



Original operating manual

Mounted compact disc harrow

CombiDisc 3000

For seedbed preparation



SmartLearning



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

Maschinen-Nr. 

Fahrzeug-Ident-Nr.

Produkt

zul. technisches Maschinengewicht kg Modelljahr

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



TABLE OF CONTENTS

1	About this operating manual	1	4.8.1	Concave discs	30
1.1	Diagrams	1	4.8.2	Side guide plate	31
1.1.1	Warnings and signal words	1	4.8.3	Rollers	31
1.1.2	Further instructions	1	4.9	Universal operating tool	33
1.1.3	Instructions	2	4.10	Lighting and identification for road travel	33
1.1.4	Lists	3	4.10.1	Lighting and identification to the rear	33
1.1.5	Item numbers in figures	3	4.10.2	Lighting and identification to the front	34
1.2	Other applicable documents	4	4.11	QuickLink quick-coupling system	34
1.3	Your opinion is important	4			
2	Safety and responsibility	5	5	Technical data	35
2.1	Basic safety instructions	5	5.1	Dimensions	35
2.1.1	Meaning of the operating manual	5	5.2	Permissible total weight	35
2.1.2	Safe operating organisation	5	5.3	Soil tillage tool	35
2.1.3	Knowing and preventing dangers	10	5.4	Mounting category	36
2.1.4	Safe operation and handling of the machine	12	5.5	QuickLink quick-coupling system	36
2.1.5	Safe maintenance and modification	15	5.6	Working speed	36
2.2	Safety routines	19	5.7	Performance characteristics of the tractor	36
3	Intended use	22	5.8	Noise development data	37
			5.9	Drivable slope inclination	37
			5.10	Lubricants	37
4	Product description	23	6	Preparing the machine	38
4.1	Implement overview	23	6.1	Calculating the required tractor characteristics	38
4.2	Function of the implement	24	6.2	Coupling the implement	41
4.3	Special equipment	24	6.2.1	Preparing the 3-point mounting frame	41
4.4	Protective equipment	25	6.2.2	Coupling the 3-point mounting frame	43
4.4.1	Track marker locking mechanism	25	6.2.3	Coupling the hydraulic hose lines	44
4.5	Warning symbols	26	6.2.4	Coupling the power supply	45
4.5.1	Position of the warning symbols	26	6.3	Preparing the implement for operation	46
4.5.2	Layout of the warning symbols	26	6.3.1	Adjusting the working depth	46
4.5.3	Description of the warning symbols	27	6.3.2	Preparing the side guide plates for operation	49
4.6	Rating plate on the implement	29	6.3.3	Preparing the track marker for operation	50
4.7	Threaded cartridge	30			
4.8	Soil tillage tools	30			

TABLE OF CONTENTS

6.3.4	Preparing the wheel mark eradicator for operation	52	9.4	Cleaning the machine	70
6.3.5	Adjusting the scraper to the roller	54	10 Loading the machine	71	
6.3.6	Adjusting the soil guiding angle bracket	55	10.1	Lifting the implement	71
6.4	Preparing the machine for road travel	55	10.2	Lashing the machine	72
6.4.1	Preparing the side guide plates for road travel	55	11 Appendix	74	
6.4.2	Preparing the track markers for road travel	56	11.1	Bolt tightening torques	74
6.5	Calculating the permissible payload	56	11.2	Other applicable documents	75
7	Using the machine	58	12 Directories	76	
7.1	Using the implement	58	12.1	Glossary	76
7.2	Turning the implement on the headlands	58	12.2	Index	77
8	Parking the machine	59			
8.1	Moving the wheel mark eradicator into parking position	59			
8.2	Uncoupling the 3-point mounting frame	60			
8.3	Disconnecting the hydraulic hose lines	60			
8.4	Uncoupling the power supply	61			
9	Repairing the machine	62			
9.1	Maintaining the machine	62			
9.1.1	Maintenance schedule	62			
9.1.2	Checking the top link pin and lower link pin	63			
9.1.3	Checking the hydraulic hose lines	63			
9.1.4	Replacing the discs	64			
9.1.5	Checking the concave disc carrier connection	64			
9.1.6	Checking the wheel mark eradicator coulter	65			
9.1.7	Checking the roller	66			
9.2	Lubricating the machine	67			
9.2.1	Overview of lubrication points	68			
9.3	Eliminating faults	69			

About this operating manual

1

CMS-T-00000081-D.1

1.1 Diagrams

CMS-T-005676-C.1

1.1.1 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.

