

Operating Manual

AMAZONE

ZG-B 8200 Truck

Pack top spreader



MG5979
BAG0170.3 09.22
Printed in Germany

SmartLearning



**Please read this operating
manual before first commis-
sioning.
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

Manufacturer:	AMAZONEN-WERKE H. DREYER SE & Co. KG
Machine Ident. No.:	
Type:	ZG-B 8200 Truck
Permissible system pressure (bar)	
Year of manufacture:	
Factory:	
Basic weight (kg):	
Approved total weight (kg):	
Maximum load (kg):	

Manufacturer's address

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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

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Compilation date:	09.22

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Foreword

Foreword

Dear Customer,

You have chosen one of the quality products from the wide product range of AMAZONEN-WERKE, H. DREYER SE & 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 any questions or problems, please consult this operating manual or contact your local service partner.

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

User evaluation

Dear Reader,

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

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1 User Information

The User Information section provides 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

Operator control action and responses

Actions to be carried out by the operator are given as a numbered list. It is important that the sequence of steps is observed. The responses for each operator control action are given by an arrow. Example:

1. Operator control action step 1
→ Machine response to operator control action 1
2. Operator control action step 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 bracket refer to items 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

This section contains important information on safe operation of the machine.

2.1 Obligations and liability

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.

Obligations of the operator

The operator is obliged only to let those people work with/on the machine who

- Are aware of the basic workplace safety information and accident prevention regulations.
- Have been trained in working with/on the machine.
- Have read and understood this operating manual.

The operator is obliged

- To keep all the warning symbols on the machine in a legible state.
- To replace damaged warning symbols.

Obligations of the user

Before starting work, anyone charged with working with/on the machine is obliged

- To comply with the basic workplace safety instructions and accident prevention regulations.
- To read and follow the "General safety information" section of this operating manual.
- To read the section "Warning symbols and other labels on the machine" (page 16) of this operating manual and to follow the safety instructions represented by the warning symbols when operating the machine.
- If you still have queries, please contact the manufacturer.

General safety instructions

Risks in handling the machine

The machine has been constructed to the state-of-the art and the recognised rules of safety. However, there may be risks and restrictions which occur when operating the machine

- For the health and safety of the operator or third persons,
- For the machine,
- For other goods.

Only use the machine

- For the purpose for which it was intended.
- In a perfect state of repair.

Eliminate any faults immediately which could impair safety.

Guarantee and liability

Our "General conditions of sales and delivery" are always applicable. These shall be available to the operator, at the latest on the completion of the contract. Guarantee and liability claims for damage to people or goods will be excluded if they can be traced back to one or more of the following causes:

- Improper use of the machine.
- Improper installation, commissioning, operation and maintenance of the machine.
- Operation of the machine with defective safety equipment or improperly attached or non-functioning safety equipment.
- Non-compliance with the instructions in the operating manual regarding commissioning, operation and maintenance.
- Independently-executed design changes to the machine.
- Insufficient monitoring of machine parts which are subject to wear.
- Improperly executed repairs.
- Disasters through the impact of foreign bodies and acts of God.

2.2 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 severity of the risk, and carries the following meaning:



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 cause 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.

2.3 Organisational measures

The operator must provide the necessary personal protective equipment as per the information provided by the manufacturer of the crop protection agent to be used, such as:

- Chemical-resistant gloves,
- Chemical-resistant overalls,
- Water-resistant footwear,
- A face mask,
- Breathing protection,
- Safety glasses,
- Skin protection agents, etc.



The operating manual

- Must always be kept at the place at which the machine is operated.
- Must always be easily accessible for the operator and maintenance personnel.

Check all the available safety equipment regularly.

2.4 Safety and protection equipment

Before each commissioning of the machine, all the safety and protection equipment must be properly attached and fully functional. Check all the safety and protection equipment regularly.

Faulty safety equipment

Faulty or disassembled safety and protection equipment can lead to dangerous situations.

2.5 Informal safety measures

As well as all the safety information in this operating manual, comply with the general, national regulations pertaining to accident prevention and environmental protection.

When driving on public roads and routes, then you should comply with the statutory road traffic regulations.

2.6 Operator training

Only those people who have been trained and instructed may work with/on the machine. The operator must clearly specify the responsibilities of the people charged with operation and maintenance work.

People being trained may only work with/on the machine under the supervision of an experienced person.

Activity \ People	Person specially trained for the activity ¹⁾	Trained operator ²⁾	Person with specialist training (specialist workshop*) ³⁾
Loading/Transport	X	X	X
Commissioning	--	X	--
Set-up, tool installation	--	--	X
Operation	--	X	--
Maintenance	--	--	X
Troubleshooting and fault elimination	X	--	X
Disposal	X	--	--

Legend:

X..permitted --..not permitted

- 1) A person who can assume a specific task and who can carry out this task for an appropriately qualified company.
- 2) Instructed persons are those who have been instructed in their assigned tasks and in the possible risks in the case of improper behaviour, have been trained if necessary, and have been informed about the necessary protective equipment and measures.
- 3) People with specialist technical training shall be considered as a specialist. Due to their specialist training and their knowledge of the appropriate regulations, they can evaluate the work with which they have been charged and detect possible dangers.

Comment:

A qualification equivalent to specialist training can be obtained through long term activity in the appropriate field of work.



Only a specialist workshop may carry out maintenance and repair work on the machine if such work is additionally marked "Workshop work". The personnel of a specialist workshop shall possess the appropriate knowledge and suitable aids (tools, lifting and support equipment) for carrying out the maintenance and repair work on the machine in a way which is both appropriate and safe.

2.7 Safety measures in normal operation

Only operate the machine if all the safety and protection equipment is fully functional.

Check the machine at least once a day for visible damage and check the function of the safety and protection equipment.

2.8 Danger from residual energy

Note that there may be residual mechanical, hydraulic, pneumatic and electrical/electronic energy on the machine.

Use appropriate measures to inform the operating personnel. You can find detailed information in the relevant sections of this operating manual.

2.9 Maintenance and repair work, fault elimination

Carry out prescribed setting, maintenance and inspection work in good time.

Secure all media such as compressed air and the hydraulic system against unintentional start-up.

Carefully fix and secure larger subassemblies to lifting gear when carrying out replacement work.

Schraubverbindungen regelmäßig auf festen Sitz kontrollieren und gegebenenfalls nachziehen.

Nach Beendigung der Wartungsarbeiten Sicherheitseinrichtungen auf Funktion überprüfen.

2.10 Design changes

You may make no changes, expansions or modifications to the machine without the approval of AMAZONEN-WERKE. This is also valid when welding support parts.

Any expansion or modification work shall require the written approval of AMAZONEN-WERKE. Only use the modification and accessory parts released by AMAZONEN-WERKE, so that the type approval remains valid according to the national and international regulations.

Vehicles with an official type approval or with equipment connected to a vehicle with a valid type approval or approval for road transport according to the German road traffic regulations must be in the state specified by the approval.



WARNING

Risk of contusions, cuts, dragging, catching or knocks from support parts.

It is forbidden to:

- Drill holes in the frame or on the running gear.
- Increase the size of existing holes on the frame or the running gear.
- Weld support parts.

2.10.1 Spare and wear parts and auxiliary materials

Immediately replace any machine parts which are not in a perfect state.

Only use AMAZONE spare and wear parts released by AMAZONEN-WERKE, so that the type approval remains valid according to the national and international regulations. The use of wear and spare parts from third parties does not guarantee that they have been constructed in a way as to meet the requirements placed on them.

AMAZONEN-WERKE shall accept no liability for damage caused by the use of unreleased spare and wear parts or auxiliary materials.

2.11 Cleaning and disposal

Handle and dispose of any materials used carefully, in particular

- When carrying out work on lubrication systems and equipment and
- When cleaning using solvents.

2.12 Operator workstation

The machine may only be operated by one person sitting in the driver's seat of the tractor.

2.13 Warning symbols and other labels on the machine



Always keep all the warning symbols on the machine clean and in a legible state. Replace illegible warning symbols. You can obtain the warning symbols from your dealer using the order number (e.g. MD 075).

Warning symbols - structure

Warning symbols indicate dangers on the machine and warn against residual dangers. At these points, there are permanent or unexpected dangers.

A warning symbol consists of two fields:



Field 1

is a symbol describing the danger, surrounded by triangular safety symbol.

Field 2

is a symbol showing how to avoid the danger.

Warning symbols - explanation

The column **Order number and explanation** provides an explanation of the neighbouring warning symbol. The description of the warning symbols is always the same and specifies, in the following order:

1. A description of the danger.
For example: danger of cutting!
2. The consequence of non-compliance with risk avoidance instructions.
For example: causes serious injuries to fingers or hands.
3. Instructions for avoiding the danger.
For example: only touch machine parts when they have come to a complete standstill.

2.13.1 Positions of warning symbols and other labels

The following diagrams show the arrangement of the warning symbols on the machine.

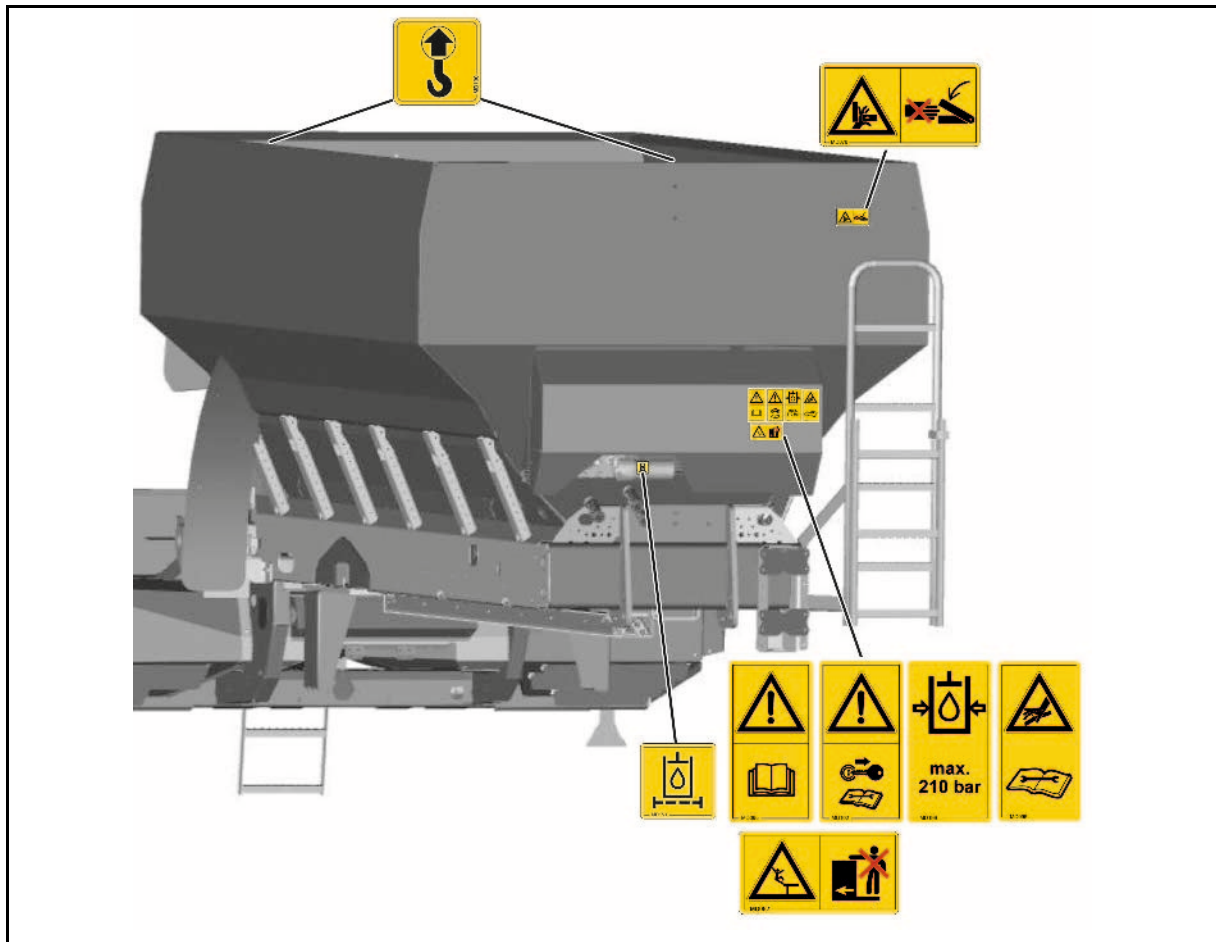


Fig. 1

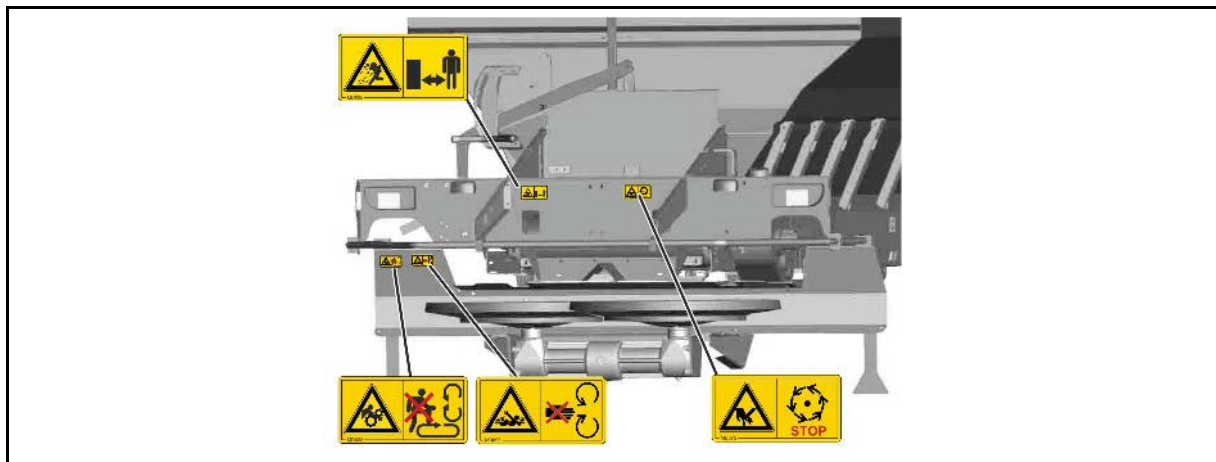


Fig. 2

MD 075

Risk of fingers and hands being cut or cut off by accessible, moving parts involved in the work process.

This danger can cause extremely serious injuries and the loss of body parts.

- Never reach into the danger area when the tractor engine is running with PTO shaft / hydraulic / electronics system connected.
- Wait for all moving machine parts to come to a complete standstill before reaching into the danger area.



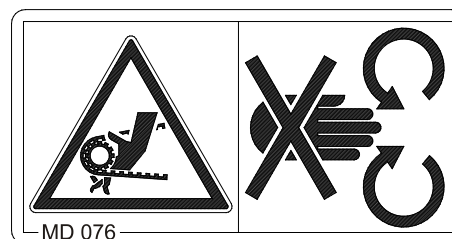
MD 076

Danger of your hand or arm being drawn in or caught by power-driven, unprotected chain or belt drives.

This danger causes serious injuries, including loss of body parts such as the hand or arm.

Never open or remove protective equipment from chains or belt drives,

- while the tractor engine is running and the PTO shaft is connected / hydraulic drive is engaged
- or the ground wheel drive is moving



MD 078

Risk of crushing fingers or hands by accessible moving machine parts.

This danger causes serious injuries, including loss of body parts such as fingers or hand.

Never reach into the danger area while the tractor engine is running and the PTO shaft / hydraulic system is connected.



MD 082

Risk of falling for personnel riding on treads or platforms.

This danger can cause extremely serious and potentially fatal injuries.

It is forbidden to ride on the machine or climb the machine when it is running. This also applies to machines with treads or platforms.

Make sure that nobody is riding on the machine.

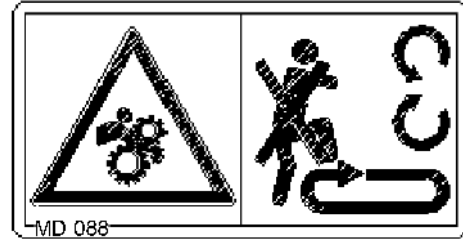


MD 088

Risk of being drawn in or caught by moving parts involved in the work process, caused by climbing on the loading platform when the machine is running.

This danger can cause extremely serious and potentially fatal injuries.

Never climb onto the loading platform when the tractor engine is running with PTO shaft / hydraulic / electronics system connected.



MD 093

Danger due to catching or entrapment due to accessible powered elements of the machine.

These dangers can cause extremely serious and potentially fatal injuries.

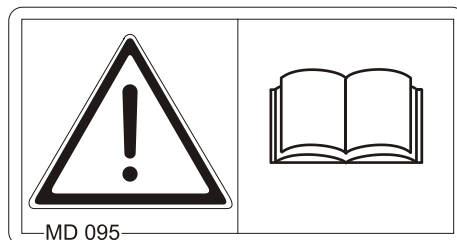
Never open or remove protective devices from driven machinery

- as long as the tractor engine is running with the PTO shaft connected / hydraulic drive engaged or
- as long as the tractor engine can be unintentionally started with the PTO shaft connected / hydraulic drive engaged.



MD 095

Read and follow the operating manual and safety information before starting up the machine!

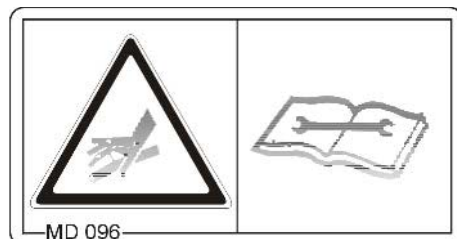


MD 096

Danger from escaping high-pressure hydraulic fluid due to leaking hydraulic hose lines.

This danger may cause serious injuries, perhaps even resulting in death, if escaping high-pressure hydraulic fluid passes through the skin and into the body.

- Never attempt to plug leaks in hydraulic hose lines using your hand or fingers.
- Read and observe the information in the operating manual before carrying out maintenance and repair work on the hydraulic hose lines.
- If you are injured by hydraulic fluid, contact a doctor immediately.

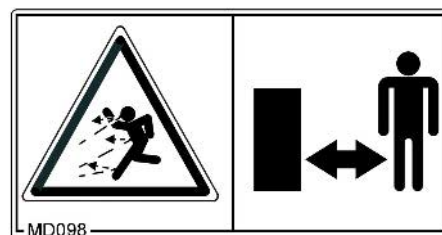


General safety instructions

MD 098

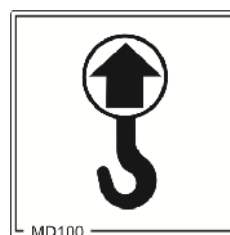
Danger from flying fertiliser particles.

Please ensure that all personnel maintain a sufficient safety distance and stay outside the danger area.



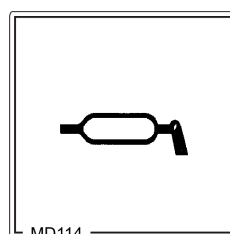
MD 100

This symbol indicates anchorage points for fastening slinging gear when loading the machine.



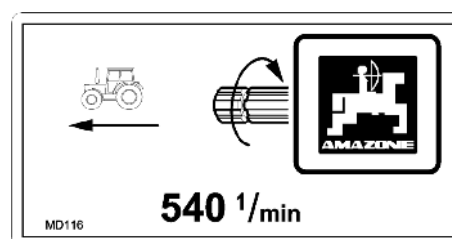
MD 114

This symbol indicates a lubrication point.



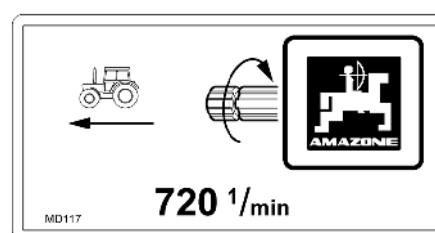
MD116

Nominal speed (540 rpm) and direction of rotation of the machine-side drive shaft.



