibration).

Page one 01/05 (Fig. 21)

- - Calibrate tilt adjustment (optional, see page 26)
 - Calibrate Distance Control (optional, see page 27)
- Determine/enter pulses per litre (see page 30).
- Enter rated universal joint shaft speed (see page 33).
- Calibrate distance sensor (page 36).

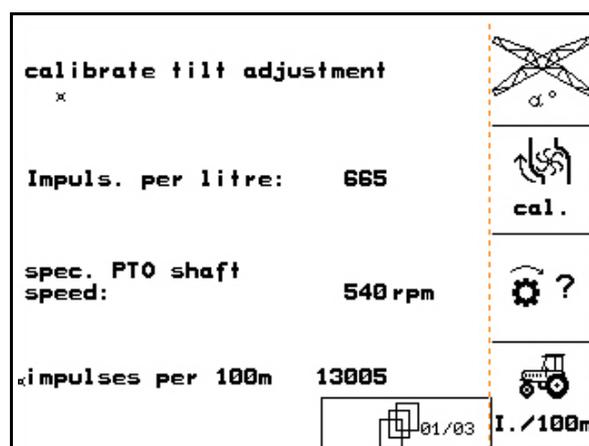


Fig. 21

Page two 02/05 (Fig. 22)

- Switch part width sections off at all times. The displayed number (Fig. 22) provides information about the number of part width sections that are switched off at all times (number 0 = no part width sections switched off). (See page 37).
- Switch the function for selecting individual part width sections on/off. (See page 66).

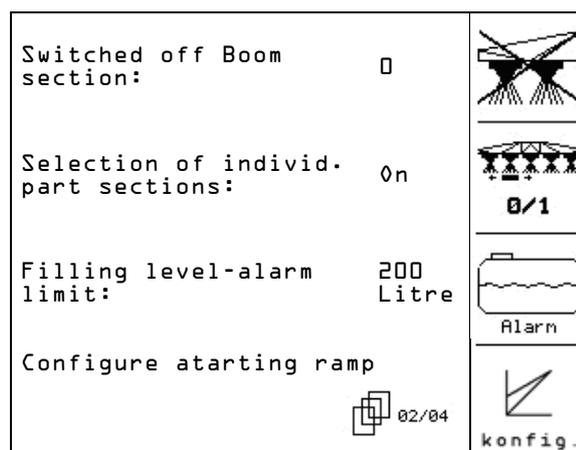


Fig. 22

-  Enter the fill level alarm limit.
- In spraying operation, an alarm signal sounds if the fill level in the spray liquid tank falls below the fill level alarm limit.
-  Configure starting ramp

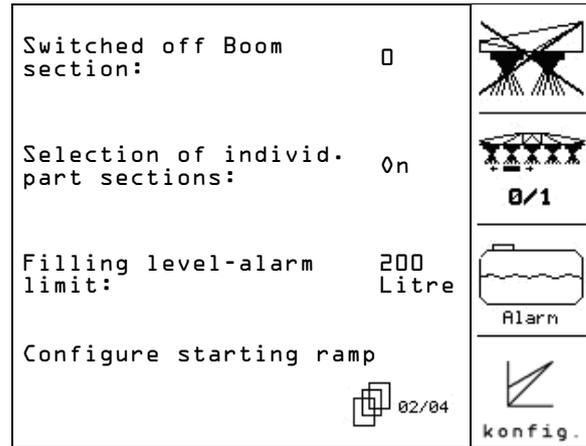


Fig. 23

 Page three  (Fig. 24)

-  Entry of the percentage application rate increase. Enter the desired percentage application rate increase (here, 10 %).
- Pressing the   keys in spraying operation changes the rate by the entered percentage application rate increase each time the key is pressed.
-   Enter the maximum and minimum permitted spray pressure of the built-in spraying nozzles.
- In spraying operation, an alarm signal sounds in case the spray pressure exceeds or falls below the permitted levels.
-  Automatic locking of the swing compensation on and off.

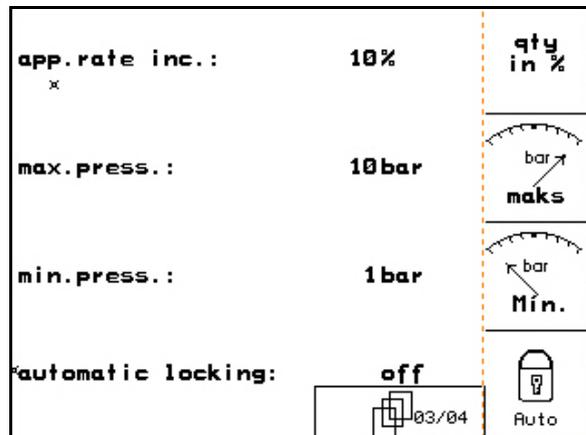


Fig. 24



CAUTION

Damage to the sprayer boom by automatic locking when machine or implement is at an incline.

→ Switch off automatic locking.

Page four (Fig. 25)

- Row counter on/off:
The stored headland distance is displayed to locate the tramlines. The row counter starts displaying the tramlines as soon as "spraying" is switched off.
- Switch Auto lift on/off.

Auto Lift lifts the boom to the height entered before turning.

- When spraying is switched off , the boom is automatically raised.
- When spraying is switched on , the boom is automatically lowered.

Set boom height (see page 65).

Distance Control automatically regulates the tilt and height adjustment of the booms.

With switch off spraying on headlands, the boom is automatically lifted to the height entered.

The regulation of the raised boom during the turning process can be switched off permanently.

- Switch the regulation of the tilt adjustment of the raised boom on and off at the headlands.
- Switch the regulation of the height adjustment of the raised boom on and off at the headlands.
- Carry out TrailTron calibration (see on page 39).

Row counter	off	
Switch Auto	on	
Calibrate TrailTron		

Fig. 25

Dist. counter	off	
Automatic tilt adjustment at headland	off	
Automatic height adjustment pos. on headlands	off	
Calibrate TrailTron		

Fig. 26

Optional for UX Super and PANTERA.

- 
 Switch the actual spray rate increase for spreading liquid fertiliser on/off.
- 
 Only for UX: Enter the required pump speed (see 39).
- 
 Enter the DC mode.
 Distance Control works with tilt adjustment or angle boom.

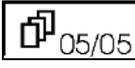
High - Flow		 High-Flow
requir. pump speed:	540rpm	 ?
DC mode:	tilt	 Modus
		 05/05

Fig. 27

5.4.1 Calibrating the tilt adjustment (machine data 01/04)



The prerequisite for proper function of the electric or hydraulic height adjustment is that the calibration of the tilt adjustment has been carried out correctly.

Carry out a calibration adjustment at the following times:

- At initial operation
- In case of deviations between the displayed horizontal sprayer boom orientation and the actual sprayer boom orientation.
- Once per season.

1. Drive to the central position.

Align the sprayer boom horizontally to the ground.

2. Determine the central position.

3. Drive to the right hand stop until the right spacer contacts the ground slightly.

4. Determine the right hand stop.

5. Drive to the left hand stop until the left spacer contacts the ground slightly.

6. Determine max. left position.

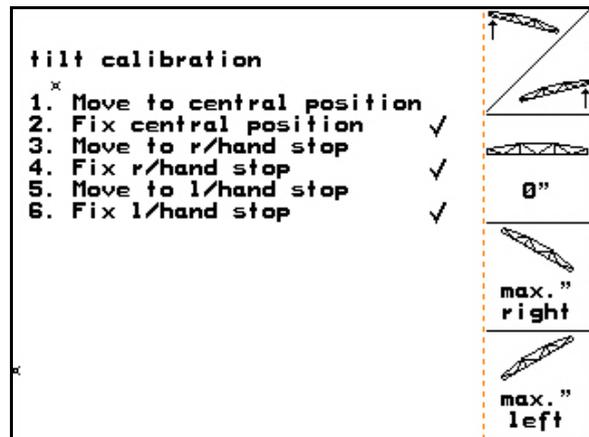


Fig. 28

5.4.2 Calibrating the Distance Control (machine data 01/04)

The prerequisite for proper function of the Distance Control is that calibration has been carried out correctly. Carry out a calibration at the following times:

- At initial operation
- Once per season.

Before calibrating the Distance Control, ensure that the substrate is level and not tilted, that there are no depressions under the ultra sound sensors, and the surface of the substrate is not too smooth (e.g. asphalt or concrete).

1. Switch to machine menu.
2. Switch to the Distance Control calibration menu.

The calibration process itself has 3 steps.

Horizontal calibration

3. Start horizontal calibration.
4. Orient boom horizontally. The current height of both sensors is displayed at all times (Fig. 30).

→ If **Beam now horizontal** appears in the display:

5. Confirm horizontal position.

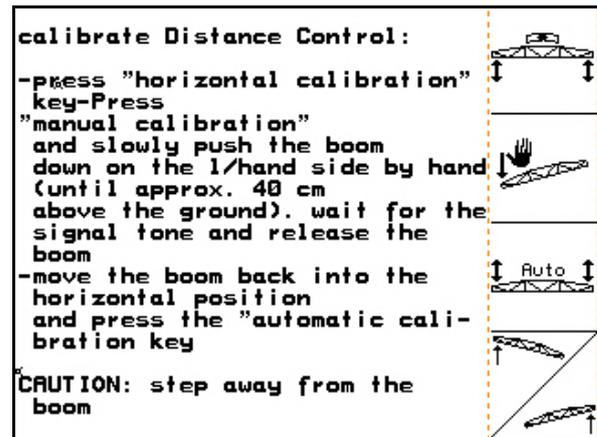


Fig. 29

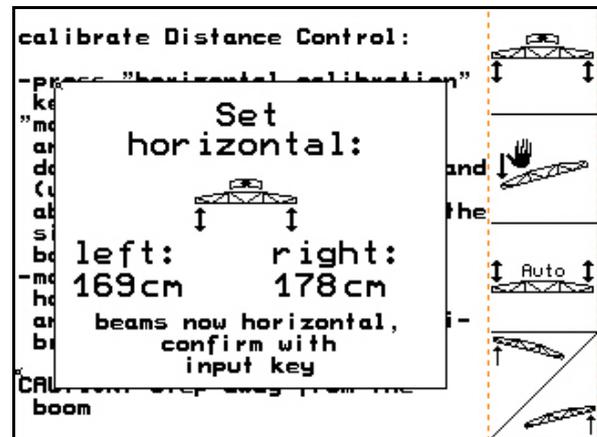


Fig. 30

Commissioning

• Carry out manual calibration



1. Start the manual calibration.
 2. Press down on the left boom with your hand until the end is approx. 40cm above the ground. Hold this position for approx. 5 seconds.
- The **AMATRON⁺** emits an acoustic signal to indicate that it has detected the position.
3. Then, let go of the boom and wait until "Beam now horizontal" appears in the display.
 4. If the boom does not return to the centre position (this can occur due to friction on the beam suspension), the boom must be brought into centre position manually.



5. Confirm horizontal position.

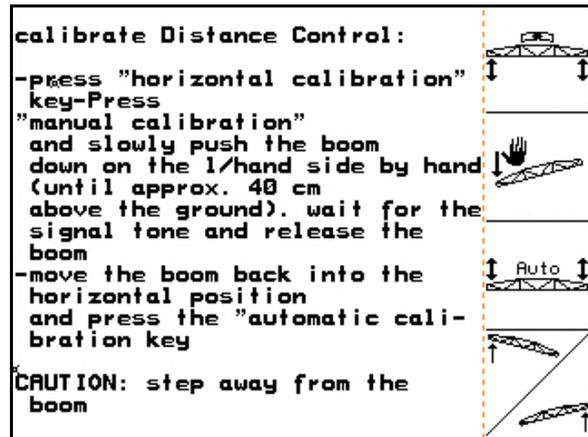


Fig. 31

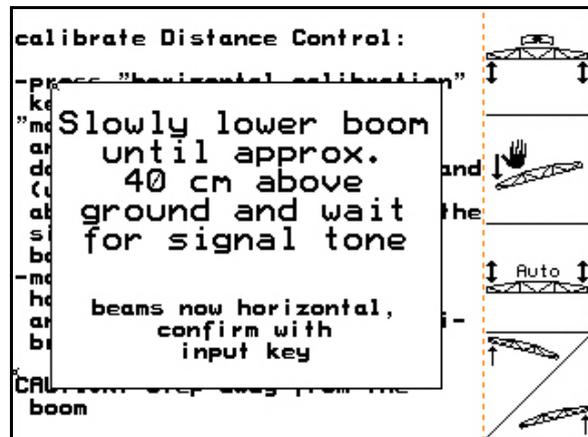


Fig. 32

• Automatic calibration



1. (Fig. 31) Start the automatic calibration.

DANGER
Danger of injury from boom swivelling automatically.
 During the automatic calibration, no one may be in the swivelling range of the boom.

- The boom is lifted automatically, first to the left and then to the right. Finally, it is returned to the horizontal position.
- When the automatic calibration is ended, this is indicated by the computer (Fig. 33).



2. Exit menu.

If the boom is not exactly horizontal, this is not an error.

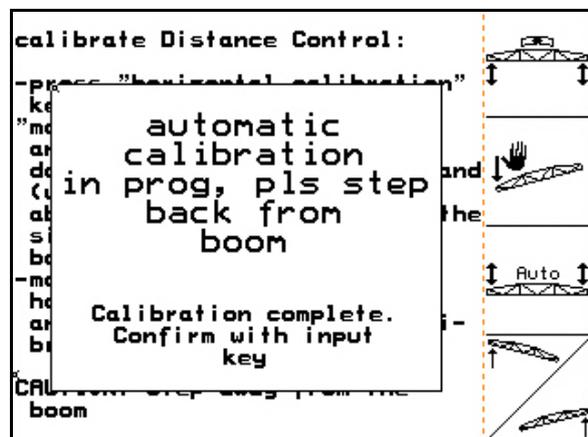


Fig. 33

5.4.3 Pulses per litre (machine data 01/04)



- The **AMATRON⁺** requires the "Pulses per litre" calibration value for the flow meter/return flow meter for the following purposes:
 - Measuring and controlling the spray rate [l/ha].
 - Measuring and daily and total volume of the sprayed liquid [l].
- If the calibration value is not known, it must be established by way of a calibration procedure of the flow meter/return flow meter.
- You can enter the "Pulses per litre" calibration value for the flow meter/return flow meter into the **AMATRON⁺** if the exact calibration value is known.



- To convert the spray rate in [l/ha] accurately, you have to have the "Pulses per litre" calibration value measured by the flow meter at least once a year.
- Always measure the "Pulses per litre" calibration value of the flow meter at the following times:
 - After removing the flow meter.
 - After long periods of operation, because spray residue deposits can form in the flow meter.
 - If differences occur between the required spray rate and the actual spray rate [l/ha].
- To convert the sprayed liquid volume in [l] accurately, you have to calibrate the return flow meter with the flow meter.
- Calibrate the flow meter with the flow meter at the following times:
 - After measuring the "Pulses per litre" calibration value of the flow meter.
 - After removing the return flow meter.

Commissioning

5.4.3.1 Measuring pulses per litre – flow meter 1

- FRM 1 – Flow meter
- FRM 2 – Return flow meter
- FRM 3 – Flow meter for High-Flow

1. Fill the spray liquid tank with clear fresh water (ca. 1000 l) up to the full mark that appears on both sides of the spray liquid tank.
2. Switch on the universal joint shaft and run the pump at the operating speed (e.g. 450 rpm).



3. Start the calibration procedure.

4. Switch on the sprayer boom and spray at least 500 l of water (according to the fill level indicator) via the sprayer boom.

→ The display shows the continuously measured value of the "impulses" for the sprayed water volume.

5. Switch off the sprayer boom and the universal joint shaft.
6. Measure the exact sprayed water volume by refilling the spray liquid tank up to the full mark on both sides of the tank:
 - o using a measuring container,
 - o by weight or
 - o using a water meter.
7. Enter the value for the measured water volume, e.g. 550 l.



8. End calibration procedure.

→ The **AMATRON⁺** calculates the **Pulses per litre** calibration value automatically, displays the calibration value and stores the calibration value.



- Enter pulses for FRM 1.



- Calibrate FRM 2.



- Enter pulses for FRM 3.

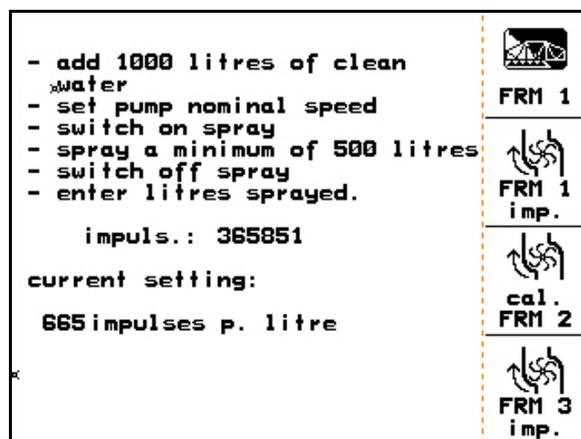


Fig. 34

5.4.3.2 Calibrate return flow meter with the flow meter.

-  Go to the "Calibrate flow meter 2" menu.

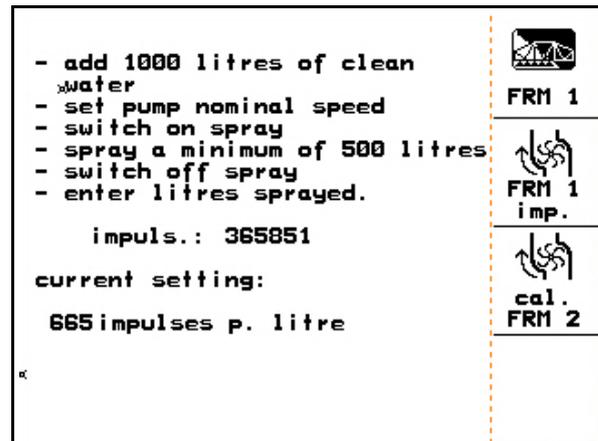


Fig. 35

- Fill the spray liquid tank with clear fresh water (ca. 1000 l) up to the full mark that appears on both sides of the spray liquid tank.
- Switch on the universal joint shaft and run the pump at the operating speed (e.g. 450 rpm).

-  Start the calibration.

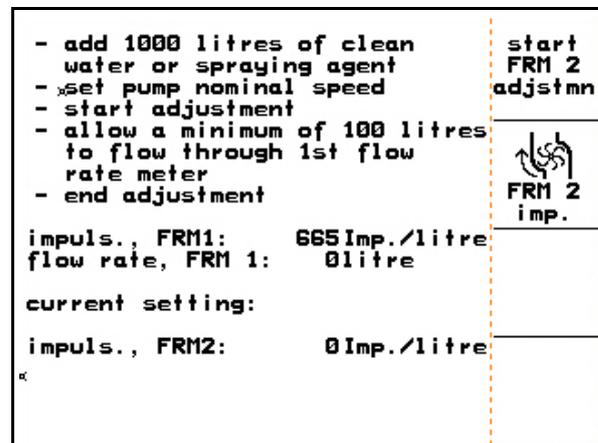


Fig. 36

 The calibration can take place only if "spraying" is switched off 

 When the display to the right appears, the calibration is complete.

-  End calibration of the return flow meter.

→ The **AMATRON⁺** calculates the "Flow meter impulses 2" calibration value automatically, displays the calibration value and stores the calibration value.

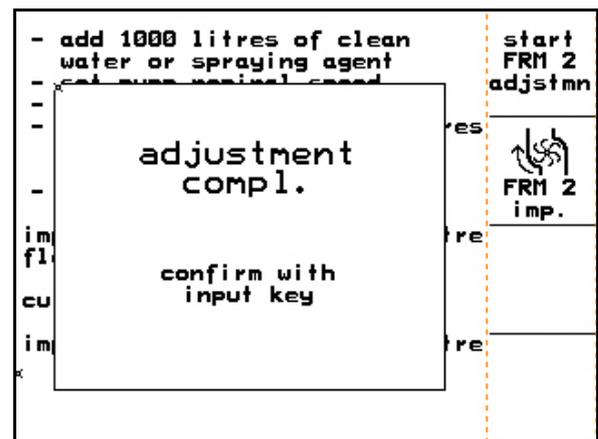


Fig. 37

Commissioning

5.4.3.3 Entering Pulses per litre manually - Flow meter

1.  cal. FRM 2 Enter impulses for flow meter 2.
2.  Confirm entry.

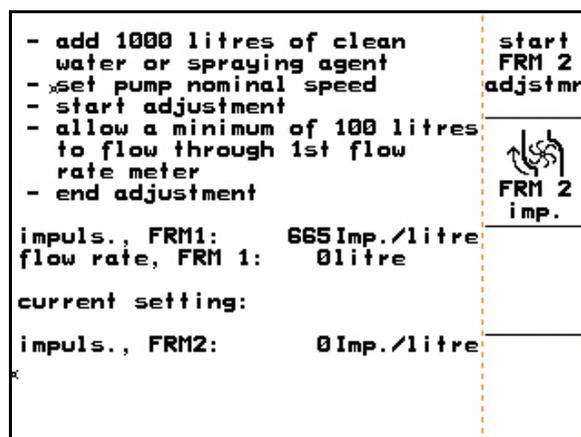


Fig. 38

5.4.3.4 Measuring pulses per litre – flow meter 3



To measure the pulses per litre for the FRM 3, the FRM 3 must be installed in position in the liquid circuit of flow meter 2.