1.1.2 Further instructions

CMS-T-00002416-A.1

IMPORTANT

- ▶ 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.

1.1.3 Instructions

CMS-T-00000473-B.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

1.1.3.1 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

1.1.3.2 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

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

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

1.1.4 Lists

CMS-T-000024-A.1

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

Example:

● Point 1

● Point 2

1.1.5 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 Other applicable documents

CMS-T-00000616-B.1

A list of other applicable documents can be found in the Appendix.

1.3 Your opinion is important

CMS-T-000059-C.1

Dear reader, our operating manuals are updated regularly. Your suggestions for improvement help us to create ever more user-friendly operating manuals. Please send us your suggestions by post, fax or email.

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Safety and responsibility

2

CMS-T-00002298-J.1

2.1 Basic safety instructions

CMS-T-00002301-J.1

2.1.1 Meaning of the operating manual

CMS-T-00006180-A.1

Observe the operating manual

The operating manual is an important document and a part of the implement. It is intended for the user and contains safety-related information. Only the instructions provided in the operating manual are reliable. If the operating manual is not observed, it can result in serious injury or death.

- ▶ The safety section must be completely read and observed before initial operation of the implement.
- ▶ Before starting work, also read and observe each section of the operating manual.
- ▶ 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 organisation

CMS-T-00002302-C.1

2.1.2.1 Personnel qualification

CMS-T-00002306-A.1

2.1.2.1.1 Requirements for all persons working with the machine

CMS-T-00002310-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 had 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.

2.1.2.1.2 Qualification levels

CMS-T-00002311-A.1

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

- Farmer
- Agricultural helper

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

2.1.2.1.3 Farmer

CMS-T-00002312-A.1

Farmers use agricultural implement to cultivate fields. They decide on the use of an implement for a specific purpose.

Farmers are basically familiar with working with agricultural implements and can instruct agricultural helpers in how to use the implements if necessary. They can perform odd tasks and simple maintenance and repair work on agricultural implements themselves.

Farmers can be e.g.:

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

Activity example:

- Safety training for agricultural helpers

2.1.2.1.4 Agricultural helpers

CMS-T-00002313-A.1

Agricultural helpers use agricultural implements by order of the farmer. They are instructed on the use of the implement by the farmer, and work independently according to the work assignment from the farmer.

Agricultural helpers can be e.g.:

- Seasonal workers and labourers
- Prospective farmers in training
- Employees of the farmer (e.g. tractor driver)
- Family members of the farmer

Activity examples:

- Driving the machine
- Adjusting the working depth

2.1.2.2 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.

2.1.2.3 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.

2.1.2.4 Operational safety

CMS-T-00002309-C.1

2.1.2.4.1 Perfect technical condition

CMS-T-00002314-C.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 implement.
- ▶ Immediately fix any damage that can affect safety.
- ▶ Fix the damage according to this operating manual.
- ▶ Any damage that you cannot fix yourself according to this operating manual must be fixed by a qualified specialist workshop.

Observe the technical limit values

Non-observance of the technical limit 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.

2.1.2.4.2 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.

2.1.2.4.3 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.

2.1.3 Knowing and preventing dangers

CMS-T-00002303-D.1

2.1.3.1 Safety hazards on the machine

CMS-T-00002318-D.1

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.

2.1.3.2 Danger areas

CMS-T-00002319-C.1

Dangers areas on the machine

The following basic dangers are encountered in the danger areas:

The implement and its work tools move during operation.

