



Original operating manual

Trailed spreader

ZG-TX 6800 Special

ZG-TX 9000 Super

ZG-TX 9000 Special

ZG-TX 11200 Super



SmartLearning



**AMAZONE**

AMAZONEN-WERKE H. DREYER SE & Co. KG
Am Amazonenwerk 9-13 D-49205 Hasbergen

Machine no.

Vehicle ID no.

Product

Permissible technical implement weight lb

Made in Germany 

Please enter the identification data of the implement here. The identification data is provided on the rating plate.



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About this operating manual

1

CMS-T-00000081-J.1

1.1 Copyright

CMS-T-00012308-A.1

Reprinting, translation, and reproduction in any form, including excerpts, require the written consent of AMAZONEN-WERKE.

1.2 Presentations used

CMS-T-005676-G.1

1.2.1 Warnings and signal words

CMS-T-00002415-A.1

Warnings are indicated by a vertical bar with a triangular safety symbol and a signal word. The signal words *"DANGER"*, *"WARNING"* or *"CAUTION"* describe the severity of the potential danger and have the following meanings:



DANGER

- Indicates imminent danger with high risk of severe physical injury, such as loss of limb or death.



WARNING

- Indicates a possible danger with moderate risk of severe or fatal physical injury.



CAUTION

- Indicates a danger with low risk of minor or moderate physical injury.

1.2.2 Additional instructions

CMS-T-00002416-A.1



IMPORTANT

- Indicates a risk of implement damage.



ENVIRONMENTAL INFORMATION

- Indicates a risk of environmental damage.



NOTE

Indicates application tips and instructions for optimal use.

1.2.3 Instructions

CMS-T-00000473-E.1

1.2.3.1 Numbered instructions

CMS-T-005217-B.1

Actions that must be performed in a specific sequence are presented as numbered instructions. The specified sequence of the actions must be complied with.

Example:

1. Instruction 1
2. Instruction 2

1.2.3.2 Instructions and responses

CMS-T-005678-B.1

Responses to instructions are indicated by an arrow.

Example:

1. Instruction 1
- ➡ Response to instruction 1
2. Instruction 2

1.2.3.3 Alternative instructions

CMS-T-00000110-B.1

Alternative instructions are introduced with the word "or".

Example:

1. Instruction 1

or

Alternative instruction

2. Instruction 2

1.2.3.4 Instructions with only one action

CMS-T-005211-C.1

Instructions with only one action are not numbered, but rather are presented with an arrow.

Example:

► Instruction

1.2.3.5 Instructions without a specific sequence

CMS-T-005214-C.1

Instructions that do not require a specific sequence are shown as a list with arrows.

Example:

► Instruction

► Instruction

► Instruction

1.2.3.6 Workshop task

CMS-T-00013932-B.1



WORKSHOP TASK

- Indicates maintenance tasks that must be carried out in a specialist workshop that is adequately equipped in terms of agricultural engineering, environmental engineering, and technical safety, by qualified personnel with the appropriate training.

1.2.4 Listings

CMS-T-000024-A.1

Listings without a mandatory sequence are shown as a list with bullet points.

Example:

- Point 1
- Point 2

1.2.5 Item numbers in illustrations

CMS-T-000023-B.1

A framed number in the text, e.g. a 1, indicates an item number in an adjacent figure.

1.2.6 Direction information

CMS-T-00012309-A.1

Unless otherwise specified, all direction information applies in the direction of travel.

1.3 Other applicable documents

CMS-T-00000616-B.1

A list of other applicable documents is provided in the Appendix.

1.4 Digital operating manual

CMS-T-00002024-B.1

The digital operating manual and e-learning can be downloaded from the Info Portal on the AMAZONE website.

1.5 Your opinion is important

CMS-T-000059-D.1

Dear reader, our operating documents are updated regularly. Your suggestions for improvement help us provide documents that are more user-friendly. Please send us your suggestions by post, fax or email.

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CMS-I-00000638

Safety and responsibility

2

CMS-T-00013517-E.1

2.1 Basic safety instructions

CMS-T-00013518-E.1

2.1.1 Meaning of the operating manual

CMS-T-00006180-A.1

Comply with the operating manual

The operating manual is an important document and it is part of the implement. It is intended for the user and contains safety-related information. Only the procedures specified in the operating manual are safe. Failure to comply with the operating manual can result in severe injury or death.

- ▶ The safety section must be completely read and the instructions must be complied with before first use of the implement.
- ▶ In addition, read the relevant sections of the operating manual before starting work.
- ▶ Keep the operating manual in a safe place.
- ▶ Keep the operating manual available.
- ▶ Hand over the operating manual to the subsequent user.

2.1.2 Safe operating organization

CMS-T-00002302-D.1

2.1.2.1 Qualifications of personnel

CMS-T-00002306-B.1

2.1.2.1.1 Requirements imposed on the people who work with the implement

CMS-T-00002310-B.1

If the implement is used improperly, people can be injured or killed: To prevent accidents due to improper use, every person who works with

the implement must meet the following minimum requirements:

- The person must be physically and mentally capable of checking the implement.
- The person must be capable of safely performing the tasks with the implement as specified in this operating manual.
- The person must understand the implement's mode of operation as it relates to their tasks and must be able to recognize and avoid the dangers associated with the work.
- The person must have understood the operating manual and can implement the information that is provided in the operating manual.
- The person must know how to drive vehicles safely.
- For road travel, the person must know the relevant road traffic regulations and must have the prescribed driver's license.

2.1.2.1.2 Qualification levels

CMS-T-00002311-A.1

The following qualification levels are the prerequisites for working with the implement:

- Farmer
- Agricultural helper

The activities described in this operating manual can always be performed by persons with the qualification level, "Agricultural helper".

2.1.2.1.3 Farmer

CMS-T-00002312-A.1

Farmers use agricultural machines to cultivate fields. They decide on the use of an agricultural machine for a specific objective.

Farmers are categorically familiar with work involving agricultural machines and can instruct agricultural helpers in how to use the machines, if necessary. They can perform specific, simple repairs and maintenance tasks on agricultural machines themselves.

For example, farmers can be:

- Farmers with higher education or training from a technical college
- Farmers by experience (e.g. inherited farm, extensive practical knowledge)
- Contractors who work on behalf of farmers

Activity example:

- Safety instruction of agricultural helpers

2.1.2.1.4 Agricultural helper

CMS-T-00002313-A.1

Agricultural helpers use agricultural machines on behalf of the farmer. They are instructed in the use of the machine by the farmer, and work independently according to the farmer's work order.

For example, agricultural helpers can be:

- Seasonal workers and laborers
- Prospective farmers in training
- Employees of the farmer (e.g. tractor driver)
- Members of the farmer's family

Activity examples:

- Driving the machine
- Adjusting the working depth

2.1.2.2 Workstations and persons accompanying the driver

CMS-T-00002307-B.1

Persons accompanying the driver

Persons accompanying the driver can fall due to implement movements, be run over and suffer severe or fatal injuries. Objects thrown upward by the tractor or implement can hit and injure persons accompanying the driver.

- ▶ Never allow persons to ride on the implement.
- ▶ Never allow people to climb onto the moving implement.

2.1.2.3 Danger for children

CMS-T-00002308-A.1

Children in danger

Children cannot assess dangerous situations and may behave unpredictably. As a result, children are particularly at risk.

- ▶ Keep children at a safe distance.
- ▶ *When you drive out or activate implement movements,*
ensure that there are no children in the danger area.

2.1.2.4 Operational safety

CMS-T-00002309-D.1

2.1.2.4.1 Perfect technical condition

CMS-T-00002314-D.1

Only use properly prepared implements

Operational safety of the implement is only ensured with proper preparation as specified in this operating manual. This can result in accidents and persons can be severely injured or killed.

- ▶ Prepare the implement as specified in this operating manual.

Danger due to implement damage

Implement damage can impair the operational safety of the implement and cause accidents. This can result in severe or fatal injuries.

- ▶ *If you suspect or determine that there is damage,*
Secure the tractor and the implement.
- ▶ Repair safety-relevant damage immediately.
- ▶ Repair the damage as specified in this operating manual.
- ▶ *If you yourself cannot rectify damage as specified in this operating manual:*
Have damage rectified by a qualified specialist workshop.

Comply with the technical limit values

Failure to comply with the technical limits values of the implement can cause accidents and serious personal injury or death. Moreover, the implement can be damaged. The technical limit values are provided in the Technical data.

- ▶ Comply with the technical limit values.

2.1.2.4.2 Personal protective equipment

CMS-T-00002316-B.1

Personal protective equipment

Wearing personal protective equipment is an important safety component. Missing or unsuitable personal protective equipment increases the risk of health impairment or personal injury. Personal protective equipment includes: work gloves, safety footwear, protective clothing, respiratory protection, hearing protection, face protection, and eye protection

- ▶ Determine the personal protective equipment required for each job and have it ready.
- ▶ Use only personal protective equipment that is in proper condition and offers effective protection.
- ▶ Adjust the personal protective equipment to the person, for example, adapt it to the size of the person.
- ▶ Comply with the manufacturer's instructions regarding operating materials, seed, fertilizer, crop protection products and cleaning agents.

Wear suitable clothing

Loosely worn clothing increases the risk of catching or entanglement on rotating parts or protruding parts. This can result in severe or fatal injuries.

- ▶ Wear tight-fitting clothing.
- ▶ Never wear rings, necklaces or other jewelry.
- ▶ *If you have long hair,*
wear a hair-net.

2.1.2.4.3 Warning symbols

CMS-T-00002317-B.1

Keep warning symbols legible

Warning symbols on the implement warn of hazards in danger areas and are an important component of the implement's safety equipment. Missing warning symbols increase the risk of serious or fatal injury.

- ▶ Clean dirty warning symbols.
- ▶ Immediately replace any damaged or illegible warning symbols.
- ▶ Affix the intended warning symbols on spare parts.

2.1.3 Recognizing and avoiding dangers

CMS-T-00013519-C.1

2.1.3.1 Danger sources on the implement

CMS-T-00002318-F.1

Fluids under pressure

Escaping pressurized hydraulic fluid can penetrate into the body through the skin and cause serious injuries. Even a hole the size of a needle prick can result in serious injuries.

- ▶ *Before uncoupling hydraulic hose lines or check for damage,* depressurize the hydraulic system.
- ▶ *If you suspect that a pressure system is damaged,* have the pressure system checked by a qualified specialist workshop.
- ▶ Never search for leaks with your bare hand.
- ▶ Keep your body and face away from leaks.
- ▶ *If liquids penetrate into the body,* seek medical attention immediately.

Risk of injury on the universal joint shaft

Persons can be caught, pulled in, and severely injured by the universal joint shaft and the driven components. If the universal joint shaft is overloaded, the implement can be damaged, parts can be ejected at high speed, and persons can be injured.

- ▶ Ensure that the profile tube, universal joint shaft guard, and PTO shaft protective cap are sufficiently covered.
- ▶ Ensure correct direction of rotation and permissible speed of the universal joint shaft.
- ▶ *If the universal joint shaft is angled downward excessively:*
Switch off the universal joint shaft drive.
- ▶ *If you do not need the universal joint shaft:*
Switch off the universal joint shaft drive.

Risk of injury on the PTO shaft

Persons can be caught, pulled in and severely injured by the PTO shaft and driven components. If the PTO shaft is overloaded, the implement can be damaged, parts can be ejected at high speed, and people can be injured.

- ▶ Ensure that the profile tube, universal joint shaft guard, and PTO shaft protective cap are sufficiently covered.
- ▶ Allow the locks on the PTO shaft to engage.
- ▶ *To secure the universal joint shaft guard against rotating:*
Hook in the safety chains.
- ▶ *To secure the coupled hydraulic pump against rotating:*
Attach the torque support.
- ▶ Ensure proper direction of rotation and permissible speed of the PTO shaft.
- ▶ *To prevent implement damage due to torque peaks:*
Slowly couple the PTO shaft at low tractor engine speed.

Danger due to implement parts that keep moving for a time after switch-off

After switching off the drives, implement parts can keep moving for a time and cause serious or fatal injury.

- ▶ Wait until implement parts that are still moving have come to a complete standstill, before approaching the implement.
- ▶ Do not touch implement parts until after they have come to a complete standstill.

2.1.3.2 Danger areas

CMS-T-00013520-B.1

Danger areas on the implement

The following significant hazards are present in the danger areas:

The implement and its work tools move in operation.

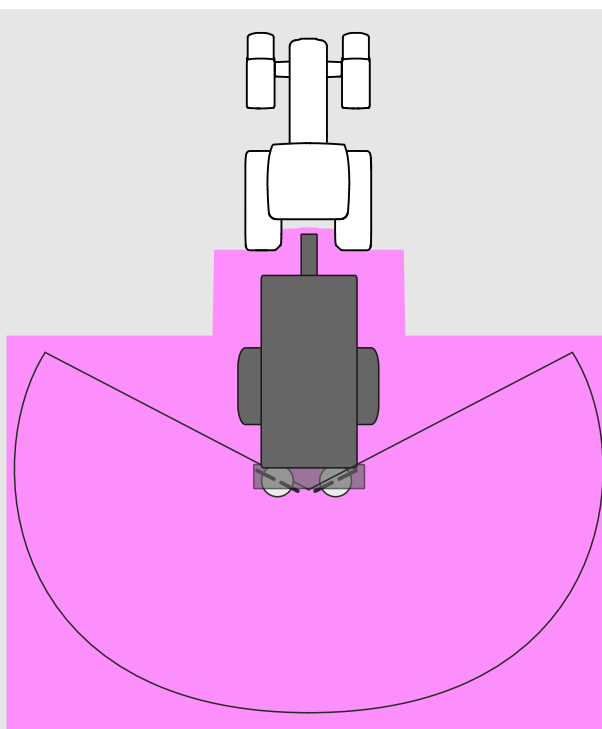
Hydraulically lifted implement parts can lower unnoticed and slowly.

The tractor and implement can roll unintentionally.

Materials or foreign objects can be ejected out of or away from the implement.

Failure to comply with instructions concerning the danger area can result in severe or fatal injury.

- ▶ Keep people out of the danger area of the implement.
- ▶ *If people enter the danger area,* immediately switch off engines and drives.
- ▶ *Before working in the danger area of the implement,* secure the tractor and implement. This also applies for quick inspection tasks.



CMS-I-00008447

Overhead power lines

When unfolding and folding or when folding and lifting out, or when lifting the implement or implement parts in operation, the implement can reach the height of overhead power lines. This can cause electrical arcing between power lines and the implement, resulting in fatal electrical shock or fire. Major voltage differentials occur on the ground around the implement.

- ▶ When unfolding or folding, and when lifting or lifting out the implement or implement parts, always maintain a safe distance from overhead power lines.
- ▶ Never fold or unfold implement parts in the vicinity of overhead power line pylons or overhead power lines.
- ▶ When implement parts are unfolded, always maintain a safe distance from overhead power lines.
- ▶ *If electrical arcing occurs between power lines and the implement:*
Stay in the cab.
- ▶ Do not touch metal parts.
- ▶ Warn people to stay away from the implement.
- ▶ Wait for help from professional rescue personnel.
- ▶ *If people must exit the cab despite the electrical arcing, e.g. if there is an imminent life-threatening fire hazard:*
Jump from the implement such that you land in safe location.
- ▶ Do not touch the implement.
- ▶ Walk away from the implement, taking small steps.

2.1.4 Safe operation and handling of the implement

CMS-T-00002304-J.1

2.1.4.1 Coupling the implement

CMS-T-00002320-D.1

Coupling the implement to the tractor

Incorrectly coupling the implement to the tractor results in hazards that can cause serious accidents.

There are crush points and shear points in the area of the coupling points between the tractor and the implement.

- ▶ *If you couple the implement or uncouple the implement from the tractor, be very careful.*
- ▶ Only couple and transport the implement with suitable tractors.
- ▶ *When the implement is coupled on the tractor, ensure that the tractor's connecting device meets the implement requirements.*
- ▶ Carefully couple the implement to the tractor.

2.1.4.2 Driving safety

CMS-T-00002321-F.1

Hazards when driving on roads and fields

Any implements or front/rear weights attached to the tractor influence the driving behavior and the steering and braking capacity of the tractor. Driving characteristics also depend on the operating condition, the fill level or load and on the substrate. If the driver does not take changed driving characteristics into account, he can cause accidents.

- ▶ Always ensure that the tractor has sufficient steering and braking capacity.
- ▶ *The tractor must provide the prescribed brake lag for the tractor and mounted implement.*
Check the braking effect before moving off.
- ▶ *The tractor front axle must always be loaded with at least 20 % of the tractor tare weight to ensure sufficient steering capacity.*
If necessary, use front weights.
- ▶ Always fasten the front weights or rear weights on the prescribed fastening points provided for this purpose.
- ▶ Calculate the payload and comply with the permissible payload for the mounted or towed implement.
- ▶ Comply with the permissible axle loads and drawbar loads of the tractor.
- ▶ Comply with the permissible drawbar load of the hitch device and drawbar.
- ▶ Comply with the permissible transport width of the implement.
- ▶ Drive in such a manner that you always have full control of the tractor with the mounted or trailed implement. In so doing, take your personal abilities into account, as well as the road, traffic, visibility conditions and weather conditions as well as the driving characteristics of the tractor and the influence of the mounted implement.

When driving on roads, there is risk of accident due to uncontrolled lateral movements of the implement

- ▶ Lock the tractor lower links in place for road travel.

Preparing the implement for road travel

If the implement is not properly prepared for road travel, it can cause serious traffic accidents.

- ▶ Check the lighting and identification for road travel for proper function.
- ▶ Remove coarse contaminants from the implement.
- ▶ Follow the instructions in the section "Preparing the implement for road travel".

Parking the implement

The parked implement can tip over. People can be crushed and killed.

- ▶ Only park the implement on stable and level ground.
- ▶ *Before performing adjustment tasks or maintenance tasks,* ensure that the implement is stable. If in doubt, support the implement.
- ▶ Follow the instructions in the section "*Parking the implement*".

Unsupervised parking

Parked tractors with coupled implements that are insufficiently secured or unsupervised pose a hazard for people and for children at play.

- ▶ *Before leaving the implement:*
Bring the tractor and the implement to a standstill.
- ▶ Secure the tractor and the implement.

Do not use the control computer or control terminal during road travel

If the driver is distracted, it can result in accidents and injuries or even death.

- ▶ Do not operate the control computer or control terminal during road travel.

2.1.5 Safe maintenance and modification

CMS-T-00002305-J.1

2.1.5.1 Modifications on the implement

CMS-T-00002322-B.1

Only authorized modifications

Structural modifications or extensions can impair the functionality and operational safety of the implement. This can result in severe or fatal injuries.

- ▶ Have any structural modifications or extensions performed only by a qualified specialist workshop.
- ▶ *This ensures that the operating permit remains valid in accordance with national and international regulations.*
Ensure that the specialist workshop only uses conversion parts, spare parts, and special equipment approved by AMAZONE.

2.1.5.2 Tasks on the implement

CMS-T-00002323-I.1

Only work on the implement after it has come to a complete standstill

If the implement is not at standstill, parts can move unintentionally or the implement can be set in motion. This can result in severe or fatal injuries.

- ▶ *If you must work on or under raised loads:*
Lower the loads or secure raised implement parts with a hydraulic device or mechanical locking device.
- ▶ Switch off all drives.
- ▶ Apply the parking brake.
- ▶ Particularly on slopes, in addition, use wheel chocks to prevent the implement from rolling.
- ▶ Remove the ignition key and keep it with you.
- ▶ Wait until all parts still in motion after the unit is switched off have come to a stop and until hot parts have cooled down.

Maintenance tasks

Improper maintenance tasks, particularly on safety-related components, compromise operational safety. This can result in accidents and persons can be severely injured or killed. For example, safety-related components include hydraulic components, electronic components, frames, springs, trailer coupling, axles and axle suspensions, lines and tanks containing flammable substances.

- ▶ *Before adjusting, maintaining or cleaning the implement,*
secure the implement.
- ▶ Maintain the implement as specified in this operating manual.
- ▶ Only perform the tasks that are described in this operating manual.
- ▶ Have maintenance tasks that are indicated as "*WORKSHOP TASK*" performed in a specialist workshop that is adequately equipped in terms of agricultural engineering, environmental engineering, and technical safety, by qualified personnel with the appropriate training.
- ▶ Never perform welding, drilling, sawing, grinding, and cutting tasks on the frame, running gear or coupling devices of the implement.
- ▶ Never modify safety-related components.
- ▶ Never drill out existing holes.
- ▶ Perform all maintenance tasks at the prescribed maintenance intervals.

Raised implement parts

Raised implement parts can lower unintentionally and crush or kill people.

- ▶ Never position yourself under raised implement parts.
- ▶ *If you must perform tasks on or under raised implement parts,*
lower the implement parts or secure the raised implement parts with a mechanical support or hydraulic locking device.

Danger due to welding tasks

Improper welding tasks, particularly on or close to safety-related components, compromise the operational safety of the implement. This can result in accidents and persons can be severely injured or killed. Safety-related components include, hydraulic components and electronic components, frames, springs, coupling devices to the tractor such as the three-point mounting frame, drawbars, trailer support, trailer coupling or tensioned crosspiece as well as axles and axle suspensions, lines, and tanks containing flammable substances.

- ▶ Only have qualified specialist workshops with appropriately approved personnel perform welding tasks on safety-related components.
- ▶ Only have qualified personnel perform welding tasks on all other components.
- ▶ *If in doubt as to whether welding tasks can be performed on a component:*
Ask a qualified specialist workshop.
- ▶ *Before welding on the implement:*
Uncouple the implement from the tractor.
- ▶ Do not weld in the vicinity of a crop protection sprayer that was previously used to spread liquid fertilizer.

2.1.5.3 Operating materials

CMS-T-00002324-C.1

Unsuitable operating materials

Operating materials that do not meet the AMAZONE requirements can cause implement damage and accidents.

- ▶ Only use operating materials that meet the requirements specified in the Technical data.

2.1.5.4 Special equipment and spare parts

CMS-T-00002325-B.1

Special equipment, accessories, and spare parts

Special equipment, accessories, and spare parts that do not meet AMAZONE requirements can impair the operational reliability of the implement and cause accidents.

- ▶ Only use original parts or parts that meet the AMAZONE requirements.
- ▶ *If you have any questions regarding special equipment, accessories or spare parts, contact your AMAZONE dealer or AMAZONE.*

2.2 Safety routines

CMS-T-00002300-D.1

Securing the tractor and implement

If the tractor and implement are not secured against unintentional starting and rolling, the tractor and implement can be set in uncontrolled motion, and can run over, crush and kill people.

- ▶ Lower the lifted implement or lifted implement parts.
- ▶ Dissipate pressure in the hydraulic hose lines by activating the operating devices.
- ▶ *If you must stand under the raised implement or components, prevent the raised implement and components from lowering with a mechanical safety support or hydraulic locking device.*
- ▶ Switch off the tractor.
- ▶ Engage the tractor's parking brake.
- ▶ Remove the ignition key.

Securing the implement

After uncoupling, the implement must be secured. If the implement or implement parts are not secured, there is a risk of injury due to crushing or cutting.

- ▶ Only park the implement on stable and level ground.
- ▶ *Before depressurizing the hydraulic hose lines and disconnecting them from the tractor, bring the implement into working position.*
- ▶ Protect people from direct contact with sharp-edged or protruding implement parts.

Keep protective devices functional

If protective devices are missing, damaged or faulty or have been removed, implement parts can severely injure or kill people.

- ▶ Check the implement at least once a day for damage, proper installation, and functionality of the protective devices.
- ▶ *If there is doubt as to whether the protective devices are properly installed and functional,* have the protective devices checked by a qualified specialist workshop.
- ▶ Ensure that the protective devices are properly installed and functional before any activity on the implement.
- ▶ Replace damaged protective devices.

Climbing on and off

Negligent behavior while climbing on and off may cause personnel to fall off the ladder. Personnel who climb onto the implement without using the intended access aids can slip or fall, and suffer severe injury. Contamination as well as operating materials can impair stepping safety and stability. Accidental activation of control elements can unintentionally trigger potentially dangerous functions.

- ▶ Use only the intended access aids.
- ▶ *To ensure safe step and safe stance:*
Always keep step surfaces and platforms clean and in proper condition, so that safe step and safe stance are ensured.
- ▶ *When the implement is moving:*
Never climb onto or down from the implement.
- ▶ Climb up and down facing the implement.
- ▶ When climbing up and down, maintain 3-point contact with the access steps and handrails: Always keep either two hands and one foot on the implement or two feet and one hand on the implement.
- ▶ When climbing up and down, never use the control elements as a hand grip.
- ▶ When climbing down, never jump off of the implement.

Intended use

3

CMS-T-00012721-A.1

- The implement is designed exclusively for professional use in accordance with Good Agricultural Practices.
- The implement is an agricultural implement designed to be attached to the clevis coupling or the hitch ball of a tractor that meets the technical requirements.
- The implement is suitable and designed for transport and for full-area spreading of dry, granular, prilled, and crystalline fertilizers and earth moist lime.
- Depending on the provisions of the applicable road traffic regulations, when driving on public roads, the implement can be mounted and transported on the rear of a tractor that meets the technical requirements.
- The implement may only be used and maintained by persons who meet the requirements. The requirements imposed on personnel are described in the section "*Qualifications of personnel*".
- The operating manual is part of the implement. The implement is intended exclusively for use in compliance with this operating manual. Uses of the implement that are not described in this operating manual can result in serious personal injury or even death and implement damage and material damage.
- The users and the owner must also comply with the applicable accident prevention regulations as well as generally accepted safety-related, occupational health and road traffic regulations.
- Additional instructions concerning intended use for special cases can be requested from AMAZONE.
- Uses other than those specified under the intended use are considered non-intended use. The manufacturer is not liable for any damage resulting from non-intended use; the owner is exclusively liable for such damage.

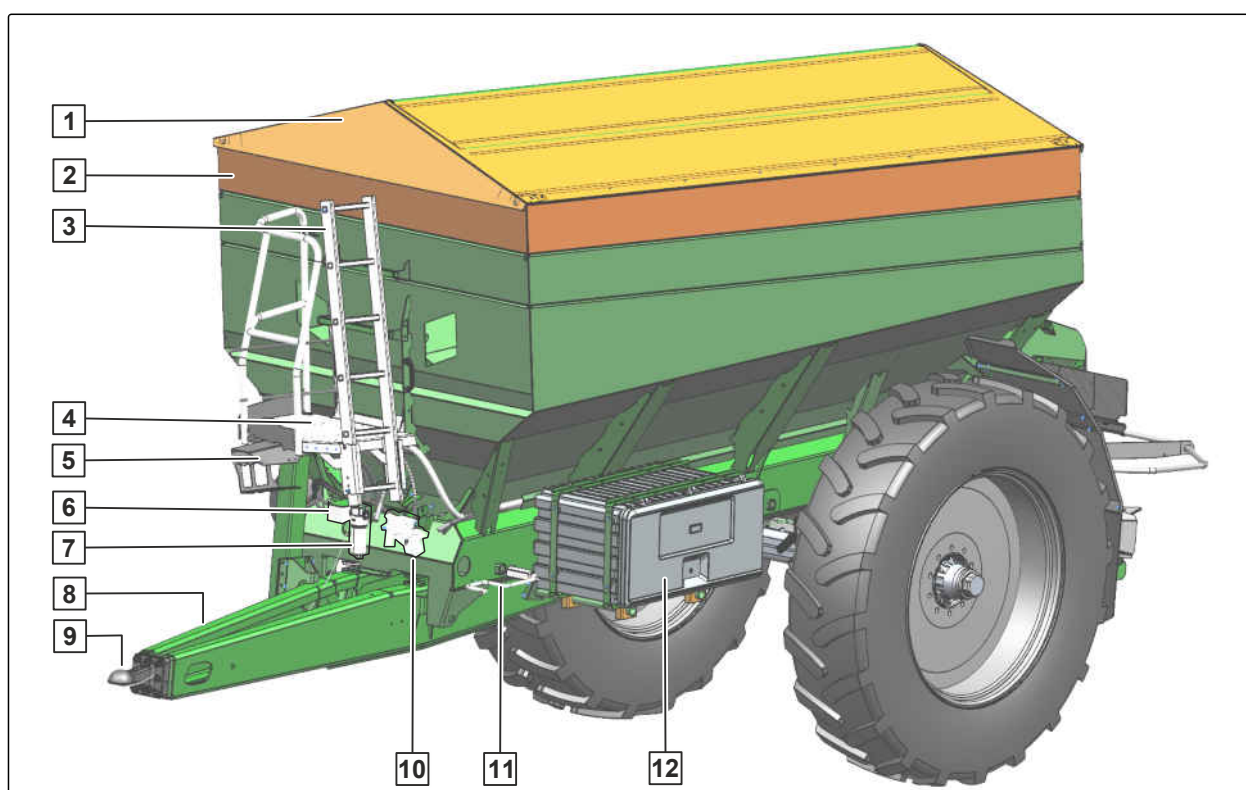
Product description

4

CMS-T-00015621-C.1

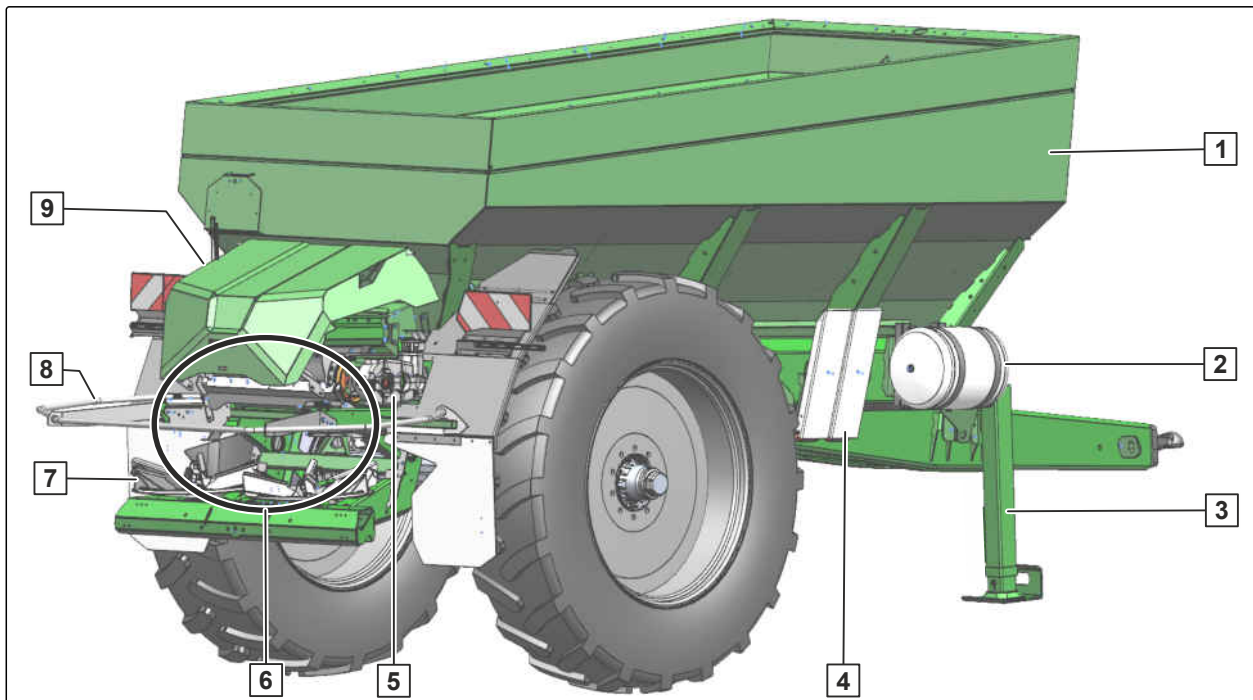
4.1 Implement overview

CMS-T-00012785-B.1



CMS-I-00008091

- | | |
|--|--|
| 1 Hydraulic swivelling cover tarpaulin | 2 Hopper extension |
| 3 Folding ladder with locking mechanism | 4 Service platform |
| 5 Hose cabinet | 6 Hydraulic block with LS system adjustment screw |
| 7 Oil filter | 8 Spring suspended drawbar |
| 9 Connection device | 10 Brake valve of the dual-circuit pneumatic brake system |
| 11 Parking brake | 12 Transport box with threaded cartridge |



CMS-I-00008090

- | | |
|--|---|
| 1 Spreading material hopper with charging sieves and floor belt | 2 Compressed air tank of the dual-circuit pneumatic brake system |
| 3 Hydraulic jack | 4 Wheel chocks |
| 5 Dirt trap | 6 Floor belt gearbox |
| 7 Spreader unit | 8 Spreading disks |
| 9 Guard tube | 10 Camera |
| 11 Folding cover hood | |

4.2 Function of the implement

CMS-T-00012701-A.1

The implement is operated from the tractor with a control terminal. The spread rate is adjusted electronically.