1. Install FRM 3 at the position of FRM 2.
2. Make a note of the impulses of FRM 2.
3. Start the calibration (see page 31).
4. Make a note of the newly measured impulses.
5. Enter the measured impulses for FRM 3.
6. Overwrite the FRM 2 impulses with the value you noted for FRM 2.
7. Reinstall FRM 3 and FRM 2 at their correct positions.

5.4.4 Rated universal joint shaft speed (machine data 01/04)



- You can store the following for 3 tractors:
 - Rated universal joint shaft speeds.
 - Impulses per revolution of the universal joint shaft.
- When a stored tractor is selected, the corresponding values for the rated universal joint shaft speed and the impulses per 100m are applied automatically.
- The **AMATRON⁺** monitors the rated universal joint shaft speed. In spraying operation, an alarm signal sounds in case the spray pressure exceeds or falls below the entered alarm limit.

5.4.4.1 Enter rated universal joint shaft speed

1.  Enter the rated universal joint shaft speed.
 Enter the "0" for the rated universal joint shaft speed in the following cases:
 - No universal joint shaft speed sensor is present.
 - Speed monitoring is not desired.
2.  Confirm entry.
3. Enter the alarm limit for speed monitoring. (See page 34).

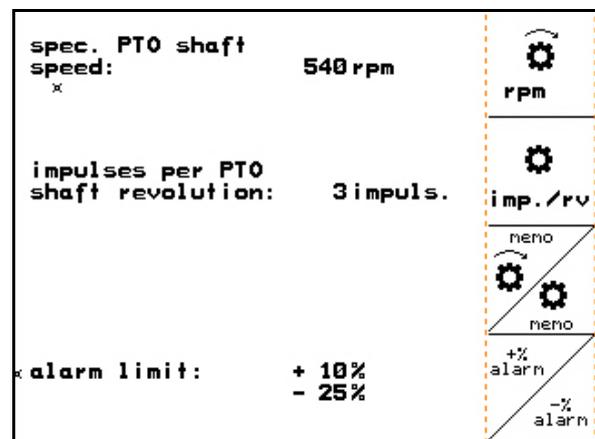


Fig. 39

5.4.4.2 Storing Pulses per universal joint shaft revolution for various tractors

1.  Select the Memory menu.

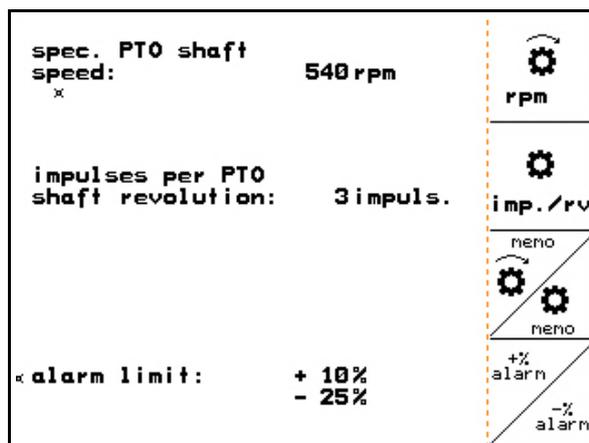
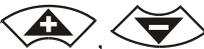


Fig. 40

2.  Select the tractor (Fig. 41/1).

3.  Enter impulses per revolution for the universal joint shaft.

4.  Confirm entry.

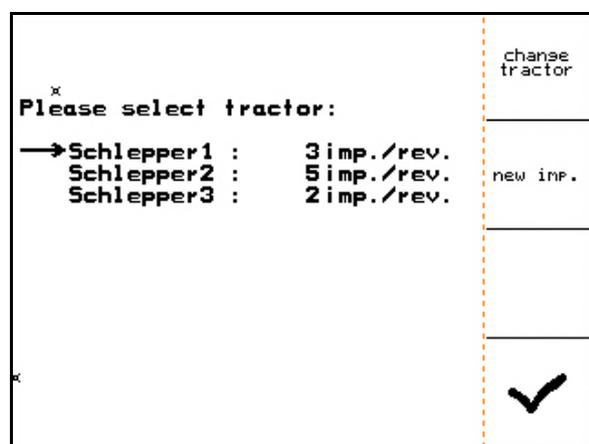


Fig. 41

  Change the tractor name for the selected tractor.

5.4.4.3 Storing the alarm limit for the rated universal joint shaft speed

 In spraying operation, an alarm signal sounds if the current universal joint shaft speed exceeds or falls below the entered rated universal joint shaft speed.

1.  Enter the maximum deviation from the upper alarm of the universal joint shaft.
2. Enter the maximum permitted deviation from the rated universal joint shaft speed, e.g. + 10% (maximum permitted universal joint shaft speed: 540 rpm + 10% = 594 rpm).
3.  Confirm entry.
4.  Repeat steps 1 to 3 for e.g. - 25% (minimum permitted universal joint shaft speed: 540 rpm - 25% = 405 rpm).

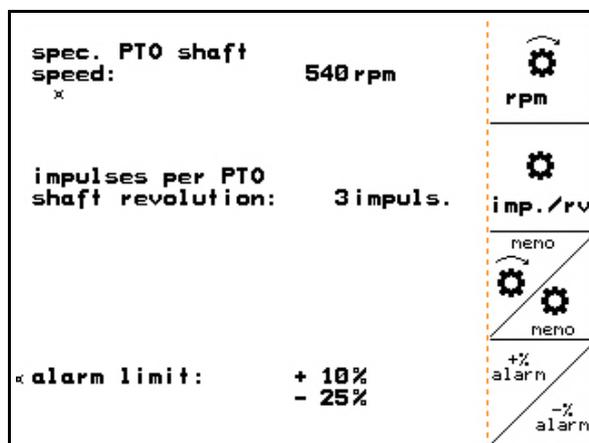


Fig. 42

5.4.5 Pulses per 100m (machine data 01/04)



- The "Pulses per 100 m" calibration value is required by the AMATRON⁺ to determine:
 - the actual operational speed [km/h].
 - the distance [m] covered for the current job.
 - the worked area.
- The "Pulses per 100 m" calibration value can be manually entered into the AMATRON⁺ if the precise calibration value is known.
- If the "Pulses per 100 m" calibration value is not known, it must be established by way of a calibration run.
- The AMATRON⁺ can store the "Pulses per 100 m" calibration values for 3 different tractors. (See page 37). The AMATRON⁺ applies the stored calibration values of the selected tractor.



- For accurate conversion of the actual operational speed in [km/h], the covered distance in [m] and the worked area in [ha], you must measure the "Pulses per 100 m" calibration value of the distance sensor.
- Establish the precise calibration value for "Pulses per 100 m" by way of a calibration run:
 - before commissioning.
 - when using a different tractor or after changing to different sized tractor tyres.
 - if there is a discrepancy between the measured and the actual operational speed/covered distance.
 - if there is a discrepancy between the measured and the actual worked area.
 - with different ground conditions.
- The "Pulses per 100 m" calibration value must be established under the prevailing conditions in the field. If spraying takes place with all-wheel drive switched on, it must also be switched on when establishing the calibration value.

5.4.5.1 Entering pulses per 100 m manually

1.  Enter pulses per 100 m.
2.  Confirm entry.

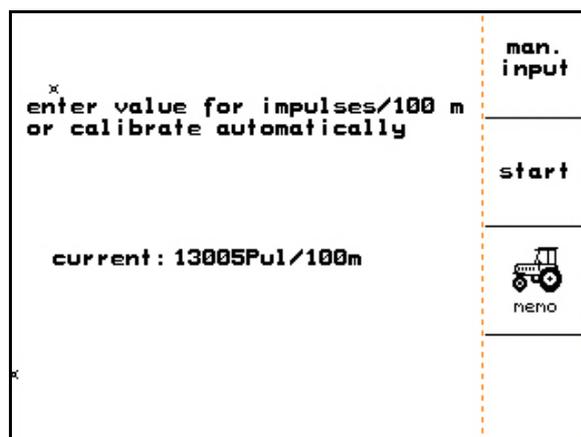


Fig. 43

5.4.5.2 Establishing pulses per 100 m by way of a calibration run

1. In the field, measure out a calibration distance of precisely 100 m.
2. Mark the start and end point (Fig. 44).

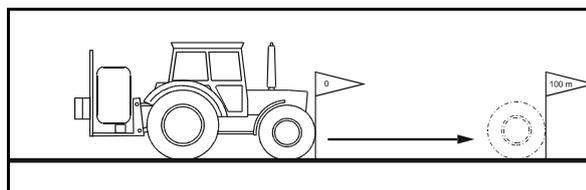


Fig. 44

3.  Start the calibration run.
4. Drive the exact calibration distance from the start to the end point.
 - The pulses are continuously detected and shown on the display.
5. Stop precisely at the end point.
6.  End calibration procedure.
 - The AMATRON+ accepts the number of pulses detected and automatically calculates the "Pulses per 100 m" calibration value (here, 13005 pulses/100 m).

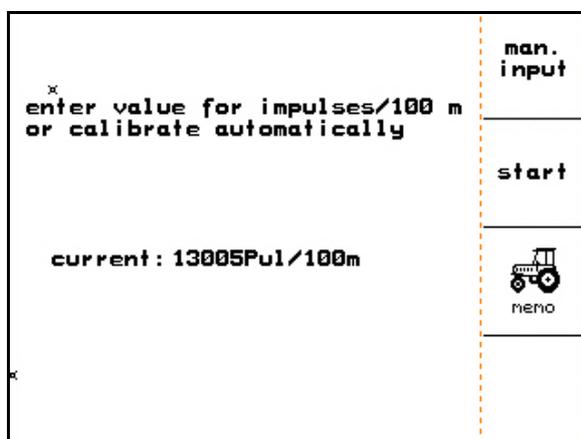


Fig. 45

5.4.5.3 Storing Pulses per 100 m for different tractors

1.  Select the tractor.
2.  Enter the tractor name.
3.  Enter pulses per 100 m for this tractor.
4.  Confirm entry.

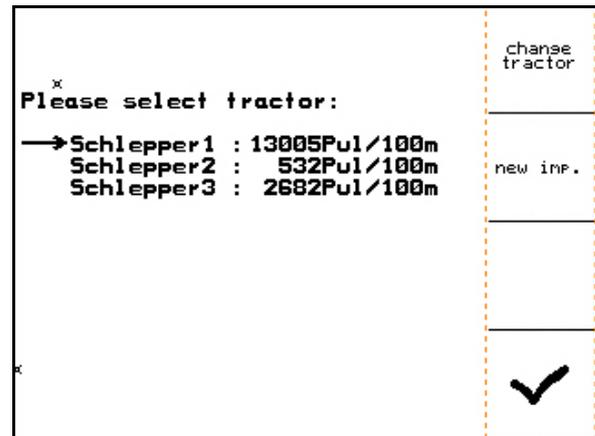


Fig. 46

5.4.6 Switching part width sections on/off at all times (machine data 02/04)

1. Select the part width section you want to switch on or off.
2.  Apply the selection.
- **On** (part with section switched on) or **off** (part width section switched off) appears next to the selected part width section.
3. Repeat steps 1 and 2 if you want to switch other part width sections on/off.
4.  Confirm entry.
5. During spraying operation, the part width sections indicated by **off** are switched off at all times.

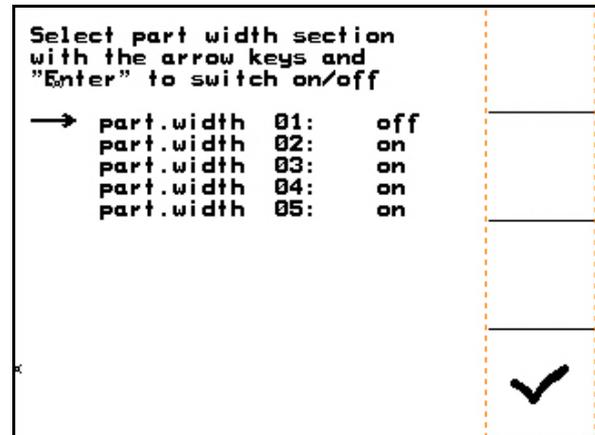


Fig. 47



You have to switch on previously switched-off part width sections if you want to work with these sections again.

5.4.7 Configure starting ramp

The start-up ramp prevents under metering when starting up.

Up to expiry of the specified time, the dosing will be in accordance with the simulated starting speed. Then it is regulated by the speed-dependent spray quantity control.

Once the speed entered has been reached or exceeds the simulated speed, the quantity regulation starts.

-  Switch the starting ramp on/off.
-  Simulated starting speed (km/h).
 - Standard value: 6 km/h
 - Maximum value 12 km/h
-  Time lapsing before the simulated speed is actually achieved in seconds.
 - Standard value: 5 s
 - Maximum value 10 s

Start ramp	on	 0 / 1
Start point of spray rate:	6 km/h	 km/h
Time for reaching starting point speed:	10 s	 t

Fig. 48

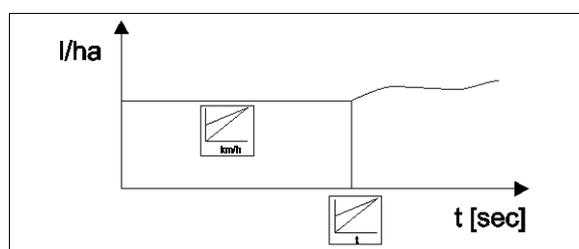


Fig. 49

5.4.8 Carrying out the TrailTron calibration (machine data )

1.  Drive to the central position. Orient the trailer steering axle/drawbar so that the trailed sprayer runs exactly in the tractor's tracks.
2.  Determine the central position.
3.  Drive to the right hand stop. The trailer steering axle/drawbar moves against the stop.
4.  Determine max. right position.
5.  Drive to the left hand stop. The trailer steering axle/drawbar moves against the stop.
6.  Determine max. left position.

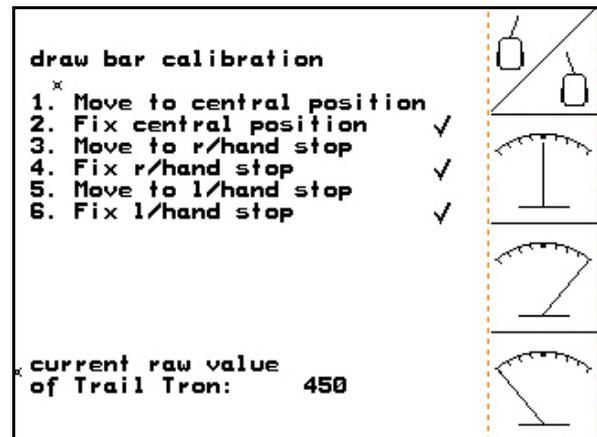


Fig. 50

5.4.9 Enter the required pump speed (machine data )

Only for UX/ Pantera:

-  Enter the required pump speed.
Required pump speed = 0
→ Monitoring switched off.
-  Enter the permitted deviation from the maximum pump speed in %.
-  Enter the permitted deviation from the minimum pump speed in %.

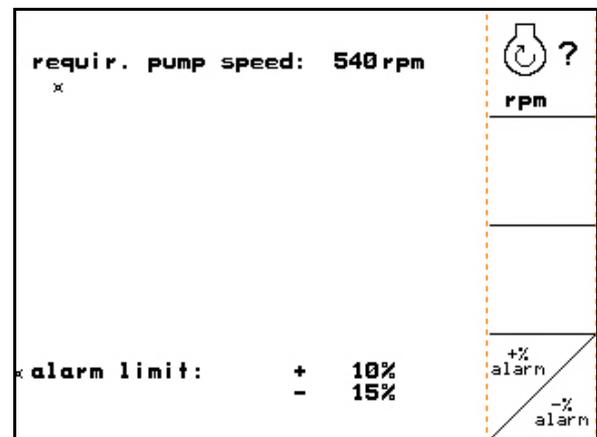
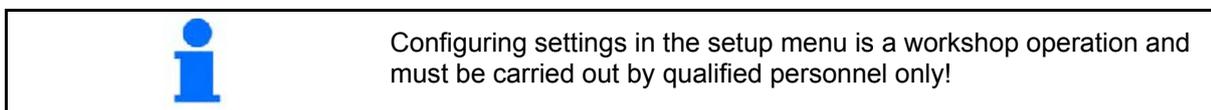
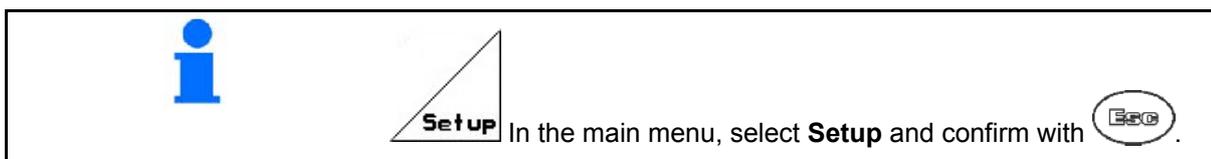


Fig. 51

5.5 Setup menu



Page 1 (Fig. 52)

The first page shows the total values since commissioning for:

- o Total worked area.
- o Total litres of spray liquid sprayed.
- o Total spraying time of the field sprayer.

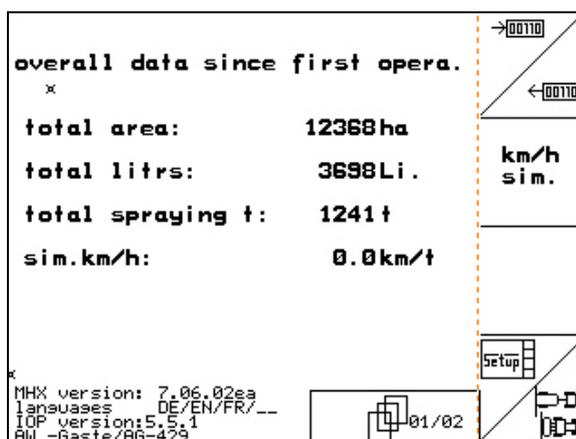


Fig. 52

- entry and output of diagnostics data (only for customer services).
- Entry of a simulated speed in the case of a defective distance sensor. (See page 107).
- Machine basic data. (See page 42).
- information on the terminal setup.



Page 2



(Fig. 53)



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



Make a note of the following:

- Pulses per litre
- Pulses per 100 m
- Pulses per universal joint shaft revolution
- Job data

You have to re-enter all machine basic data.

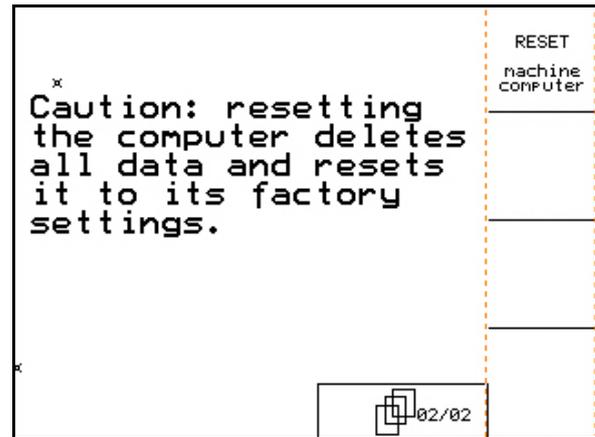


Fig. 53

5.5.1 Entering the machine basic data

Page 1 (Fig. 54):

- Select machine type.
 - Select boom folding.
 - Front tank FT1001 Minimum content in % of rear tank (20%, 30%, 40%)
 - Select tank size.
 - Configure the filling level indicator, see page 47.
- If the standard filling level curve is not used, this is displayed

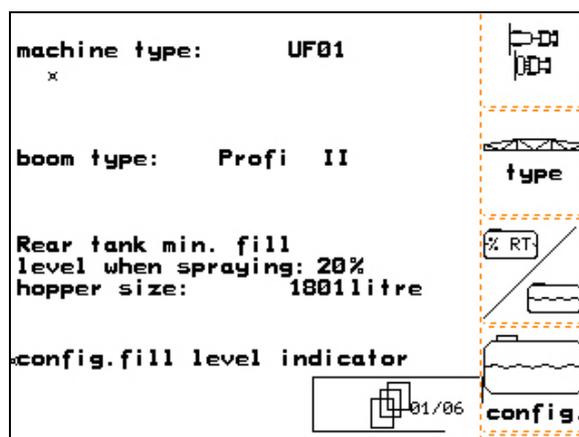


Fig. 54

Page 2 (Fig. 55):

- Enter working width.
- Enter number of part width sections.
- Enter nozzles per part width section (see on page 49).
- Select the number of flow meters.
 - 1 (One flow meter)
 - 2 (Flow meter and return flow meter, default).
 - 3 (High-Flow)

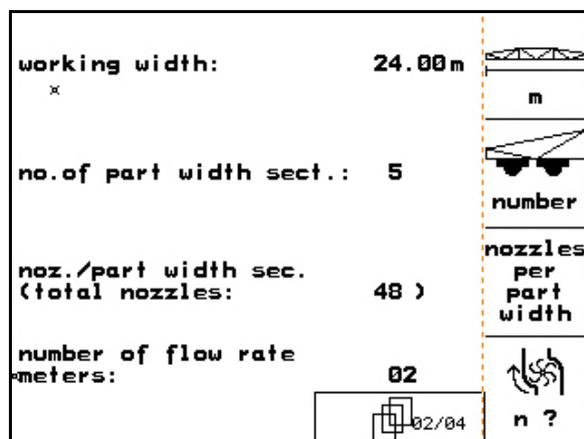


Fig. 55

Page 3 (Fig. 56):

- Enter the value for the pressure control constant (default value: 10.0).
- Switching on/off boundary nozzles (limit nozzle / end nozzle / additional nozzle, optional).
- Switch foam marker on/off (optional).
- Boundary nozzle configuration (optional, see page 50).
- Configure the comfort package (see page 50)

press.cntrl.const.:	5.0	
Bound.noz:	on	
foam marker:	on	
Configure bound. nozzles		 konfig.
Configure comfort package		 konfig.

