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

Identification data

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

Machine identification number: (ten-digit)

Type: ISOBUS ZA-M/ZG-B

Year of manufacture:

Basic weight (kg):

Approved total weight (kg):

Maximum load (kg):

Manufacturer's address

AMAZONEN-WERKE
H. DREYER GmbH & Co. KG
Postfach 51
D-49202 Hasbergen
Phone: +49 (0) 5405 50 1-0
Fax: +49 (0) 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: MG4157
Compilation date: 01.11

© Copyright AMAZONEN-WERKE H. DREYER GmbH & Co. KG, 2011
This document is protected by copyright.
Reprinting, even of sections, permitted only with the approval of AMAZONEN-WERKE H. DREYER GmbH & Co. KG.
Dear Customer,

You decided to purchase one of our high quality machines from the comprehensive range of farm machinery produced by 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. Replacement will be made only if a claim is filed immediately!

Please read and follow this operating manual - in particular, the safety instructions - before putting the machine into operation. 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 they put the machine into operation.

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.

AMAZONEN-WERKE
H. DREYER GmbH & Co. KG
Postfach 51
D-49202 Hasbergen
Phone: + 49 (0) 5405 50 1-0
Fax: + 49 (0) 5405 501-234
E-mail: amazone@amazone.de
Table of Contents

1 User information ................................................................. 7
  1.1 Purpose of the document .................................................. 7
  1.2 Locations in the operating manual ..................................... 7
  1.3 Diagrams used ................................................................. 7

2 General safety instructions .................................................. 8
  2.1 Representation of safety symbols ...................................... 8

3 Product description ............................................................ 9
  3.1 Software version .............................................................. 9
  3.2 Hierarchy of the ISOBUS software ....................................... 10

4 Start-up ................................................................................. 11
  4.1 Main menu ........................................................................ 11
  4.1.1 Display of the Main menu ............................................. 11
  4.1.2 Sub-menus of the Main menu ......................................... 11
  4.2 Create job ......................................................................... 13
  4.3 Determining the fertiliser calibration factor ......................... 14
    4.3.1 ZA-M: Determining the calibration factor at standstill .... 16
    4.3.2 ZA-M Profis: Automatic determination of the fertiliser calibration factor 18
    4.3.3 ZA-M Profis: Online fertiliser calibration ........................ 19
    4.3.4 ZG-B Precis / Ultra Hydro: Determining fertiliser calibration factors during standstill 21
    4.3.5 ZG-B Precis / Ultra Hydro: Determining fertiliser calibration factors automatically using the weighing spreader 23
    4.3.6 ZG-B Drive: Determining fertiliser calibration factor during standstill 25
    4.3.7 ZG-B Drive: Determining the fertiliser calibration factor automatically with the weighing spreader 27
  4.4 Calibrating the TrailTron drawbar ...................................... 35
    4.4.1 ZA-M Profis: Determining the fertiliser calibration factor automatically with the weighing spreader 35
    4.4.2 Refilling fertiliser .......................................................... 34
    4.4.3 Emptying the fertiliser hopper ....................................... 34
    4.4.4 Taring the fertiliser hopper ............................................ 35
    4.4.5 ZA-M Hydro: Configuring the spreading disc speed ....... 35
    4.4.6 Configuring the application rate increments ................... 36
    4.4.7 Configuring the multi-functional display ....................... 36
    4.4.8 Configuring the rated power take-off speed .................... 37
    4.4.9 Configuring the speed signal source .............................. 37
    4.4.10 Calibrating the TrailTron drawbar ................................. 38
  4.5 Mobile fertiliser test rig .................................................... 39
  4.6 Service setup ..................................................................... 40
    4.6.1 Diagnosis ..................................................................... 40
    4.6.2 Entering the machine settings ...................................... 41
    4.6.3 Performing the basic slider settings for the metering slider 42
    4.6.4 Scale configuration ..................................................... 44
    4.6.5 Configuring the TrailTron drawbar ................................ 46
    4.6.6 Resetting machine computer ....................................... 47

5 Application on the field ....................................................... 48
  5.1 Functions in the Work menu .............................................. 49
  5.2 Display working menu ZG-B ............................................. 50
  5.3 Display Work menu ZA-M ................................................ 51
  5.4 Description of the functions in the Work menu .................... 52
    5.4.1 Slide gate (ZA-M Comfort and Hydro only) .................. 52
    5.4.2 Changing the spread rate while spreading ...................... 52
    5.4.3 Boundary spreading with limiter .................................... 53
    5.4.4 Tarpaulin (ZA-M Comfort and Hydro only) .................... 53
    5.4.5 Fertiliser calibration (only ZA-M Profis) ......................... 54
    5.4.6 Refilling fertiliser.......................................................... 54
## Table of Contents

5.4.7 Switching spreading disc drive on and off (*ZA-M Hydro* only) ........................................ 55
5.4.8 Boom part width sections (*ZA-M Hydro* only) .................................................................. 55
5.4.9 Boundary spreading (*ZA-M Hydro* only) ........................................................................ 56
5.4.10 TrailTron drawbar ........................................................................................................... 57
5.5 Procedure for use .................................................................................................................. 60
5.5.1 *ZA-M Tronic* operation .................................................................................................. 60
5.5.2 *ZA-M Comfort /ZG-B Precis* operation ........................................................................ 61
5.5.3 Operation *ZA-M Hydro / ZG-B Ultra Hydro* ................................................................. 62

### 6 Maintenance and cleaning ......................................................... 63
6.1 Cleaning .............................................................................................................................. 63
6.2 Maintenance work .............................................................................................................. 63

### 7 Problem ................................................................................. 64
7.1 Failure of the setting motors ............................................................................................... 64
7.2 Failure of the speed signal from the CAN bus ................................................................. 65
1 User information

The "User information" section supplies information on using 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 viewed in the direction of travel.

1.3 Diagrams used

Instructions for action and reactions

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

Example:
1. Instruction for action 1
   → Reaction of the machine to instruction for action 1
2. Instruction for action 2

Lists

Lists without a mandatory sequence a presented as a list with bullet points.

Example:
- Point 1
- Point 2

Item numbers in diagrams

Numbers in round brackets refer to the item numbers in the diagrams. The first digit refers to the diagram; the second digit, to the item number in the illustration.