The floor belt in the spreading material hopper conveys the spreading material to the spreader unit.

From the spreader unit, the spreading material falls onto the rotating spreading disks and is evenly spread across the set working width.

The lime spreader unit with lime spreading disks is used for spreading lime.

The fertilizer spreader unit with fertilizer spreading disks is used for spreading fertilizer.

Spreading fertilizer:

- The working width is set by selecting the spreading vane units.
- The lateral distribution is optimised by turning the delivery system.
- The delivery system is adjusted manually with a hand lever or electrically via the control terminal.
- The TS boundary spreading system is used for boundary spreading on the right with half the working width.

4.3 Special equipment

CMS-T-00012697-B.1

Special equipment is equipment that may possibly not be on your implement or that may only be available in some markets. The sales documents specify the equipment of your implement or contact your dealer for more detailed information.

The following equipment is considered special equipment:

- Work lights
- Roll-up cover tarpaulin
- Cover hood for spreader unit
- Extension 2200
- Printed setting chart
- Camera set for hopper and spreader unit
- Chain hook for spreading lime
- Spreading vane set TS 10, TS 20 and TS 30
- Mobile test rig
- EasySet mats with transport bags
- Control computer for EasySet 2
- RAM bracket for AmaTron 4
- Software licenses for AmaTron 4

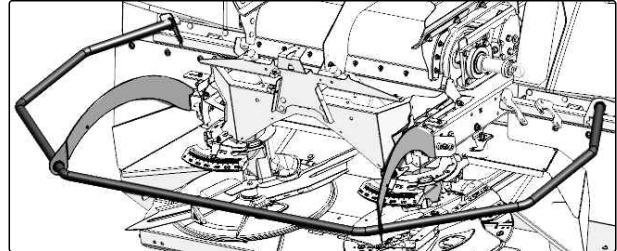
4.4 Protective devices

CMS-T-00012723-A.1

4.4.1 Guard tube

The guard tube serves as protection against injuries caused by reaching into the driven spreading disk.

CMS-T-00012724-A.1

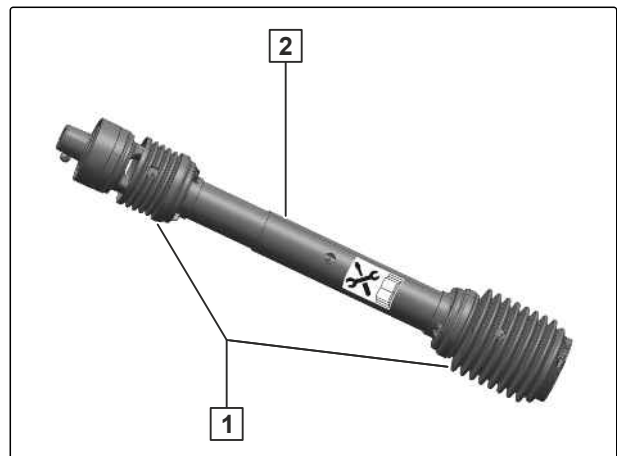


CMS-I-00008092

4.4.2 Universal joint shaft guard

In the standard situation the universal joint shafts are equipped with guard tubes **2** and protective sleeves **1**. Depending on the implement equipment, holding chains or full-protection funnels fix the guard tubes in place. This rules out the risk of entanglement.

CMS-T-00003992-C.1



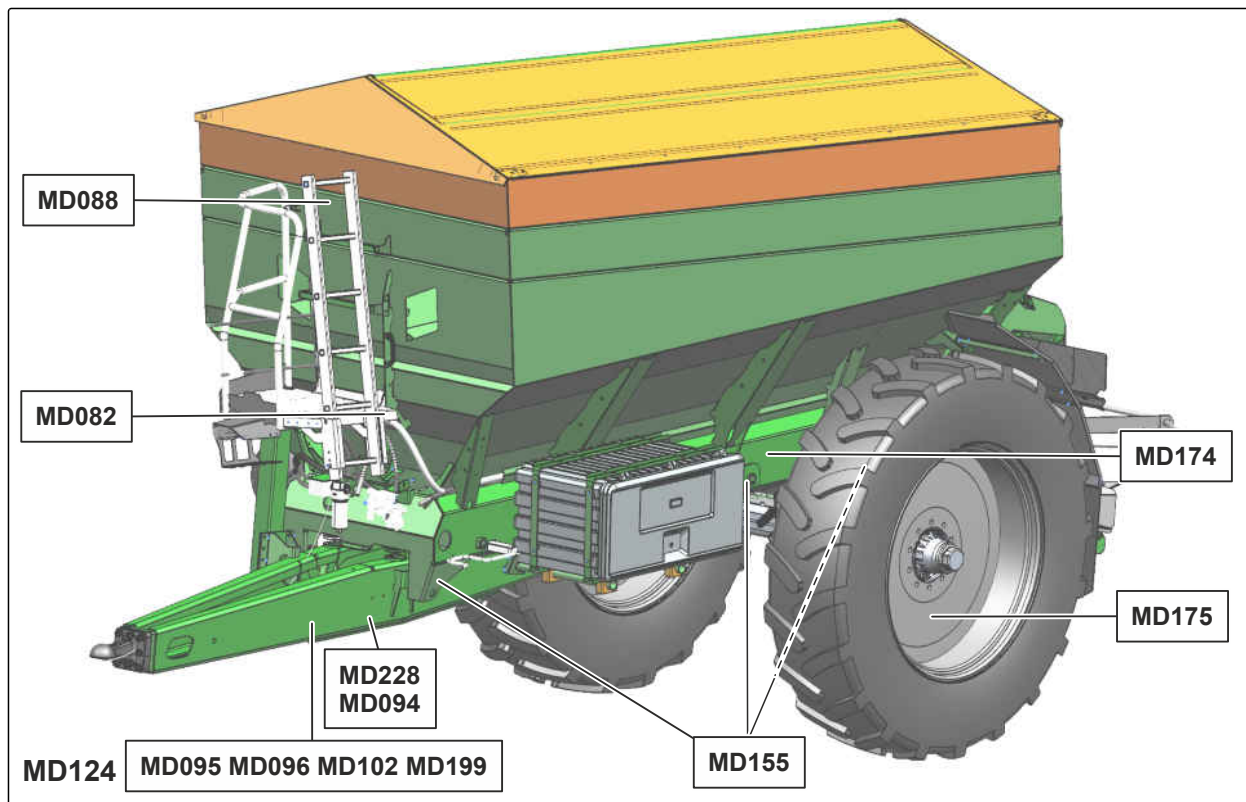
CMS-I-00002930

4.5 Warning symbols

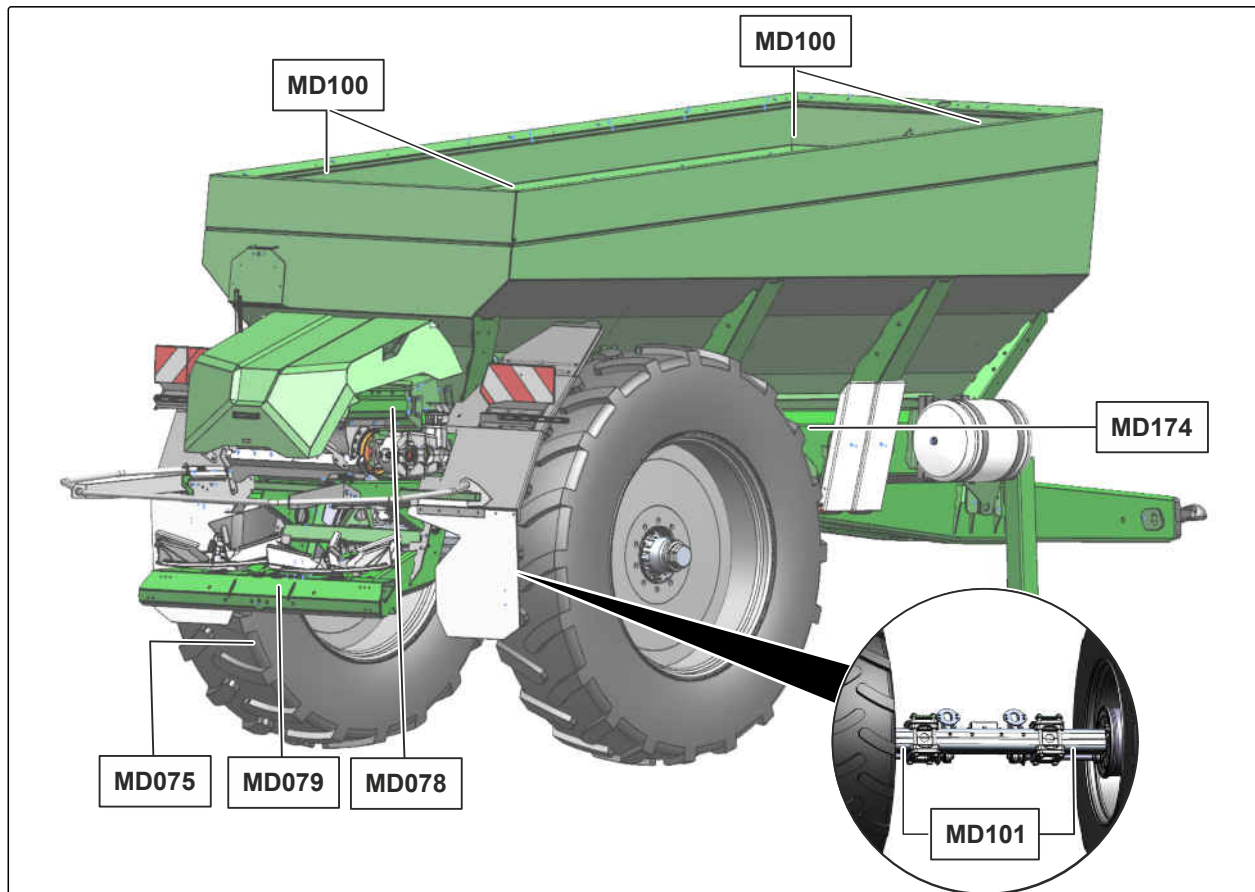
CMS-T-00012699-C.1

4.5.1 Positions of the warning symbols

CMS-T-00012792-B.1



CMS-I-00008102



CMS-I-00008099

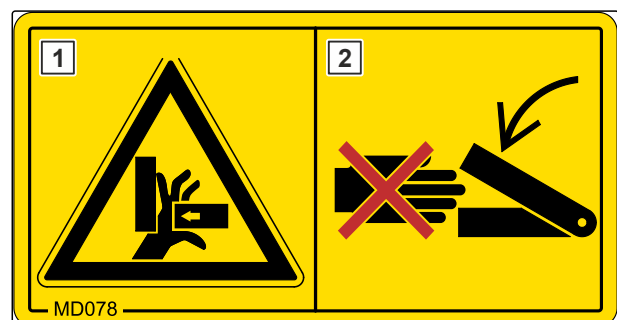
4.5.2 Structure of the warning symbols

CMS-T-000141-D.1

Warning symbols indicate danger areas on the implement and warn of residual risks. In these danger areas, there are permanent hazards or hazards that occur unexpectedly.

A warning symbol consists of 2 fields:

- Field **1** shows the following:
 - A pictogram indicating the danger area, surrounded by a triangular safety symbol
 - The order number
- field **2** shows the pictorial instruction for avoiding the hazard.



CMS-I-00000416

4.5.3 Description of the warning symbols

CMS-T-00012793-B.1

MD075

Risk of cutting injuries for fingers, hands, and arms

- ▶ Interrupt the power supply to the implement before approaching the danger zone.
- ▶ Wait until all moving parts have come to a standstill before reaching into the danger area.
- ▶ Ensure that no one is standing in the danger area or in the vicinity of moving parts.

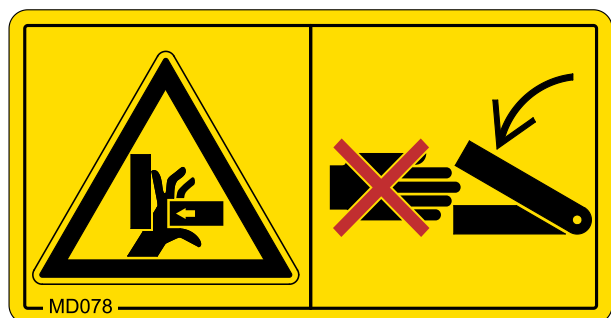


CMS-I-00000418

MD078

Risk of crushing fingers or hands

- ▶ Interrupt the power supply to the implement before approaching the danger zone.
- ▶ Wait until all moving parts have come to a standstill before reaching into the danger area.
- ▶ Ensure that no one is standing in the danger area or in the vicinity of moving parts.

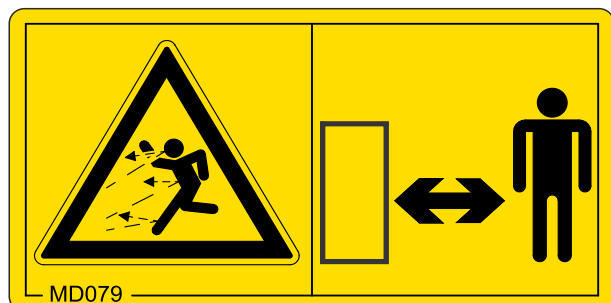


CMS-I-0000074

MD079

Danger due to ejected material

- ▶ Ensure that no one is standing in the danger area or in the vicinity of moving parts.

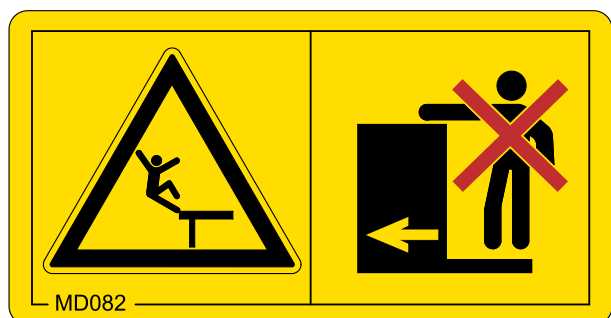


CMS-I-0000076

MD082

Risk of falling from stepping surfaces and platforms

- ▶ Never allow people to ride on the implement.
- ▶ Never allow people to climb onto the moving implement.



CMS-I-0000081

MD084

Risk of crushing for entire body due to lowering implement parts

- ▶ Ensure that no one is in the danger area.

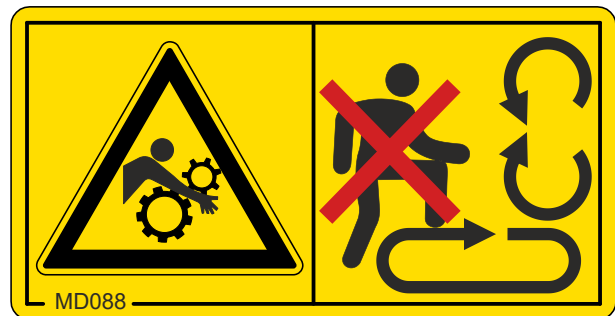


CMS-I-000454

MD088

Risk of entanglement and catching

- ▶ Interrupt the power supply to the implement before approaching the danger zone.
- ▶ Wait until all moving parts are at a standstill before stepping onto the loading platform.

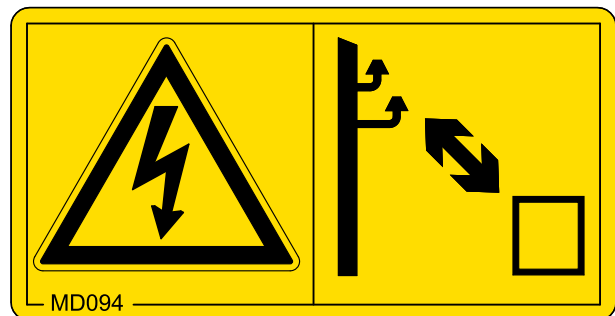


CMS-I-00008103

MD094

Danger due to transmission lines

- ▶ Never touch transmission lines with the implement.
- ▶ Maintain an adequately safe distance from electrical transmission lines, especially when folding or unfolding implement parts.
- ▶ Please note that voltage can also flash over at short distances from transmission lines.



CMS-I-000692

MD095

Risk of accident due to failure to comply with the instructions in the operating manual

- Before working on or with the implement, read and understand the operating manual.



CMS-I-000138

MD096

Risk of infection due to hydraulic oil escaping at high pressure

- Never search for leaks in hydraulic hose lines using your hand or fingers.
- Never attempt to seal leaks in hydraulic hose lines using your hand or fingers.
- *If you are injured by hydraulic oil, seek medical attention immediately.*

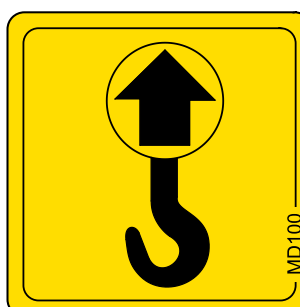


CMS-I-000216

MD100

Risk of accident due to improperly attached sling gear

- Only attach the sling gear at the marked points.

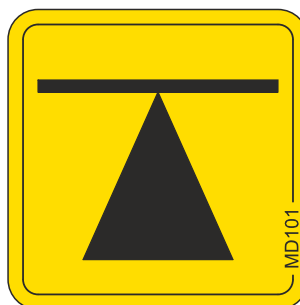


CMS-I-000089

MD101

Risk of accident due to improperly attached lifting equipment

- ▶ Only attach the lifting equipment at the marked points.



CMS-I-00002252

MD102

Danger due to unintentional starting as well as unintentional and uncontrolled movements of the implement

- ▶ Before all tasks, secure the implement against unintentional starting as well as unintentional and uncontrolled movements.

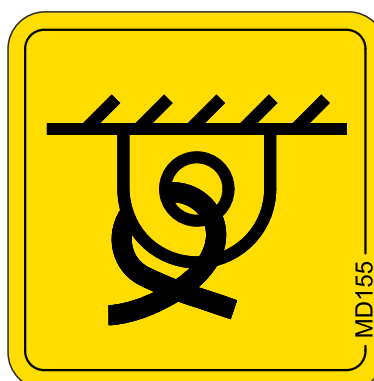


CMS-I-00002253

MD155

Risk of accident and implement damage during transport due to an improperly secured implement

- ▶ For implement transport, only attach the lashing straps on the marked lashing points.

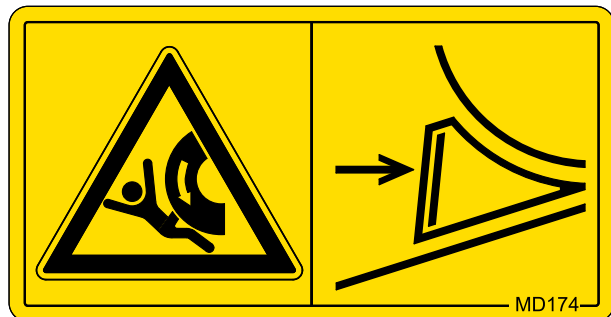


CMS-I-00000450

MD174

Risk of rolling over due to unsecured implement

- Secure the implement against rolling.
- To do so, use the parking brake and/or wheel chocks.



CMS-I-00000458

MD175

Risk due to improperly tightened bolted connections

- Tighten the bolted connections with the required torque.

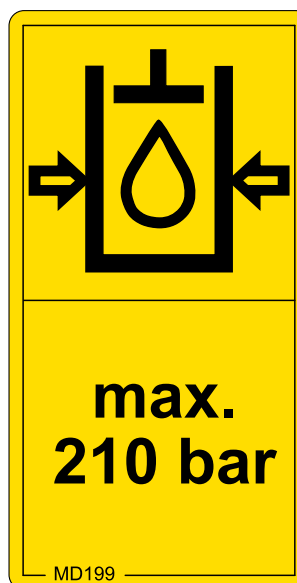


CMS-I-00008105

MD199

Risk of accident due to excessive hydraulic system pressure

- Only couple the implement to tractors with a maximum tractor hydraulic pressure of 3,045.79 psi (210 bar).

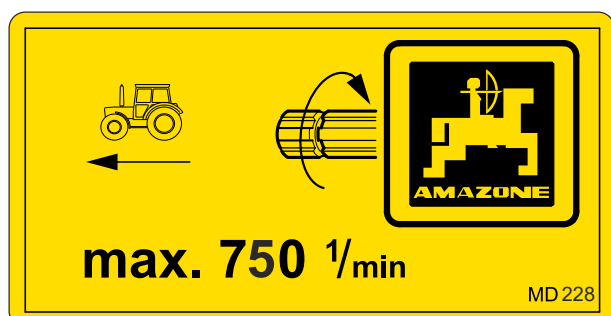


CMS-I-00000486

MD228

Risk of implement damage due to excessively high drive speed and wrong direction of rotation of the drive shaft

- Comply with the maximum drive speed and direction of rotation of the drive shaft on the implement side, as shown on the pictogram.



CMS-I-00008107

4.6 Lighting and identification for road travel

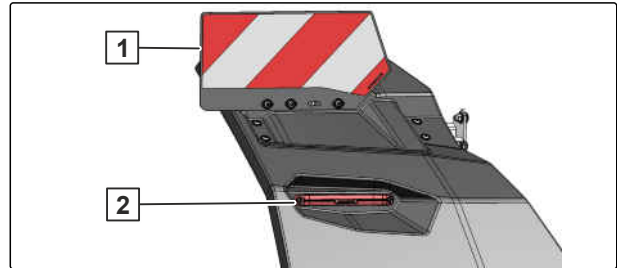
CMS-T-00012698-B.1

4.6.1 Rear lighting and identification

CMS-T-00012786-A.1

Yellow reflectors are attached on the sides of the implement at a distance of 9.84 ft (3 m).

- 1 Warning signs
- 3 Rear lights; brake lights; turn indicators



CMS-I-00008094



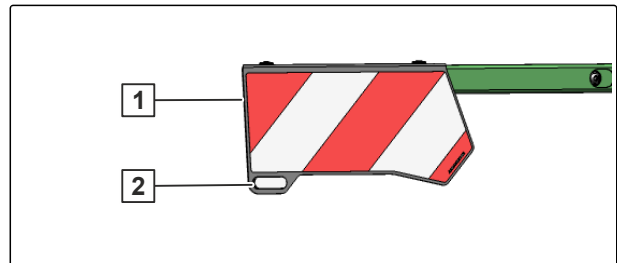
NOTE

The lighting and identification for road travel may vary depending on the national regulations.

4.6.2 Front lighting and identification

CMS-T-00012787-A.1

- 1 Warning signs
- 2 Reflector, white



CMS-I-00008093



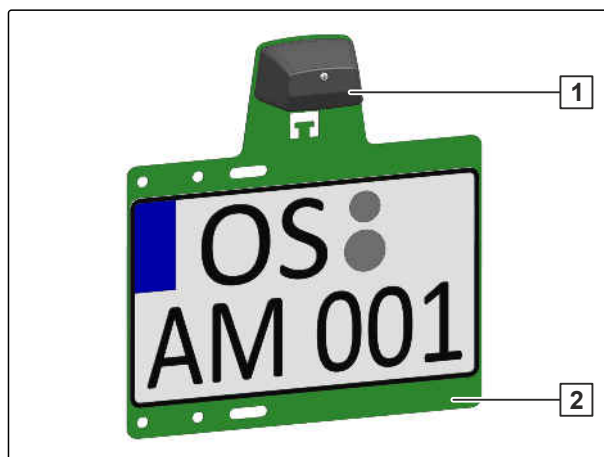
NOTE

The lighting and identification for road travel may vary depending on the national regulations.

4.6.3 Additional license plate

CMS-T-00003999-C.1

- 1 License plate lighting
- 2 License plate holder



CMS-I-00003163

4.7 GewindePack

CMS-T-00001776-E.1

The GewindePack contains the following:

- Documents
- Auxiliary equipment



CMS-I-00002306

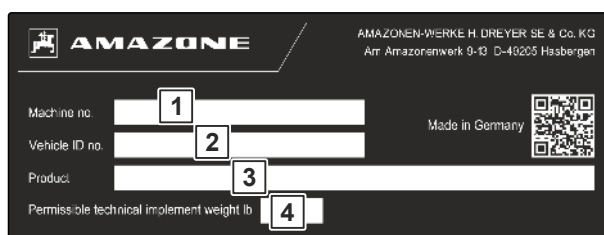
4.8 Rating plate

CMS-T-00015559-B.1

4.8.1 Rating plate on the implement

CMS-T-00015505-C.1

- 1 Implement number
- 2 Vehicle ID number
- 3 Product
- 4 Permissible technical implement weight

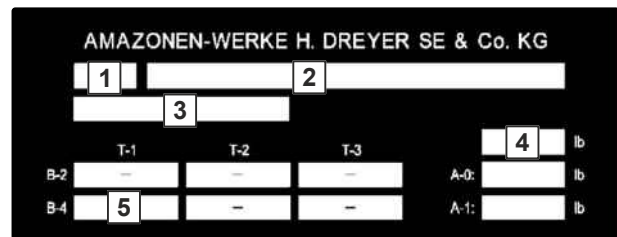


CMS-I-00008272

4.8.2 Additional rating plate

CMS-T-00005949-E.1

- 1** Note for type approval
- 2** Note for type approval
- 3** Vehicle identification number
- 4** Permissible gross vehicle weight
- 5** Permissible gross trailer load for a drawbar trailer vehicle with pneumatic brake
- A0** Technically permissible drawbar load
- A1** Permissible technical axle load, axle 1
- A2** Permissible technical axle load, axle 2



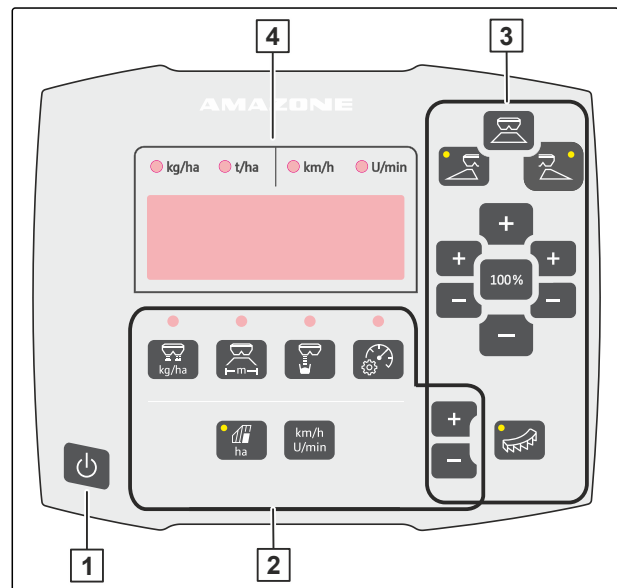
CMS-I-00005056

4.9 Control computer for EasySet 2

CMS-T-00012823-A.1

With the EasySet 2 control computer, the implement is operated from the tractor.

- 1** On/off button
- 2** Some of the adjustment buttons have LED lights
- 3** Some of the buttons for control during operation have LED lights
- 4** Display with LED lights

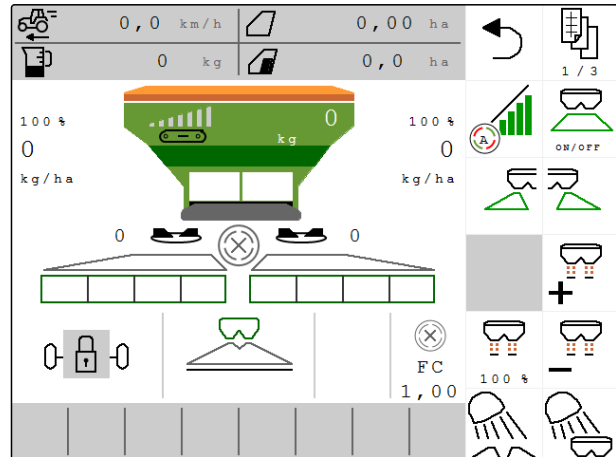


CMS-I-00008192

4.10 ISOBUS control software

CMS-T-00012824-B.1

The implement is ISOBUS-compatible. With the ISOBUS control software and an ISOBUS control terminal, the implement can be operated from the tractor.



CMS-I-00008193

4.11 mySpreader app

CMS-T-00012726-B.1

With the AMAZONE mySpreader app, the implement can be operated using a mobile device. The implement can be connected to a mobile device via Bluetooth and exchange data with the mySpreader app.

Content of the mySpreader app:

- Setting recommendations for the fertilizer spreader
- EasyCheck app for determining the lateral distribution
- EasyMix app with settings recommendations for mixed fertilizers

The AMAZONE mySpreader app can be obtained from the iOS Store or the Play Store. To do so, use the QR code or the link.

<https://ama.zone/feouxwz>



CMS-I-00008097



CMS-I-00008096

4.12 Spreading material hopper

CMS-T-00012727-B.1

4.12.1 Platform

CMS-T-00012728-A.1

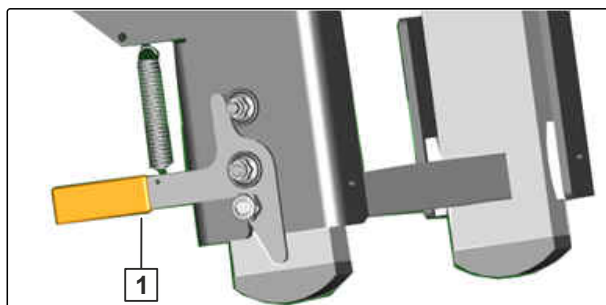
The hopper can be cleaned or maintained from the platform with the ladder.



CMS-I-00008118

The raised ladder locks automatically in the end position.

- 1** Hand lever for unlocking the ladder



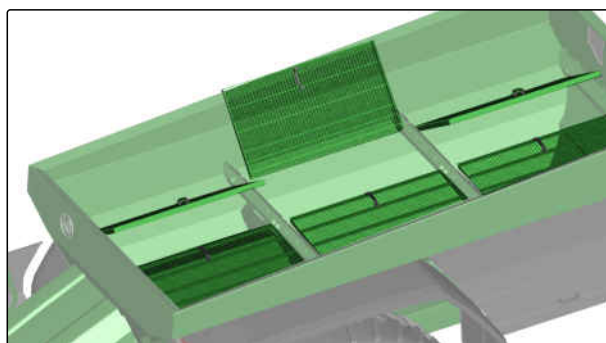
CMS-I-00008117

4.12.2 Charging sieves

CMS-T-00012729-B.1

The folding charging sieves cover the full area of the hopper and serve to catch foreign objects and fertilizer clumps while filling. For internal cleaning of the hopper, the charging sieves can be walked on.

The charging sieves must be removed for spreading lime.

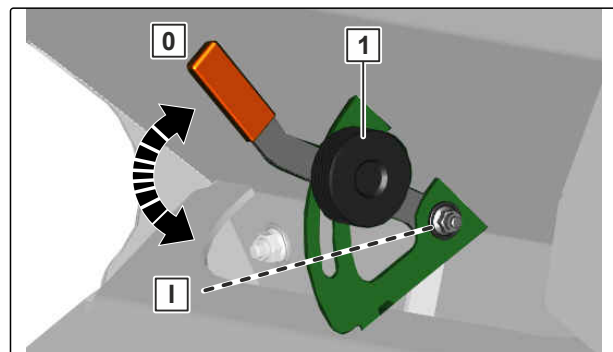


CMS-I-00008116

4.12.3 Drainage flap

The spreading material hopper is drained via the drainage flap when cleaning.

- 0** Hand lever in closed position
- I** Hand lever in drainage position
- 1** Knob



CMS-T-00012730-A.1

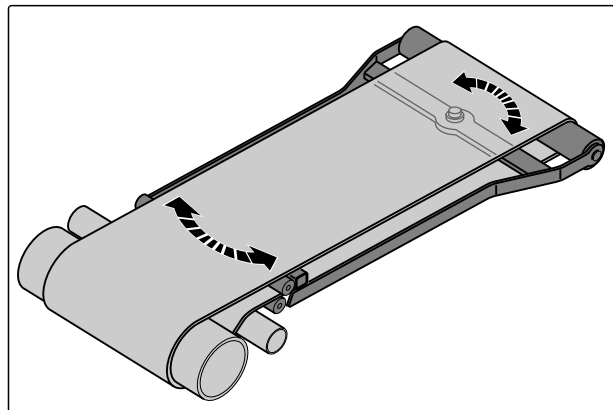
CMS-I-00008119

4.13 Floor belt

The spreading material is conveyed to the spreader unit via the floor belt. The spread rate of the spreading material is regulated via the belt speed.

