

Original operating manual

Mounted spreader

IceTiger

IceTiger S







Please enter the identification data of the implement. The identification data can be found on the rating plate.



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About this operating manual

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 approval of AMAZONEN-WERKE.

1.2 Diagrams

CMS-T-005676-G.1

1.2.1 Warnings and signal words

CMS-T-00002415-A.1

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



DANGER

Indicates a direct threat with high risk for severe physical injury, such as loss of limbs or death.



WARNING

Indicates a possible threat with moderate risk for severe physical injury or death.



CAUTION

Indicates a threat with low risk for light or moderately severe physical injuries.

1.2.2 Further instructions





Indicates a risk for damage to the implement.



ENVIRONMENTAL INFORMATION

Indicates a risk for environmental damage.



NOTE

Indicates application tips and instructions for optimal use.

1.2.3 Instructions

CMS-T-00000473-E.

CMS-T-00002416-A.1

1.2.3.1 Numbered instructions

CMS-T-005217-B.1

Actions that have to be performed in a specific sequence are represented as numbered instructions. The specified sequence of the actions must be observed.

Example:

- 1. Instruction 1
- 2. Instruction 2

1.2.3.2 Instructions and responses

CMS-T-005678-B.1

Reactions to instructions are marked with an arrow.

Example:

- 1. Instruction 1
- → Reaction 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 shown with a arrow.

Example:

Instruction

1.2.3.5 Instructions without 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 work

CMS-T-00013932-B.1



WORKSHOP WORK

▶ Identifies maintenance work that must be performed at a workshop that is adequately equipped in terms of agricultural technology, safety and environmental technology by specialist personnel with appropriate training.

1 | About this operating manual Other applicable documents

1.2.4 Lists

CMS-T-000024-A.1

Lists without an essential order are shown as a list with bullets.

Example:

- Point 1
- Point 2

1.2.5 Item numbers in figures

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 directions are always seen in the direction of travel.

1.3 Other applicable documents

CMS-T-00000616-B.1

A list of other applicable documents can be found 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 documents are updated on a regular basis. Your suggestions for improvement help us to create ever more user-friendly documents. Please send us your suggestions by post, fax or email. AMAZONEN-WERKE H. Dreyer SE & Co. KG

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Safety and responsibility

2

CMS_T_00004861_D 1

2.1 Basic safety instructions

CMS-T-00004862-D.1

2.1.1 Safe operating organisation

CMS-T-00004863-B.1

2.1.1.1 Personnel qualification

CMS-T-00002525-A.1

2.1.1.1.1 Requirements for all persons working with the machine

CMS-T-00002529-A.1

If the machine is used improperly, people can be injured or killed. To prevent accidents due to improper use, every person who works with the machine must meet the following minimum requirements:

- The person is physically and mentally capable of controlling the machine.
- The person can safely perform work with the machine within the scope of this operating manual.
- The person understands the functioning of the machine within the scope of their work and can recognise and prevent dangers arising during operation.
- The person head understood the operating manual and can implement the information that is conveyed in the operating manual.
- The person must be familiar with safe driving of vehicles.
- For road travel, the person knows the relevant road traffic regulations and has the prescribed driving permit.

2.1.1.1.2 Qualification levels

CMS-T-00002526-A 1

For working with the machine, the following qualification levels are provided:

- Skilled worker for communal equipment or farmer
- · Communal equipment or agricultural helper

As a matter of principle, the activities described in this operating manual can be performed by persons with the qualification level "Communal equipment or agricultural helper".

2.1.1.1.3 Skilled worker for communal or agricultural equipment

CMS-T-00002527-A.1

Skilled workers for communal equipment or farmers use machines to maintain green areas and parks. They decide on the use of a machine for a specific purpose.

Skilled workers for communal equipment or farmers are basically familiar with working with machines for the maintenance of green areas and parks, and if necessary, can instruct communal equipment and agricultural helpers in how to use the machines. They can perform odd tasks and simple maintenance and repair work on communal machines themselves.

Skilled workers for communal equipment or farmers can be e.g.:

- Skilled workers with training in the area of communal equipment.
- Skilled workers by experience, e.g. with comprehensive practical knowledge.
- Farmers with higher education or training from a technical college.
- Farmers by experience, e.g. with an inherited farm or comprehensive practical knowledge.
- Contractors who work by order of municipalities.

Activity example:

Safety training for communal equipment or agricultural helpers.

2.1.1.1.4 Communal equipment and agricultural helpers

CMS-T-00002528-A.1

Communal equipment and agricultural helpers use machines by order of a skilled worker or the farmer. They are instructed on the use of the machine by the skilled worker or the farmer, and work independently according to the work assignment from the skilled worker or farmer.

Communal equipment and agricultural helpers can be e.g.:

- Employees of municipalities, contractors or service providers
- Seasonal workers and labourers
- Prospective skilled workers for communal equipment in training
- Prospective farmers in training
- Employees of the farmer, e.g. tractor driver
- Family members of the farmer

Activity examples:

- Driving the machine
- Adjusting the mowing height

2.1.1.2 Workplaces and passengers

CMS-T-00002307-B.1

Passengers

Passengers can fall, be run over and severely injured or killed due to machine movements. Ejected objects can hit and injure passengers.

- ▶ Do not let anybody ride on the machine.
- Do not let anybody climb onto the driving machine.

2.1.1.3 Danger for children

CMS-T-00002308-A.1

Danger for children

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

- Keep children away.
- When you drive out or actuate machine movements, make sure that there are no children in the danger area.

2.1.1.4 Operational safety

CMS-T-00002309-D.

2.1.1.4.1 Perfect technical condition

CMS-T-00002314-D.1

Only use properly prepared machines

Without correct preparation according to this operating manual, operational safety of the machine is not ensured. This can result in accidents and serious personal injury or even death.

Prepare the machine according to this operating manual.

Danger due to damage to the machine

Damage to the machine can impede the operational safety of the machine and cause accidents. This can result in serious injury or death.

- ► If you suspect or observe damage: Secure the tractor and machine.
- Repair safety-relevant damage immediately.
- Fix the damage according to this operating manual.
- ► If you are not able to fix the damage according to this operating manual yourself: Have the damage repaired by a qualified specialist workshop.

Observe the technical limit values

Non-observance of the technical limits values of the machine can result in accidents and serious personal injury or even death. Moreover, the machine can be damaged. The technical limit values can be found in the Technical Data.

Comply with the technical limit values.

2.1.1.4.2 Personal protective equipment

CMS-T-00002316-B.1

Personal protective equipment

Wearing personal protective equipment is an important safety element. Missing or unsuitable personal protective equipment increases the risk of damage to health and personal injury. Personal protective equipment includes: work gloves, safety shoes, protective clothing, breathing protection, hearing protection, face protection, and eye protection

- Determine the personal protective equipment required for each job and have it ready.
- Use only protective equipment that is in proper condition and offers effective protection.
- ► Adjust the personal protective equipment to the person, e.g. the size.
- ▶ Observe the manufacturer's instructions regarding operating materials, seed, fertiliser, crop protection products, and cleaning agents.

Wear suitable clothing

Loosely worn clothing increases the risk of getting caught or entangled on rotating parts and getting stuck on protruding parts. This can result in serious injury or death.

- Wear close-fitting, snag-free clothes.
- ► Never wear rings, necklaces and other jewellery.
- If you have long hair, wear a hairnet.

2.1.1.4.3 Warning symbols

CMS-T-00002317-B.1

Keep warning symbols legible

Warning symbols on the machine warn you of risks in danger areas and are an important element of the machine's safety equipment. Missing warning symbols increase the risk of serious and lethal personal injury.

- Clean dirty warning symbols.
- Immediately replace any damaged and illegible warning symbols.
- Put the intended warning symbols on spare parts.

2.1.2 Knowing and preventing dangers

CMS-T-00004871-C.1

2.1.2.1 Safety hazards on the implement

CMS-T-00002318-F.

Liquids under pressure

Escaping high pressure hydraulic fluid can penetrate into the body through the skin and cause serious personal injuries. A hole the size of a needle can already result in serious personal injuries.

- ► Before you uncouple the hydraulic hose lines or check for damage, depressurise the hydraulic system.
- ► If you suspect damage on a pressure system, have the pressure system checked by a qualified specialist workshop.
- Never look for leaks with your bare hands.
- Keep your body and face away from leaks.
- If liquids penetrate the body, consult a doctor immediately.

Risk of injury on the universal joint shaft

Persons can be caught, pulled in and severely injured by the universal joint shaft and 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.

- Maintain sufficient coverage of the profile tube, universal joint shaft guard and PTO shaft protective cap.
- Maintain the direction of rotation and the permissible speed of the universal joint shaft.
- If the universal joint shaft is angled down too strongly: 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 persons can be injured.

- Maintain sufficient coverage of the profile tube, universal joint shaft guard and PTO shaft protective cap.
- Allow the locks on the PTO shaft to engage.
- ► To secure the universal joint shaft guard against rotating: Hook on the safety chains.
- ► To secure the coupled hydraulic pump against rotating: Put on the torque support.
- Maintain the direction of rotation and the 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 machine parts still running

When the drives are switched off, machine parts can continue running and cause serious personal injury or death.

- Before approaching the machine, wait until any machine parts that are still running have come to a stop.
- Only touch machine parts that are standing still.

2.1.2.2 Danger areas

CMS-T-00004873-A.1

Danger area on the implement

The following basic dangers are encountered in the danger areas:

The implement and its work tools move during operation.