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 Product description

The ISOBUS software **ZA-M/ZG-B** and ISOBUS terminal make it easy to control, operate and monitor the **AMAZONE ZA-M** and **ZG-B** fertiliser spreaders.

The ISOBUS software works with the following **AMAZONE** fertiliser spreaders:

- **ZA-M Tronic** with power take-off
- **ZA-M Comfort**
  - with power take-off.
  - with hydraulic control block for the slide gate, limiter and tarpaulin (depending on the equipment)
- **ZA-M Hydro**
  - with hydraulic spreading disc drive,
  - with hydraulic control block for the spreading disc drive, slide gate and tarpaulin (depending on the equipment)
- **ZA-M Profis** with weighing technology.
- **ZG-B Drive**
  - with power take-off
  - with hydraulic control block for the conveyor belt, slide gate and tarpaulin (depending on the equipment)
- **ZG-B Ultra Hydro**
  - with hydraulic control block for the spreading disc drive, conveyor belt, slide gate and tarpaulin (depending on the equipment)

The Main menu is shown after switching on the ISOBUS terminal when the machine computer is connected.

**Adjustments**

The settings can be adjusted through the sub-menus in the Main menu.

**Operation**

The ISOBUS software **ZA-M** controls the spread rate according to travel speed.

The Work menu shows all of the spreading data during operation and, depending on the equipment, the machine can be operated through the Work menu.

### 3.1 Software version

This operating manual is valid from software version:

- MHX version: 1.00.01
- IOP version: 1.26.00
3.2 Hierarchy of the ISOBUS software

**Work menu**

- **Job menu**
  - Entry of names, notes, application rate, calibration value
  - Start/continue job
  - Delete job
  - Delete daily data

- **Fertiliser calibration factor menu**
  - Enter working width
  - Enter spread rate
  - Enter speed
  - Enter calibration factors
  - Perform fertiliser calibration

**Main menu**

- **Machine Data menu**
  - Fertiliser fill
  - Refill fertiliser
  - Fertiliser alarm limit
  - Empty tank
  - Tare spreader
  - Weighing method selection
  - Configure application rate increment
  - Configure the multi-functional display
  - Select special product
  - Configure power take-off speed
  - Speed signal source
  - Display of the pulses in the Work menu
  - Calibrate impulses per 100 m
  - Headland row counter
  - Nominal disc speed
  - Disc speed
    - Boundary spreading
    - Side spreading
    - Trench spreading
  - Belt speed display

- **Mobile fertiliser test rig**

- **Service set-up menu**
  - Diagnosis
  - Machine settings
    - Machine type
    - Basic slider setting
    - Limiter
    - Slide gate
    - Hydraulically operated tarpaulin
    - Configure scale
    - Configure floor belt
    - Basic slider setting
    - Hydraulically operated tarpaulin
    - Limiter present
    - slide gate (double effect, single effect)
    - Cont.factor
    - Configure TrailTron
  - RESET
4 Start-up

4.1 Main menu

4.1.1 Display of the Main menu

- Adjusted machine
- Started job
- Entered spread rate
- Entered / calculated calibration factor for fertiliser
- Set working width
- Proposed speed for spreading fertiliser

![Fig. 1](image)

4.1.2 Sub-menus of the Main menu

- Work menu
  - Display and operation during work.
- Job menu
  - Data entry for new job.
  - Start job before beginning with the spreading.
  - The calculated data can be stored for up to 20 finished jobs
- Calibration menu
  - Before each use, determine the calibration factor for the fertiliser to be spread.

On the ZA-M Profis, you can

- calculate the calibration factor during calibration travel (page 18).
- use online calibration to continuously calculate the calibration value while spreading (page 19).
• **Machine Data menu**
  - Entry of machine-specific or individual data.

• **Mobile fertiliser test rig menu**
  - For calculating the vane position when checking lateral distribution with the mobile test rig. (Refer to the operating manual for the mobile test rig)

• **Setup menu**
  - Entry of basic settings.

• **Back to Main menu**
4.2 Create job

Select Job in the main menu!

The Job menu is an internal, non-readable job memory that cannot be compared to a task controller and also does not communicate with it.

When the Job menu is opened, the most recently started (most recently processed) job appears. Information on max. 20 jobs can be stored (job numbers 1 to 20).

When creating further jobs, existing jobs must be deleted.

1. Select a job number to create a new job.

2. Delete the data from the selected job (application rate and calibration factor remain)
   → Job cannot be started.
   - Enter name
   - Enter note
   - Enter desired quantity
   - Enter calibration factor
   → It is preferable to determine the calibration factor in the Calibration menu

3. Start job
   → Display: Job No. x started

- A job must be started to be able to file data on this job.
- Jobs that have already been stored can be selected and restarted.
- Delete daily data.
### 4.3 Determining the fertiliser calibration factor

The fertiliser calibration factor determines the regulating behaviour of the on-board computer and is dependent on:

- the flow characteristics of the fertiliser to be spread.
- the entered spread rate.
- the entered working width.

The fertiliser flow characteristics depend on:

- fertiliser storage, storage time and climatic factors.
- working conditions.

The calibration value is determined differently for each spreader.

The table below indicates the pages where the calibration method is described for each spreader.

<table>
<thead>
<tr>
<th>With weighing equipment</th>
<th>ZA-M</th>
<th>ZG-B Drive</th>
<th>ZG-B Ultra Hydro Precis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibrate at standstill with mounted machine (fertiliser / rice)</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Automatic during calibration travel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online calibration while travelling.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calibration for slug pellets / fine seed at standstill with mounted machine</td>
<td>Page29</td>
<td>Page29</td>
<td></td>
</tr>
</tbody>
</table>

- The fertiliser flow characteristics may change even after a brief fertiliser storage period. Therefore, before each use, re-determine the fertiliser calibration factor of the fertiliser to be spread.
- Always determine the fertiliser calibration factor again if deviations occur between the theoretical and actual spread rates.
- The spread rate entered in the terminal must not exceed a maximum value (dependent on working width, proposed speed and entered calibration factor).
  - The maximum spread rate/ha has been reached when the slider is fully open.
Realistic calibration factors for fertiliser (0.7 to 1.4):
- 0.7 for urea
- 1.0 for calcium ammonium nitrate (CAN)
- 1.4 for fine, heavy PK fertilisers

Spreading rice:
Machine Data menu: Select special product rice.
→ The realistic range for the calibration factor is increased from 0 to 2 because of the very different flow characteristics of rice.

