Operating Manual

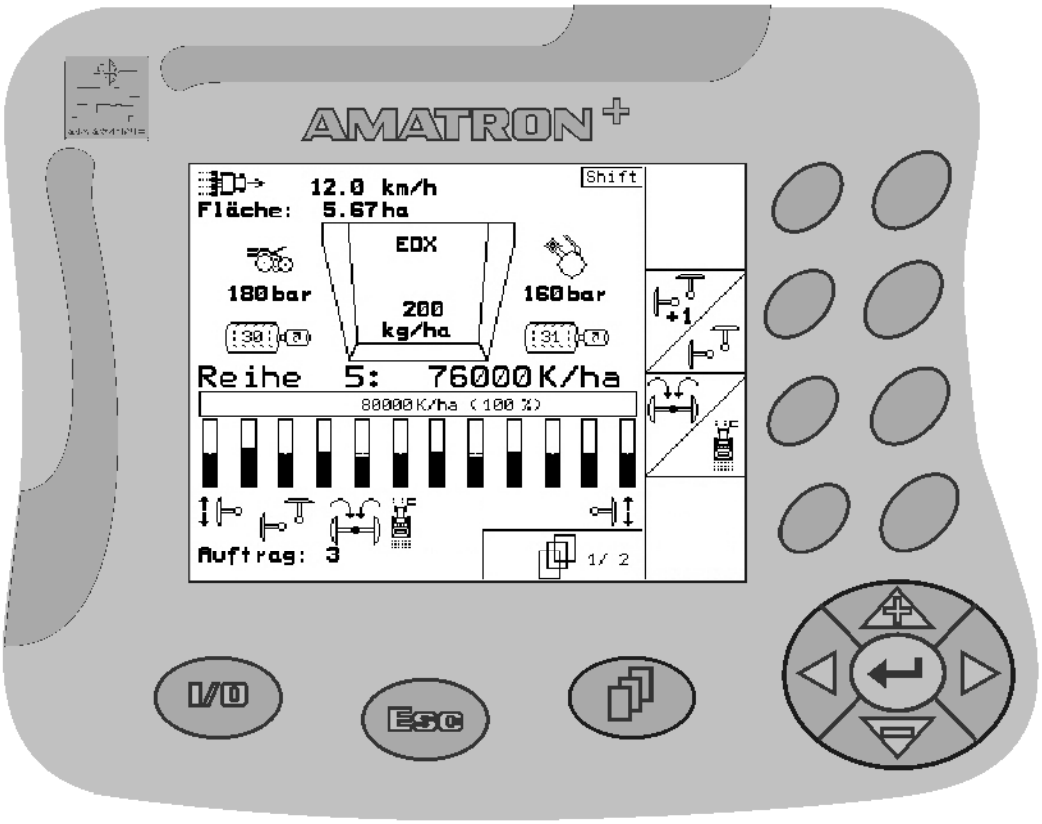
AMAZONE

AMATRON+

for

Precision Airplanter EDX

On-board computer



MG3603
BAG0062.5 09.12
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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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: MG3603

Compilation date: 09.12

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 item numbers in diagrams. The first number refers to the diagram and the second number to the item in the figure.

Example: (Fig. 3/6)

- Figure 3
- Item 6

2 General Safety Instructions

Comply with the instructions in the operating manual

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

Check all the available safety equipment regularly.

2.1 Representation of safety symbols

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

DANGER

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

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

WARNING

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

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

CAUTION

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

IMPORTANT

Indicates an obligation to special behaviour or an activity required for proper 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 Console and computer

The tractor basic equipment (Fig. 1/1) (console with distributor) must be installed to the right of the driver in the cabin, within visual range and easy to access, vibration-free and electrically connected. The distance from the radio unit or aerial must be at least 1 m.

The computer mount (Fig. 1/2) is fitted on to the console pipe line.

The optimum angle of vision for the display can be adjusted by positioning the computer.

CAUTION

Care should be taken to ensure that the computer housing has a conductive connection to the tractor chassis via the console. For the installation, the paint must be removed from the installation points in order to prevent the build-up of an electrostatic charge.

3.2 Connecting the machine

Connect the fertiliser spreader mounted on the tractor via the machine connector (Fig. 1/3).

Connect the battery cable (Fig. 1/5) to the tractor battery.

Insert the connector of the connecting cable (Fig. 1/6) into the middle 9-pin Sub-D-bushing (Fig. 2/1)

The serial interface (Fig. 2/2) allows connection of a GPS terminal.

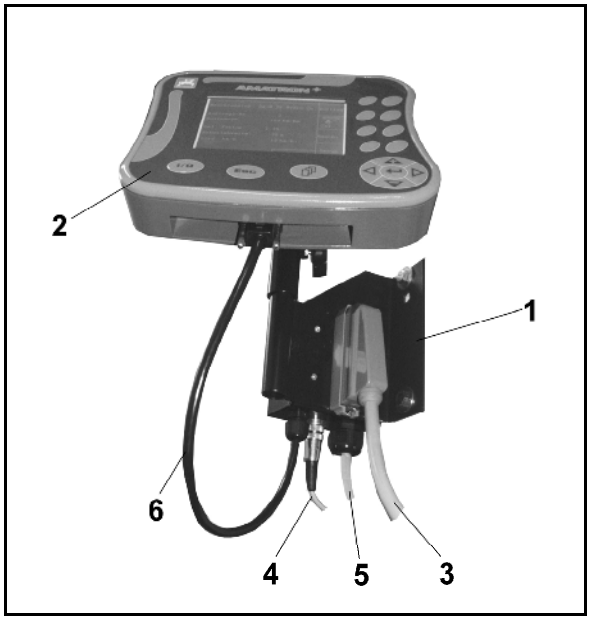


Fig. 1

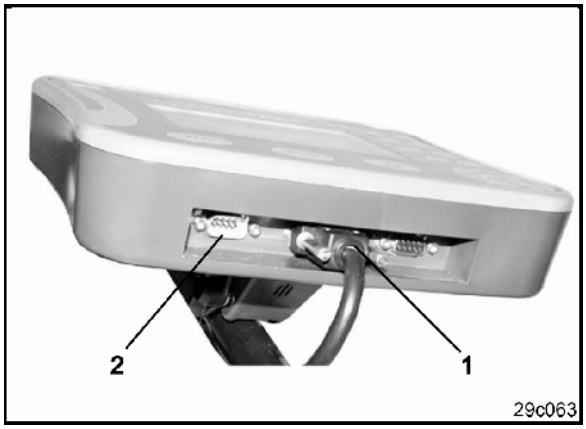


Fig. 2

3.3 Battery cable

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

Before connecting the **AMATRON+** to a tractor with several batteries, it must be clarified, by referring to the tractor operating instructions or by asking the tractor manufacturer, which battery the computer must be connected to!

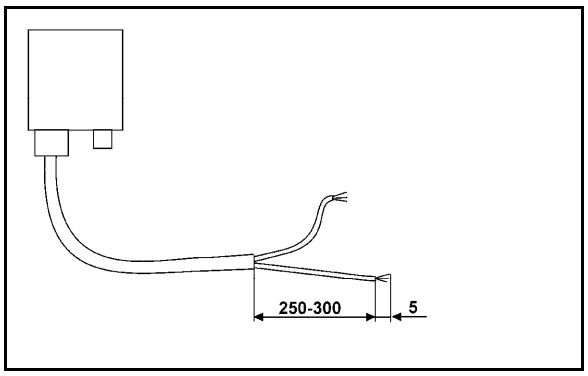


Fig. 3

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:
   - o Brown cable core to **+**.
   - o Blue cable core to **-**.

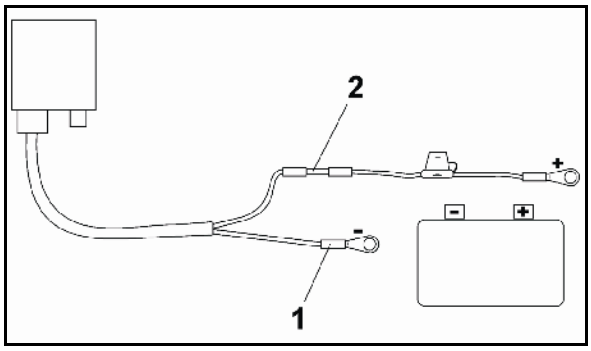


Fig. 4

In the event of the supply voltage dropping below 11.2 V, the control and monitoring systems will fail.

4 Product description

With the AMATRON+, the AMAZONE EDX machines can be conveniently monitored and operated.

The AMATRON+ consists of the terminal (Fig. 5), the basic equipment (fastening material) and the job computer on the machine.

Any operational faults are indicated visually and/or acoustically.

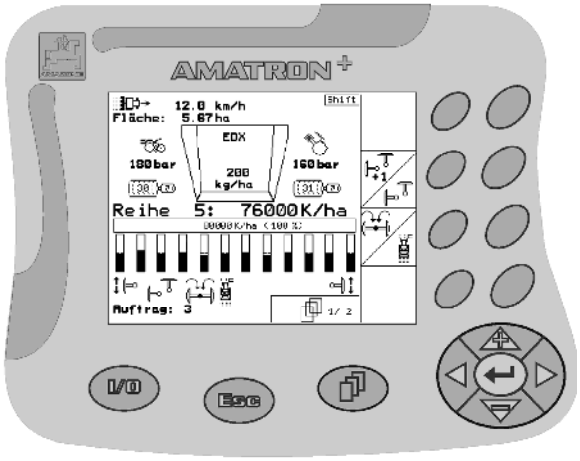


Fig. 5

Main menu (Fig. 6)

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

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

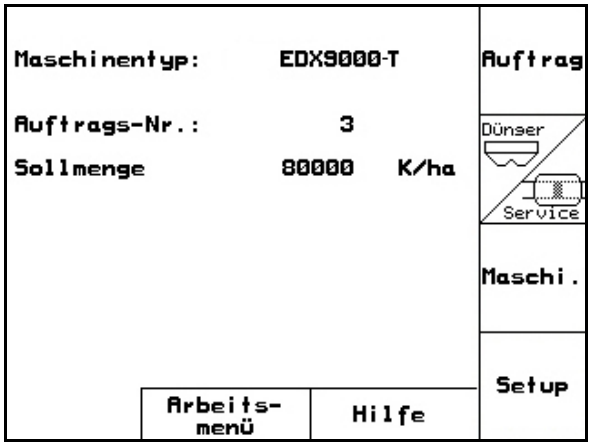


Fig. 6

Work menu (Fig. 7)

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

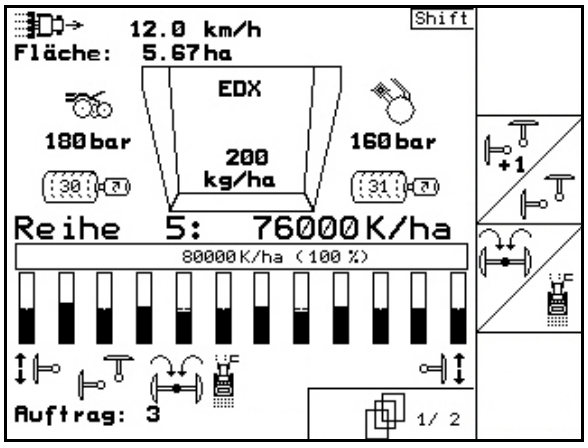


Fig. 7

4.1 Description of keys

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. 8/1) is assigned to the function field (Fig. 8/A).
- If the boxes are diagonally divided:
  - o the left key (Fig. 8/2) is assigned to the top left function field (Fig. 8/B).
  - o the right key (Fig. 8/3) is assigned to the bottom right function field (Fig. 8/C).

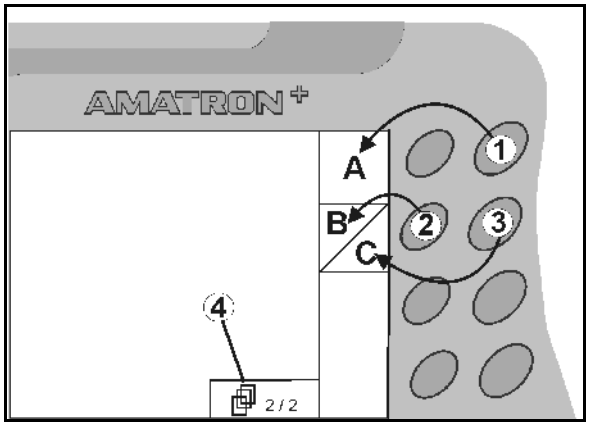


Fig. 8

I/O	On / Off (Always switch off the AMATRON+ when driving on public roads).
Esc	• Return to last menu • Switch between work menu - main menu • Cancel entry • To work menu (hold down key at least 1 second)
	• Scroll to other menu pages (only possible if (Fig. 8/4) appears in display) • Help menu only accessible from the main menu (see page 17).
	• Move cursor left in display
	• Move cursor right in display
	• Take over selected numbers and letters • Confirm critical alarm
	• Move cursor up in display • Increase specified quantity during work by percentage application rate increase
	• Move cursor down in display • Reduce specified quantity during work by percentage application rate increase

4.2 Shift key

- The shift key is located on the back of the unit  (Fig. 9/1).
- When the Shift-key is activated, this is indicated on the display (Fig. 10/1).
- When the Shift-key is actuated, further function fields appear (Fig. 11) and the assignment of the function keys is altered accordingly.

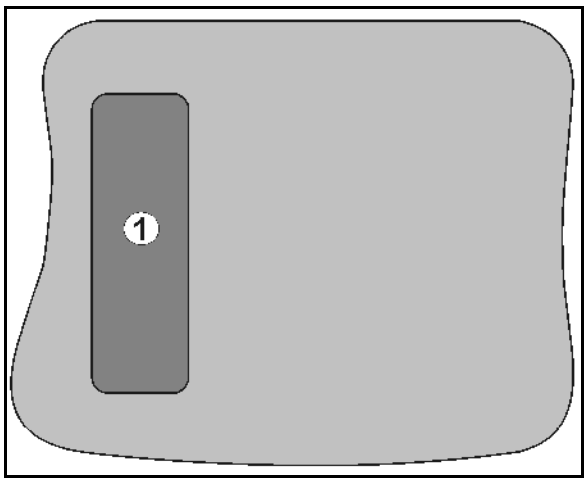


Fig. 9

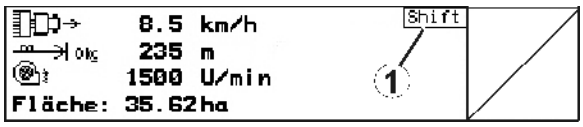


Fig. 10

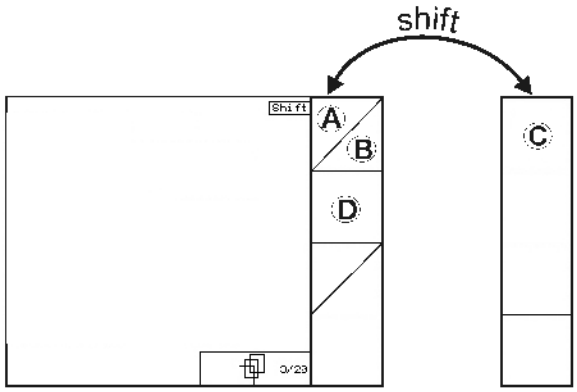


Fig. 11

4.3 Entries on AMATRON+

In this operating manual, the function fields are shown with the following function description in order to make clear that the key for the respective function field must be actuated.

Example: function field  :

Description in the operating manual:

 Carry out function **A**.

Operating procedure:

Actuate the key (Fig. 12/1) assigned to the function field to carry out function **A**.