MD 117

Nominal speed (720 rpm) and direction of rotation of the machine-side drive shaft.

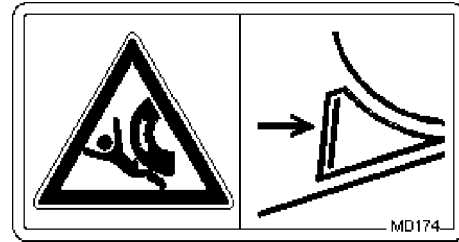


MD 174

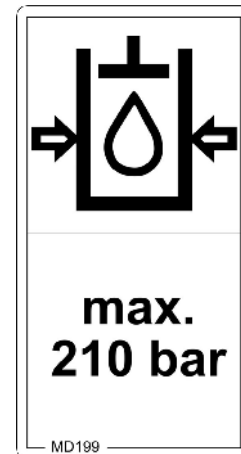
Danger from unintended continued movement of the machine.

Causes serious, potentially fatal injuries anywhere on the body.

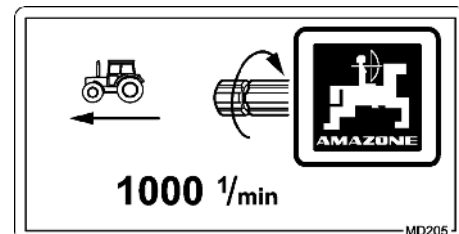
Secure the machine against unintended continued movement before uncoupling the machine from the tractor. To do this, use the parking brake and/or the wheel chock(s).

**MD 199**

The maximum operating pressure of the hydraulic system is 210 bars.

**MD205**

Nominal speed (1000 rpm) and direction of rotation of the machine-side drive shaft.



2.14 Dangers if the safety information is not observed

Non-compliance with the safety information

- Can pose both a danger to people and also to the environment and machine.
- Can lead to the loss of all warranty claims.

Seen individually, non-compliance with the safety information could pose the following risks:

- Danger to people through non-secured working areas.
- Failure of important machine functions.
- Failure of prescribed methods of maintenance and repair.
- Danger to people through mechanical and chemical impacts.
- Risk to environment through leakage of hydraulic fluid.

2.15 Safety-conscious working

Besides the safety information in this operating manual, the national general workplace safety and accident prevention regulations are binding.

Comply with the accident prevention instructions on the warning symbols.

When driving on public roads and routes, comply with the appropriate statutory road traffic regulations.

2.16 Safety information for the operator

2.16.1 General safety and accident prevention information

- Beside these instructions, comply with the general valid national safety and accident prevention regulations.
- The warning symbols and labels attached to the machine provide important information on safe machine operation. Compliance with this information guarantees your safety.
- Before moving off and starting up the machine, check the immediate area of the machine (children)! Ensure that you can see clearly!
- It is forbidden to ride on the machine or use it as a means of transport!
- Drive in such a way that you always have full control over the tractor with the attached machine.

In so doing, take your personal abilities into account, as well as the road, traffic, visibility and weather conditions, the driving characteristics of the tractor and the connected machine.

Use of the machine

- Before starting work, ensure that you understand all the equipment and actuation elements of the machine and their function. There is no time for this when the machine is already in operation!
- Do not wear loose-fitting clothing! Loose clothing increases the risk over being caught by drive shafts!
- Only start-up the machine, when all the safety equipment has been attached and is in the safety position!
- Comply with the maximum load of the connected machine and the approved axle and drawbar loads of the tractor. If necessary, drive only with a partially filled hopper.
- It is forbidden to stand in the working area of the machine.
- It is forbidden to stand in the turning and rotation area of the machine.
- There are contusion and cutting points at externally-actuated (e.g. hydraulic) machine points.
- Only actuate externally-actuated machine parts when you are sure that there is no-one within a sufficient distance from the machine!

2.16.2 Hydraulic system

- The hydraulic system is under a high pressure.
- Replace the hydraulic hose line if it is damaged or worn. Only use original AMAZONE hydraulic hose lines.
- The hydraulic hose lines should not be used for longer than six years, including any storage time of maximum two years. Even with proper storage and approved use, hoses and hose connections are subject to natural ageing, thus limiting the length of use. However, it may be possible to specify the length of use from experience values, in particular when taking the risk potential into account. In the case of hoses and hose connections made from thermoplastics, other guide values may be decisive.
- Never attempt to plug leaks in hydraulic hose lines using your hand or fingers.

Escaping high pressure fluid (hydraulic fluid) may pass through the skin and ingress into the body, causing serious injuries!

If you are injured by hydraulic fluid, contact a doctor immediately. Danger of infection.

- When searching for leakage points, use suitable aids, to avoid the serious risk of infection.

2.16.3 Electrical system

- When working on the electrical system, always disconnect the battery (negative terminal).
- Only use the prescribed fuses. If fuses are used that are too highly rated, the electrical system will be destroyed – risk of fire.
- Ensure that the battery is connected correctly - firstly connect the positive terminal and then connect the negative terminal. When disconnecting the battery, disconnect the negative terminal first, followed by the positive terminal.
- Always place the appropriate cover over the positive battery terminal. If there is accidental earth contact, there is a risk of explosion.
- Risk of explosion. Avoid sparking and naked flames in the area of the battery.
- The machine can be equipped with electronic components, the function of which may be influenced by electromagnetic interference from other units. Such interference can pose risks to people, if the following safety information is not followed.
 - If retrofitting electrical units and/or components on the machine with a connection to the on-board power supply, the user is responsible for checking whether the installation might cause faults on the vehicle electronics or other components.
 - Ensure that the retrofitted electrical and electronic components comply with the EMC directive 2014/30/EEC in the appropriate version and carry the CE mark.

2.16.4 Fertiliser spreader operation

- Stay clear of the working area! Danger from flying fertiliser particles. Direct persons away from the throwing range of the fertiliser spreader. Do not walk or stand close to rotating spreading discs.
- Do not place any foreign objects in the hopper.
- While carrying out the spread rate check, beware of danger points from rotating machine parts.
- For side spreading at field edges, bodies of water or roads, use side spreading devices.
- Before each use, ensure that the attachment parts are properly fitted, particularly those for attaching the spreading discs and spreading vanes.

2.16.5 Universal joint shaft operation

- Instruct people to leave the danger area of the machine before you switch on the universal joint shaft.
- While work is being carried out with the universal joint shaft, there must be no one in the area of the universal drive or PTO shaft while it is turning.
- **WARNING!** After the universal joint shaft is switched off, there is a danger of injury from the continued rotation of freewheeling machine parts.

Do not approach the machine too closely during this time. You may work on the machine only after all machine parts have come to a complete stop.

2.16.6 Cleaning, maintenance and repairs

- Only carry out maintenance, repair and cleaning work on the machine when
 - The drive is switched off
 - The ignition key has been removed
 - The machine connector has been removed from the on-board computer
- Regularly check the nuts and bolts for a firm seat and retighten them as necessary.
- Secure the raised machine and/or raised machine parts against unintentional falling before maintaining, repairing or cleaning the machine.
- When replacing work tools with blades, use suitable tools and gloves.
- Dispose of oils, greases and filters in the appropriate way.
- Disconnect the cable from the tractor generator and battery before carrying out electrical welding work on the tractor and on attached machines.
- Spare parts must at least meet the specified technical requirements of AMAZONEN-WERKE. This is ensured through the use of original AMAZONE spare parts.

3 Mounting on a carrier vehicle

3.1 Loading with a lifting crane / mounting the spreader on the carrier vehicle

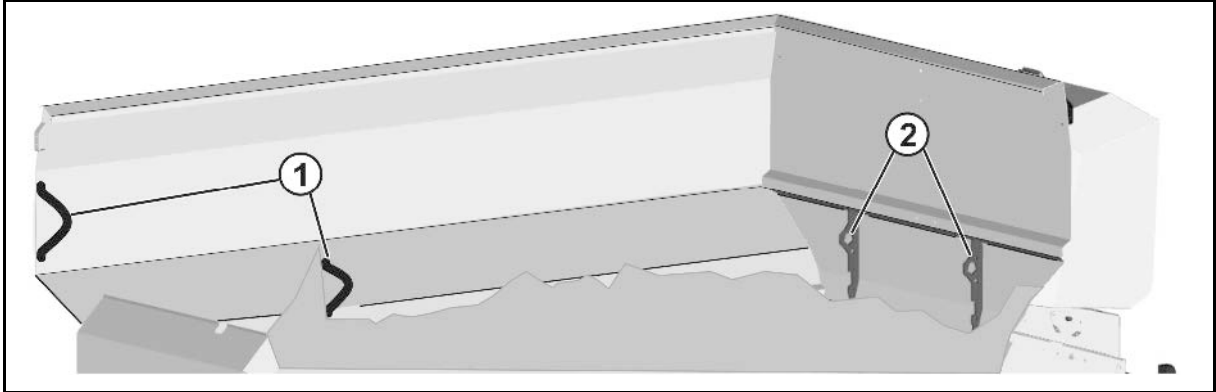


Fig. 3

There are 2 attachment points respectively at the front (Fig. 3/1) and rear (Fig. 3/2) in the hopper.



DANGER

When loading the implement with a lifting crane, the marked attachment points for slings must be used.



DANGER

The minimum tensile strength per sling must be 1000 kg!

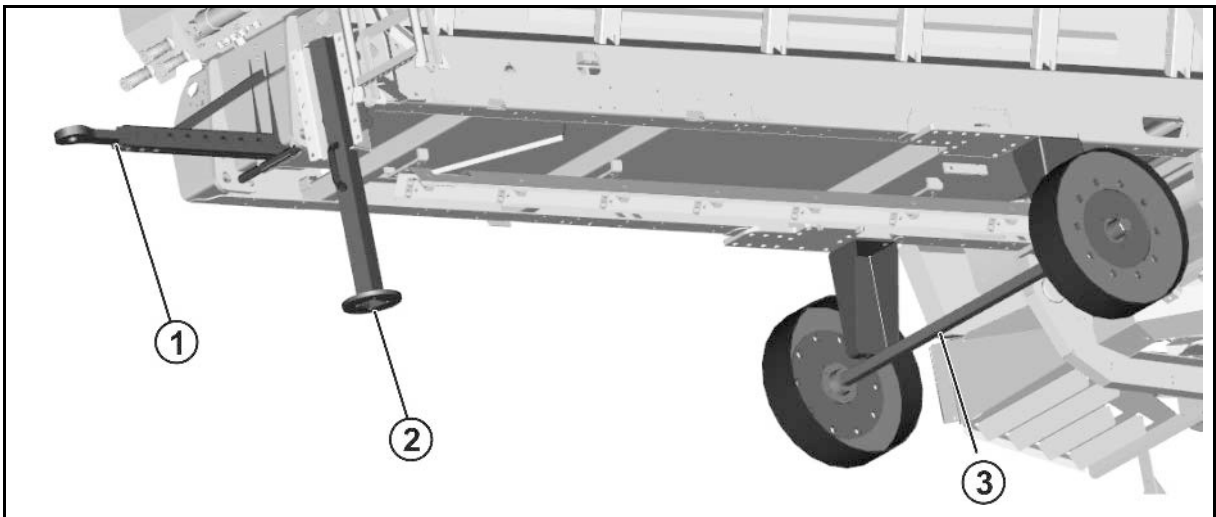


Fig. 4



Manoeuvring equipment (drawbar, jack and running gear) can be sent back and then reimbursed.

Mounting on a carrier vehicle

1. Lifting of the hopper using 4 attachment points.
2. Dismount the drawbar, jack and running gear (Fig. 4/1, 2, 3).
3. Mount the ZG TRUCK on the vehicle.
4. Couple the supply lines with the vehicle.
 - o Control terminal to the on-board computer
 - o Couple the hydraulic hoses
 - o Power supply via 7-pin socket
5. Install the control terminal in the driver cab and connect with the implement plug.

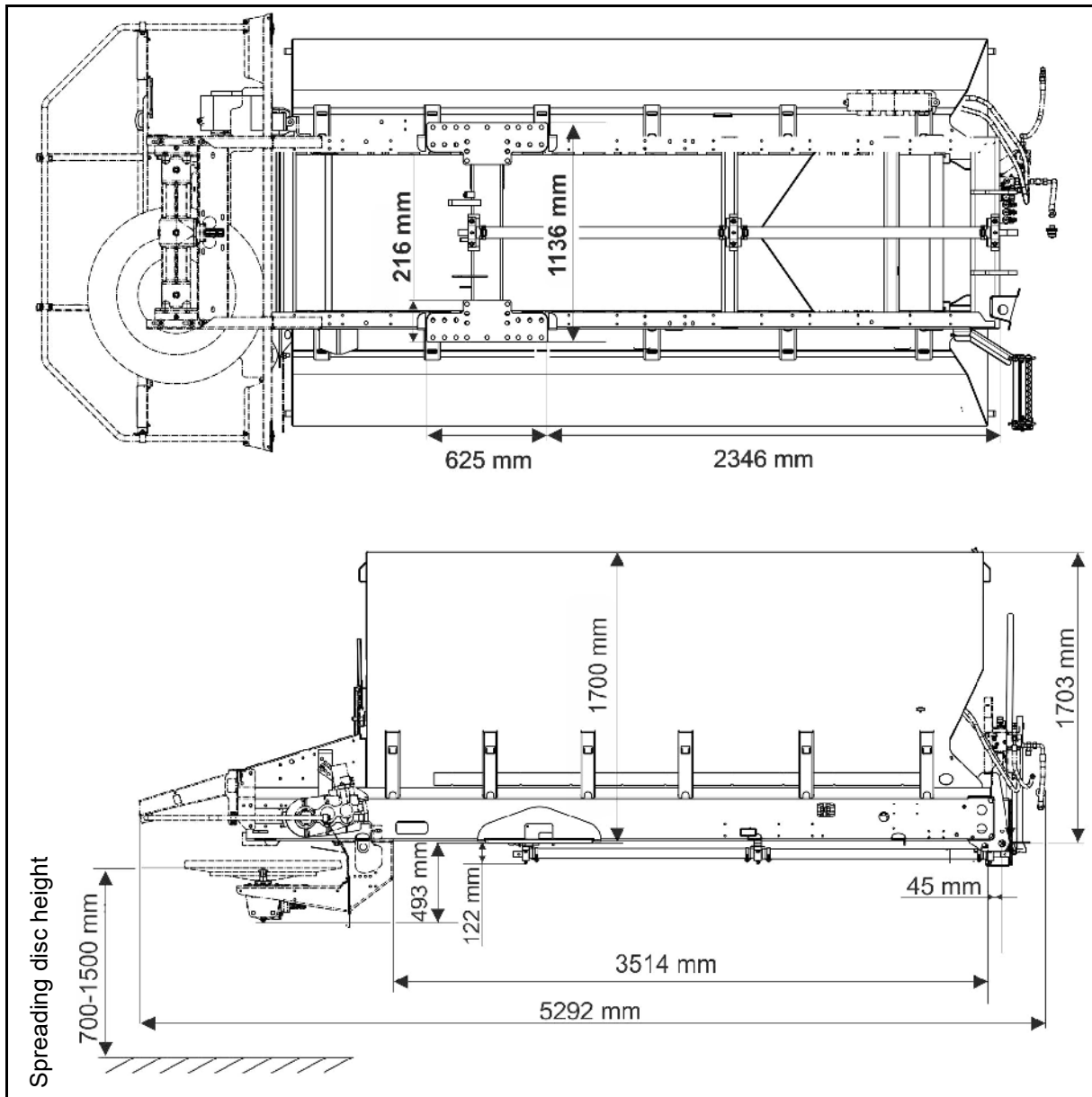


Observe that the maximum load capacity of the frame is 12000 kg!

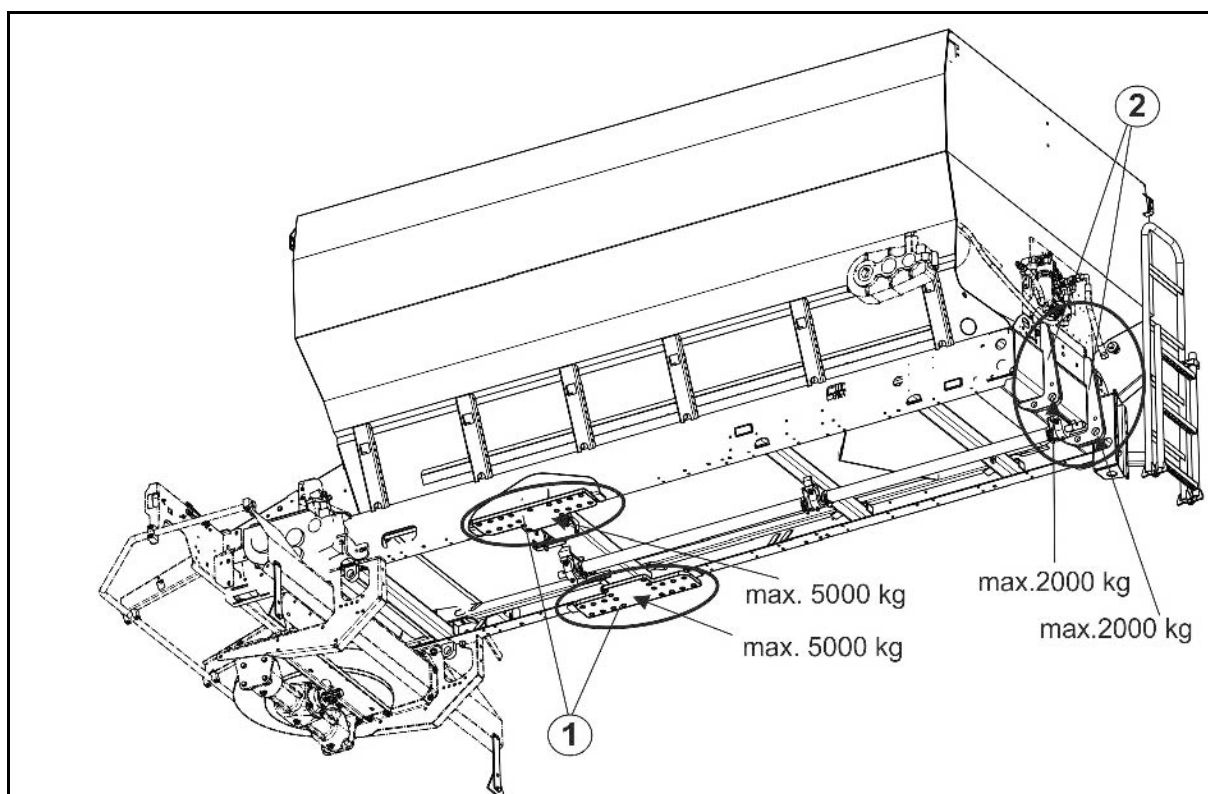
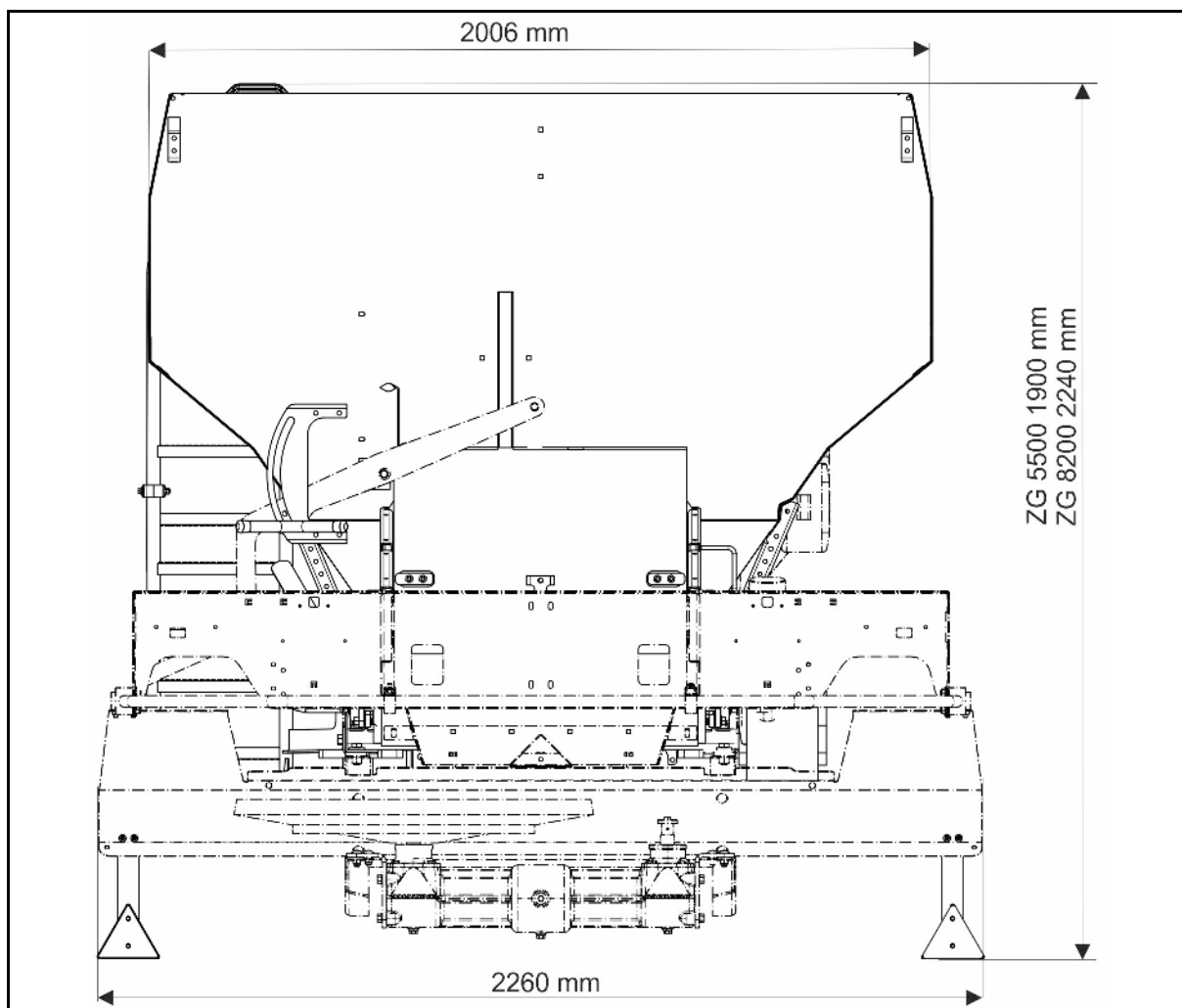