Before determining the fertiliser calibration factor:
- Check / enter working width
- Check / enter application rate
- Check / enter proposed speed
- Enter calibration factor for determining exact factor, e.g. 1.00.
  The calibration factor can be
  o taken from the quantity factor from the setting chart.
  o a values based on experience.
  **ZG-B Drive:** Check / enter the bulk density and adjust the main slider if necessary.

Carry out calibration at standstill?
→ > continue
Perform automatic calibration?
→ X abort calibration at standstill.

The scale used to determine the fertiliser calibration factor at standstill must weigh accurately. Inaccuracies may cause deviations in the actual dispensed quantity.
4.3.1 **ZA-M: Determining the calibration factor at standstill**

1. Add a sufficient quantity of fertiliser to the hopper.
2. Remove both spreading discs.
3. Fit collection bucket under the left outlet. (Refer to machine operating manual)
4. Switch on spreading disc drive.
   - Adjust the power take-off on the tractor according to the settings chart.
   - Actuate tractor control unit 1.
5. Open the left slide gate.
   - Actuate tractor control unit 1.
6. Close the slide gate to the left as soon as the collection bucket is full.
7. Switch off spreading disc drive.
   - During calibration, the terminal indicates the calibration time in seconds.
8. Weigh the collected fertiliser (allow for the weight of the collection bucket).
9. Enter amount of weighed fertiliser, pay attention to the units.
The new calibration factor will be displayed.

10. Store the calibration factor or abort calibration.
4.3.2 **ZA-M Profis: Automatic determination of the fertiliser calibration factor**

**Machine Data menu: Weighing method select offline calibration!**

Automatic fertiliser calibration occurs at the start of sowing during spreading, with a minimum 200 kg fertiliser being dispensed.

- Tractor with spreader must stand in a horizontal position at the start and end of calibration.
- The calibration factor can only be started and ended when the scale is at rest.
  → If the symbol \( \times \) appears in the display, the spreader is not in its resting position.

1. ![Select Work menu.](image)

2. ![Start automatic calibration.](image)

3. Start spreading as usual and spread at least 200 kg of fertiliser.
   → Calibration is indicated with a green triangle.
   → The quantity of fertiliser spread during calibration will be displayed.

4. If the minimum amount of fertiliser has been spread, close the slide gate and stop.

5. ![End automatic calibration.](image)
   → Calibration end is indicated with a red square.
   → The new calibration factor will be displayed.

6. Store the calibration factor or abort calibration.

7. Resume spreading.

 Calibration travel can be carried out at any time while working in order to optimise the calibration factor.

---

Fig. 10

---

Fig. 11
After the first fertiliser calibration, additional calibrations should be performed with higher application rates (e.g. 1000 kg) to further optimise the calibration factor.

4.3.3 **ZA-M Profis: Online fertiliser calibration**

Activate online calibration if continuous calibration is to be performed during spreading.

**Machine Data menu: Weighing method select online calibration!**

1. Select Work menu.
2. Start online fertiliser calibration.
   
   → Online calibration is indicated with a green triangle.
   
   → The current calibration factor will be displayed.
   
   → The quantity dispensed since last online calibration will be displayed.
3. Start to spread as usual

**Fig. 12**

Online calibration is only possible when the scales are not moving and there is more than 200 kg in the hopper.

If the symbol appears in the display, the spreader is not at rest.

The calibration value is continuously recalculated via online weighing and the theoretically applied quantity. The required slider position is matched online.
When working in hilly areas or on uneven ground the system may introduce discrepancies in the determination of weight:

- In this case, switch the online calibration off while travelling.
- Termination of the online calibration is indicated with a red square.
- Spreading will continue with the displayed calibration factor.

During spreading, online calibration will switch off automatically if the hopper contents are less than 200 kg.

It will switch on again automatically after refilling (hopper contents more than 500 kg).
4.3.4 **ZG-B Precis / Ultra Hydro**: Determining fertiliser calibration factors during standstill

1. Add a sufficient quantity of fertiliser to the hopper.
2. Remove both spreading discs.
3. Place a collection bucket under the left outlet opening.
   (Refer to operating manual)

   **Do not** switch on the tractor power take-off!

4.Switch on the floor belt (appears in the display) and fill the fertiliser sluice. The floor belt stops automatically when the fertiliser sluice is full.

5. Open the left hydraulic slider.
   → During calibration, the terminal indicates the calibration time in seconds.
6. As soon as the collection bucket is full, close the hydraulic slider.
7. Weigh the collected fertiliser (allow for the weight of the collection bucket).
8. Enter amount of weighed fertiliser, pay attention to the units.
The new calibration factor will be displayed.

9. Store the calibration factor or abort calibration.

Fig. 18
4.3.5 **ZG-B Precis / Ultra Hydro**: Determining fertiliser calibration factors automatically using the weighing spreader

- Fertiliser calibration via weighing technology is executed automatically at the start of spreading; at least **1000 kg** of fertiliser should be applied.

- Tractor with spreader must stand in a horizontal position at the start and end of calibration.
- The calibration factor can only be started and ended when the scale is at rest.
  → If the symbol 🌞 appears in the display, the spreader is not in resting position.

1. 🍃 Select calibration menu.
2. > continue
3. 🍃 Fill the fertiliser prechamber with fertiliser.
   → Filling stops automatically when the pre-chamber is full.
4. 🍃 Select Work menu.
5. 🟢 Start automatic calibration.
6. 🟢 Open the double sliders and move off.
7. Start spreading as usual and spread at least 1000 kg of fertiliser.
   → Calibration is indicated with a green triangle.
   → The quantity of fertiliser spread during calibration will be displayed.
8. If the minimum amount of fertiliser has been spread, close the slide gate and stop.

9. End calibration.

- Calibration end is indicated with a red square.
- The new calibration factor will be displayed.

10. Store the calibration factor or abort calibration.

11. Resume spreading.

---

After the first fertiliser calibration, further calibration should be carried out with greater spreading quantities (e.g. 2500 kg) in order to further optimise the calibration factor.
4.3.6 **ZG-B Drive**: Determining fertiliser calibration factor during standstill

1. Add a sufficient quantity of fertiliser to the hopper.
2. Remove both spreading discs.
3. Install the calibration device (refer to the machine’s operating manual).
4. Install a collection bucket under each outlet opening.
5. Enter the fertiliser bulk density (see setting chart).
   → Setting for new main slider position will be displayed.
6. Set main slider to recommended position.
   **Do not** switch on the tractor power take-off!
7. Run pre-metering until the fertiliser has reached the end of the floor belt. The double sliders open automatically.
8. End pre-metering.