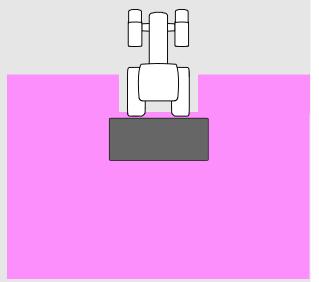
Hydraulically raised implement parts can descend unnoticed and slowly.

The tractor and implement can roll away unintentionally.

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

If the danger area is not observed, it can result in serious personal injury or death.

- Keep people out of the danger area of the implement.
- ► If people enter the danger area, immediately switch off the motors and drives.
- ► Before you work in the danger area of the implement, secure the tractor and implement. This also applies for quick checking work.



CMS-I-0000350

2.1.3 Safe operation and handling of the machine

CMS-T-00002304-I.1

2.1.3.1 Coupling implements

CMS-T-00002320-D

Coupling the implement on the tractor

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

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

- ► If you couple or uncouple the implement to or from the tractor, be very careful.
- ▶ Use only suitable tractors for coupling and transporting the implement.
- ► When the implement is coupled onto the tractor, make sure that the tractor's connecting device meets the implement requirements.
- Couple the implement properly to the tractor.

2.1.3.2 Driving safety

CMS-T-00002321-E.1

Risk when driving on roads and fields

Any mounted or towed implement as well as front or rear ballast weights on the tractor influence the driving behaviour and the steering and braking power of the tractor. The driving characteristics also depend on the operating condition, the fill level of the load, and on the ground. If the driver does not take account of changing driving characteristics, he can cause accidents.

- Always ensure that the tractor's steering and braking systems are operating correctly.
- ► The tractor must provide the required brake lag for the tractor and mounted implement. Check the function of the brakes before moving off.
- ► The tractor front axle must always be loaded with at least 20 % of the empty tractor weight to ensure sufficient steering power.

 Use front ballast weights if necessary.
- Always attach the front or rear ballast weights properly on the specified fixing points.
- Calculate and observe the permitted payload for the mounted or towed implement.
- Observe the permissible axle loads and drawbar loads of the tractor.
- Observe the permissible drawbar load of the hitch device and drawbar.
- Drive in such a way that you always have full control over the tractor with the mounted or towed implement. In so doing, take your personal abilities into account, as well as the road, traffic, visibility and weather conditions, the driving characteristics of the tractor, and the influence of the mounted implement.

When driving on roads, risk of accident caused by uncontrolled lateral motions of the implement

► Lock the tractor lower links for road travel.

Preparing the machine for road travel

If the machine is not properly prepared for road travel, it can result in serious traffic accidents.

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

Parking the implement

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

- Only park the machine on stable and even ground.
- ► Before you perform setting or maintenance work, make sure that the implement is in a stable position. In case of doubt, support the implement.
- ► Follow the instructions in the section "Parking the implement".

Unsupervised parking

Parked tractors with coupled implements that are insufficiently secured and unsupervised represent danger for people and playing children.

- ► Before you leave the machine, shutdown the tractor and the implement.
- Secure the tractor and machine.

2.1.4 Safe maintenance and modification

CMS-T-00002305-J.1

2.1.4.1 Changes on the implement

CMS-T-00002322-B.1

Only authorised design changes

Design changes and extensions can impede the functioning and operational safety of the machine. This can result in serious injury or death.

- ▶ Have any design changes and extensions performed only by a qualified specialist workshop.
- ► To ensure 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.

2.1.4.2 Work on the machine

CMS-T-00002323-I.1

Only work on the machine when it is at a standstill

If the machine is not standing still, part can move unintentionally or the machine can be set in motion. This can result in serious injury or death.

- If you have to work on or under raised loads:
 Lower the loads or secure the loads with a hydraulic or mechanical locking device.
- Switch off all drives.
- Actuate the parking brake.
- Particularly on slopes, additionally secure the machine against rolling away with wheel chocks.
- Remove the ignition key and carry it with you.
- Wait until all parts that are still running come to a stop and that hot parts cool down.

Maintenance work

Improper maintenance work, particularly on safety-related components, endangers operational safety. This can result in accidents and serious personal injury or even death. Safety-related components include, for example, hydraulic components, electronic components, frames, springs, trailer coupling, axles and axle suspensions, lines and tanks containing flammable substances.

- Before you adjust, maintain or clean the machine, secure the machine.
- Repair the machine according to this operating manual.
- Only perform the work that is described in this operating manual.
- ► Have maintenance work that is labelled as "WORKSHOP WORK" performed at a workshop that is adequately equipped in terms of agricultural technology, safety and environmental technology by specialist personnel with appropriate training.
- ► Never perform welding, drilling, sawing, grinding, and cutting work on the frame, running gear or coupling devices of the implement.
- Never modify safety-related components.
- Never drill out existing holes.
- Perform all maintenance work at the prescribed maintenance intervals.

Raised implement parts

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

- ► Never linger under raised implement parts.
- ► If you have to work on or under raised machine parts, lower the implement parts or secure the raised implement parts with a mechanical support or hydraulic locking device.

Danger due to welding work

Improper welding work, particularly on or close to safety-related components, endangers the operational safety of the implement. This can result in accidents and serious personal injury or even death. Safety-related components include, for example, hydraulic components and electronic components, frames, springs, coupling devices to the tractor such as the three-point mounting frame, drawbar, trailer support, trailer coupling or tensioned crosspiece as well as axles and axle suspensions, lines and tanks containing flammable substances.

- ► Allow only qualified specialist workshops with suitably approved personnel to perform welding work on safety-related components.
- ▶ Only allow qualified personnel to perform welding work on all other components.
- ► If you have doubts as to whether a component can be welded: Ask a qualified specialist workshop.
- ► Before welding on the implement:
 Uncouple the implement from the tractor.
- Do not weld close to a crop protection sprayer that was previously used to spread liquid fertiliser.

2.1.4.3 Operating materials

CMS-T-00002324-C.1

Unsuitable operating materials

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

Only use operating material that meet the requirements in the Technical Data.

2.1.4.4 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 impede the operational safety of the implement and cause accidents.

- Only use original parts or parts that meet AMAZONE requirements.
- ► If you have any questions regarding special equipment, accessories or spare parts, contact your 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 away, the tractor and implement can be set in motion in an uncontrolled manner, and can run over, crush and kill people.

- Lower the raised implement or raised implement parts.
- ▶ Relieve pressure in the hydraulic hose lines by actuating the operating devices.
- ► If you have to stand under the raised implement or components, secure the raised implement and components against lowering with a mechanical safety support or hydraulic locking device.
- Switch off the tractor.
- Apply the tractor's parking brake.
- Remove the ignition key.

Securing the machine

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

- Only park the implement on stable and level ground.
- ▶ Before you depressurise the hydraulic hose lines and disconnect them from the tractor, move the implement into working position.
- Protect people against direct contact with sharp-edged or protruding implement parts.

Make sure that the protective equipment is functional

If protective equipment is missing, damaged or removed, implement parts can cause serious personal injury or even death.

- ► Check the implement at least once a day for damage, proper installation, and functioning of the protective equipment.
- ► If you are not sure if the protective equipment is properly installed and functional, have the protective equipment checked by a qualified specialist workshop.
- ► Make sure that the protective devices are properly installed and functional before any work on the implement.
- Replace damaged protective equipment.

Climbing on and off

Negligent behaviour while climbing on and off can cause people to fall off the ladder. People who climb onto the implement without using the intended access steps can slip, fall, and suffer severe injury. Dirt and operating materials can impair stepping and standing safety. Accidental actuation of control elements can unintentionally activate potentially dangerous functions.

- Use only the intended access steps.
- ► To ensure safe stepping and standing:
 Always keep steps and platforms clean and in proper condition.
- ► When the implement is moving:

 Never climb onto or off of the implement.
- Climb up and down facing the implement.
- ▶ When climbing up and down, maintain contact with at least 3 points on the steps and handrails: always keep 2 hands and one foot or 2 feet and one hand on the implement.
- When climbing up and down, never hold onto the control elements.
- ▶ When climbing down, never jump off of the implement.

Intended use

3

CMS-T-00004758-D

- The implement is only suitable and intended for winter services on roads, paths and squares.
- The implement can be used to spread and transport road salt and grit.
- With an implement with brine equipment, prewetted salt as a mixture of road salt and brine can also be spread and brine can be transported.
- The implement is a work machine to be mounted on the three-point power lift of a tractor that meets the technical requirements.
- When driving on public roads, the implement, depending on the provisions of the applicable road traffic regulations, can be mounted and transported at the rear of a tractor that meets the technical requirements.
- The implement may be used and maintained only by persons who meet the requirements.
 The personnel requirements are described in the section "Personnel qualification".
- The operating manual is part of the implement.
 The implement is solely intended for use in compliance with this operating manual. Uses of the implement that are not described in this operating manual can lead to serious personal injuries or even death and to implement and material damage.
- The applicable accident prevention regulations as well as generally accepted safety-related, occupational health and road traffic regulations must also be observed by the users and the owner.
- Further instructions for intended use in special cases can be requested from AMAZONE.
- Uses other than those specified under the intended use are considered as improper. The manufacturer is not liable for any damage resulting from improper use, solely the operator is responsible.