The tension of the floor belt is adjustable.

The automatic floor belt control prevents one-sided running of the conveyor belt on slopes or when it is loaded on one side. The swivelling movement of the control frame ensures constant alignment towards the centre.



CMS-T-00012731-A.1

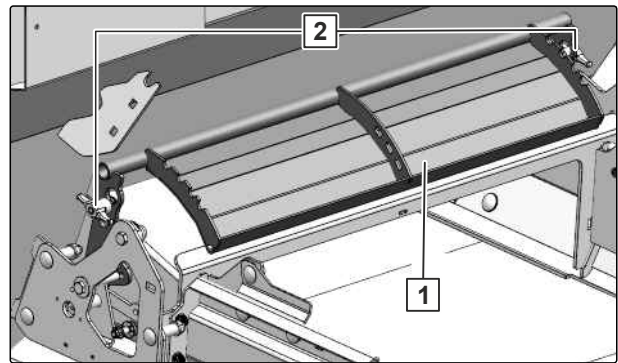
CMS-I-00008115

4.14 Mono shutter

The mono shutter is used for spreading fertilizer without double shutter and for spreading lime. The mono shutter is manually adjusted depending on the spreading material and spread rate.

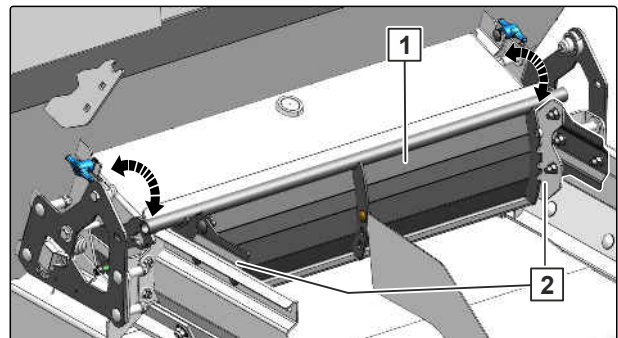
CMS-T-00012732-B.1

- 1 Mono shutter open
- 2 Mono shutter secured with 2 wing bolts



CMS-I-00008114

- 1 Mono shutter partially open
- 2 Mono shutter set via stop plate



CMS-I-00008113

4.15 Fertilizer spreading

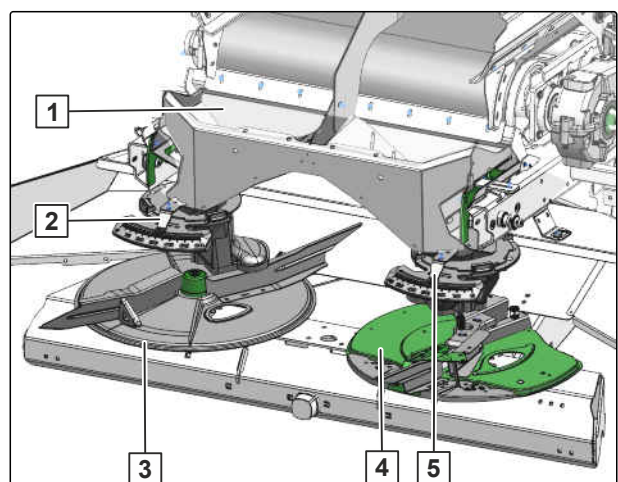
CMS-T-00012733-C.1

4.15.1 Overview of the TS spreader unit

CMS-T-00012734-A.1

The TS spreader unit is used for spreading fertilizer. The fertilizer reaches the spreading disks via the funnel chute.

- 1 Funnel chute
- 2 Delivery system left
- 3 Left spreading disk for normal spreading
- 4 Right spreading disk with TS boundary spreading system
- 5 Delivery system right



CMS-I-00008112

4.15.2 Explanation of the fertilizer database

In the AMAZONE Spreader Application Center (SAC), setting values are determined for all commercially available fertilizers and they are entered in the fertilizer database. The data in the fertilizer database can be accessed via the online FertilizerService or the mySpreader app.







The online FertilizerService can be accessed via the AMAZONE website
<https://amazone.de/de-de/service-support/>.


















The mySpreader app for mobile devices can be downloaded using the QR code, See page 36.














For questions regarding fertilizers, the contact persons for the respective countries can be reached using the following telephone numbers:

Country code	Telephone number	Country code	Telephone number	Country code	Telephone number
D	0049 5405 501 111	I	0039 3965 2100	H	0036 5247 5555
GB	0044 1302 755720	DK	0045 7475 3112	HR	00385 3235 2352
IRL	00353 1129 726	FIN	00358 10 768 3097	BG	00359 8250 8000
F	0033 8926 80063	N	0047 6394 0657	GR	0030 2262 0259 15
B	0032 3821 0852	S	0046 4625 9200	AUS	0061 3 9369 1188
NL	0031 3163 69111	EST	00372 5062 246	NZ	0064 2 7246 7506
L	00352 2363 7200			J	0081 3 5604 7644

Excerpt from the setting chart:

Identification of the fertilizer	Name of the fertilizer	
 Illustration of the fertilizer		Grain diameter in in (mm)
		Bulk density in lb/gal (kg/l)
		Use the calibration factor as the default value for fertilizer calibration
		Throw distance parameter
		Mounting height in in (cm)

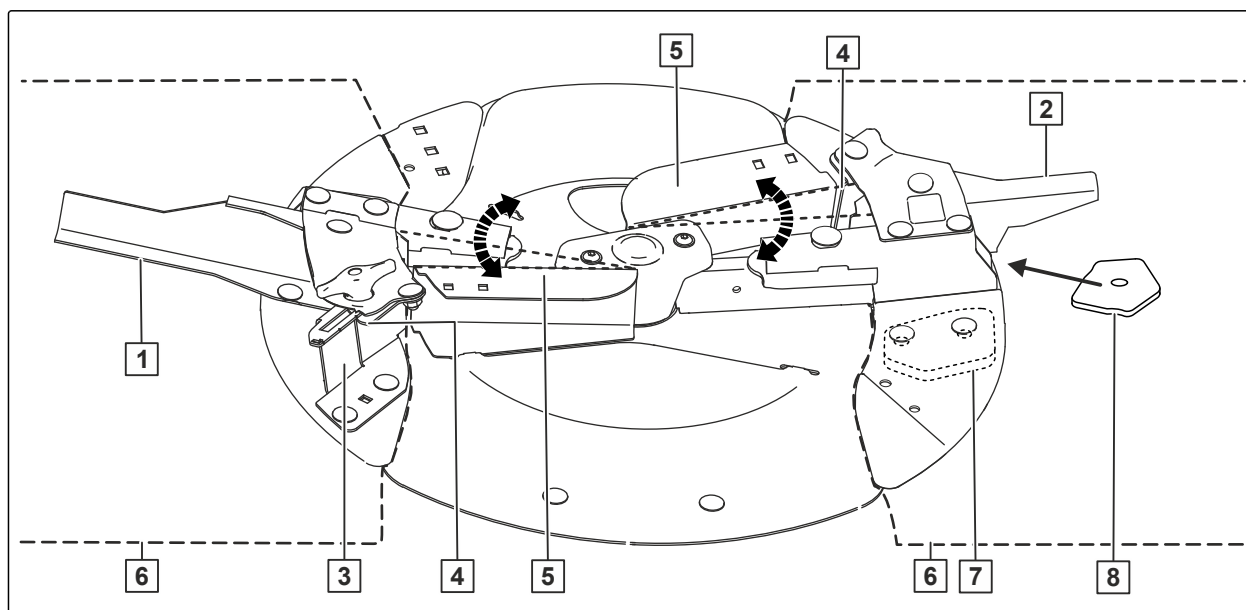
															
															
TS 20	24	16	600	B	2	720	2	5	600	2	10	550	24	-2	165
	27	16	600	B	2	720	2	5	600	2	10	550	24	-2	165
	30	16	800	B	2	900	2	7	800	2	12	720	29	-1	176

Symbol	Unit	Symbol	Unit
TS 20	Spreading vane unit TS 10, TS 20 or TS 30		Border spreading
	Working width		Boundary spreading
	Position of the delivery system		Ditch spreading
	Spreading disk speed		Rate reduction for boundary spreading and ditch spreading
	Telescope A, B, C or D		Border spreading without switching on the boundary spreading telescope
	Position 1, 2 or 3 on the telescope		Switch-on point
	Throwing angle		Switch-off point

4.15.3 Spreading disk with AutoTS boundary spreading system

CMS-T-00012736-A.1

The spreader unit is equipped with the AutoTS boundary spreading system on the right side. The AutoTS boundary spreading system is switched using the control terminal.

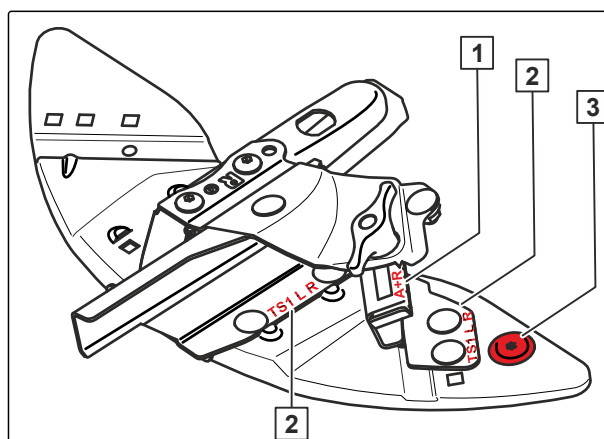


CMS-I-00008149

- | | |
|---|--|
| 1 Long spreading vane for normal spreading | 2 Short spreading vane for normal spreading |
| 3 Telescopic spreading vane for boundary spreading | 4 Rigid spreading vane for boundary spreading |
| 5 Swivel-mounted inner part of the spreading vane | 6 Spreading vane unit |
| 7 Balancing weight | 8 Telescopic balancing weights for boundary spreading vanes |

Spreading vane set TS 10, TS 20 and TS 30, depending on the working width:

- 1** Marking A, A+, B, C, D on the telescopic boundary spreading vane
- 2** Markings on the spreading vanes
- 3** Colored marking of the spreading vane unit



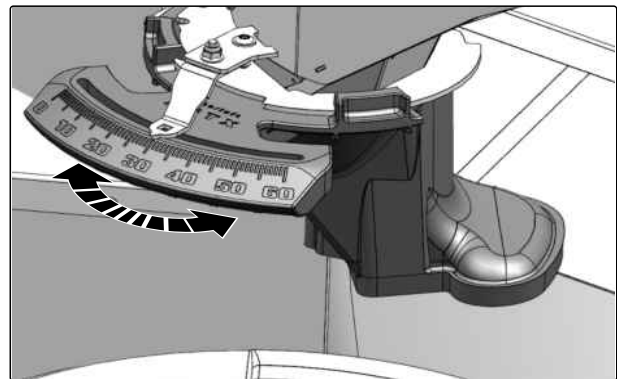
CMS-I-00008163

4.15.4 Delivery system

The delivery system over the spreading disk guides the fertilizer onto the spreading disk. The position of the delivery system influences the lateral distribution and must be adjusted as specified in the setting chart. The position of the delivery system depends on the working width and the fertilizer type.

EasySet 2: The delivery system is manually adjustable.

ISOBUS: The delivery system is automatically set according to the entries on the control terminal.



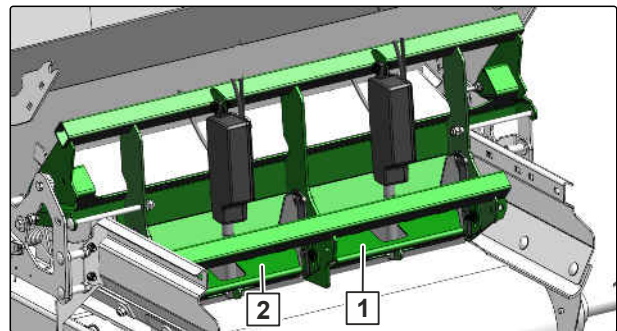
CMS-T-00012737-A.1

CMS-I-00008164

4.15.5 Double shutter

The double shutter is used to regulate the spread rate in addition to the floor belt. The right shutter **1** and the left shutter **2** can be electrically operated separately from one another.

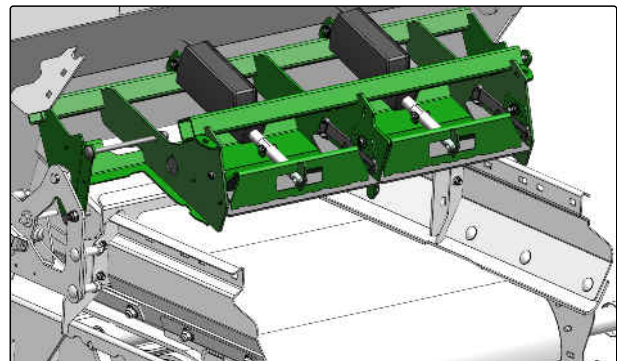
The double shutter is also used for one-sided fertilizer spreading.



CMS-T-00012738-A.1

CMS-I-00008166

To spread lime, the double shutter is manually swiveled up into parking position.



CMS-I-00008165

4.15.6 Mobile test rig

CMS-T-00012739-A.1

The mobile test rig is a measuring method for the lateral distribution on the field. The mobile test rig contains collection trays for fertilizer and a measuring cup.

The collection trays are placed at defined positions on the field and are strewn with fertilizer by driving back and forth. Afterwards, the collected fertilizer is filled into a measuring cup. The evaluation is based on the fill level in the measuring cup.



CMS-I-00008168

The evaluation is performed using:

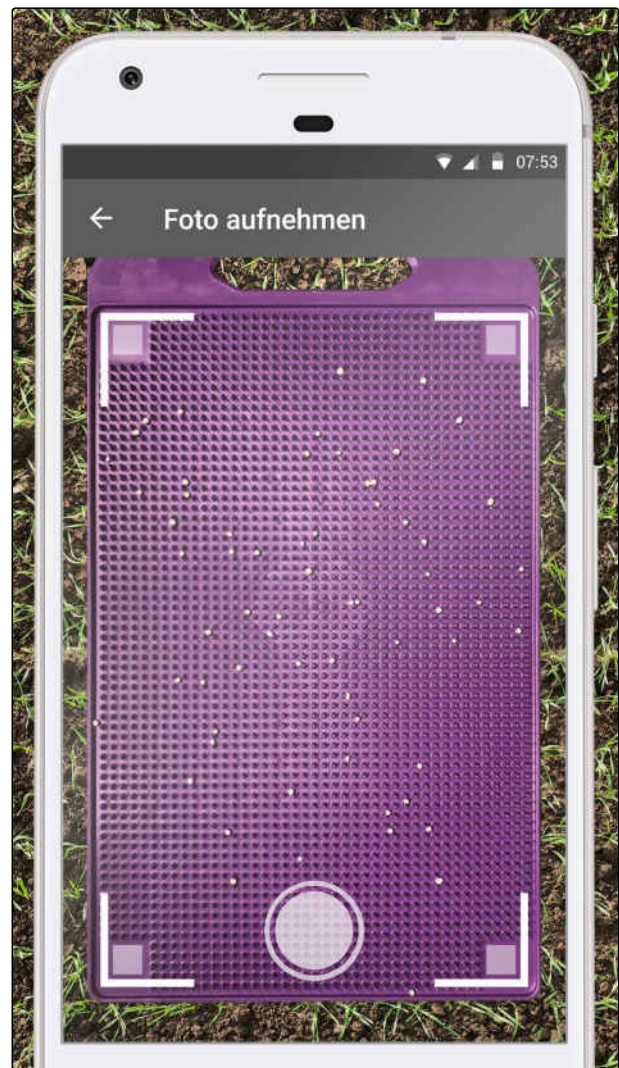
- The calculation model, refer to the mobile test rig operating manual
- Implement software on the control terminal
- The EasyCheck app, accessible via the AMAZONE website
<https://amazone.de/de-de/service-support/>

4.15.7 EasyCheck digital mobile test rig

EasyCheck is a digital mobile test rig for simple optimization of the lateral distribution with centrifugal fertilizer spreaders. EasyCheck consists of collection mats for fertilizer and the app for mobile devices to determine the fertilizer lateral distribution on the field.

The collection mats are placed at defined positions on the field and collect the fertilizer while spreading. Afterwards, the collection mats are photographed using the mobile device. The app checks the lateral distribution using the photos. If necessary, changes to the settings are suggested.

The EasyCheck app and the operating manual are accessible via the AMAZONE website <https://amazone.de/de-de/service-support/>.



CMS-T-00012740-A.1

CMS-I-00008167

4.16 Lime spreading

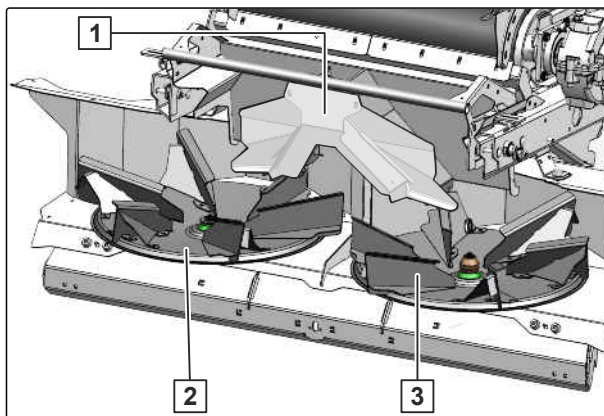
CMS-T-00012741-A.1

4.16.1 Overview of the lime spreader unit

CMS-T-00012742-A.1

The lime spreader unit is used for spreading lime.

- 1** Lime chute
- 2** Right spreading disk for lime
- 3** Left spreading disk for lime



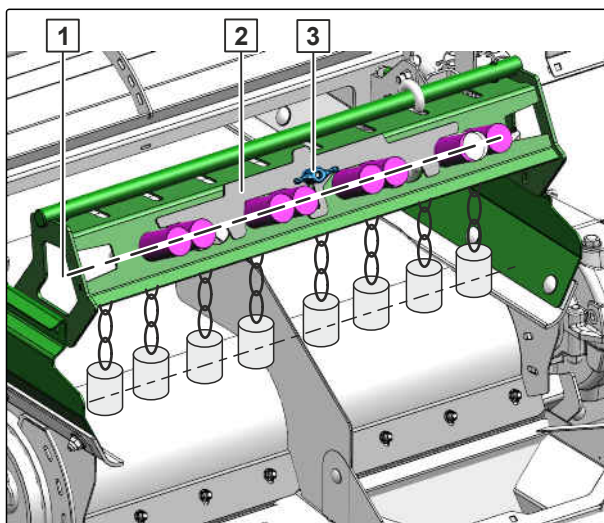
CMS-I-00008170

4.16.2 Chain rake

CMS-T-00012743-A.1

The chain rake distributes the lime evenly on the floor belt and ensures uniform flow of spreading material onto the spreading disks. The safety plate is fastened with the wing nut.

- 1** Chain rake in parking position when spreading fertilizer
- 2** Safety plate
- 3** Wing nut
- 4** Chain rake in working position when spreading lime

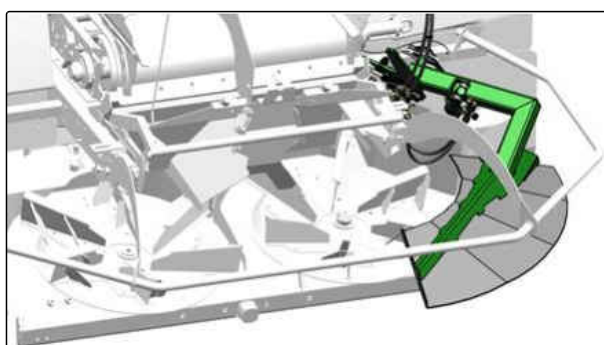


CMS-I-00008169

4.16.3 Boundary spreading device for lime

CMS-T-00012744-A.1

The boundary spreading device for lime is used for boundary spreading on the right with half the working width.



CMS-I-00008194

4.17 Dual-circuit pneumatic brake system

CMS-T-00012086-A.1

The dual-circuit pneumatic brake system brakes the coupled implement when the tractor brake is actuated.

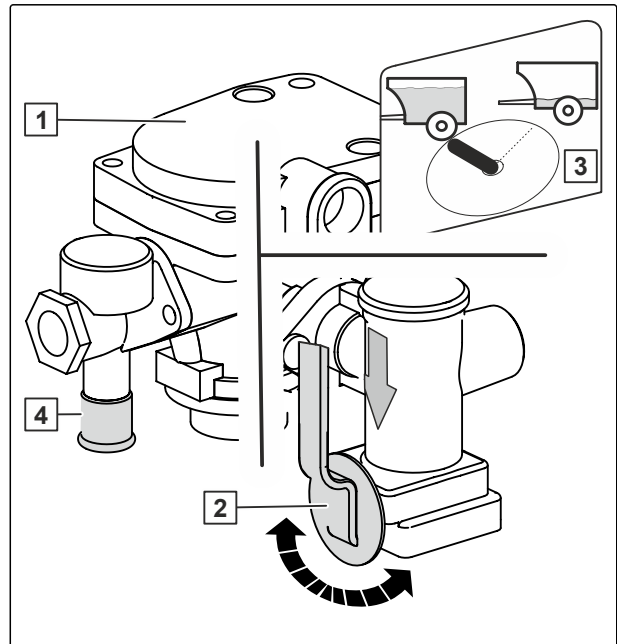
If the compressed air lines are uncoupled, the implement is braked as long as there is compressed air in the pressure accumulator.

The brake line is controlled via the brake valve **1**.

The brake valve can vary depending on the implement:

- Depending on the version, the brake line can be adjusted in 2 or 3 stages using the hand lever **2**.
- The brake line can be adjusted in 2 stages using the rotary knob **3**.

With the control knob **4** or the hand lever **2**, the brake can be released for maneuvering with the implement.



CMS-I-00007785

4.18 Camera system

CMS-T-00014877-A.1



NOTE

If there is a technical test report, it is a certified camera system.

The certified camera system is used to observe cross traffic. It does not replace the requirements imposed on the field of vision.

The certified camera system can replace a banksman at intersections and junctions.

The certified camera system includes one camera on the left side of the implement and one camera on the right side of the implement.

The non-certified camera system consists of one or more cameras on the implement.

The cameras are used for observation of the surroundings and as a maneuvering aid.

4.19 Work lights

CMS-T-00011665-B.1

The work lights are used to illuminate the work area.

Depending on the implement equipment, the work lights are either supplied with power and operated via ISOBUS or supplied with power from the tractor and operated via the control box separately.



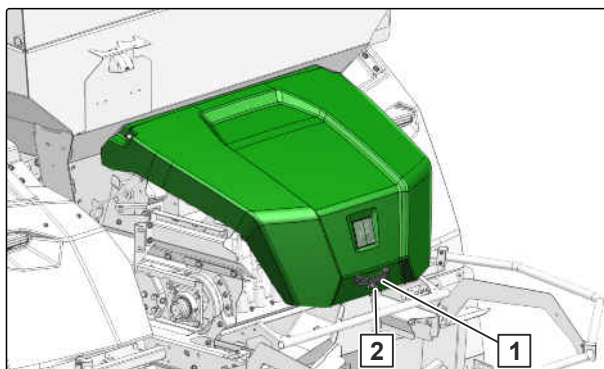
CMS-I-00002218

4.20 Cover hood

CMS-T-00015534-A.1

Transport position

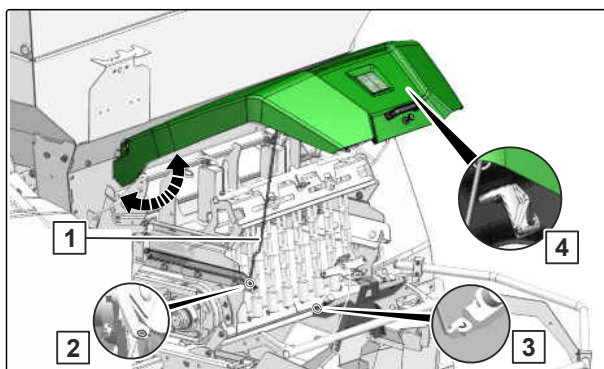
- 1 Handle
- 2 Locking pin



CMS-I-00010198

Maintenance position

- 1 Support
- 2 Pegging position for completely opened cover hood
- 3 Pegging position for half-opened cover hood
- 4 Parking position for support



CMS-I-00010197

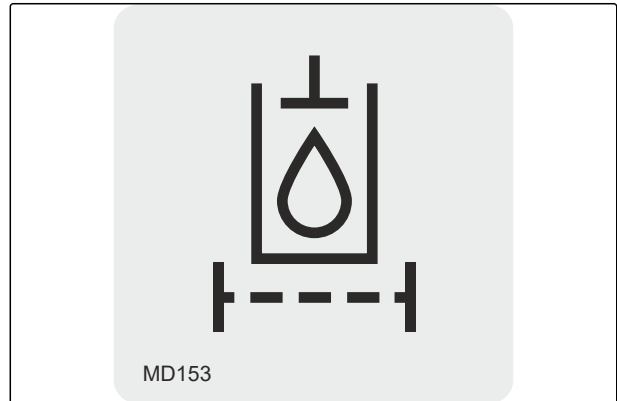
4.21 More information concerning the implement

CMS-T-00012795-B.1

4.21.1 Information on the hydraulic oil filter

CMS-T-00012796-A.1

The figure shows the hydraulic oil filter.



CMS-I-00003489

4.21.2 Confirmation of the Fertilizer Directive

CMS-T-00015826-A.1

EN standards 13739-1 and 13739-2 define requirements imposed on boundary spreading and normal spreading. AMAZONE boundary spreading devices and boundary spreading systems meet all the requirements imposed on boundary spreading. Also all AMAZONE mineral fertilizer spreaders fully comply with the requirements resulting from the standards that are imposed on distribution accuracy for normal spreading.



CMS-I-00010390

Technical data

5

CMS-T-00012707-E.1

5.1 Dimensions

CMS-T-00012708-B.1

	ZG-TX 6800 Special	ZG-TX 9000 Special	ZG-TX 9000 Super	ZG-TX 11200 Super
Working width for mineral fertilizer	15 to 177.17 ft (54 m)			
Working width for lime	to 52.49 ft (16 m)			
Filling depth	6.04 ft (1.84 m)			
Filling width	7.87 ft (2.4 m) to 9.84 ft (3 m)			
Filling height	6.89 ft (2.1 m) to 10.17 ft (3.1 m)	7.55 ft (2.3 m) to 10.83 ft (3.3 m)		8.53 ft (2.6 m) to 11.81 ft (3.6 m)
Total length	23.29 ft (7.1 m) to 25.59 ft (7.8 m)		23.95 ft (7.3 m) to 25.59 ft (7.8 m)	

5.2 Hopper volume

CMS-T-00012745-B.1

ZG-TX 6800 Special	ZG-TX 9000 Special	ZG-TX 9000 Super	ZG-TX 11200 Super
1,796.37 gal (6,800 l)	2,377.55 gal (9,000 l)	2,377.55 gal (9,000 l)	2,958.73 gal (11,200 l)

5.3 Gear oil

CMS-T-00013600-D.1

Component	Oil quantity	Marking
Angular gearbox oil on the spreading disk	0.06 gal (0.23 l)	ISO VG 150 EP/SAE 90
Center gearbox oil	0.09 gal (0.35 l)	ISO VG 150 EP/SAE 90
Gear oil on the conveyor belt	0.4 gal (1.5 l)	SAE 90

5.4 Permissible payload

CMS-T-00015297-B.1

	ZG TX Special	ZG TX Super
Permissible payload on the field	19,841.6 lb (9,000 kg)	37,478.58 lb (17,000 kg)
Permissible payload for road travel	19,841.6 lb (9,000 kg)	22,046.23 lb (10,000 kg)

5.5 Forward speed

CMS-T-00015791-A.1

Optimal working speed	7.46-11.18 mph (12-18 km/h)
-----------------------	-----------------------------

5.6 Capacity characteristics of the tractor

CMS-T-00012710-C.1

Engine capacity			
ZG-TX 6800 Special	ZG-TX 9000 Special	ZG-TX 9000 Super	ZG-TX 11200 Super
from 90 kW/120.33 HP (122 PS)	from 100 kW/134.14 HP (136 PS)	from 100 kW/134.14 HP (136 PS)	from 110 kW/147.95 HP (150 PS)

Electrical system	
Battery voltage	12 V
Lighting socket	7-pin

Hydraulics	
Maximum operating pressure	3,045.79 psi (210 bar)
Tractor pump capacity	At least 11.89 gpm (45 l/min) at 2,610.68 psi (180 bar)
Implement hydraulic oil	HLP68 DIN 51524 The hydraulic oil is suitable for the combined hydraulic oil circuits of all standard tractors.
Control units	Depending on the implement equipment
Pressureless return flow	Maximum permissible pressure: 116.03 psi (8 bar)

Universal joint shaft	
Maximum permissible speed	750 1/min
Direction of rotation	Clockwise

Brake system	
Implement	Tractor
Dual-circuit pneumatic brake system	Dual-circuit pneumatic brake system

5.7 Tightening torques for wheels

CMS-T-00015872-A.1

Tires	Tightening torque
Running gear wheel	376.16 ft-lb (510 Nm)

5.8 Noise emission data



CMS-T-00002296-D.1



The workplace-related emission sound pressure level is lower than 70 dB(A), measured in operating status at the ear of the tractor driver with the cab closed.

The emission sound pressure level mainly depends on the vehicle used.