Fig. 56

Page 4 (Fig. 57):

- Calibrate Distance Control (optional), see page 49
- Switch the pressure filling with filling stop on / off.
- Folding type:
 - o L-boom
 - o S-boom hydraulically locked
 - o S-boom mechanically locked
 - o Q-boom

Configure Distance Control		 konfig.
Pressure fill	off	
Folding type:	L-boom	 ?

Fig. 57

Commissioning

Only for **UX**:

Page 5 (Fig. 58):

- Configure the hydropneumatic sprung suspension, see page 50.
- Switch TrailTron control on/off (optional).
- Configure TrailTron, see page 45.

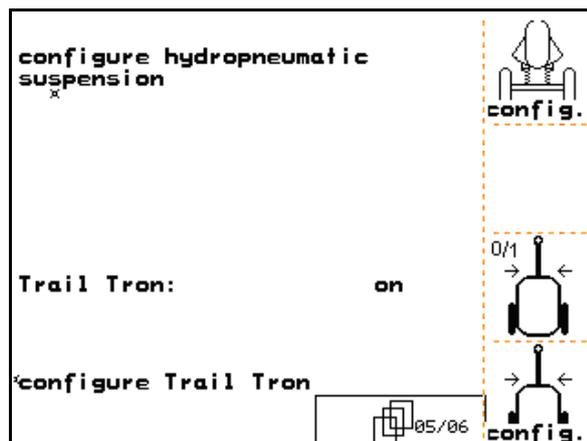


Fig. 58

Page 6 (Fig. 59):

- Switch oil tank on/off
Switching on only for Profi LS (load-sensing hydraulic system)
- Afterrun time for oil tank with decreasing pressure in seconds.

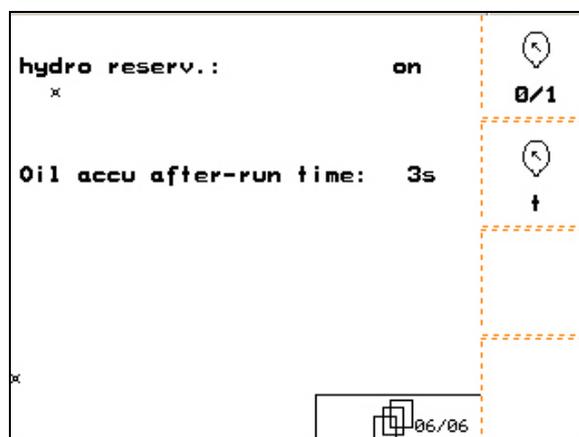


Fig. 59

5.5.1.1 Configuring the TrailTron (basic data )

 • Before configuring the TrailTron, measure the impulses/100 m, see page 35.

• UX: Open the throttles for the steering cylinders all the way. Thereafter, readjust the throttle correctly.

 In order to calibrate the stub axle steering systems correctly, first determine the correct time of the steering using the N factor, and then the intensity of the steering via the control factor.

-  Enter the control factor for TrailTron drawbar.

For stub axle steering systems only:

→ Standard value: 1.25

Machine oversteered (Fig. 61/1):

→ Select lower control factor

Machine understeered (Fig. 61/2):

→ Select higher control factor

-  Enter TrailTron deviation factor.

The deviation factor indicates the sensitivity from which steering lock the steering starts to work.

- o 0 (sensitive) to 15 (insensitive)
- o Preferred values: 4 to 8

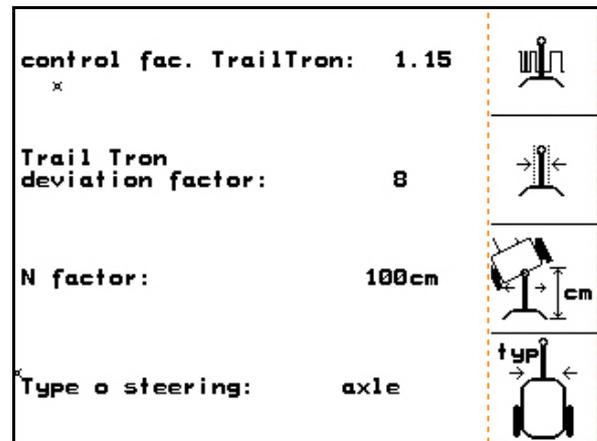


Fig. 60

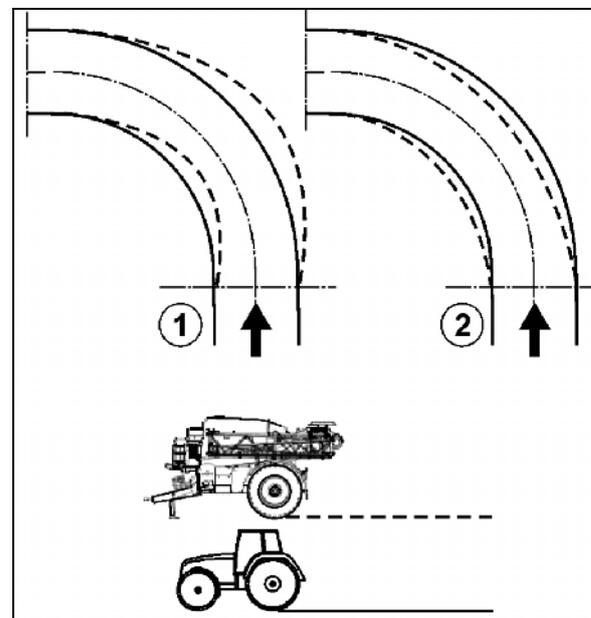


Fig. 61

Commissioning



- Enter N-Factor in cm.

For stub axle steering systems only:

→ Standard value: 240 cm

The spray wheels should begin to turn in at the same place as the rear tractor wheels (Fig. 62/1)!

If the sprayer steers into the curve too late:

The sprayer steers into and out of the curve too late:

→ Subtract dimension a (Fig. 62) to the N-Factor.

The sprayer steers into and back out of the curve too early

→ Add dimension b (Fig. 62) from the N-Factor.

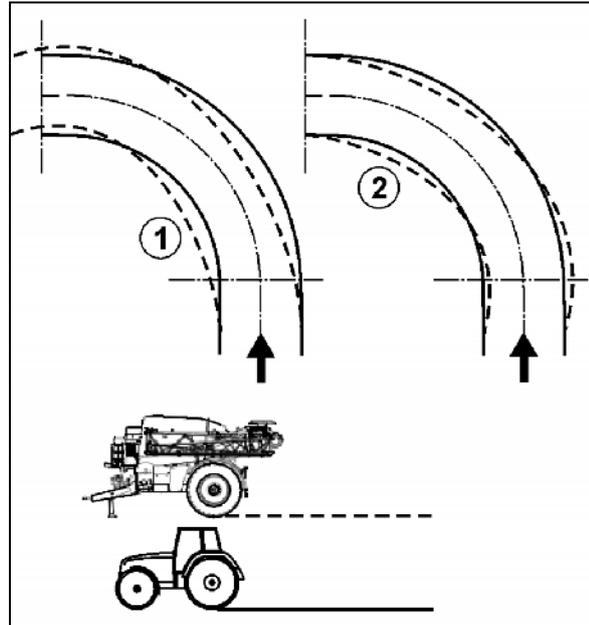


Fig. 62

5.5.1.2 Configuring the filling level indicator (Setup)

- Switch the "filling level indicator" equipment on (filling level indicator present)/off (no filling level indicator).
- If filling level indicator is defective: switch off filling level indicator.
- Select calibrate filling level indicator (see page 47).
- The filling level curve can be learned based on multiple measurements.
- Enter filling level curve manually after RESET. The data must be acquired in advance.

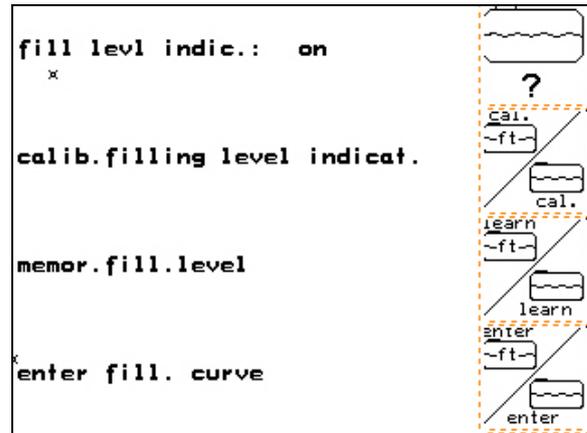


Fig. 63

UF with front tank: Configure front tank separately.

Calibrating the filling level indicator

- Add a precisely defined quantity of water (at least 200 litres) into the spray liquid tank.

- Enter the current fill level. Enter the precise value for the volume of water added to the spray liquid tank.

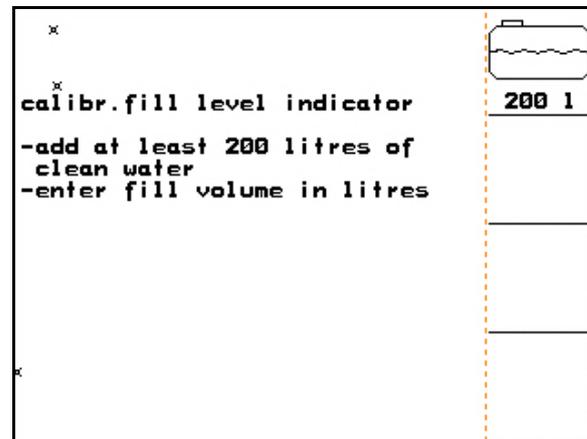


Fig. 64

Learning the fill level

- Fill the tank up to the next measuring point.
- Enter the actual tank capacity.
- Acquire all 29 measuring points in this manner.
- Export the measuring points using the "Enter filling level curve" menu.

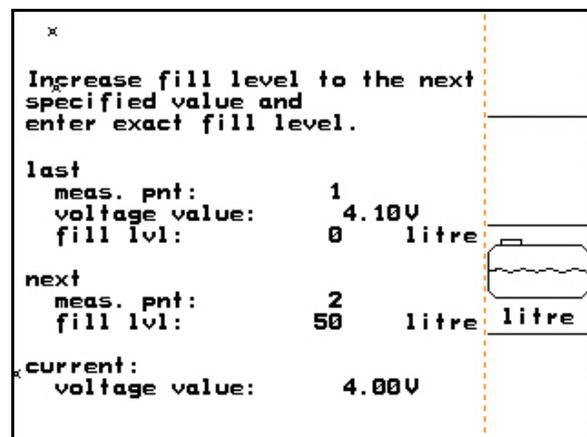


Fig. 65

Enter filling level curve

1.  ,  Select measuring point.
2.  Enter value for fill level.
3.  Enter the value for voltage.
4. To enter the filling level curve completely, all measuring points must be entered according to points 1 to 3.
5. After entering the filling level curve, calibrate the filling level indicator.

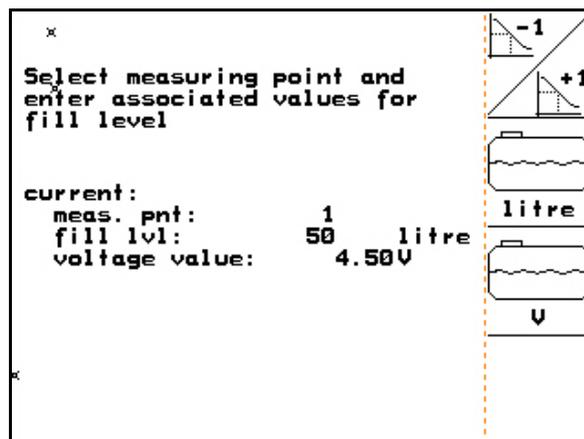


Fig. 66

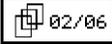
The menu is likewise used to export the measuring points for later use in case of a computer defect or RESET.



If the tank is almost empty or almost full, select measuring points that are closer together than for a medium fill level.

Enter the measuring points of the filling level curve here:

Measuring point	Fill level	Voltage	Measuring point	Fill level	Voltage
1			16		
2			17		
3			18		
4			19		
5			20		
6			21		
7			22		
8			23		
9			24		
10			25		
11			26		
12			27		
13			28		
14			29		
15					

5.5.1.3 Enter nozzles per part width section (Setup )

 The part width sections for the spray line are numbered from the outer left to the outer right, see Fig. 67.

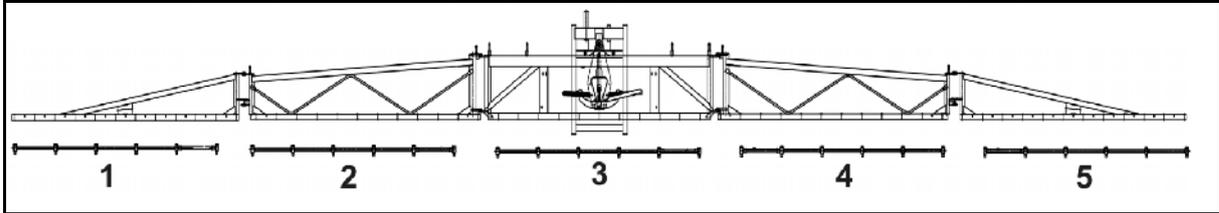


Fig. 67

1. Select the desired part width section.
2.  Apply the entry.
→ The display switches to the input "Please enter number of nozzles for part width section 1".
3. Enter the number of nozzles for part width section 1 for your spray line.
4. Repeat steps 1 to 3 until you have entered the number of nozzles for all part width sections.
5.  Confirm entry.

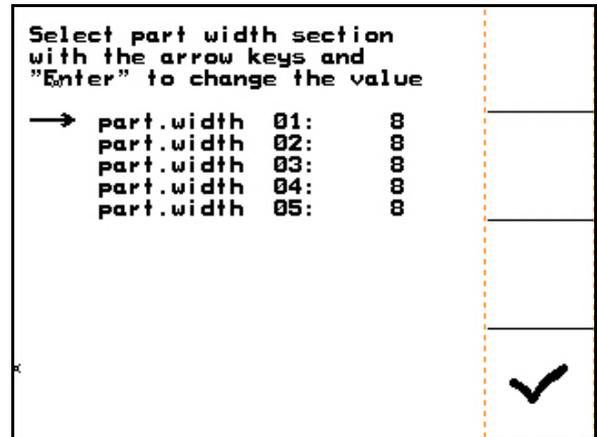
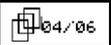


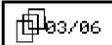
Fig. 68

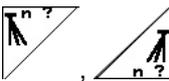
5.5.1.4 Configuring the DistanceControl (Setup )

1.  Switch the Distance Control on/off.
2.  Adjust the sensitivity of the tilt sensors.
 - o 0 → low sensitivity (hilly terrain)
 - o 10 → high sensitivity (flat terrain)
 - o 5 → Default value.
3.  Enter the turn factor of the Distance Control.
 - o 0 → little control in turns
 - o 10 → much control in turns
 - o 3 → default value.

Distance Control:	0	
Sensitivity of the tilt sensors	5	
DC turn factor:	3	

Fig. 69

5.5.1.5 Configure boundary nozzles (Setup )

-  Boundary nozzle:
 - Switch off up to three end nozzles. Working width reduction by 0.5 m.
 - Switch on outer additional nozzle. Working width increase by 0.5 m per boom.
 - Switch limit nozzle on, outer nozzle off. No influence on the working width.
-  Enter the number of the part width section where the left boundary nozzle is fitted.
-  Enter the number of the part width section where the right boundary nozzle is fitted.
-  ,  Number of end nozzles, left / right

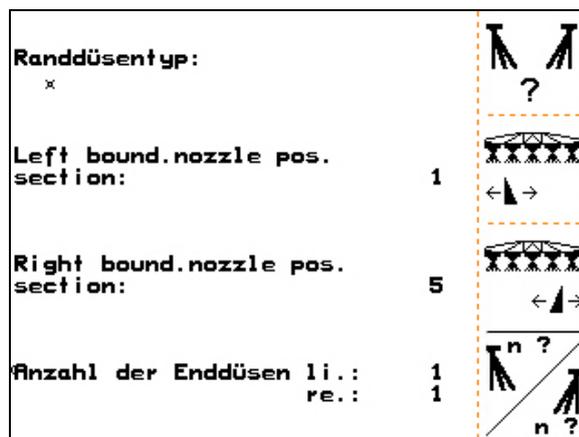
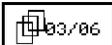


Fig. 70

5.5.1.6 Configure the comfort packag (Setup )

-  Select the comfort package.
 - Switch off
 - Without agitation pressure control
 - With agitation pressure control
 - Automatic agitator

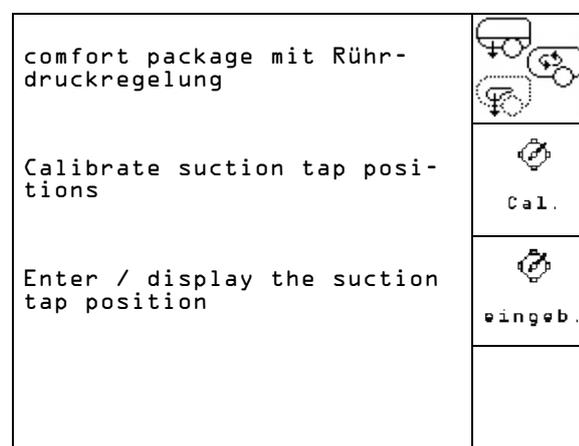


Fig. 71

Calibrate the comfort package with / without agitation pressure control

 Calibration of the suction tap is required in case the electric motor does not move the suction tap to the correct position.

-  Cal. Calibrate the suction tap positions.
 - 1.   Move the suction tap to the spraying position.
 - 2.  Determine the spraying position.
 - 3.   Move the suction tap to the suction position.
 - 4.  Determine the suction position.
 - 5.   Move the suction tap to the flushing position.
 - 6.  Determine the flushing position.
 -  eingeb Enter / display the suction tap position.
- The voltage according to the position of the suction tap can be entered directly.

Calibration of the suction tap positions	
1. Pos. "spraying" drive to	
2. Pos. "spraying" determine	
3. Pos. "suction" drive to	
4. Pos. "suction" determine	
5. Pos. "rinse" drive to	
6. Pos. "rinse" determine	
current value of the suct.tap: 0.00 V	

Fig. 72

Spray position:	2.50 V	
Suction position:	1.32 V	
Spülen position	3.50 V	

Fig. 73

5.5.1.7 Configuring the hydropneumatic sprung suspension (Setup )

-  Switch the hydropneumatic sprung suspension on/off.
-  Calibrate the hydropneumatic sprung suspension.
-  Enter the set value for the hydropneumatic sprung suspension. Default value: 80%.
 This value specifies the machine height as a percentage to be maintained when the tank capacity changes.

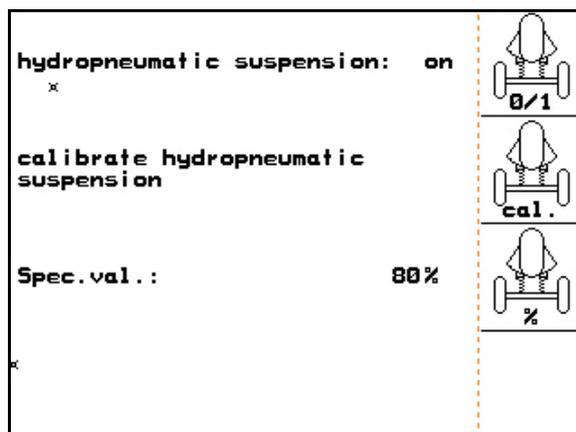


Fig. 74

Calibrate the hydropneumatic sprung suspension

-  Drive to the top position.
-  Determine the top position.
-  Drive to the bottom position.
-  Determine the bottom position.