- To mount the ZG TRUCK on the carrier vehicle, use the mounting plates under the frame and the mounting straps at the front on the frame.
- Use adequately dimensioned connecting elements when mounting the ZG TRUCK on the carrier vehicle.
 - o Mounting plate bolted connection: At least 4x M 20 bolts respectively.
 - o Mounting straps: Pin diameter of 40 mm.
- Observe the permissible spreading disc height.
- Ensure that there is enough space for the folding ladder and access to the hydraulic block at the front of the ZG-TRUCK.

3.2 Mounting dimensions



Mounting on a carrier vehicle



- (1) Mounting plates for M20 bolted connection.
- (2) Mounting straps for pins with 40 mm diameter

3.3 Required HGV equipment

Electrical system

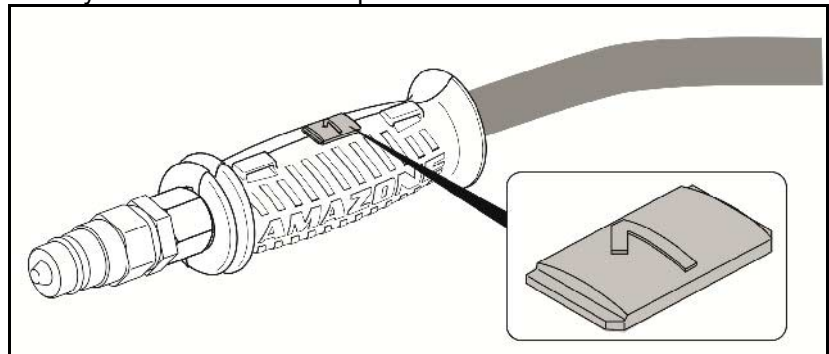
- Battery voltage: • 12V (Volt)
- Lighting socket: • 7-pin

Hydraulic system

- Maximum operating pressure: • 210 bar
- Tractor pump capacity: • At least 40 l/min at 180 bar
- Implement hydraulic fluid: • HLP68 DIN 51524




The implement hydraulic fluid is suitable for the combined hydraulic fluid circuits of all standard machines.









- Hydraulic control units: • All hydraulic hose lines are equipped with grips.
- Coloured markings with a code number or code letter have been applied to the gripping sections in order to assign the respective hydraulic function to the pressure line of a control unit!



Films are stuck on the implement for the markings that illustrate the respective hydraulic function.

- The control unit must be used in different types of activation, depending on the hydraulic function.

Latched, for a permanent oil circulation	
Tentative, activate until the action is executed	
Float position, free oil flow in the control unit	

Marking		Function		Tractor control unit	
beige			open	Double acting	
			close		
red		Permanent oil circulation		Single-acting	
red		Pressure-free return flow			
red		Load sensing control line (Where required / settings on the hydraulic block)			

Maximum permissible pressure in oil return: 8 bar

Therefore do not connect the oil return to the control unit, but to a pressure-free oil return flow with a large plug coupling.



WARNING

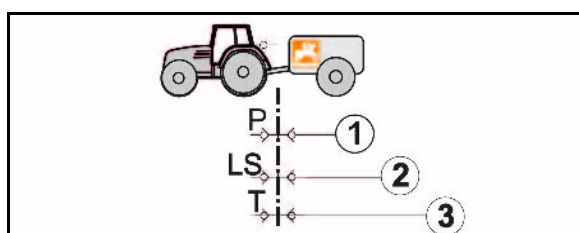
For the oil return, use only DN16 lines and select short return paths.

Pressurise the hydraulic system only when the free return has been correctly coupled.

Install the coupling union (supplied) on the pressure-free oil return flow.

Implement-side connections in compliance with ISO15657:

- (1) P – feed line, pressure line, plug standard width 20
- (2) LS – control line, plug standard width 10
- (3) T - return line, socket standard width 20



4 Product description

4.1 Overview of subassemblies

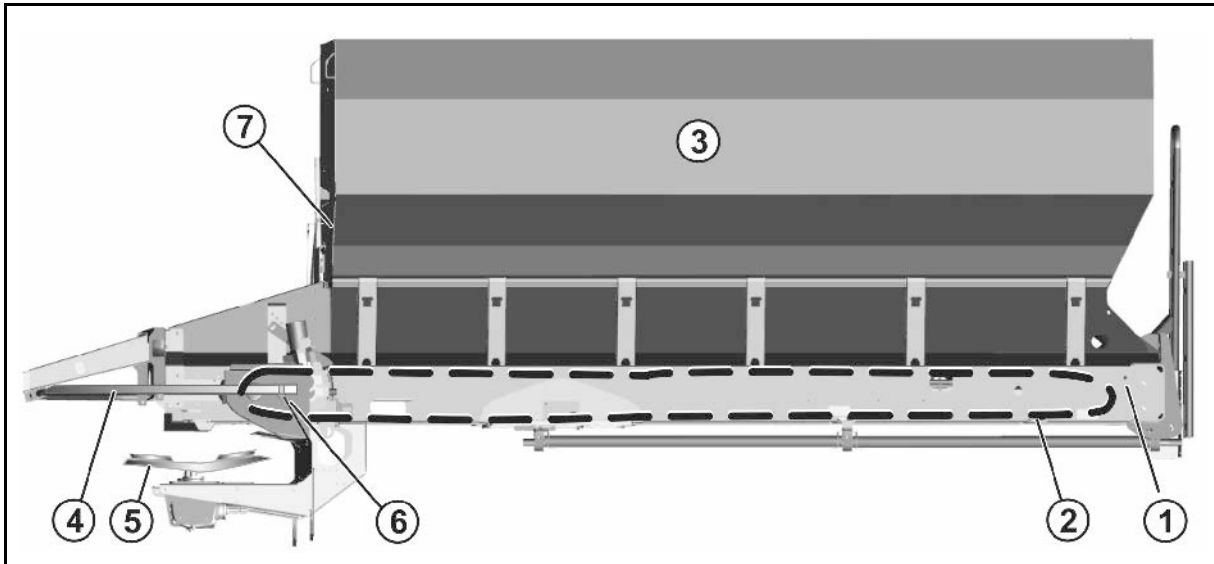


Fig. 5

- | | |
|-------------------|--|
| (1) Frame | (4) Guard tube |
| (2) Belt conveyor | (5) Spreader unit with spreading discs |
| (3) Hopper | (6) Gearbox |
| | (7) Swivelable hopper cover (Option) |
| | (8) Main shutter / Double shutter (Option) |

4.2 Safety and protection equipment

Guard tube

Standard: Guard tube above the spreading disc.

If the spreading disc is positioned at a height of 1500 mm, the guard tube must be installed underneath the spreading disc



Fig. 6

4.3 Transportation equipment

Fig. 7:

- (1) 2 rear lights
- (2) 2 red reflectors (triangular)
- (3) 1 registration plate holder with lighting

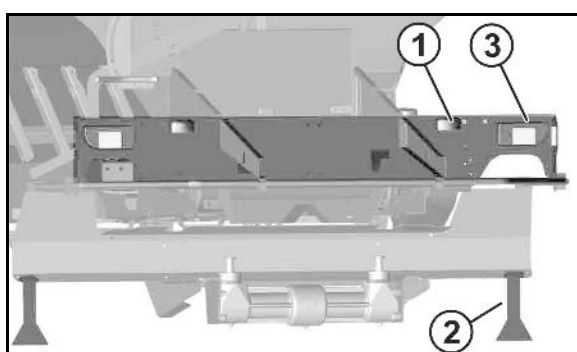


Fig. 7

Fig. 8/...

- (1) 2 x 3 reflectors, yellow
(lateral view: distance of max. 3m)

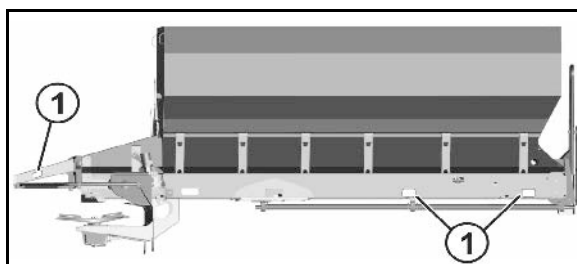


Fig. 8

4.4 Intended use

The machine

- has been designed for the use in agricultural and municipal operation and for spreading
 - dry, granular, prilled and crystalline fertiliser (OM spreading discs, sieve screen)
 - earth moist lime (lime spreading discs)
 - sand (additional package "sand")
 - grit, salt and mixtures (additional package "winter service").
- is firmly mounted on a HGV.

Sloping terrain can be navigated as follows:

- Along the contours

Direction of travel to the left	15 %
Direction of travel to the right	15 %
- Along the gradient

Up the slope	15 %
Down the slope	15 %

Using the steering drawbar with TrailTron control for precise tracking is prohibited if on sloping terrain. See page 72.

The intended use also includes:

- Compliance with all the instructions in this operating manual.
- Execution of inspection and maintenance work.
- Exclusive use of original AMAZONE spare parts.

Other uses to those specified above are forbidden and shall be considered as improper.

For any damage resulting from improper use:

- the operator bears the sole responsibility,
- AMAZONEN-WERKE assumes no liability whatsoever.

4.5 Danger areas

The danger area is the area around the machine in which people can be caught:

- By work movements made by the machine and its tools
- By materials or foreign bodies thrown out of the machine

Within the machine danger area, there are danger points with permanent or unexpected risks. Warning symbols indicate these danger points and warn against residual dangers, which cannot be eliminated for construction reasons. Here, the special safety regulations of the appropriate section shall be valid.

No-one may stand in the machine danger area as long as the engine is running with a connected hydraulic system.

The operating person may only move the machine or switch or drive the tools from the transport position to the working position or vice-versa when there is no-one in the machine danger area.

Danger points exist:

- In the area of moving parts,
 - Rotating spreading discs with spreading vanes
 - Rotating agitator shaft
 - Electrical actuation of the metering shutter
- When climbing onto the machine
- Under raised, unsecured machines and machine parts
- While spreading, from fertiliser pellets in the area of the spread fan

4.6 Rating plate

The rating plate shows:

- Machine ID no.:
- Type
- Factory



Fig. 9

4.7 Technical data

Hopper size		8200 l		
Length over-all:		5292 mm		
Width		2260 mm		
Height		2240 mm		
Frame load capacity		max. 12000 kg		
Drive	Spreader disc speed	Standard speed 720 rpm		
		Maximum permissible speed 870 rpm		
	Universal joint shaft speed	Standard speed depending on equipment		
		540 min ⁻¹	720 min ⁻¹	1000 min ⁻¹
	Gear ratio	PTO shaft speed : Spreading disc speed		
		1 : 1,33	1 : 1	1 : 0,72

4.7.1 Weights basic machine and modules

Basic machine	1345 kg
Charging sieves	75 kg
Swivelable hopper cover	80 kg

4.8 Noise production data

The workplace-related emission value (acoustic pressure level) is 74 dB(A), measured in operating condition at the ear of the tractor driver with the cabin closed.

Measuring unit: OPTAC SLM 5.

The noise level is primarily dependent on the vehicle used.

5 Structure and function

The following section provides information on the machine structure and the functions of the individual components.

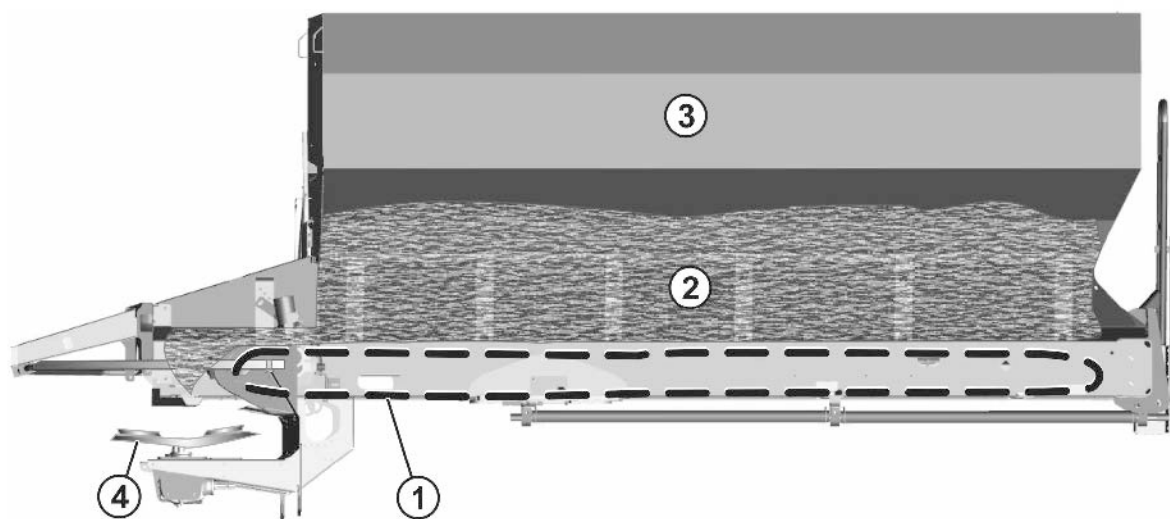


Fig. 10

The AMAZONE ZG-B TRUCK bulk fertiliser spreader is a fertiliser spreader with hoppers from 8,200 l in volume.

It is used for spreading

- damp fertiliser (spreading discs of lime) and
- granular fertiliser (spreading discs OM).

In the municipal sector, bulk precision broadcasters are used for

- lime treatment in forests
- applying sand on golf courses
- in winter service

The conveyor belt (Fig. 10/1) delivers the spreading material (Fig. 10/2) from the hopper (Fig. 10/3) to the spreader units.

The spreading discs (Fig. 10/4) are driven by the PTO shaft with 540 rpm., 720 rpm. or 1000 rpm.

The freely adjustable hopper outlet determines the amount of material entering the spreading unit and thus the amount of material to be spread. The spreader units distribute the spreading material.

The steep wall of the hopper and the wide floor conveyor belt mean that no material is left in the hopper even if damp fertiliser is used.

Equipment of the ZG-B Drive:

- Distance related metering via electro hydraulically controlled floor belt.
- AMATRON 3 in-cab terminal
- Double shutter system fitted as standard, can be disengaged on one side

5.1 Main shutter slide

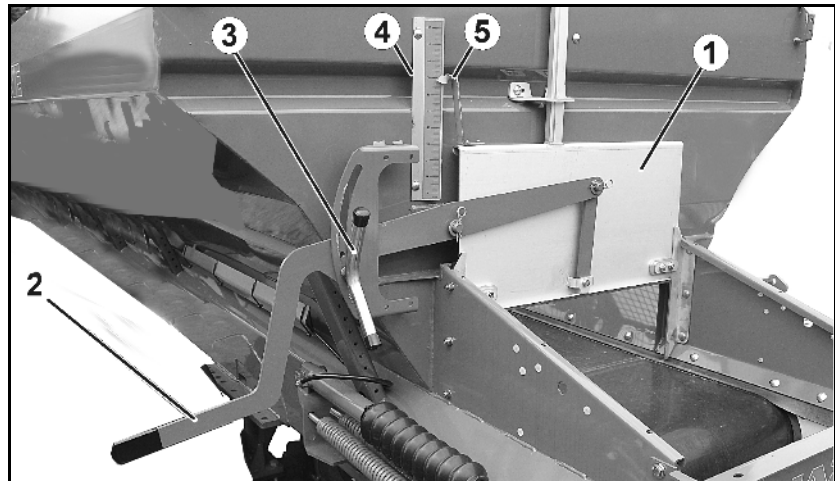


Fig. 11

- (1) Main shutter slide
- (2) Hand lever for adjustment
- (3) Clamping bolt to secure adjustment
- (4) Scale
- (5) Pointer

Adjust the quantity to be spread on the main shutter slide.

Close the main shutter slide or double shutter during the transport.

5.2 Double shutter

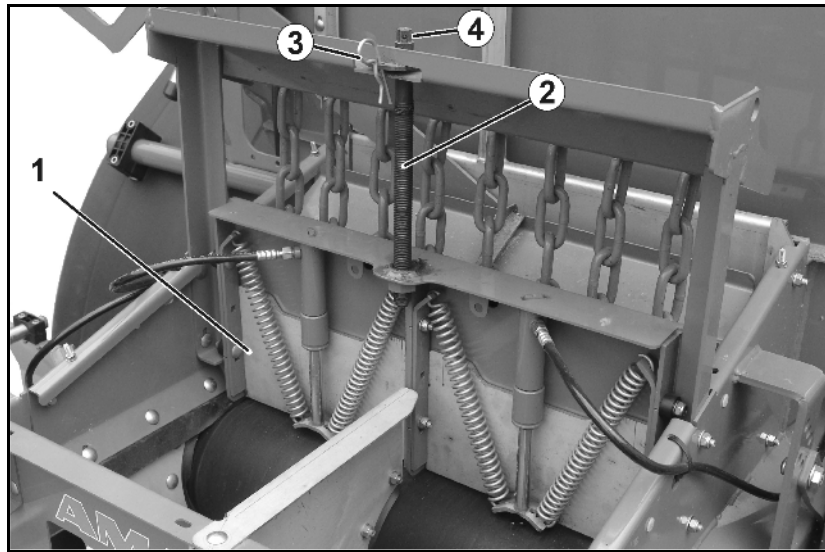


Fig. 12

- (1) Double shutter in operating position, both shutters closed
- (2) Spindle for commissioning the double shutter
- (3) R' clip
- (4) Attachment for 17 mm wrench

Open and close hydraulically the fertilizer sluice via double shutter.
By half side opening half side spreading is possible .