5.9 Drivable slope inclination

CMS-T-00002297-E.1

Across the slope		
In direction of travel left	15%	
In direction of travel right	15%	

Uphill and downhill		
Uphill	15%	
Downhill	15%	

5.10 Lubricants

CMS-T-00002396-B.1

Manufacturer	Lubricant
ARAL	Aralub HL2
FINA	Marson L2
ESSO	Beacon 2
SHELL	Retinax A

Preparing the implement

6

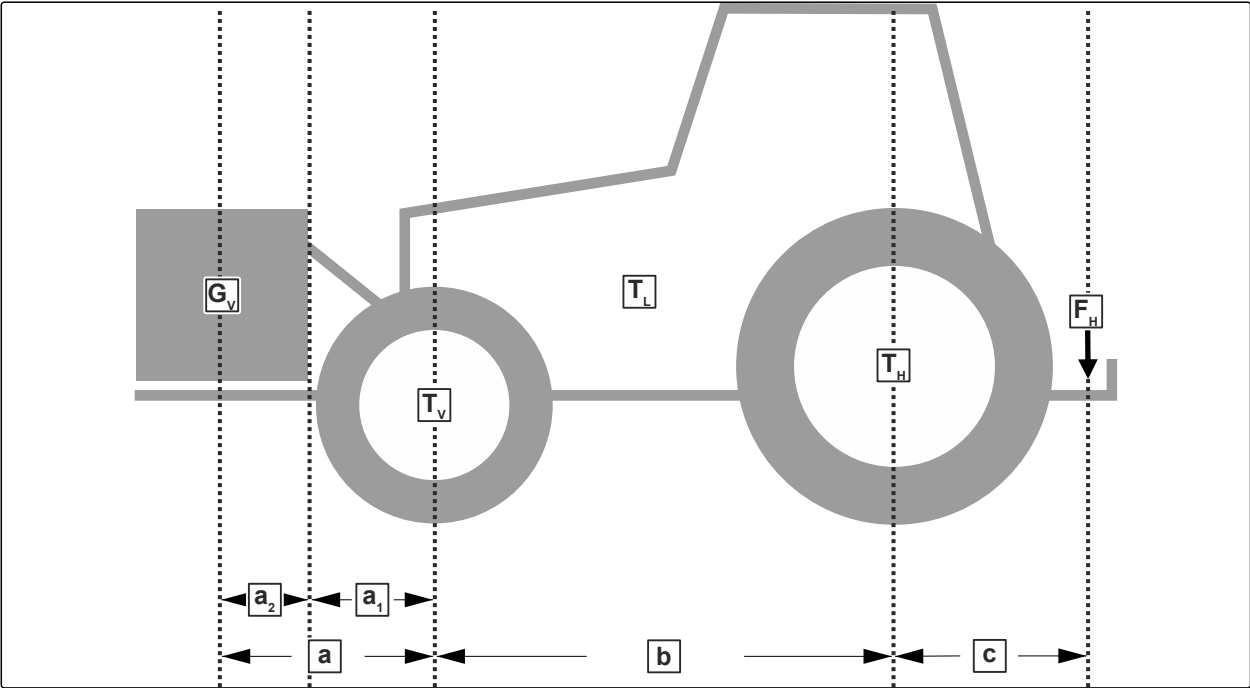
CMS-T-00012711-G.1

6.1 Checking tractor suitability

CMS-T-00004592-G.1

6.1.1 Calculating the required tractor characteristics

CMS-T-00004868-G.1



CMS-I-00000580

Designation	Unit	Description	Determined values
T_L	lb (kg)	Tractor tare weight	
T_V	lb (kg)	Front axle load of the operational tractor without mounted implement or weights	
T_H	lb (kg)	Rear axle load of the operational tractor without mounted implement or weights	
G_V	lb (kg)	Total weight of front-mounted implement or front weight	
F_H	lb (kg)	Drawbar load	

Designation	Unit	Description	Determined values
a	ft (m)	Distance between the center of gravity of the front-mounted implement or the front ballast and the center of the front axle	
a ₁	ft (m)	Distance between center of the front axle and center of the lower link connection	
a ₂	ft (m)	Center of gravity distance: Distance between the center of gravity of the front-mounted implement or the front ballast and the center of the lower link connection	
b	ft (m)	Wheelbase	
c	ft (m)	Distance between the center of the rear axle and the center of the lower link connection	

1. Calculate the minimum front ballast.

$$G_{\text{vmin}} = \frac{F_H \cdot c - T_V \cdot b + 0,2 \cdot T_L \cdot b}{a + b}$$

$$G_{\text{vmin}} = \underline{\hspace{2cm}}$$

$$G_{\text{vmin}} = \underline{\hspace{2cm}}$$

CMS-I-00003504

2. Calculate the actual front axle load.

$$T_{\text{Vtat}} = \frac{G_v \cdot (a + b) + T_V \cdot b - F_H \cdot c}{b}$$

$$T_{\text{Vtat}} = \underline{\hspace{2cm}}$$

$$T_{\text{Vtat}} = \underline{\hspace{2cm}}$$

CMS-I-00005422

3. Calculate the actual total weight of the tractor-implement combination.

$$G_{tat} = G_V + T_L + F_H$$
$$G_{tat} =$$
$$G_{tat} =$$


CMS-I-00006344

4. Calculate the actual rear axle load.

$$T_{Htat} = G_{tat} - T_{Vtat}$$
$$T_{Htat} =$$
$$T_{Htat} =$$

CMS-I-00000514

5. Determine the tire load capacity for two tractor tires in the manufacturer specifications.
6. Note the determined values in the table below.

**IMPORTANT**

Risk of accident due to implement damage caused by excessive loads

► Ensure that the calculated loads are less than or equal to the permissible loads.

	Actual value according to calculation			Permissible value according to tractor operating manual			Tire load capacity for two tractor tires	
Minimum front ballast		lb (kg)	≤		lb (kg)		-	-
Total weight		lb (kg)	≤		lb (kg)		-	-
Front axle load		lb (kg)	≤		lb (kg)	≤		lb (kg)
Rear axle load		lb (kg)	≤		lb (kg)	≤		lb (kg)

6.1.2 Determining the required coupling devices

Coupling device		
Tractor	AMAZONE implement	
Top hitch coupling		
Pin coupling, type A, B, C A, not automatic A, automatic, smooth pin A, automatic, spherical pin	Drawbar eye	Bushing 1.57 in (40 mm)
	Drawbar eye	1.57 in (40 mm)
	Drawbar eye	1.97 in (50 mm), only compatible with type A
Upper hitch coupling or lower hitch coupling		
Ball hitch coupling 3.15 in (80 mm)	Ball hitch coupling	3.15 in (80 mm)
Lower hitch coupling		
Towing hook or hitch hook	Drawbar eye	Center hole Ø 1.97 in (50 mm) Eye Ø 1.18 in (30 mm)
	Rotating drawbar eye	Only compatible with type Y, bore Ø 1.97 in (50 mm)
	Drawbar eye	Center hole Ø 1.97 in (50 mm) Eye Ø 1.18-1.61 in (30-41 mm)
Swinging drawbar – Category 2	Drawbar eye	Center hole 1.97 in (50 mm) Eye 1.18 in (30 mm)
		Bush, 1.57 in (40 mm)
		1.57 in (40 mm)
		1.97 in (50 mm)
Swinging drawbar	Drawbar eye	
Swinging drawbar or Piton-fix	Drawbar eye	Center hole 1.97 in (50 mm) Eye 1.18 in (30 mm)
	Rotating drawbar eye	Only compatible with type Y, bore Ø 1.97 in (50 mm)
Non-rotatable clevis coupling	Rotating drawbar eye	
Lower link hitch	Lower link crossmember	

- Check whether the coupling device of the tractor is compatible with the coupling device of the implement.

6.1.3 Comparing the permissible DC value with the actual DC value

CMS-T-00004867-B.1

Designation	Description
T	Permissible total weight of the tractor in short (t) (t), including the drawbar load
C	Total of the permissible axle loads of the implement in short (t) (t)

1. Calculate the D_c value.
2. Check whether the calculated D_c value is less than or equal to the D_c values on the rating plate of the coupling devices of implement and tractor.

$$D_c = 9,81 \cdot \frac{T \cdot C}{T + C}$$

$$D_c = 9,81 \cdot \frac{\text{ } \cdot \text{ }}{\text{ } + \text{ }}$$

$$D_c = \text{ }$$

CMS-I-00003582

6.2 Preparing the universal joint shaft

CMS-T-00005128-C.1



WORKSHOP TASK

1. Have the length of the universal joint shaft adjusted.
- 2.
3. Have the universal joint shaft mounted.

6.3 Adjusting the implement hydraulic system to the tractor hydraulic system

CMS-T-00012748-A.1

The implement hydraulic system must be compatible with the tractor hydraulic system. The implement hydraulic system can be adjusted to a tractor hydraulic system with or without "LS" load sensing system. To do so, the implement hydraulic system is adjusted on the implement's hydraulic block.

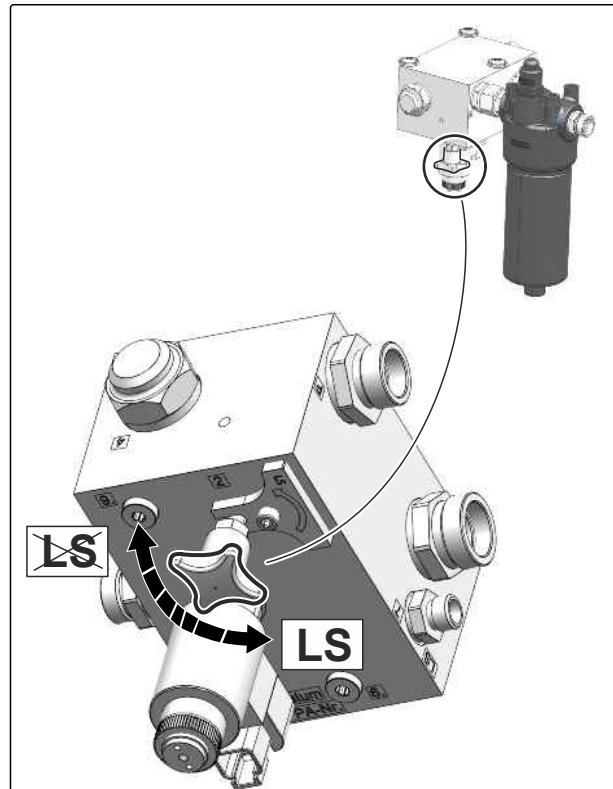


CAUTION

Malfunction and failure of important hydraulic functions

If the implement hydraulic system is not adjusted to the tractor hydraulic system, it can lead to malfunctions and elevated hydraulic oil temperatures.

- Adjust the implement hydraulic system to the tractor hydraulic system.



CMS-I-00008196

1. Depressurize the hydraulic system.
2. *Load sensing system*
Completely unscrew the adjustment screw on the hydraulic block.

or

Oil circulation:
Completely screw in the adjustment screw on the hydraulic block.
3. *Load sensing system*
Couple the load sensing system onto the tractor.
4. *Oil circulation:*
Limit the oil quantity of the tractor control unit to the oil quantity required by the implement.

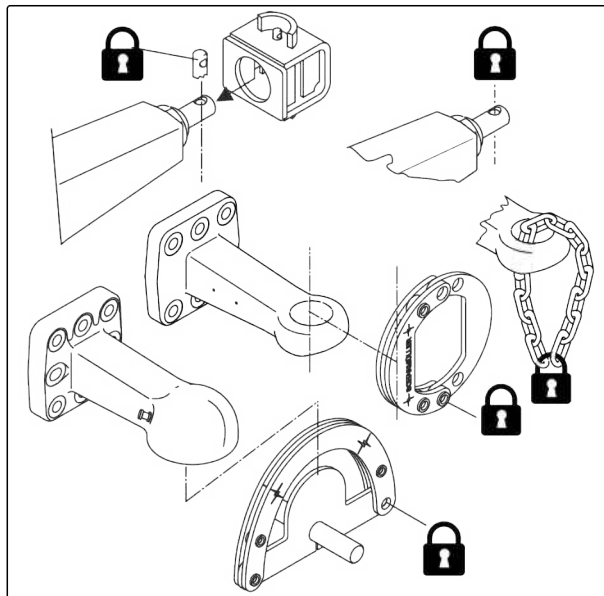
6.4 Coupling the implement

CMS-T-00012713-B.1

6.4.1 Remove safeguard against unauthorized use

CMS-T-00005089-B.1

1. Unlock padlock.
2. Remove the safeguard against unauthorized use from the hitch device.



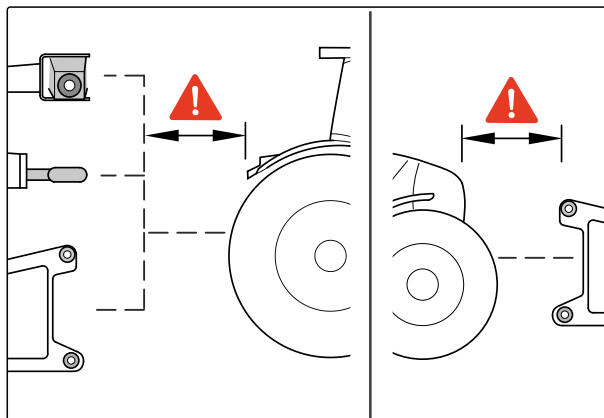
CMS-I-00003534

6.4.2 Moving the tractor towards the implement

CMS-T-00005794-D.1

Enough space must remain between the tractor and implement so that the supply lines can be coupled without obstructions.

- Move the tractor towards the implement, leaving a sufficient distance in-between.



CMS-I-00004045

6.4.3 Fastening the safety chain

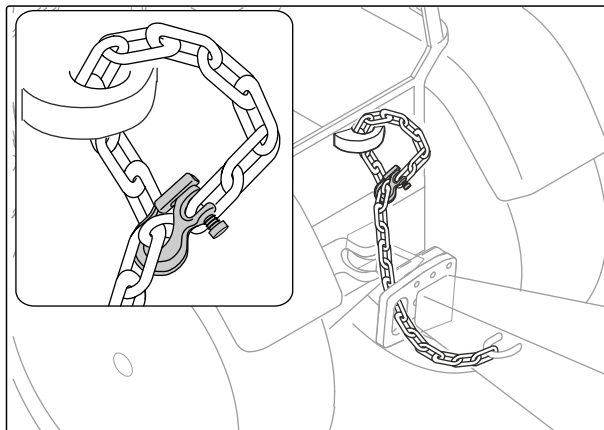
CMS-T-00004293-D.1

Depending on country-specific regulations, implements without a brake system are equipped with a safety chain.

6 | Preparing the implement

Coupling the implement

- Fasten the safety chain on the tractor as prescribed.



CMS-I-00007814

6.4.4 Coupling the universal joint shaft

CMS-T-00012829-B.1

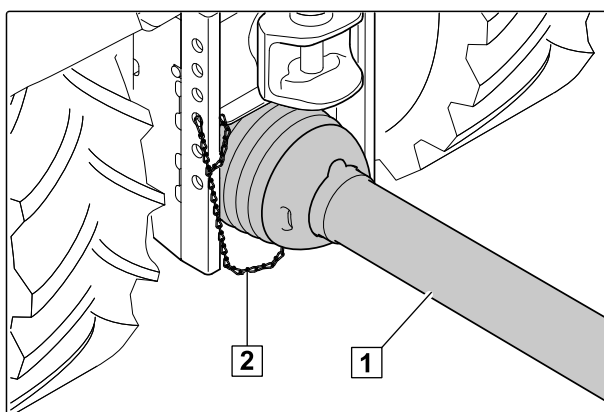
1. Take the universal joint shaft out of its holder on the implement.
2. Pull back the pull sleeve **1** on the tractor side.
3. Slide the universal joint shaft onto the tractor PTO shaft.

➔ The pull sleeve engages.

4. *To prevent the universal joint shaft guard from turning:*

Fasten the safety chain **2** on the tractor.

5. Check the protective device of the universal joint shaft.



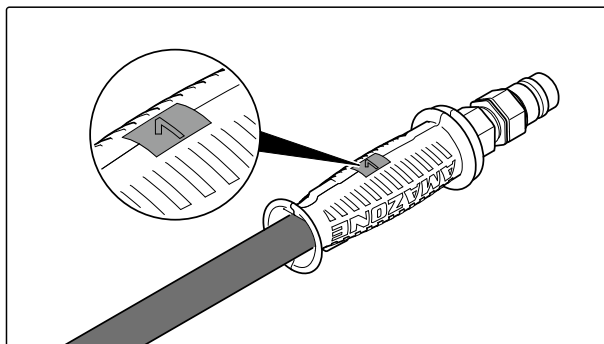
CMS-I-00001069

6.4.5 Coupling hydraulic hose lines




CMS-T-00012714-A.1






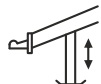










All hydraulic hoses are fitted with handles. The handles have colored markings with code number or a code letter. The markings are assigned to the respective hydraulic functions of the pressure line of a tractor control unit. Stickers that match the marking are affixed on the implement to illustrate the respective hydraulic functions.

The tractor control unit is used in different activation types, depending on the hydraulic function:



CMS-I-00000121

Activation type	Function	Symbol
Latching	Permanent oil circulation	
Momentary	Oil circulation until action is executed	
Floating	Free oil flow in the tractor control unit	

Marking		Function			Tractor control unit	
Blue			Boundary spreading device for lime	Lower	Double-acting	
				Lift		
Blue			Jack	Lift	Double-acting	
				Lower		
Beige			Cover tarpaulin	open	Double-acting	
				close		
Red		Load sensing pressure line			Single-acting	
Red		Pressureless return flow				
Red		Load sensing control line				



WARNING

Risk of injury or even death

If the hydraulic hose lines are incorrectly connected, the hydraulic functions may be faulty.

- When coupling the hydraulic hose lines, pay attention to the colored markings on the hydraulic plug connectors.

1. Depressurize the hydraulic system between the tractor and the implement using the tractor control unit.
2. Clean the hydraulic plug connectors.

3. Install the supplied coupling sleeve on the pressure-free oil return of the tractor.
4. Couple the hydraulic hose line of the return flow **T** with the pressure-free oil return of the tractor.

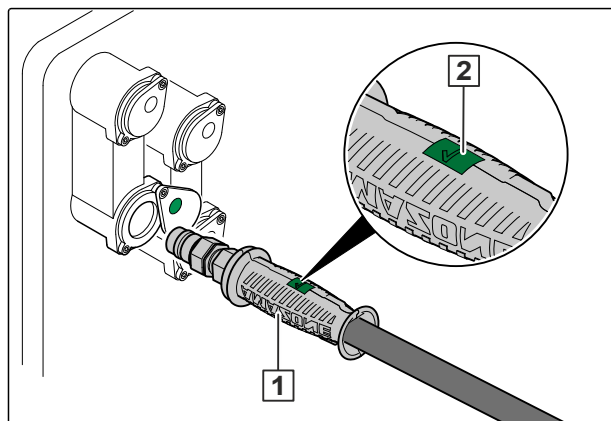


IMPORTANT

Implement damage due to insufficient hydraulic oil return flow

- ▶ Only use dimension DN 16 lines or greater for the pressureless hydraulic oil return flow.
- ▶ Select short return paths.
- ▶ Connect the pressureless hydraulic return flow to the intended coupling.
- ▶ *Depending on the implement equipment*, couple the leakage oil line in the intended coupling.
- ▶ Mount the supplied coupling sleeve on the pressureless hydraulic oil return.

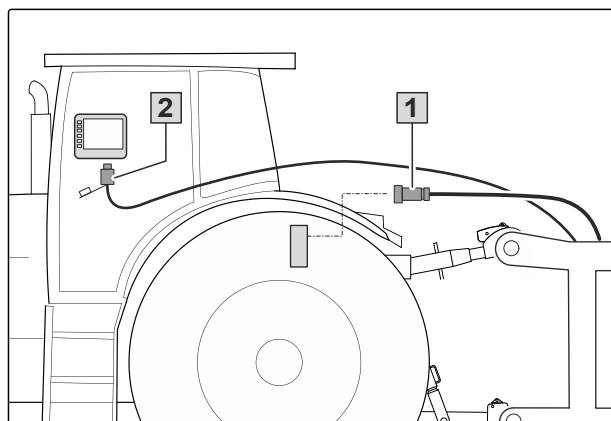
5. Couple the hydraulic hose lines **1** to the hydraulic sockets of the tractor according to the marking **2**.
- ➔ The hydraulic plug connectors lock tangibly.
6. Route the hydraulic hose lines with sufficient freedom of movement and without chafing points.



CMS-I-00001045

6.4.6 Coupling the ISOBUS or control computer

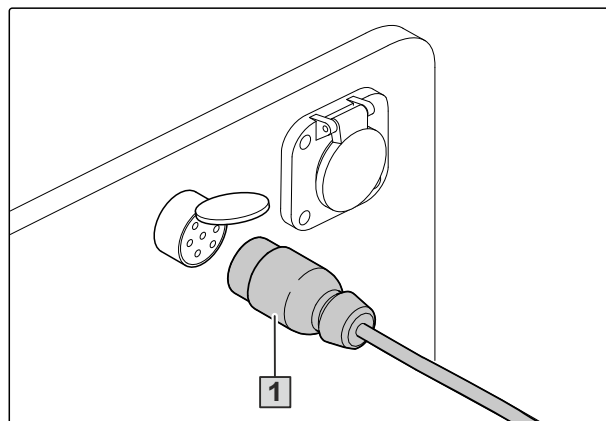
1. Plug in the plug connector of the ISOBUS line **1** or the control computer line **2**.
2. Route the ISOBUS cable with sufficient freedom of movement and without chafing or pinching points.



CMS-I-00006891

6.4.7 Coupling the power supply

1. Plug in the plug connector **1** for the power supply.
2. Route the power supply cable with sufficient freedom of movement and without chafing or pinching points.
3. Check the lighting on the implement for proper function.

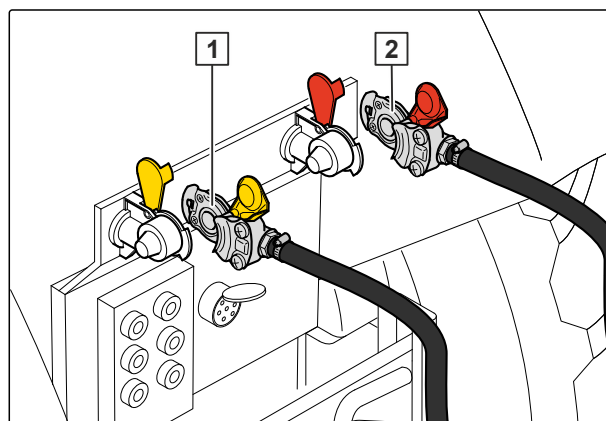


CMS-T-00001399-G.1

CMS-I-00001048

6.4.8 Coupling the dual-circuit pneumatic brake system

1. Open the caps of the coupling heads on the tractor.
2. Clean off any contamination of the sealing rings on the coupling heads.
3. Disconnect the yellow coupling head of the brake line **1** from the parking device.
4. Connect the yellow coupling head to the coupling marked in yellow on the tractor.
5. Disconnect the red coupling head of the brake line **2** from the parking device.
6. Connect the red coupling head to the coupling marked in red on the tractor.
7. Route the brake lines with sufficient freedom of movement and without chafing or pinching points.



CMS-T-00004318-F.1

CMS-I-00003559

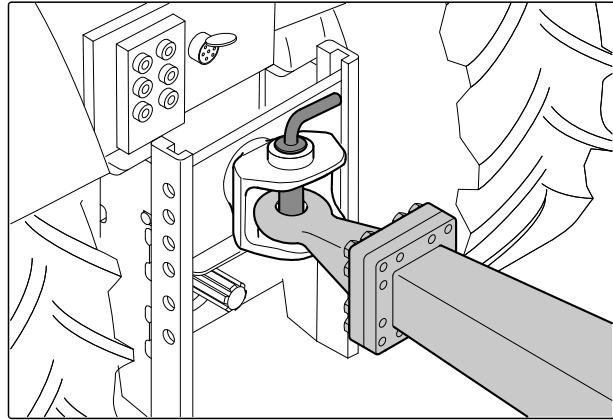
6.4.9 Connecting the ball hitch coupling or drawbar eye

CMS-T-00012826-A.1

6.4.9.1 Connecting the drawbar eye

CMS-T-00012827-A.1

1. Move the tractor towards the implement.
2. Connect the drawbar eye with the clevis coupling of the tractor.
3. *To lift the jack:*
Activate "blue" tractor control unit.

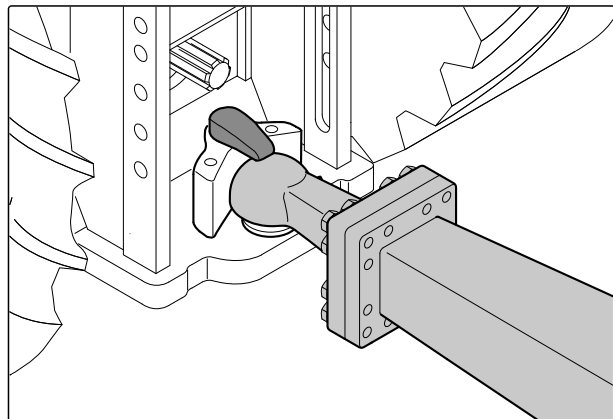


CMS-I-00003557

6.4.9.2 Connecting the ball hitch coupling

CMS-T-00012828-A.1

1. Move the tractor towards the implement.
2. *To place the ball hitch coupling on the ball hitch and lift the jack:*
Activate "blue" tractor control unit.
3. Lock the ball hitch coupling.

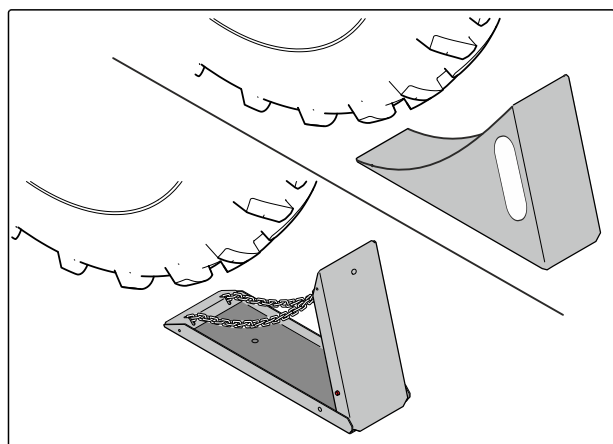


CMS-I-00003558

6.4.10 Removing wheel chocks

CMS-T-00004296-D.1

1. Remove well chocks from the wheels.
2. Collapse the folding wheel chocks.
3. Insert wheel chocks in holder.



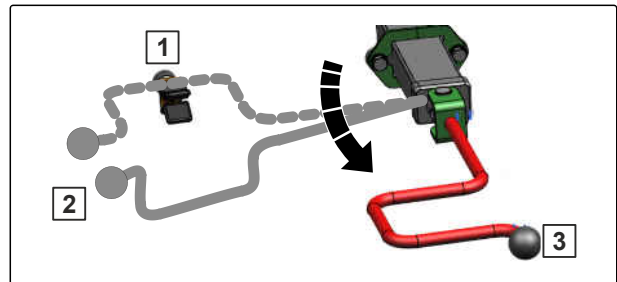
CMS-I-00007790

6.4.11 Releasing the parking brake

CMS-T-00012830-A.1

The parking brake requires approx. 44.09 lb (20 kg) manual force to be applied.

- 1** Holding spring
- 2** Hand crank position for releasing and applying in the end area
- 3** Hand crank position for fast releasing and applying



CMS-I-00008205

1. Pull the hand crank out of the holding spring.
2. *To release the parking brake:*
Turn the hand crank counter-clockwise until the cable pull is de-tensioned.
3. Fasten the hand crank back into the holding spring.

6.5 Preparing the implement for spreading fertilizer

CMS-T-00012712-D.1

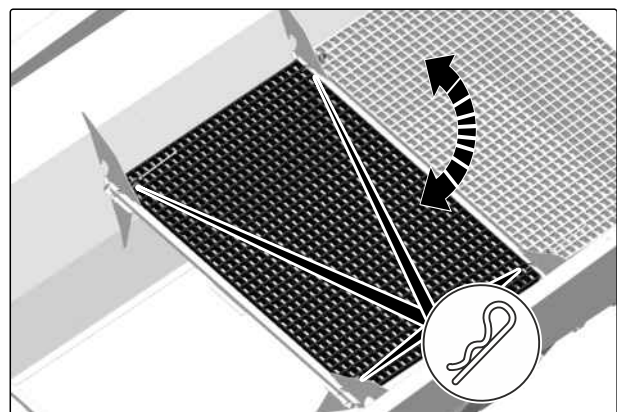
6.5.1 Installing charging sieves

CMS-T-00013767-B.1



WORKSHOP TASK

1. Adjust the charging sieves with lifting gear in the hopper.
2. Fold down the charging sieves.
3. Lock the charging sieves with the spring cotter pin.
4. Install all the charging sieves.



CMS-I-00008569

6.5.2 Removing the spreader unit for lime

CMS-T-00012946-A.1

6.5.2.1 Removing the spreader unit for lime

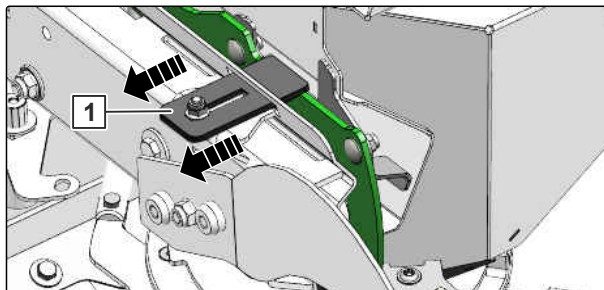
CMS-T-00012751-A.1



PREREQUISITES

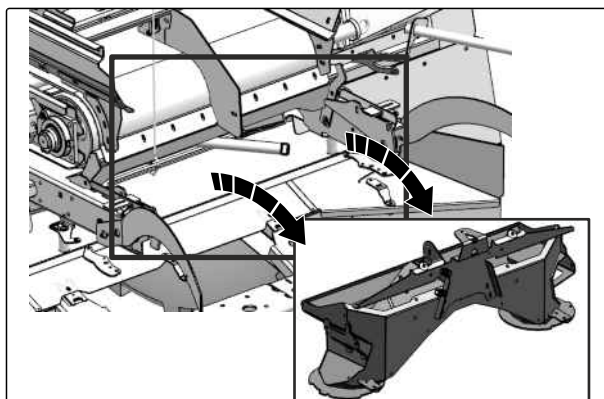
- ✓ Boundary spread deflector in working position

1. *To unlock the funnel chute on both sides:*
Loosen the nut and slide the stop plate **1** outwards.



CMS-I-00008213

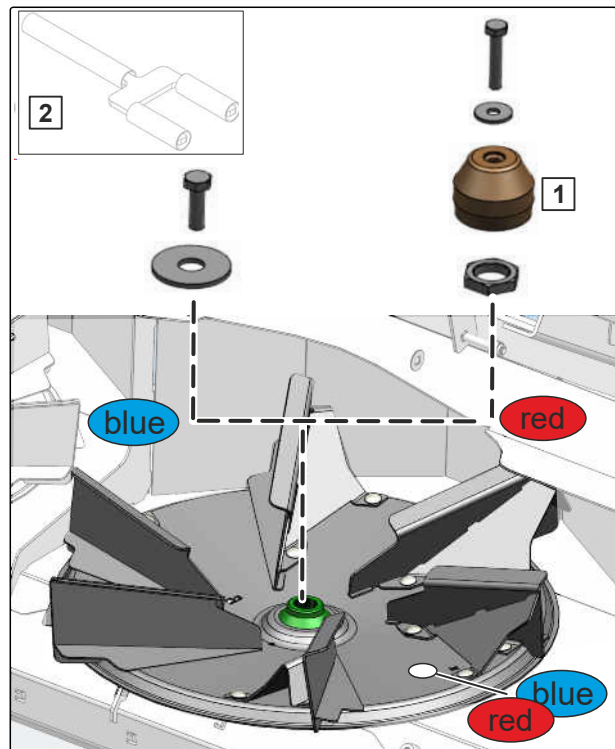
2. Slightly lift the funnel chute and take it out.



CMS-I-00008212

6.5.2.2 Removing the spreading disks for lime

1. Loosen the bolt on the left spreading disk for lime and take it off with the washer. To do so, use the auxiliary tool **2** to pry the spreading disk off of the hub.
2. Remove left spreading disk for lime.
3. Loosen the bolt on the right spreading disk for lime and take it off with the washer and sealing cap **1**.
4. Loosen and remove M24 nut.
5. Remove right spreading disk for lime. To do so, use the auxiliary tool **2** to pry the spreading disk off of the hub.



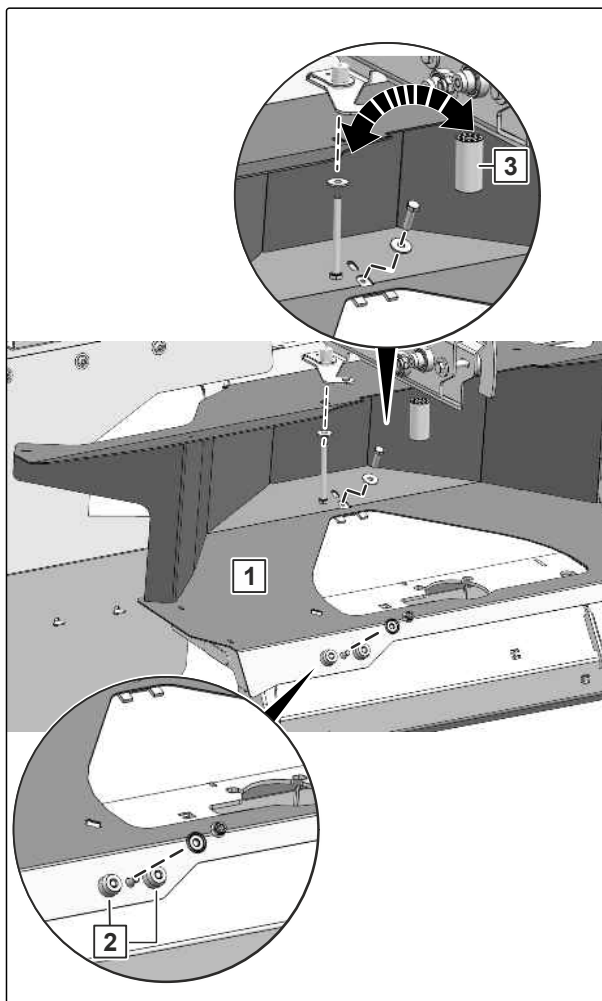
CMS-T-00012947-A.1

CMS-I-00008214

6.5.3 Removing the splash guard for lime

CMS-T-00013189-A.1

1. Loosen the 2 bolts **2** with washers on the splash guards **1** on both sides.
2. Remove the spacer sleeves **3** on both sides.
3. Loosen the nuts on both sides.
4. Take the splash guard off of the mounting sleeves and take it out.