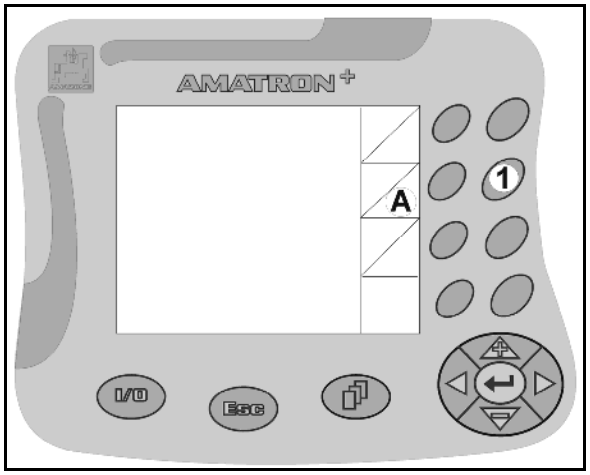


Fig. 12

4.3.1 Entering text and numbers

If it is necessary to enter texts or numbers on the AMATRON+, the input menu (Fig. 13) appears.

In the lower part of the display, a selection field (Fig. 13/1) appears with letters, numbers and arrows which can be used to compose the input line (Fig. 13/2).

 Selection of letters or numbers in the selection field (Fig. 13/3).

-  Confirm the selection (Fig. 13/3).
-  Delete the input line.
-  Alternate between capitals/small letters.
-  After completing the input line, confirm.

The arrows ←→ in the selection field (Fig. 13/4) allow movement in the text line.

The arrow ↤ in the selection field (Fig. 13/4) deletes the last entry.

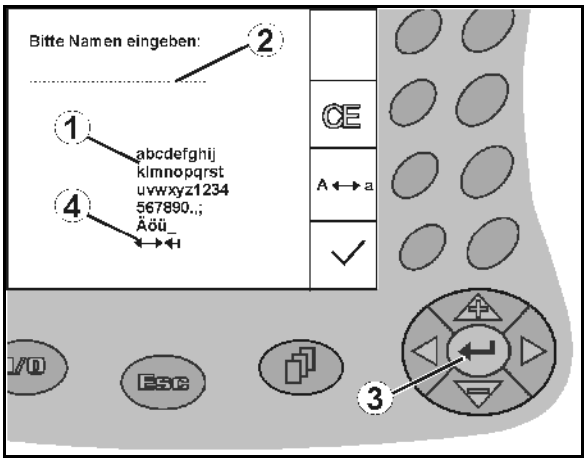


Fig. 13

4.3.2 Selection of options

- Position the selection arrow (Fig. 14/1) with  and  .
-  Confirm the selection (Fig. 14/2).

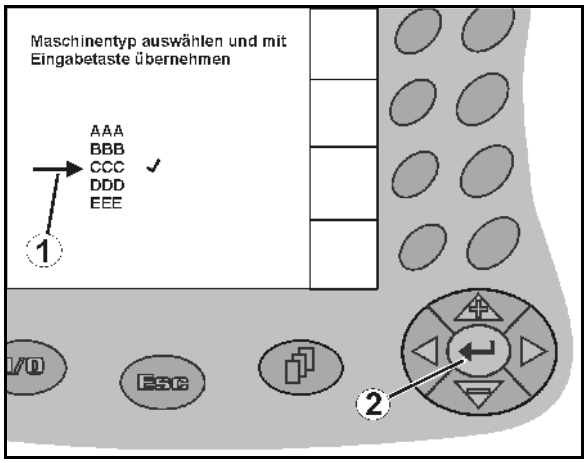


Fig. 14

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**.

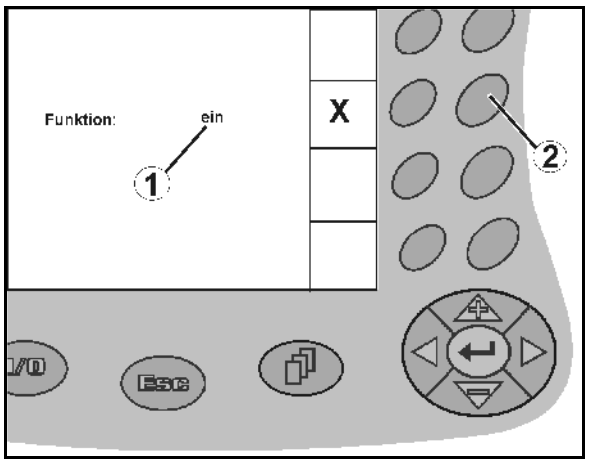


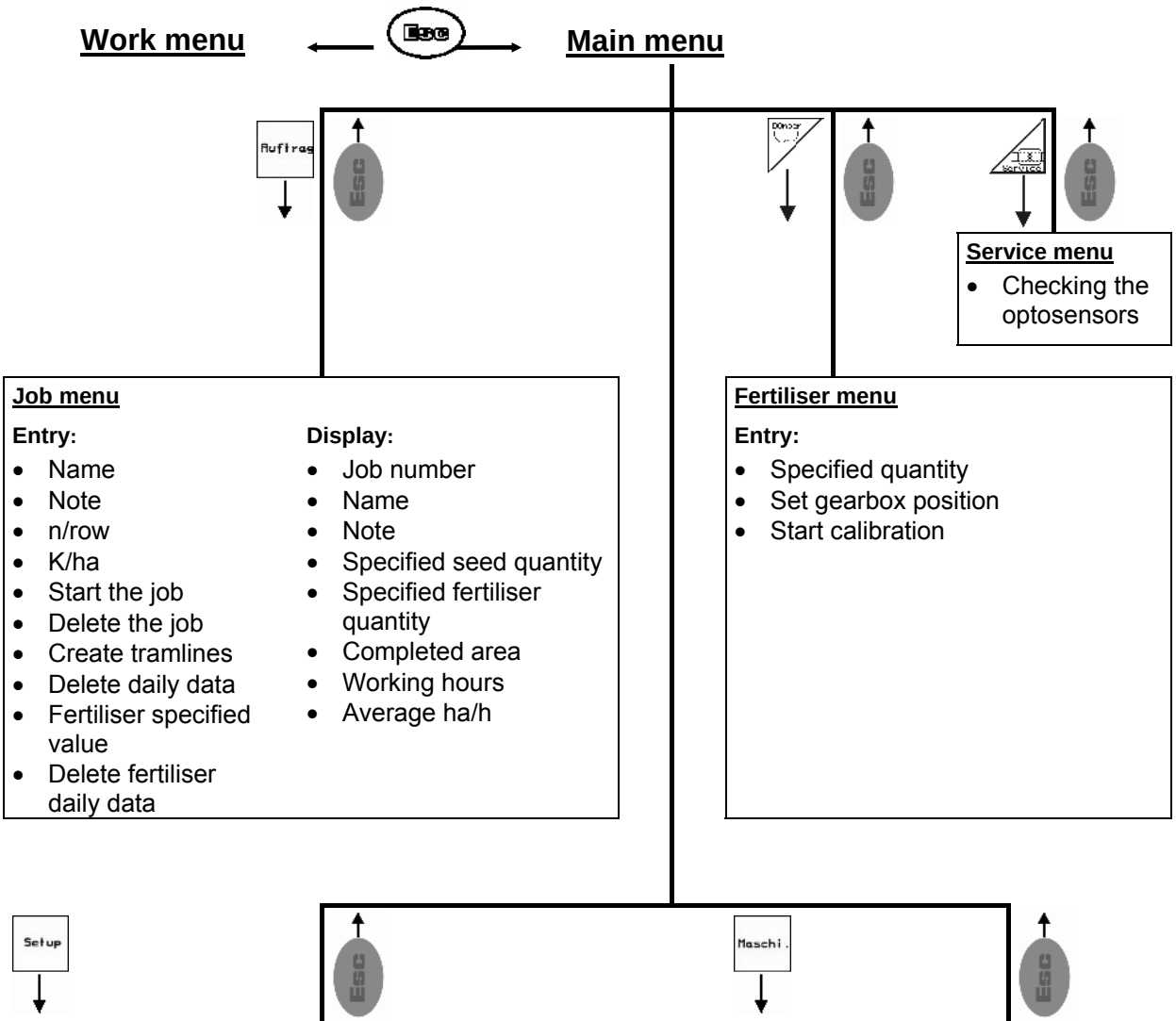
Fig. 15

4.4 Software version

This operating manual is valid from software version:

Machine:	MHX version:	5.26
Terminal:	BIN version:	3.21

4.5 Hierarchy of the AMATRON+



5 Commissioning

5.1 Start screen

After the AMATRON+ is switched on with machine computer connected, the start menu (Fig. 16) appears and indicates the terminal software version number.

After approx. 2 seconds the AMATRON+ automatically goes to the main menu.

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

- use of a new machine computer
- use of a new AMATRON+ terminal
- after RESET of the AMATRON+ terminal

this is indicated on the start screen (Fig. 16).

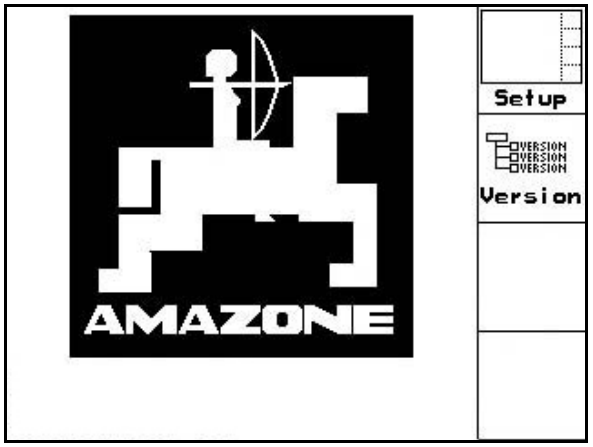


Fig. 16

5.2 Main menu

Job menu: Entry of data for a job. Before commencement of sowing, start the job (see on page 18).

Fertiliser calibration test menu (see page 22).

Optosensor check menu (see page 25)

Machine data menu: Entry of machine-specific or individual data (see on page 26).

Setup menu: Entry and readout of data for Customer Service in event of maintenance or malfunction and entry of basic data(see page 29).

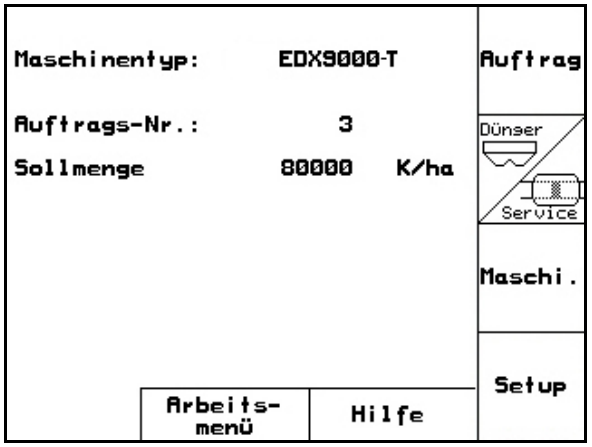


Fig. 17

5.3 Starting a job

Auftrag Select **Job** in main menu!

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

A maximum of 20 jobs can be stored.

To start a new job, select a job number.

Jobs already saved can be called-up and restarted.

- Page back through job.
- Page forward through job.
- Delete job; all data for this job will be deleted.
- Start job so that the data accumulated for this job is stored.
- Call up seed overview
- Call up fertiliser overview
- Call up tramline control overview

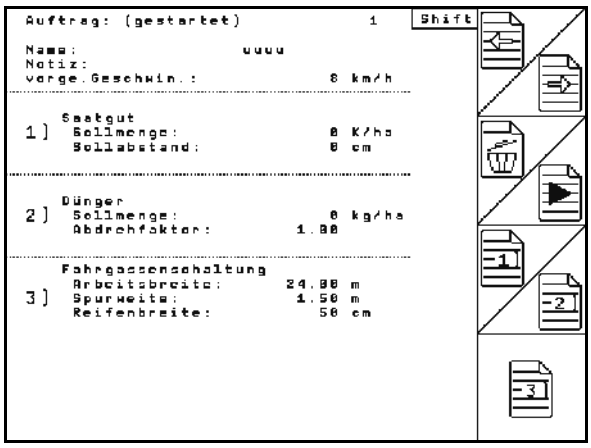


Fig. 18

Shift key depressed :

Fig. 19

- Copy seed, fertiliser or tramline data of the started job into a new overview.

The job menu is divided into three submenus.

(1) Seed overview

(2) Fertiliser overview

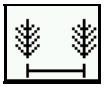
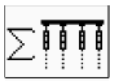
(3) Tramline control overview

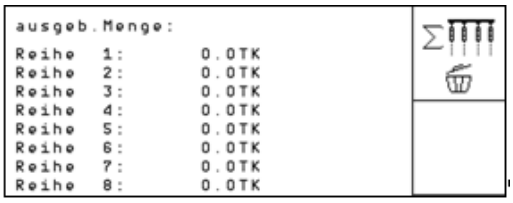
The name of the job and a note can be entered in each overview.

-  Enter name.
-  Enter note.

Fig. 20

(1) Seed overview:

-  Enter target quantity of seed in grains per hectare.
-  Enter spacing of grains.
-  Display grains per row.



o  Delete grains per row.

-  Delete trip data - seed.

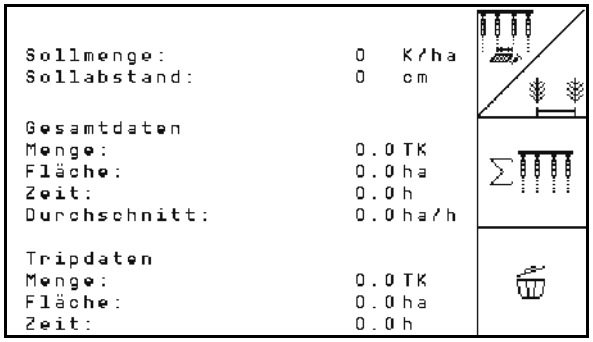


Fig. 21

(2) Fertiliser overview

-  Enter target quantity of fertiliser in kg per hectare.

> The desired target quantity can be entered even for a manual specified quantity setting.
>
> For correct calculation of fertiliser data, the target quantity must correspond to the quantity set on the gearbox.

-  Enter the calibration factor.
-  Enter the intended speed.
-  Delete fertiliser trip data

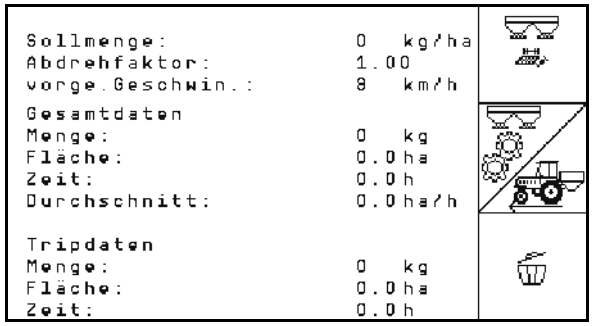
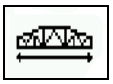
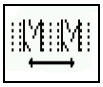


Fig. 22

(3) Tramline overview

-  Enter the working width of the care device.

→ Enter 0 here in case no tramlines should be created.

-  Select the track width of the care device according to the selection mask.
-  Enter the care device tyre width.
-  Start operating with complete or half working widths.

→ Can be selected depending on the working width of the care device and EDX.

Starting operation at half a working width prevents the creation of the tramline when driving back and forth.

-  Select field edge left or right when starting work.

→ The number of runs until the tramline rhythm is repeated is displayed.

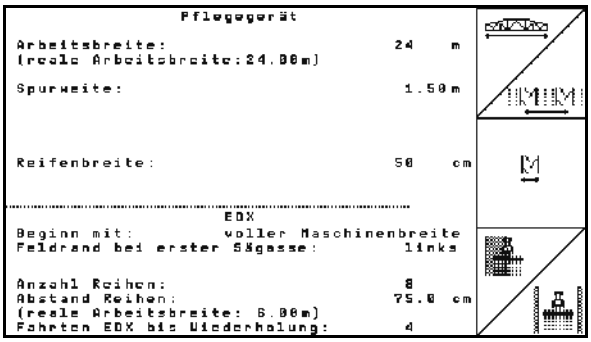


Fig. 23

If it is not possible to calculate a tramline rhythm from the entries for the care device and EDX, you will have to accept an overlap or an intermediate section that is not processed when using the care device.

-  Selection for the driving performance of the care device
  - o drive with unworked intermediate space
  - o drive with overlapping

→ The deviating actual working width of the care device is displayed.