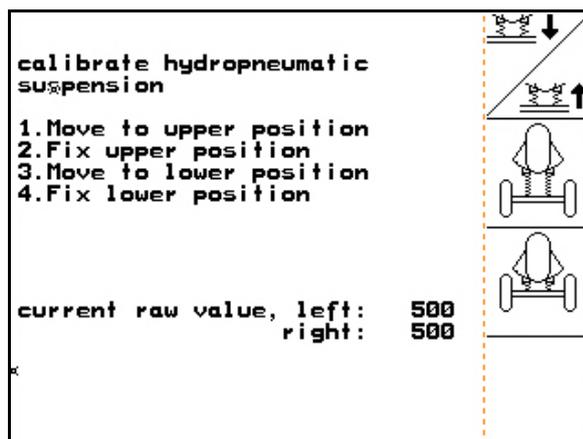


Fig. 75

5.6 Terminal setup



Terminal Set-up is used to change display settings.

- Call up display settings.
- Display the units located on the bus.

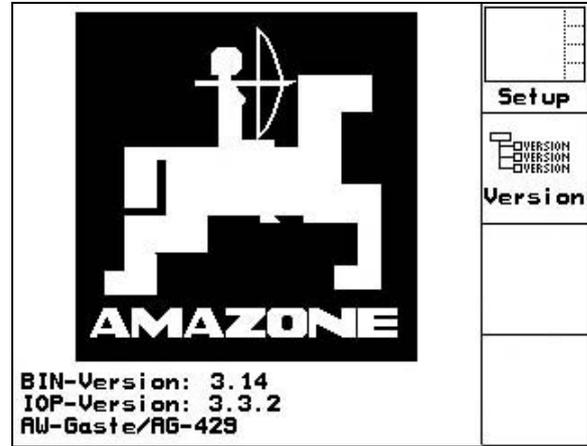


Fig. 76



- , Adjust the contrast.
- , Adjust the brightness.
- Invert the display (black ← → white).
- Key click sound on/off
- Delete stored data. (See page 40).
- Set language of the user interface.
- Exit Terminal set-up menu.

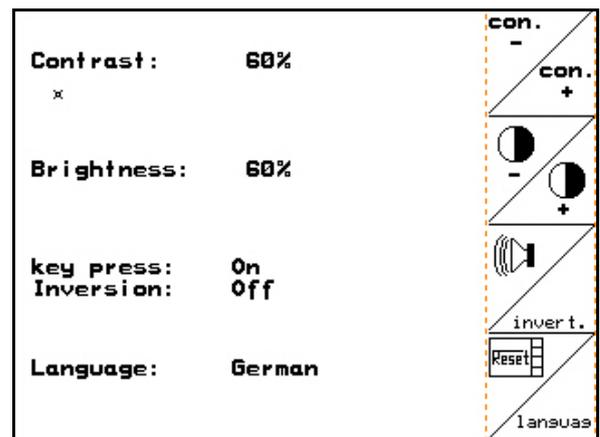


Fig. 77

The Terminal reset function resets all data of the terminal to the factory settings. No machine data are lost.

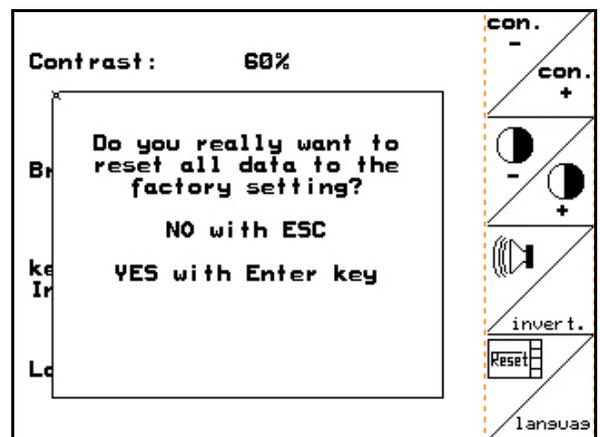


Fig. 78

Commissioning

Page 2

- Entry of time.
- Entry of date.
- Entry of data transfer speed.

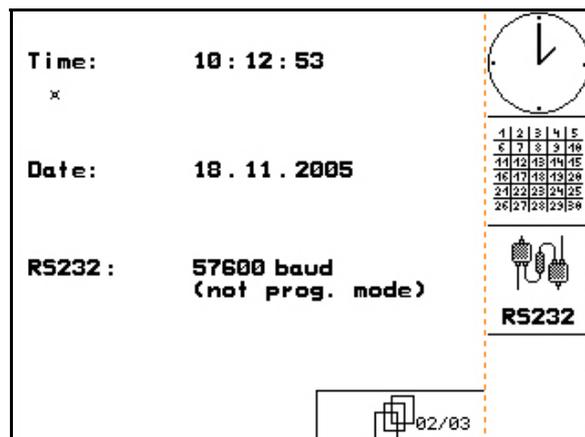


Fig. 79

Page 3 of Terminal set-up

Delete program:

1. , Select program.
2. Delete program.

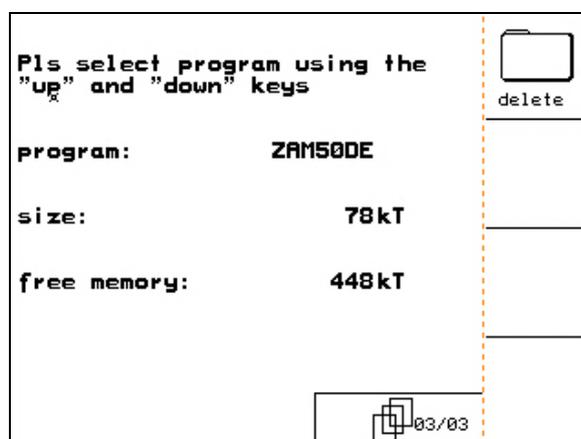


Fig. 80

6 Use on the field



CAUTION

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

→ Incorrect use leads to the risk of accidents!



WARNING

TrailTron

Hold the TrailTron axle/drawbar in central position during transport. Secure the TrailTron drawbar using a ball valve.

→ Risk of accident!

Before spraying can begin, the following information must be entered:

- Machine data.
- Create a job and start it.

6.1 Procedure for use

1.  Switch on the AMATRON⁺.
2.  Switch to work menu.
3. Profi-folding: Supply hydraulic block with oil via tractor control unit.
4. Unfold the sprayer boom.
 - o Profi-folding, see on page 69.
 - o Pre-select folding:  Select boom folding.
 - o Via tractor control unit.
5. Adjust the boom height  and tilt   .
6.  For UX/UG with steering axle/drawbar: TrailTron to automatic operation.
7.  Distance Control (optional) to automatic operation.
8.  Switch on spraying, approach with the tractor and spray the area.
9.  Switch off spraying.
10. Fold in the sprayer boom.
 - o Profi-folding, see on page 69.
 - o Pre-select folding:  Select boom folding.
 - o Via tractor control unit.
11. Bring the steering axle/drawbar in central position and secure it.
12. For Profi-folding: interrupt the oil supply.
13.  Switch off the AMATRON⁺.

6.2 Display of work menu

Speed	→	8.5 km/h	Shift	Shift key assigned
Remaining distance until tank empty	→ 0	2354 m	6.4 bar	Spray pressure
Treated area (daily counter)	Area	23.65 ha	250 l/ha	Specified quantity (entered spray rate)
Universal joint shaft speed		540 rpm	100%	Spread rate in %
		540 rpm		Speed (hydraulic pump drive)
Quantity regulation, manual/automatic mode	Auto	TT	Auto	TrailTron -Manual/automatic mode
Tilt adjustment				-Direction in which TrailTron steers -Drawbar/axle position
		Tank capacity in litres		
		2356 Li .		
Foam marker left				Foam marker right
		Swing compensation unlocked /locked		
Spraying switched on				Boundary nozzle switched on
Spraying switched off				
Distance between spraying nozzle-crop	25 cm	Distance Control	25 cm	
				Part width sections switched off from outside
Select individual part width sections for switching on/off				Part width sections switched off at all times
		0.5 l/min		
		Spray rate per minute (in manual mode only)		
High-Flow on	High-Flow			Open page in work menu.
Current job	Job 1		01/02	

6.3 Functions in the work menu

6.3.1 Switch spraying on/off



- Spraying switched on: spray fluid is sprayed via the spraying nozzles.
- Spraying switched off: no spray fluid is sprayed.

Display in the working menu:

Fig. 81/...

- (1) Spraying switched off.
 (2) Spraying switched on.

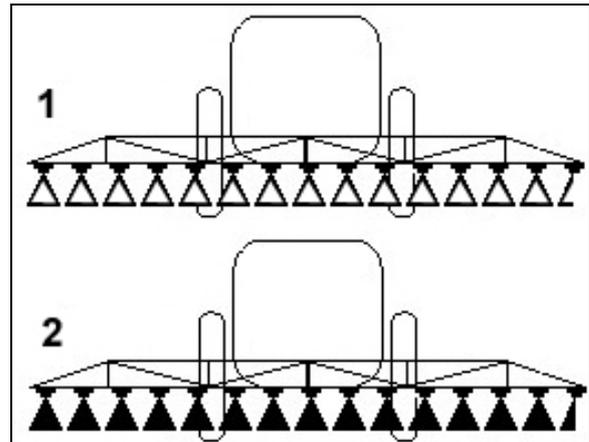
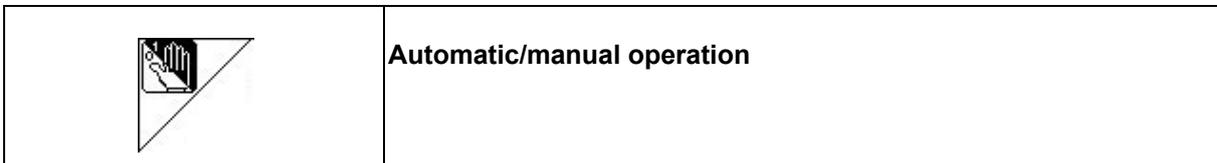


Fig. 81

6.3.2 Spray quantity control



Automatic

When automatic mode is activated, the "Auto" symbol (Fig. 82/1) appears in the display. The machine computer assumes control of the spray rate depending on the current driving speed.

By pressing the or keys, you can change the spray rate by the percentage application rate increase (on page 23).

Manual operation

When manual operation is switched on, the



symbol (Fig. 82/2) and the [l/min] information appear in the display. You can control the spray rate manually by changing the spray pressure via the

and keys.

Manual operation is not suitable for spraying operation, but only for maintenance and cleaning.

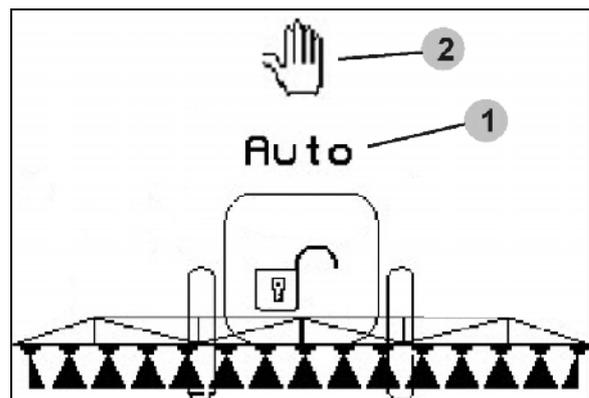
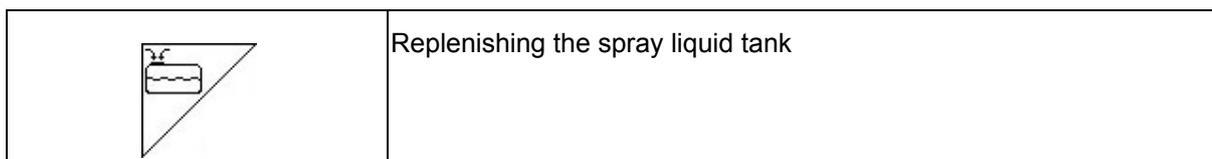


Fig. 82

6.3.3 Filling the spray liquid tank with water (machine data 02/04)



	<ul style="list-style-type: none"> • With the displayed fill level, the AMATRON⁺ calculates the remaining distance that can be sprayed with the contents of the newly filled tank. • Determine the exact water filling quantity.
---	---

	<p>Machine with filling level signal limit:</p> <ul style="list-style-type: none"> • When filling, the AMATRON⁺ has to display the filling menu so that the filling level indicator is active! • When the spray liquid tank is refilled, an alarm signal sounds if the spray liquid fill level reaches this entered signal limit. Monitoring the added spray liquid volume helps to avoid unnecessary residue when you adjust the alarm limit exactly to the calculated re-fill quantity. • During the filling operation, the filled water volume is measured and displayed next to the word "replenished:"
---	--

6.3.3.1 With filling level indicator

1.  Call up the filling menu (Fig. 83).
2. Enter the signal limit for the maximum spray liquid fill level to be added
3. Filling the spraying agent tank. 4. End the filling operation no later than the time at which the alarm signal sounds
5.  Confirm the current fill level.

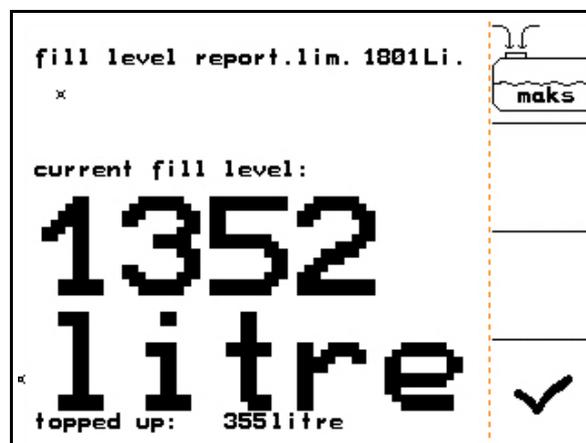


Fig. 83

6.3.3.2 Without filling level indicator

1.  Call up the filling menu (Fig. 83).
2. Filling the spraying agent tank.
3. Read the current fill level from the fill level display.
4. Enter the value for the current fill level
5.  Confirm entry

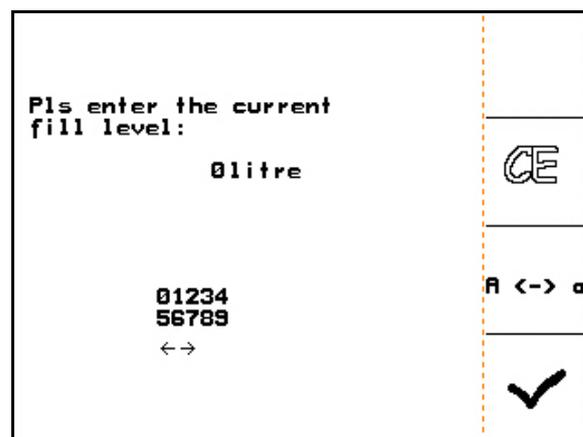


Fig. 84

6.3.3.3 Comfort package: Automatic filling stop

Filling via suction coupling (Fig. 86/1):

1. Switch tap pressure gauge **A** in position 
2. Open switch tap **D**.
3.  Call up the filling menu (Fig. 83).
4. Enter the signal limit for the maximum spray liquid fill level to be added
5.  Adjust suction via suction coupling.

- The tank is filled automatically up the signal limit.
- After the filling, the intake side is automatically switched over to spraying.
- Pressing the key again completes the filling operation prematurely.



UX Super / Pantera:
You can also switch between spraying/suction using the key on the operating panel.

6.  Accept the value for the current fill level.

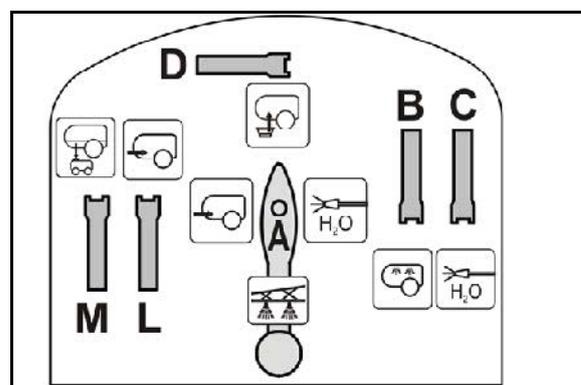


Fig. 85

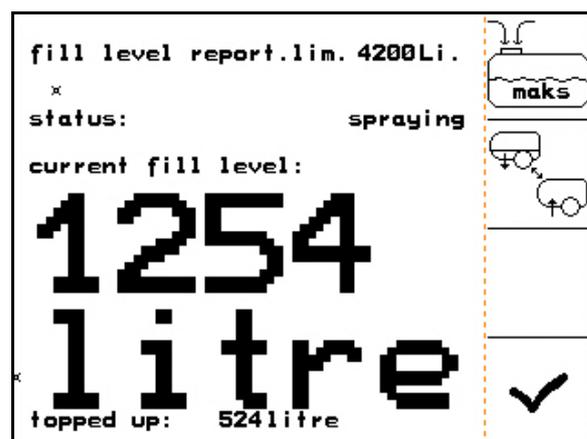


Fig. 86

	<p>DANGER</p> <p>The additional injector must not be switched on, as otherwise the automatic filling stop will not function.</p>	
--	---	--

6.3.3.4 Automatic filling stop when filling via the pressure connection

Filling via the pressure connection:

1. Call up the filling menu (Fig. 87).
 2. Enter the signal limit for the maximum spray liquid fill level to be added (Fig. 88/1).
 3. Press the button on the control terminal (Fig. 88/1).
- The tank is filled automatically up the signal limit.
4. Close the external stop tap on the filling hose.
 5. For pressure relief in the filling hose: press the button on the control terminal.
- The valve opens temporarily.
6. Accept the value for the current fill level.
- For ending the filling procedure in advance. Press the alternative button.

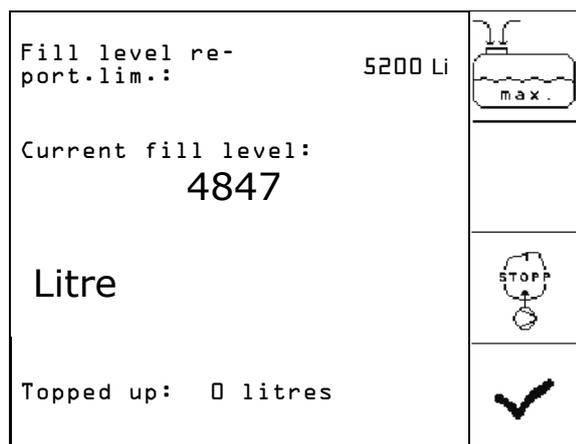


Fig. 87

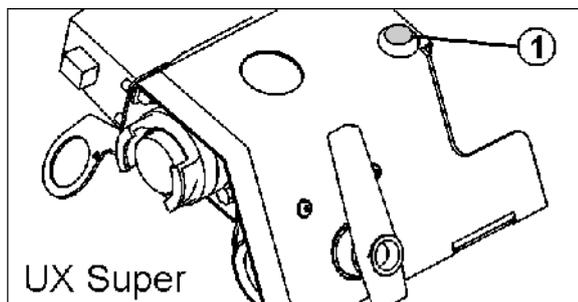
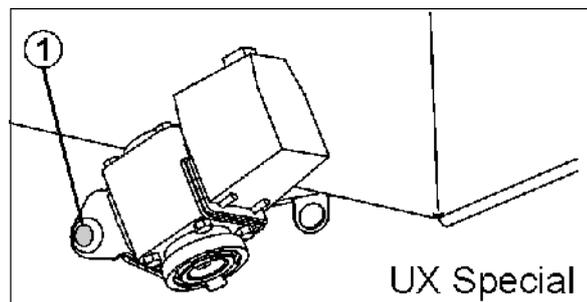


Fig. 88

6.3.4 TrailTron trailer axle/drawbar

	Automatic/manual operation
---	----------------------------

	<p>DANGER</p> <p>The following are prohibited while the TrailTron is switched on:</p> <ul style="list-style-type: none">• Manoeuvring in the yard• Travelling on the road <p>Risk of accident from tipping of the machine!</p>
---	--

	<p>DANGER</p> <p>Risk of the machine tipping over when the steering drawbar is pushed in; particularly on very uneven or sloping terrain.</p> <p>With a loaded or partially loaded machine with tracking steering drawbar, there is a risk of tipping over when performing a turning manoeuvre on a headland at high speeds, due to the shifting of the centre of gravity when the steering drawbar is pushed in. The risk of tipping over is especially high travelling downhill on sloping terrain.</p> <p>Adapt your driving accordingly and reduce speed when performing a turning manoeuvre on a headland, so that you are in complete control of the tractor and machine.</p>
---	--

Safety functions

	<ul style="list-style-type: none">• If the sprayer boom is raised above a height of 1.80 m with the swing compensation locked:<ul style="list-style-type: none">→ TrailTron is switched off (as soon as the drawbar is in its central position).• Folding the sprayer boom in/out:<ul style="list-style-type: none">→ The steering axle/steering draw bar must be in the central position.• If a forward speed of over 20 km/h is reached:<ul style="list-style-type: none">→ The TrailTron axle/draw bar automatically moves into central position and remains in road travel mode until the forward speed again falls below 20 km/h.
---	--

- With automatic mode activated, the "Auto" symbol appears in the display. The machine computer ensures the precise tracking of the machine.
- When manual mode is active, the symbol appears.
- Press , until the tyres of the machine again run exactly in the tractor track (in manual or automatic operation).
→ The trailed sprayer realigns itself with the tractor.
- The steering limit is shown in the display.