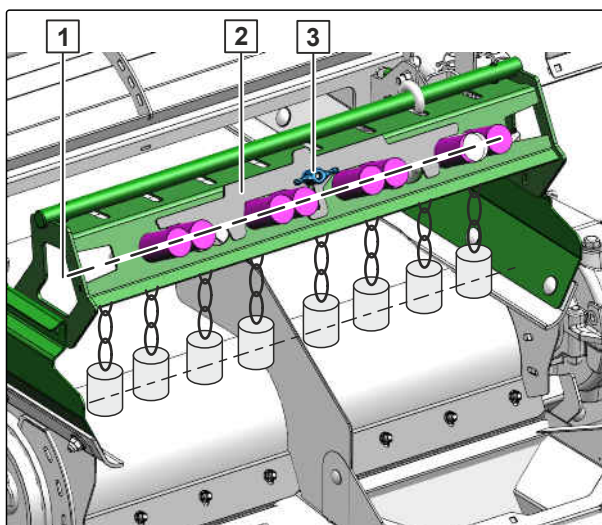


CMS-I-00008216

6.5.4 Moving the chain rake into transport position

CMS-T-00012750-A.1

1. Unscrew the wing nut **3**.
2. Lift the locking plate **2**.
3. Insert all of the individual weights **1** into the rail.
4. Lower the locking plate.
5. Tighten the wing nut.

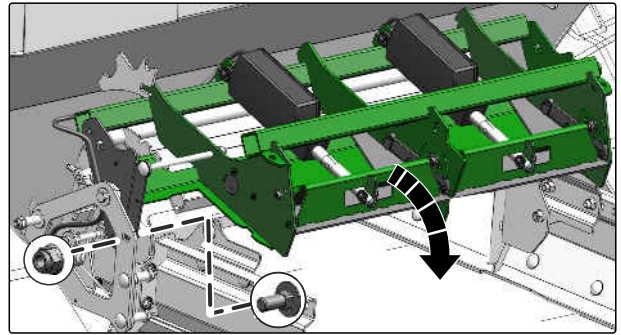


CMS-I-00008169

6.5.5 Putting the double shutter into operation

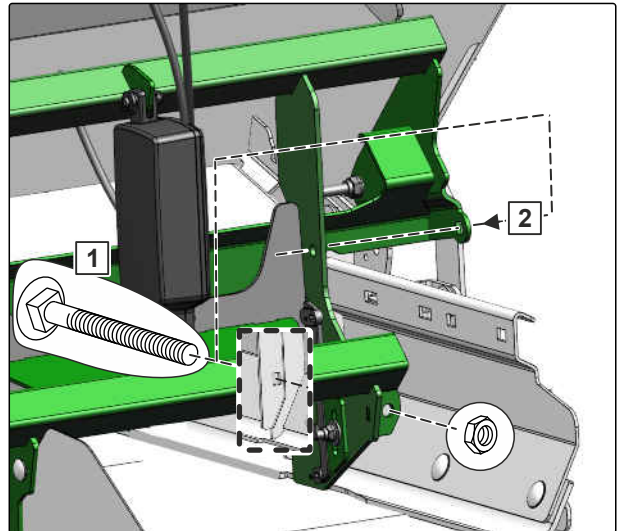
1. Loosen the bolts on both sides.
2. Swivel down the double shutter.

CMS-T-00012749-A.1



CMS-I-00008211

3. Remove the bolt from the parking position **2**.
4. Insert the bolt in working position **1** and secure with nuts.
5. Fasten the bolt on both sides in working position.



CMS-I-00008210

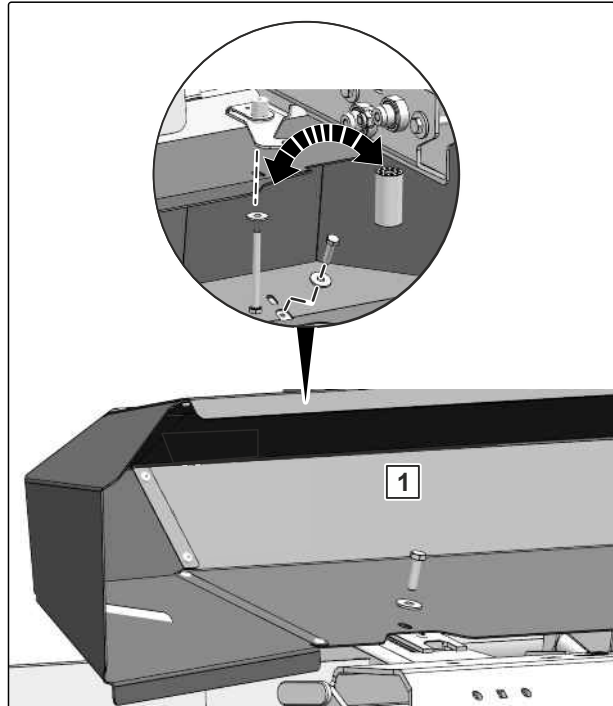
6.5.6 Installing the spreader unit for fertilizer

CMS-T-00012985-B.1

6.5.6.1 Installing the splash guard for fertilizer

CMS-T-00013208-A.1

- Fasten the splash guard **1** with 3 bolts and the washers on both sides.

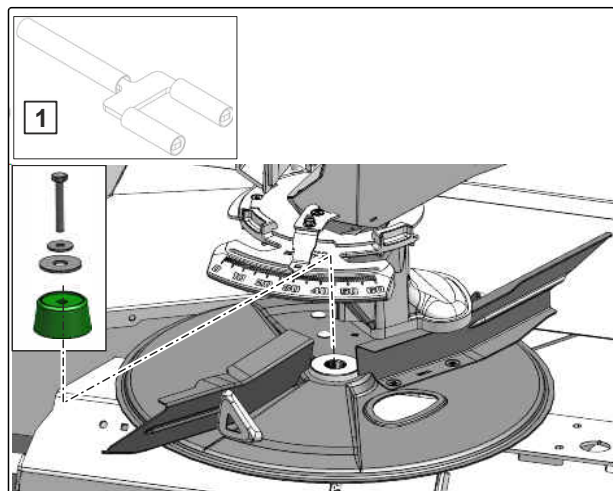


CMS-I-00008215

6.5.6.2 Installing the left spreading disk for fertilizer

CMS-T-00012987-B.1

1. Clean and grease the gear shaft.
2. Put on the spreading disk, locking cone and washers.
3. Fasten the spreading disk with the bolt M10x65.

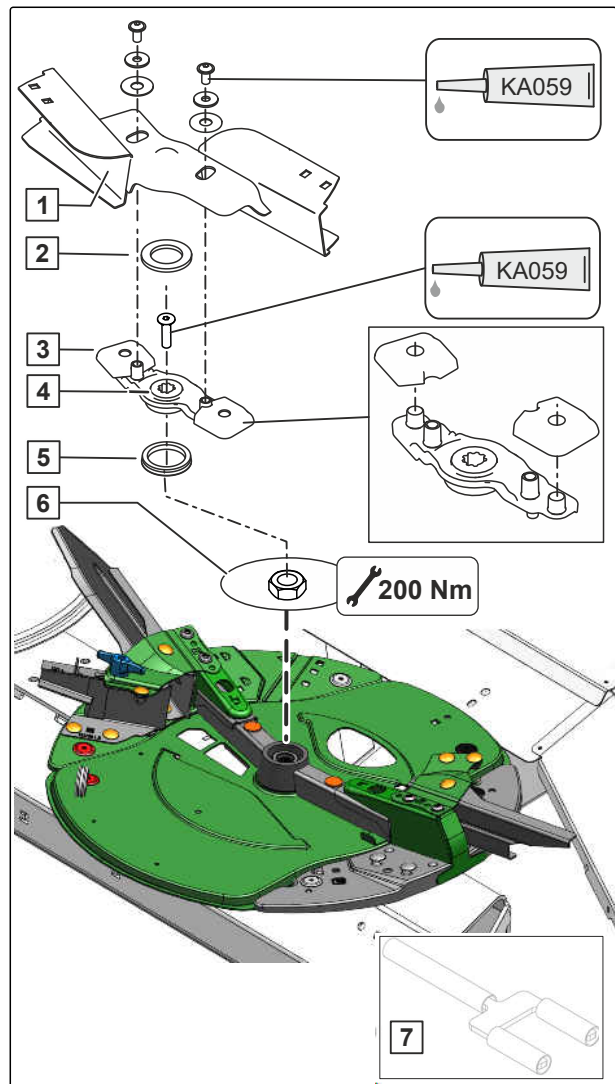


CMS-I-00008262

6.5.6.3 Installing the right spreading disk for fertilizer

CMS-T-00012988-B.1

1. Clean and grease the gear shaft.
2. Apply assembly paste on the bolts.
3. Put on the spreading disk.
4. Tighten the nut M24 **6** with 147.51 ft-lb (200 Nm).
5. Install the V-ring **5**.
6. Put on the shifting hub **4** and fasten with the bolt M8x16.
7. Put on the balancing elements **3**.
8. Put on the seal **2**.
9. Put on the delivery vane **1** and fasten with the washers and 2 bolts M8x16.

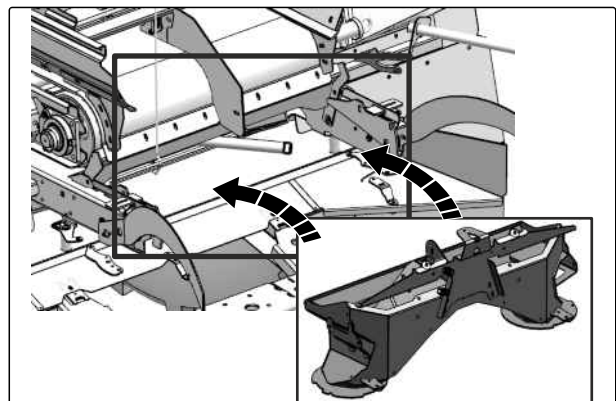


CMS-I-00008261

6.5.6.4 Installing the TS spreader unit

CMS-T-00012986-A.1

1. Insert the funnel chute into the mounts from the top.



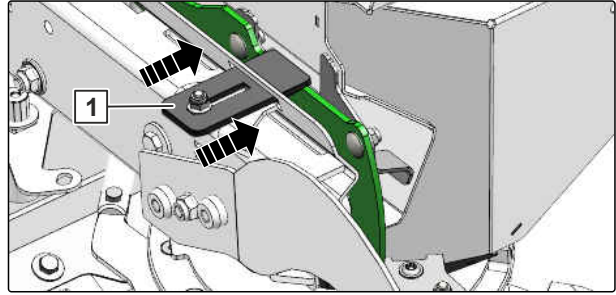
CMS-I-00008423

6 | Preparing the implement

Preparing the implement for spreading fertilizer

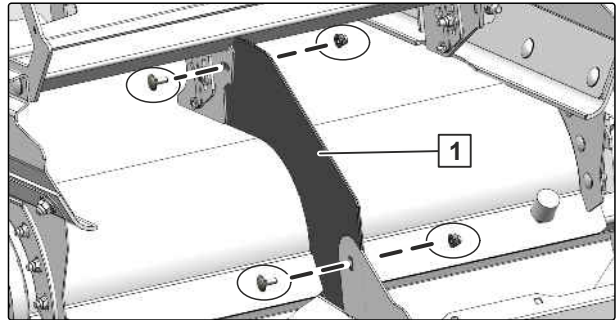
2. *To lock the funnel chute in the stop:*

Slide the stop plate **1** inward and tighten the nut.



CMS-I-00008424

3. Install the central partition plate for the double shutter with 2 bolts and 0.04 in (1 mm) from the conveyor belt.



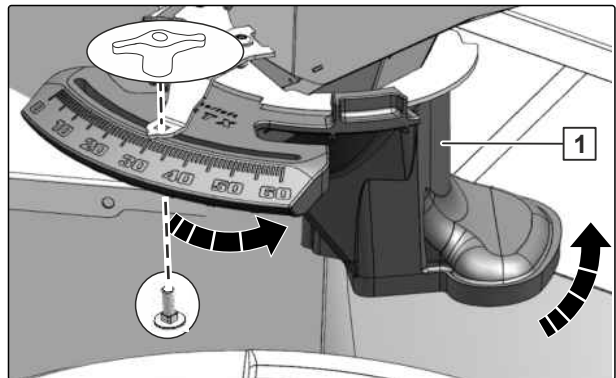
CMS-I-00008265

4. *To install the two hopper tips:*

Put on the hopper tips **1** from below and turn to the right.

5. *EasySet:*

Install the bolt for the scale on the delivery system.

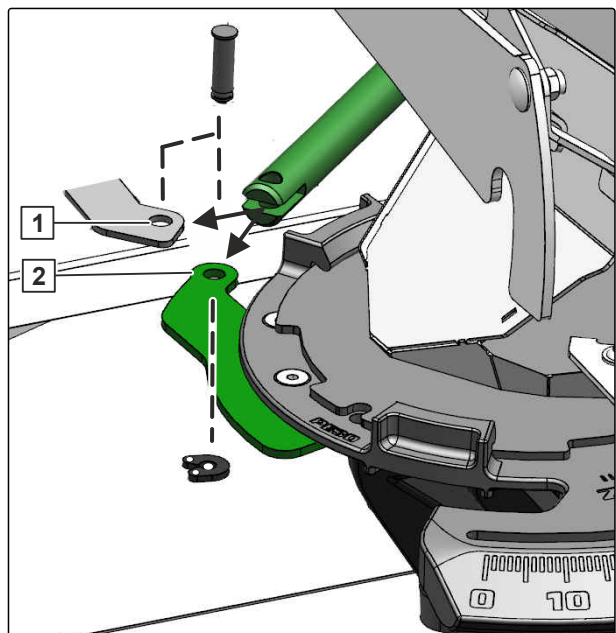


CMS-I-00008264

6. *ISOBUS:*

Take both motors out of the parking position **1**.

7. Secure both motors on the hopper tip **2**.




CMS-I-00008263


6.5.7 Reading data from the setting chart


CMS-T-00012752-A.1


For all commercially available fertilizers, setting values are determined and entered in setting charts in the fertilizer database as shown in the following example.




(83018138)
EuroChemUrea+S 40(+5S)gran.












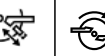

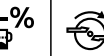

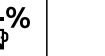




0.81


3.43


0.75 kg/l


12.8

CMS-I-00008260

															
															
TS 20	24	16	600	B	2	720	2	5	600	2	10	550	24	-2	165
	27	16	600	B	2	720	2	5	600	2	10	550	24	-2	165
	30	16	800	B	2	900	2	7	800	2	12	720	29	-1	176

1. Select the spreading material.
2. Call up the setting chart for the spreading material.
3. Enter the data from the setting chart on the control terminal.
4. Keep the data from the setting chart at hand to prepare the implement.
5. Keep the data from the setting chart at hand for the settings while spreading.

6.5.8 Setting the working width

CMS-T-00012996-A.1

6.5.8.1 Replacing the right spreading vane unit

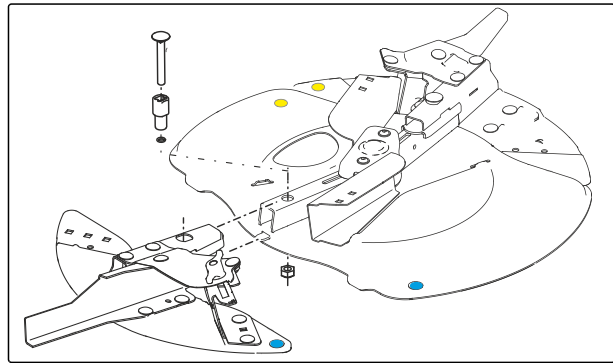
CMS-T-00012753-A.1

The spreading vane units TS10, TS20 and TS30 are available for different working widths. The distance between the tracks determines the selection of the spreading vane units.

6 | Preparing the implement

Preparing the implement for spreading fertilizer

1. Loosen the bolted connection and remove the bolt with the sleeve.
2. Pull off the spreading vane units outwards.
3. Select the desired spreading vane units from the setting chart.
4. Insert the spreading vane unit according to the color marks.
5. Fasten the spreading vane unit with the bolt and the sleeve.
6. Always replace the short and long spreading vane units on both sides.
7. *ISOBUS*:
Enter the designation of the spreading vane unit in the "Product" menu of the ISOBUS software.



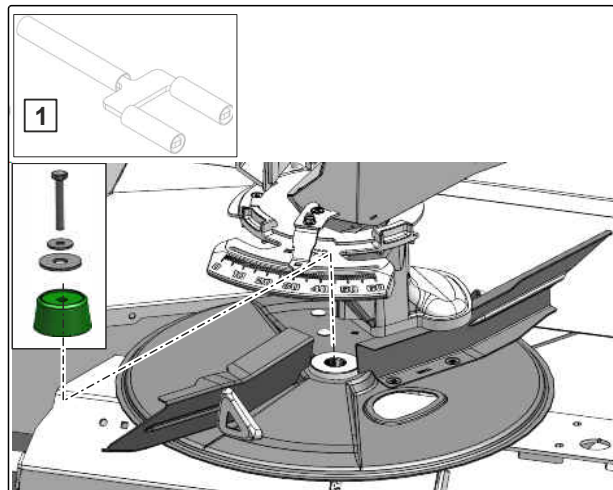
CMS-I-00008266

6.5.8.2 Replacing the left spreading disk

CMS-T-00012997-A.1

Spreading disks TS10, TS20 and TS30 are available for different working widths.

1. Loosen the bolt and take it off with the locking cone.
2. Take off the spreading disk.
3. Select the desired spreading disk from the setting chart.
4. Put on the spreading disk. Put on the locking cone and the washers.
5. Tighten the bolt.



CMS-I-00008262

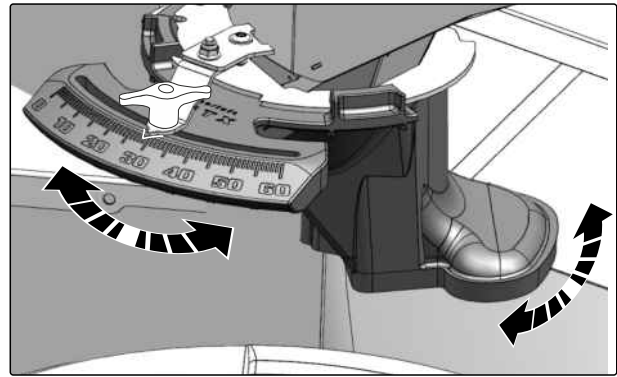
6.5.8.3 Manually adjusting the delivery system

CMS-T-00012998-A.1

ISOBUS: The delivery system is automatically adjusted.

When the delivery system is set to a higher value, the working width is increased. When the delivery system is set to a smaller value, the working width is reduced.

1. Read the value for the delivery system position from the setting chart.
2. Unscrew the wing nut.
3. Turn the hopper tip **1** until the pointer is at the desired value.
4. Tighten the wing nut.
5. Adjust the delivery system on both sides.



CMS-I-00008326

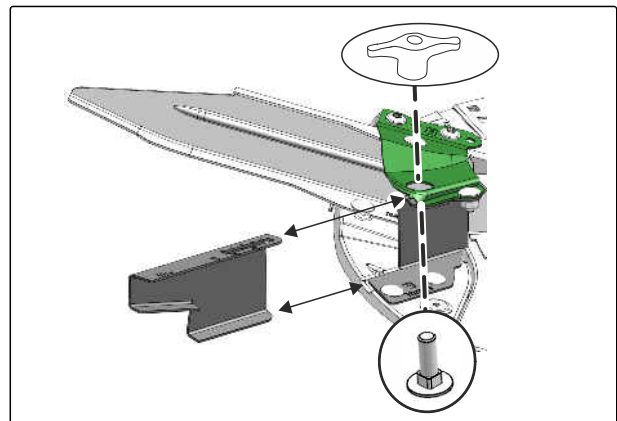
6.5.9 Preparing the AutoTS boundary spreading device

CMS-T-00012999-B.1

6.5.9.1 Mounting the boundary spreading telescope

CMS-T-00012754-B.1

1. Select boundary spreading telescope A, A+, B, C or D from the setting chart.
2. Unscrew the wing nut.
3. Remove the bolt.
4. Replace the boundary spreading telescope.
5. Fasten the boundary spreading telescope with the bolt and the wing nut.
6. Firmly tighten the wing nut by hand.
7. **ISOBUS:**
Enter the designation of the boundary spreading telescope in the "Product" menu of the ISOBUS software.



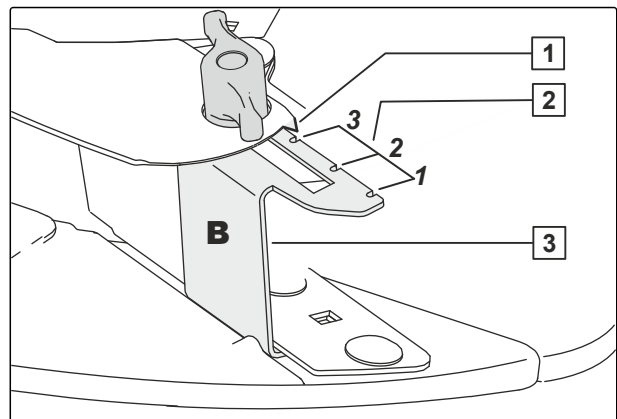
CMS-I-00008267

6.5.9.2 Adjusting the boundary spreading telescope

CMS-T-00013000-B.1

The notches **2** on the boundary spreading telescope **3** indicate mounting positions 1, 2 or 3.

1. Read the mounting position for the boundary spreading telescope from the setting chart.
2. Unscrew the wing nut.
3. Slide the boundary spreading telescope so that the pointer **1** is pointing at the desired mark.



CMS-I-00008268

6 | Preparing the implement

Adjusting the mono shutter to the spreading material

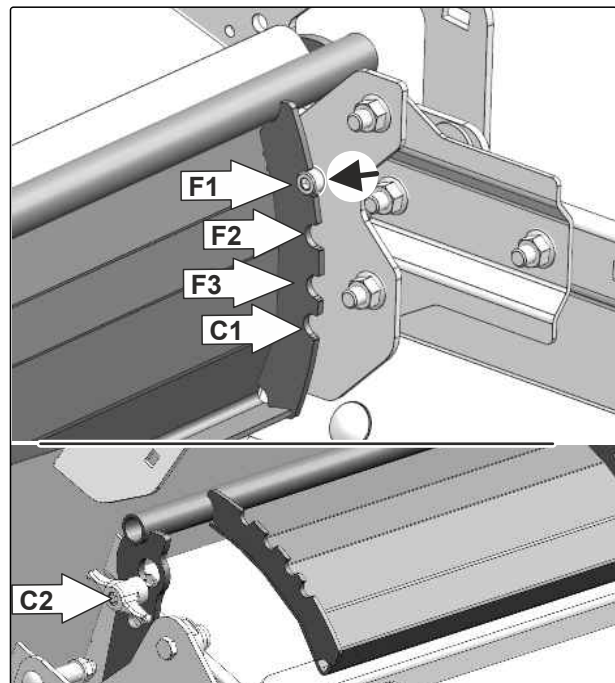
4. Tighten the wing nut by hand.
5. *ISOBUS*:
Enter the position of the boundary spreading telescope in the "Product" menu of the ISOBUS software.

6.6 Adjusting the mono shutter to the spreading material

CMS-T-00012756-B.1

Positions of the mono shutter

- F1** Fertilizer: low spread rates, no double shutter
- F2** Fertilizer: Medium spread rates, no double shutter
- F3** Fertilizer: High spread rates, no double shutter
- C1** Moist lime: Low spread rates up to 892.18 lb/ac (1,000 kg/ha), suitable for sticky spreading material and low forward speed
- C2** Moist lime: Spread rates greater than 892.18 lb/ac (1,000 kg/ha), mono shutter completely open or for spreading fertilizer via double shutter



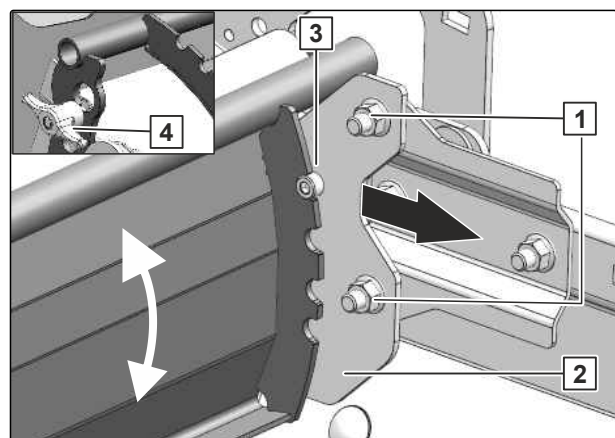
CMS-I-00008270

1. Loosen the bolts **1** on both sides.
2. Pull the stop plate **2** to the rear.
3. Swivel the mono shutter.
4. Push the stop plate to the front. Fasten the position of the mono shutter with the pin **3**

or

Secure the completely opened mono shutter with the wing nut **4**.

5. Tighten the bolts **1** on both sides.



CMS-I-00008269

6.7 Preparing the implement for spreading lime

CMS-T-00012755-D.1

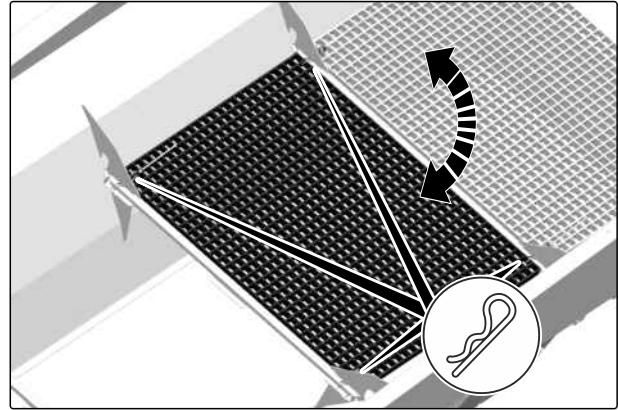
6.7.1 Removing the charging sieves

CMS-T-00013768-B.1



WORKSHOP TASK

1. Pull out the spring cotter pin and unlock the charging sieves.
2. Fold up the charging sieves.
3. Remove the charging sieves with lifting gear.
4. Remove all the charging sieves.



CMS-I-00008569

6.7.2 Removing the spreader unit for fertilizer

CMS-T-00013026-B.1

6.7.2.1 Moving the electric drives into maintenance position

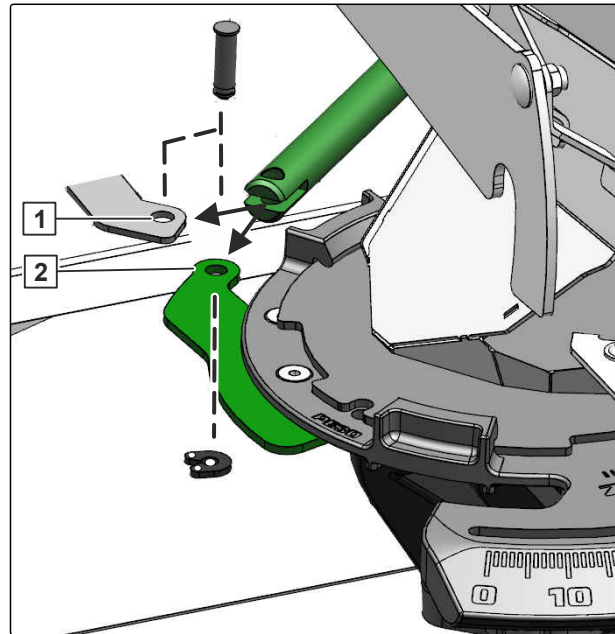
CMS-T-00012757-A.1

- **ISOBUS:**
In the "Implement" menu, select "Spreader maintenance" and follow the instructions, refer to the ISOBUS software operating manual.

6.7.2.2 Removing the TS spreader unit for fertilizer

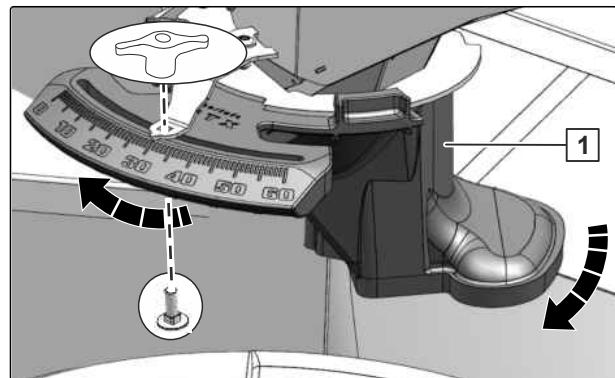
CMS-T-00013031-B.1

1. *To facilitate access to the spreader unit:*
Remove the guard tube.
2. *ISOBUS:*
Reposition both motors from position **2** to the maintenance position **1**.



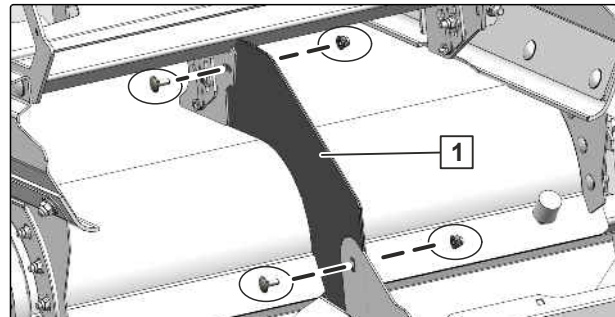
CMS-I-00008263

3. *EasySet:*
Remove the bolt for the scale on the delivery system.
4. *To remove the hopper tips:*
Turn the hopper tip **1** to the left and take it off downward.
5. Remove both hopper tips.



CMS-I-00008425

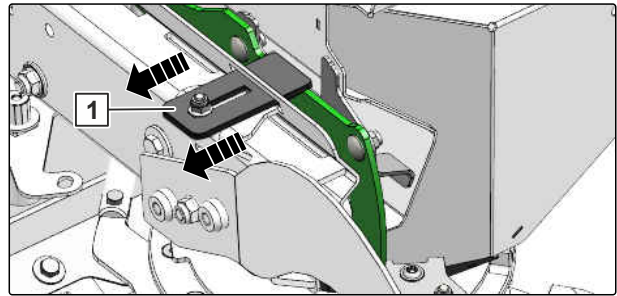
6. Remove the partition plate **1** for the double shutter.



CMS-I-00008265

7. To unlock the funnel chute in the stop:

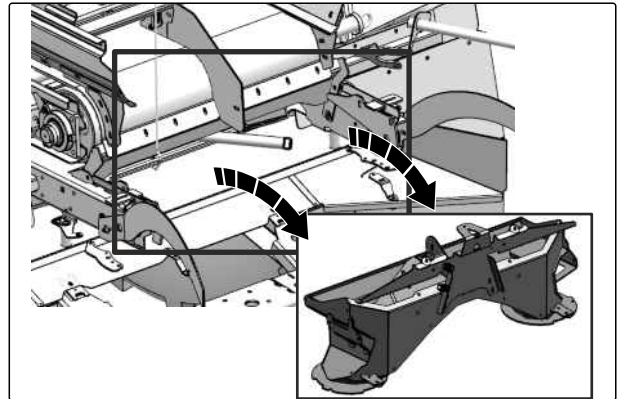
Loosen the nut and slide the stop plate **1** outwards.



CMS-I-00008213

8. Slightly lift the funnel chute and take it out.

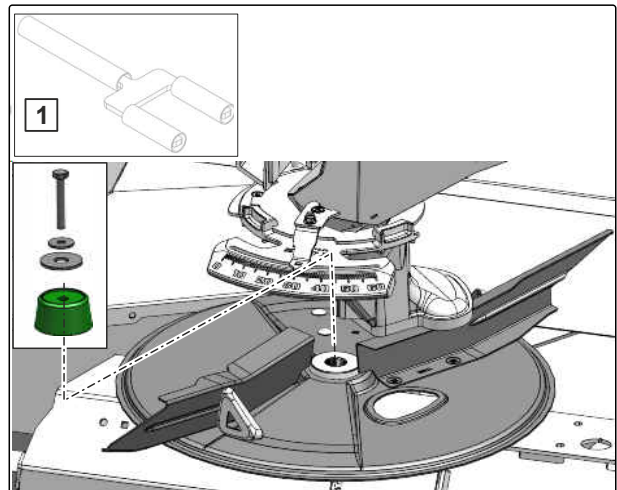
9. Install the guard tube.