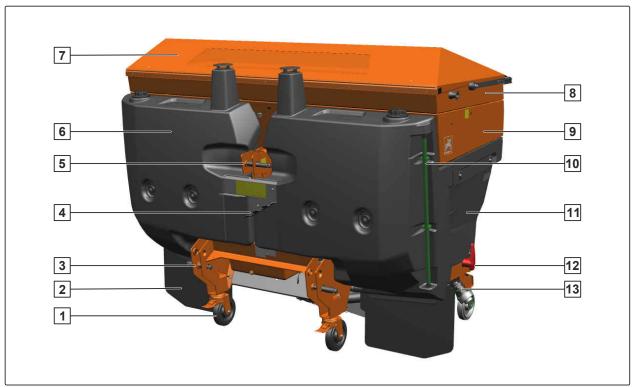
Product description

4

CMS-T-00004743-F.1

4.1 Implement overview

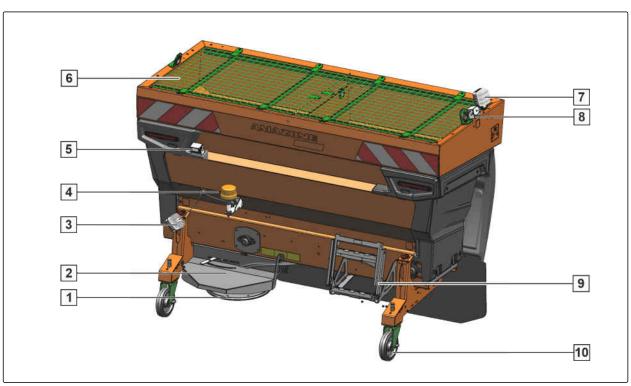
CMS-T-00004802-D.1



- 1 Front plug-on roller with brake
- 3 Lower link coupling point
- 5 Top link coupling point
- 7 Swivelling cover tarpaulin
- 9 Spreading material hopper
- Behind the cover: threaded cartridge with operating manual
- **13** Filling connection for the brine

- 2 Spray protection
- 4 Hose cabinet
- 6 Brine tank
- 8 Hopper extension
- **10** Fill level indicator for the brine
- 12 Brine switch tap

4 | Product description Function of the implement



CMS-I-00005316

- 1 Spreader unit
- 3 LED work lights
- 5 Reverse driving camera
- 7 LED hopper interior lighting
- 9 Folding step

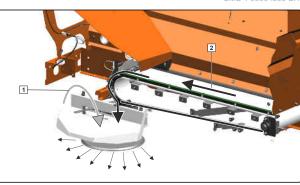
- 2 Spreader unit cover
- 4 LED warning beacon
- 6 Sieve
- 8 Hopper camera
- 10 Rear plug-on roller

4.2 Function of the implement

The implement is operated from the tractor with the EasySet 2 control computer or an ISOBUS control terminal. The spread rate and the working width are adjusted electronically.

The floor belt in the spreading material hopper conveys the spreading material **2** from the floor belt to the discharge chute. From the discharge chute, the spreading material falls onto the rotating spreading disc and is evenly spread across the set working width.

For implements with pre-wetted salt equipment, when spreading road salt, the road salt can be mixed with brine to produce pre-wetted salt. The hydraulic brine pump conveys the brine 1 from the brine tank to the discharge chute, where the brine is mixed with the road salt. The mixture falls onto the spreading disc and is distributed.



CMS-I-00005240

The working width is adjusted via the spreading disc speed. The spreading area is moved to the left or right by turning the delivery system.

The delivery system is adjusted manually with a hand lever or electrically with an ISOBUS control terminal.

4.3 Special equipment

CMS-T-00004744-B.1

Special equipment is equipment that is not fitted on the implement or is only available in certain markets. The sales documents provide information on the equipment of your implement, or consult your dealer for more detailed information.

The following equipment is special equipment:

- Swivelling cover tarpaulin
- Hopper extension
- Hopper camera and reverse driving camera
- White and red LED work lights
- LED hopper interior lighting
- LED warning beacon
- Licence plate holder
- Ladder
- Rolling device
- Dirt trap
- Protective rubber element
- Brine technology

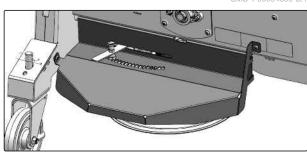
4.4 Protective equipment

CMS-T-00004748-C.

4.4.1 Protective hood

CMS-T-00004809-B.1

The protective hood covers the spreading disc to prevent injuries.

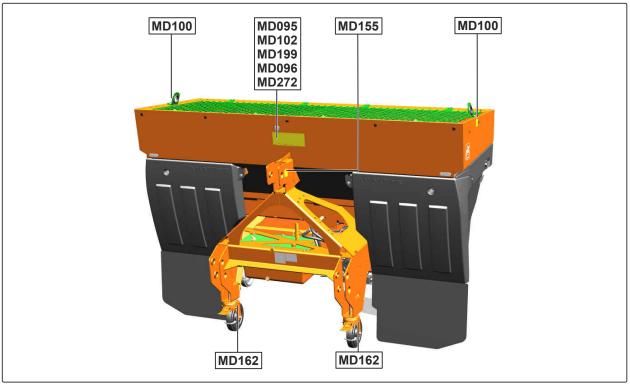


4.5 Warning symbols

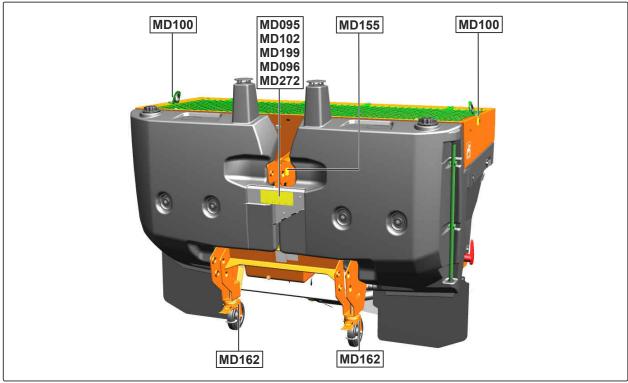
MS-T-00004750-D 1

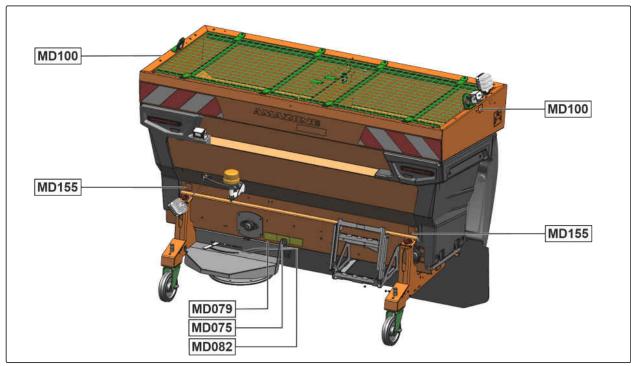
4.5.1 Positions of the warning symbols

CMS-T-00004815-C



CMS-I-00005271





CMS-I-00005273

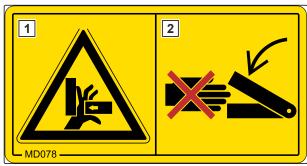
CMS-T-000141-D.1

4.5.2 Layout of the warning symbols

Warning symbols indicate danger areas on the machine and warn against residual dangers. In these danger areas, there are permanent or unexpected dangers.

A warning symbol consists of two fields:

- Field 1 shows the following:
 - o A pictogram depicting the danger area, surrounded by triangular safety symbol
 - o The order number
- Field **2** shows a pictogram depicting how to avoid the danger.



CMS-I-00000416

4.5.3 Description of the warning symbols

MD 075

Risk of cuts for fingers, hands, and arms

- As long as engine of the tractor or machine is running,
 stay away from the danger area.
- Wait until all moving parts of the machine are at a standstill before reaching into the danger area.
- Make sure that there is nobody standing in the danger area.



CMS-I-00000418

MD 079

Danger due to ejected material

- As long as engine of the tractor or machine is running,
 stay away from the danger area.
- Make sure that there is nobody standing in the danger area.



CMS-I-000076

MD 082

Risk of falling from tread surfaces and platforms

- ▶ Do not let anybody ride on the implement.
- ► Do not let anybody climb onto the driving implement.



CMS-I-000081

MD095

Risk of accident due to non-compliance with the instructions in this operating manual

► Before your work on or with the implement, read and understand the operating manual.



CMS-I-000138

MD 096

Risk of infection from escaping hydraulic fluid under high pressure

- Never look for leaks in hydraulic hose lines using your hand or fingers.
- Never attempt to plug leaks in hydraulic hose lines using your hand or fingers.
- If you are injured by hydraulic oil, consult a doctor immediately.

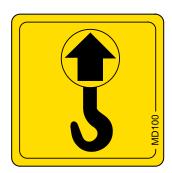


CMS-I-00021

MD 100

Risk of accidents due to improperly attached lifting gear

Only attach the lifting gear at the marked positions.



MD 102

Risk due to unintentional starting and rolling away of the machine

► Before performing any work, secure the implement against unintentional starting and rolling away.



CMS-I-0000225

MD 155

Risk of accident and machine damage during transport due to improperly secured machine

Only attach the lashing belts at the marked lashing positions for transporting the machine.



CMS-I-00000450

MD162

Danger due to overload on the transport roller

► Never exceed the maximum load capacity.



MD 199

Risk of accident if the hydraulic system pressure is too high

► Only couple the implement to tractors with a maximum tractor hydraulic pressure of 210 bar.



CMS-I-00000486

MD272

Risk of crushing between the tractor and the implement

- ► Before you actuate the tractor hydraulic system, instruct persons away from the area between the tractor and the implement.
- Actuate the tractor hydraulic system only from the designated work station.