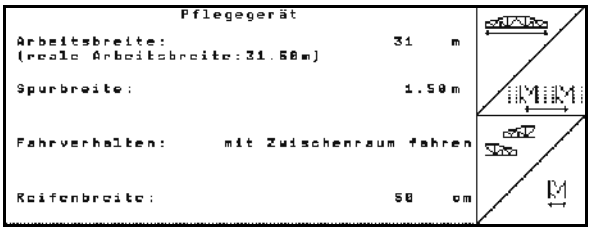


Fig. 24

- A permanent deactivation, deactivation only for the sowing lane and creation of tramlines can be combined as required.
- When creating tramlines or deactivating rows, no seed is supplied to the deactivated rows.
- The spreading of fertiliser will not be influenced by the creation of tramlines or deactivation of single rows.

Data entered for the tramline are displayed in the main menu:

- Entered working width of the care device
- Track width of the care device
- The number of runs until repeating the tramline rhythm (the value can be greater than 100).

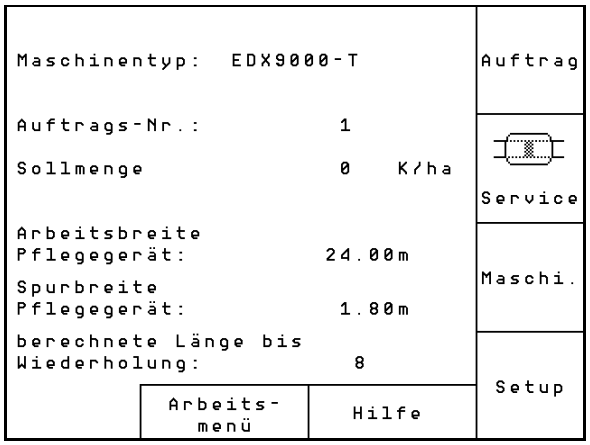


Fig. 25

Overview (1), (2), (3)

Shift key depressed  :

-  Copy seed, fertiliser or tramline data of the started job into a new overview (except trip data).
-  Page back through job.
-  Page forward through job.
-  Delete job; all data for this job will be deleted.
-  Start job so that the data accumulated for this job will be stored.

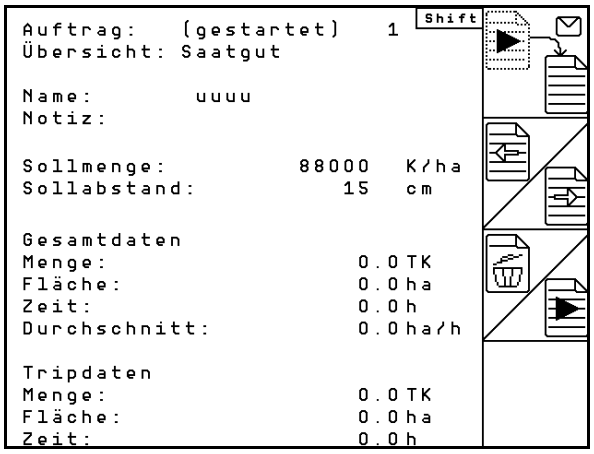


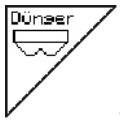
Fig. 26

5.4 Carry out calibration test for fertiliser

The calibration test checks whether the specified quantity is correct during later work.

The calibration test must always be carried out

- when fertiliser is changed
- if there are any differences between the calibration test and actual spread rate.



Select **Calibrate fertiliser** in the main menu!

5.4.1 Calibrating machines with remote control on Vario gearbox

1. Prepare calibration test in accordance with the machine operating manual!
2. 

Enter specified quantity in kg / ha.

This specified quantity can also be entered in the job menu (see on page 18).

3. 
, 
Set gearbox to position 50.

→ See gearbox position indicator (Fig. 27/1)

The gearbox setting displayed on the AMATRON+ must correspond to the value indicated on the scale.

Otherwise the gearbox must be calibrated (see on page 58)

4. Rotate the star wheel with the calibration crank as described in the machine operating manual in the direction of travel until all the chambers of the dosing wheels are filled with fertiliser and an even flow to the collection bucket(s) is achieved.
5. Empty the collection bucket.
6. 

Start the calibration test.

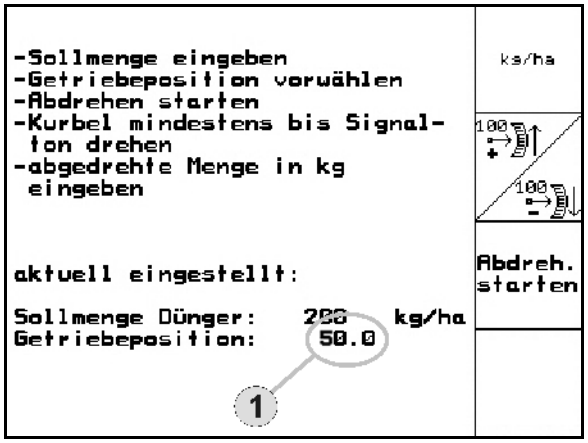


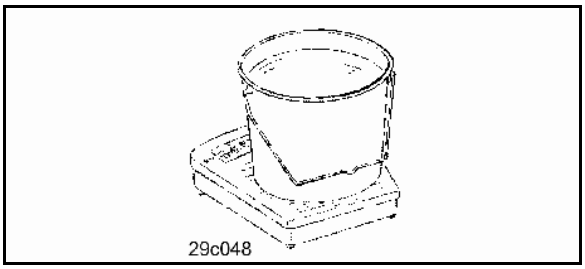
Fig. 27

7. Turn the star wheel with the crank, as described in the machine operating manual, until the acoustic signal is sounded. Further rotations after the acoustic signal are taken into consideration by the AMATRON+ for its calculation.

8.  Terminate the calibration process.

9. Weigh the quantity caught in the collection bucket(s) (take tank weight into consideration) and enter the weight (kg) in the terminal.

The scales must weigh accurately. Inaccuracies may cause deviations in the actual sowing rate!



The AMATRON+ calculates and sets the required gearbox position using the data entered from the calibration test.

Repeat the calibration process to check the correct setting.

When repeating the calibration, use the newly determined gearbox setting (do not go to gearbox position 50)!

5.4.2 Calibrating machines with electric full dosing (EDX 6000 / 6000-T)

1. Prepare calibration test in accordance with the seed drill operating manual!
2. 

Enter specified quantity in kg / ha.

> This value can also be entered in the job menu (see on page 18).

3. 

Enter planned subsequent working speed (km/h).
4. 

Set the calibration factor before the first calibration to 1.00 or an experience value.
5. 

Fill the cells of the dosing roller with the predosing. The running time is adjustable (see on page 31).
6. Empty the collection bucket.
7. 

Start the calibration test.

→ The electric motor doses the calibration quantity to the collection bucket until the acoustic signal is sounded.

8. 
Terminate the calibration process
9. Weigh the quantity caught in the collection bucket(s) (take tank weight into consideration) and enter the weight (kg) in the terminal.

> The scales must weigh accurately. Inaccuracies may cause deviations in the actual sowing rate!

The AMATRON+ calculates the required calibration factor on the basis of the data entered from the calibration test and sets the electric motor to the correct speed.

> Repeat the calibration process to check the correct setting.

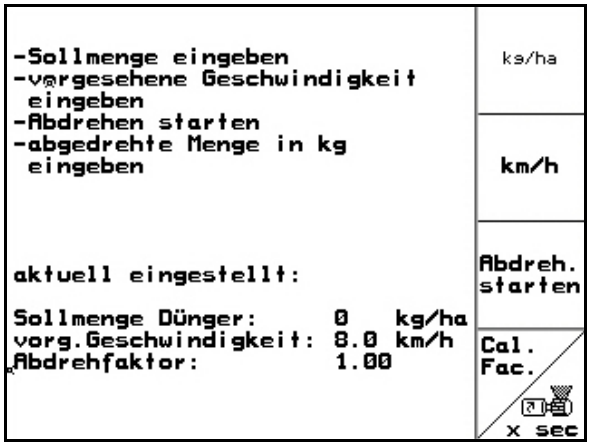
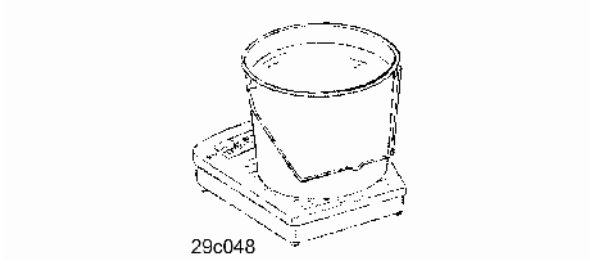


Fig. 28



5.5 Checking the optosensors

Select **Service** in the main menu!

The optosensors are integrated in the dosing nozzles.

To the check the optosensors:

1. Detach the seed hoses from the dosing nozzle.
2. Insert an object into the dosing nozzle.

→ AMATRON+ indicates the respective row (numbers starting from left).

3. Check all optosensors
4. Refit the seed hoses.

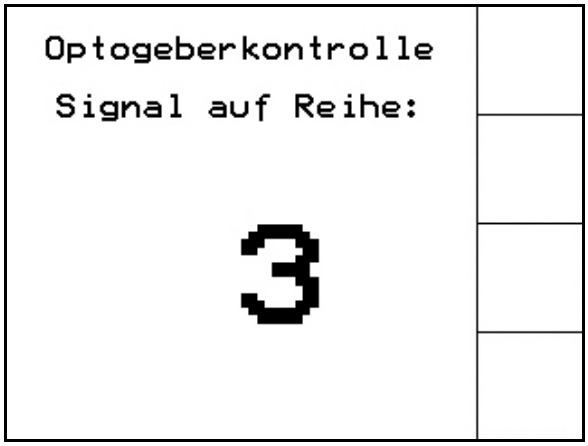


Fig. 29

5.6 Machine data entry

Maschi. Select **Machine data** in main menu!

Page 1 01/03 **in machine data menu (Fig. 30):**

- Imp/100m Calibrate the distance sensor (see on page 27).
- Bohrung Enter number of holes per row on the drum
- mbar min. Entry of minimum pressure in dosing

  Standard value: 45 mbar
- mbar max. Entry of maximum pressure in dosing

  Standard value: 60 mbar

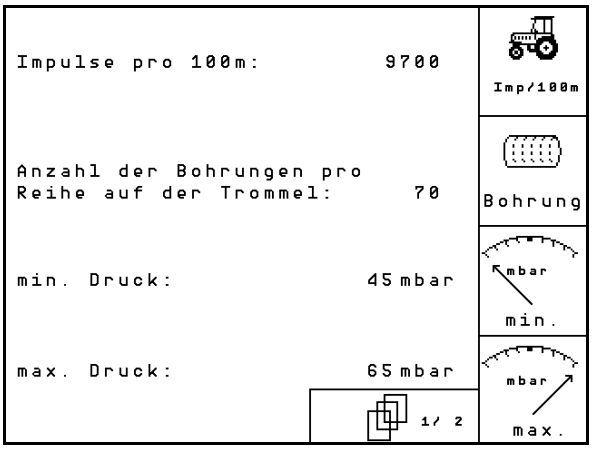


Fig. 30

Page 2 02/03 **in machine data menu (Fig. 31):**

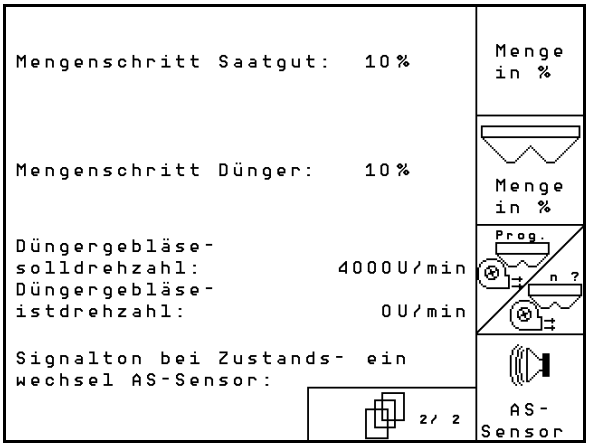


Fig. 31

- Menge in % Entry of percentage application rate increase in % for seed.
  - o Value for percentage rate change.
  - o During work, set with , .
- Menge in % Entry of percentage application rate increase in % for fertiliser.
  - o Value for percentage rate change.
- Prog. Take over the current blower speed as blower fan target speed

  or
- n ? Entering the blower fan target speed
- AS-Sensor Acoustic signal for the condition change of the working position sensor
  - o On / Off

5.6.1 Calibrating distance sensor (machine data 01/03)

To set the seed rate calibration value and to record the area cultivated or to determine the forward speed, the AMATRON+ needs the impulses of the seed drill wheel over a calibration distance of 100 m.

The value Impulses/100m is the number of impulses received by the AMATRON+ during the measuring travel of the seed drill drive wheel.

The slippage of the seed drill drive wheel may change during work on a different soil (e.g. from heavy to light soil), which also results in a change of the value Impulses/100m.

The value Impulses/100m must be determined:

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

The determined value Impulses/100m can be entered during subsequent work in the same box in the table (see Fig. 34).

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

- man. Eingabe The value is known (see Fig. 34) and is entered manually on the AMATRON+.
- Start The value is not known and is determined by travelling a calibration distance of 100 m.

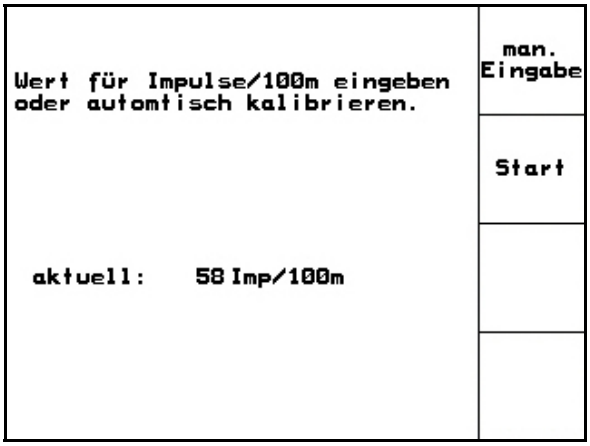


Fig. 32

Determine calibration value by travelling a calibration distance:

- On the field, measure a calibration distance of exactly 100 m. Mark the start and end point of the calibration distance (Fig. 33).
- Start Start the calibration.
- Travel the calibration distance exactly from start to end point (upon starting, the counter goes to 0). On the display the continuously determined impulses are indicated.
- Stop after 100 m. On the display the number of determined impulses are now indicated.
- Adopt value Impulses/100m.
- ESC Reject value Impulses/100m.

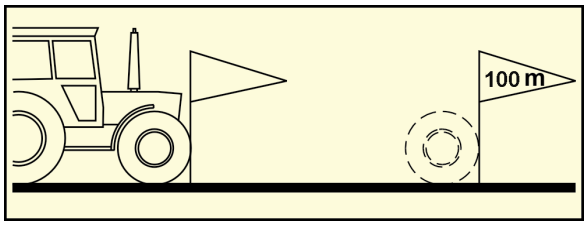


Fig. 33

Machine type	Theoretical calibration value Impulses/100 m
EDX 4500	3475
EDX 6000	
EDX 6000-T (radar)	Approx. 10.000
EDX 9000-T	1187

Fig. 34

The calibration value "Impulses/100m" is dependent on the seed drill type and the soil.

5.7 Setup menu

In the setup menu

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

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

The last value displayed is stored.

Setup

Select "**Setup**" in the main menu!

Page 1 01/02 **of the setup menu (Fig. 35):**

- Diagnosis computer input (for safety reasons, for customer service only).
- Diagnosis computer output (for safety reasons, for customer service only).
- sim. km/h Enter simulated speed for continued working with defective distance sensor (see on page 64).
- Terminal Setup (see on page 36).
- Enter basic data (see page 30).