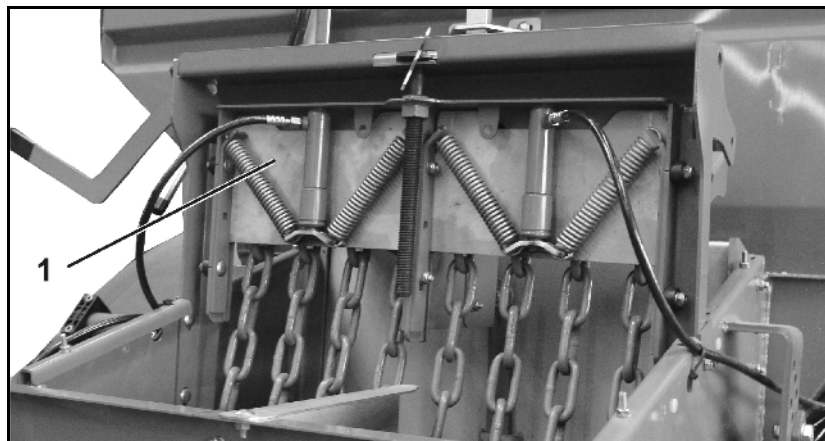


Fig. 13

- (1) Double shutter taken out of operation

Commissioning / decommissioning (workshop task)

1. Removing the R' clip.
2. Move the **double shutter** into the completely lowered / raised position **via the spindle** using a power screwdriver.
3. Secure the position using R' clips.

5.3 Fertiliser chain rake (option)



Use the chain rake to spread lime and bone meal.

The chain rake ensures even feed of the fertiliser to the spreading disc.

5.3.1 Chain rake, removable

Assembly:

insert the chain rake into the mount on the left and right side, and secure with a linch pin.

Removal:

pull out the linch pins and remove the chain rake from the mount.

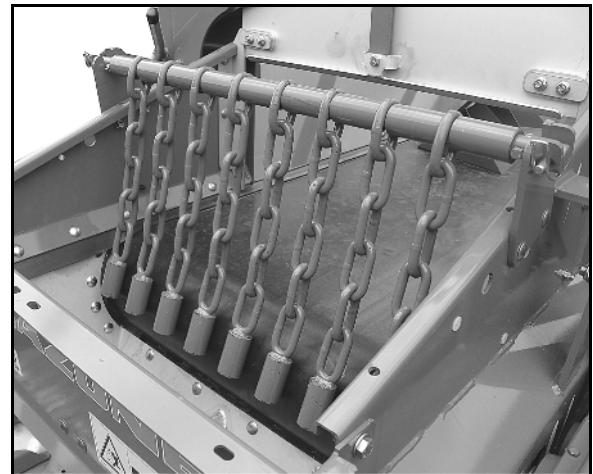


Fig. 14

5.3.2 Chain rake on the double shutter

Implements with a double shutter can be equipped with a chain rake mounted on the double shutter.

Put the chain rake into operating position (workshop task):

1. Take the double shutter out of operation.
2. Remove each of the chain ends from the parking device on the double shutter and place behind the conveyor belt.



Fig. 15

Structure and function

Take the chain rake out of operation (workshop task):

1. Put the chain hook in the parking device on the double shutter.
2. Put the double slider into operation.

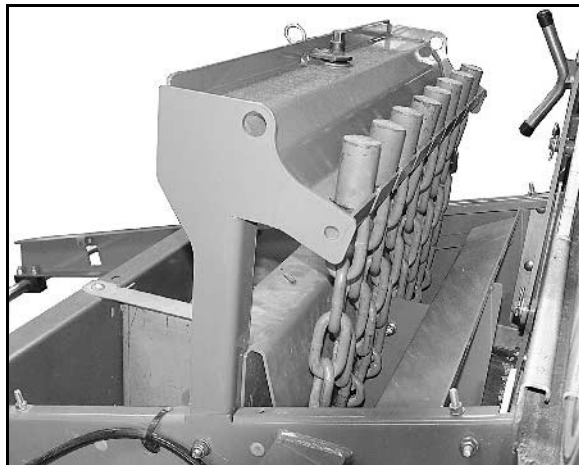


Fig. 16

5.4 Spreading granular fertiliser with spreading discs OM

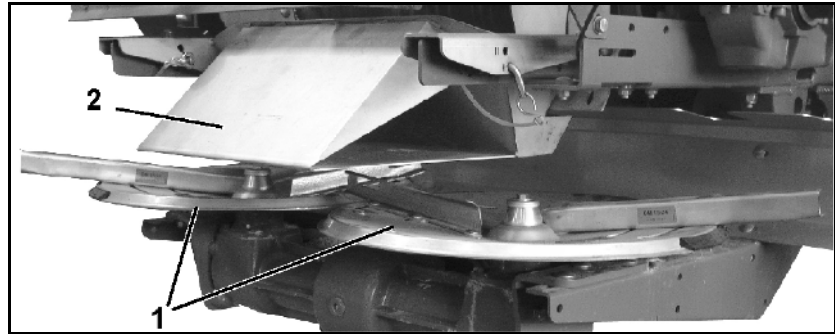


Fig. 17

- (1) spreading discs OM
- (2) funnel chute



For spreading granular fertilisers with the spreading discs OM always make use of the funnel chute. In this way the feed on point of the fertiliser on the spreading discs is optimised.

The working width can be infinitely adjusted by swivelling the spreading vanes on the **OM** spreading discs.

The **OM** spreading discs **10-16** can be used for working widths of 10-16 m.

The **OM** spreading discs **18-24** can be used for working widths of 18-24 m.

The **OM** spreading discs **24-36** can be used for working widths of 24-36 m.

As seen in the direction of travel:

- Left spreading disc (Fig. 18/1) with **L** mark.
- Right spreading disc (Fig. 18/2) with **R** mark.

Spreading vane:

- **Long** (Fig. 18/3) – Adjustment scale with values from 35 to 55.
- **Short** (Fig. 18/4) – Adjustment scale with values from 5 to 28.

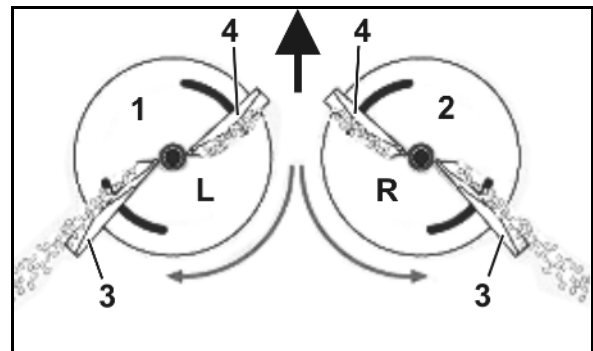


Fig. 18



The U-shaped spreading vanes are installed in such a way that the open sides point in the direction of rotation and take in the fertiliser.



Configure the settings using the information in the setting chart. You can easily check the configured working width using the mobile fertiliser test rig (optional).

Setting the funnel chute

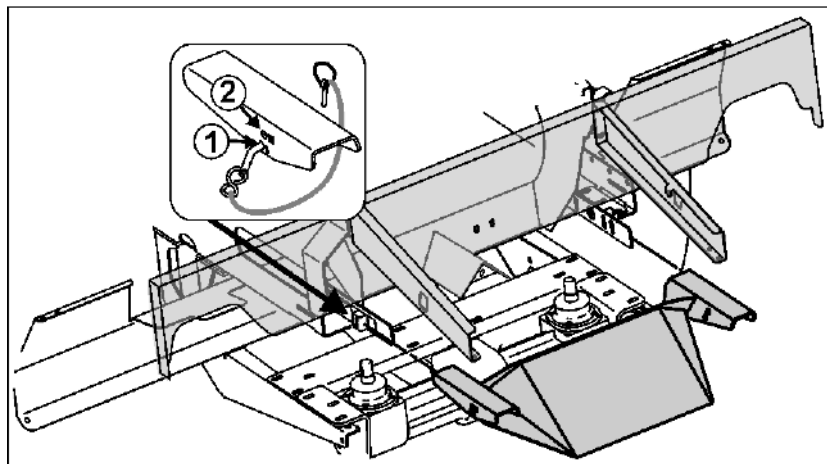


Fig. 19

The holes are labelled with the numbers 1 and 2.

Funnel chute position	Spread rate
Hole 1	up to 150 kg/ha
Hole 2	More than 150 kg/ha

5.5 Spreading lime with lime spreading discs

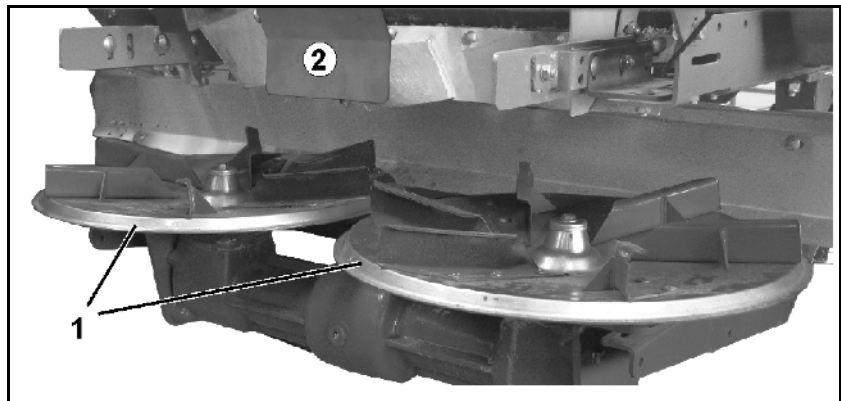


Fig. 20

- (1) spreading discs of lime
- (2) guide plate



For spreading earth-moist lime fertilizers, use the deflector guide and the chain rake.

Setting the guide plate

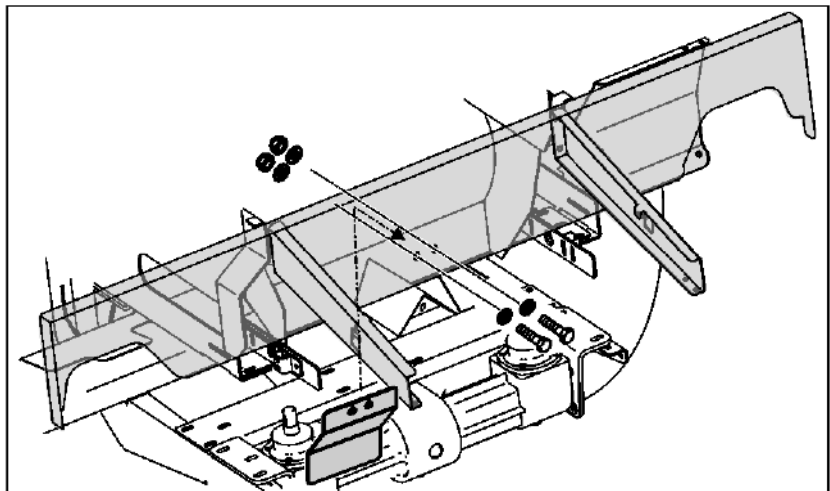


Fig. 21

5.6 Spreading granulated fertiliser with lime spreading discs

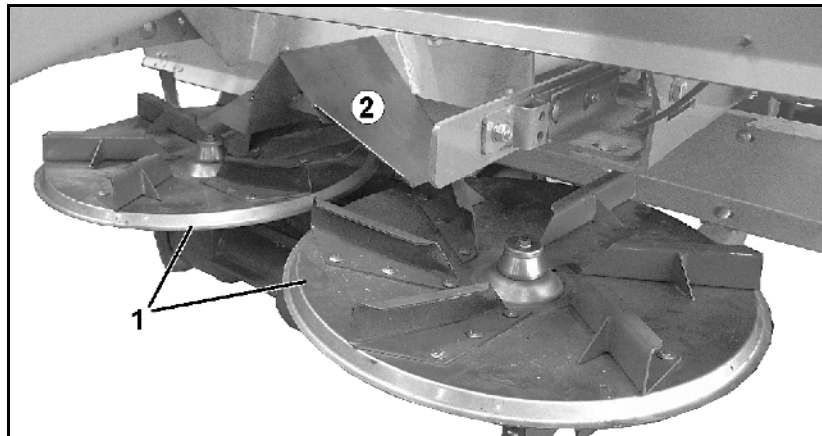


Fig. 22

- (1) spreading discs of lime
- (2) guide plate



Special case:

For spreading granulated non-nitrogen fertiliser up to a working width of 18 m, use the roof chute.

Roof chute assembly

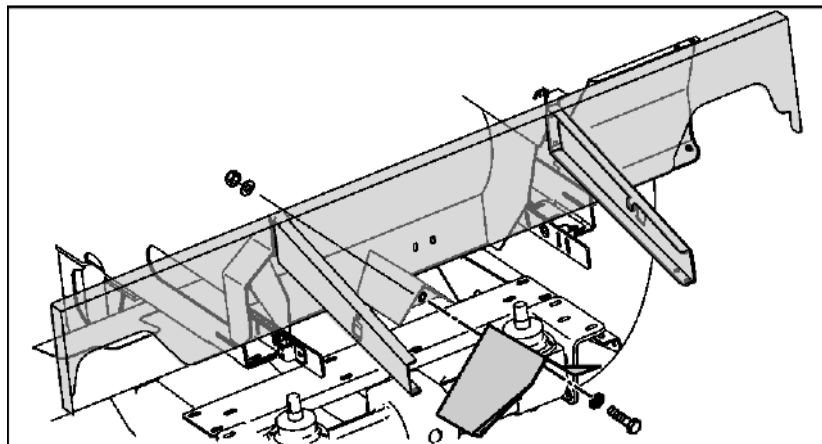


Fig. 23

5.7 Spreading of bone meal with bone meal spreading discs



DANGER

Risk of injury from colliding bone meal spreading vanes!

Before using the bone meal spreading vanes, turn them by hand to make sure that the spreading vanes do not collide.

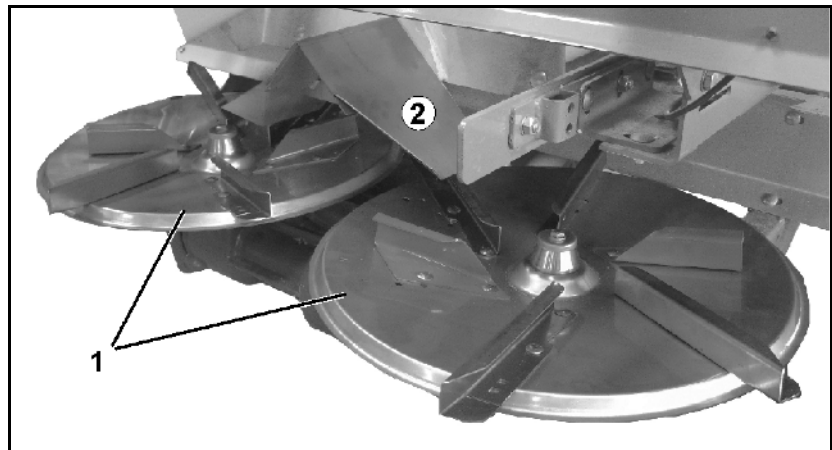


Fig. 24

(1) Spreading discs for bone meal

(2) Roof chute



For spreading bone meal up to a working width of 18 m, use the roof chute and the chain rake.

5.8 Spreading disc holder

Spreading disc holder (Fig. 25/1) For carrying two extra spreading discs on the left and right sides of the hopper.

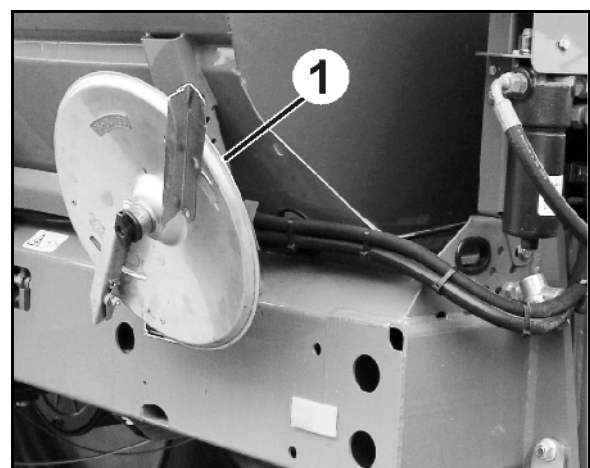


Fig. 25

5.9 Boundary and side spreading with the boundary spreading Limiter

If the first tramline is half the working width of the field edge, you can carry out boundary spreading using the Limiter (Fig. 26). Shut down and turn on hydraulically the Limiter.

To set the values of the setting table, position the boundary spread deflector on the guide bracket

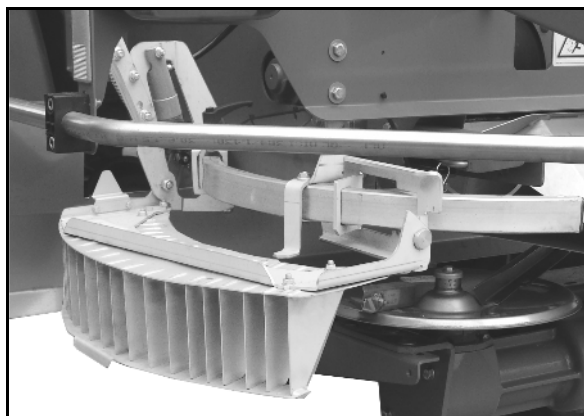


Fig. 26

5.10 Conveyor belt

The conveyor belt (Fig. 27) delivers the spreading material via the flap control from the hopper to the spreader units.

Depending on equipment version, the conveyor belt is driven on the with hydraulic drive.

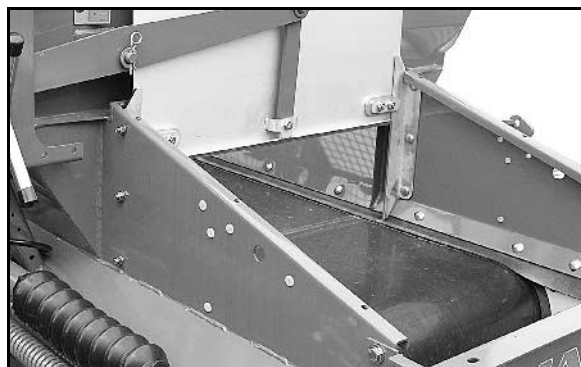


Fig. 27

5.10.1 Belt conveyor driven hydraulically

The belt conveyor is driven hydraulically by a gearbox.

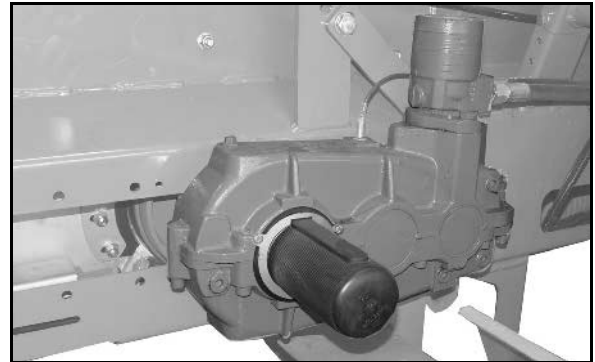


Fig. 28

5.11 Foldable ladder

The foldable ladder (Fig. 29/1) enables a user to comfortably ascend the hopper for cleaning purposes.