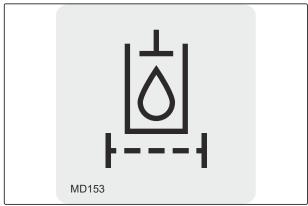
4.6 More information on the implement

CMS-T-00007451-B.1

CMS-T-00007452-B.1

4.6.1 Oil filter

Identifies a component of the implement in which an oil filter is installed.



CMS-T-00007503-A.1

4.6.2 Switch tap on the brine tank

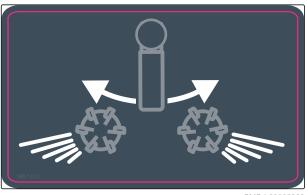
The sticker provides information about the positions and functions of the switch tap on the brine tank.



CMS-T-00007506-A.1

4.6.3 Adjustable spreading area

The sticker provides information about how the spreading area can be changed by turning the delivery system.



4.7 Lighting and identification for road travel

CMS-T-00004745-B.1

The implement has lateral reflectors.

Additional lateral warning stickers are available for France and Belgium.

Lighting and identification to the rear

- Warning signs
- 2 Rear lights, brake lights, and turn indicators
- 3 Red reflectors
- Warning beacon



CMS-T-00001776-E.1

4.8 Threaded cartridge

The threaded cartridge contains the following items:

- **Documents**
- Aids



CMS-I-00002306

4.9 Rating plate on the implement

- Implement number
- Vehicle ID number
- Product
- Permissible technical implement weight
- Model year
- Year of manufacture



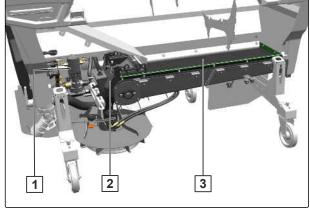
4.10 Spreading material metering unit

CMS-T-00004818-B.1

The spreading material is metered depending on the speed of the hydraulically driven floor belt.

When dry salt from the spreading material hopper is mixed with brine from the brine tank for spreading pre-wetted salt, metering also takes place via the speed of the hydraulic brine pump.

- 1 Hydraulically driven brine pump
- 2 Discharge chute
- 3 Hydraulically driven floor belt



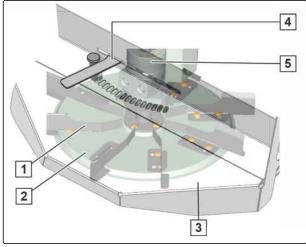
CMS-I-00005331

4.11 Spreader unit

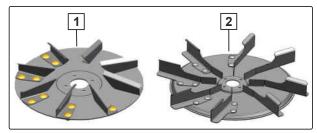
CMS-T-00004819-D.

The spreading material is spread via the spreader unit.

- 1 8 spreading vanes
- 2 Spreading disc
- 3 Protective hood
- 4 Spreading area adjustment
- 5 Hydraulic spreading disc drive



- 1 Spreading disc W1 for working widths of 1-6 m
- 2 Spreading disc W2 for working widths of 2-8 m



CMS-I-00007391

4.12 Adjustable spreading area

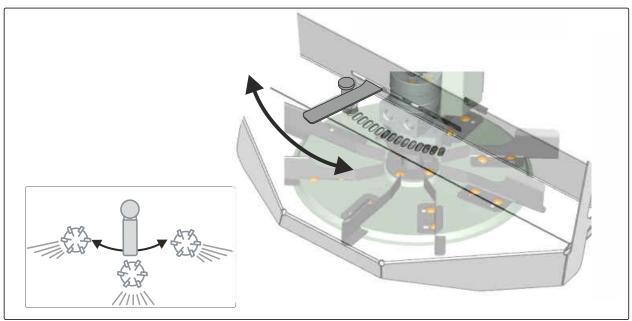
CMS T 00004830 D

The spreading area can be moved to the left or right. In addition to the central spreading area behind the implement, it enables an asymmetrically shifted spread pattern behind the implement.

The spreading area is adjusted by turning the spreader unit around the rotation axis.

The spreading area is adjusted with a hand lever or electrically with an ISOBUS control terminal.

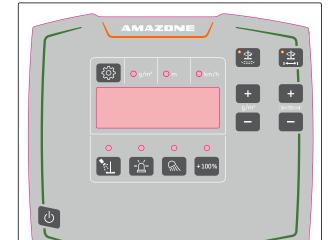
The spreading vanes distribute the spreading material within the set spreading area.



CMS-I-00003437

4.13 EasySet 2 control computer

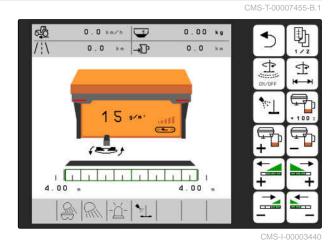
With the EasySet 2 control computer, the implement is operated from the tractor.



CMS-I-00003436

4.14 ISOBUS control software

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

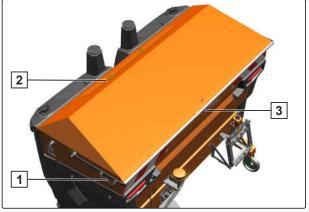


4.15 Swivelling cover tarpaulin

CMS-T-00004823-B.1

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

- 1 Turning lever with on-grip
- 2 Inspection window
- 3 Locking mechanism



CMS-I-00005318

4.16 Brine technology

CMS-T-00007456-D.:

4.16.1 Pre-wetted salt equipment

CMS-T-00007458-C 1

Implements with pre-wetted salt equipment can also spread a mixture of road salt and brine.

The addition of brine from the brine tank to the road salt is started and stopped via the control computer or control terminal.

Per default, the brine content is 30 % of the prewetted salt spread rate. If brine is added, the dry salt spread rate is reduced by 30 %.

The brine tank contains two tanks that are connected to each other. The brine tank is filled either through the filling connection or through one of the tank openings.

With the brine switch tap, the liquid circuit is regulated when filling and emptying the brine tank through the filling connection and when adding brine.

Upon delivery, the brine system is filled with antifreeze up to the level of the brine pump. The liquid prevents the pump from running dry when being switched on for the first time and from freezing in cold weather. The antifreeze is biodegradable and spread during initial operation, and is then replaced with the brine. Since the brine segregates over time, antifreeze must be added again if the implement is parked or stored for longer periods of time.

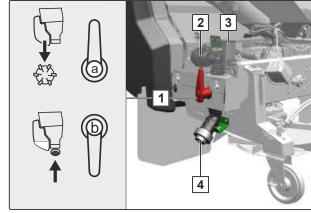
4 | Product description **FlowCheck**

- Two tanks connected to each other
- Tank opening with cover
- Ventilation
- Fill level indicator
- Brine switch tap
- Filling connection

1 2 2

CMS-I-00005299

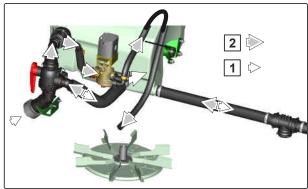
- Brine switch tap
- Add brine
- Fill brine tank
- Brine filter
- Hydraulic brine pump
- Filling connection



CMS-T-00007457-B.1

4.16.2 Liquid circuit

- 1 Course when filling via the filling connection
- 2 Course when adding the brine



CMS-I-00003457

4.17 FlowCheck

CMS-T-00010524-A.1

FlowCheck detects blockages in the spreading material supply to the spreading disc.

FlowCheck is only possible in conjunction with ISOBUS implement control.

Technical data

5

CMS-T-00004752-G.1

5.1 Dimensions

CMS-T-00004757-D.1

	IceTiger	IceTiger S
Working width	2,0 - 8,0 m	1,0 - 6,0 m for spreading disc W1 2,0 - 8,0 m for spreading disc W2
Filling height without hopper extension	1.5 m	1.36 m
Filling height	1.65 m with 300 l hopper extension	1.51 m with 180 I hopper extension
Filling height	1.8 m with 600 l hopper extension	1.66 m with 360 I hopper extension
Filling height	1.95 m with 600 I hopper extension and with 300 I hopper extension	1.81 m with 180 I hopper extension and with 360 I hopper extension
Filling width	2.1 m	1.34 m
Total length	1.3 m	1.1 m
Total width	2.4 cm	1.45 m
Total height	2.1 m	1.96 m
Working height of the spreading disc during operation	50 cm	50 cm
Centre of gravity distance [d]	59 cm	40 cm

5.2 Spreading material hopper volume

CMS-T-00004839-C.1

	IceTiger		IceTiger S	
without hopper extension		1,000 l		380 I
with hopper extension	300 I	1,300 l	180 l	560 I
with hopper extension	600 I	1,600 l	360 I	740 I
with hopper extension	300 I and 600 I	1,900 l	180 I and 360 I	920 I

5.3 IceTiger brine tank volume

CMS-T-00007405-B.1

IceTiger brine tank	500 I
---------------------	-------

5.4 Permitted mounting categories

MS-T-00004755-F

	IceTiger	IceTiger S
Three-point mounting frame	Category 2 and Category 3	Category 1 and Category 2

5.5 Optimal working speed

CMS-T-00004756-C.1

8-15 km/h

5.6 Performance characteristics of the tractor

CMS-T-00004754-C.1

Motor	
Power	Starting at 30 kW / 40 hp

Electrical system		
Battery voltage	12 V	
Lighting socket	7-pin	

Hydraulic system		
Maximum operating pressure	210 bar	
Tractor pump output	at least 15 l/min at 150 bar	
Implement hydraulic oil	HLP68 DIN51524 The hydraulic fluid is suitable for the combined hydraulic fluid circuits of all standard tractor brands.	
Control units	Depending on the implement equipment	