Calibrate TrailTron, see page on page 39.

Configure TrailTron, see page on page 45.

Display in the working menu:

Fig. 89/...

- (1) TrailTron in automatic operation
- (2) TrailTron in manual operation
- (3) Current setting angle of steering axle/draw bar
- (4) Machine is steered towards the left with respect to slope -
- (5) Machine is steered towards the right with respect to the slope -
- (4,5) Arrows flash simultaneously: TrailTron safety function active
- (6) TrailTron in road travel mode

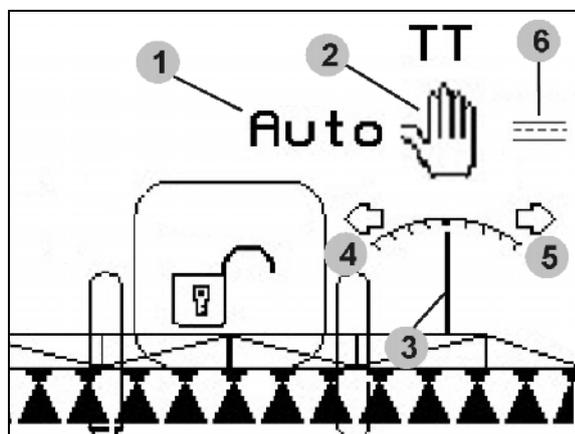


Fig. 89

Transportation



DANGER

For road transport, move the steering draw bar/ steering axle in transport position!

Otherwise, there is a risk of accident from tipping of the machine!

1. Move the steering draw bar/steering axle in central position (steering draw bar /wheels flush with machine).

To do so, carry out the following on the AMATRON⁺:

- 1.1  Start up the TrailTron in manual operation.

- 1.2  Manually align the steering draw bar /steering axle.

→ TrailTron stops automatically stops when it reaches the central position.

2. Switch off the AMATRON⁺.
3. Switch off tractor control unit 1 (hose mark 1 x red).
4. Secure the steering draw bar (Fig. 90/1) by closing the stop tap(Fig. 90/3) in position **0**

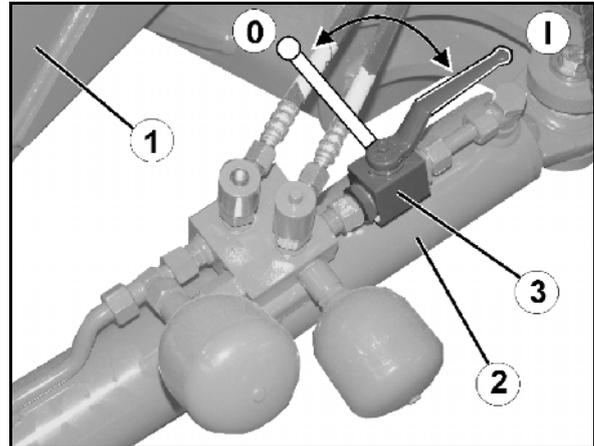


Fig. 90

6.3.5 Distance Control

	Automatic/manual operation
--	-----------------------------------

- When automatic mode is activated, the "Auto" symbol (Fig. 91/1) appears in the display. The machine computer takes over control of the distance between the spraying nozzle and the crop.

First, determine the target distance between the spraying nozzle and the crop:

1. Set the target distance for the spraying nozzle in the crop as desired.
2. Confirm the setting.
→ The target distance between the spraying nozzle and the crop is stored.
3. Determine the boom height for the turning operation by driving to the desired boom height for the turning operation.
4. Confirm the setting.
→ Boom height for the turning operation is stored (the boom is moved to this height as soon as spraying is switched off).

- In manual mode, the symbol (Fig. 91/2) appears. Distance Control is switched off. Control the distance between the spraying nozzle and crop manually using the tilt and height adjustment.

- Press : the distance between the spraying nozzle and crop is displayed in the work menu (Fig. 91/3).

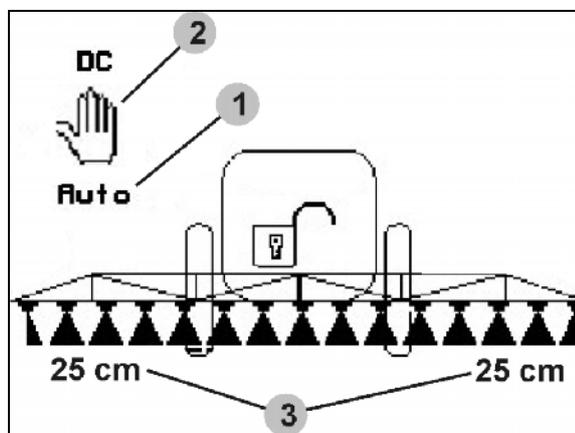


Fig. 91

	Orient the boom horizontally
--	-------------------------------------

Orient the sprayer boom horizontally before folding it in.

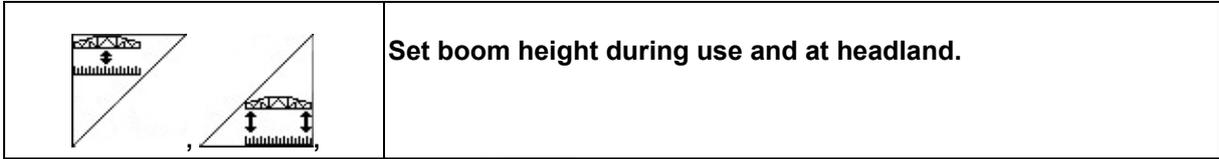
	CAUTION Damage to the sprayer boom by horizontal orientation when machine or implement is at an incline.
--	---

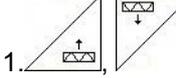
	For calibrating the Distance Control, refer to on page 27
--	---

6.3.6 Autolift

Autolift raises the boom in the headland and lowers the boom after turning.

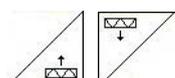
This is controlled by switching the spraying on and off.



- 

1. Set the target distance for the spraying nozzle in the crop as desired.
- 

2. Confirm the setting.

→ The target distance between the spraying nozzle and the crop is stored.
- 

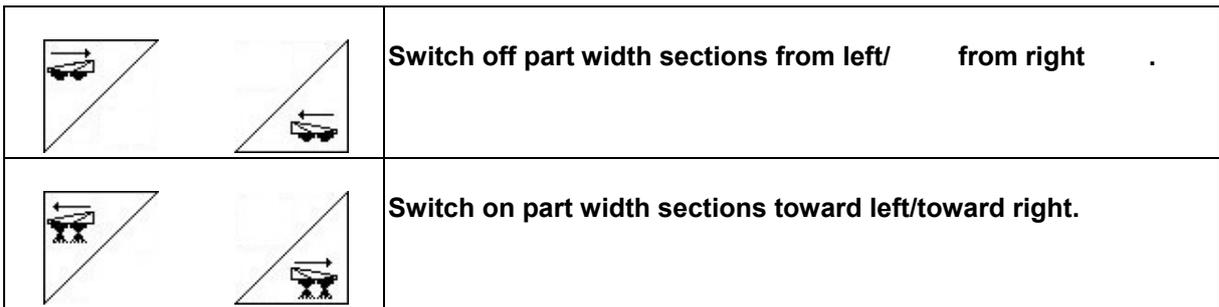
3. Determine the boom height for the turning operation by driving to the desired boom height for the turning operation.
- 

4. Confirm the setting.

→ Boom height for the turning operation is stored (the boom is moved to this height as soon as spraying is switched off).

6.3.7 Switch boom part width sections

Switch boom part width sections from outside:



Part width sections can be switched off and on:

- While spraying
- When spraying is switched off



Fig. 92

Fig. 92, part width section from right switched off.

Switch off individual boom part width sections permanently

If the "Selecting individual part width sections" function is switched on, a horizontal bar also appears under a part width section in the work menu. The part width section identified by the horizontal bar (here, switched off) can be



Fig. 93

switched on and off as desired using the  key, e.g. when spraying weed windows. You can switch any desired part width section on or off

using the  key by moving the horizontal bar

correspondingly using the  and  keys.



See also switch off the boom part width sections permanently in the menu machine data, page 22.

GPS switch when switching off boom part width sections override:

if the GPS switch is in automatic mode, the part width section control is taken over by this.

if this is controlled manually, (by the AMATRON, AMAClick or multi-function stick) the boom part width sections switched off are marked with an X as with the permanent boom part width sections.

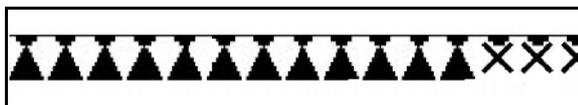
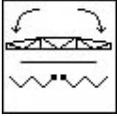


Fig. 94

6.3.8 Selection function field (pre-select folding)

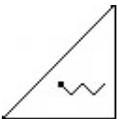
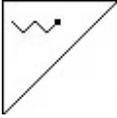
	<p>Pre-select</p> <ul style="list-style-type: none"> • Tilt adjustment or • Fold boom
---	--

The pre-selection is displayed in the work menu (Fig. 95).

The functions are executed via the tractor control unit.

Folding process: See operating manual for the field sprayer.

6.3.9 Fold the boom on one side with pre-select folding

	<p>Fold boom on right.</p>
	<p>Fold boom on left.</p>

The pre-selection is displayed in the work menu.

The functions are executed via the tractor control unit.

Folding process: See operating manual for the field sprayer.

Display in the working menu:

Fig. 95/...

- (1) Pre-select fold boom.
- (2) Pre-select tilt adjustment.
- (3) Pre-select fold boom right.
- (4) Pre-select fold boom left.

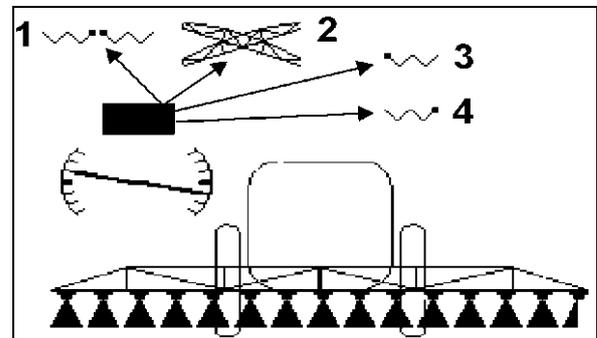
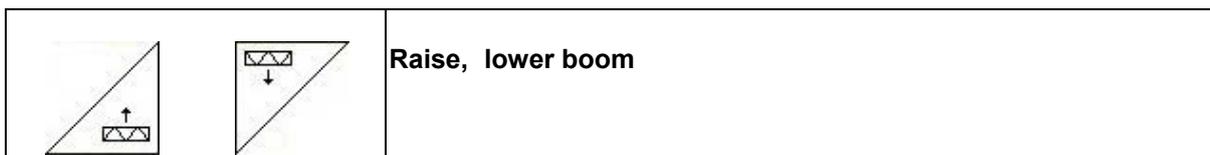


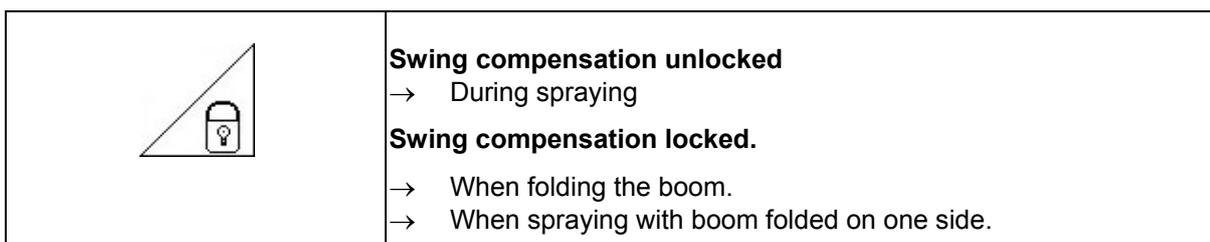
Fig. 95

6.3.10 Adjust boom height (Profi-folding)



- To adjust the distance from the spraying nozzle to the crop.
- To fold the boom.

6.3.11 Lock/unlock the swing compensation (Profi-folding)



Display in the working menu:

Fig. 96/...

- (1) Swing compensation locked.
- (2) Swing compensation unlocked.

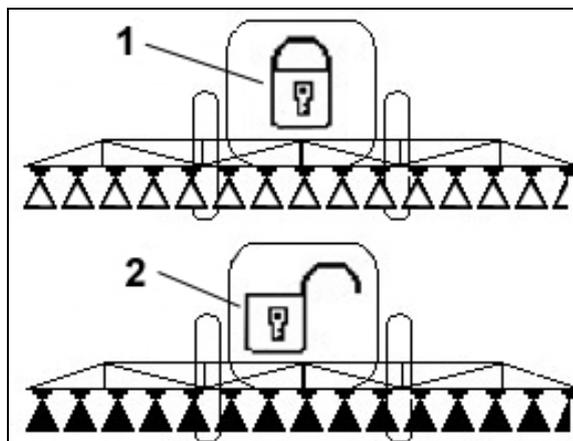


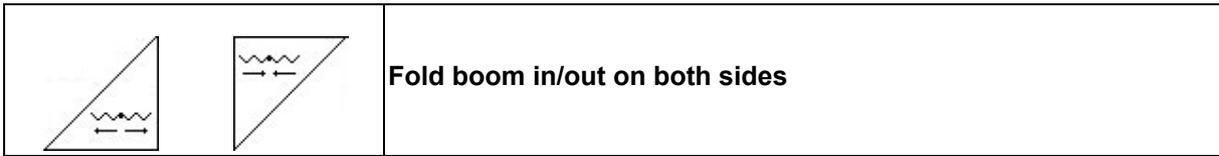
Fig. 96



Automatic locking of the swing compensation can be configured using the machine data menu.

- Automatic locking switched on → Standard.
- Automatic locking switched off → To prevent damage to the sprayer boom through automatic locking with the machine at an incline.

6.3.12 Fold boom (Profi-folding)



It is only possible to fold the boom at forward speeds below 1 km/h.



Field sprayers without Profi-folding: see field sprayer operating manual.

- Folding out does not always happen symmetrically.
- The appropriate hydraulic cylinders lock the sprayer boom in its working position.



- Fold the sprayer boom on a level surface only, as otherwise damage may result during the folding process.
- Before folding in, always orient the sprayer boom horizontally (0 position), as otherwise difficulties may result when locking the sprayer boom in transport position (catching hooks do not accept the catching sockets).

Unfolding the Super L-boom

1.  Raise the boom (at least 30 cm).



- The transport safety catch unlocks automatically.
- After the boom is lifted, it must be extended within 10 seconds - safety circuit!

2.  Fold out the boom all the way on both sides.

3.  Unlock the swing compensation.
4. Adjust boom tilt/height or Distance Control.

Folding in the Super L-boom

- 
 1. Raise the boom (ca. 2 m) so that when folded in completely, the boom folds reliably over the mud guards on the spray tank.



Orient the boom horizontally.

- 
 2. Lock the swing compensation.



Automatic locking of the swing compensation when folding in on both sides can be configured using the machine data menu.

- Profi II:** 3.  ,  Angle the boom down into the end position.

- 
 4. Fold the boom completely into transport position on both sides.

- 
 5. Lower the boom all the way.

→ The transport catch locks.

Folding out the Super S-boom

- 
 1. Raise the boom (at least 30 cm).



- After the boom is lifted, it must be extended within 10 seconds - safety circuit!
- The transport safety catch unlocks automatically.

- Profi II:** 2.  ,  Angle both boom packages down into horizontal position.

- 
 3. Fold out the boom all the way on both sides.

- 
 4. Unlock the swing compensation.

5. Adjust boom tilt/height or Distance Control.

Folding in the Super S-boom

-  1. Raise the boom (approx. 1 m).



Orient the boom horizontally.

-  2. Lock the swing compensation.

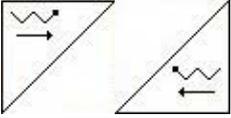
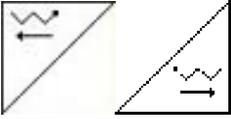


Automatic locking of the swing compensation when folding in on both sides can be configured using the machine data menu.

-  3. Fold the boom completely into transport position on both sides.

- Profi II:** 4.  ,  Angle both boom packages up into vertical position.

-  5. Lower the boom until the transport lock is locked.

	<p>Fold in the sprayer boom on one side</p>
	<p>Fold out the sprayer boom on one side</p>

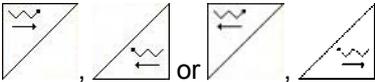


Working with the sprayer boom only folded out on one side is only permissible

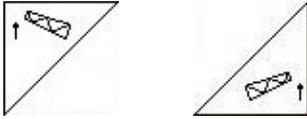
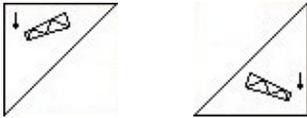
- With the swing compensation locked.
- Only if the other boom folded as a package from the transport position as follows:
 - Super S-boom: Folded down
 - Super L-boom: Folded toward the rear, perpendicular to the direction of travel.
- Only briefly, for passing obstacles (trees, electricity pylons, etc.).



- Lock the swing compensation before folding up the sprayer boom on one side.
- If the swing compensation is not locked, the sprayer boom may swing off to one side. If the unfolded boom strikes the ground, this may cause damage to the sprayer boom.
- Use a significantly reduced speed for spraying operation to avoid the sprayer boom swinging out and coming into contact with the ground with the swing compensation locked. Unless the sprayer boom is guided smoothly, even lateral distribution cannot be guaranteed.

1.  Lock the swing compensation.
2.  Raise the sprayer boom to a medium height.
3.  ,  or  , 
The desired boom folds together or unfolds.
4. Align the sprayer boom using tilt adjustment so it is parallel to the target surface.
5.  Set the spraying height such that the sprayer boom is a minimum of 1 m off the ground.
6. Switch off the part width sections of the folded-in boom.
7. During spraying operation, drive at a significantly reduced speed.

6.3.13 Angle the boom up (Profi-folding II only)

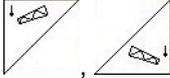
	Angle boom up on one side left/right
	Angle boom down on one side left/right
	Angle boom up and down on both sides

Angling the sprayer boom up and down is used in unfavourable ground conditions if the adjustment options of the height and tilt adjustment are no longer sufficient to orient the sprayer boom to the target surface.



Never angle the extended sprayer boom up more than 20°.



- 
 To align the boom, angle the sprayer boom down horizontally as far as it will go (move to end position).
- Angling down below the horizontal position is not possible.
- Orient the sprayer boom horizontally before folding the sprayer boom into transport position.

6.3.14 Tilt adjustment

	<p>Raise left tilt adjustment</p>
	<p>Raise right tilt adjustment</p>

In unfavourable ground conditions, e.g. when there are ruts of variable depth or when driving with one side of the vehicle in a furrow, the sprayer boom can be aligned parallel to the ground or to the target surface using tilt adjustment.

	<p>Calibrate tilt adjustment, see page on page 26.</p>
--	--

Align the sprayer boom via the tilt adjustment

Press  ,  until the sprayer boom is oriented parallel to the target surface.

→ In the display, the tilt adjustment symbol (Fig. 97/1) shows the selected sprayer boom tilt. Here, the left sprayer boom side is raised.

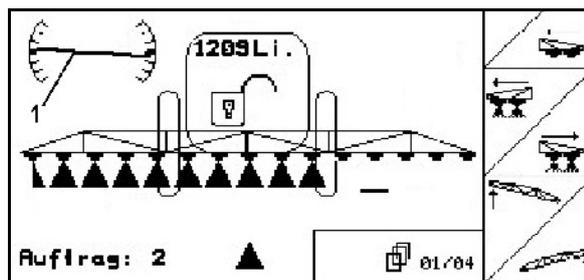


Fig. 97

	<p>Mirroring the tilt adjustment (mirroring the slope)</p>
--	---

The selected sprayer boom tilt can be mirrored easily during a turning manoeuvre on the headland, e.g. during spraying operation in sloping terrain perpendicular to the slope (in the contour line).

Starting position: the left sprayer boom side is raised.

1. Press  once and the hydraulic height adjustment is oriented to the sprayer boom (0 position).

→ In the display, the tilt adjustment symbol (Fig. 98/1) shows the horizontal orientation of the sprayer boom.