Warning

Keep the ladder folded in and locked when the vehicle is in motion (Fig. 29/2).

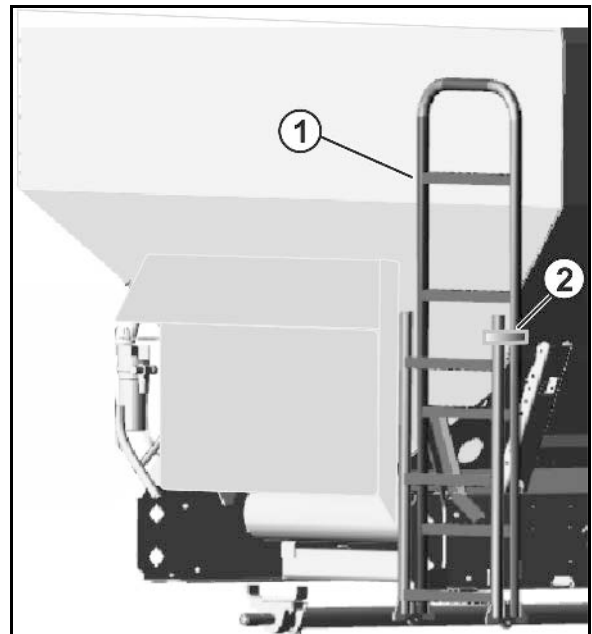


Fig. 29

5.12 Charging sieves

For spreading

- Granular fertiliser : Insert the sieve screen (Fig. 30/1) and secure using a lynch pin!
- Earth moist lime: remove the sieve screen.

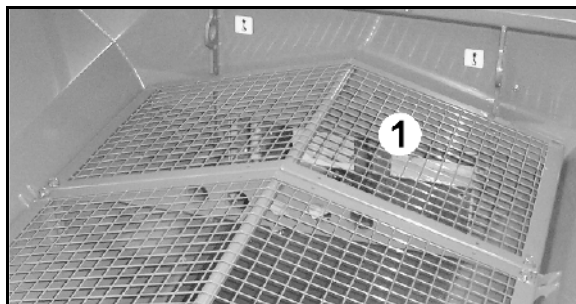


Fig. 30



The charging sieves can be trodden on in order to clean the inside of the hopper.

5.13 Swivelable hopper cover (optional)

The swivelable hopper cover ensures for dry goods to be spread, even in event of wet weather.

The hopper cover is optional.

- Hydraulically operated
 - o via tractor control unit *beige*
 - o via in-cab terminal AMATRON 3



Fig. 31

5.14 Setting chart

All commercially available types of fertiliser are spread in the AMAZONE spreading hall and the setting data determined in this manner are included in the setting chart. The types of fertiliser listed in the setting chart were in a perfect state when determining the values.



It is recommended to use the fertiliser database with the biggest fertiliser selection for all countries and the most current setting recommendations

- Through the FertiliserService application for Android and iOS mobile devices
- From the online FertiliserService

See www.amazone.de → Service & Support → FertiliserService

Using the QR codes shown below, you can directly access the AMAZONE website to download the FertiliserService application.




iOS



Android




Contact partners in the respective countries:

					
(GB)	0044 1302 755720	(I)	0039 (0) 39652 100	(H)	0036 52 475555
(IRL)	00353 (0) 1 8129726	(DK)	0045 74753112	(HR)	00385 32 352 352
(F)	0033 892680063	(FIN)	00358 10 768 3097	(BG)	00359 (0) 82 508000
(B)	0032 (0) 3 821 08 52	(N)	0047 63 94 06 57	(GR)	0030 22620 25915
(NL)	0031 316369111	(S)	0046 46 259200	(AUS)	0061 3 9369 1188
(L)	00352 23637200	(EST)	00372 50 62 246	(NZ)	0064 (0) 272467506
				(J)	0081 (0) 3 5604 7644


Identification of the fertiliser

Structure and function




(83011970)

**Ammonia sulphate nitrate 25%N + 12%S Lovo-
chemie (CZ)**




0.69

Calibration factor



3.79 mm

in diameter



0.92 kg/l

Bulk density















After identification of the fertiliser, read the settings from the setting table:

- Shutter position (for manual spread rate setting)
- Spreading vane position
- Boundary and border spreading with the limiter boundary spread deflector

Table 1

Specification of the settings for the spreading discs and the boundary spreading device.

The setting on depends on the spreading disc and the working width.

ZGB								
								
OM 10-12	10	25 / 45	720	A12	A15	-	1 A15	-
	12	25 / 45	720	A10	A13	-	2 A13	-
OM 10-16	10	18 / 49	720	A12	A15	-	1 A15	-
	12	18 / 49	720	A10	A13	-	2 A13	-
	15	18 / 49	720	A8	A12	-	A15	-

Symbols and units:









OM24-36	Spreading disc
	Working width
	Spreading vane position (short vane / long vane)
	Spreading disc speed in rpm
	Limiter pos.
	Border spreading
	Boundary spreading
	Ditch spreading
	Rate reduction for boundary spreading / ditch spreading Reduce shutter position by scale marks

Table 2

Specification of the shutter position for the main shutter.

The setting depends on the spread rate and the working width.


The setting applies for a forward speed of 12 km/h with belt speed 1 or 2.

Shutter position for rate setting for 12 km/h																								
kg/ha Width	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	450	500	475	550	600	700	800	900	1000
⋮																								
27 m	5	7	9.5	12	14.5	16.5	19	21.5	24	26	28	31	33.5	38	40.4	43	45	47.5	26	28.5	33.5	38	43	47.5
	Belt speed 1 → ← Belt speed 2																							



If the fertiliser cannot be clearly assigned to a certain type in the setting chart,

- AMAZONE FertiliserService will assist you over the telephone in classifying the fertiliser and will provide setting recommendations for your fertiliser spreader.

 +49 (0) 54 05 / 501 111

- Contact your Amazone representative in your country.

5.15 ZG-B Drive

5.15.1 AMATRON 3 in-cab terminal

The AMATRON 3 in-cab terminal (Fig. 32) controls, operates and monitors the ZG-B Drive in a convenient manner.

The spread rate is set electronically via adjustment the speed of the conveyer belt. The slider position required for a specific spreading quantity is determined by means of fertiliser calibration.

The hydraulic functions are operated using the AMATRON 3:

- o Open and close the slide gates.
- o Take the Limiter M into and out of service
- o Setting the quantity
- o Open and close the hopper covers.



Fig. 32

To start up the ZG-B , the basic data for the relevant machine type must be selected in the Setup menu on the AMATRON 3 (Fig. 33).

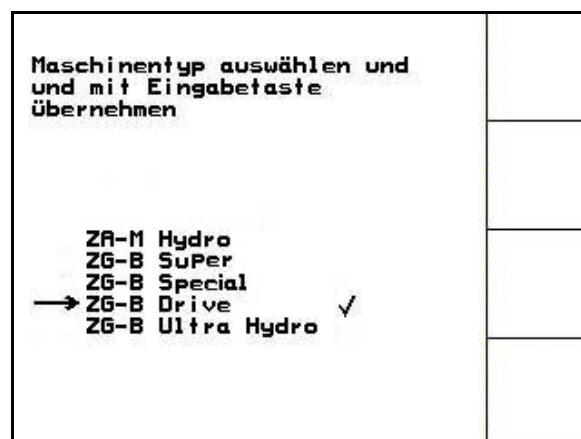


Fig. 33

5.15.2 Control block and machine computer

The valves of the hydraulic block are actuated via the AMATRON 3, thus ensuring all the hydraulic functions.

Depending on the equipment, the adjustable hydraulic throttles for the hydraulic swivelable hopper cover can be found on the hydraulic block.

The oil filter is equipped with a maintenance indicator and should be cleaned according to this.

Fig. 34/...

- (1) Cover plate of the hydraulic block and machine computer
- (2) Oil filter

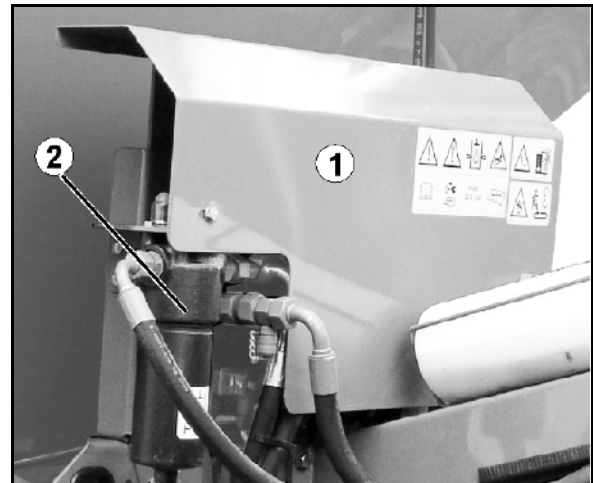


Fig. 34

5.15.3 EasyCheck

EasyCheck is the digital test rig to check the lateral distribution on the field.

EasyCheck consists of collection mats for fertiliser and the smartphone app to determine the fertiliser lateral distribution on the field.

The collection mats are placed at defined positions on the field and are strewn with fertiliser by driving back and forth.

Afterwards, the collection mats are photographed using the smartphone. The app checks the lateral distribution using the photos.

If necessary, changes to the settings are suggested.

Use the AMAZONE homepage to download the following:

- EasyCheck app
- EasyCheck operating manual

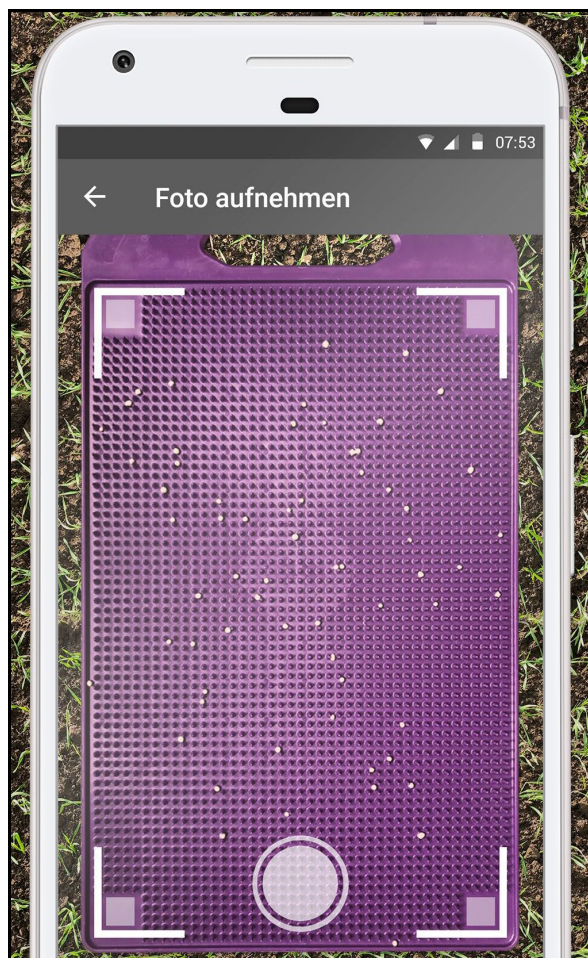


Fig. 35

5.15.4 Mobile test rig

The mobile test rig serves to check the lateral distribution on the field.

The mobile test rig consists of collection trays for the fertiliser and a measuring cup.

The collection trays are placed at four defined positions on the field and are strewn with fertiliser by driving back and forth.

Afterwards, the collected fertiliser is filled into a measuring cup. The evaluation is based on the fill levels in the measuring cup.

The evaluation is performed using:

- The calculation model in the mobile test rig operating manual.
- The implement software on the control terminal
- The EasyCheck app (AMAZONE homepage)

Refer to the operating manual for the mobile test rig



Fig. 36

5.16 MySpreader app

The AMAZONE mySpreader app enables convenient handling of the implement using a mobile device.

The implement can be connected to a mobile end device via Bluetooth.

The fertiliser spreader can exchange data with the mySpreader app via Bluetooth.

Content of the mySpreader app:

- FertiliserService app with settings for the fertiliser spreader
- EasyCheck app to determine the lateral distribution
- EasyMix app with setting recommendations for mixed fertiliser



The app can be purchased from the iOS Store or the Play Store.

To purchase the app, use the QR code or the link

www.amazone.de/qrcode_mySpreader.



6 Adjustments



When performing any adjustment work on the machine, observe the information in the following chapters

- "Warning symbols and other labels on the machine" from page 16 and
- "Safety information for the operator" from page 23.

Observing this information is important for your safety.



WARNING

Danger of, shearing, cutting, entrapment, entanglement, being drawn in, caught or struck during all adjustment work on the machine

- **due to unintentional contact with moving operating elements (spreading vanes of rotating spreading discs).**
- **due to tractor and connected machine unintentionally starting up or rolling away.**
- Secure the vehicle and the machine against unintentional start-up and rolling, before adjusting the machine. See page **Fehler! Textmarke nicht definiert..**
- Only touch moving operating elements (rotating spreading discs) when they have come to a complete standstill.

Please note that the individual spreading properties of the spread material have a significant influence on the lateral distribution and spread rate. For this reason, the listed setting values should only be considered as a reference.

The spreading properties depend on the following factors:

- The fluctuations in the physical data (specific weight, grain size, frictional resistance, cw value, etc.) within the same type and brand
- The different properties of the spread material due to weather factors and/or storage conditions.

As a result of this, we cannot guarantee that your spreading material, even with the same name and from the same manufacturer, has the same spreading properties as the listed spreading material. The specified setting recommendations for the lateral distribution are based exclusively on the weight distribution and not on the nutrient distribution (this applies particularly for mixed fertilisers) or the active substance distribution (e.g., for slug pellets or lime). Claims for damages not caused by the centrifugal spreader itself are excluded.

6.1 Setting the spread rate




Electro hydraulic spread rate setting via the floor belt speed. See the software AMABUS operating manual.

The slider position depends on:

- the kind of fertiliser to be spread (**quantity factor**),
- the working width,
- the speed of operation .
- the desired spread rate.


6.1.1 The quantity factor can be taken from the setting chart

Excerpt from the setting chart




(83011970)

Ammonia sulphate nitrate 25%N + 12%S Lovo-chemie (CZ)




0.69

Calibration factor



3.79 mm

in diameter



0.92 kg/l

Bulk density

Shutter position for rate setting for 12 km/h																								
Width \ kg/ha	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	450	500	475	550	600	700	800	900	1000
	...												↓											
27 m	5	7	9.5	12	14.5	16.5	19	21.5	24	26		→	33.5	38	40.4	43	45	47.5	26	28.5	33.5	38	43	47.5
	Belt speed 1 → ← Belt speed 2																							



For lower spread rates, belt speed 1 must be set. Increasing up to shutter position 50

For high spread rates (shutter position 50 is not sufficient), belt speed 2 must be set.

Adjustments

Example: Fertiliser type: ammonia sulphate nitrate 25%N + 12%S Lovochemie (CZ) ((83011970)

Working width: 27 m

Working speed: 12 km/h

Desired spread rate: 350 kg/ha

→ Read the shutter position: 33.5

→ Belt speed 1



For lower spread rates, belt speed 1 must be set. Up to shutter position 50

For high spread rates (shutter position 50 is not sufficient), belt speed 2 must be set.



The spread rates in the setting chart are based on a forward speed of 12 km/h.

For a different forward speed, the shutter position must be recalculated.

Example: Target spread rate 150 kg/ha at 16 km/h

$(16 / 12 = 4/3 \square 150 \times 4/3 = 200)$

Corresponds to 200 kg/ha at 12 km/h \square Shutter position 19



Perform a spread rate check with the set shutter position and belt speed.

6.1.2 Determining the setting value using a sliding ruler



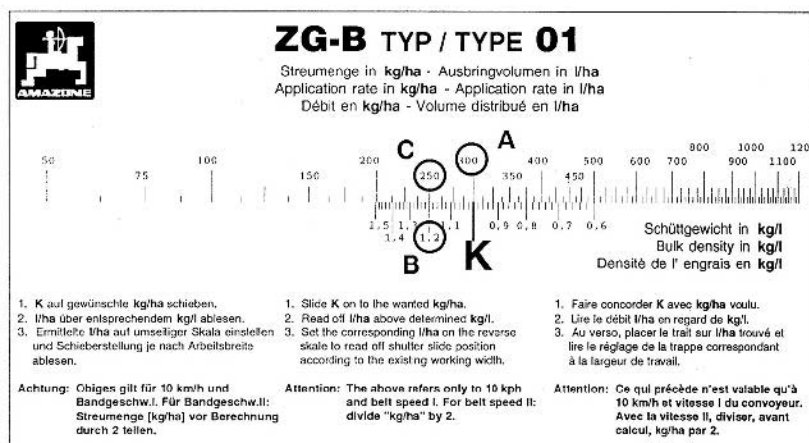
The shutter position shown on the sliding ruler is valid for a forward speed of 10 km/h at a belt speed on gearbox position I.

- For other forward speeds, calculate the shutter position as follows:

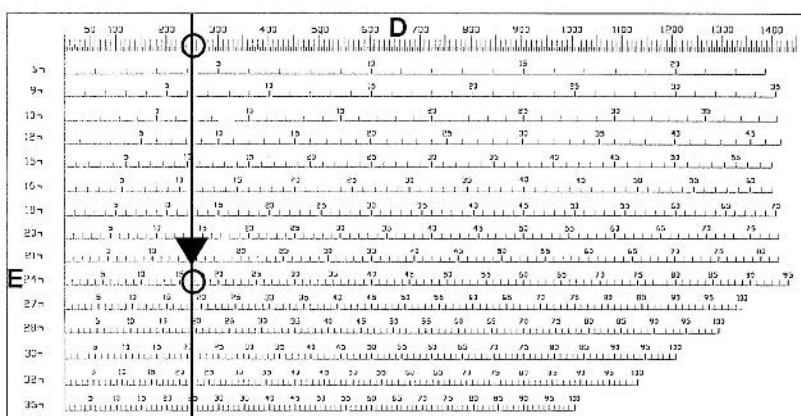
$$\text{Shutter (X km/h)} = \frac{\text{Shutter (10 km/h)} \times \text{X km/h}}{10 \text{ km/h}}$$

- For belt speed II, divide the determined shutter position by two.

- Determine the bulk density [kg/l] of the fertiliser by weighing a precisely filled litre gauge.
- On the sliding ruler, push the marking K to the desired spreading quantity [kg/ha] A.
- Read the spreading volume C from the bulk density B determined.



- On the back of the sliding ruler, cover the spreading volume D with the red line 2 and read the shutter position for the desired working width E.
- If required, convert the shutter position for another forward speed or belt speed II.



6.1.3 Setting the spread rate via the main shutter slide



Fig. 37

1. Unscrew the locking bolt.
2. Move the main shutter to the desired value of the scale using the hand lever.
3. Tighten the locking bolt again.



The setting figures of the setting chart may only be considered as standard data. The flowing properties of the fertiliser may change and thus require other settings. Therefore always carry out a spread rate check before commencing the spreading work.

The determination of the shutter slide position with the aid of the calculating disc rule is carried out after a spread rate check. This way the varying flowing properties of the fertiliser are already considered when determining the shutter slide position.

The optimum spread pattern requires the maintenance of constant PTO shaft rev. speed and operating speed (except for ground wheel drive and AMATRON 3) during the spreading operation.

For the ground wheel drive the ratio between operating and belt speed is always the same. To determine the shutter slide position following the setting chart refer to column 12 km/h-.

We recommend that you carry out a spread rate check with this shutter slide position.

6.2 Spread rate control mineral fertiliser calibration

Check the adjusted shutter slide positions by carrying out a calibration test using the calibration device (option).