5.7 Permissible payload

CMS-T-00011018-E.1

Permissible payload for operation	
Permissible payload = G _z - G _L =	kg

- G_z: Permissible technical implement weight according to the rating plate [kg]
- G_L: Determined tare weight [kg]

5.8 Noise development data

CMS-T-00002296-D.1

The workplace-related emission sound pressure level is lower than 70 dB(A), measured in operating condition 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		
On left in direction of travel	15 %	
On right in direction of travel	15 %	

Up the slope and down the slope		
Up the slope	15 %	
Down the slope	15 %	

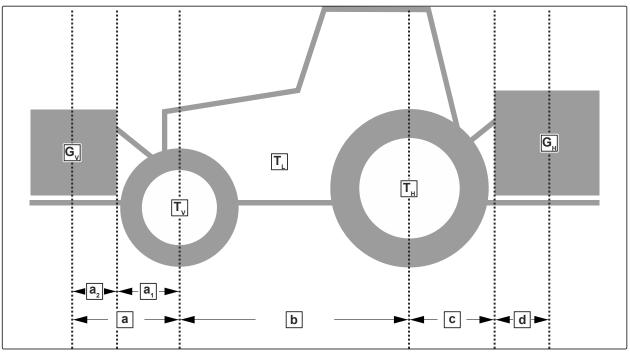
Preparing the implement

6

CMS-T-00004727-H.1

6.1 Calculating the required tractor characteristics

CMS-T-00000063-F.1



CMS-I-00000581

Designation	Unit	Description	Calculated values
T _L	kg	Tractor empty weight	
Τ _ν	kg	Front axle load of the operational tractor without mounted implement or ballast weights	
T _H	kg	Rear axle load of the operational tractor without mounted implement or ballast weights	
G _V	kg	Total weight of front-mounted implement or front ballast	
G _H	kg	Permissible total weight of rear-mounted implement or rear ballast	
а	m	Distance between the centre of gravity of the front-mounted implement or the front ballast and the centre of the front axle	

Designation	Unit	Description	Calculated values
a ₁	m	Distance between the centre of the front axle and the centre of the lower link connection	
a ₂	m	Centre of gravity distance: Distance between the centre of gravity of the front-mounted implement or the front ballast and the centre of the lower link connection	
b	m	Wheelbase	
С	m	Distance between the centre of the rear axle and the centre of the lower link connection	
d	m	Centre of gravity distance: Distance between the centre of the lower link coupling point and centre of gravity of the rear-mounted implement or rear ballast.	

1. Calculate the minimum front ballasting.

CMS-I-00000513

2. Calculate the actual front axle load.

$$T_{Vtat} = \frac{G_{V} \cdot (a+b) + T_{V} \cdot b - G_{H} \cdot (c+d)}{b}$$

$$T_{Vtat} = ----$$

$$T_{Vtat} = ----$$

CMS-I-00000516

3. Calculate the actual total weight of the tractorimplement combination.

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

$$G_{tat} =$$

$$G_{tat} =$$

CMS-I-00000515

4. Calculate the actual rear axle load.

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

 $T_{\text{Htat}} =$

 $T_{\text{Htat}} =$

CMS-I-00000514

- 5. Determine the tyre load capacity for two tractor tyres in the manufacturer specifications.
- 6. Write down the determined values in the following table.



IMPORTANT

Danger of accident due to implement damage caused by excessive loads

Make sure that the calculated loads are smaller or equal to the permissible loads.

	accord	l value ding to lation		accord tractor o	ed value ding to perating nual		Tyre capacity tracto	
Minimum front ballasting		kg	≤		kg		-	-
Total weight		kg	≤		kg		-	-
Front axle load		kg	≤		kg	≤		kg
Rear axle load		kg	≤		kg	≤		kg

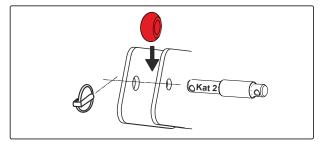
6.2 Adjusting the three-point mounting frame IceTiger

CMS-T-00004846-E.1

6.2.1 Adjusting the three-point mounting frame for mounting category 2

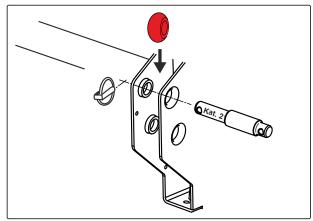
1. Insert the top link pin with the ball sleeve in the mount as shown in the figure.





CMS-I-00003487

- 3. Insert the lower link pin with the ball sleeves into the upper mounts from the outside.
- 4. Secure the lower link pin with the linch pin.

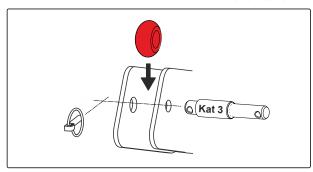


CMS-I-00003877

6.2.2 Adjusting the three-point mounting frame for mounting category 3

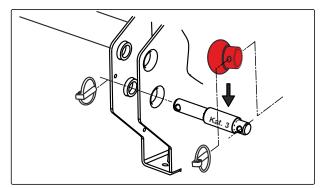
1. Insert the top link pin with the ball sleeve in the mount as shown in the figure.

2. Secure the top link pin with the linch pin.



CMS-I-00003488

- 3. Insert the lower link pin with the ball sleeves into the lower mounts from the outside.
- 4. Secure the lower link pin with the linch pin.
- 5. Put the ball sleeves with collar on the lower link pin. Secure with the linch pin.



CMS-I-00003880

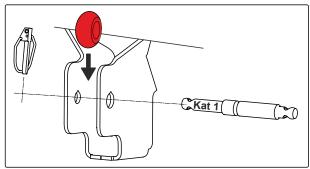
6.3 Adjusting the three-point mounting frame IceTiger S

CMS-T-00010525-B.1

6.3.1 Adjusting the three-point mounting frame for mounting category 1

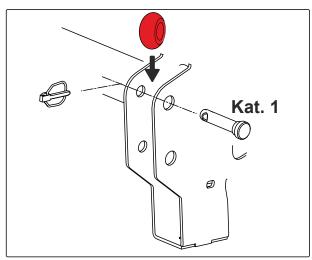
CMS-T-00010526-B.1

- 1. Insert the top link pin with the ball sleeve in the mount as shown in the figure.
- 2. Secure the top link pin with the linch pin.



CMS-I-00007196

- 3. Insert the Category 1 lower link pin with the ball sleeves into the upper mounts from the outside.
- 4. Secure the lower link pin with the linch pin.

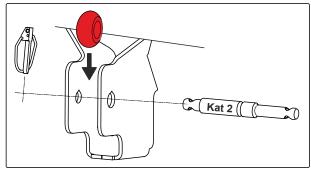


CMS-I-00007197

6.3.2 Adjusting the three-point mounting frame for mounting category 2

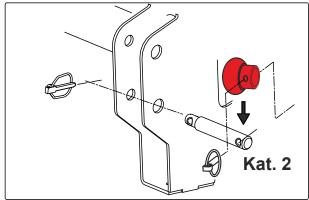
CMS-T-00010527-B.1

- 1. Insert the top link pin with the ball sleeve in the mount as shown in the figure.
- 2. Secure the top link pin with a linch pin.



CMS-I-00007198

- 3. Insert the Category 2 lower link pin with the ball sleeves into the lower mounts from the outside.
- 4. Secure the lower link pins with linch pins.
- 5. Put the ball sleeve with collar on the lower link pin. Secure with the linch pin.



CMS-I-00007199

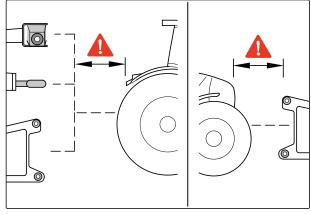
6.4 Coupling the implement

CMS-T-00004728-F.1

6.4.1 Driving the tractor towards the implement

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

Drive the tractor towards the implement, leaving a sufficient distance.



CMS-I-00004045

6.4.2 Coupling the hydraulic hose lines

All hydraulic hose lines are equipped with handles. The handles have colour markings with a code number or a code letter. The markings are assigned CMS-T-00005421-E.1

to the respective hydraulic functions of the pressure line of a tractor control unit. Stickers are applied on the implement for the markings, which illustrate the respective hydraulic functions.

The tractor control unit is used with different types of actuation, depending on the hydraulic function:

Type of actuation	Function	Symbol
Latching	Permanent oil circulation	∞
Momentary	Oil circulation until action is executed	
Floating	Free oil flow in the tractor control unit	~

Designation		Function	Tractor control unit		
Red	P	Spreading disc drive and floor belt drive and brine pump	Single-acting	8	
Red	T	Pressure-free return flow			



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, observe the coloured markings on the hydraulic plugs.

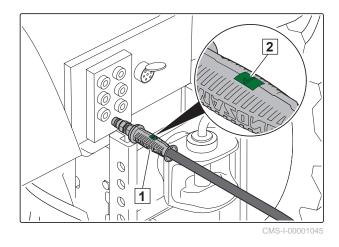


IMPORTANT

Implement damage due to insufficient hydraulic oil return flow

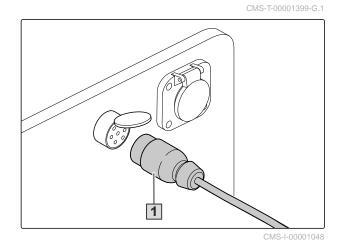
- Only use lines of size DN16 or larger for the pressureless hydraulic oil return flow.
- Select short return paths.
- Connect the pressureless hydraulic return flow to the intended coupling.
- Depending on the implement equipment: couple the leakage oil line in the intended coupling.
- Install the supplied coupling sleeve on the pressureless hydraulic oil return.