CMS-I-00008212

6.7.2.3 Removing the left fertilizer spreading disk

1. Loosen the bolt and take it off with the locking cone.
2. Take off the spreading disk. To do so, use the auxiliary tool **1** to pry the spreading disk off of the hub.

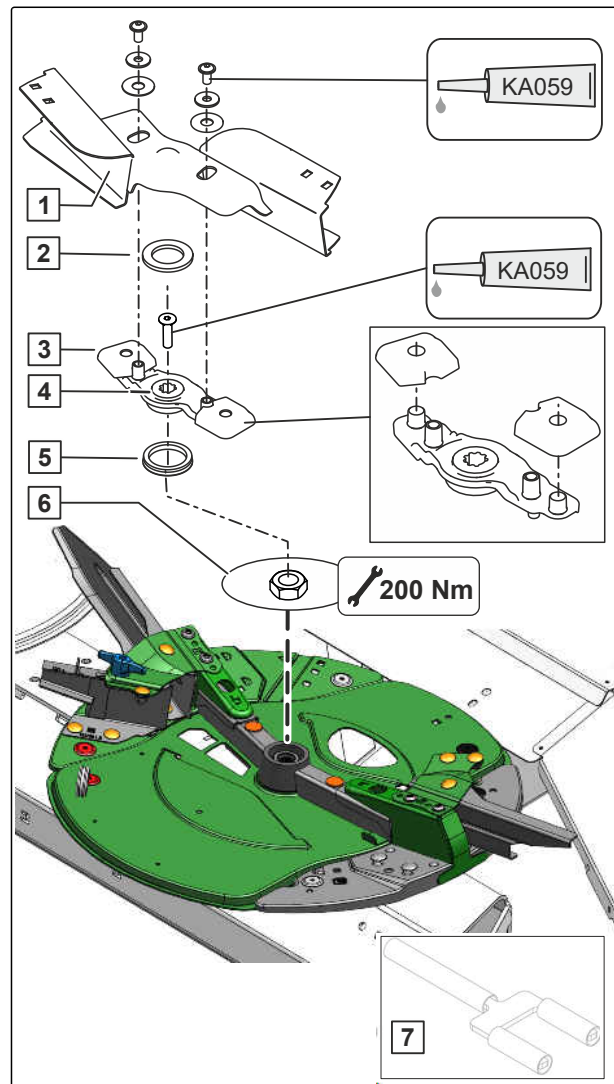


CMS-I-00008262

6.7.2.4 Removing the right fertilizer spreading disk

CMS-T-00013028-A.1

1. Loosen the bolts on the delivery vane **1** and take off the delivery vane.
2. Take off the seal **2**.
3. Take off the balancing elements **3**.
4. Loosen the bolt on the shifting hub **4** and take off the shifting hub.
5. Take off the V-ring **5**.
6. Unscrew the nut **6**.
7. Take off the spreading disk. To do so, use the auxiliary tool **7** to pry the spreading disk off of the hub.

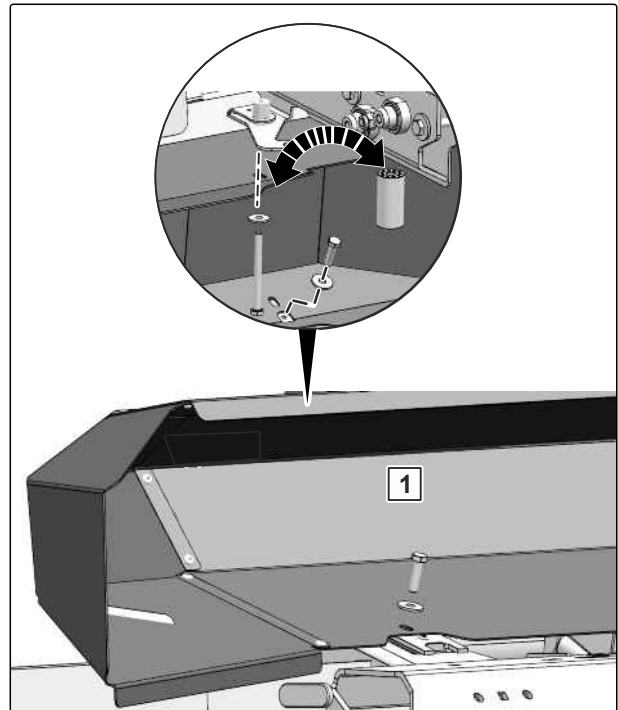


CMS-I-00008261

6.7.2.5 Removing the splash guard

CMS-T-00013209-A.1

1. Loosen the 3 bolts with washers on the splash guard **1** and take off the splash guard.
2. Install the guard tube.

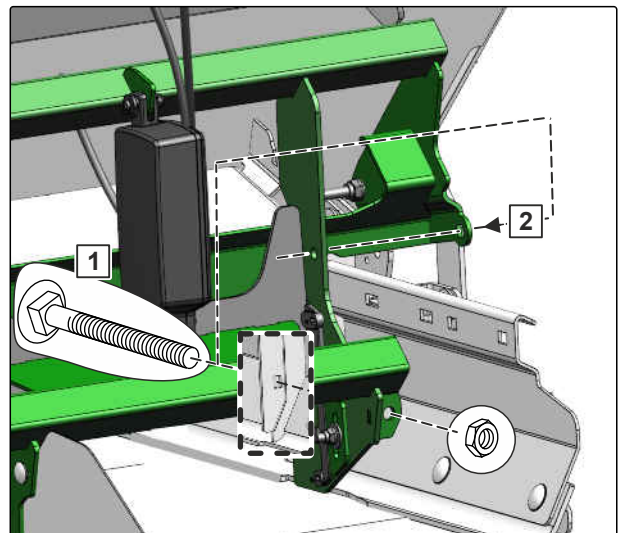


CMS-I-00008215

6.7.3 Putting the double shutter out of operation

CMS-T-00012759-A.1

1. Remove the bolt **1**.
2. Insert the bolt in parking position **2** and secure the nut.
3. Install the bolt on both sides in parking position.

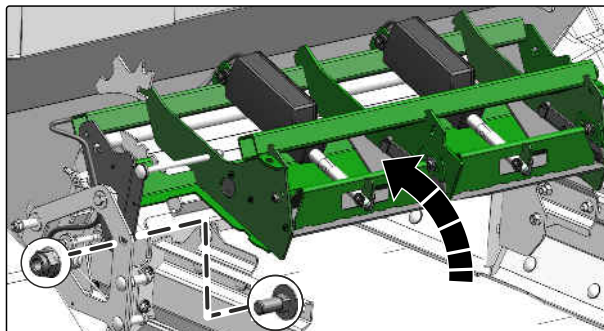


CMS-I-00008210

6 | Preparing the implement

Preparing the implement for spreading lime

4. Swivel up the double shutter.
5. Secure the double shutter with the bolt on both sides.

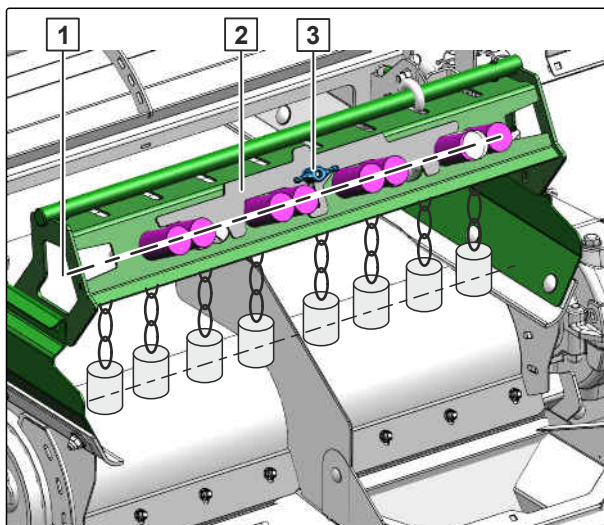


CMS-I-00008422

6.7.4 Moving the chain rake into working position

CMS-T-00012760-A.1

1. Unscrew the wing nut **3**.
2. Lift the locking plate **2**.
3. Take all of the individual weights **1** out of the rail and allow them to hang freely.
4. Tighten the wing nut.



CMS-I-00008169

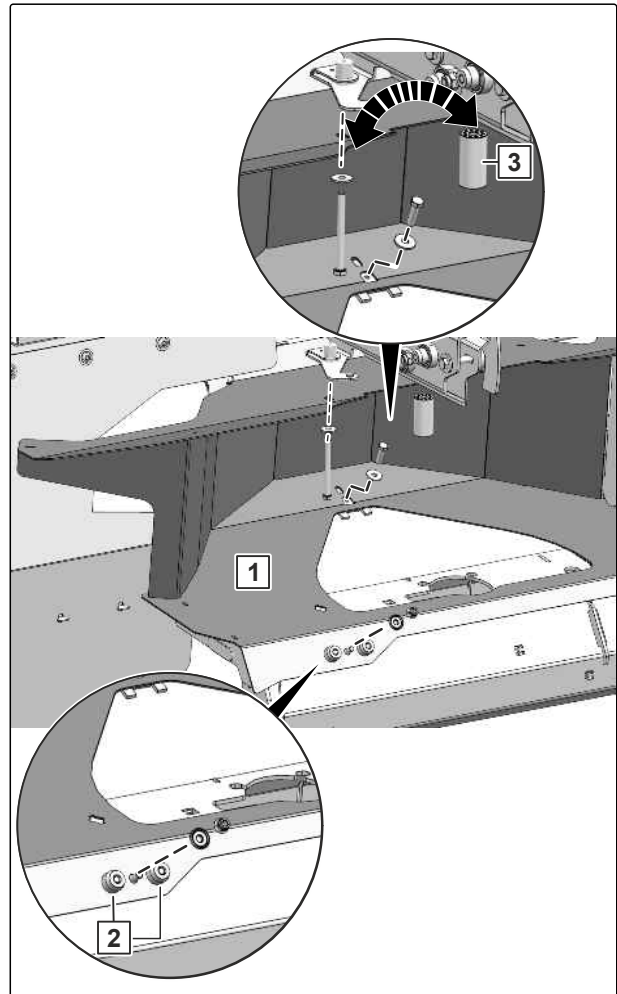
6.7.5 Installing the spreader unit for lime

CMS-T-00013029-B.1

6.7.5.1 Installing the splash guard for lime

CMS-T-00012758-A.1

1. Put the splash guard **1** on the mounting sleeves **2**.
2. Install the upper bolt and washer on both sides with a spacer sleeve **3**.
3. Install the lower bolt on both sides.
4. Install the nut on both sides with the plastic washer.



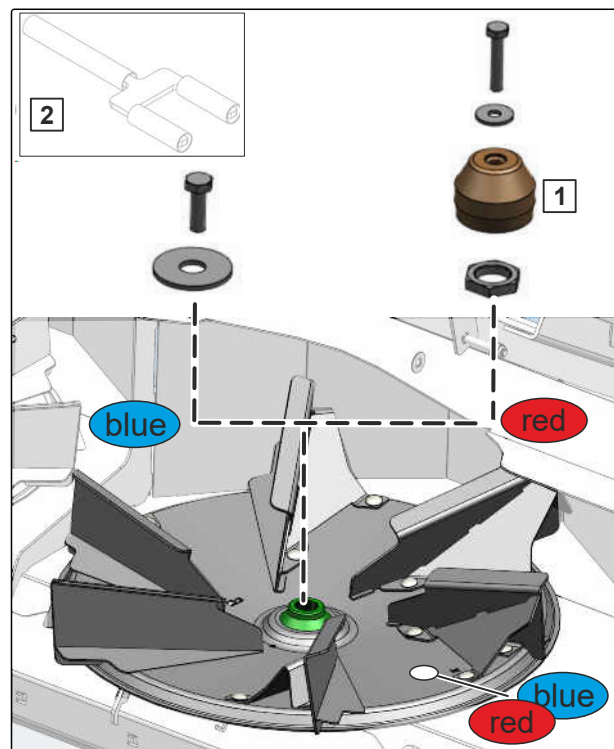
CMS-I-00008216

6 | Preparing the implement

Preparing the implement for spreading lime

6.7.5.2 Installing the spreading disks for lime

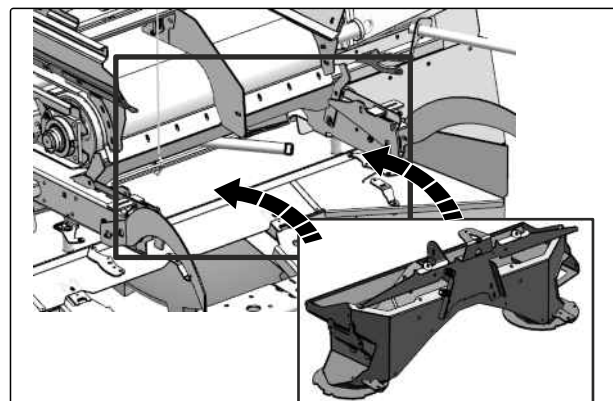
1. Clean and grease the gear shaft.
2. Put on the spreading disk for lime with the blue mark on the left.
3. Fasten the spreading disk for lime with the washer and the bolt M10x30.
4. Put on the lime spreading disk with the red mark on the right.
5. Fasten the spreading disk with the nut M24.
6. Put on the sealing cap **1**.
7. Fasten the sealing cap with the washer and the bolt M8x40.



CMS-I-00008214

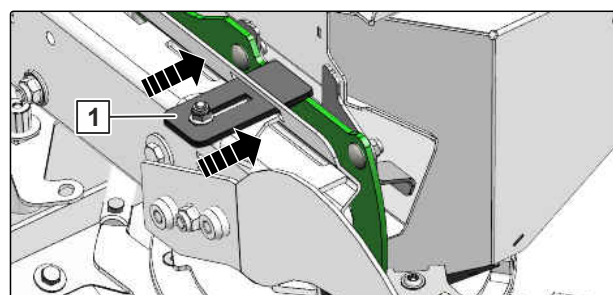
6.7.5.3 Installing the spreader unit for lime

1. Insert the funnel chute into the mounts from the top.



CMS-I-00008423

2. *To lock the funnel chute:*
Slide the stop plate **1** inward and tighten the nut.



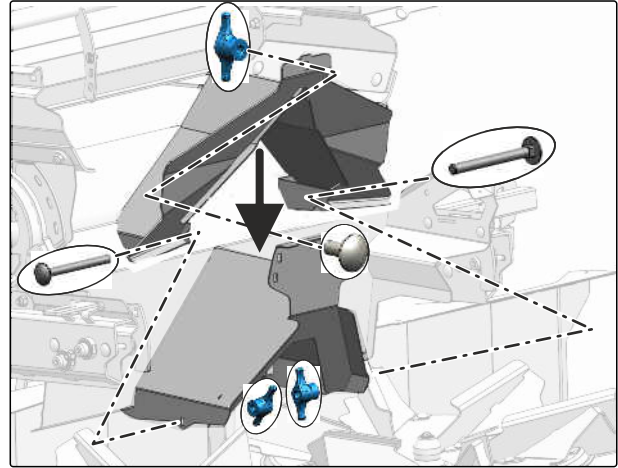
CMS-I-00008424

6.7.6 Installing the additional chute for lime

CMS-T-00012761-A.1

An additional chute can be installed for evenly moist to very moist, sticky lime. Dry to slightly earth moist lime can be spread without an additional chute.

1. Put the additional chute on the lime chute.
2. Fasten the additional chute with 3 bolts and wing nuts.



CMS-I-00008274

6.8 Filling the spreading material hopper

CMS-T-00012762-A.1

1. Observe the safety instructions from the spreading material manufacturer. Wear personal protective clothing if specified.
2. Couple the implement to the tractor.
3. Close the drainage flap.
4. *To open the swiveling cover tarpaulin:*
Actuate the "beige" tractor control unit.
5. Check the spreading material hopper for residues or foreign objects.



6. Briefly run the floor belt before filling the hopper.
7. Evenly fill the spreading material hopper.

6.9 Preparing the implement for road travel

CMS-T-00012715-B.1

6.9.1 Removing spreading material residues

CMS-T-00012763-A.1

Spreading material residues remaining on the floor belt and spreader unit can fall onto the road.

- Remove spreading material residues from the implement.

6.9.2 Adjusting the brake power of the dual-circuit pneumatic brake system

CMS-T-00012110-A.1

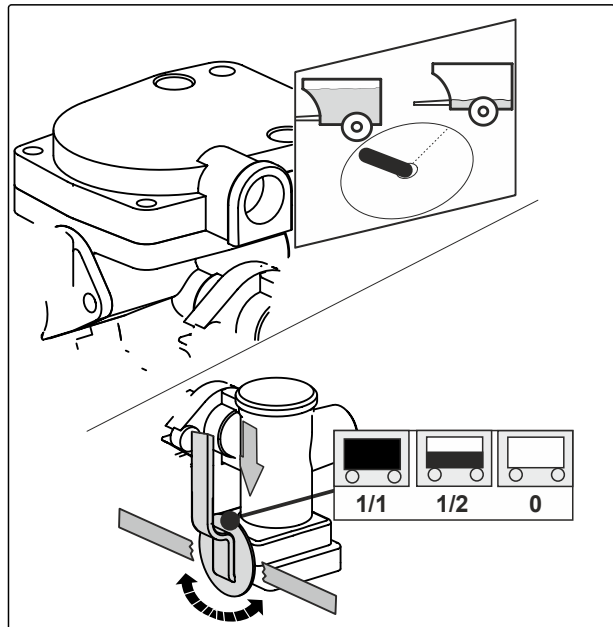
If the implement is equipped with a manually adjustable brake valve, the brake power can be adapted to the load status.

There are 2 different brake valves.

- Set the rotary knob to the symbol for the load status

or

Turn the hand lever so that the symbol for the load status is pointing to the arrow on the brake valve.

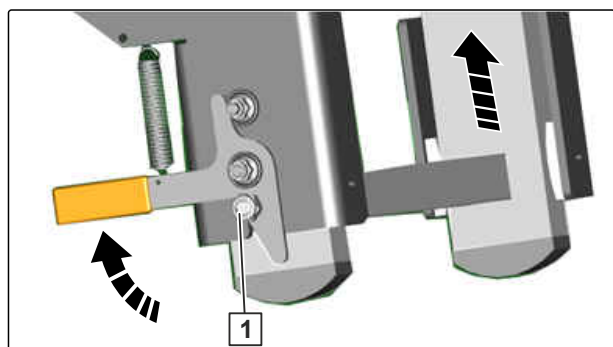


CMS-I-00007784

6.9.3 Locking the ladder in transport position

CMS-T-00013032-A.1

1. Slide up ladder.
2. Lock ladder locking mechanism with lever.
3. Check stop **1** of the ladder locking mechanism.

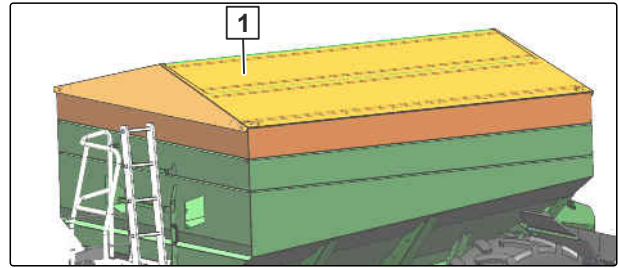


CMS-I-00008276

6.9.4 Closing the swiveling cover tarpaulin

CMS-T-00012766-A.1

- To close the swiveling cover tarpaulin **1**:
Actuate the "beige" tractor control unit.



CMS-I-00008277

6.9.5 Switching off the work lights

CMS-T-00013341-C.1

- To avoid blinding other road users:
switch off the work lights according to the
"ISOBUS" operating manual

or

and according to the operating manual for the
"control computer"

or

with the rocker switch.

Using the implement

7

CMS-T-00012716-C.1

7.1 Checking the spread rate

CMS-T-00012767-B.1

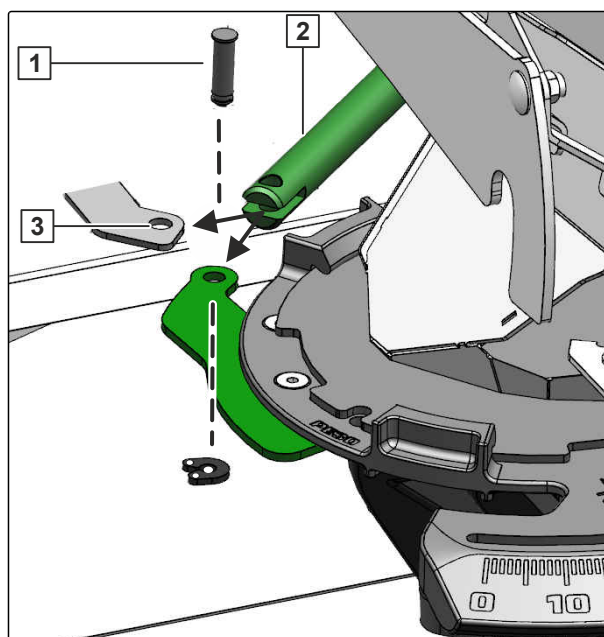
7.1.1 Preparing the spread rate check for fertilizer

CMS-T-00013210-B.1

7.1.1.1 ISOBUS: decoupling the delivery system motor

CMS-T-00012768-A.1

1. Remove the locking ring.
2. Pull the pins **1**.
3. Swivel the cylinder rod **2** of the delivery system motor into parking position **3**.
4. Fasten the cylinder rod with the pin and secure with the locking ring.
5. Decouple the delivery system motor on the left and right.



CMS-I-00008278

7.1.1.2 Preparing the hopper tips

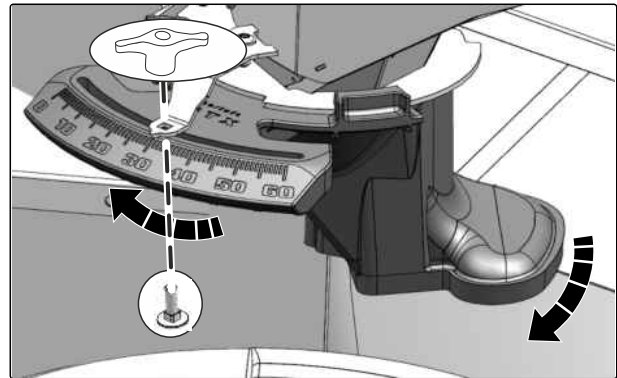
1. *To rule out small movements of the spreading disks:*

Set the speed pre-selection of the tractor PTO shaft to 0 1/min.

2. *EasySet:*

Remove the bolt for the scale on the delivery system.

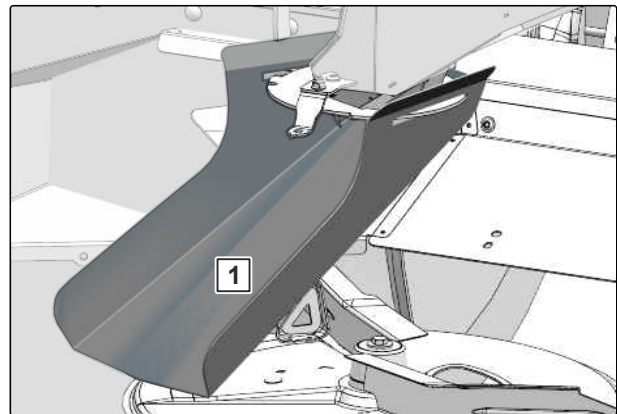
3. Turn the hopper tip to the left until the hopper tip can be taken off downward.



CMS-T-00013211-A.1

CMS-I-00008381

4. Take off both hopper tips.
5. Hook the fertilizer chute **1** onto the funnel chute.
6. Install the fertilizer chute on both sides.
7. Perform a brief test run before the spread rate check.



CMS-I-00008279

7.1.2 Determining the calibration factor for the spreading material

CMS-T-00012769-B.1

The calibration factor is determined during the spread rate check.

To do this, a collected spread quantity is compared to the theoretical spread quantity and the calibration factor is determined.

1. *If the calibration factor should be determined with a low spread quantity:*
Place a bucket under each fertilizer chute and collect the spreading material

or

If the fertilizer calibration factor should be determined with a large spread quantity:
Drive the implement into a storage area for spreading material and let the spreading material flow out.
2. Determine the calibration factor, see ISOBUS software operating manual or EasySet 2 operating manual.
3. After checking the spread rate, reassemble the parts.

7.2 Spreading

CMS-T-00012770-B.1



WARNING

Danger due to ejected parts from worn spreading vanes

- Check the spreading vanes for visible defects every day before operation.

The technical condition of the spreading vanes plays an important role in uniform fertilizer lateral distribution on the field. Worn spreading vanes can cause the formation of stripes.



PREREQUISITES

- ☑ Working width and lateral distribution are checked with the mobile test rig or EasyCheck

1. Switch on the control terminal or control computer.
2. Check the settings on the control terminal or control computer.
3. Run the spreading disks at the nominal speed.
4. Drive onto the field.

5. Operate the implement using the control terminal or control computer, see ISOBUS software operating manual or EasySet 2 control computer.

6. Switch on spreading at the switching point of the setting chart

or

Automatic switch on with Section Control.

7. After longer road transport with a full spreading material hopper, ensure that the implement is spreading correctly, when starting to spread.

8. *When boundary spreading begins:*
Switch on the boundary spreading system and drive around the perimeter of the field.

9. After boundary spreading, switch off the boundary spreading system.

10. After spreading, switch off the spreading function.

or

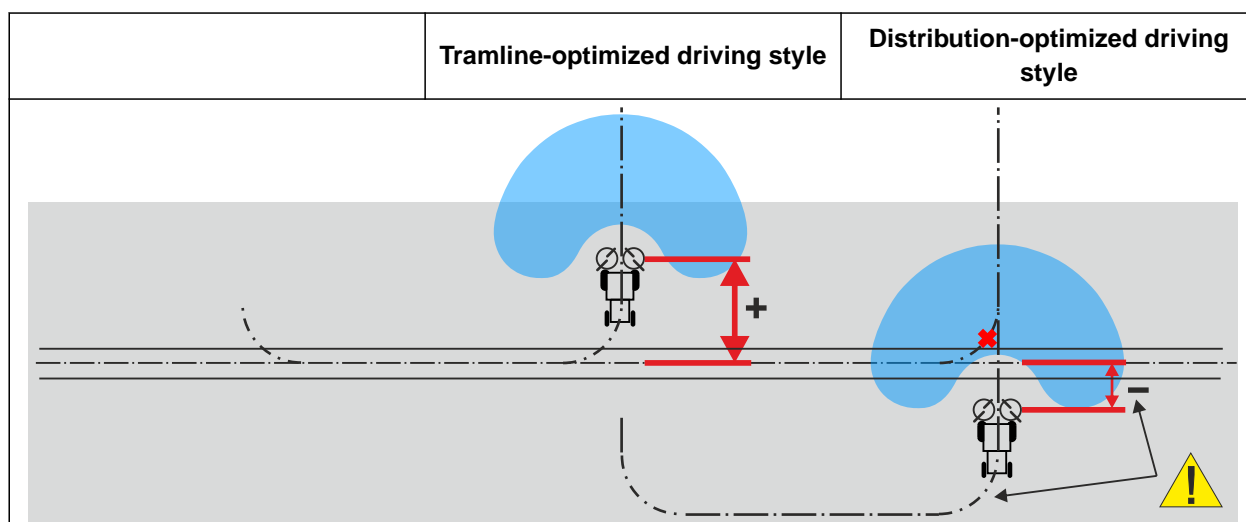
Automatic switch off with section control.

7.3 Adjusting the switch-off point for the driving style

CMS-T-00012771-A.1

The selection of the switch-off point depends on the driving style on the headlands.

- With the distribution-optimized driving style, it is not possible to turn into the headland tramline in many cases, because the shutters close too late with small or negative switch-off points.
- With the tramline-optimized driving style, the switch-off point must be big enough so that the shutters close in due time before driving into the headland tramline. This is not positive for fertilizer distribution on the headlands.



- For the distribution-optimized driving style, read the switch-off point from the setting chart

or

For the distribution-optimized driving style, select a switch-off point of at least 22.97 ft (7 m).

7.4 Adapting the settings for boundary spreading of fertilizer

CMS-T-00012772-B.1

To optimize the boundary spreading pattern, the settings can be adapted differently from the setting chart.

		Elongation of the spreading range toward the boundary with more fertilizer toward the outside	Elongation of the spreading range toward the field with less fertilizer toward the outside
1.		Set the boundary spreading telescope to a higher value.	Set the boundary spreading telescope to a lower value.
2.		Exchange the boundary spreading telescope. A->A+>B->C->D	Exchange the boundary spreading telescope. D->C->B->A+>A
3.		Increase the spreading disk speed.	Reduce the spreading disk speed.
4.	X	Do not use the boundary spreading system.	

- Enter the settings in steps in the specified sequence.

7.5 Using the boundary spreading device for lime

CMS-T-00012773-A.1

1. *To lower the boundary spreading device into the spread fan:*
Activate "blue" tractor control unit.
2. Drive along the field boundary at a distance of half the working width while spreading.
3. *To deactivate the boundary spreading device:*
Activate "blue" tractor control unit.

7.6 Headlands

CMS-T-00013238-B.1

7.6.1 Turning the implement without double shutter

CMS-T-00012774-B.1

1. *When the switch-off point according to the setting chart has been reached:*



Stop spreading.

- ➔ Spreading material residues remain on the end of the conveyor belt.

2. Turn on the headland and drive back onto the field.
3. Run the spreading disks at the nominal speed.
4. *When the switch-on point according to the setting chart has been reached:*



Start spreading.

7.6.2 Turning on headlands with double shutter

CMS-T-00013239-B.1



NOTE

When spreading with Section Control, spreading stops and starts automatically.



1. End spreading approximately 55.77 ft (17 m) in front of the switch-off point.

- ➔ The double shutter closes.

- ➔ The conveyor belt continues running until the fertilizer behind the double shutter is spread.
- ➔ Spreading stops at the switch-off point.
- 2. Turn on the headland and drive back onto the field.
- 3. Run the spreading disks at the nominal speed.



- 4. Start spreading approximately 32.81 ft (10 m) before the switch-on point.
- ➔ The spreading material reaches the spreading disk at the switch-on point.

7.7 After spreading operation

CMS-T-00012775-A.1

- ▶ Stop the spreading disk drive.

7.8 Emptying the hopper

CMS-T-00012776-A.1



DANGER

Risk of injury from rotating spreading disks

Injuries can be sustained by touching the rotating spreading disks or from ejected fertilizer while emptying the hopper.

- ▶ Stop the spreading disk drive before emptying the hopper.



CAUTION

Risk of injury due to stumbling on the running floor belt

- ▶ Do not step onto the floor belt when emptying the hopper.

- ▶ Empty the hopper, see ISOBUS TX software operating manual and EasySet 2 operating manual.

7.9 Using the camera system

CMS-T-00014817-B.1



WARNING

Risk of accident due to restricted field of vision of the camera system

- ▶ Before maneuvering, ensure that there are no people or objects in the driving area by taking a direct look.
- ▶ Also use the exterior mirror for the largest possible coverage of the field of vision.



NOTE

Equipment with a non-certified camera system does not replace the banksman in road traffic.



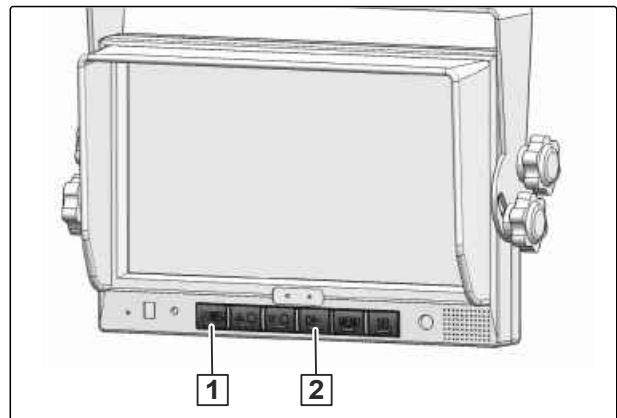
NOTE

Do not change the position or the alignment of the cameras of the certified camera system.

1. *To check the camera system:*
Check the locking mechanism of the plug connection.
2. *To use the camera system:*
Switch on the screen with the "POWER" **1** button.

➔ The image from the camera will be shown on the screen.
3. *To select the displayed camera:*
Press the "CH+" **2** button.

➔ Via the display mode, it is possible to display one camera or both cameras.
4. *To switch off the camera system:*
Switch off the screen with the "POWER" button.
5. For other settings, observe the operating manual for the camera system.