Spread rate control must be carried out:

- each time fertiliser is changed
- when spread rate is changed
- when working width is changed

6.2.1 Arrangement for the spread rate check

1. Adjust the shutter slide according to the setting chart.
2. Unscrew the hex. bolt.
3. Remove the spreading disc.
4. Screw in the hex. bolt again.
5. Remove the funnel chute.
6. Hang the calibration device (Fig. 36/1) in the pockets (Fig. 36/2) and secure using clip pins (Fig. 36/3) sichern.
7. Hang each one calibration bucket (Fig. 36/4) on the hook underneath the outlets.

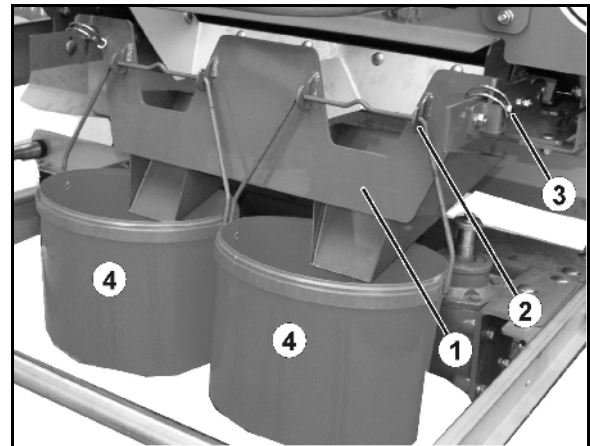


Fig. 38

After a test run which delivers the fertiliser in relation to the shutter slide position to the end of the belt, the fertiliser can be collected during a predetermined test distance (forward distance)



ZG-B Drive: See operation manual
Software AMABUS, chapter fertiliser
calibration.

6.3 Setting the spreading discs OM

6.3.1 Setting the working width



- There are different spreading disc pairs for the various working widths.
- The existing tramline system (distance between the tramlines) determines the selection of the required spreading disc pair.
- The working widths are adjustable within the working ranges of the respective Omnia Set (OM) spreading disc pairs (however, there may be deviations for the spreading of urea).
- The type of fertiliser and desired working width determine the setting of the pivotable spreading vanes.

The specific spreading properties of a fertiliser influence its throwing range. The pivotable spreading vanes allow the adjustment of these specific spreading properties of a fertiliser, so that the respective fertiliser can be spread over the desired working width.

Working width	Spreading disc pair
10 – 16 m	OM 10 – 16
18 – 24 m	OM 18 – 24
24 – 36 m	OM 24 – 36



The primary factors that affect the spreading properties are:

- Granule size
- Bulk density
- Surface condition
- Humidity

We therefore recommend the use of a well granulated fertiliser by a renowned manufacturer and also checking of the working width setting using the mobile fertiliser test rig.



WARNING

Danger of ejection of parts of the quick-release screw connection in event of incorrect tightening of the wing nut after the working depth is set!

After setting the working depth, always check whether you have manually retightened the wing nut of the quick-release screw connection.

6.3.2 Adjusting the spreading vane positions

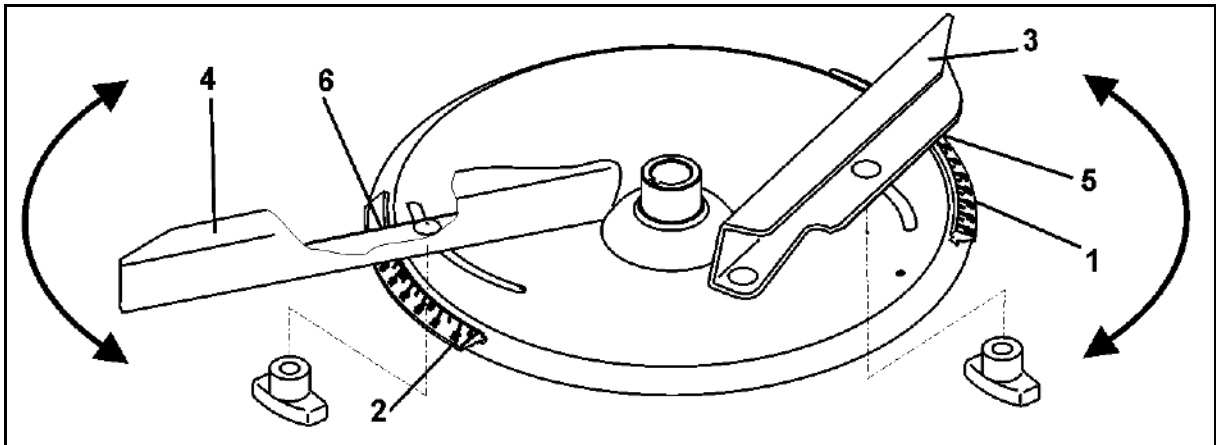


Fig. 39

The spreading vane position depends on:

- the working width and
- the type of fertiliser.

Two different scales, designed so as to make it impossible to confuse them, are arranged on each spreading disc for precision setting of the individual spreading vane positions (Fig. 37/1 and Fig. 37/2).



- The shorter spreading vanes (Fig. 37/3) are assigned the scale (Fig. 37/1) with values from 5 to 28; the longer spreading vanes (Fig. 37/4) are assigned the scale (Fig. 37/2) with the values from 35 to 55.
 - For the short spreading vane (Fig. 37/3), read off the set value on the read-off edge (Fig. 37/5).
 - For the long spreading vane (Fig. 37/4), read off the set value on the read-off edge (Fig. 37/6).
- Swivelling the spreading vanes to a higher scale value (Fig. 37/1 or Fig. 37/2) increases the working width.
- The shorter spreading vanes primarily distribute the fertiliser in the centre of the spread pattern, while the longer vanes primarily distribute it to the outer area.


















Use the setting chart for adjusting the spreading vane.

Adjust the spreading vanes as follows:

1. Turn off the spreading-disc drive.
2. Wait until rotating spreading discs come to a complete standstill before adjusting the working width.
3. Set the desired working width by swivelling the short and long spreading vanes in one after the other.
 - 3.1 Turn the spreading disc so that the respective wing nut under the spreading disc can be released without problem.
 - 3.2 Release the respective wing nut.
 - 3.3 Refer to the setting chart for the short and long spreading vanes.
 - 3.4 Swivel the respective spreading vane so that you can read off the required setting on the scale on the read-off edge.
 - 3.5 Firmly retighten the respective wing nut by hand (without a tool).

Excerpt from the setting chart

		(83011970)		Ammonia sulphate nitrate 25%N + 12%S Lovochemie (CZ)			
		 0.69 Calibration factor		 3.79 mm in diameter		 0.92 kg/l Bulk density	

ZGB								
								
OM 24-36	24	12 / 41	720	B2	B11	-	B12	-
	27	16 / 42	720	B1	B10	-	B12	-
	28	16 / 43	720	B0	B9	-	B12	-
	30	16 / 46	720	B0	B8	-	B11	-

Example:

Fertiliser type:

Ammonia sulphate nitrate 25%N +
12%S Lovochemie (CZ)
(83011970)

Spreading disc:

OM 24-36

Desired working width:

24 m

Vane position:

12 (short vane)
41 (long vane).

6.3.3 Checking the working width with the mobile test rig (optional)

The working width is determined in part by the specific spreading properties of the fertiliser.

As is well known, the primary factors that affect the spreading properties are:

- Granule size
- Bulk density
- Surface condition and
- Humidity

The setting values of the setting chart are, therefore, to be considered **guideline values** only, as the spreading properties of the different types of fertiliser may change. We recommend checking the working width of the machine using the **mobile fertiliser test rig** (Fig. 38).



See the operating manual for the mobile test rig.



Fig. 40

Adjustments

6.3.4 Late top dressing

The spreading discs are supplied as standard with spreading vanes by which besides the normal spreading (Fig. 39) procedure also late top dressing in crops may be conducted.

For late top dressing Swivel the swivel blades of the spreading discs without slackening the nuts (without any tools) into the upper position (Fig. 40). This way the fertiliser spread fan is raised.



Fig. 41

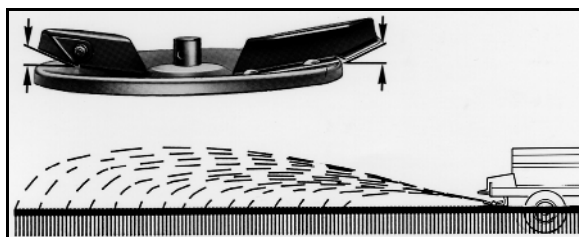


Fig. 42

6.3.5 Setting the funnel chute

Adjust the funnel chute as follows:

Funnel chute position	Spread rate
Hole 1	up to 150 kg/ha
Hole 2	over 150 kg/ha

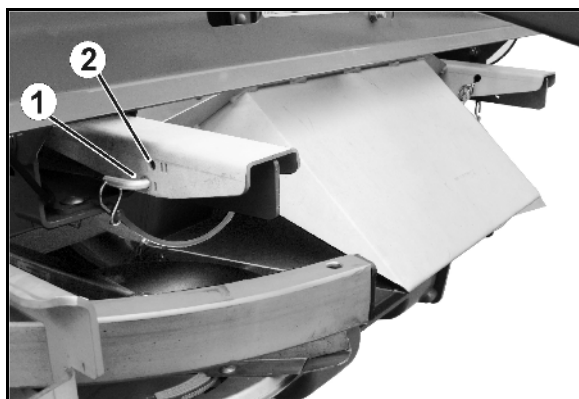


Fig. 43

6.4 Boundary, ditch and side spreading

1. Boundary spreading in accordance with fertiliser ordinance (Fig. 42)

Along the field boundary there is a road, a field path or another person's lot.

Fertiliser is not permitted to fall beyond the boundaries in accordance with the fertiliser ordinance.

2. Ditch spreading in accordance with fertiliser ordinance (Fig. 43):

There is body of water or a ditch along the field boundary.

The fertiliser ordinance specifies the following:

- No fertiliser must be spread within one metre of the boundary (with use of boundary spreading devices).
- No fertiliser must be spread within three metres of the boundary (without use of boundary spreading devices).
- Erosion and wash-away (e.g. in surface waters) must be prevented.

3. Side spreading (Fig. 44)

The boundary is delineated by an area in agricultural use. It is acceptable for a small amount of fertiliser to be thrown across the field boundary.

The fertiliser distribution in towards the centre of the field is still close to the nominal quantity. A small amount of fertiliser is thrown across the field boundary.



Fig. 44

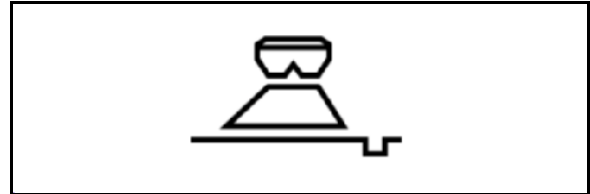


Fig. 45



Fig. 46

Adjustments

6.4.1 Boundary and side spreading using the Limiter ZG-B boundary spread deflector

The setting of the Limiter M depends on

- Boundary distance
- Type of fertiliser,
- Nature of the field boundary

Read the value to be set from the setting chart.



- The values of the setting chart are to be understood as guide numbers, as the fertiliser conditions may vary. Readjust the Limiter if necessary.
- The boundary/edge distance in the setting chart always indicates half the working width.












LIMITER		OM 10-12 OM 10-16				OM 18 - 24				OM 24 - 36								
			10	12	15	16	18	20	21	24	24	27	28	30	32	33	36	
KAS CAN AN NPK DAP MAP			12	10	8	7	8	6	4	2	2	1	0	0	0	0	0	
			15	13	12	10	13	12	11	10	11	10	9	8	7	6	5	
			15	13	15	14	15	14	14	12	12	12	12	11	10	9	8	
Harnstoff Urea Urée Мочевина			6	5	4	4	4	3	3	2	2	1	0	-	-	-	-	
			13	11	9	8	8	7	6	6	6	6	5	-	-	-	-	
			15	13	11	10	11	10	9	8	8	8	7	7	6	6	-	
P K PK MgO			9	7	4	3	3	3	3	0	0	0	0	0	0	0	0	
			12	11	9	8	7	5	4	3	3	2	1	0	0	0	0	
			15	14	12	11	10	8	7	6	6	5	5	4	4	4	3	
ME1707			A								B							

Fig. 47






	Boundary/edge distance (half working width) corresponding to the mounted OM spreading discs
	Boundary spreading
	Edge spreading
	Ditch spreading
	Necessary reduction of universal joint shaft speed

Fig. 46/...

- (1) Boundary spreading deflector and scale with setting values from 0 to 15.
- (2) Display for the scale
- (3) Clamping lever
- (4) Guide bar
- (5) Position sensor

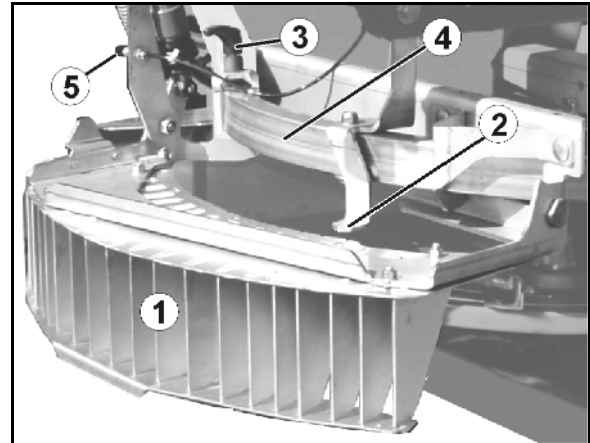


Fig. 48



- Lower the boundary spreading deflector hydraulically for border / boundary spreading.
- After spreading at the boundary, swivel the boundary spreading deflector upwards hydraulically and continue with normal spreading.

Settings

For setting the numerical values, move the boundary spreading deflector on the guide bar.

1. Release the clamping lever for this purpose.

If the swivel range of the clamping lever handle is not sufficient, lift the handle, turn back and lower again.

2. Push the boundary spreading deflector on the guide bar until the indicator is positioned at the value to be set from the setting chart.
3. Tighten the clamping lever again.

he boundary spread deflector can be fitted for setting different scale graduations in position A or position B.

Fig. 47/...

Pos. A: - for scale graduation 3 – 14

Pos. B: - for scale graduation 0 – 11

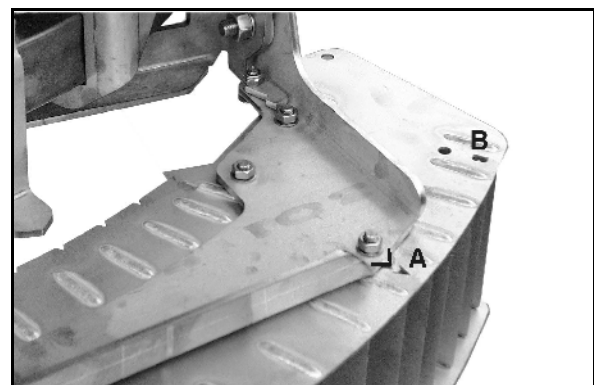


Fig. 49

Late top dressing with the Limiter

For late top dressing bring the border spread deflector into a medium high position (Fig. 48).

- To do this lower the border spread deflector hydraulically.

On the upper side of the border spread deflector you will find on the right hand and left hand side each one setting lock (Fig. 49).

1. Slacken the nuts (Fig. 49/1) of the setting locks.
2. Manually raise the deflector.
3. Position the setting locks up (Fig. 49/2) to the stop and firmly tighten the locks.
4. Lower the deflector.

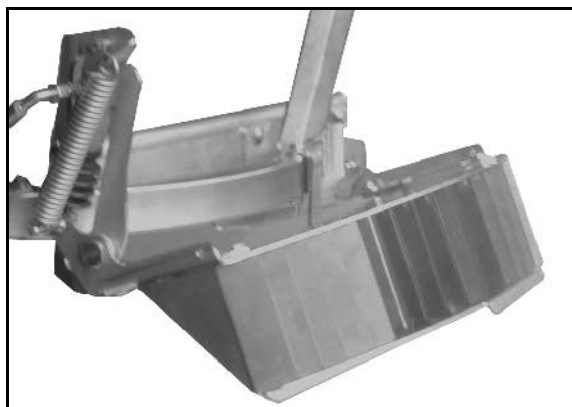


Fig. 50

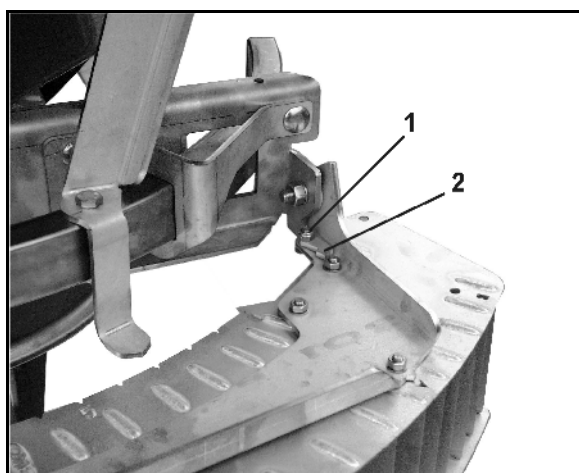


Fig. 51

7 Transportation



WARNING

Risk of crushing, shearing, cutting, being caught and/or drawn in, or impact when making interventions in the machine, through unintentional machine movements.

- Secure the machine against unintentional movements before starting transportation.



WARNING

Danger of injury for persons standing in the vicinity of the machine due to unintentional start-up of the implement!

Switch-off the control terminal before road transport.



CAUTION

Use transport locking for locking the raised ladder to prevent it from folding down again accidentally.



- Close the slider for road travel.
- Close the swivelable hopper cover.

8 Use of the machine



When using the machine, observe the information in the following sections:

- "Warning symbols and other labels on the machine" from page 16 and
- "Safety information for the operator", on page 23 ff.

Observing this information is important for your safety.



WARNING

Danger from ejected, damaged components caused by impermissibly high drive speeds of the tractor universal joint shaft!

Observe the approved machine drive speed before switching on the tractor universal joint shaft.



WARNING

Danger from being entangled and drawn in and danger from foreign objects being caught and thrown in the danger area of the driven PTO shaft!

- Whenever the machine is used, first check to ensure that the safety devices and guards of the PTO shaft are fully intact and functional.
Have damaged safety devices and guards of the PTO shaft replaced immediately by a specialised workshop.
- Check that the PTO shaft guard is secured against rotation by the supporting chain.
- Maintain a sufficient safety clearance between you and the driven PTO shaft.
- Direct people out of the danger area of the driven PTO shaft.
- Shut down the tractor engine immediately in case of danger.



WARNING

Danger of catching or entanglement and drawing in or entrapment of loose clothing by moving elements (rotating spreading discs)!

Do not wear loose-fitting clothing. Tight clothing reduces the risk of unintentional catching or entanglement and drawing in or entrapment by moving elements.



- For new machines, after 3-4 full hopper loads, check that the screws are tight and retighten if necessary.
- Use only fertiliser with the proper grain size, of the kinds listed in the setting chart. If the type of fertiliser is not known exactly, check the working width using the mobile fertiliser test rig.
- When spreading mixed fertilisers, note the following:
 - Each variety may have different flight characteristics.
 - The individual varieties may separate.
- After every use, remove any fertiliser clinging to the spreading vanes.

**Before starting with the spreading operation:**

- Job-data
- Machine-data

Enter on AMATRON 3 and recheck.
See operation manual of AMATRON 3!

Checking the outlet-openings of the guide chute before every operation

Spreading material can build up inside the outlet openings (Fig. 50/1) of the guide chute to become too narrow to achieve a correct spread pattern. To achieve a correct spread pattern ensure that both outlets are clean. Therefore before every operation of the bulk spreader check or clean the outlets as follows



Danger!

Disengage tractor PTO shaft, stop tractor engine and remove ignition key.

1. Remove guide chute. (Fig. 50/3).
2. Check or clean the outlet openings (Fig. 50/1).
3. Push guide chute back into position and affix by two clip pins (Fig. 50/2).