- Depressurise the hydraulic system between the tractor and the implement using the tractor control unit.
- 2. Clean the hydraulic plugs.
- 3. Couple the hydraulic hose lines 1 to the hydraulic sockets of the tractor according to the marking 2.
- → The hydraulic plugs lock perceptibly.
- 4. Route the hydraulic hose lines with sufficient freedom of movement and without chafing points.



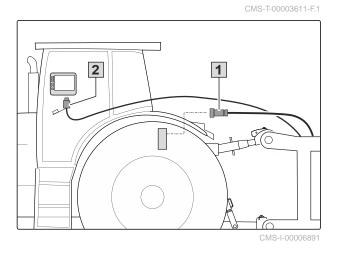
6.4.3 Coupling the power supply

- 1. Insert the plug 1 for the power supply.
- 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.



6.4.4 Coupling the ISOBUS or control computer

- 1. Insert the plug of the ISOBUS line 1 or control computer line 2.
- 2. Route the ISOBUS line with sufficient freedom of movement and without chafing or pinching points.



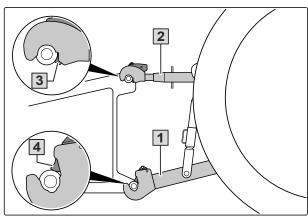
6.4.5 Coupling the three-point mounting frame

1. Set the lower link 1 at the same height.

Couple the lower links from the tractor seat.

3. Couple the top link 2.

4. Check whether the top link catch hooks 3 and lower link catch hooks 4 are correctly locked.



CMS-T-00001400-H.1

6.5 Preparing the implement for operation

6.5.1 Installing the rear plug-on rollers in parking position

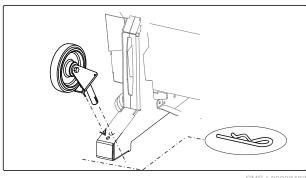
The implement can be easily coupled and manoeuvred on the plug-on rollers.



NOTE

The rear plug-on rollers must be in parking position during implement operation. The front plug-on rollers can remain installed in parking position during implement operation.

- 1. Lift the implement with the three-point power lift.
- 2. Pull out the spring cotter pin of the rear plug-on
- 3. Pull the rear plug-on rollers down and out of the
- 4. Insert the plug-on rollers into the mounts from the top.
- 5. Secure the plug-on rollers with spring cotter pins.



6.5.2 Installing the rear parking supports in parking position

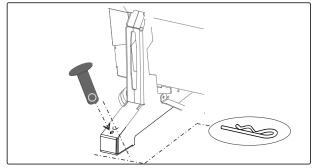
CMS-T-00005037-C 1



NOTE

The rear parking supports must be in parking position during implement operation. The front parking supports can remain installed in parking position during implement operation.

- 1. Lift the implement with the three-point power lift.
- 2. Pull out the spring cotter pin of the rear parking supports.
- 3. Pull the rear parking supports down and out of the mounts.
- 4. Insert the parking supports into the mounts from the top.
- 5. Secure the parking supports with spring cotter pins.



CMS-I-00003603

6.5.3 Calculating the spreading distance

The maximum distance that can be spread with one hopper filling depends on the following parameters:

- G = Spreading material quantity in g
- D = Spread rate in g/m
- Y = Working width in m
- S = Spreading distance in m

CMS-T-00004848-B.1

6 | Preparing the implement Preparing the implement for operation

► Calculate the spreading distance using the formula.

$S = \frac{G / D}{Y}$	
S =	
S = m	NMO L coccoso

CMS-I-00003860

Values for the example calculation:

 Spreading material quantity: 300 kg equals 300,000 g

Spread rate: 30 g/_m

Working width: 5 m

$$S = \frac{300.000 \ / \ 30}{5}$$

$$S = \frac{10.000}{5}$$

$$S = 2000 \text{ m}$$

CMS-I-00003866



NOTE

If pre-wetted salt is spread, the spreading material quantity consists of 70 % dry salt and 30 % brine.

6.5.4 Filling the spreading material hopper

CMS-T-00004849-D.1



WARNING

Risk of injury or even death due to tipping over of the implement

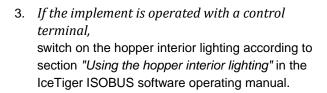
Only fill the implement when it is coupled.

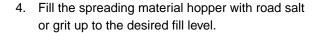


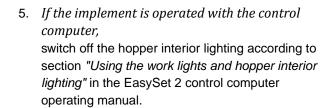
REQUIREMENTS

- Permissible payload has been calculated
- 1. If the implement is equipped with a swivelling cover tarpaulin,
 - unlock the fastener 3 and open the swivelling cover tarpaulin 2 with the swivel arm 1.
- If the implement is operated with the control computer, switch on the hopper interior lighting according to section "Using the work lights and hopper interior

section "Using the work lights and hopper interior lighting" in the EasySet 2 control computer operating manual.





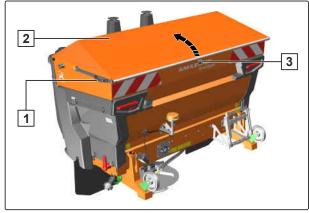


6. If the implement is operated with a control terminal, switch off the hopper interior lighting according to section "Using the hopper interior lighting" in the IceTiger ISOBUS software operating manual.

7. If the implement is equipped with a swivelling cover tarpaulin,

Close and lock the swivelling cover tarpaulin.

 If the implement is operated with a control terminal,
 follow the instructions in the section "Entering the refilled spread rate" in the ISOBUS software operating manual for the IceTiger.



CMS-I-0000533

6.5.5 Filling the brine tank

CMS-T-00007534-A 1

6.5.5.1 Filling the brine tank via the filling connection

CMS-T-00007470-A.1

The brine tank can be filled with brine either through the filling connection or through the tank openings at the top of the two tanks. Filling is accomplished with an external pump with or without safety switch-off. Filling can also be accomplished without a pump from an elevated brine storage tank.

If an external pump with safety switch-off is used for filling, the pump can be connected to the float switch on the brine tank with a cable via the flange plug. If the pumping procedure is not terminated manually, the float switch triggers the pump to switch off as soon as the brine has reached the maximum fill level limit.

If the filling is accomplished without a pump or with a pump without safety switch-off, the current fill level must be monitored with the fill level indicator. When the desired or maximum fill level has been reached, the filling procedure must be stopped manually to prevent overflowing of the brine through the ventilation or through the tank opening that was opened for filling.



WARNING

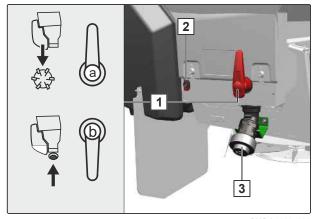
Risk of injury or even death due to tipping over of the implement

Only fill the implement when it is coupled.



REQUIREMENTS

- Permissible payload has been calculated
- 1. Remove the cover 3 from the filling connection.
- 2. Couple the external filling hose to the filling connection.
- If a pump with safety switch-off is used for filling, connect the switch-off cable of the external pump to the float switch via the flange plug 2.
- 4. Move the switch tap 1 to Position b.



CMS-I-00005306

- 5. *If an external pump is used for filling,* switch on the external pump.
- → The two brine tanks are filled simultaneously until the pump is either switched off manually when the desired fill level has been reached or automatically by the float switch when the maximum fill level limit has been reached.
- If filling is accomplished without a pump from an elevated brine storage tank,
 Open the inflow on the storage tank.
- → The two brine tanks are filled simultaneously until the inflow is closed manually.
- 7. If an external pump is used for filling, switch off the external pump

or

wait for the automatic switch-off of the external pump.

- 8. If filling is accomplished without a pump from an elevated brine storage tank,

 Close the inflow on the storage tank.
- 9. When the filling procedure is complete, Move the switch tap to Position a.
- 10. Uncouple the filling hose.



NOTE

The filling hose still contains residual liquid.

- 11. Close the filling connection with the cover.
- 12. *If the external pump has a safety switch-off:* Disconnect the switch-off cable.

6.5.5.2 Filling the brine tank through one of the tank openings

CMS-T-00007533-A.1

The brine tank can be filled with brine either through the filling connection or through the tank openings at the top of the two tanks. Filling is accomplished with an external pump with or without safety switch-off. Filling can also be accomplished without a pump from an elevated brine storage tank. If an external pump with safety switch-off is used for filling, the pump can be connected to the float switch on the brine tank with a cable via the flange plug. If the pumping procedure is not terminated manually, the float switch triggers the pump to switch off as soon as the brine has reached the maximum fill level limit.

If the filling is accomplished without a pump or with a pump without safety switch-off, the current fill level must be monitored with the fill level indicator. When the desired or maximum fill level has been reached, the filling procedure must be stopped manually to prevent overflowing of the brine through the ventilation or through the tank opening that was opened for filling.



WARNING

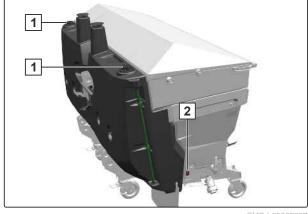
Risk of injury or even death due to tipping over of the implement

Only fill the implement when it is coupled.