**WARNING**

There is a risk of injury from the double sliders closing automatically at the end of pre-dosing.

9. The double sliders open.
   → During calibration, the terminal indicates the calibration time in seconds.
10. The double sliders close when the collection buckets are full.
11. Weigh the collected fertiliser (allow for the weight of the collection bucket).

12. Enter amount of weighed fertiliser, pay attention to the units.

13. Store the calibration factor or abort calibration.

→ The optimised belt speed is now used when spreading.

⚠️ If the difference between the theoretical and calculated calibration factor is too great, a new main slider position will be specified. The calibration process must be repeated with this setting.
4.3.7 **ZG-B Drive**: Determining the fertiliser calibration factor automatically with the weighing spreader

- Fertiliser calibration is carried out during spreading operations where at least **1000 kg** of fertiliser is to be applied.

- Tractor with spreader must stand in a horizontal position at the start and end of calibration.

- The calibration factor can only be started and ended when the scale is at rest.

→ If the symbol $\times$ appears in the display, the spreader is not in neutral position.

1. ![Select calibration menu](image)
2. Enter the fertiliser bulk density (see setting chart).

→ Setting for new main slider position will be displayed.

3. Set main slider to recommended position.

4. ![Run pre-metering](image) Run pre-metering until the fertiliser has reached the end of the floor belt. The double sliders open automatically.

5. ![End pre-metering](image) End pre-metering.
CAUTION
There is a risk of injury from the double sliders closing automatically at the end of pre-dosing.

6. X abort manual calibration
7.   Select Work menu.
8.   Start automatic calibration.
9.   Open the double sliders and move off.
10. Start spreading as usual and spread at least 1000 kg of fertiliser.
    → Calibration is indicated with a green triangle.
    → The quantity of fertiliser spread during calibration will be displayed.
11. If the minimum amount of fertiliser has been spread, close the slide gate and stop.
12. End automatic calibration.
    → Calibration end is indicated with a red square.
    → The new calibration factor will be displayed.
13. Store the calibration factor or abort calibration.

If the difference between the theoretical and calculated belt speed is too great, a new main slider position will be provided. The calibration procedure must be repeated with this setting.

After the first fertiliser calibration, further calibration should be carried out with greater spreading quantities (e.g. 2500 kg) in order to further optimise the calibration factor.
4.3.8 Calibration of slug pellets / fine seed

Machine Data menu: Select special product slug pellets. This also applies to the spreading of fine seed.

**WARNING**
Before spreading slug pellets, be sure to check the spreading quantity for both outlets in turn.
It is forbidden to calibrate slug pellets using the automatic or online calibration.

- **Calibrate slug pellets for the left outlet opening:**
  1. Add a sufficient quantity of slug pellets to the hopper.
  2. Remove both spreading discs.
  3. Place collection bucket under the left outlet.
  4. Check / enter working width
  5. Check / enter application rate
  6. Check / enter proposed speed
  7. Take the required slider setting for the entered value from the setting chart.

8. Press the key until the read-off edge (Fig. 31/1) of the left metering slider shows the required slider position.

---

**Fig. 29**

---

**Fig. 30**
9. via the Main menu
   Changing to the Job menu.

10. Delete daily data in the started job.

11. via the Main menu
   Changing to the Work menu (Fig. 33).

12. Switch on spreading disc drive.
   - Adjust the power take-off on the tractor according to the settings chart.

   - **ZA-M Hydro**:

13. Open the left slide gate.
   - Actuate tractor control unit 1.

   - **ZA-M Hydro/Comfort**:

      - The theoretically covered area is displayed in the Work menu.

14. If the display shows approx. 1 ha spread,
    - close the left slide gate.

15. Switch off spreading disc drive.

16. Weigh the collected slug pellets (allow for the weight of the collection bucket).

   - The scale used must be accurate. Inaccuracies may cause deviations in the actual dispensed quantity.
17. Change to the Job menu via the Main menu.

→ Read off the theoretically dispensed quantity of pellets from the job and compare it with the weighed quantity.

18. If the calculated quantity for the job is

- greater than the weighed quantity

→ increase the spread rate.

- less than the weighed quantity

→ reduce the spread rate.

- Calibrate slug pellets for right outlet opening:

Calibrate the right side in the same way as for the left outlet opening.

- Calibration must be repeated if there are deviations from the specified quantity!

- **DANGER**

Even small changes in the slider position setting result in extremely large deviations in the spread quantity!

- Maintain a steady speed when spreading slug pellets (as entered in the calibration menu), because the electric setting motors do not adjust for speed when spreading slug pellets.

- **DANGER**

Fig. 34

<table>
<thead>
<tr>
<th>Tagesdaten</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fläche/Tag</td>
</tr>
<tr>
<td>Menge/Tag</td>
</tr>
<tr>
<td>Zeit/Tag</td>
</tr>
</tbody>
</table>

Fig. 35
4.4 Entering machine data

- Enter fertiliser quantity in kg (not for **ZA-M Profis**).
- Add fertiliser (see page 34).
- Enter alarm limit for residual quantity in kg. → There is an acoustic signal when the residual fertiliser quantity is reached.
- Empty the hopper after use and before cleaning (see Page 34).
- **ZA-M Profis**: Tare the spreader, e.g. after the mounting of special equipment (see Page 35).
- **ZA-M Profis**: Select weighing method.
  - Offline calibration:
    → Determination of the fertiliser calibration factor when beginning to spread.
  - Online calibration:
    → Continuous determination of the fertiliser calibration factor while spreading.
- **ZA-M Hydro**: Configuring the spreading disc speed (see Page 35).
- Configuring the application rate increments to increase or reduce the spread rate (see Page 36).
- Configuring the multi-functional display in the Work menu (see Page 36).
• Adjust special products
  o Off (for fertiliser)
  o Rice
  o Slug pellets (also for fine seed)

CAUTION
There is a risk of injury from the dosing sliders when Spread slug pellets is switched on because the sliders close automatically.

• Configure rated power take-off speed (see page 37).

• Configure source for the speed signal (see Page 37).

• Display the motor pulses for the metering sliders in the Work menu.