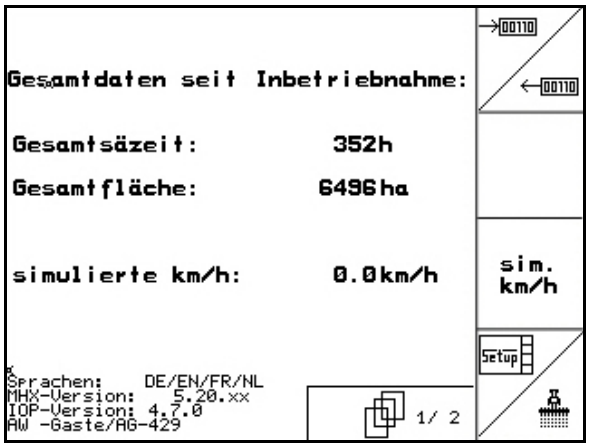


Fig. 35

Page 2 02/02 of the setup menu (Fig. 36):

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

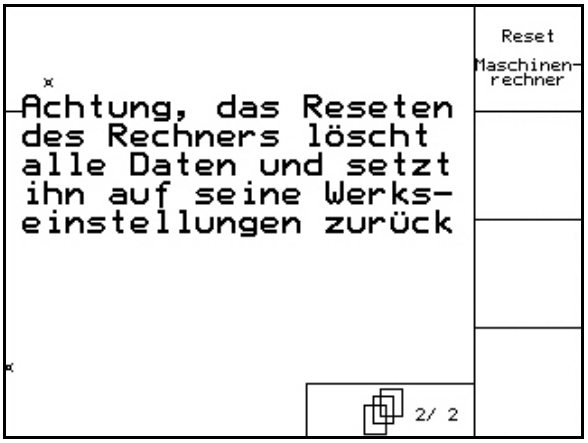


Fig. 36

Page 1 01/03 Basic data (Fig. 37):

- Selecting machine type.
- Configure the row deactivation, see page 32
- Seeding coulter pressure remote control:
  - o On / Off
- Fertiliser coulter pressure remote control:
  - o On / Off
- 1/0 Scraper remote control:
  - o On / Off

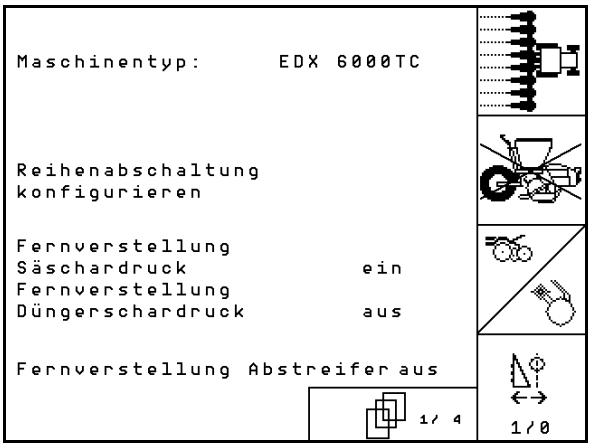


Fig. 37

Page 2 02/03 Basic data (Fig. 38):

- Selecting fertiliser tank.
  - o Rear tank
  - o Front tank
  - o off
- Level sensor:
  - o Seed
  - o Fertiliser
  - o Both (seed/fertiliser)
  - o Off (no level sensor)
- AS-Sensor Working position sensor
  (see also page 33).
- konfig. Configure fertiliser dosing.
  (see also page 35)

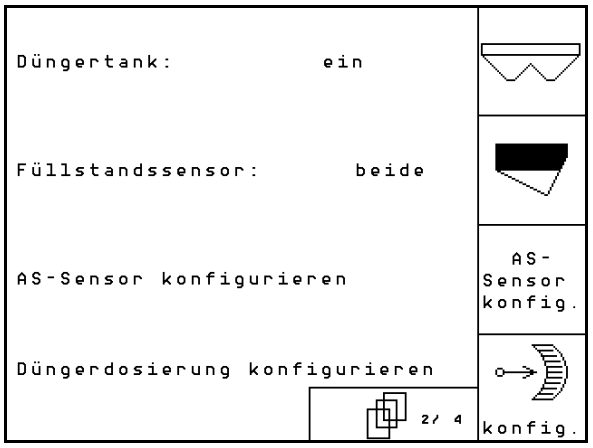


Fig. 38

Page 3 03/03 Basic data (Fig. 39):

- Enter number of sowing units
- cm Enter row spacing
- prog. Set light barriers
  (see also page 33).
- 1/0 Oil level monitoring:
  - o on / off

  EDX with on-board hydraulics → on.

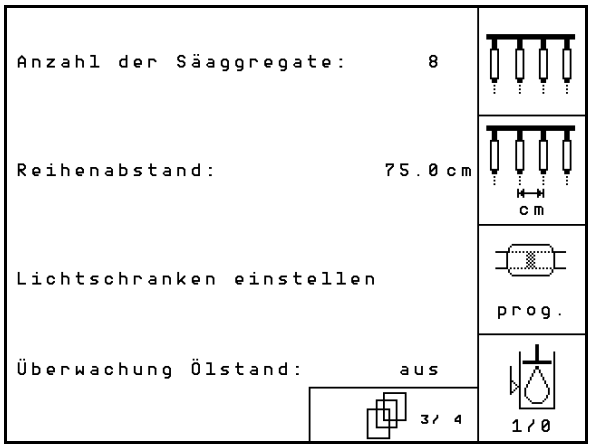


Fig. 39

Page 4 04/04 **Basic data (Fig. 39):**

- Enter the control factor for the diesel engines.

  Standard value: 0,5

- Maximum deviation in % of blower fan speed for fertiliser dosing.

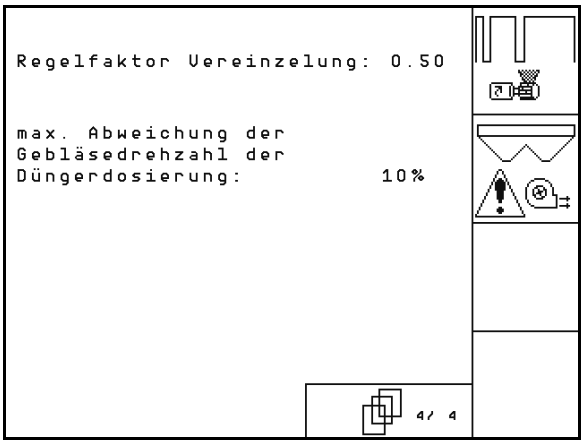


Fig. 40

5.7.1 Configure the row deactivation

- Select the tramline control.
  - o none
  - o variable

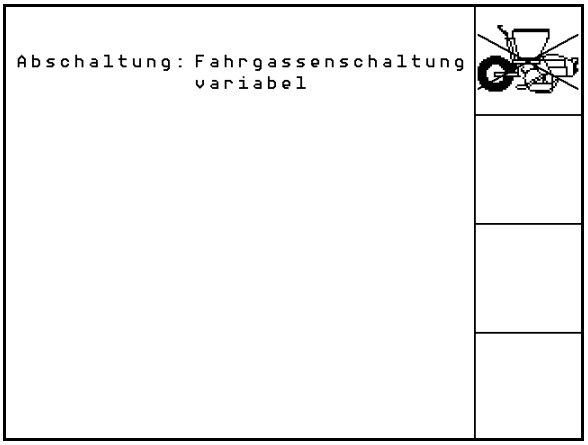


Fig. 41

5.7.2 Setting light barriers (basic data 02/03)

Set light barriers
(see page 59).

- 

Program individual light barriers.
- 

Program all light barriers.
- 
Enter time in seconds to trigger alarm after leaving specified value (K/ha).
Standard value: 5 s
- 
Enter time in seconds between starting of the dosing unit and switching on of monitoring.
Standard value: 5 s
- 

Enter tolerance of light barriers in % until alarm is triggered.

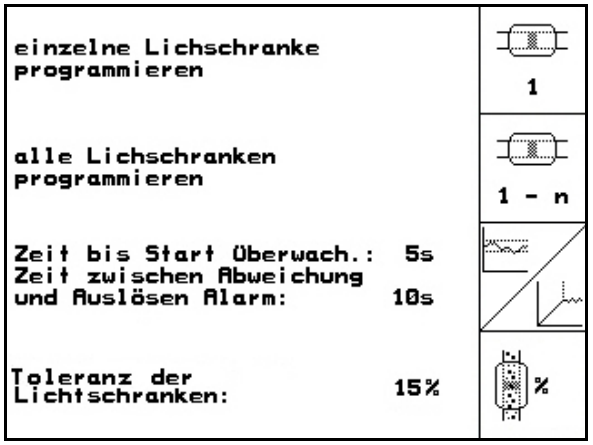


Fig. 42

5.7.3 Working position sensor (basic data 02/03)

AS-Sensor Working position sensor

- o Digital
- o Analogue (Standard)

Analogue:

- Enter threshold value of working position.
  - o Values below the threshold value: Working position = 1
  - o Values above the threshold value: Working position = 0

  EDX 9000-TC: 1,43 V

  EDX 6000-TC: 1,43 V

  EDX 6000-2 / 2C: 3,30 V

- Enter threshold value of working position fertiliser metering.

  EDX 6000-TC: 2,0 V

  EDX 6000-2 / 2C: 3,6 V

- Enter threshold value of headland position.
  - o When the threshold value is reached, raising is stopped

  EDX 9000-TC: 2,21 V

  EDX 6000-TC: 2,21 V

  EDX 6000-2 / 2C: 3,70 V

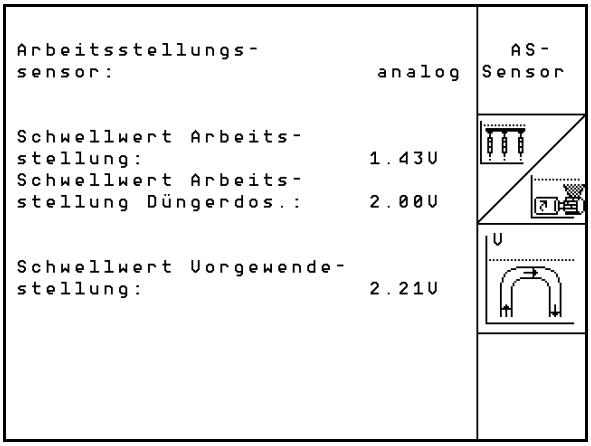


Fig. 43

5.7.4 Configure fertiliser dosing (basic data 03/04)

konfig. Configure fertiliser dosing

- Fertiliser dosing
  - o Vario gearbox(EDX 9000-T)
  - o Full dosing ((EDX 6000 / 6000-T)
  - o None

Vario gearbox

- cal. Make gearbox basic settings (see page 58).
- Monitoring fertiliser.
  - o 1 shaft
  - o 2 shaft
  - o Off
- t Alarm Entry of alarm delay time of dosing unit in seconds
- **Electric full dosing:**
- Enter running time for pre-metering fertiliser.
- Enter control factor for fertiliser dosing unit.

  Standard value: 0.75

The following settings are used to spread sufficient fertiliser immediately after the turning process when using the implement:

- t Entry of actual time from use of machine to reaching the planned speed.
- % Calculative speed in % when using the machine.

  This speed must be greater than the actual speed

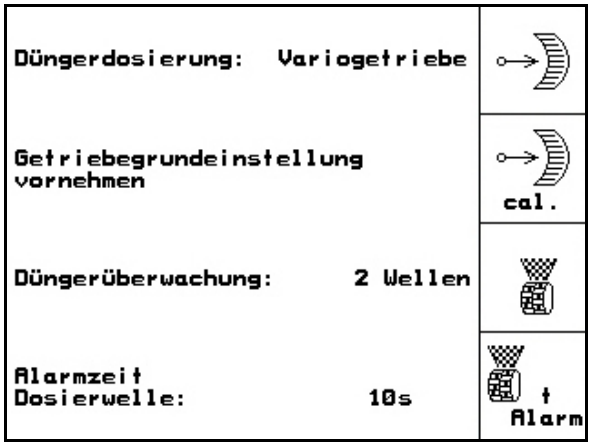


Fig. 44

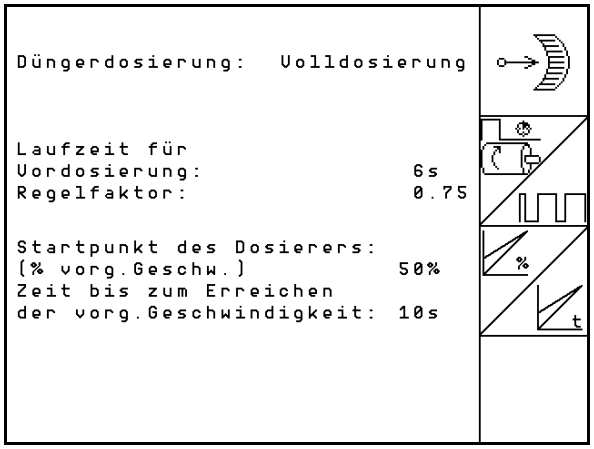


Fig. 45

5.7.5 Terminal setup

In the setup menu:

- In order to change the display settings, actuate the following keys simultaneously:
  - o  Scroll and
  - o  Shift key.
- Via the function field  , call up the entry "Display settings".
-  Display the units located on the bus.

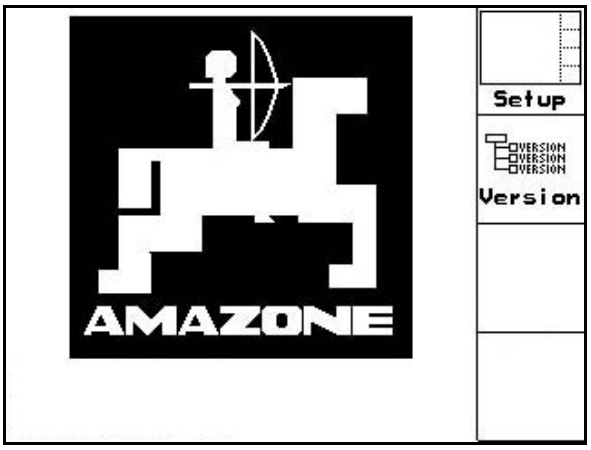


Fig. 46

 **Page 1**  **of Terminal setup**

- Set the contrast via the function fields  or  .
- Set the brightness via the function fields  or  .
- Invert the display black ⟷ white  .
-  Key for sound on/off
- Delete the stored data via the function field  . (See on page 30).
- Set the language of the user interface via the function field  .
-  Exit Terminal setup menu.

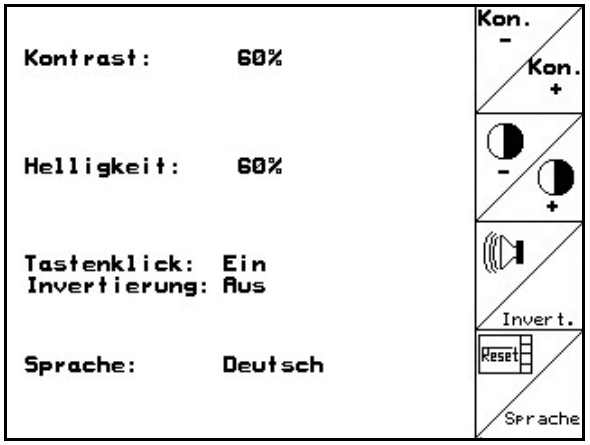


Fig. 47

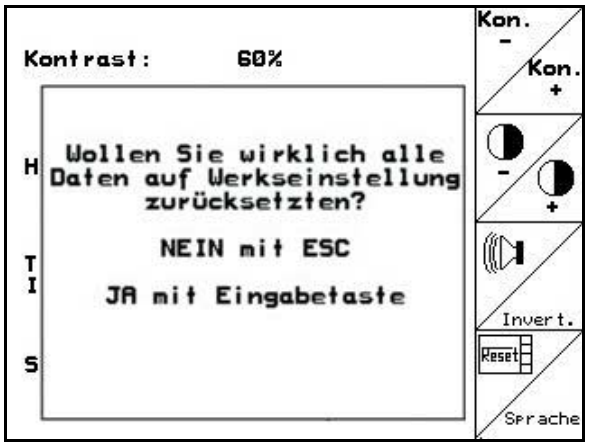


Fig. 48

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

Page 2 02/03 of Terminal setup

-  Entry of time.
-  Entry of date.
- 

Entry of data transfer speed.