REQUIREMENTS

- Permissible payload has been calculated
- 1. Unscrew and remove the cover 1 on the left or right tank opening.
- 2. Insert the external filling hose into the tank opening.
- 3. If a pump with safety switch-off is used for connect the switch-off cable of the external pump to the float switch via the flange plug 2 .
- 4. If an external pump is used for filling, switch on the external pump.
- → The two brine tanks are filled simultaneously until the pump is either switched off manually when the desired fill level has been reached or automatically by the float switch when the maximum fill level limit has been reached.



- 5. If filling is accomplished without a pump from an elevated brine storage tank,

 Open the inflow on the storage tank.
- → The two brine tanks are filled simultaneously until the inflow is closed manually.
- 6. If an external pump is used for filling, switch off the external pump

or

wait for the automatic switch-off of the external pump.

- 7. If filling is accomplished without a pump from an elevated brine storage tank,

 Close the inflow on the storage tank.
- 8. When the filling procedure is complete, pull the filling hose out of the tank opening.



NOTE

The filling hose can still contain residual liquid.

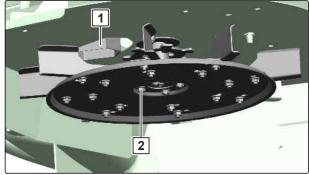
- 9. Close the tank opening with the cover.
- 10. If a pump with safety switch-off is used for filling,

Disconnect the switch-off cable.

6.5.6 Preparing the spread rate check

The spread rate check is performed with the control computer or with a control terminal. The spreading disc needs to be removed for the spread rate check.

- 1. *To remove the spreading disc,* loosen the 4 nuts **2**.
- 2. Place a container under the discharge chute 1.



CMS-I-00003961

CMC TODODESSS C

Using the implement

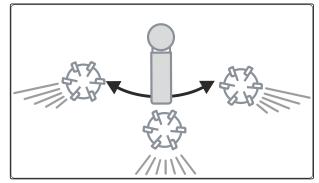
7

CMS-T-00007985-C.

7.1 Operating the implement with the EasySet 2 control computer

CMS-T-00004738-D.1

- 1. Adjust the working height of the spreading discs to 50 cm via the three-point power lift.
- 2. Use the top link to align the implement horizontally to the road surface.
- 3. Adjust the spreading area with the hand lever.
- 4. Switch on the hydraulic system for the spreading disc drive, the spreading material metering unit and the brine pump with the "red" tractor control unit.
- 5. Switch on the white or red work lights and the warning beacon as required, see section "Using the work lights and hopper interior lighting" and section "Using the warning beacon" in the EasySet 2 control computer operating manual.
- 6. Follow the instructions in section "Selecting the operating type" as well as section "Spreading with speed-dependent metering" or section "Spreading without speed-dependent metering" in the EasySet 2 control computer operating manual.



CMS-I-00003491

0

NOTE

Longer road transport or moisture compact the spreading material.

If the spread pattern is not satisfactory:
 Calibrate the spreader, see section "Calibrating the spreader" in the EasySet 2 control computer operating manual.

- When spreading has been stopped: switch off the hydraulic system for the spreading disc drive, the spreading material metering unit and the brine pump with the "red" tractor control unit.
- Remove spreading material sticking to the spreading vanes.

7.2 Operating the implement with a control terminal

CMS-T-00007986-C.1

- 1. Adjust the working height of the spreading discs to 50 cm via the three-point power lift.
- 2. Use the top link to align the implement horizontally to the road surface.
- Switch on the hydraulic system for the spreading disc drive, the spreading material metering unit and the brine pump with the "red" tractor control unit.
- 4. Switch on the white or red works lights and the warning beacon as required, see section "Using the work lights" and section "Using the warning beacon" in the ISOBUS software operating manual for the IceTiger.
- Follow the instructions in the section "Starting spreading operation" in the ISOBUS software operating manual for the IceTiger.



NOTE

Longer road transport or moisture compact the spreading material.

- 6. If the spread pattern is not satisfactory:
 Calibrate the spreader, see section "Configuring the product" in ISOBUS software operating manual for the IceTiger.
- When spreading has been stopped: switch off the hydraulic system for the spreading disc drive, the spreading material metering unit and the brine pump with the "red" tractor control unit.
- 8. Remove spreading material sticking to the spreading vanes.

Eliminating faults

CMS-T-00005426-D.1

Errors	Cause	Solution
The spreading material is not reaching the spreading disc - ISOBUS FlowCheck message: chute blocked	Blockage in the chute for spreading material supply	▶ see page 57
The spreading material does not fall onto the spreading disc	The spreading material inlet is blocked	▶ see page 57
The working width or lateral distribution is not correct.	Spreading material sticks to the spreading vanes.	► Clean the spreading vanes.
	The spreading vanes are worn.	► Replace the spreading vanes, see page 64.
Spreading material is discharged intermittently	The transport belt of the floor belt is not properly tensioned and crosses over.	▶ see page 58

The spreading material is not reaching the spreading disc - ISOBUS FlowCheck message: chute blocked

CMS-T-00010568-A.1

► To eliminate the blockage from the bottom, clean through the down pipe.

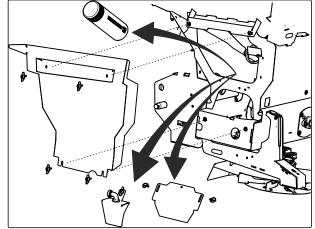
or

To eliminate the blockage from the top, remove the side cover and lid from the chute.

The spreading material does not fall onto the spreading disc

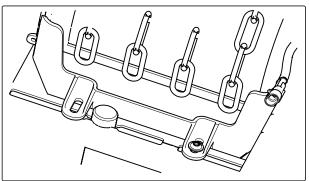
CMS-T-00005427-A.1

- 1. Remove the left side panel.
- 2. Take out the threaded cartridge.
- 3. Remove the brine inlet.
- 4. Remove the cover for the spreading material inlet.



CMS-I-00003607

5. Clean the spreading material inlet.

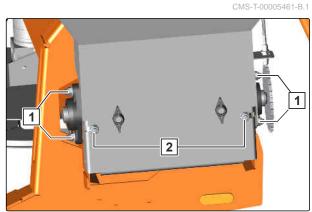


CMS-I-00003606

6. Install the removed parts.

Spreading material is discharged intermittently

- 1. Loosen the bolts 1.
- 2. Tighten the bolts **2** evenly by one turn.
- 3. Tighten the bolts 1.
- 4. Check whether the spreading material is correctly discharged.
- 5. If the spreading material is not correctly discharged, repeat the procedure.
- 6. If the malfunction cannot be fixed because the transport belt can no longer be sufficiently tensioned, have the worn transport belt replaced by a specialised workshop.



CMS-I-00003971

Parking the implement

0

CMS_T_00004741_F1

9.1 Protecting the implement from frost damage

CMS-T-00007579-A.1

For implements with pre-wetted salt equipment, the brine system is always filled with brine up to the level of the pump after initial operation. With time, however, the brine segregates and the water fraction without salt can freeze in cold weather.

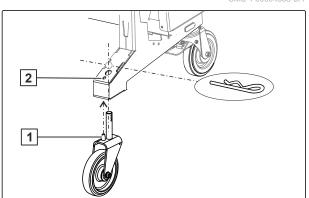
For this reason, antifreeze must be added to the brine when the implement is parked or stored for longer periods of time, AMAZONE recommends using propylene glycol-based antifreeze (e.g. Glysofor ELP).

- 1. Fill 2 litres of antifreeze into the brine system through one of the tank openings.
- 2. Briefly operate the implement with brine addition so that the antifreeze also reaches the pump.

9.2 Installing the rear plug-on rollers in parking position

CMS-T-00004858-B.1

- 1. Insert both rear rollers into the mounts from below.
- 2. To align the rollers in parallel, insert the pin $\boxed{1}$ in the hole $\boxed{2}$.
- 3. Secure the rollers with spring cotter pins.

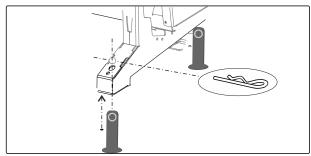


CMS-I-00003494

9.3 Installing the rear parking supports in parking position

MS-T-00005038-B 1

- 1. Insert both rear parking supports into the mounts from below.
- 2. Secure the parking supports with spring cotter pins.



CMS-I-00003604

9.4 Uncoupling the three-point mounting frame

CMS-T-00004742-C.1

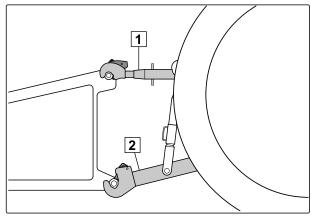


WARNING

Danger of injury due to the implement tipping when it is unevenly filled

Couple and uncouple the implement only when it is empty.

- 1. Park the implement on a level surface with solid ground.
- 2. Release the top link 1.
- 3. Uncouple the top link 1 from the implement from the tractor seat.
- 4. Release the lower links 2.
- 5. Uncouple the lower links **2** from the implement from the tractor seat.
- 6. Drive the tractor forward.

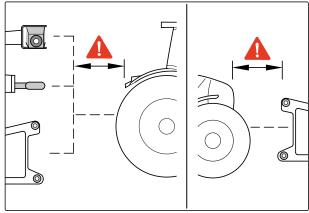


CMS-I-00001249

9.5 Driving 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.

Drive the tractor away from the implement, leaving a sufficient distance.