2. Carry out the turning manoeuvre on the headlands.

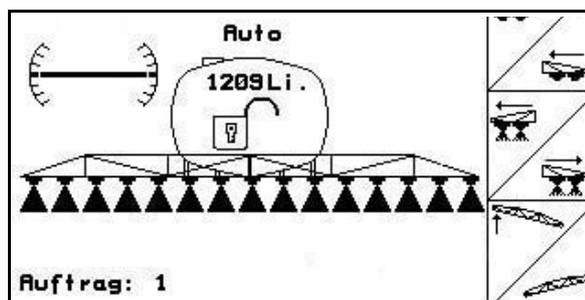


Fig. 98

3. Press  again and the hydraulic height adjustment mirrors the previously applied sprayer boom tilt.
- In the display, the tilt adjustment symbol (Fig. 99/1) shows the mirrored sprayer boom tilt. Now, the right sprayer boom side is raised.

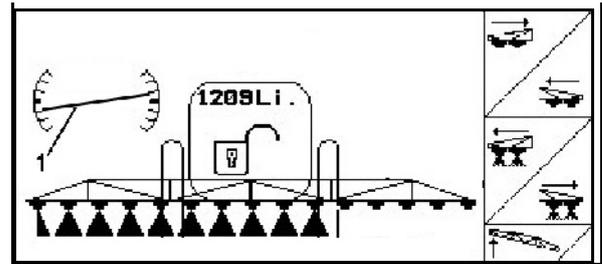
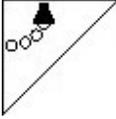
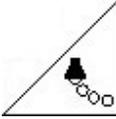


Fig. 99

	<p>When mirroring the tilt adjustment, for safety reasons the precontrol of the TrailTron is automatically disabled.</p>
---	--

6.3.15 Foam marker

	<p>Switch left foam marker on/off</p>
	<p>Switch right foam marker on/off.</p>

Display in the working menu:

Fig. 100/...

- (1) Left foam marker switched on.
- (2) Right foam marker switched on.

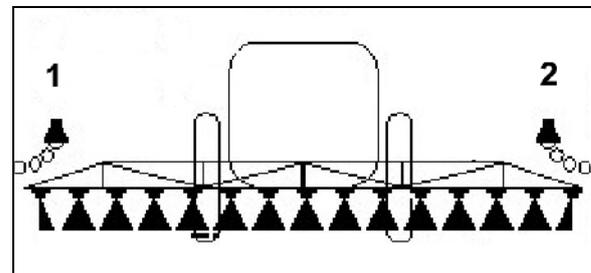


Fig. 100

6.3.16 Limit nozzles, end nozzles or additional nozzles

	<p>Switch right boundary nozzles on/off</p>
	<p>Switch left boundary nozzles on/off</p>

Display in the working menu:

Fig. 101/1,2:

- Boundary nozzles switched on.
- End nozzles switched off.

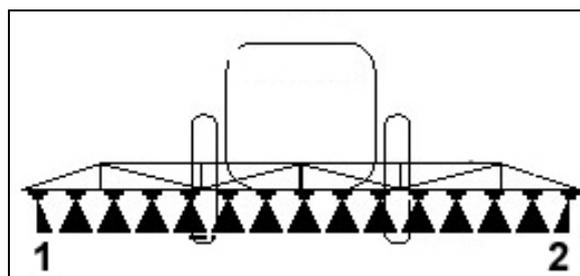


Fig. 101

Fig. 102/1,2:

- Additional nozzle switched on.

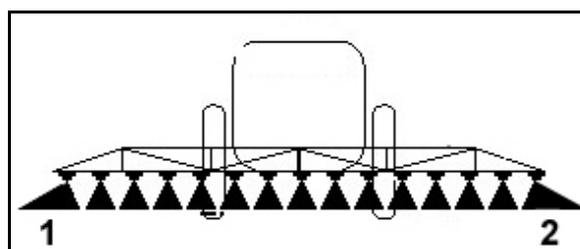
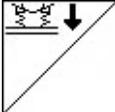
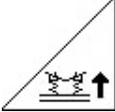


Fig. 102

6.3.17 Hydropneumatic sprung suspension UX Super (optional), Pantera

	<p>Manual operation, automatic</p>
	<p>Lower machine in manual operation.</p>
	<p>Raise machine in manual operation.</p>

	<p>When automatic mode (Auto) is switched on, the AMATRON⁺ regulates the driving height of the field sprayer to the value configured in the setup, independently of the tank capacity.</p> <p>In manual operation  , the machine can be lowered or raised.</p>
---	--

Display in the working menu:

(Fig. 103/1): Hydropneumatic sprung suspension in automatic operation (operating condition).

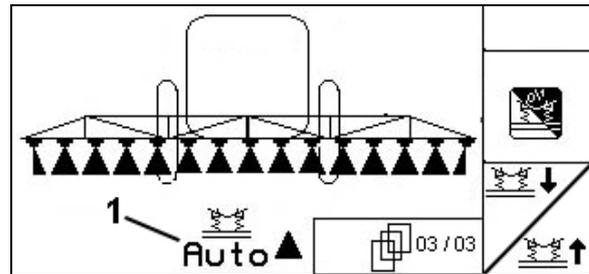
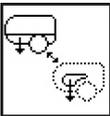
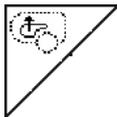
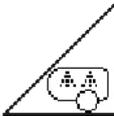
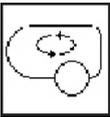
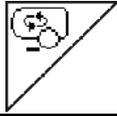


Fig. 103

6.3.18 Comfort package for UX Super (optional), Pantera

	<p>Calling up the Comfort package menu</p>
	<p>Switch between spraying/flushing</p>
	<p>Dilute the spray liquid</p>
	<p>Switch cleaning on/off</p>
	<p>Agitator automatic/manual</p>
	<p>Increase agitator intensity</p>
	<p>Decrease agitator intensity</p>
	<p>Switch spraying on / off (Press Shift button)</p>

	<p>For filling the spray liquid tank using the Comfort package, see page 59.</p>
---	--

	<p>Also observe the operating instructions of the machine when carrying out the functions of the Comfort Package.</p>
---	---

The Comfort package enables the intake side to be switched using:

- The AMATRON⁺,
- The button on the control terminal (Fig. 104/1).

Remote-controllable settings:

- Spraying (position A)
- Flushing/diluting (position B)
- Filling via suction coupling (position C, in filling menu only)

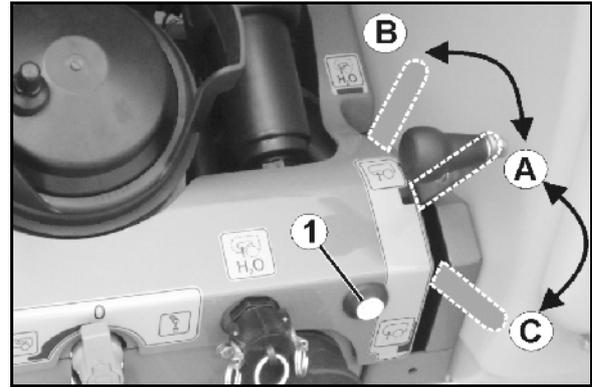


Fig. 104

6.3.18.1 Dilute the spray liquid with rinsing water

1.  Start dilution.
→ Flushing water is fed to the tank via the auxiliary agitator.
2. Observe the fill level of the tank.
3.  End dilution.

 For a machine with a pressure circulation system (DUS), the spray line is flushed. When spraying is restarted, two to five minutes pass before concentrated spray liquid can be sprayed.

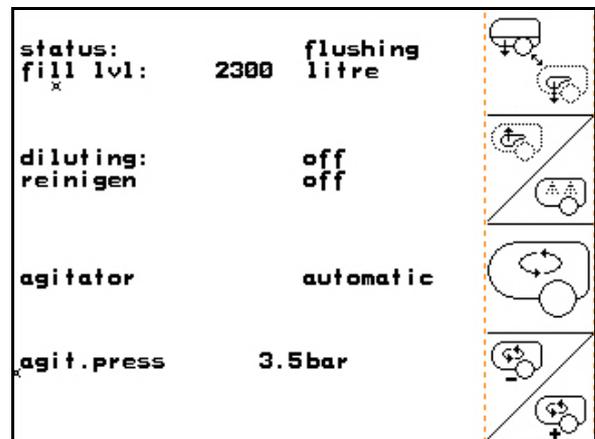


Fig. 105

6.3.18.2 Cleaning the sprayer with the tank filled (work interruption)

1.  Switch the intake side to flushing.
→ Flushing water is sucked in, close agitators.

 You can also switch between spraying/flushing using the key on the operating panel.

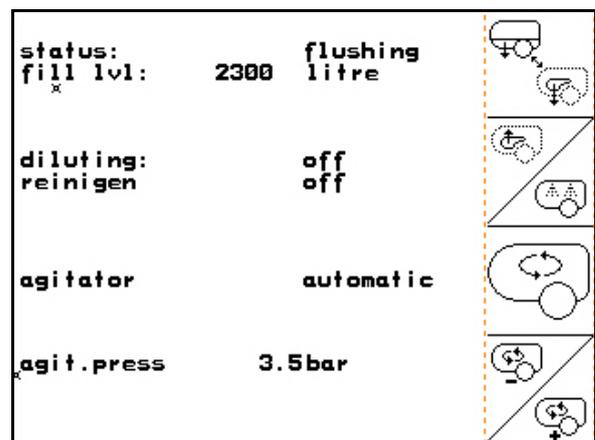


Fig. 106

Machines without pressure circulation system (DUS):

2.  Switch on spraying.
→The spray lines and nozzles are flushed with flushing water.
 3.  Switch off spraying.
 4. Switch off the pump drive.
 5.  Switch the intake side back to spraying.
- Tank, agitators are not clean
 - The spray liquid concentration in the tank is unchanged.

Machines with pressure circulation system (DUS):

2. Wait until 2 litres of rinsing water have rinsed through the lines per meter working width.
 3.  Briefly switch spraying on to clean the nozzles.
 4.  Switch off spraying.
 5. Switch off the pump drive.
 6.  Switch the intake side back to spraying.
- Tank, agitators are not clean!
 - The spray liquid concentration in the tank has changed.

		Shift	
status:		flushing	
fill lvl:	2300	litre	
diluting:		off	
reinigen:		off	
agitator		automatic	
agit.press	3.5bar		

Fig. 107

6.3.18.3 Cleaning the sprayer with the tank empty

Cleaning:

Prerequisite: Fill level of the tank < 1% (tank empty if possible).

1. Run the pump with 450 rpm.

2.  Start cleaning.

→ Main and auxiliary agitator are flushed, tank inside cleaning switched on.

→ The cleaning process is ended automatically.



For machines equipped with a pressure circulation system (DUS), the spray line is also cleaned automatically.

status:		flushing	
fill lvl:	2300	litre	
diluting:		off	
reinigen		off	
agitator		automatic	
agit.press	3.5bar		

Fig. 108

Empty tank:

3.  Switch on spraying.

Switch sprayers on/off at least ten times while in motion.

Spray until sprayer is empty.

4.  Switch off spraying.

5. Repeat steps 1 to 3 once or twice.

→ Machine is clean.

status:		flushing	
fill lvl:	2300	litre	
diluting:		off	
reinigen		off	
agitator		automatic	
agit.press	3.5bar		

Fig. 109

6. If necessary, drain the remaining residue on the field via the drain tap (Fig. 110/K).

7. Clean the suction and pressure filter.

Special procedure for critical change of the spraying agent:

8. Add flushing water.

9. Repeat steps 1 to 6.

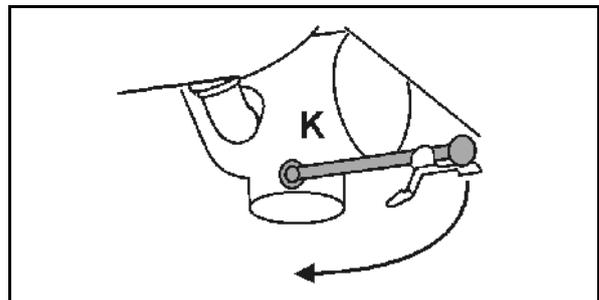


Fig. 110

6.3.18.4 Cleaning the suction filter when tank is filled

To clean the suction filter when the tank is full, the filling menu must be called up.

1.  Call up the filling menu (Fig. 111).
2. Attach the sealing cap to the suction coupling.
3. Pressure gauge switch tap in position



(Fig. 112).

4. Switch to filling using the button on the intake side.

→ The contents of the filter cup are sucked out.

5. Unscrew the cover of the suction filter.
6. Activate the relief valve on the suction filter.
7. Remove the cover with suction filter and clean using water.
8. Reassemble the suction filter in the reverse sequence.
9. Check the filter cover for leaks.
10. Switch to spraying using the button on the intake side.
11. Pressure gauge switch tap in position



(Fig. 112).

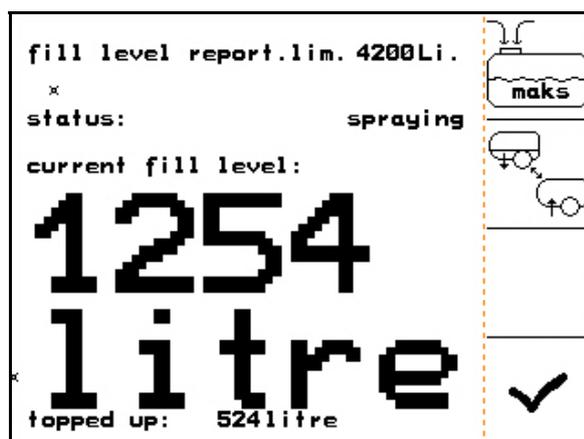


Fig. 111

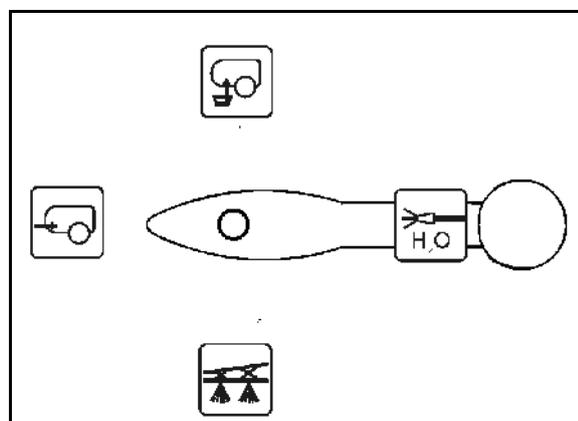


Fig. 112

6.3.18.5 Automatic agitator control

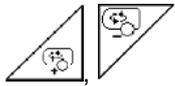


Agitator to automatic.

- The agitating intensity is controlled depending on the fill level.
- The main agitator switches off if the tank contents fall below 5%.
- The agitator switches on again automatically after a filling.



Switch the agitator to manual.

-  Increase, decrease agitator intensity

- The agitator remains switched on even if the tank contents fall below 5%.

Fig. 114\1: Display Automatic agitator control in the working menu.

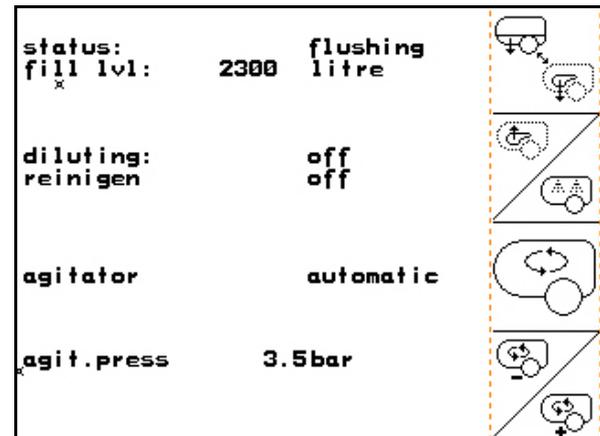


Fig. 113

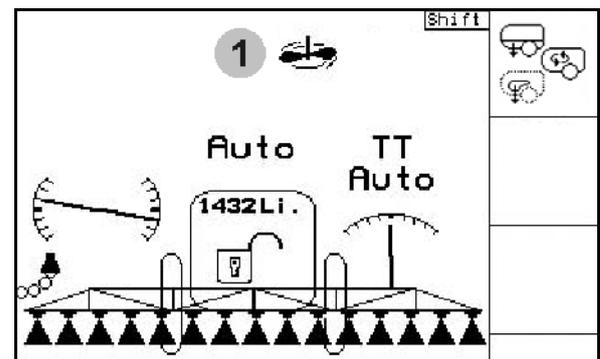
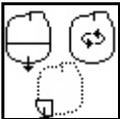
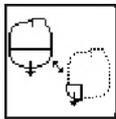
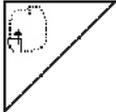
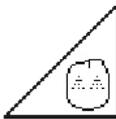
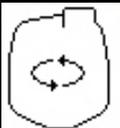


Fig. 114

6.3.19 Comfort package for UF, UG, UX Special (optional)

	<p>Call up the Comfort package menu</p>
	<p>Switch between spraying/flushing</p>
	<p>Dilute the spray liquid</p>
	<p>Switch cleaning on/off</p>
	<p>Agitator automatic/manual</p>
	<p>Switching the auxiliary agitator on/off</p>
	<p>Switch spraying on / off (Press Shift button)</p>

	<p>For filling the spray liquid tank using the Comfort package, see page 59.</p>
---	--

The Comfort package enables the intake side to be switched using the AMATRON⁺.

Remote-controllable settings:

- Spraying 
- Flushing/diluting 
- Filling via suction coupling :
(In filling menu only)

 Also observe the operating instructions of the machine when carrying out the functions of the Comfort Package.

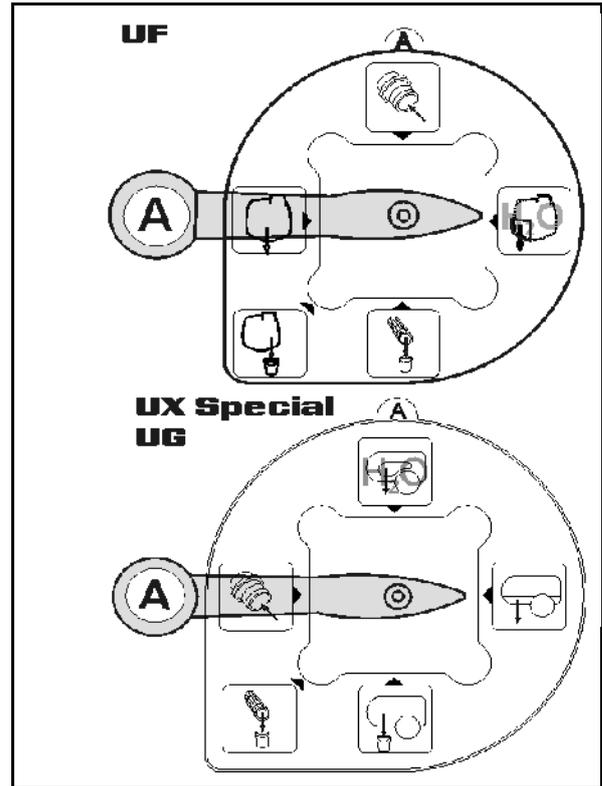


Fig. 115

6.3.19.1 Dilute the spray liquid with rinsing water

1.  Start dilution.
→ Flushing water is fed to the tank via the auxiliary agitator.
2. Observe the fill level of the tank.
3.  End dilution.

status:		spraying	
fill lvl:	2300	litre	
diluting:		off	
hopper cleaning, inside		off	
Nebenrührwerk:		manual	
Nebenrührwerk:		geöffnet	

Fig. 116

 For a machine with a pressure circulation system (DUS), the spray line is flushed. When spraying is restarted, two to five minutes pass before concentrated spray liquid can be sprayed.

6.3.19.2 Cleaning the sprayer with the tank filled (work interruption)

1.  Switch the intake side to flushing.
→ Flushing water is sucked in, close agitators.

status:		spraying	
fill lvl:	2300	litre	
diluting:		off	
hopper cleaning, inside		off	
Nebenrührwerk:		manual	
Nebenrührwerk:		geöffnet	

Fig. 117

Machines without pressure circulation system (DUS):

2.  Switch on spraying.
→ The spray lines and nozzles are flushed with flushing water.
3.  Switch off spraying.
4. Switch off the pump drive.
5.  Switch the intake side back to spraying.

- Tank, agitators are not clean!
- The spray liquid concentration in the tank is unchanged.

status:		flushing	
fill lvl:	2300	litre	
diluting:		off	
reinigen		off	
agitator		automatic	
agit.press		3.5bar	

Fig. 118

Machines with pressure circulation system (DUS):

2. Wait until 2 litres of rinsing water have rinsed through the lines per meter working width.
3.  Briefly switch spraying on to clean the nozzles.
4.  Switch off spraying.
5. Switch off the pump drive.
6.  Switch the intake side back to spraying.

- Tank, agitators are not clean!
- The spray liquid concentration in the tank has changed.

6.3.19.3 Cleaning the sprayer with the tank empty

Cleaning:

Prerequisite: Fill level of the tank < 1% (tank empty if possible).

1. Run the pump with 450 rpm.

2.  Start cleaning.

→ Main and auxiliary agitator are flushed, tank inside cleaning switched on.

→ The cleaning process is ended automatically.



For machines equipped with a pressure circulation system (DUS), the spray line is also cleaned automatically.