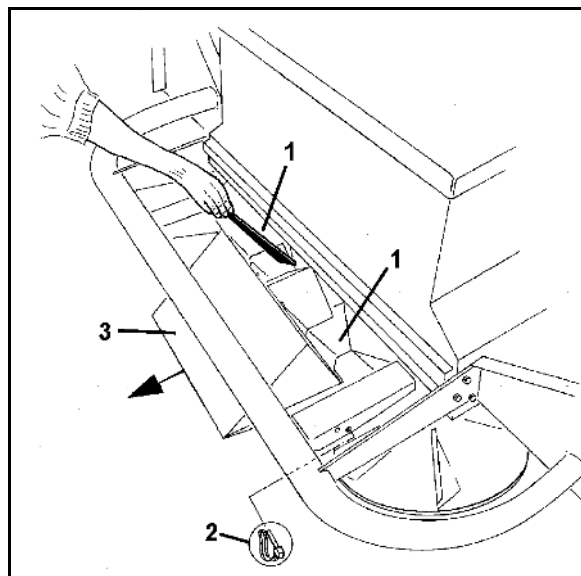


Fig. 52

8.1 Filling the machine



WARNING

Danger of breaking during operation, insufficient stability and insufficient tractor steering and braking power on improper use of the tractor!

Comply with the maximum load of the connected machine and the approved axle and drawbar loads of the tractor. If necessary, drive only with a partially filled hopper.



- Remove residues or foreign bodies from the hopper before filling with fertiliser.
- Make sure that the charging sieve is always closed before you fill the hopper. Only a closed charging sieve prevents clumps of fertiliser and/or foreign bodies getting into the hopper and blocking the agitator.
- Let the floor belt run for a short period to reduce friction.
- It is essential to observe the safety instructions from the fertiliser manufacturer. Use appropriate protective clothing as necessary.

8.2 Emptying the machine while stationary

The **ZG-B** is emptied while stationary using the floor belt drive.

For this:

1. Open the slide gate.
2. Remove the spreading discs.
3. Refit the spreading disc screws to protect the screw thread.
4. Hopper emptying via the PTO shaft drive.



CAUTION

Remove the spreading discs. Danger of injury from PTO shaft driven spreading discs.



CAUTION

Do not step on the running floor belt emptying any residues. Risk of tripping!



See the software AMABUS operating manual, machine data.

8.3 Spreading operation



Spreading disc OM

- The spreading vanes and swivel blades are made of especially hard-wearing stainless steel. However, the spreading vanes and swivel blades are wearing parts.
- The type of fertiliser, times of use and spread rates influence the service life of spreading vanes and swivel blades.
- Several spreading materials such as kieserite, Excello granules and magnesium sulphate may cause higher levels of wear on the spreading vanes. We supply spreading vanes with higher resistance to wear for these spreading materials (optional).
- The technical condition of the spreading vanes and swivel blades is essential for uniform lateral distribution of the fertiliser on the field (i.e. forming strips).



Spreading disc OM

WARNING

Danger of ejection of parts of the spreading vanes / swivel blades, caused by worn spreading vanes / swivel blades!

Every day, at the start and end of spreading work, check all spreading vanes for visible damage/defects. Refer to the criteria for the replacement of wearing parts in the chapter "Replacing spreading vanes", page 88.



WARNING

Danger from materials or foreign objects that are thrown from or ejected by the machine at high speeds.

- Make sure that uninvolved persons are kept well clear of the danger area of the machine in the following situations:
 - Before you switch on the power for the spreading discs.
 - While the tractor engine is running.
- When spreading fertiliser at field edges in residential areas / along roads, take care not to endanger persons or damage objects. Maintain a sufficient safety distance and use the appropriate devices for boundary spreading and/or reduce the drive speed of the spreading discs.



See the software AMABUS operating manual.

1. Open the shutter.
 - o Main shutter: adjustment according to the setting chart.
 - o Double shutter: Open shutter hydraulically.
2. Engage the universal joint shaft at low tractor engine speed.
3. For border spreading lower Limiter hydraulically into work.
4. After having finished the spreading operation
 - o Disengage the PTO shaft at slow tractor's rev. speed, o Close the shutter.



GEFAHR

Do not stand in the slewing range of the drive wheel and its operating mechanism!

Ensure that there are no persons in the danger zone!

Never reach inside the machine while parts may still be moving! Risk of injury!



- Ensure that the PTO shaft rev. speed is matched with the spreader unit.
 - Set the universal joint shaft speed to 540 rpm /720 rpm, 1000 rpm unless indicated otherwise in the setting chart.
- Maintain a constant spreading disc speed.

8.4 Recommendation for working in headlands

Prerequisite for accurate work at field boundaries and edges. The first tramline (Fig. 51/T1) is generally placed half a tramline's width from the edge of the field (see page 80). A tramline of this type is laid in the same fashion in the headlands.

Bearing in mind the notes given (page 80), drive in the first tramline around the field in a clockwise direction.

On account of spreading towards the rear, for accurate distribution on headlands the following must be noted:

Open and close the sliders for forward (tramlines T1, T2, etc.) and return trips (tramlines T3, etc.) at different distances to the field edge.

- Open the slide gate after entering the tramline at point **P1** (Fig. 52), when the spreader discs are at distance X from the tramline of the headland.
 - $X = 1$ working width with working widths $> 18\text{m}$.
 - $X = 1.5$ working widths with working widths $< 18\text{m}$.
- Close the slide gate before leaving the tramline at point **P2** (Fig. 52), when the spreader discs are located at the level of the first tramline of the headland.



Using the method just described prevents fertiliser loss and over or under-fertilising and thus is an environmentally friendly way of working.

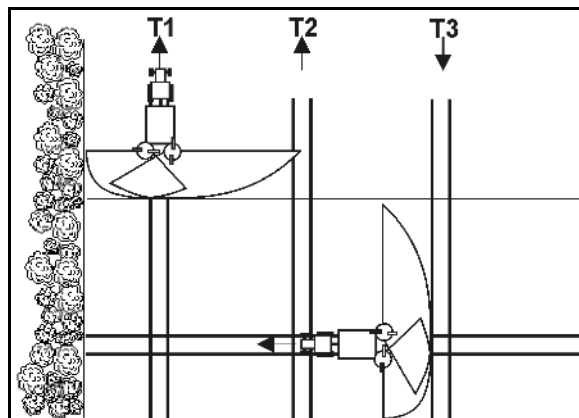


Fig. 53

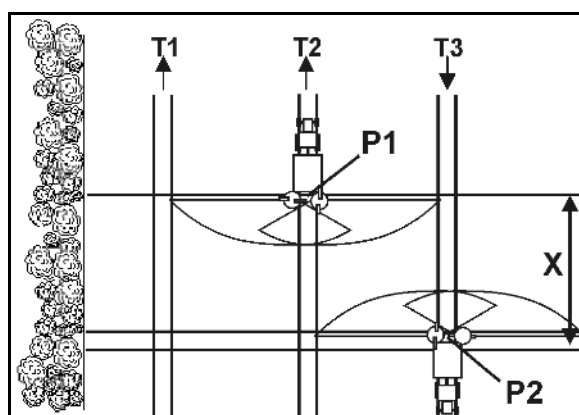


Fig. 54

9 Faults

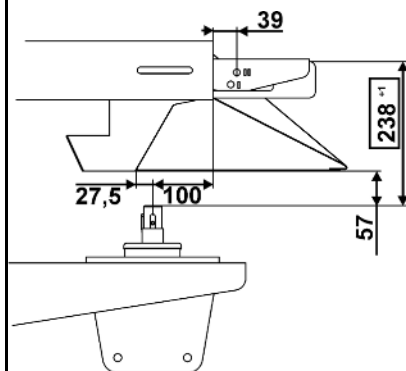


WARNING

Danger of crushing, shearing, cutting, being drawn in and/or caught if the tractor/machine combination is started and/or rolls unintentionally.

Secure the vehicle and the machine against unintentional start-up and rolling, before eliminating faults on the machine. See page **Fehler! Textmarke nicht definiert..**

Wait for the machine to stop before entering the machine danger area.

Fault	Cause	Remedy
Fertiliser lateral distribution not uniform.	Fertiliser deposits on the spreading discs and the spreading vanes.	Clean the spreading discs and the spreading vanes.
	The spreading properties of your fertiliser differ from those of the one we tested when creating the setting chart.	Contact the AMAZONE Fertiliser Service. ☎ 05405-501 111
	Spreader unit measurements are incorrect..	Check the measurements of the spreader unit and correct, if necessary. 
Too much fertiliser in the tractor track	Prescribed spreading disc speed is not reached.	Increase tractor engine speed.
	Spreading vanes and outlets defective or worn.	Check the spreading vanes and outlets. Replaced defective or worn parts immediately.
Too much fertiliser in the overlap area	Prescribed spreading disc speed is exceeded.	Reduce tractor engine speed.

Faults

Fault	Cause	Remedy
Floor belt does not convey fertiliser	ZG-B Special, Super: Idle gearbox.	Select gearbox position 1 or 2.
	Bearing defective	Replace the bearing.
Collision of the PTO shaft and flange of the towing eye.	Unfavourable geometry on the tractor.	Mount the drive unit offset: order number 935060.
Swivelable hopper cover does not open/opens too fast	Throttle not adjusted correctly.	Adjust throttle.
No hydraulic functions	Fluid supply at the tractor is not switched on.	Switch on fluid supply at the tractor.
	Power supply to valve block interrupted.	Check cable, plug and contacts.
	Oil filter contaminated.	Replace/clean oil filter. (Seite 96).
	Solenoid valve dirty	Rinse solenoid valve (sivulla 96).
Overheating of the tractor hydraulic fluid	System converting bolt on the hydraulic block is incorrectly set	Adjust the system converting bolt correctly on the hydraulic block
	Fluid quantity not reduced enough on the tractor control unit.	Reduce the fluid quantity on the tractor control unit.
AMATRON 3 shows no function	Power supply defective.	Check power supply to AMATRON 3

10 Cleaning, maintenance and repairs



- Regular and proper maintenance will keep the machine in good condition for a long time, and will prevent early signs of wear. Regular and proper maintenance is a requirement of our warranty conditions.
- Use only genuine AMAZONE spare parts (see "Spare and wear parts and auxiliary materials" section, page 15).
- Only use genuine AMAZONE replacement hoses, and hose clamps made of V2A for assembly.
- Testing and maintenance operations require specialist knowledge. This is not provided in this operating manual.
- Observe environmental protection measures when carrying out cleaning and maintenance work.



- Observe legal requirements when disposing of lubricants, e.g. oils and grease. These legal requirements also affect parts that come into contact with these lubricants.
- Do not exceed a greasing pressure of 400 bar when greasing with high pressure grease guns.
- The following are prohibited:
 - drilling the running gear.
 - drilling through existing holes on the transport frame.
 - welding load-bearing components.
- Protective measures are necessary, such as covering lines or extending lines in particularly critical locations
 - during welding, drilling and grinding work.
 - when working with cut-off wheels near plastic wires and electric wires.
- Clean the machine thoroughly with water before carrying out repair work.
- Carry out repair work on the machine with the pump switched off.
- Thorough cleaning must be carried out before repair work can be carried out inside the spray liquid tank. Keep out of the spray liquid tank.
- Disconnect the machine cable and power supply from the on-board computer when carrying out any cleaning or maintenance work. This applies especially to welding on the machine.

10.1 Cleaning



- Monitor brake, air and hydraulic hose lines particularly carefully.
- Never treat brake, air and hydraulic hose lines with benzene, benzole, petroleum or mineral oils.
- After cleaning, grease the machine, in particular after cleaning with a pressure washer / steam jet or liposoluble agents.
- Observe the statutory requirement for the handling and removal of cleaning agents.
- After use clean the machine with a normal jet of water (greased implements only on washing bays with oil traps).
- Clean outlet openings and shutters especially carefully.
- Treat dry machine with an anticorrosive agent. (Only use biologically degradable protective agents).

Cleaning with a pressure washer / steam jet



- Always observe the following points when using a pressure washer / steam jet for cleaning:
 - Do not clean any electrical components.
 - Do not clean any chromed components.
 - Never aim the cleaning jet of the cleaning nozzle of the high pressure cleaner/steam jet directly at lubrication points, bearings, rating plates, warning signs, and stickers.
 - Always maintain a minimum jet distance of 300 mm between the high pressure cleaning or steam jet cleaning nozzle and the machine.
 - The set pressure of the high-pressure cleaner/steam jet must not exceed 120 bar.
 - Comply with safety regulations when working with pressure washers.

10.2 Lubrication point overview



Lubricate all the lubricating nipples (keep the seals clean).

Lubricate / grease the machine at the specified intervals (operating hours h).

The lubrication points on the machine are indicated with the film (Fig. 53).

Carefully clean the lubrication points and grease gun before greasing, so that no dirt enters the bearing. Completely press out the soiled grease in the bearings and replace it with new grease.

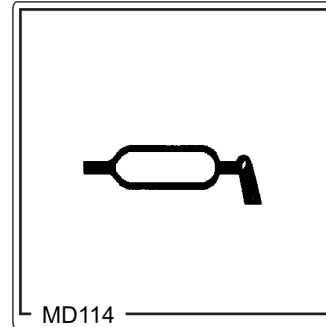


Fig. 55

Lubricants



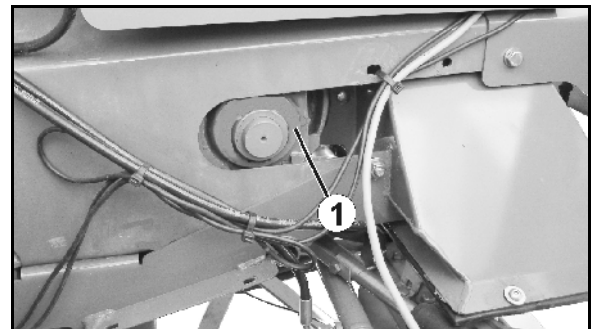
For lubrication, use a lithium saponified, multipurpose grease with EP additives:

Company	Lubricant designation	
	Normal use conditions	Extreme use conditions
ARAL	Aralub HL 2	Aralub HLP 2
FINA	Marson L2	Marson EPL-2
ESSO	Beacon 2	Beacon EP 2
SHELL	Retinax A	Tetinax AM

Floor belt flange bearing, rear

Interval: 100 h

Number of lubricating points: 2



10.3 Maintenance schedule – overview



- Carry out maintenance work when the first interval is reached.
- The times, continuous services or maintenance intervals of any third party documentation shall have priority.

Daily

Component	Maintenance work	see page	Workshop work
Spreading discs and vanes	<ul style="list-style-type: none"> • Condition check, replace if necessary 	88	
Oil filter	<ul style="list-style-type: none"> • Check contamination indicator, replace oil filter if necessary 		
Hydraulic system	<ul style="list-style-type: none"> • Check for defective hose lines 	96	X

Monthly / every 50 operating hours

Component	Maintenance work	see page	Workshop work
Hydraulic system	<ul style="list-style-type: none"> • Check for leak tightness 	92	X

As necessary

Component	Maintenance work	see page	Workshop work
Solenoid valves	<ul style="list-style-type: none"> • Clean 	96	
Belt conveyor	<ul style="list-style-type: none"> • Tension belt conveyor if it is running unevenly 	91	

10.4 Exchanging the spreading discs

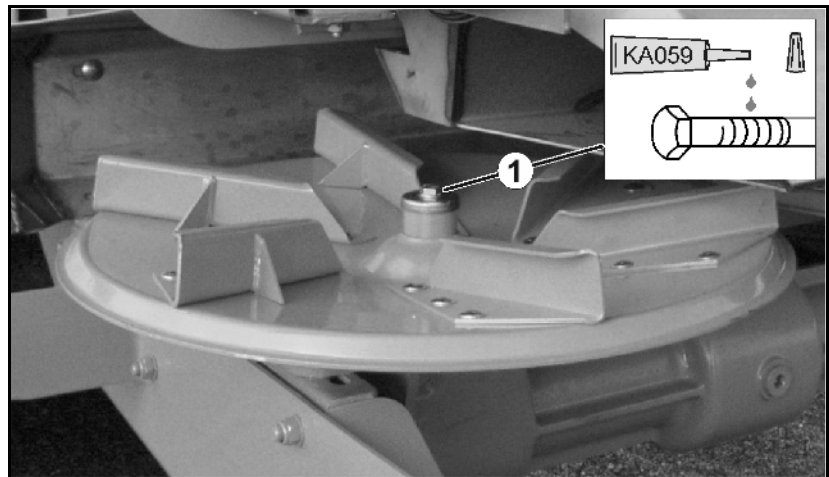


Fig. 56

1. Remove the M10 hexagonal bolt (Fig. 54/1).
2. Pull off the spreading disc from the gearbox shaft.
3. Set up other spreading disc.
4. Fix spreading disc.



When setting up spreading discs do not mix up "left hand" and "right hand". The spreading discs are labelled accordingly:

→ **L = left, R = right.**

Beforehand remove the funnel chute (if fitted).

The right hand side gearbox shaft is provided with a shear pin: Here always set up the right hand spreading disc with the two keys.



GEFAHR

- **Do not stand in the immediate vicinity of the rotating spreading discs!**
- **Do not touch any of the machine's moving parts! Wait until they have come to a complete standstill!**
- **Before changing the spreading discs or adjusting the spreading vanes, switch off the tractor's PTO shaft, turn off the tractor's engine and remove the ignition key!!**
- **Keep clear of flying fertiliser!**

10.5 Replacing the spreading vanes and swivel vanes



- The technical condition of the spreading vanes, including their swivel blades, is essential for uniform lateral distribution of the fertiliser on the field (i.e. forming strips).
- The spreading vanes are made of especially wear-resistant stainless steel. Nevertheless, we remind you that the spreading vanes and their swivel vanes are wear parts.



Replace the spreading vanes and / or swivel blades as soon as holes from abrasion are visible.

10.5.1 Replacing the spreading vanes



WARNING

Danger of ejection of spreading vanes caused by the unintentional release of fixing bolts and quick-release screw connections!

- When replacing the spreading vanes, it is essential to replace used self-locking nuts of the fixing bolts with new ones. A used self-locking nut no longer has the required clamping force to produce a secure screw connection.
- Ensure that the open side of the disc spring is toward the spreading disc before tightening the wing nut. Only in this position can the disc spring pretension and secure the quick-release screw connection.



It is essential to ensure that the spreading vanes are installed correctly! The open side of the U-shaped spreading vane must be facing the direction of rotation.



When exchanging the spreading vanes and swivel blades, use the assembly paste provided. This is the only way to ensure that the specified tightening torque is sufficient.

Spreading vanes OM

- (1) Self-locking nut
 - (2) Washer
 - (3) Fixing bolt
 - (4) Quick-release screw connection
 - (5) Plate spring
1. Release and remove the fixing bolt.
 2. Release and remove the quick-release screw connection.
 3. Replace the spreading vane.
 4. Replace the used self-locking nuts of the fixing bolts with new ones.
 5. Apply the assembly paste (KA059) to the screw threads.
 6. Secure each spreading vane with a fixing bolt, washer and an unused self-locking nut so that they can move on the spreading disc.
 7. Tighten the self-locking nut with a tool to the extent that you can still just swivel the spreading vane by hand.
 8. Install the respective quick-release bolted connection, consisting of a round-headed screw, plate spring and wing nut. Ensure that the open side of the spring plate is pointing towards the spreading disc.
 9. Swivel the read-off edge of each spreading vane until it reaches the setting required for the desired working width.
 10. Firmly tighten the respective wing nut of the quick-release screw connection by hand (without using a tool).