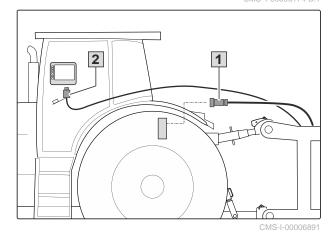


CMS-I-00004045

9.6 Uncoupling the ISOBUS or control computer

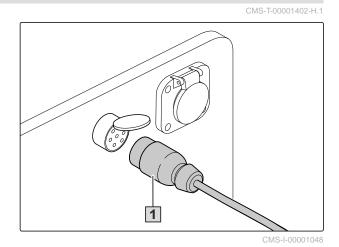
CMS-T-00006174-D.1

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

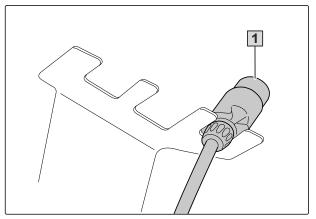


9.7 Uncoupling the power supply

1. Pull out the plug 1 for the power supply.



2. Hang the plugs 1 in the hose cabinet.

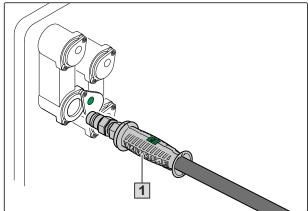


CMS-I-00001248

9.8 Disconnecting the hydraulic hose lines

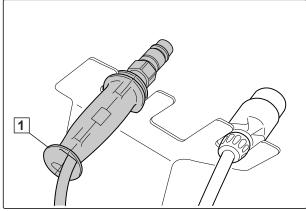
CMS-T-00000277-F.1

- 1. Secure the tractor and implement.
- 2. Put the control lever on the tractor control unit in float position.
- 3. Disconnect the hydraulic hose lines 1.
- 4. Put the dust caps on the hydraulic sockets.



CMS-I-00001065

5. Hang the hydraulic hose lines 1 in the hose cabinet.



CMS-I-00001250

Repairing the machine

10

CMS-T-00004735-E.1

10.1 Maintaining the implement

CMS-T-00004736-E.1

10.1.1 Maintenance schedule

After initial operation	
Checking the hydraulic hose lines	see page 64

Daily	
Checking the lower link pins and top link pins	see page 63
Checking the spreading vanes	see page 64

Every 50 operating hours / Weekly	
Checking the hydraulic hose lines	see page 64

10.1.2 Checking the lower link pins and top link pins

CMS-T-00002330-J.



INTERVAL

Daily

Criteria for visual inspection of lower link pins and top link pins:

- Cracks
- Fractures
- Permanent deformations
- Permissible wear: 2 mm
- 1. Check the lower link pins and top link pins for the listed criteria.
- 2. Replace worn pins.

10.1.3 Checking the hydraulic hose lines

CMS-T-00002331-F.1

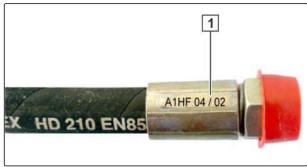


INTERVAL

- After initial operation
- Every 50 operating hours or
 - Weekly
- 1. Check the hydraulic hose lines for damage, such as chafing point, cuts, tears and deformation.
- 2. Check the hydraulic hose lines for leaks.
- 3. Retighten loose bolted connections.

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

4. Check the manufacturing date 1.



CMS-I-00000532



WORKSHOP WORK

5. Replace worn, damaged or aged hydraulic hose lines.

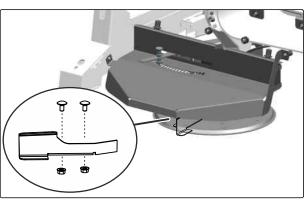
10.1.4 Checking the spreading vanes

CMS-T-00005039-B.1



INTERVAL

- Daily
- Replace the spreading vanes if there is significant wear.



CMS-I-00003605

10.2 Cleaning the implement

CMS-T-00000593-F1



IMPORTANT

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

- Never direct the cleaning jet of the high-pressure cleaner or hot water high-pressure cleaner onto the marked components.
- Never aim the cleaning jet of high-pressure cleaners or hot water high-pressure cleaners on electrical or electronic components.
- Never aim the cleaning jet of the high pressure cleaner directly on lubrication points, bearings, rating plates, warning signs, and stickers.
- Always maintain a minimum distance of 30 cm between the high-pressure nozzle and the implement.
- Do not exceed a water pressure of 120 bar.



CMS-I-0000269

► Clean the machine with a high-pressure cleaner or a hot water high-pressure cleaner.

10.3 Lubricating the implement

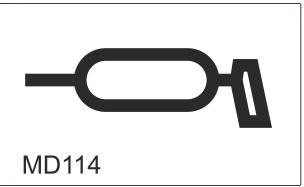
CMS-T-00005595-C.1



IMPORTANT

Implement damage due to improper lubrication

- Grease the implement at the marked lubrication points according to the lubrication schedule.
- ► To ensure that dirt is not pressed into the lubrication points, thoroughly clean the grease nipples and the grease gun.
- Only grease the implement with the lubricants listed in the technical data.
- Press the dirty grease completely out of the bearings.



0140 1 00000070

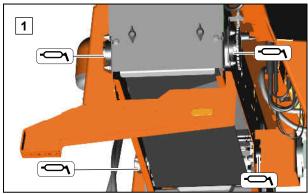
10.3.1 Overview of lubrication points

CMS-T-00005596-A.1



CMS-I-00003963

Every 100 operating hours / Every 12 months



CMS-I-00003962

10.4 Storing the implement

CMS-T-00007578-B.1

For implements with pre-wetted salt equipment, the brine system is always filled with brine up to the level of the pump after initial operation. With time, the brine segregates and the water fraction without salt can freeze in cold weather.

For this reason, antifreeze must be added to the brine if the implement is parked or stored for longer periods

10 | Repairing the machine Storing the implement

of time. AMAZONE recommends using a propylene glycol-based antifreeze (e.g. Glysofor ELP).

Empty the spreading material hopper by spreading

or

Empty the spreading material hopper according to section "Emptying the spreader" in the operating manual for the EasySet 2 control computer or in the IceTiger ISOBUS software operating manual.

 If the implement is equipped with pre-wetted salt equipment, empty the brine tank by spreading with brine addition

or

Move the brine switch tap to Position b and let brine run out of the tank until the fill level has reached the level of the pump.

- If the implement is equipped with pre-wetted salt equipment, fill 2 litres of antifreeze into the brine system through one of the tank openings.
- 4. Briefly operate the implement with brine addition so that the antifreeze also reaches the pump.
- 5. Park the implement.
- 6. Clean the implement.
- 7. Protect unpainted components from corrosion using a suitable corrosion inhibitor.
- 8. Grease all lubrication points. Remove excess grease.
- 9. Park the implement in a sheltered place.

Loading the implement

11

CMS-T-00007496-B.1

11.1 Loading the implement with a crane

CMS-T-00007497-B.1

The implement has 2 lashing points for slings for lifting.

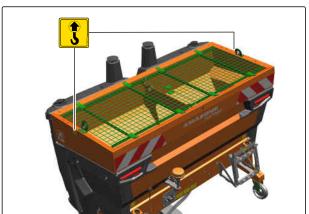


WARNING

Risk of accidents due to improperly attached slings for lifting

If the slings are not attached at the marked lashing points, the implement can be damaged during lifting and endanger safety.

Only attach the slings for lifting at the marked lashing points.



CMS-I-00005245

- 1. Attach the slings for lifting on the intended lashing points.
- 2. Slowly lift the implement.

11.2 Lashing the implement

CMS-T-00007498-A.1

The implement has 3 lashing points for lashing straps.



CMS-I-00005242



WARNING

Risk of accidents due to improperly attached lashing straps

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

Attach the lashing straps only at the marked lashing points.



CMS-I-00005241

- 1. Put the implement on the transport vehicle.
- 2. Attach the lashing straps at the marked points.
- 3. Lash down the implement in compliance with the national regulations for load securing.

Disposing of the implement

12

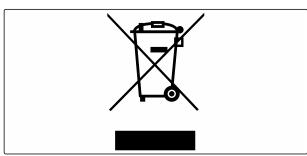
CMS-T-00010906-B.1



ENVIRONMENTAL INFORMATION

Environmental damage due to improper disposal

- Observe the regulations of the local authorities.
- Observe the symbols on the implement regarding disposal.
- ► Observe the following instructions.
- 1. Components with this symbol should not be disposed of with household waste.



CMS-I-0000799

2. Return batteries to the distributor

or

Dispose of batteries at a collection point.

- 3. Put recyclable materials in the recycling.
- 4. Treat operating materials like hazardous waste.



WORKSHOP WORK

5. Dispose of the coolant.

Appendix

CMS-T-00004761-C.1

13.1 Other applicable documents

CMS-T-00005292-C.1

- Tractor operating manual
- Operating manual for the EasySet 2 control computer
- Operating manual for the ISOBUS control terminal
- Operating manual for the IceTiger ISOBUS software

Directories

14.1 Glossary

CMS-T-00000513-B.1

M

Machine

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

0

Operating materials

Operating materials serve to ensure operational readiness. Operating materials include e.g. cleaning agents and lubricants such as lubricating oil, greases or cleaners.

T

Tractor

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

14.2 Index

3		D		
3-point mounting frame	60	Digital operating manual	4	
uncoupling	00	Documents	29	
Α		E		
Address Technical editing	4	EasySet 2 control computer Description	32	
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