• Calibrate TrailTron drawbar (see page 38).

Fig. 36
4.4.1 Refill fertiliser

Refill fertiliser.

**Fertiliser spreader without weighing technology:**

→ Enter amount of added fertiliser in kg and store.

**Fertiliser spreader with weighing technology:**

→ Added quantity of fertiliser is displayed in kg.
   Store added quantity of fertiliser.

---

4.4.2 Emptying the fertiliser hopper

The remaining fertiliser in the hopper can be emptied via the hopper tips.

1. Remove the spreading discs (see machine operating manual)
2. Open both metering sliders.
3. Open both slide gates.
   - Operate tractor control unit 1 and 2.
   - **ZA-M Hydro, Comfort:**
     - Residual fertiliser runs out.
4. Fit the spreading discs after emptying.
   - Stow the machine with the sliders opened.
   - Close the sliders before refilling.

---

**WARNING**

Risk of injury near the rotating agitators and spreading disc drive.

Make sure the agitators and disc drive are switched off when emptying the residue.
4.4.3 Taring the fertiliser spreader

Taring the fertiliser spreader serves to determine the weight of the spreader with 0 kg hopper contents.

The spreader must be tared after fitting special equipment (see Page 44).

1. Completely empty the fertiliser spreader.
2. Wait until the symbol turns off.
3. Tare spreader.

→ Fertiliser fill level is displayed at 0 kg.

4.4.4 ZA-M Hydro: Configuring the spreading disc speed

Adjust the spreading disc speed according to the setting chart.

- Enter the nominal spreading disc speed in rpm (Standard 720 rpm)
- Spreading disc speed in rpm for boundary spreading.
- Spreading disc speed in rpm for trench spreading.
- Spreading disc speed in rpm for border spreading.

![Fig. 39]

See the machine's operating manual for more information on boundary, border and trench spreading.
4.4.5 Configuring the application rate increments

After pressing
- both sides
- right side
- left side

the application rate will be reduced or increased by the entered percent value.

By repeatedly pressing, the percent value of the application rate will change accordingly.

- Enter application rate increment (value for percent application rate change while working).

The application rate is automatically reduced by the entered percent value when performing a type of boundary spreading.

- Application rate reduction during boundary spreading (only with position sensor with Limiter M)
- **ZA-M Hydro**: quantity reduction during trench spreading
- **ZA-M Hydro**: quantity reduction during border spreading

4.4.6 Configuring the multi-functional display

Six different data sets can be shown in the three data lines in the Work menu.

1. Current speed
2. Worked area per day
3. Spread quantity per day
4. Remaining distance until hopper is empty
5. Remaining area until hopper is empty
6. Distance counter for the headlands to locate the next tramline.

The distance counter is set to zero when closing the slider at the headlands and starts measuring the distance until the slider is opened.
4.4.7 Configuring the rated power take-off speed

An alarm is sounded in case of deviation from the desired power take-off speed.

- Enter the rated power take-off speed
  - 540 rpm, 720 rpm → Standard speed
  - 0 rpm: → No power take-off sensor fitted / monitoring not desired.
- Alarm limit to trigger the alarm in case of deviation from the rated power take-off speed.

4.4.8 Speed signal source

There is a choice of four sources for the traveling speed signal input.

- Ground (ISOBUS)
- Wheel (ISOBUS)
- Position (ISOBUS)
- Simulated
  → After selecting the speed, enter the value for the simulated speed.

Entering a simulated speed allows you to continue spreading even if the speed signal from the tractor fails.
4.4.9 Calibrating the TrailTron drawbar

1. Move to centre position.
   Drive tractor with **ZG-B** straight ahead for a short distance and align with until tractor and **ZG-B** are on one track.

2. > continue.

3. Drive to the right hand stop.
   Turn tractor steering wheel as far as possible to the right and press to retract TrailTron cylinder.

4. > continue.

5. Drive to the left hand stop.
   Turn tractor steering wheel as far as possible to the left and press to extend TrailTron cylinder.

6. > continue.

7. store.

Fig. 45
4.5 Mobile fertiliser test rig

Start mobile fertiliser test rig as explained in the mobile test rig operating manual and estimate the lateral distribution.

The distances between the fertiliser collection trays are displayed according to the working width.

For each test series, successively fill the quantities of fertiliser into the measuring cup from each of the four collection trays in their four setup positions (Fig. 46, I, II, III, IV) and enter the number of scale lines at the terminal.

1. Enter the number of scale lines for fertiliser level I.
2. Enter the number of scale lines for fertiliser level II.
3. Enter the number of scale lines for fertiliser level III.
4. Enter the number of scale lines for fertiliser level IV.
5. Correct the selected spreading vane positions according to the calculated spreading vane adjustment positions.

Fig. 46

Fig. 47
4.6 Service setup

In the setup, you can change the machine’s basic settings. Adjustment errors can result in failure of the machine.

- Entry and output of diagnosis data (only for customer service, see Page 40).
- Enter machine settings (see Page 41).
- Reset the machine computer to factory defaults and delete all data (see Page 47).

Fig. 48

4.6.1 Diagnosis

DANGER
The safety functions do not work while operating within the Diagnosis menu.

- Data entry for diagnosis
- Data output for diagnosis
- PWM data output
- Exit the Diagnosis menu

Back to Diagnosis menu
4.6.2 Entering the machine settings

- Select machine type
  - ZA-M Tronic
  - ZA-M Comfort
  - ZA-M Hydro

- Perform basic slider adjustment for the metering slider (see Page 42)

- Adjust slide gates
  - Without springs (ZA-M as of 2007 models)
  - With springs (ZA-M as of 2006 models)

- Select limiter
  - Off (no limiter or limiter without position sensor)
  - Limiter, mounted on right.
  - Limiter, mounted on left.

- **ZA-M Hydro**: Control factor for the spreading discs.

- Cover hydraulically actuated via control block

- Configure scale (see Page 44)

- Configure TrailTron drawbar (see Page 46).

Fig. 49
4.6.3 Performing the basic slider settings for the metering slider

The amount of cross-sectional clearance for the electric metering sliders is set at the factory (Fig. 50).

If, despite identical slider positions, you find that the two hopper tips are not emptying uniformly, check the basic setting of the sliders.

Perform the basic slider settings for both metering sliders.

Perform basic slider settings on the left

1. Close the outlet completely (0 pulses).

2. Open the outlet up to 1500 pulses.

DANGER
Risk of injury near metering sliders when the keys are pressed, because the sliders close before the selected setting is applied.