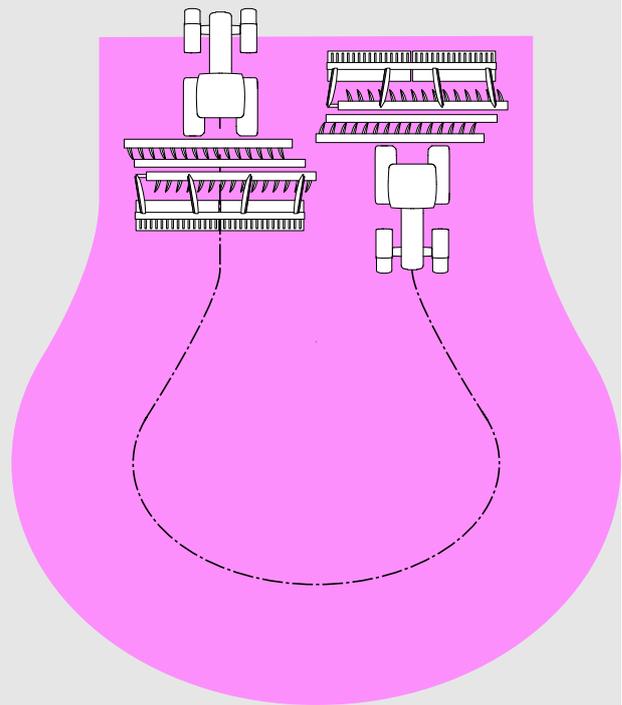
Hydraulically raised machine parts can descend unnoticed and slowly.

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 machine.
- ▶ *If people enter the danger area, immediately switch off the engines 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-001131

2.1.4 Safe operation and handling of the machine

CMS-T-00002304-G.1

2.1.4.1 Coupling implements

CMS-T-00002320-C.1

Coupling the implement to 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.
- ▶ *If the implement is coupled to the 3-point power lift of the tractor,*
make sure that the mounting categories of the tractor and implement are compatible.
- ▶ Couple the implement properly to the tractor.

2.1.4.2 Driving safety

CMS-T-00002321-D.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 payload of 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.

2.1.5 Safe maintenance and modification

CMS-T-00002305-D.1

2.1.5.1 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.

2.1.5.2 Work on the machine

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.

- ▶ Before performing any work on the machine, shutdown and secure the machine.
- ▶ *To immobilise the machine,* perform the following tasks
- ▶ If necessary, secure the machine against rolling away with wheel chocks.
- ▶ Lower lifted loads down to the ground.
- ▶ Relieve the pressure in the hydraulic hose lines.
- ▶ *If you have to work on or under raised loads,* lower the loads or secure raised machine parts 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.
- ▶ Remove the key from the battery circuit breaker.
- ▶ 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.
- ▶ Maintenance work that is not described in this operating manual should only be performed by a qualified specialist workshop.
- ▶ Maintenance work on safety-related components should be performed only by a qualified specialist workshop.
- ▶ 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 3-point mounting frame, drawbars, trailer support, trailer coupling, 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.

2.1.5.3 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.

2.1.5.4 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 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-C.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 machine without using the intended access steps can slip, fall, and suffer severe injury.

- ▶ Use only the intended access steps
- ▶ *Dirt as well operating materials can impede walking safety and stability.*
Always keep steps and platforms clean and in proper condition, so that safe stepping and standing is ensured.
- ▶ Never climb onto the machine when it is in motion.
- ▶ Climb up and down facing the machine.
- ▶ When climbing up and down, maintain 3-point contact with the access steps and handrails: always keep two hands and one foot or two feet and one hand on the machine.
- ▶ When climbing up and down, never hold onto the control elements. Accidental actuation of control elements can unintentionally activate potentially dangerous functions.
- ▶ When climbing down, never jump off of the machine.

Intended use

3

CMS-T-00001708-B.1

- The implement is intended solely for professional use for soil tillage on agricultural crop lands according to Good Agricultural Practices.
- The implement is an agricultural implement to be mounted on the 3-point power lift of a tractor that meets the technical requirements.
- The implement is suitable and intended for seedbed preparation or as a carrying implement for operation with a pack top seed drill on light to medium soils.
- The soil tillage implement may only be used with the rollers specified in the operating manual.
- 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 only be used and maintained by persons who fulfil 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.