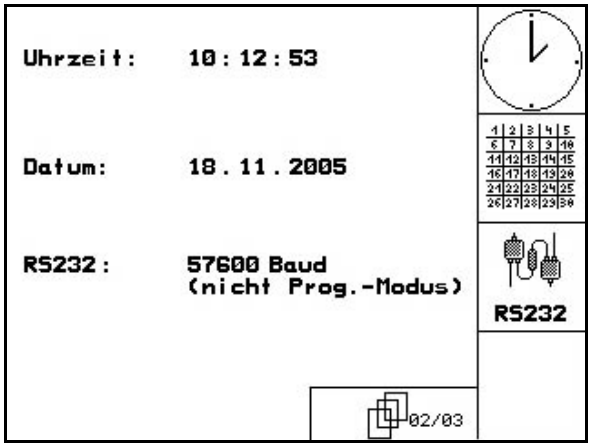


Fig. 49

Page 3 03/03 of Terminal setup

- Delete program:

1.  ,  Select program.
2. 

Delete program.

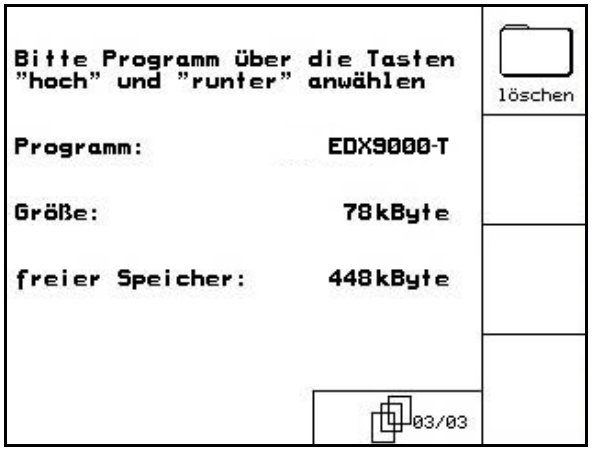


Fig. 50

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!**

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

- Job data (see on page 18)
- Machine data (see on page 26)
- Calibration test data (see on page 22).

6.1 Specified quantity adjustment

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

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

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

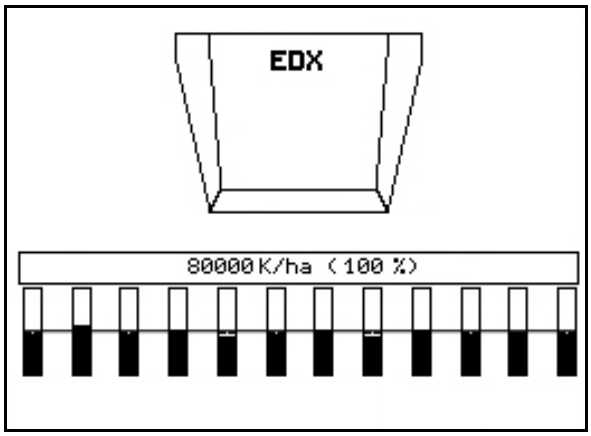


Fig. 51

The changed specified value is indicated in the work menu in grains/ha and per cent (Fig. 51)!

6.2 Preselection for hydraulic functions

1. Preselect a hydraulic function via a function key.
2. Operate tractor control unit.

→ The preselected hydraulic function is carried out.

The hydraulic preselection functions (Fig. 52/1) are displayed in the work menu.

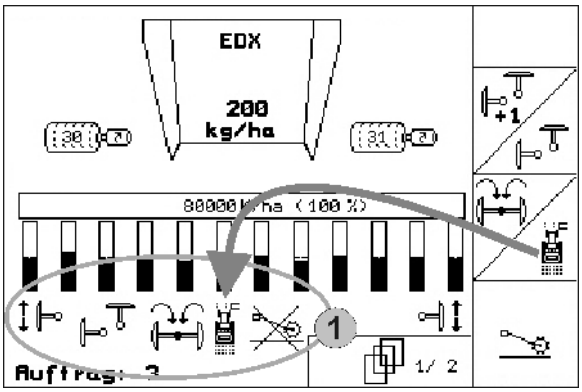


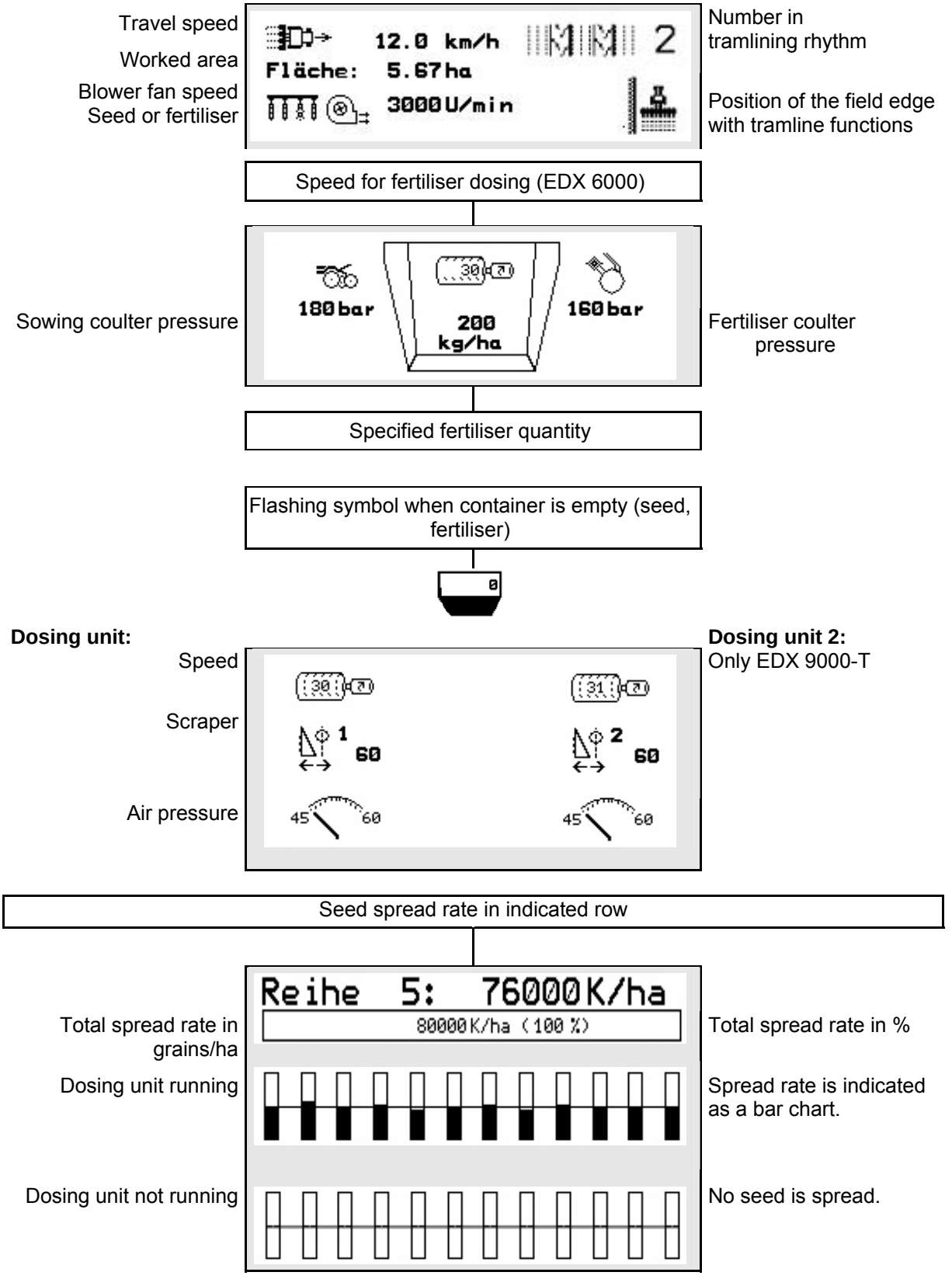
Fig. 52

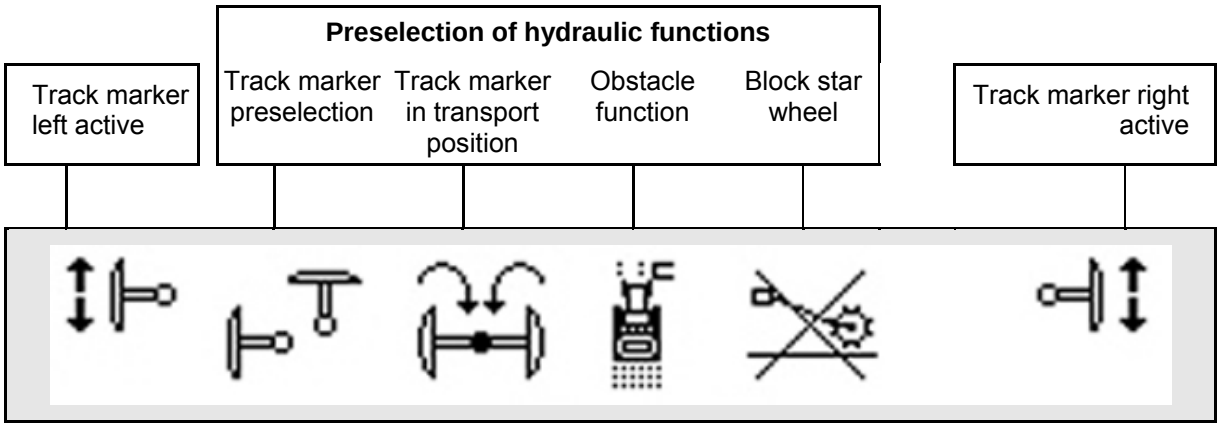
Options which

- are switched off in the setup menu
- do not belong to the machine equipment (options)
- are not displayed in the work menu

→ function fields are not assigned

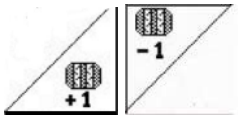
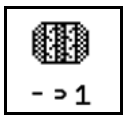
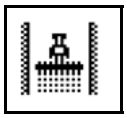
6.3 Displaying work menu





6.4 Functions in work menu

6.4.1 Tramlines

	**Switch tramline counter forward / back**
	**Suppress shift on of tramline counter and allow again**
	**Switch tramline counter back to 1**
	**Change field edge left / right**

The deactivated rows when creating a tramline are displayed in the Job menu.

Shifting the tramline counter forward when lifting the sowing unit can be suppressed.

The tramline counter can be switched forward and back manually.

(1) Deactivated rows when creating tramlines

(2) Creating tramlines activated in the setup menu

(3) Current sowing line in tramline rhythm (tramline counter, starting with 1 at the beginning of the field)

(4) Automatic counting of the tramline deactivated

(5) Field edge positioned to the right in the direction of travel

(6) Field edge positioned to the left in the direction of travel

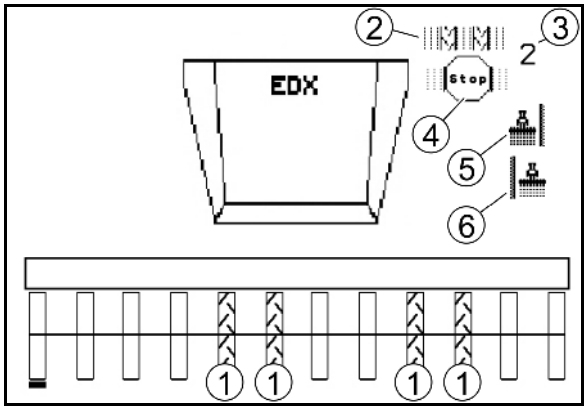


Fig. 53

Examples on creating tramlines

EDX working width: 6 m

Field sprayer working width: 24 m

The headlands comprise 3 turns with the EDX.

Procedure in order to be able to drive in circles when creating a tramline in the headlands:

1.  Before starting with the sowing, select the correct side of the field edge.
2.  Stop the counting of the tramline counter.
3.  Cancel the stop shortly before the first run has been completed.

→ The tramline counting is continued when lifting and the side of the field edge changes.

Always make sure that the actual field edge corresponds with the display of the AMATRON+.

4.  At the beginning of the second turn, position the field edge back to the correct side and

 stop the counting of the tramline counter.

5. Continue carrying this out until the headlands have been processed completely.

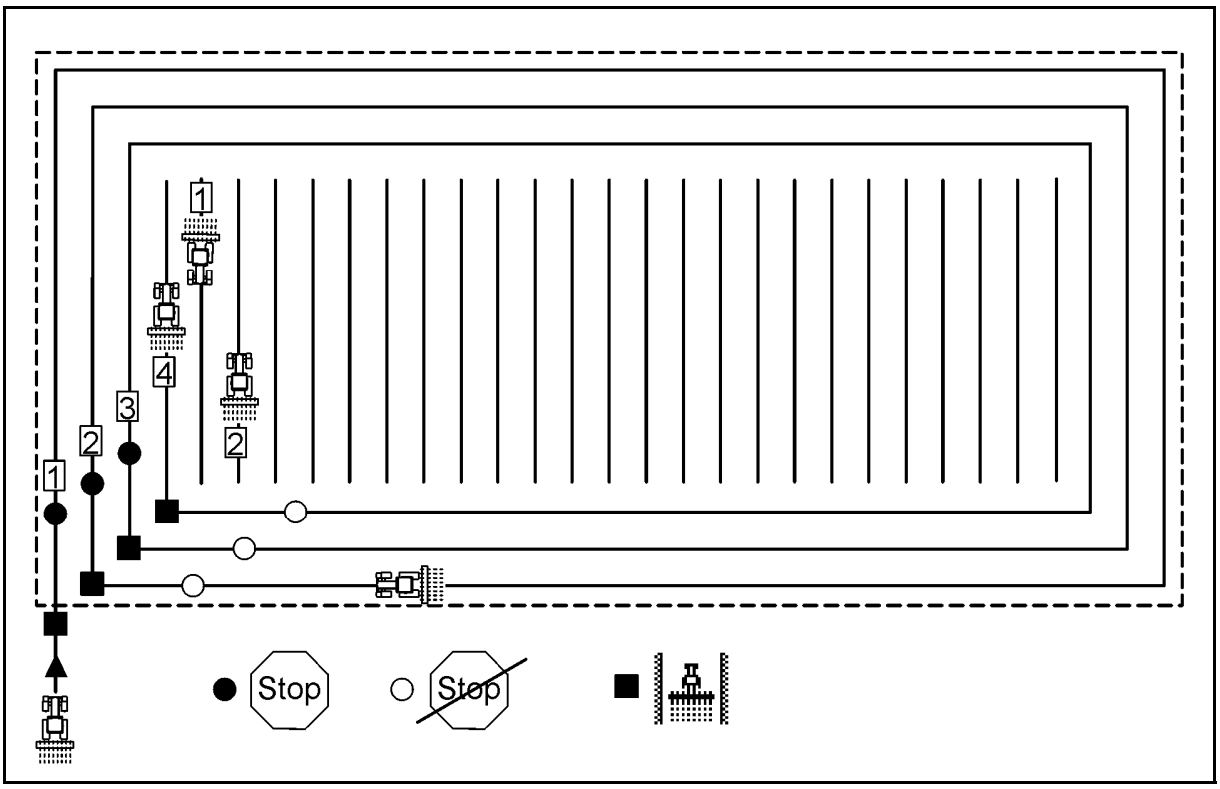
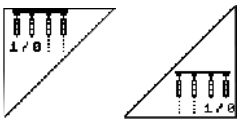
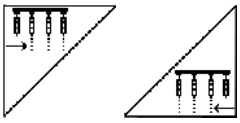
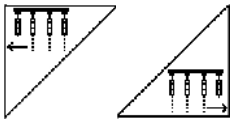
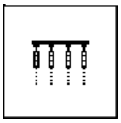


Fig. 54

6.4.2 Single-row switch-off

	**Row deactivation on one side left / right**
	**Deactivate single rows from outside left / right**
	**Activate single rows from outside left / right**
	**Activate all rows that have been deactivated**

Single rows can be deactivated / activated from the outside in the Job menu.