Keep fingers and gauges away from the opening.
3. Insert the setting gauge (Fig. 53/1) (optional, order no.: 915018) slightly into the outlet opening.
   - The gauge cannot be inserted through the outlet opening:
     - Increase the current offset by 5 pulses until the gauge fits exactly in the opening (Fig. 54).
   - Too much gauge clearance:
     - Reduce the current offset by 5 pulses until the gauge fits exactly in the opening (Fig. 54).

4. Store basic slider setting.

Perform basic slider settings on the right

Perform the slider settings using the same method.

Display pulses from the setting motor

The setting motor pulses (Fig. 56/1) can be displayed in the Work menu.
Setting via the Machine Data menu.
4.6.4 Scale configuration

The weigh cell is tared and calibrated at the factory. However, if there are differences between the actual and the displayed spread quantity or the hopper contents, the weighing cell needs to be recalibrated.

The weighing cell should be tared if special equipment is fitted

![Fig. 57](image1)

1. The fertiliser spreader must be completely emptied (see Machine Data menu).

Fertiliser spreader is not empty:
→ Abort configuration.
→ Empty fertiliser spreader, see Machine Data menu.

Fertiliser spreader is empty:
→ continue

2. Park the tractor and the attached spreader on a horizontal surface and wait until it has come to a complete rest.
→ continue
→ Parameter one is set.
→ The spreader is tared.

![Fig. 58](image2)

![Fig. 59](image3)
3. Fill at least 500 kg of fertiliser into the hopper.

4. Park the tractor and the attached spreader on a horizontal surface and wait until it has come to a complete rest.

→ continue

5. Enter the precise quantity of fertiliser just added.

→ continue

→ Parameter two is set.

Display: The basic setting is changed.

→ Store

→ The spreader is calibrated.

---

Check by comparing the display in the work menu with the quantity of fertiliser added.
4.6.5 Configuring the TrailTron drawbar

- Switch TrailTron on and off

- Enter TrailTron control factor.
  → Standard value: 1.25
  - Machine oversteered (Fig. 63/1):
    → Select lower control factor
  - Machine understeered (Fig. 63/2):
    → Select higher control factor

- Enter TrailTron deviation factor.
  The deviation factor indicates the sensitivity from which steering lock the steering starts to work.
  0 → sensitive
  15 → insensitive
  Preferred values: 8 to 10
4.6.6  Resetting machine computer

Reset of the machine computer to factory settings.

All entered and generated data (jobs, machine data, calibration values, setup data) will be lost.

Note the following details beforehand:

- Scale: parameters 1 and 2
- Basic slider settings: stored offset left and right.
- Pulses for determining the speed (if applicable)
5 Application on the field

**ZA-M Profis:**
- Carry out an automatic fertiliser calibration or switch on the online calibration when you start spreading.
- Tare the spreader before initial use and after fitting special equipment (see page 44).

Before the spreader can be used, the following information must be entered:
- Enter machine data (see page 32).
- Load and start job (see page 13).
- Calibrate fertiliser at standstill or enter calibration value manually (see page 14).
## 5.1 Functions in the Work menu

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="icon" /></td>
<td>Refill fertiliser</td>
</tr>
<tr>
<td><img src="image2.png" alt="icon" /></td>
<td>Both slide gates open / shut</td>
</tr>
<tr>
<td><img src="image3.png" alt="icon" /></td>
<td>Slide gate open / shut</td>
</tr>
<tr>
<td><img src="image4.png" alt="icon" /></td>
<td>Reduce the spread rate on one side by application rate increment</td>
</tr>
<tr>
<td><img src="image5.png" alt="icon" /></td>
<td>Increase the spread rate on one side by application rate increment</td>
</tr>
<tr>
<td><img src="image6.png" alt="icon" /></td>
<td>Increase the spread rate on both sides by application rate increment</td>
</tr>
<tr>
<td><img src="image7.png" alt="icon" /></td>
<td>Adjust the spread rate on both sides to the target quantity</td>
</tr>
<tr>
<td><img src="image8.png" alt="icon" /></td>
<td>Limiter on / off</td>
</tr>
<tr>
<td><img src="image9.png" alt="icon" /></td>
<td>Calibration travel / Online calibration on / off</td>
</tr>
<tr>
<td><img src="image10.png" alt="icon" /></td>
<td>Spreading discs on / off</td>
</tr>
<tr>
<td><img src="image11.png" alt="icon" /></td>
<td>Spreading disc speed</td>
</tr>
<tr>
<td><img src="image12.png" alt="icon" /></td>
<td>Trench spreading on / off</td>
</tr>
<tr>
<td><img src="image13.png" alt="icon" /></td>
<td>Boundary spreading on / off</td>
</tr>
<tr>
<td><img src="image14.png" alt="icon" /></td>
<td>Border spreading on / off</td>
</tr>
<tr>
<td><img src="image15.png" alt="icon" /></td>
<td>Switch on boom part width sections</td>
</tr>
<tr>
<td><img src="image16.png" alt="icon" /></td>
<td>Switch off boom part width sections</td>
</tr>
</tbody>
</table>

**ZA-M Hydro:**

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image17.png" alt="icon" /></td>
<td>Spreading discs on / off</td>
</tr>
<tr>
<td><img src="image18.png" alt="icon" /></td>
<td>Spreading disc speed</td>
</tr>
<tr>
<td><img src="image19.png" alt="icon" /></td>
<td>Trench spreading on / off</td>
</tr>
<tr>
<td><img src="image20.png" alt="icon" /></td>
<td>Boundary spreading on / off</td>
</tr>
<tr>
<td><img src="image21.png" alt="icon" /></td>
<td>Border spreading on / off</td>
</tr>
<tr>
<td><img src="image22.png" alt="icon" /></td>
<td>Switch on boom part width sections</td>
</tr>
<tr>
<td><img src="image23.png" alt="icon" /></td>
<td>Switch off boom part width sections</td>
</tr>
</tbody>
</table>
5.2 Display working menu ZG-B

<table>
<thead>
<tr>
<th>Multi-functional display</th>
<th>TrailTron drawbar</th>
<th>Weighing technology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Display</td>
<td>24 kg</td>
</tr>
<tr>
<td></td>
<td>TrailTron pilot control</td>
<td>Quantity at calibration</td>
</tr>
</tbody>
</table>