CMS-I-00009566

Rectifying faults

8

CMS-T-00012706-B.1

Error	Cause	Solution
The double shutter is not responding	Blockage on the double shutter	► See page 97
Uneven fertilizer lateral distribution	Fertilizer deposits on spreading disks and spreading vanes	► Clean the spreading vanes and spreading disks.
	Differences in the fertilizer properties compared to the setting chart specifications	► Contact AMAZONE FertilizerService under the phone number 05405 501 111.
Too much fertilizer in the tractor track	The spreading vanes and outlets are defective or worn.	► Check the spreading vanes and outlets. ► Replace defective or worn parts promptly.
The floor belt is not conveying	Oil pressure is too low.	► Increase the oil pressure from the tractor.
	The conveyor belt slips.	► See page 97
The swiveling cover tarpaulin does not open or opens too fast	The throttle is incorrectly adjusted.	► Adjust the throttle.
No hydraulic functions	The oil supply on the tractor is not switched on.	► Switch on the oil supply on the tractor.
	Power supply to the valve block is interrupted	► Check the line, plug and contacts.
	Oil filter is contaminated.	► See page 98
The control terminal or control computer is not working	The power supply is defective.	► Check the power supply to the control terminal or control computer.
Vibration of the TS30 spreading disks	Lacking balancing weight	► See page 98
Jack damages the crops	Jack is mounted too low	<div>  WORKSHOP TASK </div> ► Mount jack higher.

The double shutter is not responding

CMS-T-00013038-A.1

1. *To eliminate the blockage:*
Activate simulated speed.
2. Open and close the shutters in the "Emptying" menu.



WARNING Risk of crushing fingers in the electrically actuated shutters

► *When the shutters are being opened or closed:*

Direct people out of the working range of the shutters.

3. Before working on the bottom group, switch off the control computer.

The floor belt is not conveying

CMS-T-00013041-A.1

1. Clean the inside of the conveyor belt, See page 121

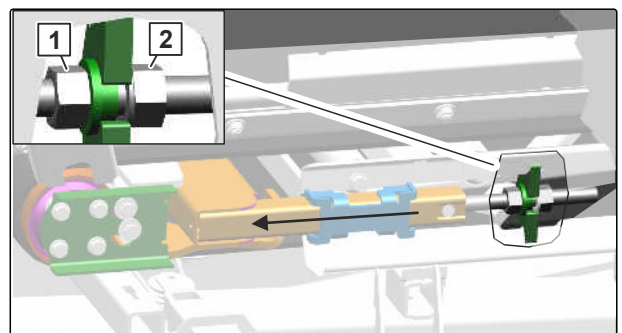
The conveyor belt is pre-tensioned in the floor belt. Tension the conveyor belt on both sides through the openings in the frame side sections if it is running unevenly.

2. Loosen the 8 bolts underneath the transport box on the left.
3. Take off the transport box outwards.



CMS-I-00008413

4. unscrew the lock nut **2**.
5. Using the adjustment nut **1**, increase the pre-tension by half a turn of the wrench.
6. Tighten lock nut.
7. Make the same adjustments evenly on both sides.
8. Install the transport box.
9. Check if the conveyor belt is driven evenly again.



CMS-I-00008412

No hydraulic functions

CMS-T-00013043-A.1

- Clean the oil filter
- or
- Replace the oil filter.

Vibration of the TS30 spreading disks

CMS-T-00013243-A.1

When the telescope is installed in Position 1 and 3, vibrations occur due to technical reasons.

- *If the spreading disk TS30 is used with telescope D:*
Install additional balancing weight.

Parking the implement

9

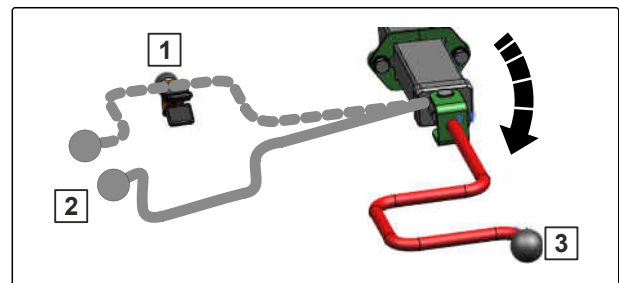
CMS-T-00012694-B.1

9.1 Applying the parking brake

CMS-T-00013248-A.1

The parking brake requires approx. 44.09 lb (20 kg) manual force to be applied.

- 1** Holding spring
- 2** Hand crank position for releasing and applying in the end area
- 3** Hand crank position for fast releasing and applying



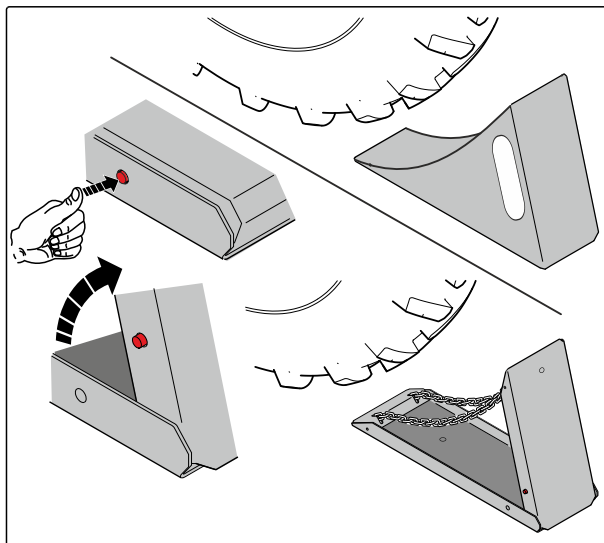
CMS-I-00008383

1. Pull the hand crank out of the holding spring.
2. *To apply the parking brake:*
Turn the hand crank clockwise until the brake cable is tensioned.
3. Fasten the hand crank back into the holding spring.

9.2 Placing the wheel chocks

CMS-T-00004316-C.1

1. Take wheel chocks out of the holder.
2. On folding wheel chocks, activate the pushbutton and unfold wheel chock.
3. Place wheel chocks under the wheels.



CMS-I-00007809

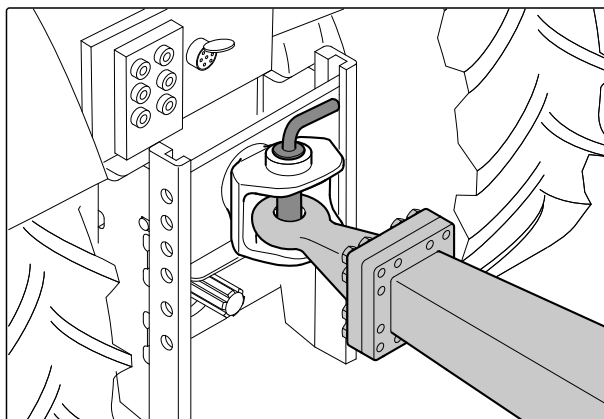
9.3 Uncoupling the drawbar eye or ball hitch coupling

CMS-T-00013396-A.1

9.3.1 Uncoupling the drawbar eye

CMS-T-00013397-A.1

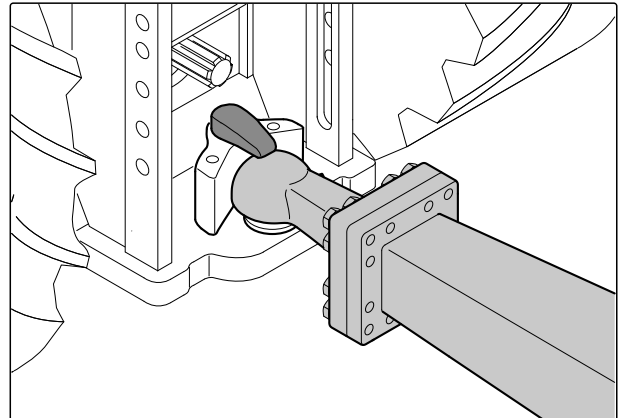
1. *To lower the jack:*
Activate "blue" tractor control unit.
- ➔ Lift the implement until the ball bracket is lifted off of the ball hitch.
2. Uncouple the drawbar eye from the clevis coupling of the tractor.



CMS-I-00003557

9.3.2 Uncoupling the ball hitch coupling

1. Unlock the ball hitch coupling.
 2. *To lower the jack:*
Activate "blue" tractor control unit.
- ➔ Lift the implement until the ball bracket is lifted off of the ball hitch.



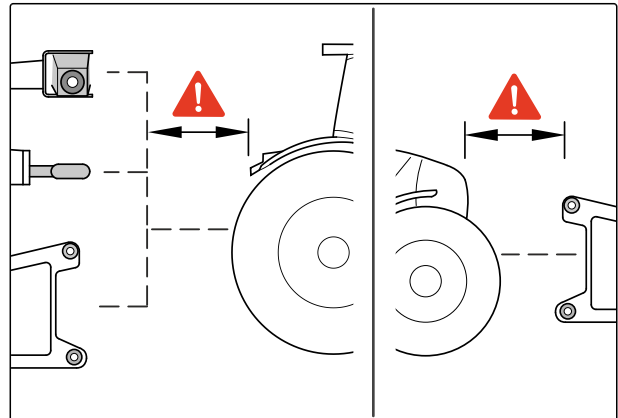
CMS-T-00013398-A.1

CMS-I-00003558

9.4 Moving the tractor away from the implement

There must be enough space between the tractor and implement so that the supply lines can be uncoupled without obstructions.

- Move the tractor an adequate distance away from the implement.

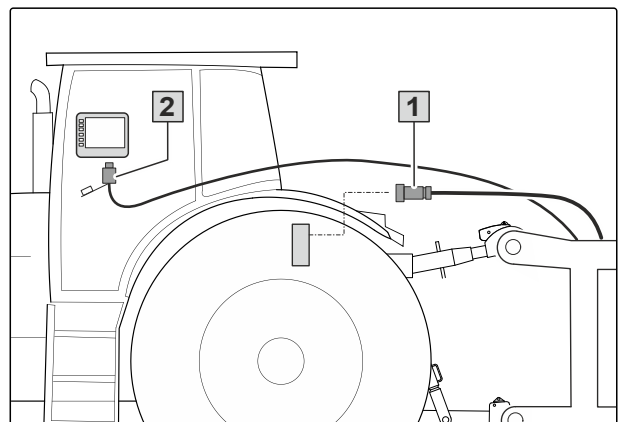


CMS-T-00005795-D.1

CMS-I-00004045

9.5 Uncoupling the ISOBUS or control computer

1. Unplug the plug connector of the ISOBUS line **1** or the control computer line **2**.
2. Protect the plug with a dust cap.
3. Hook-in the plug connector on the hose cabinet.



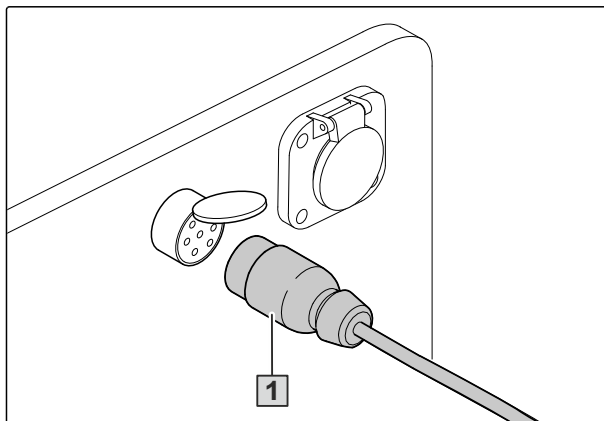
CMS-T-00006174-D.1

CMS-I-00006891

9.6 Uncoupling the power supply

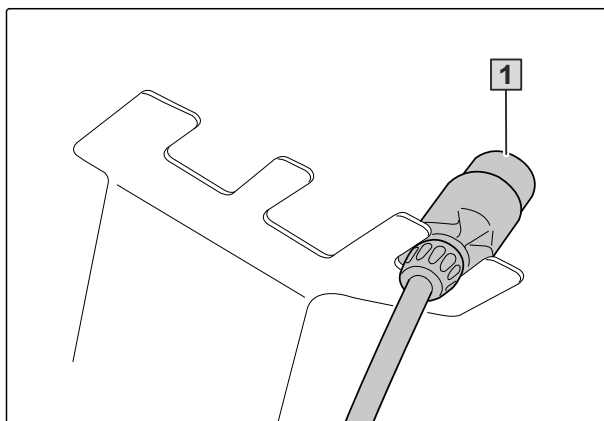
CMS-T-00001402-H.1

1. Unplug the connector **1** for the power supply.



CMS-I-00001048

2. Hook-in the connector **1** on the hose cabinet.

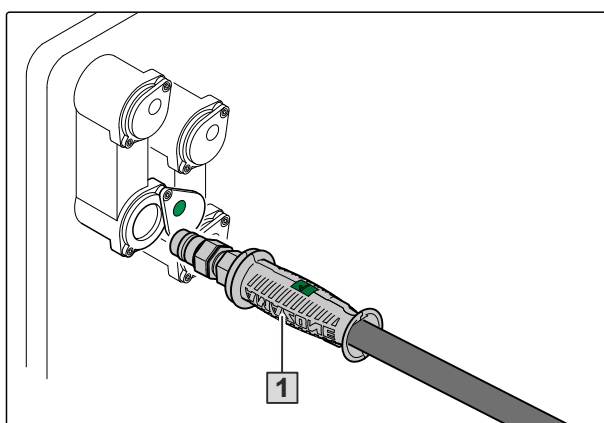


CMS-I-00001248

9.7 Uncoupling the hydraulic hose lines

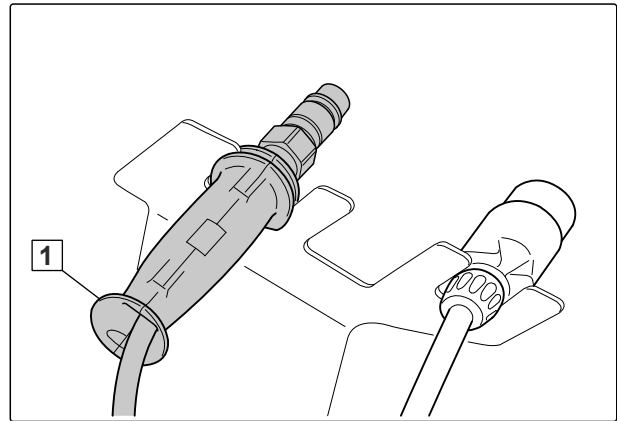
CMS-T-00000277-F.1

1. Secure tractor and implement.
2. Bring the tractor control unit into float position.
3. Uncouple the hydraulic hose lines **1**.
4. Attach the dust caps on the hydraulic sockets.



CMS-I-00001065

5. Hook-in the hydraulic hose lines **1** on the hose cabinet.

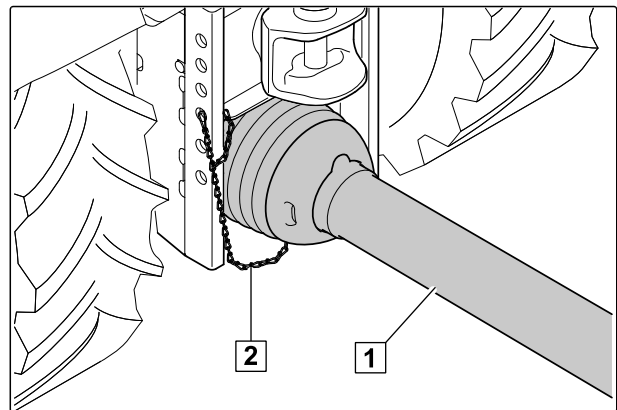


CMS-I-00001250

9.8 Uncoupling the universal joint shaft

CMS-T-00001843-C.1

1. Take off the safety chain **2** on the tractor.
2. Pull the pull sleeve **1** of the universal joint shaft.
3. Pull the universal joint shaft off of the tractor PTO shaft.
4. Place the universal joint shaft in the universal joint shaft holder on the implement.

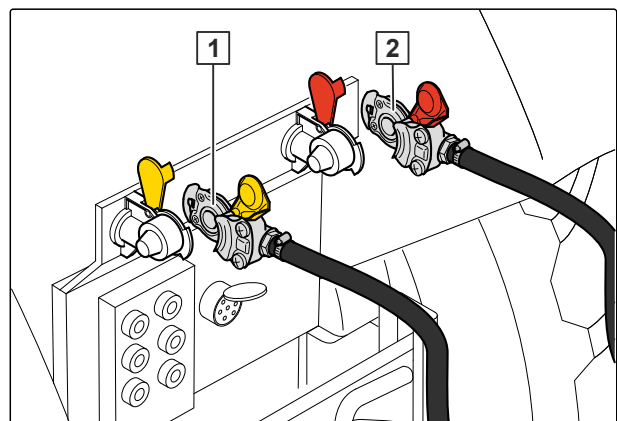


CMS-I-00001069

9.9 Uncoupling the dual circuit compressed air system

CMS-T-00004570-D.1

1. Disconnect the red coupling head of the brake line **2** from the tractor.
2. Disconnect the red coupling head to the empty coupling on the implement.
3. Disconnect the yellow coupling head of the brake line **1** from the tractor.
4. Disconnect the yellow coupling head to the empty coupling on the implement.
5. Close the caps of the tractor coupling heads.

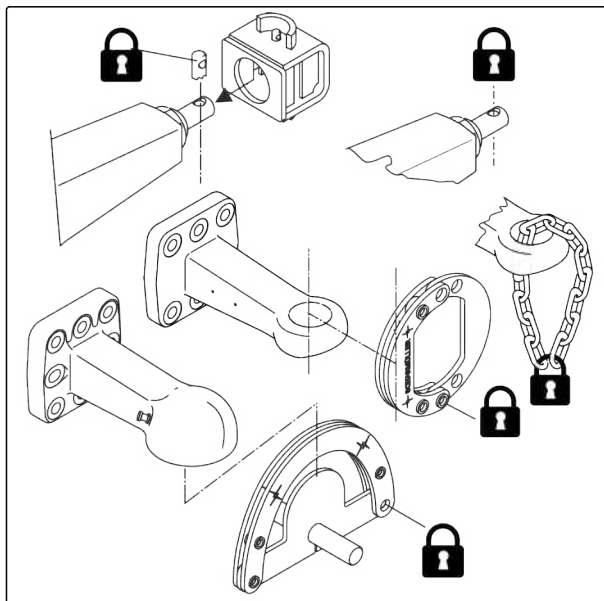


CMS-I-00003559

9.10 Attaching safeguard against unauthorized use

CMS-T-00005090-B.1

1. Attach safeguard against unauthorized use on the hitch device.
2. Attach padlock.



CMS-I-00003534

Maintaining the implement

10

CMS-T-00012703-H.1

10.1 Maintaining the implement

CMS-T-00012705-H.1

10.1.1 Maintenance schedule

After initial operation		
Checking the hydraulic hose lines	See page 112	
Replacing the oil in the angular gearbox and in the center gearbox	See page 114	
After the first 10 operating hours		
Configuring the fill level indicator	See page 106	
As needed		
Carrying out brake matching for the brake system	See page 108	
Daily		
Checking the TS fertilizer spreading vanes	See page 107	
Checking the lime spreading vanes	See page 107	
Checking the conveyor belt	See page 108	
Dewatering the compressed air tank	See page 110	
Checking the compressed air tank	See page 110	
Every 50 operating hours		
Checking the ball hitch coupling	See page 114	
Checking the drawbar eye	See page 115	
Every 50 operating hours / Weekly		
Checking wheels and tires	See page 111	
Checking the hydraulic hose lines	See page 112	
Checking the hydraulic oil filter for contamination	See page 113	

Every 200 operating hours / Every 3 months		
Checking the brake pads	See page 109	
Checking the dual-circuit pneumatic brake system	See page 109	

Every 200 operating hours / Every 12 months		
Replacing the oil in the angular gearbox and in the center gearbox	See page 114	

Every 1000 operating hours / Every 12 months		
Configuring the fill level indicator	See page 106	
Checking the automatic slack adjuster	See page 111	
Checking the wheel bearings	See page 112	WORKSHOP TASK
Checking the oil level in the conveyor belt gearbox	See page 113	

10.1.2 Configuring the fill level indicator

CMS-T-00015457-A.1



INTERVAL

- After the first 10 operating hours
 - Every 1000 operating hours
- or
- Every 12 months

- *To configure the fill level indicator:*
see the ISOBUS software operating manual.

10.1.3 Checking the TS fertilizer spreading vanes

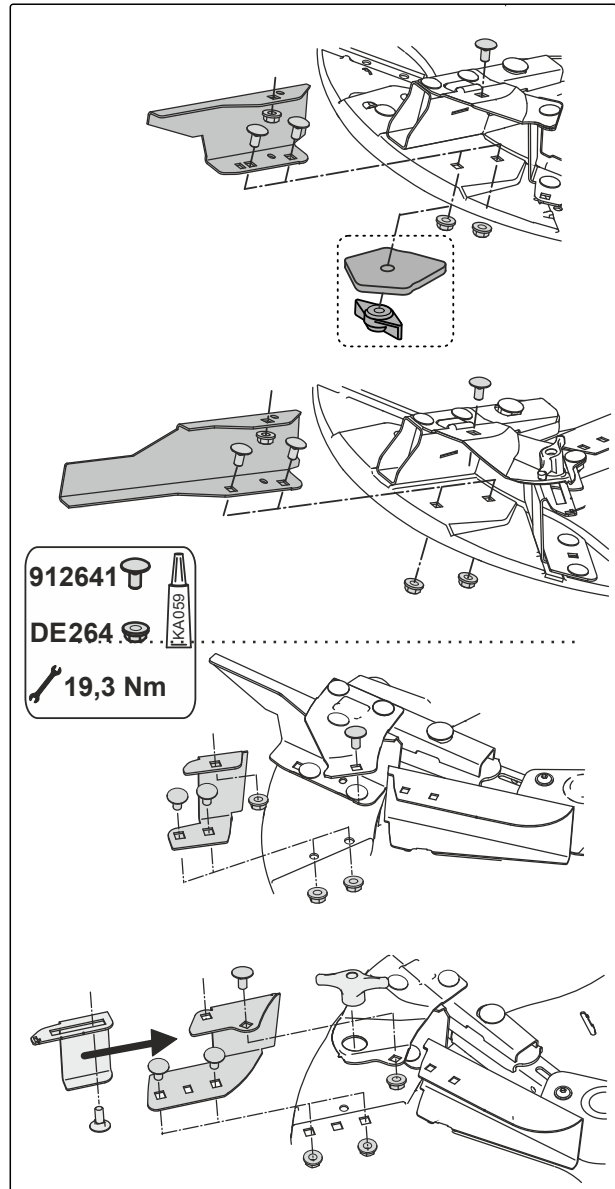
CMS-T-00012778-A.1

INTERVAL

- Daily

1. Check the spreading vanes and telescopes for ruptures and perforations.
2. Replace worn spreading vanes and telescopes.
3. *If the spreading disk TS30 is used with telescope D:*
Install an additional balancing weight under the short spreading vane. Secure with the wing nut.
4. *To reach the specified tightening torque:*
Apply assembly paste on the bolts.

➔ Required tightening torque: 14.23 ft-lb (19.3 Nm)



CMS-I-00008388

10.1.4 Checking the lime spreading vanes

CMS-T-00012779-A.1

INTERVAL

- Daily

1. Check the lime spreading vanes for ruptures and perforations.
2. Replace worn lime spreading vanes.

10.1.5 Checking the conveyor belt

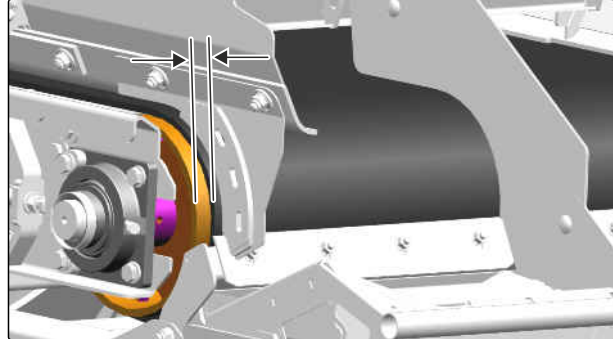
CMS-T-00012780-A.1



INTERVAL

- Daily

1. Before operation, check that the conveyor belt is centered on the deflector rollers.
2. During operation, make sure that the conveyor belt runs evenly.
3. *If the conveyor belt runs unevenly:*
Retighten the conveyor belt on both sides.



CMS-I-00008411

10.1.6 Carrying out brake matching for the brake system

CMS-T-00013379-A.1



INTERVAL

- As needed

For optimum brake performance with minimal wear, it is recommended to carry out brake matching between the tractor and the implement.

1. *To optimize the brake performance:*
After a suitable running period, have the brake matching checked at a specialist workshop.
2. *To prevent excessive wear on the brake pads:*
Have the brake matching performed by a specialist workshop.
3. *To prevent braking difficulties:*
Have the implements adjusted according to EC Directive 71/320.

10.1.7 Checking the brake pads

CMS-T-00004984-E.1

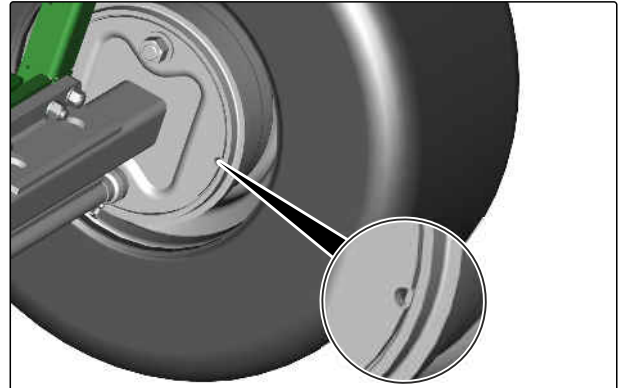


INTERVAL

- Every 200 operating hours
or
Every 3 months

Test criteria:

- Wear limit: 0.08 in (2 mm)
 - Damage
 - coarse contamination
1. Check the brake pads through the inspection holes.



CMS-I-00003599



WORKSHOP TASK

2. Replace worn, damaged or contaminated brake pads.

10.1.8 Checking the dual-circuit pneumatic brake system

CMS-T-00004985-G.1



INTERVAL

- Every 200 operating hours
or
Every 3 months

1. Check the compressed air lines and bellows for damage.



WORKSHOP TASK

2. Replace damaged components.

Test criteria	Setpoints
Pressure drop in the dual-circuit pneumatic brake system	maximum 2.18 psi (0.15 bar) in 10 minutes
Compressed air in the compressed air tank	87.02 psi (6 bar)-118.93 psi (8.2 bar)
Brake cylinder pressure	0 psi (0 bar) when the brake is not activated:

3. Check the specified test criteria.

10.1.9 Dewatering the compressed air tank

CMS-T-00004588-E.1



INTERVAL

- Daily

1. *To fill the compressed air tank,*
run the tractor engine for 3 minutes.
2. Switch off the tractor engine.
3. *To drain the water,*
Pull the dewatering valve to the side using the ring.



CMS-I-00003555

10.1.10 Checking the compressed air tank

CMS-T-00004589-D.1



INTERVAL

- Daily

1. Check the compressed air tank for damage and corrosion.
2. Check the tensioning belts of the compressed air tank.
3. *If the tensioning straps are loose,*
tension the tensioning straps with nuts.



WORKSHOP TASK

4. Replace a damaged or corroded compressed air tank.
5. *If the tensioning straps are damaged or cannot be tensioned,*
Replace tensioning straps.

10.1.11 Checking the automatic slack adjuster

CMS-T-00013380-B.1



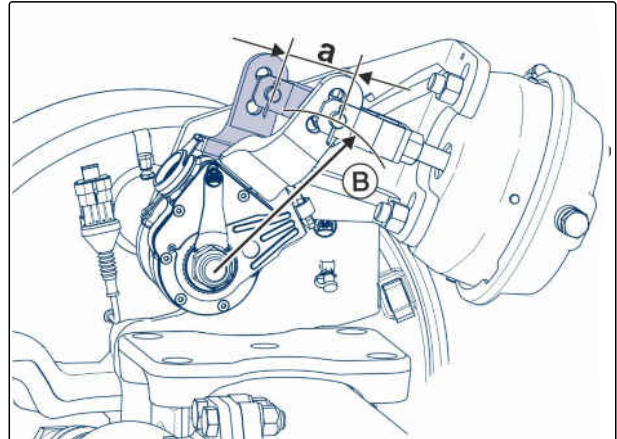
INTERVAL

- Every 1000 operating hours
or
Every 12 months

1. Secure the implement against rolling away.
Release the service brake and parking brake.

The free travel "a" may not exceed 15 % of the connected brake lever length "b".

2. *To check the free travel,*
manually actuate the slack adjuster.



CMS-I-00008395



WORKSHOP TASK

3. *If the free travel on the slack adjuster is outside of the tolerance:*
Check the automatic readjustment.

10.1.12 Checking wheels and tires

CMS-T-00013383-C.1



INTERVAL

- Every 50 operating hours
or
Weekly

1. Check the tire pressure according to the sticker on the rim.
2. Tighten the bolts according to the tightening torque in the technical data.
3. Check tires for damage.

10.1.13 Checking the wheel bearings

CMS-T-00014967-B.1



WORKSHOP TASK

- Every 1000 operating hours
or
Every 12 months

1. Check the wheel bearings.
2. Adjust the bearing clearance if necessary.
3. Re-grease the wheel bearings.

10.1.14 Checking the hydraulic hose lines

CMS-T-00002331-G.1



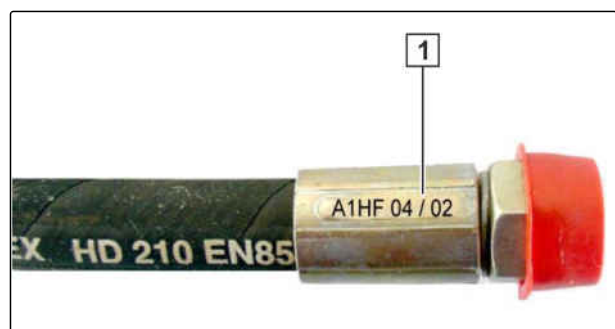
INTERVAL

- After initial operation
- Every 50 operating hours
or
Weekly

1. Check the hydraulic hose lines for damage, such as chafing points, cuts, tears or deformation.
2. Checking the hydraulic hose lines for leaks.
3. Retighten loose threaded connections.

Hydraulic hose lines must not be more than 6 years old.

4. Check the manufacturing date **1**.



CMS-I-00000532



WORKSHOP TASK

5. Have hydraulic hose lines replaced, if they are worn, damaged, or have exceeded their service life.

10.1.15 Checking the hydraulic oil filter for contamination

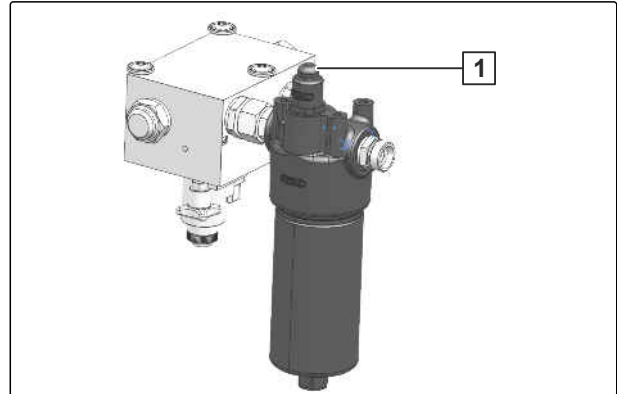
CMS-T-00012782-A.1



INTERVAL

- Every 50 operating hours
or
Weekly

1. Heat the hydraulic oil up to the operating temperature.
2. Press in the contamination indicator **1**.
3. Continue working with the implement.
4. Observe the contamination indicator.
 - Green: oil filter is working
 - Red: oil filter is contaminated
5. *If the contamination indicator is soiled:*
Depressurize the hydraulic system. Change the oil filter.



CMS-I-00008448

10.1.16 Checking the oil level in the conveyor belt gearbox

CMS-T-00012781-A.1

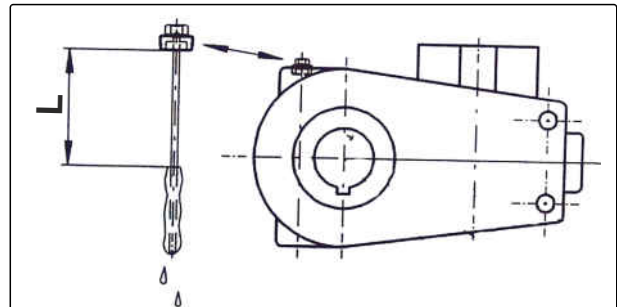


INTERVAL

- Every 1000 operating hours
or
Every 12 months

There is no need to change the oil.