	All rows are activated automatically after the headlands.

(1) Rows deactivated from outside

(2) Rows on one side deactivated (EDX 6000)

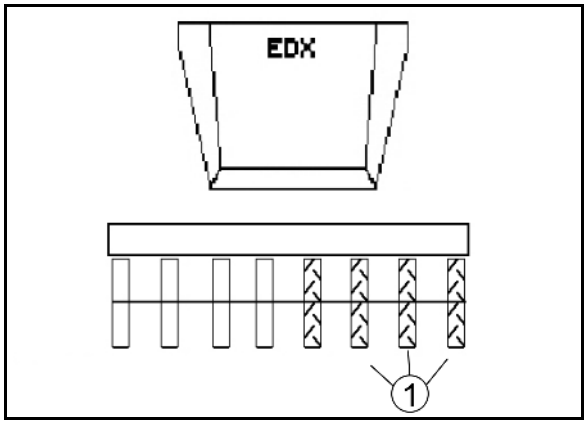


Fig. 55

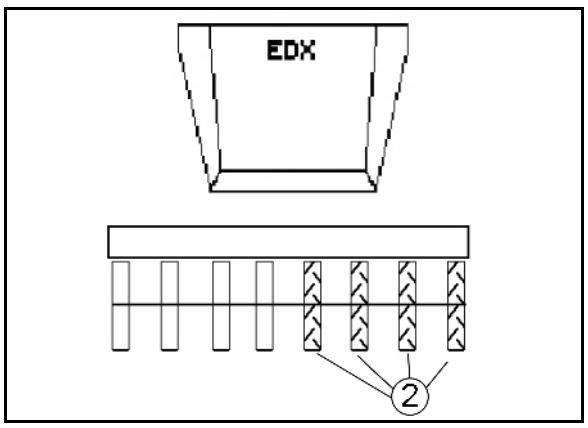


Fig. 56

(1) Rows on one side deactivated (via drive motor EDX 9000-TC)

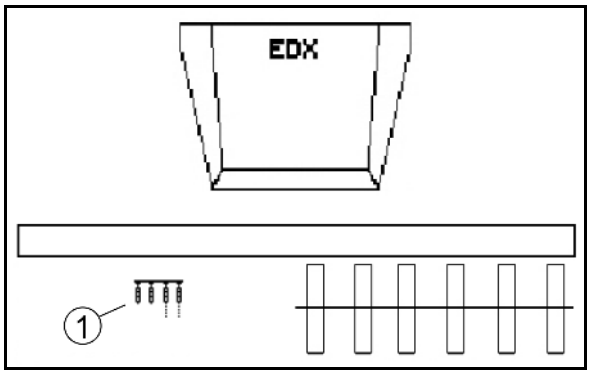


Fig. 57

6.4.3 Permanent single row activation

1.  Mark the rows to be deactivated using the selection bar.
2.  Deactivate the marked row.

- The deactivation can be reset in the same manner.
- The permanent single row activation can only be activated on the side in the Job menu where the function fields of the single rows are.
- The permanent single row activation remains active until the AMATRON^{+} is switched off.

(1) Permanently deactivated random rows

(2) Selection bar for deactivating the rows

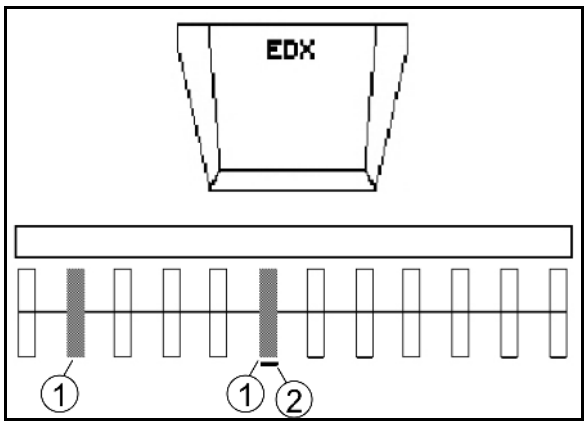


Fig. 58

6.4.4 Track marker

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

Manual track marker preselection

Track marker preselection

Alternating mode left / right

(Active track marker automatically changes at headlands)

Always right track marker

Always both track markers

No track marker

Always left track marker

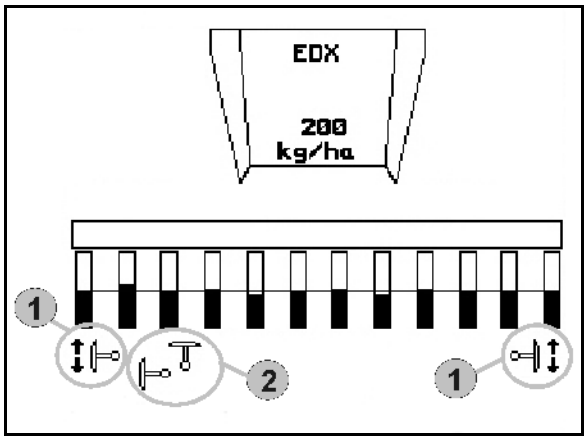
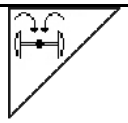


Fig. 59

- Display of active track marker (Fig. 59/1)
- Display of track marker preselection (Fig. 59/2)

Track marker shifting on in alternating mode

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



Fold track marker to transport position

Allows folding in of the track markers to transport position.

-  Preselect complete folding in (Fig. 60/1).

→ When the machine is raised, the track markers fold in to transport position.

-  Cancel preselection.

→ When the machine is raised, the track markers fold to vertical position.

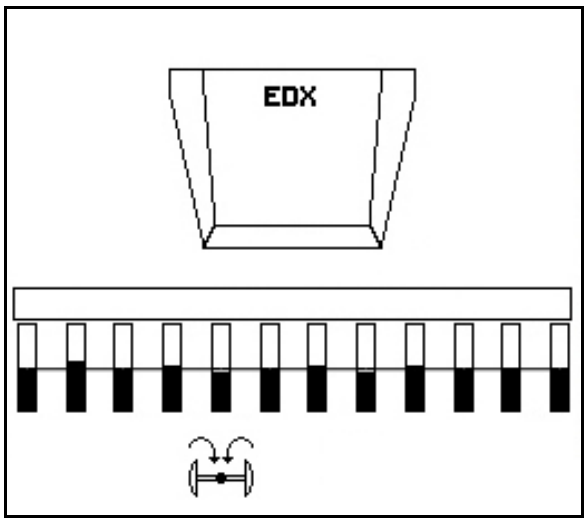
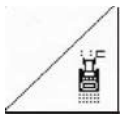


Fig. 60

The function "Folding both track markers to transport position" can be combined with the obstacle function.

Before the obstacle, both track markers are then folded to transport position. After the obstacle, the active track marker is folded out.



Track marker obstacle switching

For passing obstacles on the field.

1.  Preselect obstacle switching (Fig. 61).
2. Operate tractor control unit 1.

→ Raise the track marker

3. Pass obstacle.
4. Operate tractor control unit 1.

→ Lower the track marker

5.  Cancel preselection.

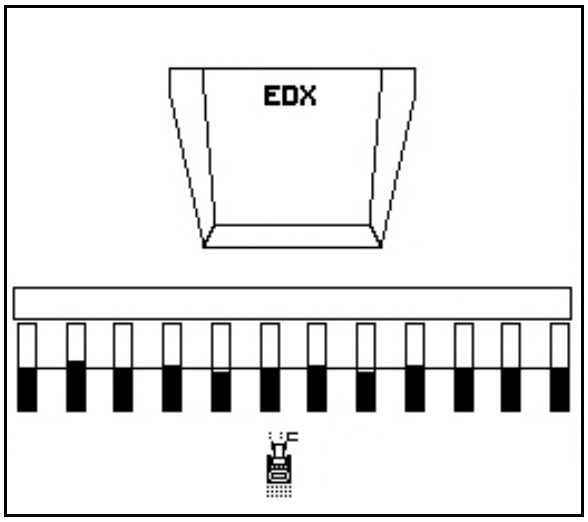
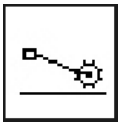


Fig. 61

6.4.5 Star wheel

	**Block star wheel lowering**

When driving in working position with raised star wheel, no seed or fertiliser is spread.

1.  Preselect Block star wheel (Fig. 62).

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

2.  Cancel preselection.

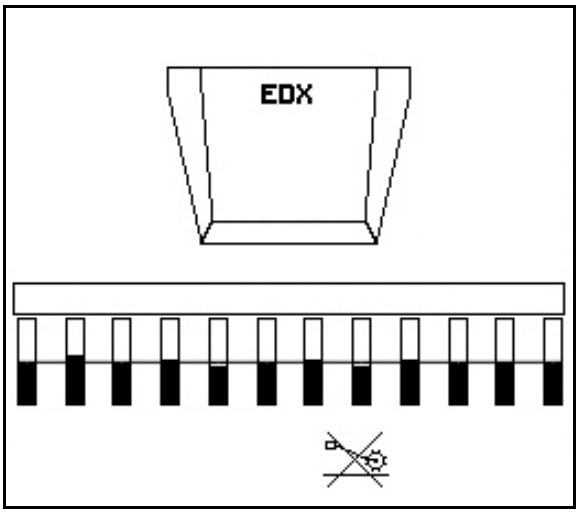


Fig. 62

6.4.6 Folding the machine (EDX 6000-T, EDX 9000-T)

	**Fold the machine in / out**

-  Change to Folding submenu (Fig. 63).

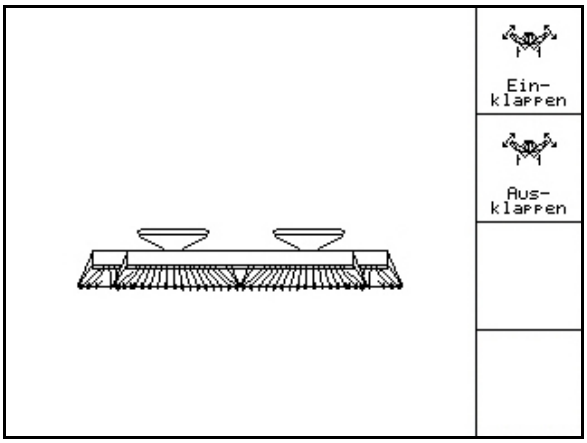


Fig. 63

Folding out

1.  Preselect Folding out.
2. Operate tractor control unit 1.

→ Lift extension arm from transportation hook.

→ Display: Safe folding out possible! (Fig. 65)

3. Operate tractor control unit 2.

→ Extension arms fold out.

4. Operate tractor control unit 1.

→ Lower the rear frame.

5.  Back to work menu.

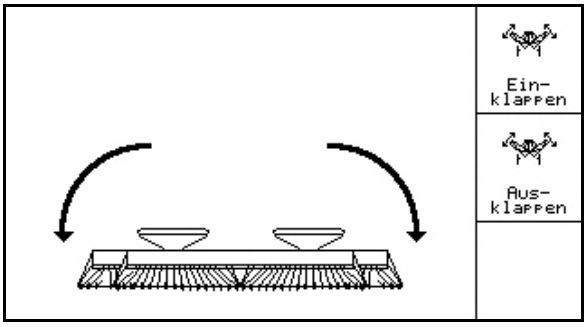


Fig. 64

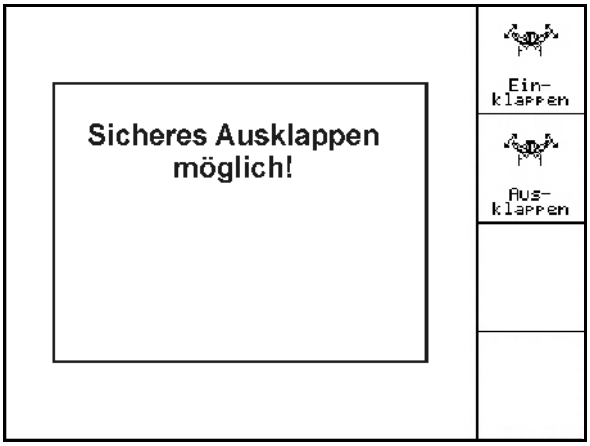


Fig. 65

Folding in

1. 

Preselect Folding in. (Fig. 66).

Beforehand, move track marker to transport position, see page 45!

2. Operate tractor control unit 1.

→ Swivel up the rear frame to end position.

→ Display: Safe folding in possible! (Fig. 67)

CAUTION

Possible risk of damage to the machine when swivelling up the rear frame!

Swivel up the rear frame only to end position. Do **not** again actuate Tractor control unit 1!

3. 

Confirm the display..

4. Operate tractor control unit 2.

→ Fold in the machine.

5. Operate tractor control unit 1.

→ Place the extension arm in the transportation hook.

6. 

Back to work menu.

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

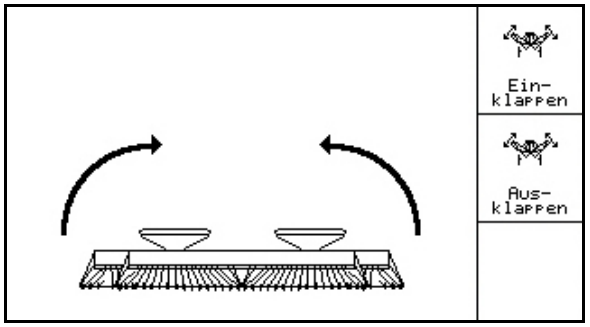


Fig. 66

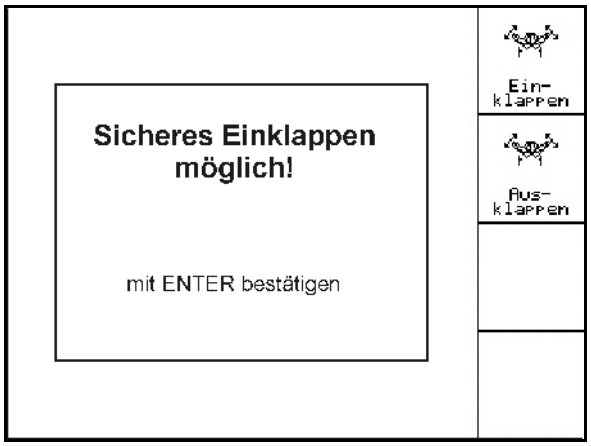
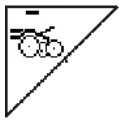


Fig. 67

6.4.7 Setting sowing coulter pressure



Reduce sowing coulter pressure.

Increase sowing coulter pressure.

Fig. 68: Display of selected coulter pressure

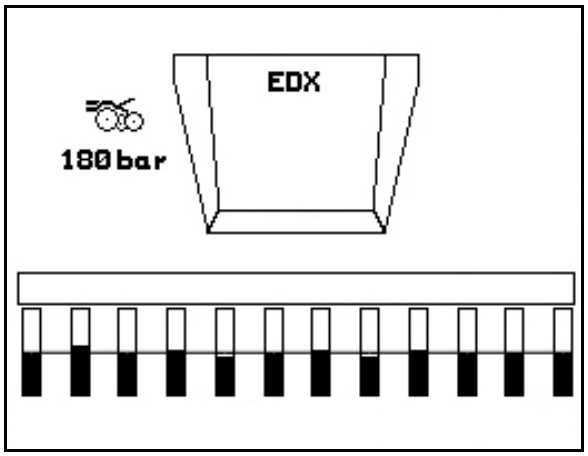
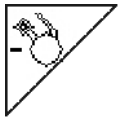
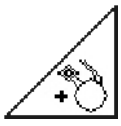


Fig. 68

6.4.8 Setting fertiliser coulter pressure



Reduce fertiliser coulter pressure.



Increase fertiliser coulter pressure.

Fig. 69: Display of fertiliser coulter pressure

The coulter pressure influences the placement depth of the fertiliser.