- Spread amount, left side
- Spread amount left in %
- Spread rate, right side
- Spread amount right in %
- Hopper capacity in kg
- Slide gate open
- Slide gate closed
- Boundary spreading left
- Pre-select, left side
- Boundary spreading right
- Pre-select, right side
5.3 Display Work menu ZA-M

<table>
<thead>
<tr>
<th>Weighing technology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>24 kg</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>0.95</strong></th>
<th>Calibration factor</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="green" alt="Calibration started" /></td>
<td></td>
</tr>
<tr>
<td><img src="red" alt="No calibration" /></td>
<td></td>
</tr>
</tbody>
</table>

Spread amount, left side

Spread amount left in %

Slide gate open

Slide gate closed

Boundary spreading

- Left
- Pre-select, left side

Only ZA-M Hydro:

- Trench spreading
- Boundary spreading
- Side spreading
- One boom part width section off
- Two boom part width sections off
- Spreading disc speed left / right

248 kg/ha 248 kg/ha

2500 kg

Hopper capacity in kg

Spread rate, right side

Spread amount right in %

Pre-select, right side

Preselect trench spreading

Preselect boundary spreading

Preselect side spreading

Preselect one boom part width section off

Preselect two boom part width sections off

720 U/min 720 U/min
5.4 Description of the functions in the Work menu

5.4.1 Slide gate (ZA-M Comfort and Hydro only)

Both slide gates open/shut

Slide gate left/right, open/shut

Open slide gates before use,
- and drive off
- once the spreading discs have reached the correct speed.

Fig. 65/…
(1) Display slide gate left side open.
(2) Display slide gate right side closed.

5.4.2 Changing the spread rate while spreading

Increase / reduce the spread rate on both sides by application rate increment

Reduce the spread rate on one side by application rate increment

Increase the spread rate on one side by application rate increment

Adjust the spread rate on both sides to the target quantity
Application on the field

- Each press of the key changes the spread amount by the rate increment (e.g. 10%).
- Enter the rate increment in the Machine Data menu.

Fig. 66/...
(1) Display changed spread rate in kg/ha and percent.

5.4.3 Boundary spreading with limiter

Boundary spreading with limiter on / off (ZA-M Comfort only)

1. Lower the limiter before boundary spreading.
2. Perform boundary spreading.
3. Raise the limiter after boundary spreading.

Before use, set the lowered limiter according to the settings chart, then raise it again.

Fig. 67/...
(1) Display limiter lowered during boundary spreading.
(2) Display limiter lowered with sliders closed.
→ Limiter sensor must be fitted.

5.4.4 Tarpaulin (ZA-M Comfort and Hydro only)

Open/close tarpaulin

Press key until tarpaulin is fully opened or closed.
5.4.5 Fertiliser calibration (only ZA-M Profis)

- Automatic fertiliser calibration for weighing spreader, see Page 18.
- Online calibration for weighing spreader, see Page 19

Fig. 68/…

1. Display fertiliser spreader during calibration travel.
   - Calibrate fertiliser
     - at start of spreading or
     - calibrate fertiliser online.
2. Display no calibration currently / online calibration temporarily switched off.
3. Display current calibration factor
4. Display quantity of dispensed fertiliser in kg during calibration.
5. Spreader is not in resting position

5.4.6 Refill fertiliser

Filling with fertiliser see page 63.
5.4.7  Switching spreading disc drive on and off (ZA-M Hydro only)

![Spreading discs on/off](image)

To switch on, press the key for at least three seconds until the tone stops.

The spreader discs operate at the speed entered in the Machine data menu

Fig. 69/…

(1) Display spreading disc speed

![Fig. 69](image)

**WARNING**

Risk of injury from the rotating discs.

Keep people away from the discs.

5.4.8  Boom part width sections (ZA-M Hydro only)

![Switch on boom part width sections left, right (3 steps)](image)

Switch on boom part width sections left, right (3 steps)

![Switch off boom part width sections left, right (3 steps)](image)

Switch off boom part width sections left, right (3 steps)

Fig. 70/…

(1) Display two right-hand boom part width sections switched off.

![Fig. 70](image)

The boom width can be reduced when the sliders are closed.
5.4.9 Boundary spreading (ZA-M Hydro only)

- Switch on/off trench spreading left/right.
- Switch on/off boundary spreading left/right.
- Switch on/off side spreading left/right.

Boundary spreading can also be carried out on both sides.
→ Switch on boundary spreading left and right.

Reduce/increase spreader disc speed for selected type of spreading.

- The boundary spreading speed is increased or reduced by 10 rpm each time the key is pressed.
- The changed speed is stored for later boundary spreading.

- When the discs are turning, the speed of the discs on the boundary side is reduced to the boundary setting.
- The boundary spreading speed is stored in the Machine Data menu for the respective boundary spreading type.
- For boundary and trench spreading, a reduced quantity is entered in the Machine Data menu on the boundary side.

Fig. 71/…
(1) Display border spreading, switched on
(2) Display border spreading, preselected
(3) Display boundary spreading, switched on.
(4) Display boundary spreading, preselected.
(5) Display trench spreading, switched on
(6) Display trench spreading, preselected
(7) Display reduced spreading disc speed

Boundary spreading can be selected when the sliders are closed.
5.4.10 TrailTron drawbar

Switch between manual mode ↔ automatic mode

TrailTron – Steer drawbar to left / right

(1) TrailTron in automatic mode
(2) TrailTron in manual operation
(3) TrailTron in road operation
(4) TrailTron safety function active, TrailTron is switched off!
(5) Display of current setting angle of steering axle/drawbar.
(6) The drawbar is steered left against the slope.
(7) The drawbar is steered right against the slope.
(6,7) Light up simultaneously:
   The TrailTron works until the drawbar reaches its central position, then the drawbar remains in the central position!

To employ the TrailTron, the power take-off speed of the tractor ECU must be provided!

DANGER
The following are prohibited while the TrailTron is switched on:
- Manoeuvring
- Travelling on the road
Risk of accident caused by turning the machine over!
DANGER
Risk of the machine tipping over when the steering drawbar is pushed in; particularly on very uneven or sloping terrain!

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.

Adapt your driving technique accordingly and reduce speed when performing a turning manoeuvre on a headland, so that you are in complete control of the tractor and machine.