1. Park the implement on a horizontal surface.
2. Take out the oil dipstick.
3. Measure the oil-free length "L".
- ➔ Correct oil level at L = 5.2 in (132 mm)
4. *If there is too little oil in the conveyor belt gearbox:*
Top up gear oil.
5. Install the oil dipstick.



CMS-I-00008400

10.1.17 Replacing the oil in the angular gearbox and in the center gearbox

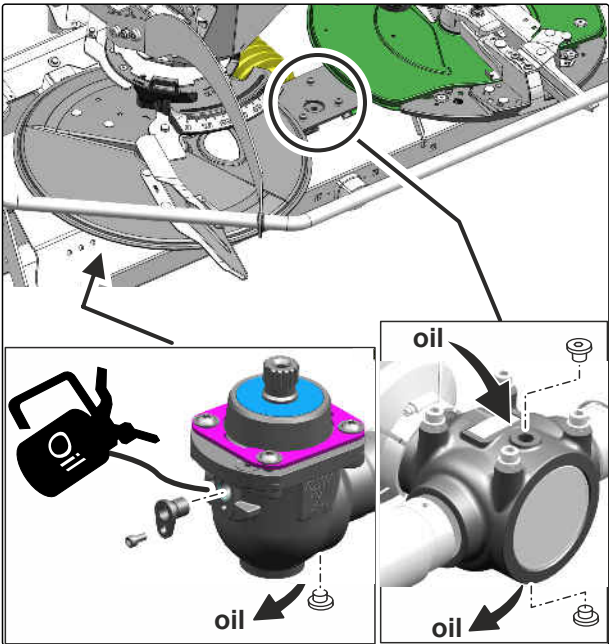
CMS-T-00012783-B.1



INTERVAL

- After initial operation
 - Every 200 operating hours
- or
- Every 12 months

1. Park the implement on a horizontal surface.
2. Place an oil collection container under the oil drain.
3. Dismount the oil fill plug and drain plug.
4. Mount a new drain plug with copper washer.
5. Pour in oil via the filler opening; see the technical data for the oil specification.
6. Mount a new oil fill plug with copper washer.
7. *If a sensor is installed in the oil fill plug:*
Protect the sensor from moisture with plenty of grease.



CMS-I-00008399

10.1.18 Checking the ball hitch coupling

CMS-T-00006968-G.1



INTERVAL

- Every 50 operating hours

Ball hitch coupling	Degree of wear	Fastening bolts	Quantity	Bolt tightening torque
K80 (LI009)	3.23 in (82 mm)	M16 10.9	8	221.27 ft-lb (300 Nm)
K80 (LI040)	3.23 in (82 mm)	M20 10.9	8	413.03 ft-lb (560 Nm)
K80 (LI015)	3.23 in (82 mm)	M20 10.9	12	413.03 ft-lb (560 Nm)

1. Check bolt tightening torques.
2. Check the ball hitch coupling for damage, deformation, cracks, and wear.



WORKSHOP TASK

3. Replace a damaged ball hitch coupling.

10.1.19 Checking the drawbar eye

CMS-T-00006969-F.1



INTERVAL

- Every 50 operating hours

Drawbar eye	Degree of wear	Fastening bolts	Quantity	Bolt tightening torque
D35 (LI038)	1.65 in (42 mm)	M16 12.9	6	250.77 ft-lb (340 Nm)
D40 (LI017)	1.63 in (41.5 mm)	M16 10.9	6	221.27 ft-lb (300 Nm)
D40 (LI006)	1.67 in (42.5 mm)	M20 8.8	8	291.34 ft-lb (395 Nm)
D46(LI034)	1.89 in (48 mm)	M20 10.9	12	405.66 ft-lb (550 Nm)
D50 (LI037)	2.36 in (60 mm)	M16 12.9	4	250.77 ft-lb (340 Nm)
D50 (LI010)	2.03 in (51.5 mm)	M16 10.9	8	221.27 ft-lb (300 Nm)
D50 (LI059)	2.03 in (51.5 mm)	M20 10.9	4	413.03 ft-lb (560 Nm)
D50 (LI011)	2.03 in (51.5 mm)	M20 8.8	8	302.4 ft-lb (410 Nm)
D50 (LI060)	2.07 in (52.5 mm)	M20 10.9	8	413.03 ft-lb (560 Nm)
D51 (LI039)	2.09 in (53 mm)	M20 10.9	12	442.54 ft-lb (600 Nm)
D51 (LI059)	2.09 in (53 mm)	M16 10.9	6	213.89 ft-lb (290 Nm)
D58 (LI031)	2.36 in (60 mm)	M20 10.9	12	405.66 ft-lb (550 Nm)
D62 (LI007)	2.5 in (63.5 mm)	M20 10.9	8	435.16 ft-lb (590 Nm)
D79 (LI021)	3.19 in (81 mm)	M20 10.9	12	405.66 ft-lb (550 Nm)

1. Check bolt tightening torques.
2. Check the drawbar eye for damage, deformation, cracks and wear.



WORKSHOP TASK

3. Replace a damaged drawbar eye.

10.2 Lubricating the implement

CMS-T-00012704-B.1



IMPORTANT

Implement damage due to improper lubrication

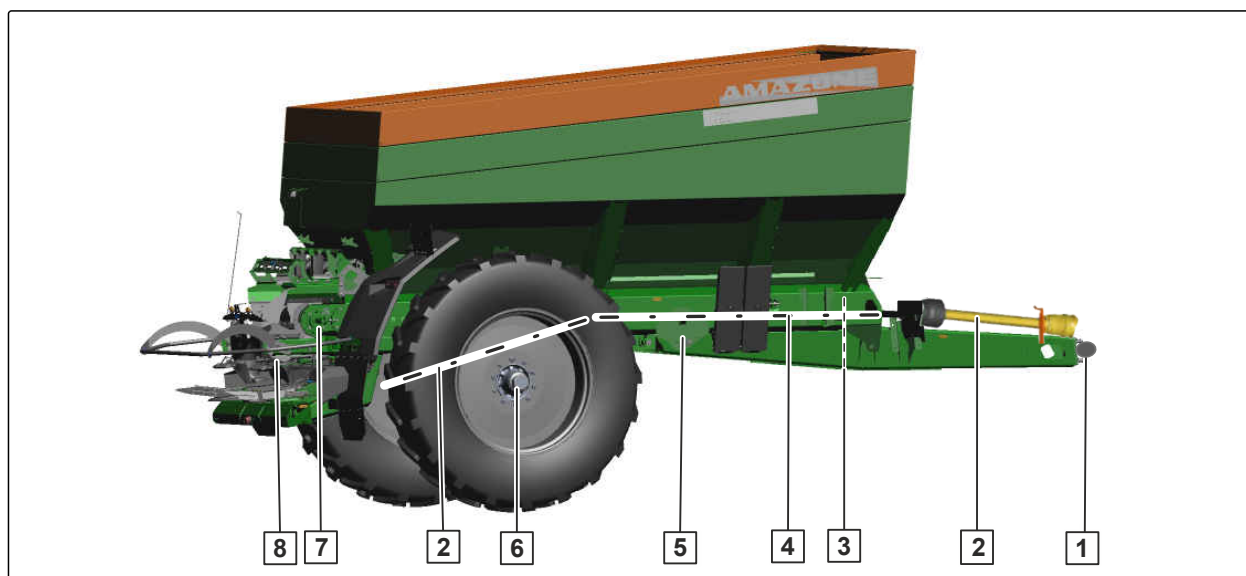
- ▶ Lubricate the implement at the marked lubrication points as specified in the lubrication schedule.
- ▶ *To ensure that contamination is not pressed into the lubrication points:* Carefully clean the grease nipples and the grease gun.
- ▶ Only lubricate the implement with the lubricants listed in the technical data.
- ▶ Press all the spent grease completely out of the bearings.



CMS-I-00002270

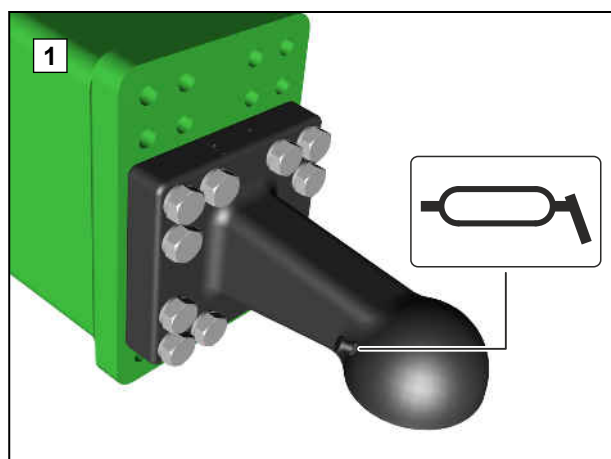
10.2.1 Overview of lubrication points

CMS-T-00013423-A.1



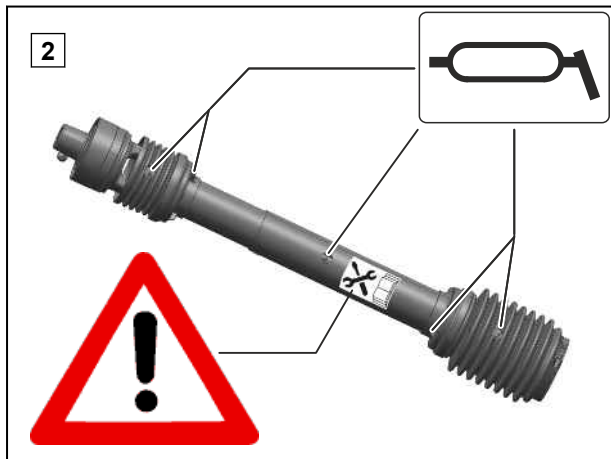
CMS-I-00008408

Every 10 operating hours

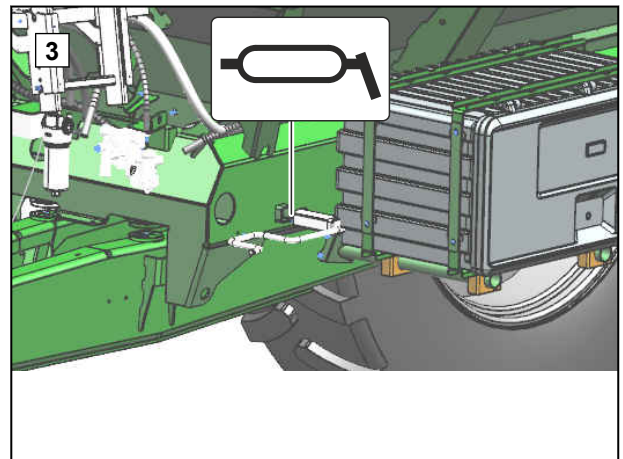


CMS-I-00006711

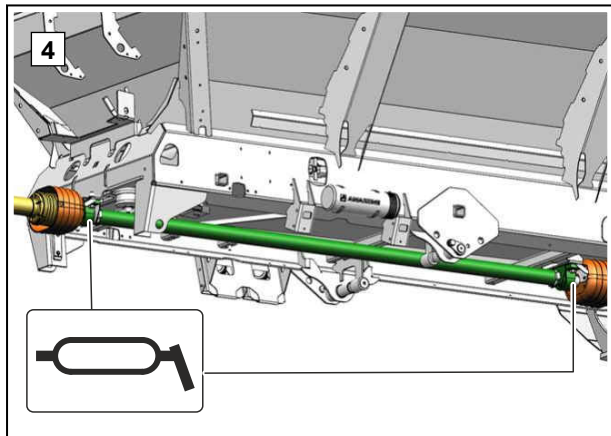
Every 50 operating hours



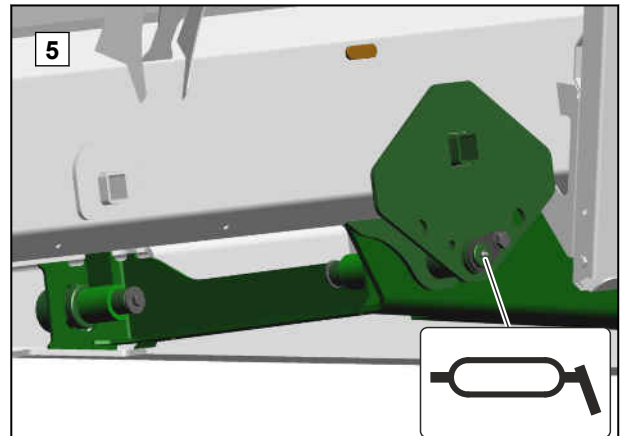
CMS-I-00003006



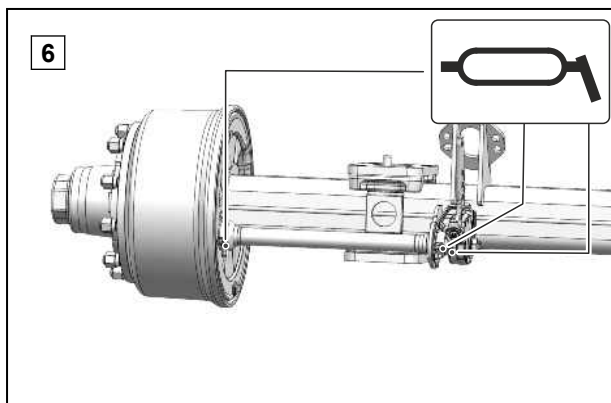
CMS-I-00008515



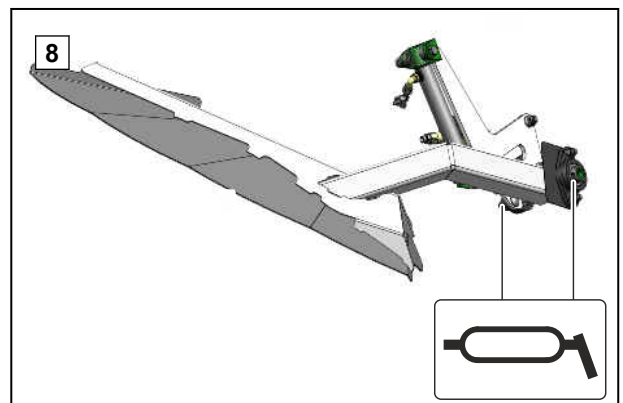
CMS-I-00008511



CMS-I-00008409

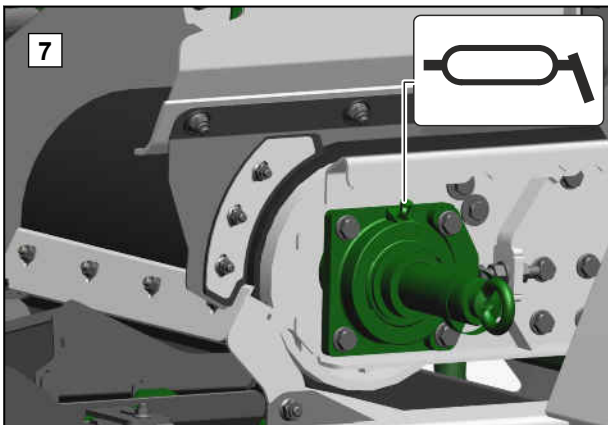


CMS-I-00008407



CMS-I-00008510

Every 100 operating hours



CMS-I-00008410

10.3 Cleaning the implement

CMS-T-00013246-A.1

10.3.1 Cleaning the implement

CMS-T-00000593-F.1



IMPORTANT

Risk of implement damage due to the cleaning jet of the high-pressure nozzle

- ▶ Never aim the cleaning jet of the high-pressure cleaner or hot water high-pressure cleaner at the marked components.
- ▶ Never aim the cleaning jet of high-pressure cleaners or hot water high-pressure cleaners at electrical or electronic components.
- ▶ Never aim the cleaning jet of the high pressure cleaner directly at lubrication points, bearings, rating plates, warning signs, or stickers.
- ▶ Always maintain a minimum distance of 11.81 in (30 cm) between the high-pressure nozzle and the implement.
- ▶ Do not exceed maximum water pressure of 1,740.45 psi (120 bar).



CMS-I-00002692

- ▶ Clean the implement with a high-pressure cleaner or a hot water high-pressure cleaner.

10.3.2 Cleaning the inside of the conveyor belt

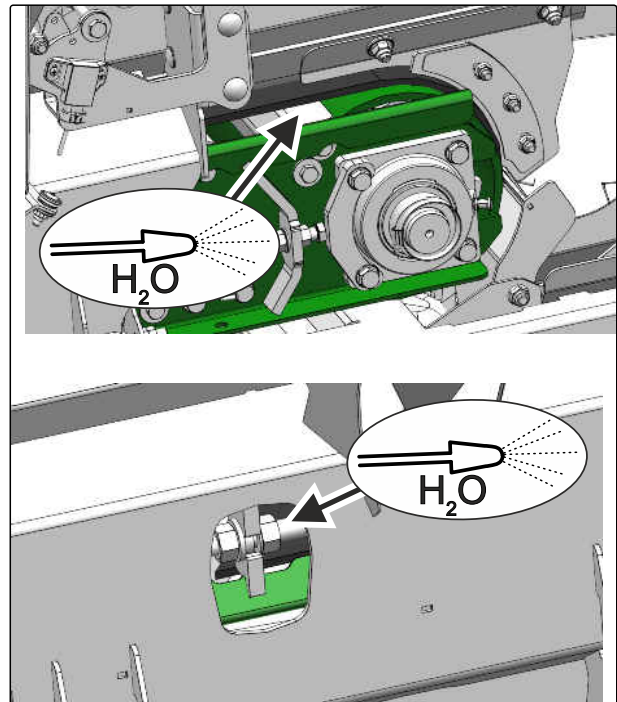
CMS-T-00013247-A.1

The floor belt must be cleaned after spreading hygroscopic fertilizers.

Swelling fertilizer residues impede the floor belt drive. The floor belt can slip and no longer convey the spreading material.

The floor belt can be cleaned at the rear deflection roller and at the belt tension adjustment device.

1. **ISOBUS:**
On the control terminal, select the "Emptying" menu.
2. Start emptying.
➔ The floor belt is running.
3. Clean the inside of the conveyor belt intensively with the water pistol.
4. After cleaning, stop the emptying.



CMS-I-00008382

10.4 Storing the implement

CMS-T-00005282-A.1



IMPORTANT

Implement damage due to corrosion

Dirt attracts moisture and leads to corrosion.

- Store the implement only in a clean state and protected from the weather.

1. Clean the implement.
2. Protect unpainted components from corrosion using a suitable corrosion inhibitor.
3. Grease all lubrication points. Remove excess grease.
4. Park the implement in a place that offers protection from the influences of weather.

Maneuvering the implement

11

CMS-T-00012395-A.1

11.1

Maneuvering the implement with dual-circuit pneumatic brake system

CMS-T-00006898-D.1

If the implement is disconnected from the tractor, the compressed air from the compressed air tank acts on the brakes and the wheels are blocked. In order to move the uncoupled implement, the compressed air that activates the brakes must be vented with the release valve on the brake valve.



WARNING

Risk of accident due to unbraked implement

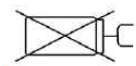
- ▶ *To maneuver the implement:*
Couple the implement to a suitable tractor using the coupling device.
- ▶ Only maneuver the implement at walking speed.

There are two types of brake valves.

1. Press in the control knob **1** of the release valve to the stop

or

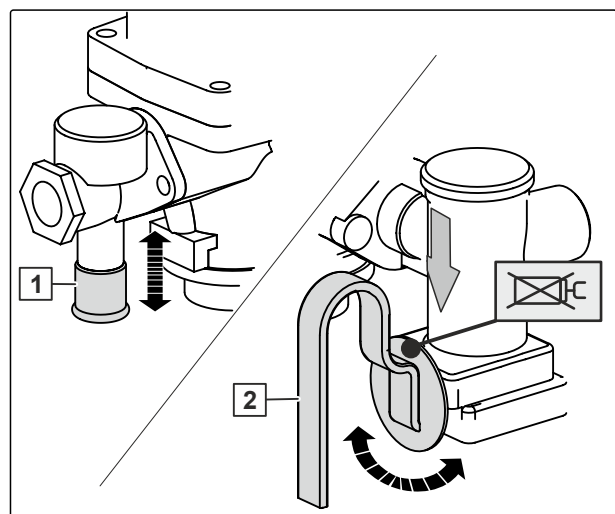
Turn the hand lever **2** of the brake valve to the



position.

- ➔ The compressed air that acts on the brakes escapes.

2. Maneuver the implement.



CMS-I-00007826

3. Pull out the control knob of the release valve to the stop

or

Adjust the hand lever of the brake valve to the load status.

- ➔ Compressed air flows again flows out of the compressed air tank to the brakes. The wheels are blocked again.



NOTE

To brake the implement again, there must be sufficient compressed air in the compressed air tank.

4. *If there is not sufficient compressed air:*
Couple the dual-circuit pneumatic brake system to a tractor.

Loading the implement

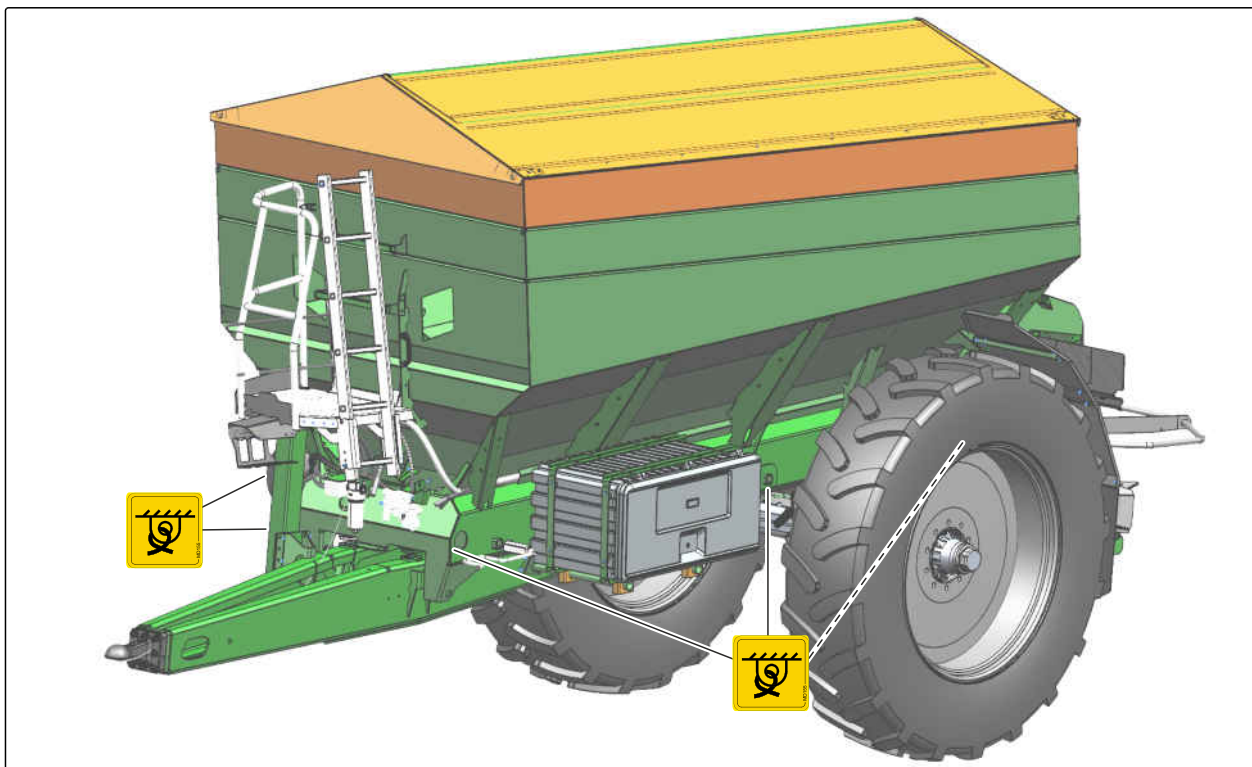
12

CMS-T-00012718-B.1

12.1 Lashing the implement

CMS-T-00012719-B.1

The implement has 4 lashing points for lashing straps.



CMS-I-00008098



WARNING

Risk of accident due to improperly attached lashing straps

If lashing straps are not attached at the marked lashing points, the implement can be damaged when lashing, and this may endanger safety.

- Attach the lashing straps only at the marked lashing points.

1. Place the implement on the transport vehicle.
2. Attach the lashing straps at the marked lashing points.
3. Lash the implement in compliance with national regulations for securing loads.

Disposing of the implement

13

CMS-T-00010906-B.1

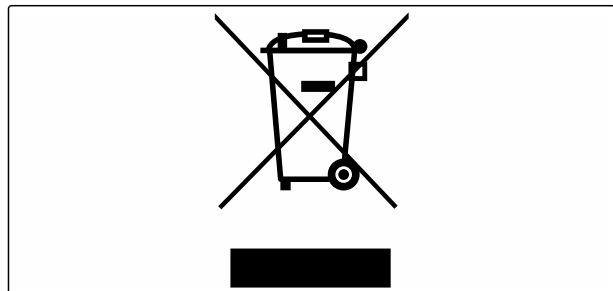


ENVIRONMENTAL INFORMATION

Environmental damage due to improper disposal

- ▶ Comply with the regulations issued by local authorities.
- ▶ Comply with the symbols on the implement regarding disposal.
- ▶ Comply with the following instructions.

1. Do not dispose of components bearing this symbol in the household waste.



CMS-I-00007999

2. Return batteries to the distributor

or

Dispose of batteries at a collection point.

3. Take recyclable materials to recycling points.
4. Treat operating materials like hazardous waste.



WORKSHOP TASK

5. Dispose of coolant.

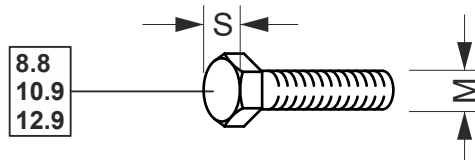
Appendix

14

CMS-T-00012702-B.1

14.1 Bolt tightening torques

CMS-T-00000373-E.1



CMS-I-000260

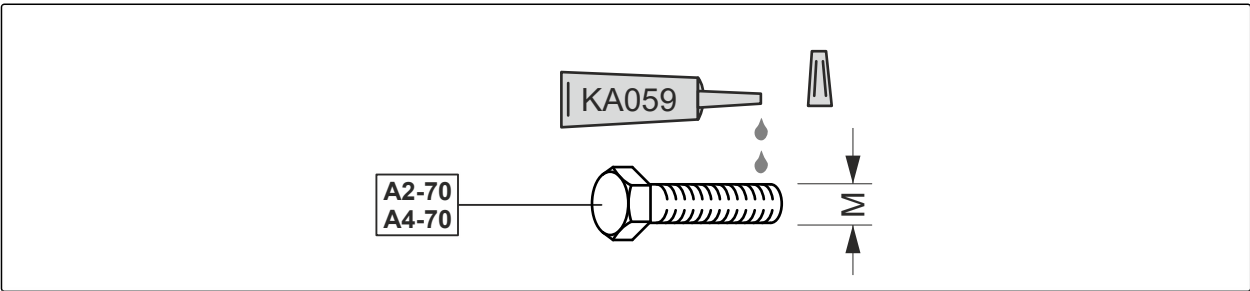


NOTE

Unless otherwise specified, the bolt tightening torques listed in the table apply.

M	S	Strength classes		
		8.8	10.9	12.9
M8	0.51 in (13 mm)	18.44 ft-lb (25 Nm)	25.81 ft-lb (35 Nm)	30.24 ft-lb (41 Nm)
M8x1		19.91 ft-lb (27 Nm)	28.03 ft-lb (38 Nm)	30.24 ft-lb (41 Nm)
M10	16(17) in (16(17) mm)	36.14 ft-lb (49 Nm)	50.89 ft-lb (69 Nm)	61.22 ft-lb (83 Nm)
M10x1		38.35 ft-lb (52 Nm)	53.84 ft-lb (73 Nm)	64.91 ft-lb (88 Nm)
M12	18(19) in (18(19) mm)	63.43 ft-lb (86 Nm)	88.51 ft-lb (120 Nm)	106.95 ft-lb (145 Nm)
M12x1.5		66.38 ft-lb (90 Nm)	92.2 ft-lb (125 Nm)	110.63 ft-lb (150 Nm)
M14	0.87 in (22 mm)	99.57 ft-lb (135 Nm)	140.14 ft-lb (190 Nm)	169.64 ft-lb (230 Nm)
M14x1.5		110.63 ft-lb (150 Nm)	154.89 ft-lb (210 Nm)	184.39 ft-lb (250 Nm)
M16	0.94 in (24 mm)	154.89 ft-lb (210 Nm)	221.27 ft-lb (300 Nm)	261.83 ft-lb (355 Nm)
M16x1.5		165.95 ft-lb (225 Nm)	232.33 ft-lb (315 Nm)	280.27 ft-lb (380 Nm)

M	S	Strength classes		
		8.8	10.9	12.9
M18	1.06 in (27 mm)	213.89 ft-lb (290 Nm)	298.71 ft-lb (405 Nm)	357.72 ft-lb (485 Nm)
M18x1.5		239.71 ft-lb (325 Nm)	339.28 ft-lb (460 Nm)	405.66 ft-lb (550 Nm)
M20	1.18 in (30 mm)	302.4 ft-lb (410 Nm)	427.79 ft-lb (580 Nm)	508.92 ft-lb (690 Nm)
M20x1.5		339.28 ft-lb (460 Nm)	472.04 ft-lb (640 Nm)	567.92 ft-lb (770 Nm)
M22	1.26 in (32 mm)	405.66 ft-lb (550 Nm)	575.3 ft-lb (780 Nm)	685.93 ft-lb (930 Nm)
M22x1.5		449.91 ft-lb (610 Nm)	634.3 ft-lb (860 Nm)	774.44 ft-lb (1,050 Nm)
M24	1.42 in (36 mm)	523.67 ft-lb (710 Nm)	737.56 ft-lb (1,000 Nm)	885.07 ft-lb (1,200 Nm)
M24x2		575.3 ft-lb (780 Nm)	811.32 ft-lb (1,100 Nm)	958.83 ft-lb (1,300 Nm)
M27	1.61 in (41 mm)	774.44 ft-lb (1,050 Nm)	1,106.34 ft-lb (1,500 Nm)	1,327.61 ft-lb (1,800 Nm)
M27x2		848.2 ft-lb (1,150 Nm)	1,180.1 ft-lb (1,600 Nm)	1,438.25 ft-lb (1,950 Nm)
M30	1.81 in (46 mm)	1,069.47 ft-lb (1,450 Nm)	1,475.12 ft-lb (2,000 Nm)	1,770.15 ft-lb (2,400 Nm)
M30x2		1,180.1 ft-lb (1,600 Nm)	1,659.51 ft-lb (2,250 Nm)	1,991.42 ft-lb (2,700 Nm)



CMS-I-00000065

M	Tightening torque	M	Tightening torque
M4	1.77 ft-lb (2.4 Nm)	M14	82.61 ft-lb (112 Nm)
M5	3.61 ft-lb (4.9 Nm)	M16	128.34 ft-lb (174 Nm)
M6	6.2 ft-lb (8.4 Nm)	M18	178.49 ft-lb (242 Nm)
M8	15.05 ft-lb (20.4 Nm)	M20	252.25 ft-lb (342 Nm)
M10	30.02 ft-lb (40.7 Nm)	M22	346.65 ft-lb (470 Nm)
M12	52 ft-lb (70.5 Nm)	M24	434.42 ft-lb (589 Nm)

14.2 Other applicable documents

CMS-T-00012784-B.1

- Tractor operating manual
- Operating manual of the control terminal
- ISOBUS software or EasySet 2 on-board computer operating manual
- Operating manual for the universal joint shaft
- Third-party documentation for the axle and tires

Lists

15

15.1 Glossary

CMS-T-00000513-B.1

I

Implement

Mounted implements are accessories of the tractor. However, mounted implements are always referred to as implements in this operating manual.

O

Operating material

Operating materials are used for operational readiness. Operating materials include cleaning agents and lubricants, such as lubricating oil, greases or cleaning products.

T

Tractor

In this operating manual, the designation tractor is always used, even for other agricultural towing machines. Implements are mounted on the tractor or towed by the tractor.

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