Reduced coulter pressure
→ lower fertiliser placement depth

Increased coulter pressure
→ greater fertiliser placement depth

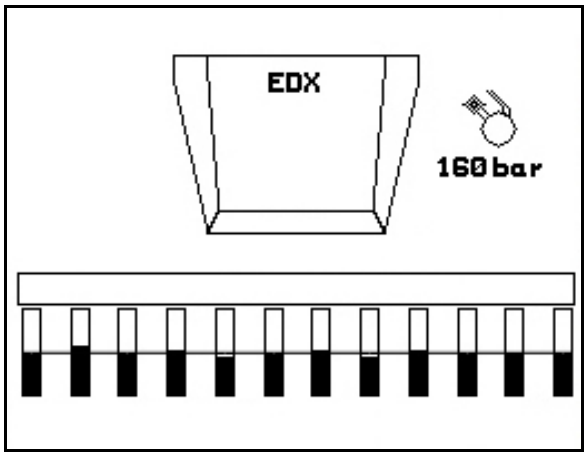
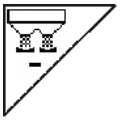


Fig. 69

6.4.9 Fertiliser metering



Reduce fertiliser quantity

Increase fertiliser quantity

With each press of the button, the fertilise quantity is increased or reduced by the percentage application rate (e.g. +/-10%).

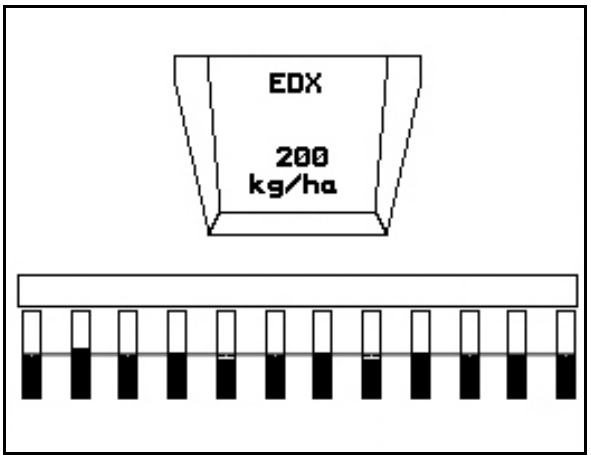


Fig. 70

Fertiliser pre-metering

Start / stop pre-metering

- At the start of sowing: when starting from standstill, activate full metering in order to ensure sufficient fertiliser discharge over the first metres.

1.  Pre-metering fertiliser starts for the specified period.

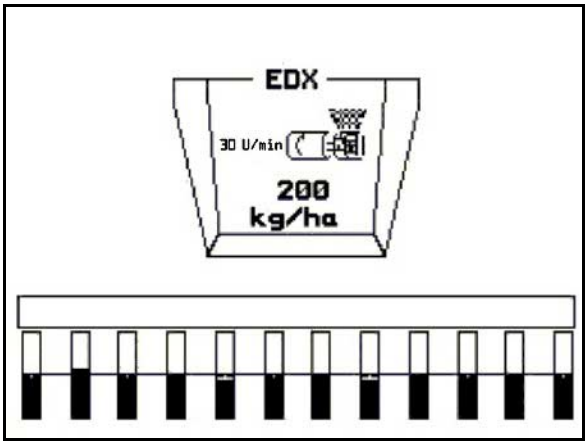
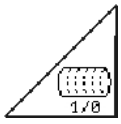


Fig. 71

6.4.10 Seed dosing



Start / stop predosing

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

1. 

Start predosing.

→ Predosing ensures complete filling of the drum during dosing (Fig. 72).

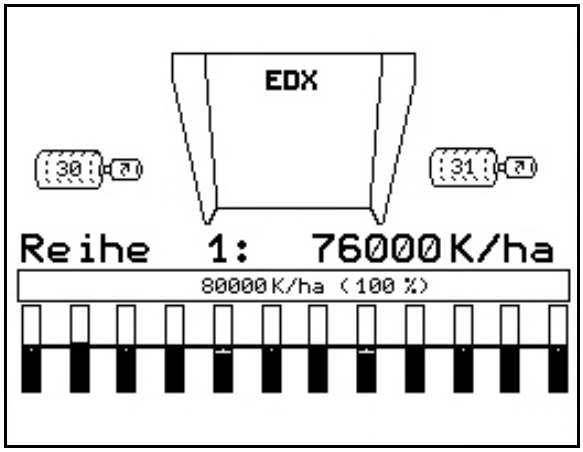
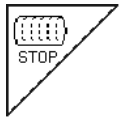


Fig. 72



Keep seed dosing unit switched off

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

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

Fig. 73: Display Seed dosing unit switched off

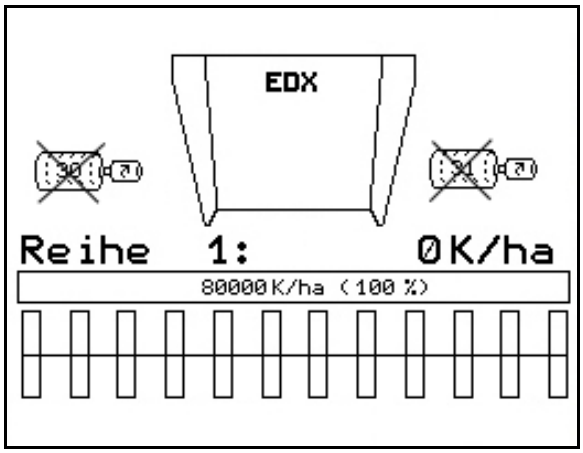
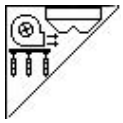


Fig. 73

6.4.11 Display Blower fan speed for fertiliser dosing / seed dosing



Display Blower fan speed

When the key is pressed, the display appears for 10 seconds.

Fig. 74:

(1) Blower fan speed for fertiliser dosing

→ Minimum value: 3500 rpm

→ Maximum value: 3800 rpm

(2) Standard value**:**

Blower fan speed for seed dosing

→ Minimum value: 3500 rpm

→ Maximum value: 4000 rpm

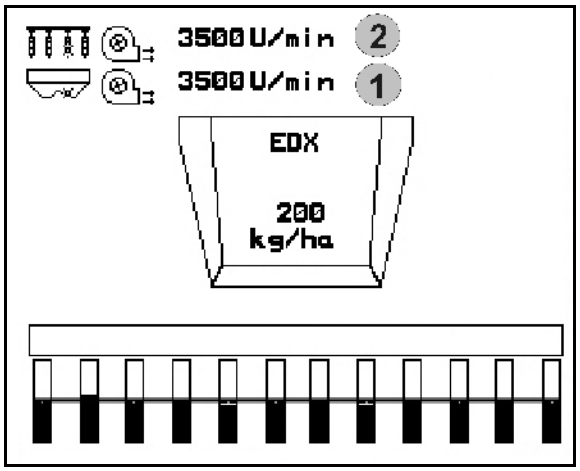


Fig. 74

6.4.12 Selectable display, air pressure in seed dosing unit / Speed of dosing unit

Selectable display, air pressure in seed dosing unit / Speed of dosing unit

When the key is pressed, the display appears for 10 seconds.

Fig. 75:

(1) Air pressure in seed dosing unit in mbar.

Or

(2) Speed of dosing unit

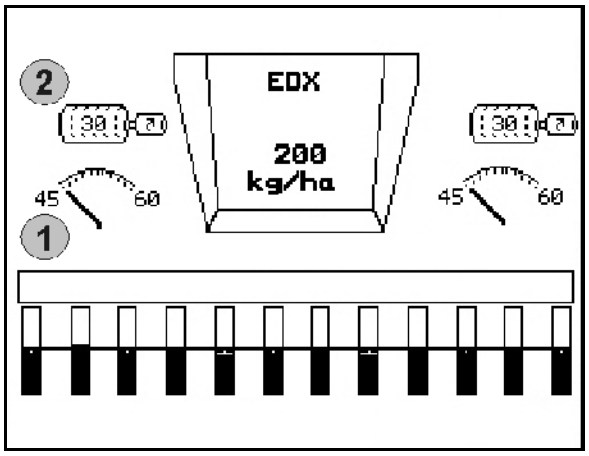
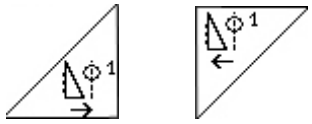
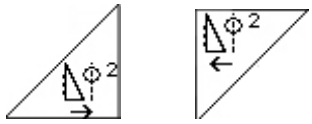


Fig. 75

6.4.13 Scraper of seed dosing unit

	**Setting scraper for seed dosing unit 1**
	**Setting scraper for seed dosing unit 2 (only EDX 9000-T)**
	**Fading in / out position of scraper in Working menu**

The scraper on the drum of the seed dosing unit prevents the formation of double layers.

The scraper can be set in the range from 0 to 100.

-  Direction 0 for less aggressive position of the scraper and large grain size.
-  Direction 100 for aggressive position of the scraper and small grain size.
- Standard value for maize: 50
- Standard value for sunflowers: 65

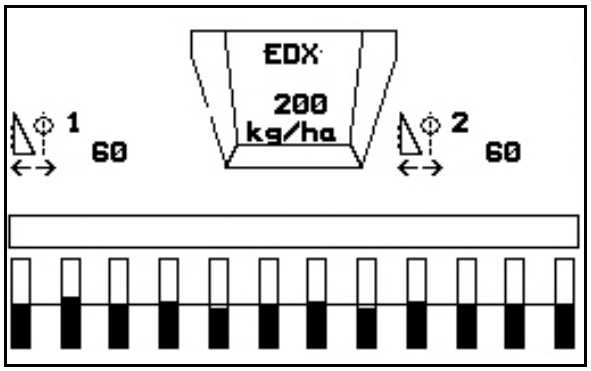


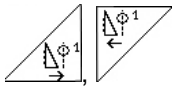
Fig. 76

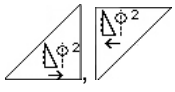
Fig. 76/…

(1) Display, position of scraper 1

(2) Display, position of scraper 2

1  Fade in position of scraper in Working menu.

2.  Set scraper.

3.  EDX 9000-T: Set both scrapers.

4.  If desired, fade out display.

   → Speed of dosing motor / Air pressure of dosing unit is displayed.

6.5 Procedure for use

1.  Switch on the **AMATRON**+.
2. Select the desired job in the main menu and check the settings.
3.  Start the job.
4.  Select the work menu.

3 tractor control units are available to operate the hydraulic functions:

- Operate **tractor control unit 1** (hose marking yellow):

→ Lowering of the machine

→ Move the star wheel to the operational position

→ Move the preselected track marker to the operational position

or:

→ Hydraulic preselection functions (obstacle function)

- Operate **tractor control unit 2** (hose marking green):

→ Hydraulic preselection functions

(Fold machine extension arms)

- Operate **tractor control unit 3** (hose marking red):

→ Switch the blower fan on/off.

5. Start the sowing.

- During the sowing, the **AMATRON**+ shows the work menu. From here, all functions relevant to the sowing procedure can be actuated.

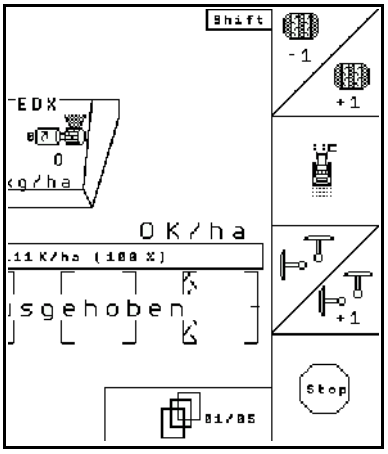
→ The data determined are stored for the started job.

After use:

1. Check the job data (if required).
2. Activate the tractor control units as required.
3.  Switch off the **AMATRON**+.

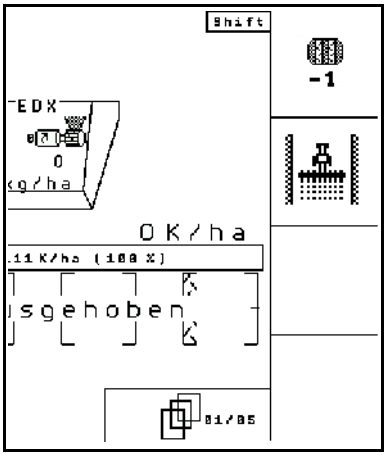
6.5.1 Work menu key assignment

Page 1: **Description of the function fields**



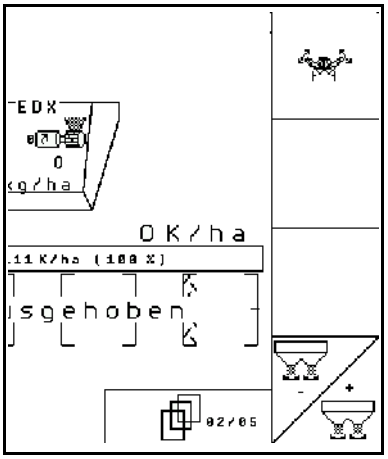
See section	
6.4.1	Reset channel counter Switch forward tramline counter
6.4.4	Track marker - Obstacle mode
6.4.4	Manual track marker preselection Active track marker automatically changes at headlands
6.4.1	Suppress shift on of tramline counter and allow again

Page 1 Shift: **Description of the function fields**



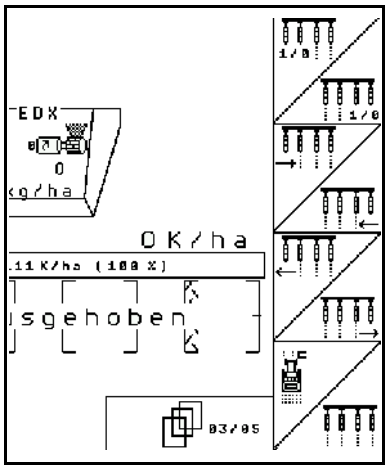
See section	
6.4.1	Switch tramline counter back to 1
6.4.1	Change field edge left / right

Page 2: **Description of the function fields**



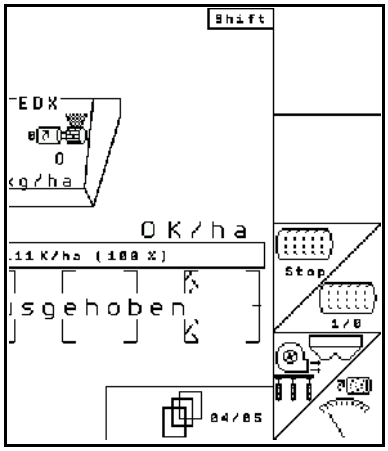
See section	
6.4.6	Fold the machine in / out
6.4.9	Reduce fertiliser quantity
	Increase fertiliser quantity

Page 3: **Description of the function fields**



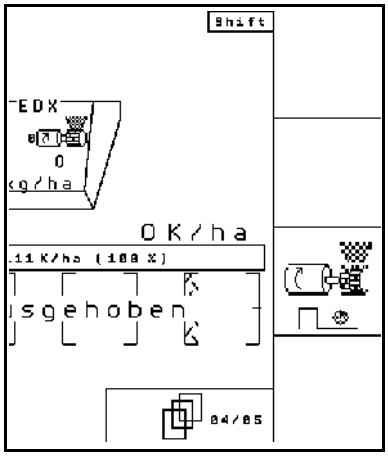
See section	
6.4.2	Row deactivation on one side left
	Row deactivation on one side right
6.4.2	Deactivate single rows from outside left
	Deactivate single rows from outside right
6.4.2	Activate single rows from outside left
	Activate single rows from outside right
6.4.4	Track marker - Obstacle mode
6.4.2	Activate all rows that have been deactivated

Page 4: **Description of the function fields**



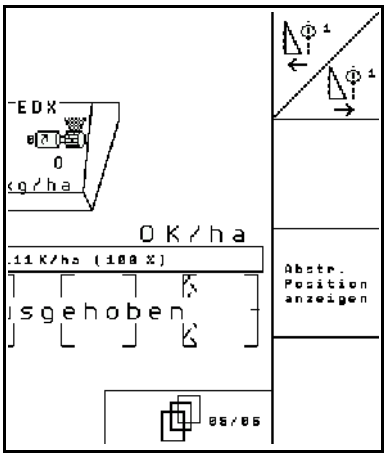
See section	
6.4.10	Keep seed metering unit switched off
	Start / stop pre-metering
6.4.11	Blower fan speed display
6.4.12	Selectable display air pressure in seed metering unit / Speed of metering unit

Page 4 Shift: **Description of the function fields**



See section	
6.4.9	Start / stop pre-metering

Page 5: **Description of the function fields**



See section	
6.4.13	Setting scraper for seed metering unit 1
6.4.13	Fading in / out position of scraper in Job menu

7 Maintenance

7.1 Gearbox calibration

Machines with remote-controlled fertiliser dosing must be calibrated

- before initial use, if the **AMATRON**$^{+}$ is not delivered with the machine from the factory, but is installed subsequently.
- in event of deviations between the display in the terminal and the gearbox scale.