Empty tank:

3.  Switch on sprayers

Switch sprayer on/off at least ten times while in motion.

Spray until sprayer is empty.

4.  Switch off spraying.

5. Repeat steps 1 to 3 once or twice.

→ Machine is clean.

6. If necessary, set the suction side to manually and drain the remaining residue

(Fig. 121) on the field, then reset manually.

→ The intake side switch tap must engage.

7. Clean the suction and pressure filter.

Special procedure for critical change of the spraying agent:

8. Add flushing water.
9. Repeat steps 1 to 6.

status:		spraying	
fill lvl:	2300	litre	
diluting:		off	
hopper cleaning, inside		off	
Nebenrührwerk:		manual	
Nebenrührwerk:		geöffnet	

Fig. 119

status:		flushing	
fill lvl:	2300	litre	
diluting:		off	
reinigen		off	
agitator		automatic	
agit.press		3.5bar	

Fig. 120

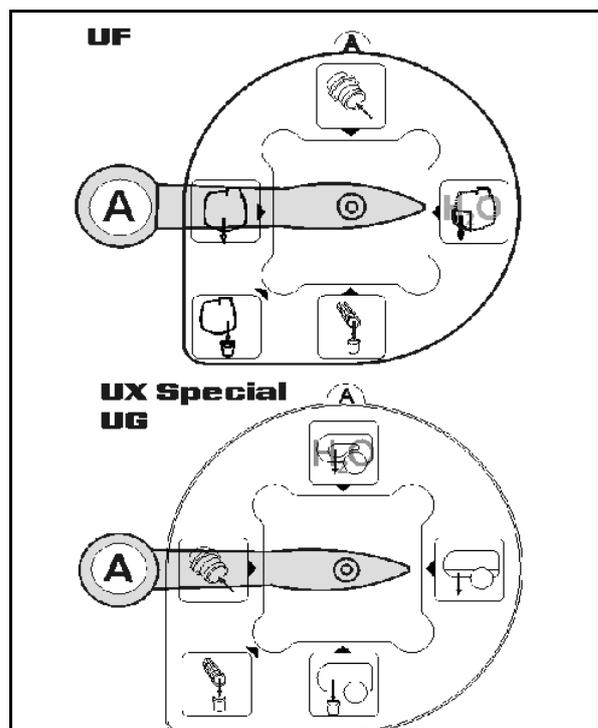


Fig. 121

6.3.19.4 Automatic agitator deactivation



Agitator switched to automatic deactivation.

- The agitator switches off if the tank contents fall below 5%.
- The agitator switches on again automatically after a filling.



Agitator deactivation off.

- The agitator remains switched on even if the tank contents fall below 5%.



- Switch agitator on/off.

Fig. 123\1: Automatic agitator deactivation display in the job menu.

status:		spraying	
fill lvl:	2300	litre	
diluting:		off	
hopper cleaning, inside		off	
Nebenrührwerk:		manual	
Nebenrührwerk:		geöffnet	

Fig. 122

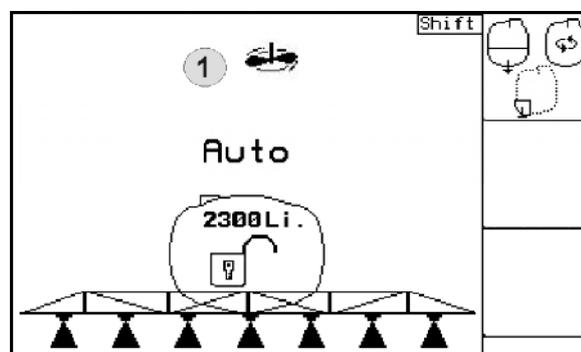


Fig. 123

6.3.20 Front tank with Flow Control

	Automatic/manual mode
	Switch Pump to front on/off
	Switch Pump to rear on/off

Automatic mode:

During use and transport, the field sprayer/front tank combination is operated in **Automatic** mode.

Functions of **Automatic** mode:

- Constant circulation of the spray liquid with agitator effect in the front tank.
- Regulation of the fill levels of both containers in spraying operation.

Display in the AMATRON⁺ work menu:

Fig. 124, **Automatic** mode switched on.

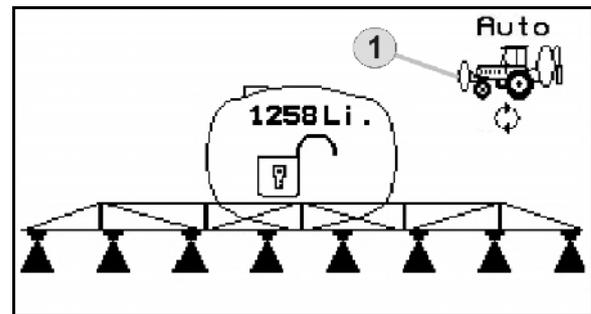


Fig. 124

Manual mode:

- In **manual** mode, the spray liquid distribution to both containers is controlled by the operator.

This is accomplished by these functions:

- Pump to front
- Pump to rear
- Spraying without front tank

Fig. 125/**manual** mode switched on.

- (1) Display mode **Pump to front** switched on.
- (2) Display mode **Pump to rear** switched on.

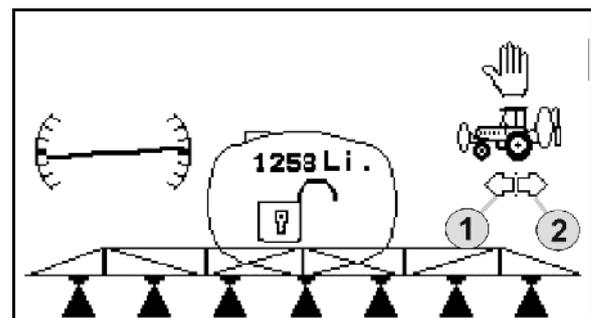


Fig. 125

6.3.20.1 Front tank submenu

	Front tank submenu
	Automatic/manual mode
	Switch on Pump to front.
	Switch on Pump to rear.
	Switch off Pump to front/rear.

In the work menu 02/02: Activate

Display in the AMATRON⁺ front tank submenu:

Fig. 126/...

- (1) Fill level of both containers
- (2) Fill level of FT,
- (3) Fill level of UF

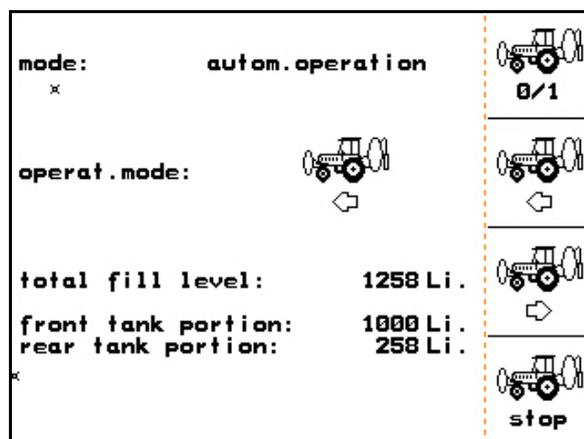


Fig. 126

"Pump to front" and "Pump to rear" can be switched on simultaneously.

Filling



The fill level displayed in the filling menu displays the filling volumes for both containers together.

Before filling the front tank and field sprayer together, adjust the signal limit for the fill level.



To avoid overfilling the front tank, the corresponding valve closes upon reaching the nominal capacity.

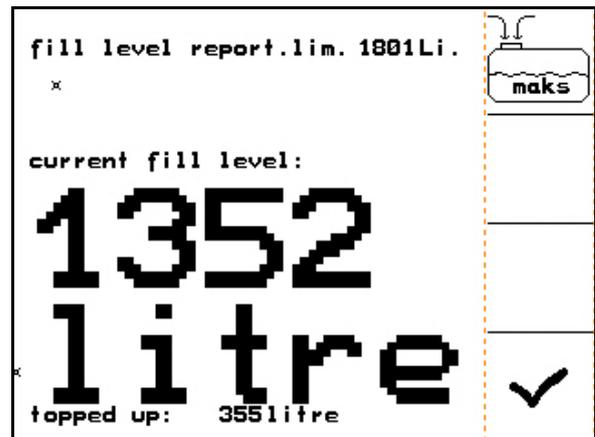


Fig. 127

Internal cleaning

The front tank has internal cleaning, which operates parallel to the internal cleaning of the field sprayer.

→ Refer to the UF operating manual.

During/after the internal cleaning:



- **Switch on the rear pumps**, until the front tank is emptied.
- After the internal cleaning: Carry out complete discharging.

Failure of a level sensor

When a level sensor fails:

- An alarm signal appears.
- The mode switches from **Automatic** to **manual**,
- Both valves of the Flow Control close.

6.4 Storage



Store the board computer in a dry environment when removing it from the tractor cab.

6.5 Key assignment of work menu/multi-function stick



Depending on the selected sprayer boom type, different function fields for sprayer boom operation appear in the work menu. The following chapters show the function fields for the various sprayer boom types.

6.5.1 Standard folding/tilt adjustment

Page 1:

Beschreibung der Funktionsfelder

	See section	
	6.3.2	Spray quantity control: Automatic/manual operation
	6.3.1	Switch spraying on/off
	6.3.7	Switch off part width sections
	6.3.7	Switch on part width sections
	6.3.14	Tilt adjustment

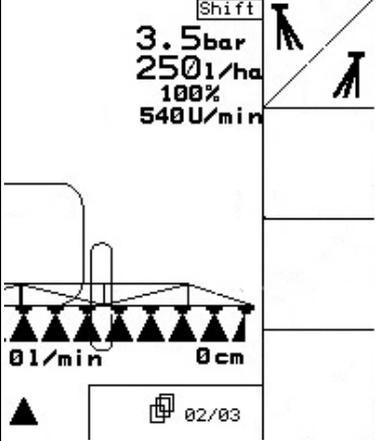


Shift key pressed:

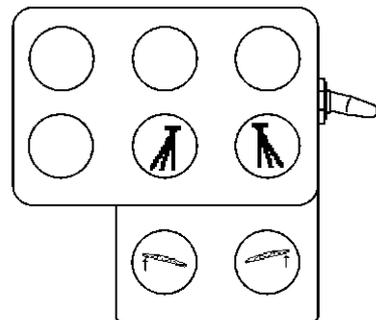
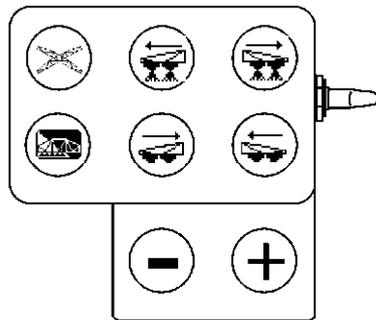
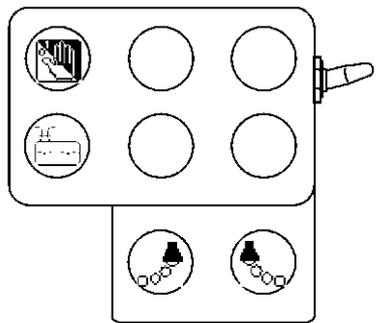
Description of the function fields

	See section	
	6.3.15	Switch foam marker on/off
	6.3.3	Replenishing the spray liquid tank
	6.3.14	Mirror the tilt / DC: Align horizontally
	6.3.19	Call up the Comfort package menu
	6.3.20	UF: Front tank with Flow Control

See section

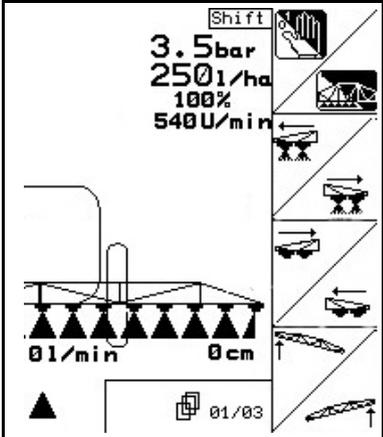
	<p>6.3.16</p>	<p>Boundary nozzles on/off</p>

Layout for multi-function stick:



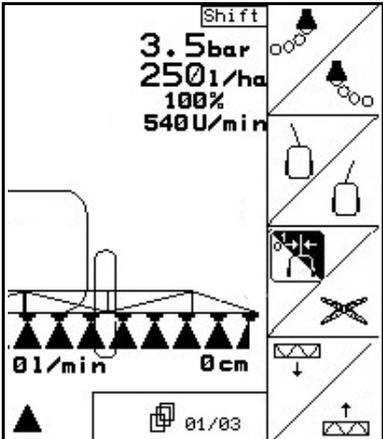
6.5.2 Boom folding Profi I

Page 1: Description of the function fields

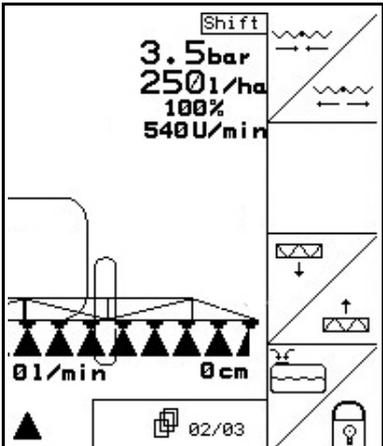
	See Section	
	6.3.2	Spray quantity control: Automatic/manual operation
	6.3.1	Switch spraying on/off
	6.3.7	Switch off part width sections
	6.3.7	Switch on part width sections
	6.3.14	Tilt adjustment



Shift key pressed: Description of the function fields

	See Section	
	6.3.15	Switch foam marker on/off
	6.3.4	TrailTron: Align manually
	6.3.4	TrailTron: Automatic/manual operation
	6.3.14	Mirror the tilt / DC: Align horizontally
	6.3.10	Raise, lower boom

Page 2: Description of the function fields

	See Section	
	6.3.12	Fold boom in/out on both sides
	6.3.10	Raise, lower boom
	6.3.3	Replenishing the spray liquid tank
	6.3.11	Lock/unlock the swing compensation


Shift key pressed: Description of the function fields

	See Section
	6.3.12
	6.3.12
	6.3.16

Page 3:
Description of the function fields

	See Section
	6.3.5
	6.3.5
	6.3.5
	6.3.6
	6.3.10

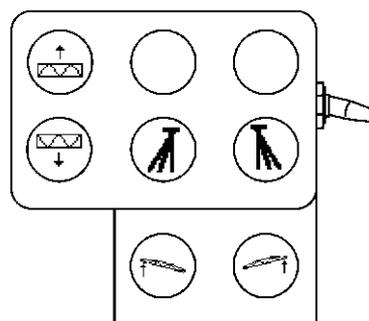
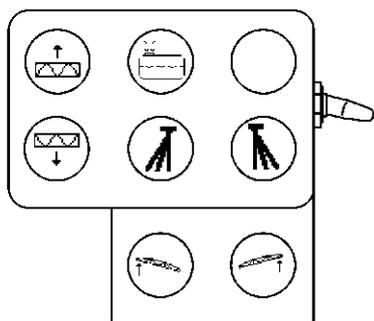
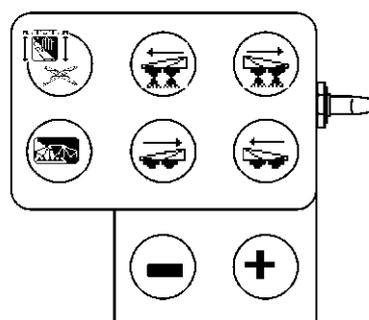
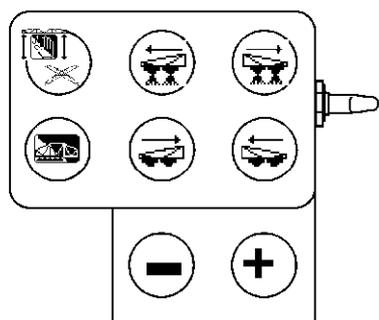
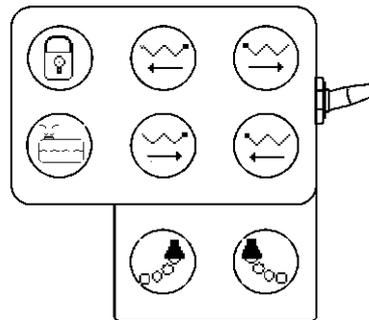
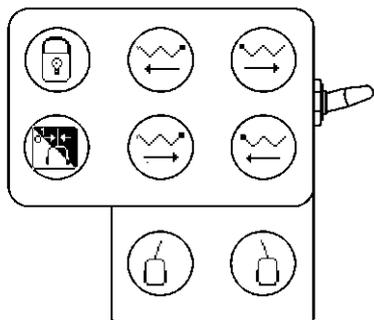

Shift key pressed: Description of the function fields

	See Section
	6.3.19
	6.3.20
	6.3.17
	6.3.4
	6.3.17

Layout for multifunction stick

UX, UG

UF 01



6.5.3 Boom folding Profi II

Page 1:

Description of the function fields

	See Section	
	6.3.2	Spray quantity control: Automatic/manual operation
	6.3.1	Switch spraying on/off
	6.3.7	Switch off part width sections
	6.3.7	Switch on part width sections
	6.3.14	Tilt adjustment



Shift key pressed:

Description of the function fields

	See Section	
	6.3.15	Switch foam marker on/off
	6.3.4	TrailTron: manual operation
	6.3.4	TrailTron: Automatic/manual operation
	6.3.14	Mirror the tilt / DC: Align horizontally
	6.3.10	Raise, lower boom

Page 2:

Description of the function fields

	See Section	
	6.3.13	Angle boom up on one side
	6.3.13	Angle boom down on one side
	6.3.10	Raise, lower boom
	6.3.3	Replenishing the spray liquid tank
	6.3.11	Lock/unlock the swing compensation



Shift key pressed: Description of the function fields

	See Section	
	6.3.12	Fold out the sprayer boom on one side
	6.3.12	Fold in the sprayer boom on one side
	6.3.16	Switch boundary nozzles on/off

Page 3:

Description of the function fields

	See Section	
	6.3.12	Fold boom in/out on both sides
	6.3.13	Angle boom up on both sides
	6.3.10	Raise, lower boom
	6.3.11	Lock/unlock the swing compensation



Shift key pressed: Description of the function fields

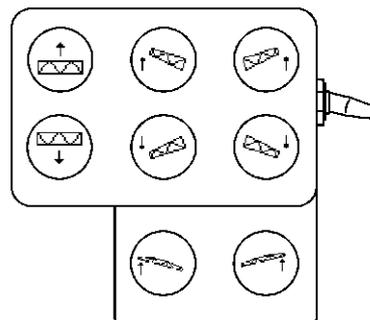
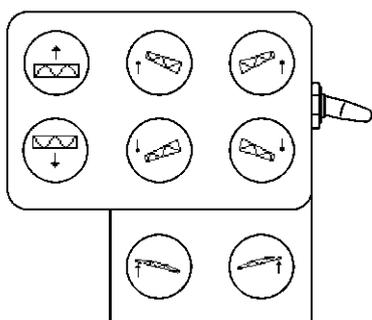
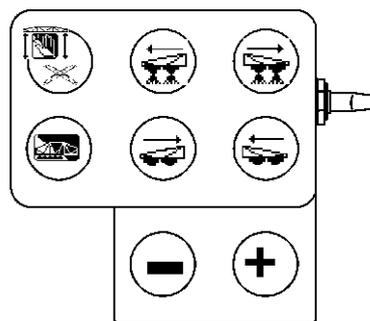
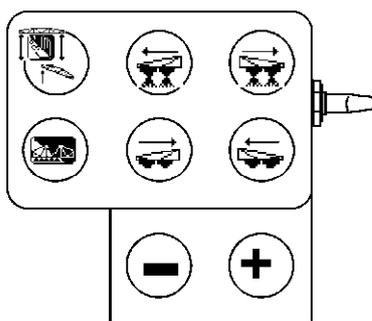
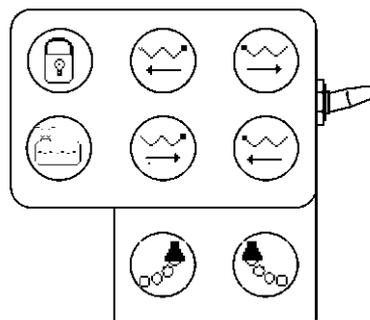
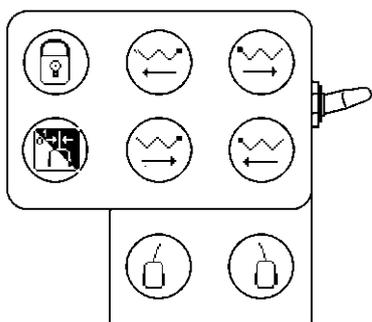
	See Section	
	6.3.19	Call up the Comfort package menu
	6.3.20	Front tank with Flow Control
	6.3.17	Hydropneumatic sprung suspension: Automatic / Manual operation
	6.3.4	TrailTron: automatic / manual operation
	6.3.17	Hydropneumatic sprung suspension: Lower / Raise