Safety functions for preventing the machine from tipping over when the TrailTron is switched on.

Safety functions!
- If the hydraulic slider is closed on both sides with the tractor power take-off switched on:
  Trail-Tron is switched to manual mode after 30 seconds (when the drawbar is in central position).
- If the tractor power take-off is switched off:
  TrailTron is switched off (when the drawbar is in its central position).
- With automatic mode activated, the Auto symbol appears in the display. The machine computer ensures the precise tracking of the machine.
- When a travel speed greater than 20 km/h is reached (road travel), the TrailTron drawbar moves to the zero setting and remains in road travel mode.
  The road travel symbol appears in the display.

When the travel speed again drops below 20 km/h, the TrailTron switches back to the previously selected mode.
- When manual mode is active, the symbol appears. Press the or key until the tyres of the machine are exactly in the tractor’s tracks again.

The machine realigns itself with the tractor. The selected steering limit is shown in the display.
Transportation

DANGER
Risk of accident caused by turning the machine over!
For road transport, set the steering drawbar to transport position!

1. Set the steering drawbar to the central position (steering drawbar aligns with machine).
   For this:
   1.1 Put TrailTron in manual operation
   1.2 Align the steering drawbar manually.
   TrailTron stops automatically when it reaches the central position.
2. Switch off tractor control unit 1 (hose mark 1 x red).
   Switch off oil circulation.
3. Secure the steering drawbar by closing the stop tap (Fig. 73/1) in Position 0.

CAUTION
Risk of collision between tractor wheel and hydraulic cylinder of steering drawbar.
The right-hand steering lock of the tractor with the steering drawbar in transport position is restricted!
5.5 Procedure for use

5.5.1 ZA-M Tronic operation

1. Select Work menu in the ISOBUS terminal.
2. Set the power take-off speed (see setting chart).
3. Drive off and open both slide gates using tractor controllers 1 and 2.

4. **ZA-M Profis**
   - Start with a calibration travel
   - Perform online calibration (switch on in Machine Data menu).

→ During spreading, the terminal shows the Work menu. All the settings required for spreading should be entered here.

→ The calculated data is stored for the current job.

After use:
1. Close both slide gates using tractor control units 1 and 2.
2. Switch off power take-off.
5.5.2 **ZA-M Comfort /ZG-B Precis operation**

1. Actuate tractor control unit 1 to supply the control block with hydraulic fluid.
2. Select Work menu in the ISOBUS terminal.
3. Set the power take-off speed (as indicated in the setting chart).
4. Move off and open both slide gates.
5. Weighing spreader:
   - Start with a calibration travel
   - or
   - Perform online calibration (switch on in Machine Data menu).
6. Once boundary spreading has started:
   - Switch on limiter
   - During spreading, the terminal shows the Work menu. All the settings required for spreading should be entered here.
   - The calculated data is stored for the current job.

**After use:**

1. Close both slide gates.
2. Switch off power take-off.
3. Actuate tractor control unit 1 to stop the hydraulic fluid supply to the control block.
5.5.3 Operation **ZA-M Hydro / ZG-B Ultra Hydro**

1. Actuate tractor control unit 1 to supply the control block with hydraulic fluid.

2. Select Work menu in the ISOBUS terminal.

3. Switch on spreading discs.

4. Move off and open the slide gates.

5. **ZA-M Profis**:
   - Start with a calibration travel
   - or
   - Perform online calibration (switch on in Machine Data menu).

6. If starting with boundary, trench or border spreading:
   - Select type of boundary spreading and edge of the field (left / right), and switch on.
   - During spreading, the terminal shows the Work menu. All the settings required for spreading should be entered here.
   - The calculated data is stored for the current job.

**After use:**

1. Close the slide gate.

2. Switch off spreading discs.

3. Actuate tractor control unit 1 to stop the hydraulic fluid supply to the control block.
6 Maintenance and cleaning

**WARNING**
Perform maintenance and cleaning only with the spreading discs and agitator shaft drive switched off.

6.1 Cleaning

**DANGER**
Do not reach into the outlet opening while operating the sliders! Risk of crushing!

To clean the fertiliser spreader, you must have the slide gates and the electric dosing sliders open so the water and residual fertiliser can drain.

- Opening/closing the metering slider (see Machine Data menu, Page 32).
- Opening/closing the slide gates (see Work menu for **ZA-M Hydro/ZA-M Comfort**).

6.2 Maintenance work

**Basic slider setting**

If, despite identical slider positions, you find that the two hopper tips are not emptying uniformly, check the basic slider settings, see Page 42.
7 Problem

7.1 Failure of the setting motors

If faults occur in the terminal or electric setting motors that cannot be rectified immediately, you can still continue working

- after extending the setting motors,
- after modifying the setting lever.

The rate as per setting chart is then determined by means of the setting lever (Fig. 74/1).

1. Close the hydraulic slider.
2. Loosen the thumb bolt (Fig. 74/2).
3. Look for the required slider position on the scale (Fig. 74/3).
   → See setting chart
4. Adjust the read-off edge (Fig. 74/4) of the setting lever pointer (Fig. 74/5) so that it corresponds to the scale value.
5. Insert washers behind the setting lever.
6. Tighten the thumb bolt (Fig. 74/2).

Fig. 74

Fig. 75
Extending the setting motors and modifying the setting lever:

1. Remove the two securing clips (Fig. 75/3) with pliers.
2. Withdraw the two hinge pins (Fig. 75/4).
3. Remove the setting motor (Fig. 75/1) from the engine console.
4. Raise the setting motor and detach the pushrod (Fig. 75/2) from the plug-in connection of the metering slider.
5. Then secure the setting motor with detached pushrod back in the engine console as prescribed.

6. Set up the clamping device (Fig. 76/1) for the setting lever (Fig. 76/2) as follows:
   6.1 Unscrew the wing nut (Fig. 76/3).
   6.2 Remove the screw and reposition the two washers (Fig. 76/4) from the back (Fig. 76/5) to the front (Fig. 76/6).

7.2 Failure of the speed signal from the CAN bus

A simulated speed can be entered in the Machine Data menu as a source for the speed signal.

This allows continuing with spreading without a speed signal.

Proceed as follows to do so:
1. Enter simulated speed.
2. Maintain the simulated speed as you continue spreading.
Manufacturers of mineral fertiliser Spreaders, field sprayers, sowing machines, soil cultivation machines, multipurpose warehouses and communal units