Gearbox basic settings, see page 31 and page 35.

Page 1  **of the setup menu**

1.  Gearbox calibration submenu:
2.  Move the gearbox lever in the direction of the scale 0 reading until the LED on the electric motor lights up.
3.  Move the gearbox to a scale value greater than 80.
4.  Confirm the settings and enter the scale value indicated by the gearbox lever on the scale in the menu window that opens (Fig. 78).

Always read off the scale value from directly in front to avoid errors!

After the calibration procedure, move the gearbox to another scale value. The displayed value should correspond to the scale value.

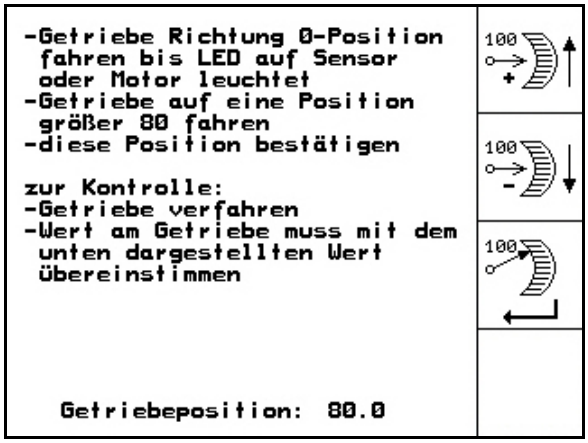


Fig. 77

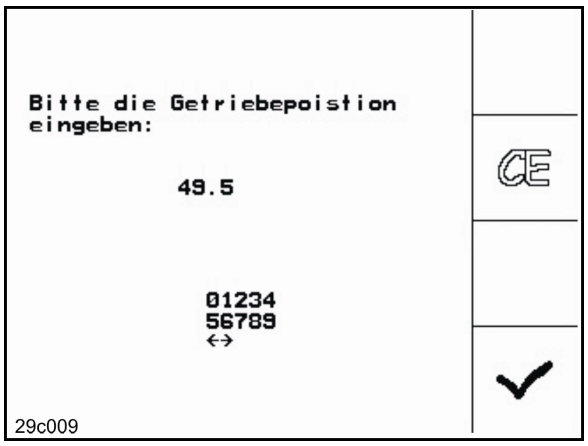


Fig. 78

7.2 Programming the light barriers

Setting the light barriers, see page 33!

Programming individual light barriers

Setup / Basic data 

To assign an individual light barrier to the correct row, proceed as follows:

1. 

Submenu Programming individual light barriers.
2. 

Start programming
3. Remove the main connector for the light barriers.
4. Connect only the light barrier to be programmed to the main connector.
5. Disconnect and reconnect the light barrier to be programmed.
6. The programmed light barrier is indicated in the respective row (Fig. 79).
7. Reconnect all light barriers in the row.

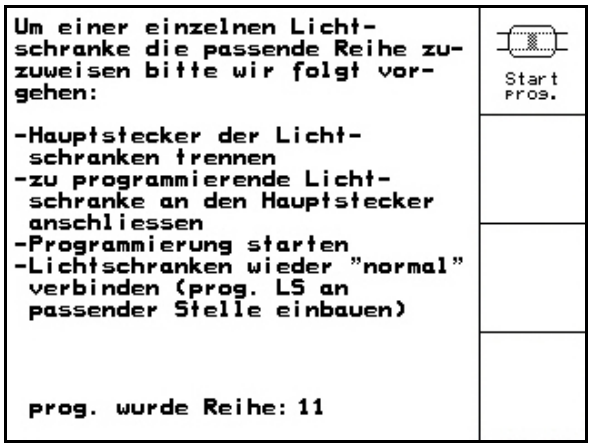


Fig. 79

Programming all light barriers

To assign all light barriers to the correct row, proceed as follows:

1. 

Submenu Programming all light barriers.
2. 

Program all light barriers.
3. Connect all light barriers in the row.
4. Detach all the light barrier connections.
5. Make connection for light barrier 1 (connection starting from left).

→ An acoustic signal is given.

6. Connect all the other light barriers consecutively.

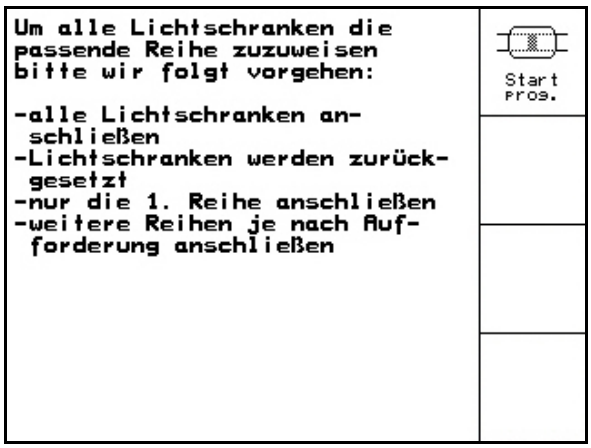


Fig. 80

8 Alarms and messages

Message:

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

→ Rectify the fault if possible.

Example:

- Hopper seed level too low.

→ Remedy: Refill seed hopper.

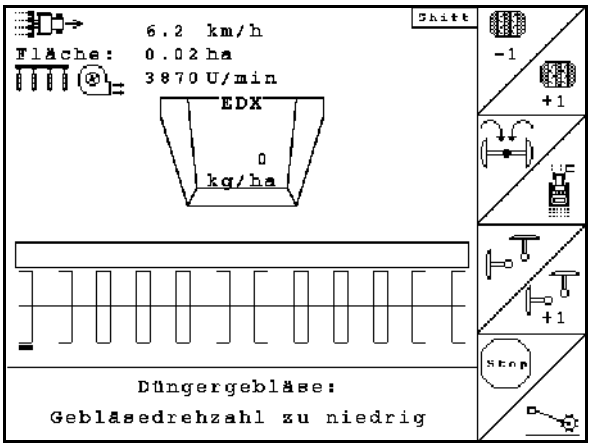


Fig. 81

Alarm:

A warning message 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. 82

Message	Type	Cause	Remedial action
Insufficient fertiliser metering speed	Message	Impermissible metering unit speed	Drive faster Speed calculation is wrong (pulse per 100 m), insufficient target quantity of fertiliser
Excessive metering unit speed	Message	Impermissible metering unit speed	Drive slower, Speed calculation is wrong, target fertiliser quantity is too high
Insufficient fertiliser filling level	Alarm	Sensor does not detect fertiliser	Top up fertiliser; sensor position incorrect; call up diagnostics menu (sensor defective)
Fertiliser setpoint cannot be maintained	Message	The spread rate cannot be maintained.	Drive slower / faster; speed of metering unit fluctuates excessively; speed calculation wrong; target fertiliser quantity too high / too low
speed too high	Message	Excessive operational speed	Drive slower, Speed calculation is wrong
Gaps in row: x	Message	Optosensor detects too few grains	Clean optosensor; remove clogging grain; check the seat of the injection hose; check the fluid bed; change scraper bar setting

Double layers in row: x	Message	Optosensor detects too many grains	Check the hose seat at the threaded unions; check the fluid bed; change scraper bar setting
Seed fill level - insufficient singling left (1), right (2)	Alarm	Filling level sensor does not detect seed	Top up seeds; sensor position incorrect; distribute seeds uniformly; call up diagnostics menu (sensor is defective)
Insufficient metering speed	Message	Impermissible singling drum speed	Drive faster; speed calculation is wrong; insufficient target fertiliser quantity
Excessive seed metering speed	Message	Requested speed of singling drum is impermissible	Drive slower, Speed calculation is wrong, target seed quantity is too high
Setpoint deviates significantly from the calibration value	Alarm	Deviation greater than 50 per cent between target fertiliser quantity in the calibration menu and in the job menu	Determine the new calibration factor for fertiliser or ignore by pressing the input key (caution: wrong spread rate is possible!)
Pulses per 100 m missing	Alarm	Pulse per 100 m is set to zero	Enter / determine pulses per 100 m
Geared motor does not respond	Alarm	Communication of the computer with remote control	Check the connection of the fertiliser remote control unit or choose a different fertiliser metering; test manual movement of the motor in the diagnostics menu
Seed singling does not respond	Alarm	In spite of speed detection revolution of the singling drum is not detected	Check the connection to the geared motor; test manual activation of the motor in the diagnostics menu
Fertiliser metering shaft does not turn	Alarm	In spite of speed detection revolution of the singling drum is not detected.	Check connection of motor and sensor; check the position of the sensor; remove blockage of the drive; check rate setting on the vario gearbox; setting in AMATRON: - alarm delay time of metering shaft - fertiliser monitoring unit (number of shafts) - fertiliser hopper (off / on)
Machine computer has failed	Alarm	Communication with second machine computer not possible	Check connections of the computer; check plugs and computer function; check for wrong machine type selection
Speed of the seed singling units left and right deviates too much from each other	Alarm	Speed of the seed singling units left and right deviates too much from each other	Remove the blockage in the singling unit; check the plug contacts

Fertiliser metering unit does not turn	Alarm	In spite of speed detection, revolution of the singling drum is not detected	Check connection of motor and sensor; check the position of the sensor; remove blockage of the drive; check rate setting at the vario gearbox; setting in AMATRON: - alarm delay time of metering shaft - fertiliser monitoring unit (number of shafts) - fertiliser hopper (off / on)
Working position sensor has failed	Alarm	The voltage value of the analogue AS sensor is outside of 0.5 ... 4.5 V	Check the sensor in the diagnostics menu; digital sensor installed / selected instead of analogue sensor; check the position of the sensor; examine the boom ride for position determination for damage; check connections and plug contacts of the sensor
Fold-in / fold-out position reached	Alarm	Reach threshold value for folding	Execute fold-in or fold-out via the control units
Control of the metering unit not possible; calibration terminated	Alarm	Speed of metering unit cannot be maintained during the calibration process	Check input of target quantity; calibration factor correct? Recalibrate.
Scraper bar position not reached, left (1), right (2)	Alarm	Requested scraper bar position cannot be reached	Check the position of the position encoder; check function of the sensor / motor in the diagnostics menu
Scraper bar motor, left (1), right (2)	Alarm	Load current circuit for the scraper bar motor interrupted	Check plug contact for the motor; call up diagnostics menu
Potentiometer of scraper bar has failed, left (1), right (2)	Alarm	The voltage value of the analogue sensor (left) is outside of 0.5 ... 4.5 V	Check the sensor in the diagnostics menu; check the position of the sensor; check connections and plug contacts of the sensor
Machine computer - remote scraper bar adjustment does not respond	Alarm	Communication with mini job computer - remote scraper bar adjustment not possible	Check connections of the computer; check plug contacts and computer function; check loop-in of the computer (integrate CAN_IN and CAN_OUT in the machine cable, plug in mini job computer on the separate connection)
Check the oil level of the on-board hydraulics	Alarm	Sensor does not detect any oil in the detection range	Check oil level; test the function in the diagnostics menu; check the position of the sensor; check selection of fertiliser monitoring unit
Maximum speed of blower fan exceeded	Alarm	Blower fan speed higher than 4,200 rpm	Reduce speed; check sensor position
Maximum speed of seed blower fan exceeded	Alarm	Seed blower fan speed higher than 4,200 rpm	Reduce speed; check sensor position
Maximum speed of fertiliser blower fan exceeded	Alarm	Fertiliser blower fan speed higher than 4,200 rpm.	Reduce speed; check sensor position

Fertiliser blower fan: Blower fan speed too high	Message	Target speed of fertiliser blower has been exceeded	Adjust the actual speed of the fertiliser blower fan; increase the value of the target speed of the fertiliser blower fan.
Fertiliser blower fan: Blower fan speed too low	Message	The target speed of the fertiliser blower fan has been underranged	Adjust the actual speed of the fertiliser blower fan; decrease the value of the target speed of the fertiliser blower fan.
Maximum pressure of singling exceeded, left (1), right (2)	Message	The maximum pressure is exceeded	Minimise the blower fan speed of the singling blower; increase maximum pressure; call up diagnostics menu (sensor defective)
Minimum pressure of the singling unit underranged, left (1), right (2)	Message	The minimum pressure is underranged	Check drum charge of the right singling unit (pre-calibration); increase the blower fan speed of the singling blower; reduce minimum value; call up diagnostics menu (sensor defective)
Minimum speed of seed blower fan is underranged; singling unit is stopped	Alarm	Blower fan speed less than 200 rpm.	Increase rpm of seed and/or fertiliser blower fan; call up diagnostics menu (sensor defective)

9 Malfunction

9.1 Failure of the distance sensor

In event of failure of the distance sensor (Impulses/100m), which is fitted to the gearbox, operation can be continued after the entry of a simulated working speed.

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

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

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

1. 

Select **Setup** in the main menu.
2. 

Enter a simulated speed.

- During the work, the simulated speed entered must be maintained.
- As soon as impulses are registered by the distance sensor, the computer switches to the actual speed of the distance sensor!

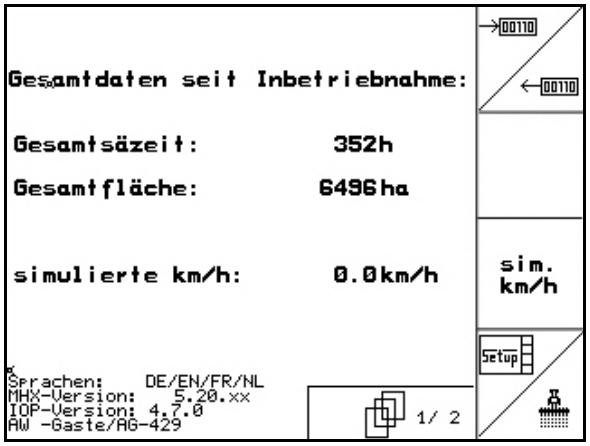


Fig. 83

9.2 Switching off defective light barrier

A defective light barrier is indicated in the work menu by the display of a reduced quantity K/ha.

The display of a reduced quantity may also have other causes.

Switch off the defective light barrier:

1. 

Select **Setup** in the main menu.
2. 
Select Diagnosis input.
3. Select page 3 

.
4. 
Actuate the Shift key.
5. Press 

.
6. Select 

or 

row.
7. 

Switch off monitoring.
8. Press 

.

When a light barrier is switched off, there is no monitoring of the respective sowing unit.

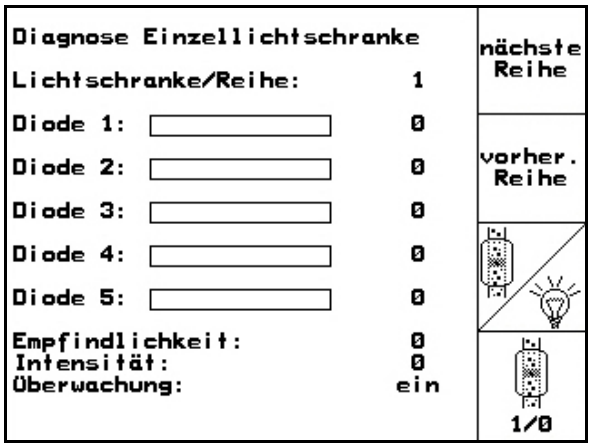


Fig. 84

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