	See Section	
	6.3.5	DC: automatic / manual operation
	6.3.5	DC: Display distance spraying nozzle - crop
	6.3.5	DC / Autolift: Specify distance spraying nozzle - crop
	6.3.6	DC / Autolift: Specify boom height in headland
	6.3.10	Raise, lower boom

Layout for multifunction stick

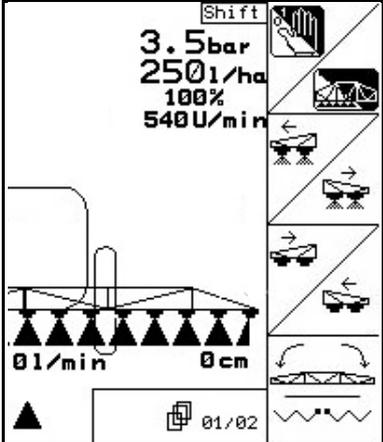
UX, UG

UF 01

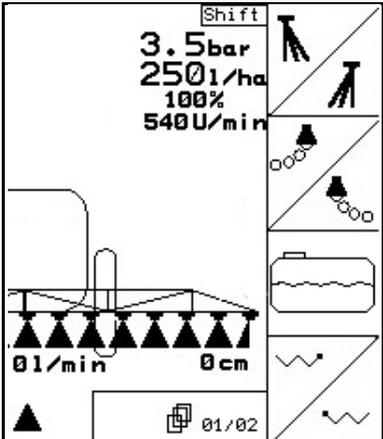


6.5.4 Pre-select folding

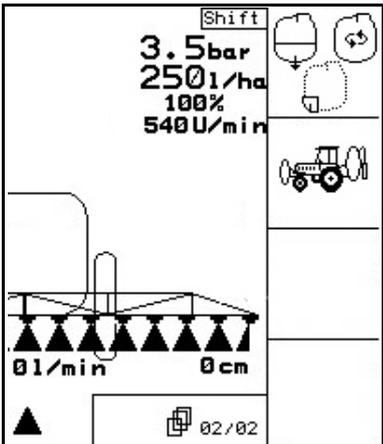
Page 1: Description of the function fields

	See Section	
	6.3.2	Spray quantity control: Automatic/manual operation
	6.3.1	Switch spraying on/off
	6.3.7	Switch off part width sections
	6.3.7	Switch on part width sections
	6.3.8	Pre-select: Tilt adjustment / Fold boom

Shift key pressed: Description of the function fields

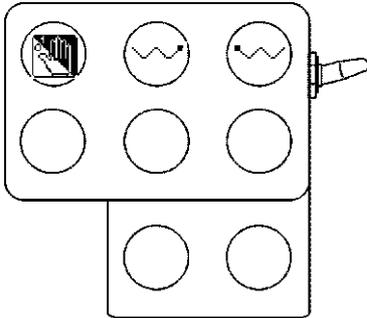
	See Section	
	6.3.16	Switch boundary nozzles on/off
	6.3.15	Switch foam marker on/off
	6.3.3	Replenishing the spray liquid tank
	6.3.9	Preselection: Fold in boom on one side

Page 2: Description of the function fields

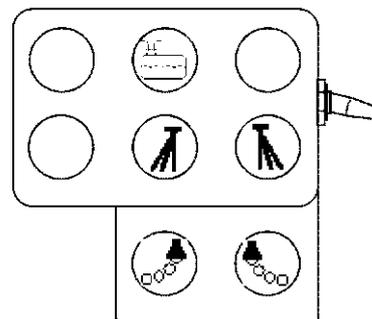
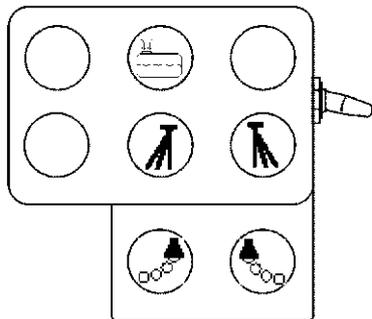
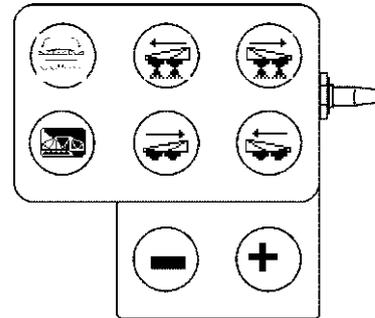
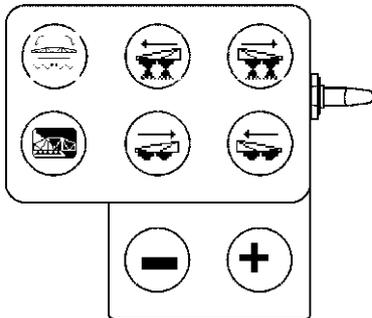
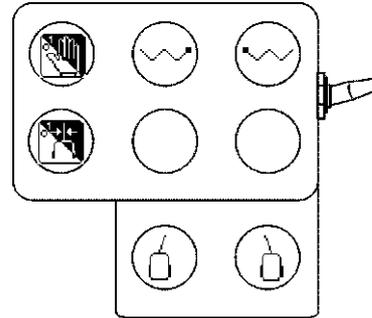
	See Section	
	6.3.19	Call up the Comfort package menu
	6.3.20	Front tank with Flow Control

Layout for multifunction stick

UF 01



UX, UG



7 Multifunction stick

7.1 Installation

The multifunction stick (Fig. 128/1) 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 multifunction stick (Fig. 128/2).

Insert the connector (Fig. 128/3) of the multifunction stick into the sub-D socket on the AMATRON⁺.

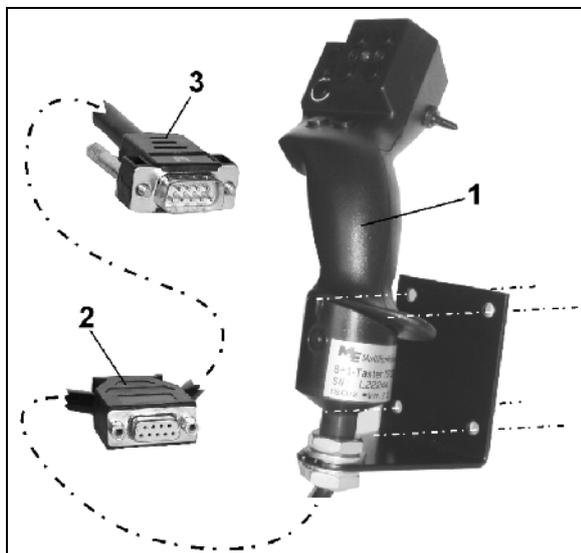


Fig. 128

7.2 Function

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

To operate the AMATRON⁺, the multifunction stick (Fig. 129) has 8 keys (1 - 8). In addition, the assignment of the keys can be changed 3-fold by means of a switch (Fig. 130/2).

The switch default position is:

- central position (Fig. 130/A); the switch can be pressed in the following directions:
- up (Fig. 130/B) or
- down (Fig. 130/C).

The position of the switch is indicated by an LED (Fig. 130/1).

- LED yellow
- LED red
- LED display green

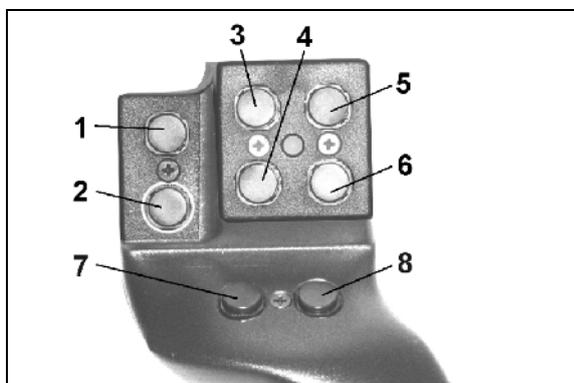


Fig. 129

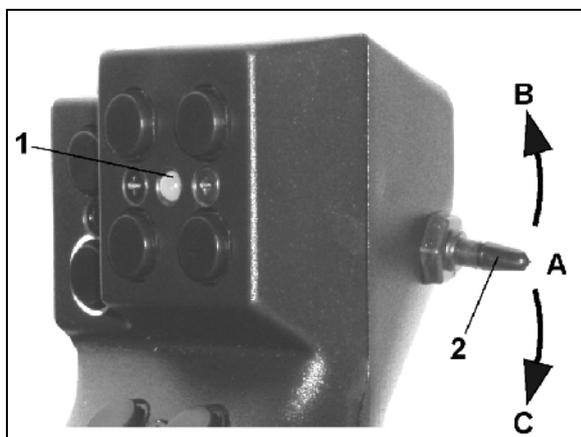


Fig. 130

7.3 Multi-function stick learning menu

 The learning menu is accessed via the main menu.

-  Call up the learning menu.

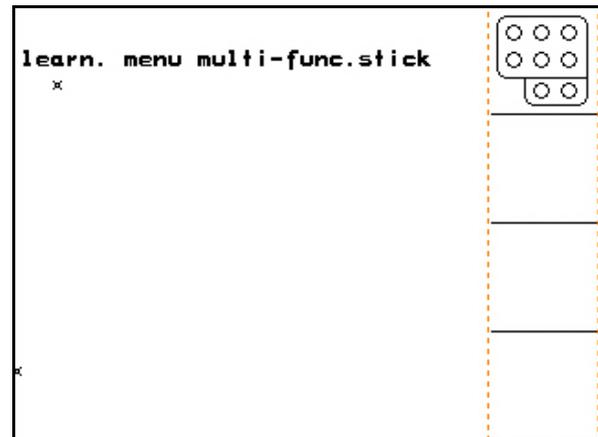


Fig. 131

When a key on the multi-function stick is pressed, the corresponding function appears on the display.

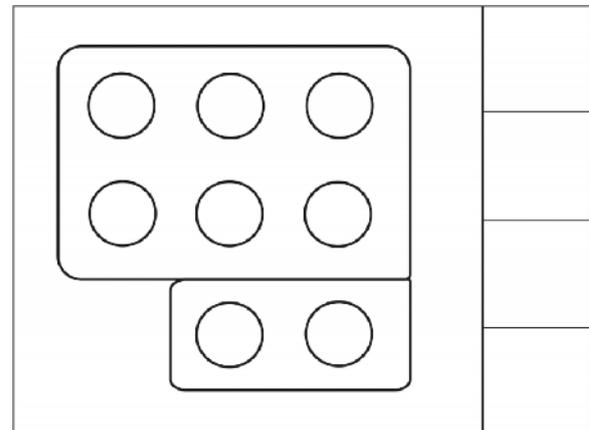


Fig. 132

8 AMACLICK part width section control box

8.1 Installation

Screw the AMACLICK to the multi-function stick through the hole cut-out of the console or, alternatively, install it in the tractor cab for easy reach.

The connection of the AMACLICK takes place:

- With multi-function stick according to Fig. 133.
- Without multi-function stick according to Fig. 134.

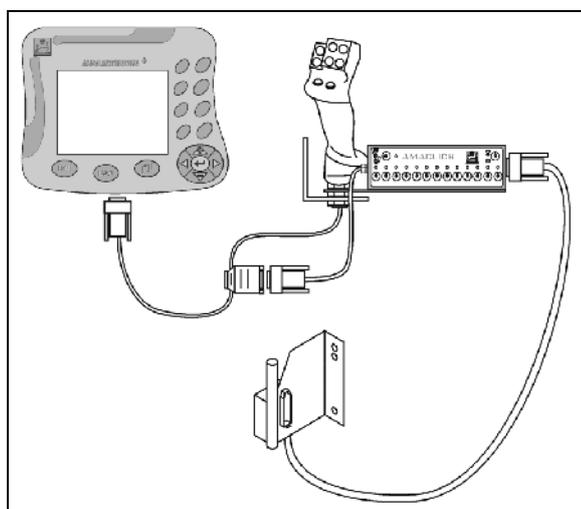


Fig. 133

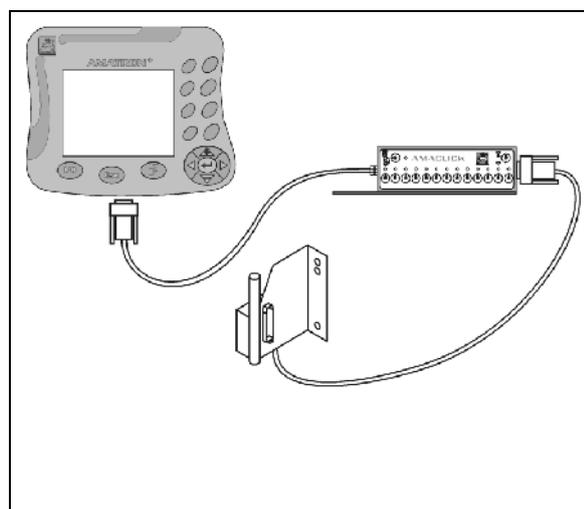


Fig. 134

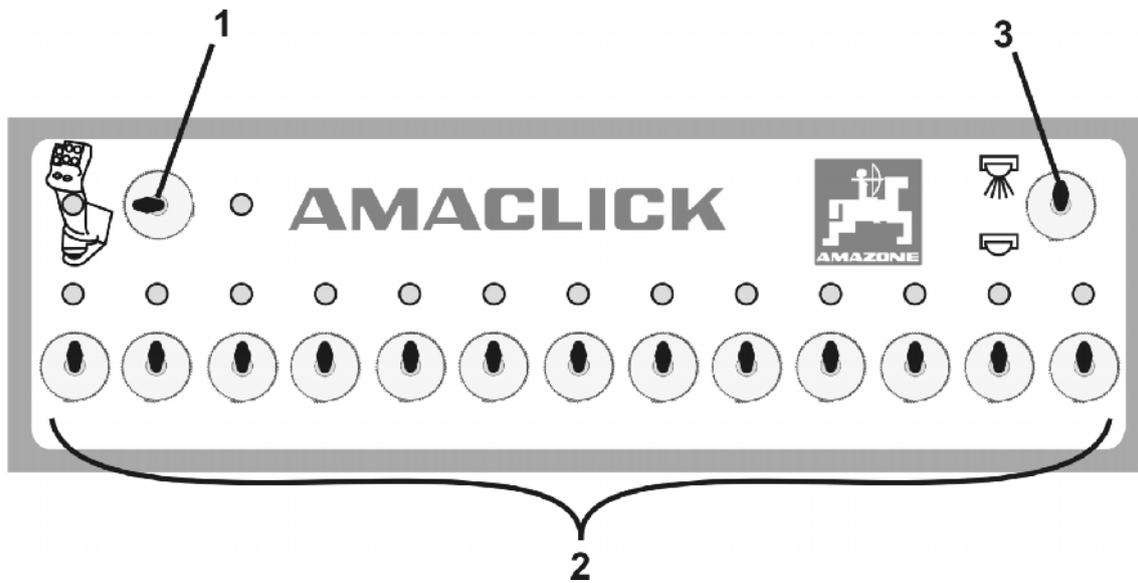
8.2 Function

The AMACLICK switch box is used in combination with the:

- AMATRON⁺,
 - AMATRON⁺ and multi-function stick
- for operating the AMAZONE field sprayers.

The AMACLICK⁺ can be used to do the following:

- Switch each part width section on or off as desired.
- Switch the spraying of spray liquid on and off.



(1) On/off switch

- Switch position :
AMACLICK not active. Operation of the part width sections via AMATRON⁺/multi-function stick.
- Switch position "AMACLICK":
Spraying on/off and part width sections are switched with AMACLICK.
(Operation with AMATRON⁺/multi-function stick is then no longer possible).
The lamp above the part width section switch indicates that the part with section is switched on.

(2) Part width section switch

One part width section switch is available for each part width section.

If more switches than part width sections are present, the switches on the right are not assigned (e.g. field sprayer with 11 part width sections, AMACLICK 13 switches □ 2 switches at the far right are not assigned).

(3) Spraying on/off switch.

Spray liquid is sprayed via all switched-on part width sections/no spray liquid is spread.



To identify the unassigned part width section switches, the plastic caps can be removed.

9 Fault

9.1 Alarm

Uncritical alarm:

A fault message (Fig. 135) appears at the bottom of the display and an acoustic alarm sounds three times. Rectify the fault if possible.

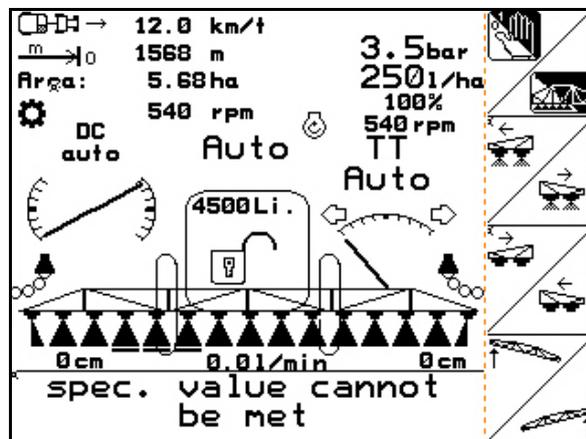


Fig. 135

Critical alarm:

A warning message (Fig. 136) 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.

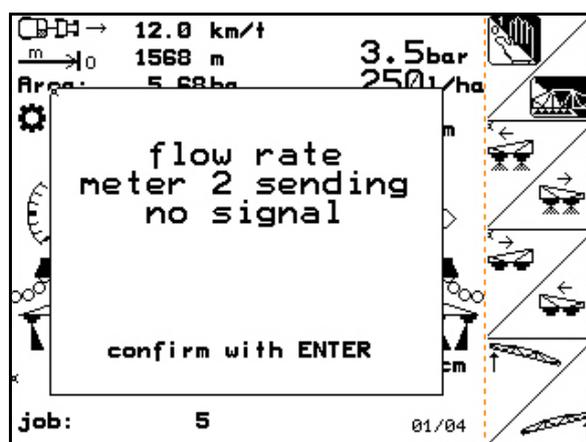


Fig. 136

9.2 Setting motor failed (UX Super comfort package)

Suction tap setting motor:

If the motor on the suction tap fails, the drive can be interrupted and the suction tap operated manually.

To do so, remove the screw under the control terminal.

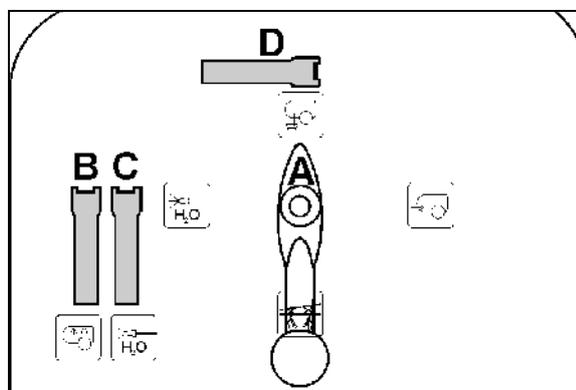


Fig. 137

Internal cleaning setting motor:

If the motor of the internal cleaning system fails, the internal cleaning system can be switched using the control terminal (Fig. 138/A,B).

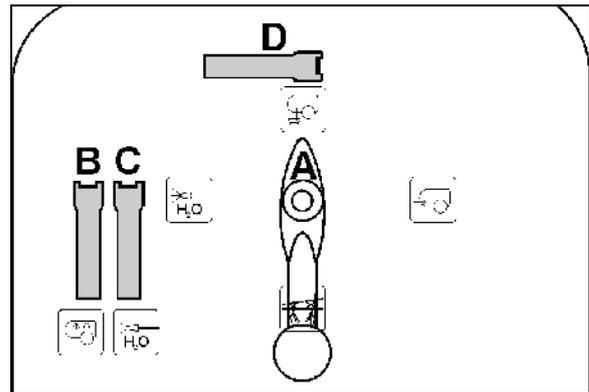


Fig. 138

9.3 Distance sensor failure (pulses/100 m)

Entering a simulated speed in the Service Set-up menu allows you to continue spreading if the sensor fails.

To do so:

1. Remove the signal cable from the tractor basic equipment.

2.  Enter a simulated speed.

3.  Confirm entry.

→ The speed symbol  is shown inverted in the Work menu.

4. Maintain the simulated speed as you continue spreading.

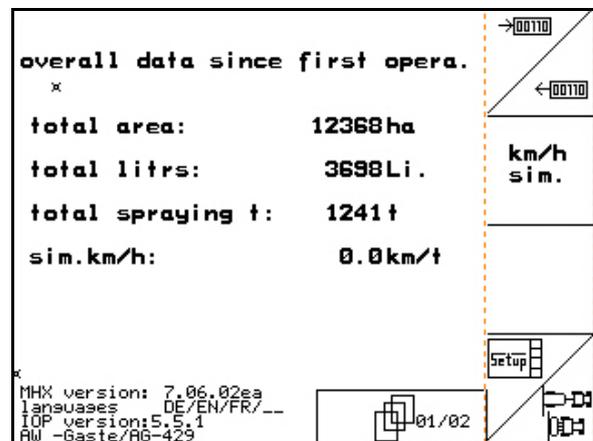


Fig. 139

 As soon as impulses are registered by the distance sensor, the computer switches to the actual speed of the distance sensor.



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