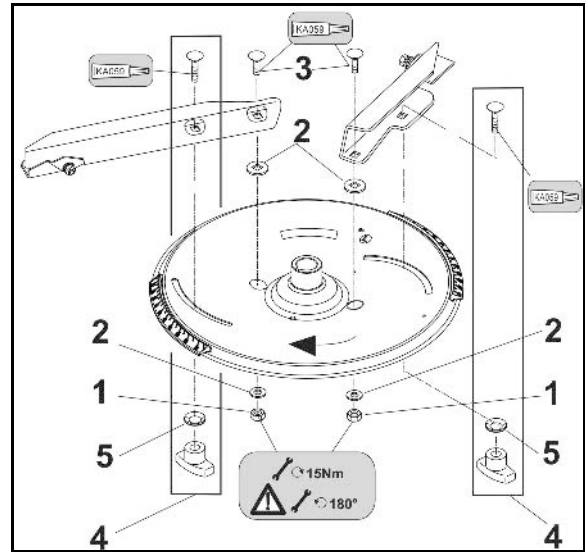


Fig. 57

10.5.2 Replacing the swivel vanes OM



WARNING

Danger of ejection of swivel blades of spreading vanes caused by the unintentional release of screw connections!

When replacing the spreading blades, it is essential to replace used self-locking nuts of the screw connections with new ones. A used self-locking nut no longer has the required clamping force to produce a secure screw connection.



When exchanging the spreading vanes and swivel blades, use the assembly paste provided. This is the only way to ensure that the specified tightening torque is sufficient.

(1) Self-locking nut

(2) Plate spring

(3) Fixing bolt

(4) Plastic disc

1. Release the self-locking nut.
2. Remove the self-locking nuts, disc springs and swivel blades from the fixing bolts.
3. Ensure that the plastic disc remains on the fixing pin.
4. Apply the assembly paste (KA059) to the screw threads.
5. Mount the new swivel blade.
 - 5.1 Push the new swivel blade on to the fixing bolt.
 - 5.2 Push the plate springs alternately (do not stack) on the fixing pins.
 - 5.3 Secure the plastic disc, swivel blade and plate springs with an unused self-locking nut on the spreading vane so that they can be moved.
 - 5.4 Tighten the self-locking nut with a tool so that the swivel blade can still just be swivelled by hand but cannot swing upwards automatically.

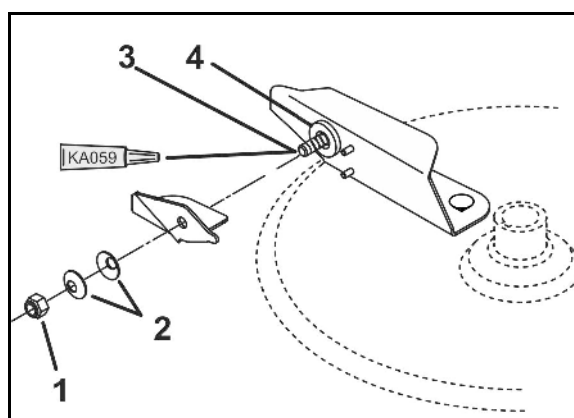


Fig. 58

10.6 Belt conveyor with automatic belt control

One property of belt conveyors (Fig. 57/1) is that they give way under load on inclines such as on sloping terrain or if they are loaded on one side only. The belt conveyor then runs outwards. One-sided belt conveyor running is prevented by the automatic belt control in AMAZONE bulk fertiliser spreaders ZG-B.

The conveyor belt is tensioned in the floor belt with automatic belt control between the drive drum

(Fig. 57/2) and the pulley (Fig. 57/3).

While the drive drum is secured rigidly in the floor belt, the pulley can turn around the swivel axle (Fig. 57/4). The belt conveyor is also guided between two control rollers (Fig. 57/5), which are connected to the pulley by a control frame (Fig. 57/6).

If the belt conveyor runs outwards due to a one-sided load, the control rollers follow this movement. Consequently, this causes the pulley to turn around the swivel axle. As a result, the distance between the pulley and the drive drum increases on the side toward which the belt conveyor is moving.

The larger distance causes the belt conveyor to return to the middle and continue to settle down in the middle.

Tensioning the belt conveyor:

The belt conveyor is tensioned with pretension in the floor belt for stable, even belt movement. If the belt conveyor runs unevenly in any circumstance, the belt conveyor should be retensioned on both sides as described below:

1. Loosen the rear lock nuts on both sides when viewed in the direction of travel (see arrow) (Fig. 58/1) by turning them anti-clockwise.
2. Turn the nuts on both sides evenly to the left when viewed in the direction of travel (see arrow) (Fig. 58/2).
3. Tighten the lock nuts.



The adjustment travel of the nuts (Fig. 58/2) must be equal on both sides of the floor belt. Do not turn either nut (Fig. 58/2) more than a ½ spanner turn. Tighten the lock nuts and check whether the belt conveyor is driven evenly again.

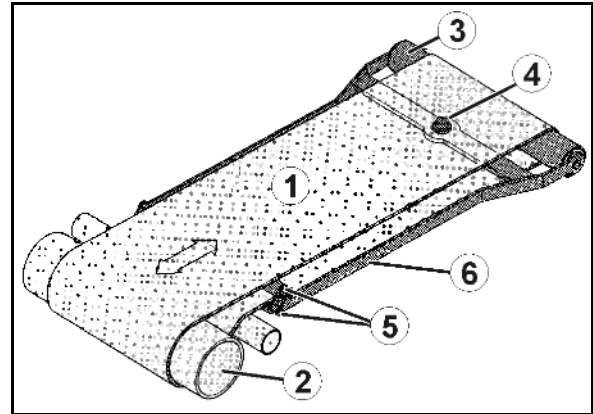


Fig. 59

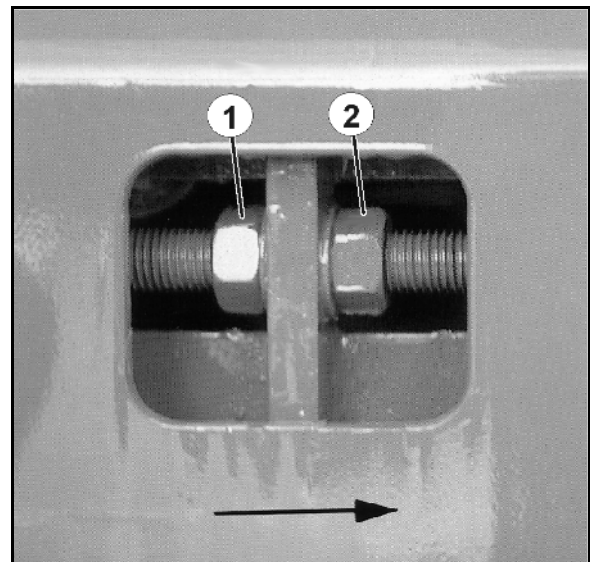


Fig. 60

10.7 Hydraulic system



WARNING

Risk of infection through the high pressure hydraulic fluid of the hydraulic system entering the body!

- Only a specialist workshop may carry out work on the hydraulic system.
- Depressurise the hydraulic system before carrying out work on the hydraulic system.
- When searching for leak points, always use suitable aids.
- Never attempt to plug leaks in hydraulic hose lines using your hand or fingers.

Escaping high pressure fluid (hydraulic fluid) may pass through the skin and ingress into the body, causing serious injuries!

If you are injured by hydraulic fluid, contact a doctor immediately. Risk of infection!



WARNING

Danger of unintentional contact with hydraulic fluid!

Please take the following first-aid measures:

- Following inhalation:
 - No special action required.
- Following contact with the skin:
 - Wash off with plenty of soap and water.
- Following contact with the eyes:
 - Rinse eyes for several minutes under running water, holding the eyelid open.
- Following ingestion:
 - Seek medical assistance.



- When connecting the hydraulic hose lines to the hydraulic system of connected machines, ensure that the hydraulic system is depressurised on both the drawing vehicle and the trailer.
- Ensure that the hydraulic hose lines are connected correctly.
- Regularly check all the hydraulic hose lines and couplings for damage and impurities.
- Have the hydraulic hose line checked at least once a year by a specialist for proper functioning.
- Replace the hydraulic hose line if it is damaged or worn. Only use original **AMAZONE** hydraulic hose lines.
- The hydraulic hose lines should not be used for longer than six years, including any storage time of maximum two years. Even with proper storage and approved use, hoses and hose connections are subject to natural ageing, thus limiting the length of use. However, it may be possible to specify the length of use from experience values, in particular when taking the risk potential into account. In the case of hoses and hose connections made from thermoplastics, other guide values may be decisive.
- Dispose of old oil in the correct way. If you have problems with disposal, contact your oil supplier.
- Keep hydraulic fluid out of the reach of children!
- Ensure that no hydraulic fluid enters the soil or waterways.

10.7.1 Labelling hydraulic hose lines

The assembly labelling provides the following information:

Fig. 59/...

- (1) Manufacturer's labels (A1HF)
- (2) Date of manufacture of the hydraulic hose lines (02 04 = February 2004)
- (3) Maximum approved operating pressure (210 bar).

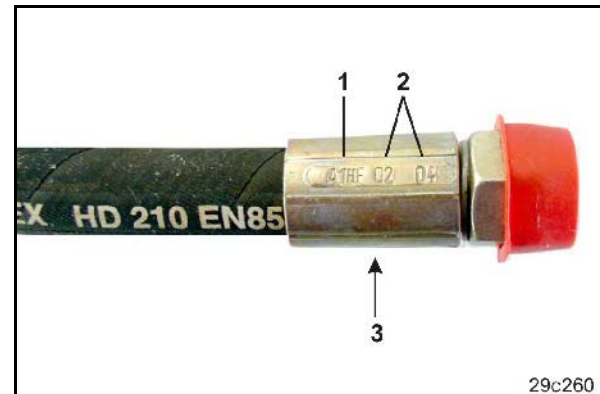


Fig. 61

10.7.2 Maintenance intervals

- **After the first 10 operating hours, and then every 50 operating hours**

1. Check all the components of the hydraulic system for tightness.
2. If necessary, tighten screw unions.

Before each start-up:

1. Check hydraulic hose lines for visible damage.
2. Eliminate any scouring points on hydraulic hose lines and pipes.
3. Replace any worn or damaged hydraulic hose lines immediately.

10.7.3 Inspection criteria for hydraulic hose lines



For your own safety and in order to reduce pollution, ensure the following inspection criteria.

Replace hoses if the respective hose fulfils at least one of the following criteria:

- Damage to the outer layer up to the ply (e.g. scouring points, cuts, cracks).
 - Brittleness of the outer layer (crack formation of the hose material).
 - Deformations which do not match the natural shape of the hose. Both in a depressurised and pressurised state or when bent (e.g. layer separation, bubble formation, pinching, bends).
 - Leak points.
 - Installation requirements not complied with.
 - Life span of 6 years has been exceeded.
- The date of manufacture of the hydraulic hose line on the assembly is decisive for determining these six years. If the date of manufacture on the assembly is "2004", then the hose should not be used beyond February 2010. See also "Labelling of hydraulic hose lines".



Common causes for leaking hoses / pipes and connection pieces include:

- missing O-rings or seals
- damaged or badly fitting O-rings
- brittle or deformed O-rings or seals
- foreign bodies
- badly fitting hose clips

10.7.4 Installation and removal of hydraulic hose lines



Use

- only genuine AMAZONE replacement hoses. These hoses stand up to chemical, mechanical and thermal loads.
- hose clips made from V2A for fitting hoses, as a rule.



When installing and removing hydraulic hose lines, always observe the following information:

- Ensure cleanliness.
- Always install the hydraulic hose lines to ensure the following in all operational positions
 - There is no tension, apart from the hose's own weight.
 - There is no possibility of jolting on short lengths.
 - Outer mechanical influences on the hydraulic hose lines are avoided.

Use appropriate arrangements and fixing to prevent any scouring of the hoses on components or on each other. If necessary, secure hydraulic hose lines using protective covers. Cover sharp-edged components.

- The approved bending radii may not be exceeded.



- When connecting a hydraulic hose line to moving parts, the hose length must be appropriate so that the smallest approved bending radius is not undershot over the whole area of movement and/or the hydraulic hose line is not overtensioned.
- Fix the hydraulic hose lines at the specified fixing points. There, avoid hose clips, which impair the natural movement and length changes of the hose.
- The coating of hydraulic hose lines is not permitted.

10.7.5 Mounting hose fittings with O-rings and sleeve nuts

1. First, tighten the sleeve nut manually.
2. Then, use the spanner to tighten the sleeve nut at least $\frac{1}{4}$ to a maximum of $\frac{1}{2}$ turn.



You must not tighten screw unions with O-rings as tight as those with compression rings.

If you tighten the sleeve nut tighter than specified, the cone-shaped screw union may break (in particular at the welded pin on the hydraulic cylinder).

10.8 Hydraulic fluid filter

The oil filter (**Fehler! Verweisquelle konnte nicht gefunden werden./1**) with its contamination indicator (**Fehler! Verweisquelle konnte nicht gefunden werden./2**) monitors the contamination of the hydraulic oil.



- Check the contamination indicator regularly to ensure proper function of the hydraulic system and its components.
- Replace the oil filter immediately if a red ring is visible instead of the green ring.

After replacing the oil filter, press the contamination indicator back down.

→ The green ring is visible again.



CAUTION

Danger of injuries from escaping hydraulic oil at high pressure!

Work on the hydraulic system only in a depressurized state.

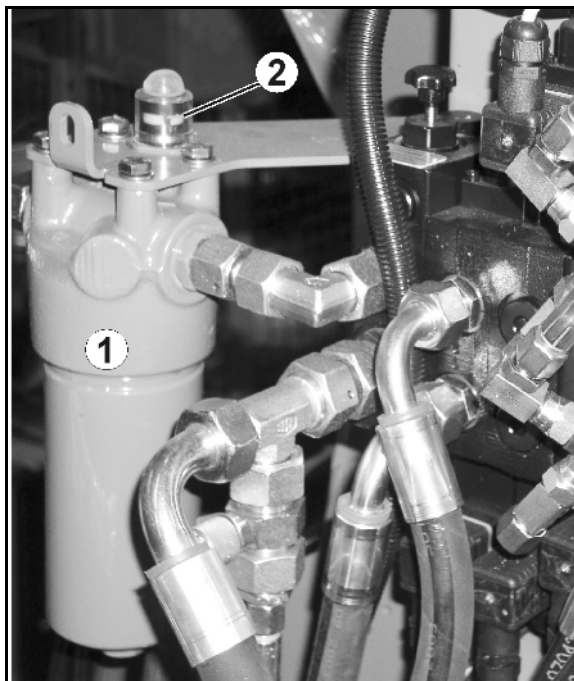


Fig. 62

10.9 Cleaning the solenoid valves

To eliminate impurities from the solenoid valves, they must be flushed through. This may be necessary if deposit prevent the slider fully opening or closing.

1. Unscrew the magnetic cap (Fig. 61/1)
2. Remove the solenoid (Fig. 61/2)
3. Unscrew the valve rod (Fig. 61/3) with valve seats and clean with compressed air or hydraulic fluid.



CAUTION

Danger of injuries from escaping hydraulic oil at high pressure!

Work on the hydraulic system only in a depressurized state.!

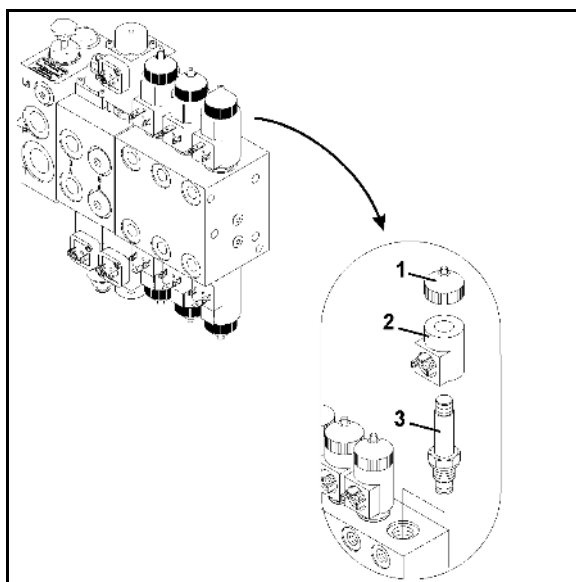


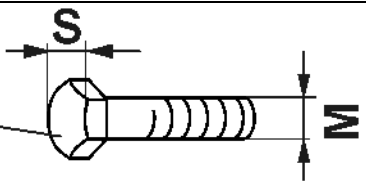
Fig. 63

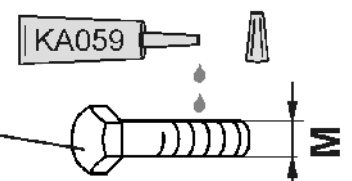
10.10 Gearbox

Gear oil: 090 I SAE

- There is no need to change the oil.
- Fill levels:
 - Conveyor belt gearbox with hydr. drive 1,0l
 - Universal spreader unit gearbox 2,5l

10.11 Screw tightening torques

<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;"> 8.8 10.9 12.9 </div>  </div>				
M	S	Nm		
		8.8	10.9	12.9
M 8	13	25	35	41
M 8x1		27	38	41
M 10	16 (17)	49	69	83
M 10x1		52	73	88
M 12	18 (19)	86	120	145
M 12x1,5		90	125	150
M 14	22	135	190	230
M 14x1,5		150	210	250
M 16	24	210	300	355
M 16x1,5		225	315	380
M 18	27	290	405	485
M 18x1,5		325	460	550
M 20	30	410	580	690
M 20x1,5		460	640	770
M 22	32	550	780	930
M 22x1,5		610	860	1050
M 24	36	710	1000	1200
M 24x2		780	1100	1300
M 27	41	1050	1500	1800
M 27x2		1150	1600	1950
M 30	46	1450	2000	2400
M 30x2		1600	2250	2700

<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;"> A2-70 A4-70 </div>  </div>												
M	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24
Nm	2,4	4,9	8,4	20,6	40,7	70,5	112	174	242	342	470	589



Coated bolts have different tightening torques.

Observe the specific data for tightening torques in the maintenance section.

11 Hydraulic diagram

1. Control spool valve (P) *red*
2. Pressure free return flow (T) *red*
3. Oil filter
4. Inspection port
5. Load-Sensing- control cable (LS) *red*
6. System reversing screw
7. Hopper cover open
8. Double shutter right hand side (*green*)
9. Double shutter left hand side (*yellow*)
10. Hopper cover closed (*natural*)
11. Limiter (*blue*)
12. Hydro motor floor belt (pressure side > 150bar)
13. Hydro motor floor belt (return flow)

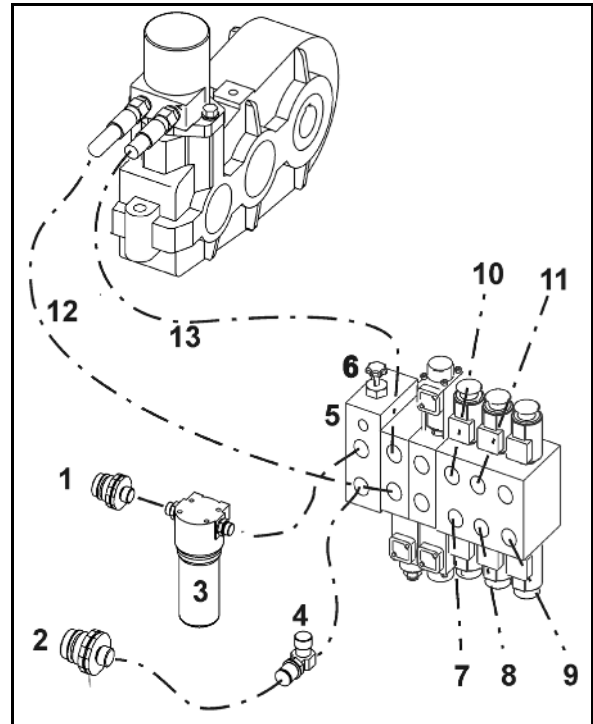


Fig. 64



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