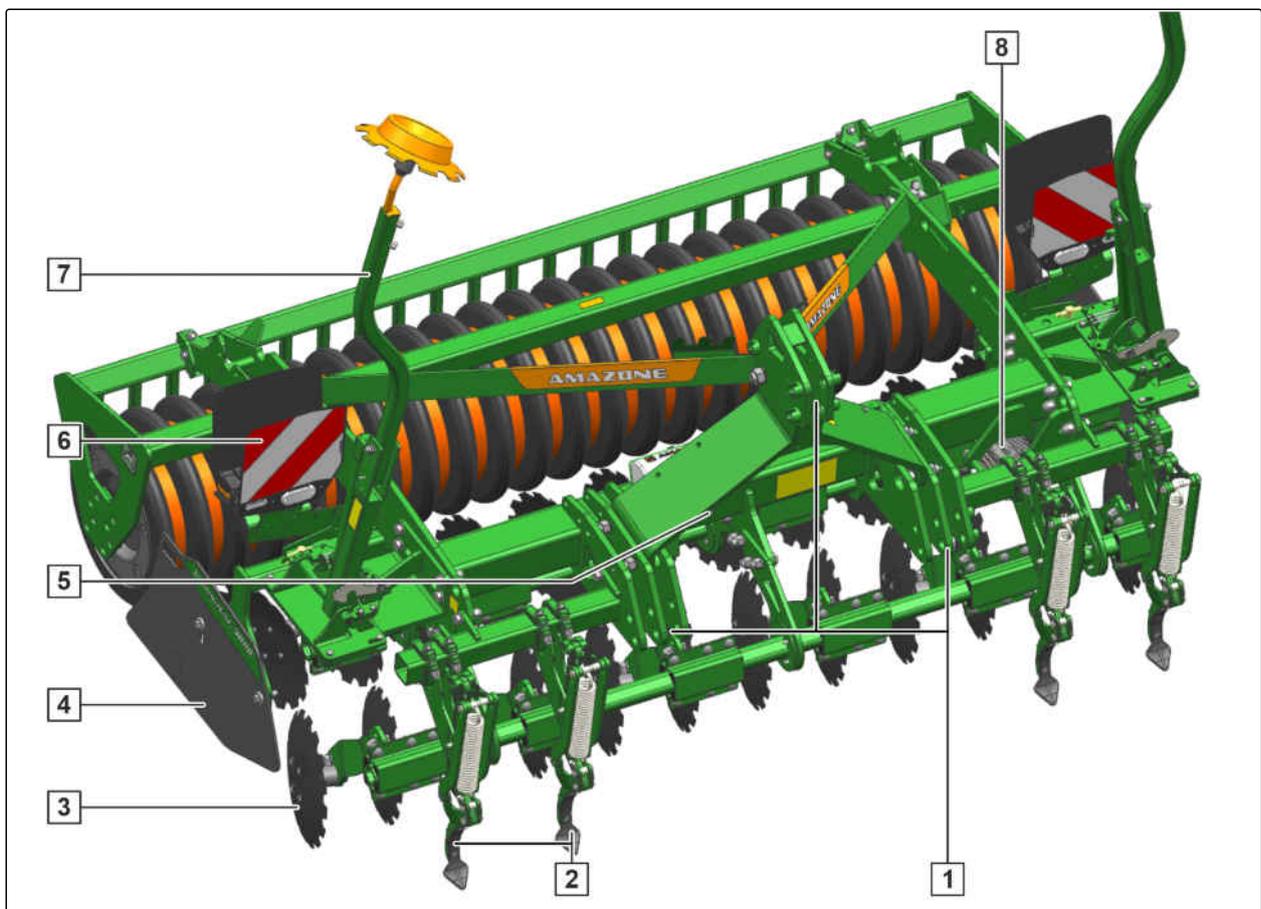
Product description

4

CMS-T-00001166-E.1

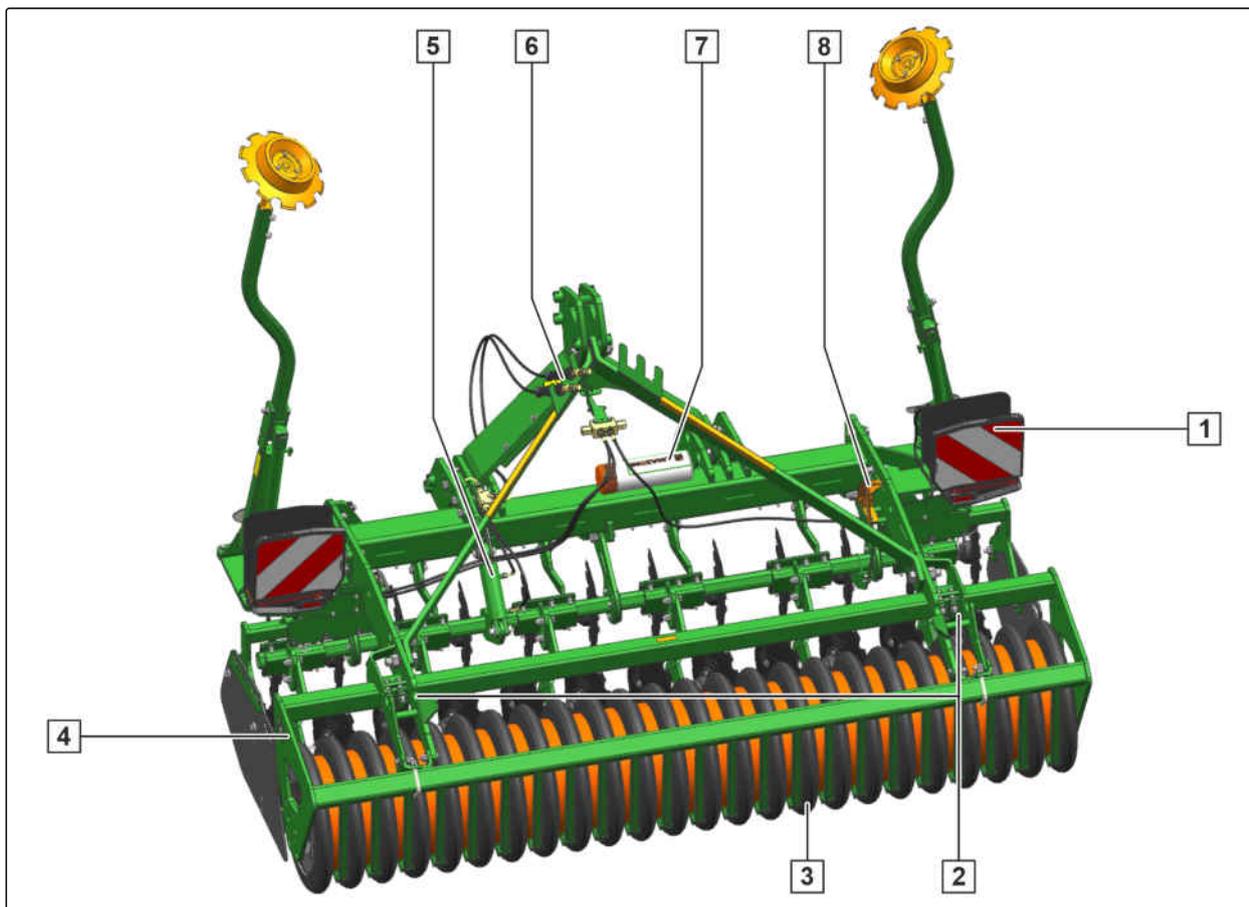
4.1 Implement overview

CMS-T-00001148-D.1



CMS-I-00000932

- | | |
|---------------------------------|--|
| 1 3-point mounting frame | 5 Rating plate on the implement |
| 2 Wheel mark eradicator | 6 Lighting and identification for road travel |
| 3 Disc array | 7 Track marker |
| 4 Side guide plate | 8 Mechanical working depth adjustment, depending on the equipment |



CMS-I-00003754

- | | |
|--|---|
| 1 Lighting and identification for road travel | 5 Hydraulic working depth adjustment, depending on the equipment |
| 2 QuickLink quick-coupling system | 6 Hose cabinet |
| 3 Roller scraper | 7 Threaded cartridge |
| 4 Trailing roller in various versions | 8 Scale for the hydraulic working depth adjustment, depending on the equipment |

4.2 Function of the implement

CMS-T-00005181-A.1

The disc array breaks the soil open. The high disc speed ensures good mixing and very good crumbling of the soil. The trailing roller is responsible for depth control, reconsolidating the soil, and carrying the weight of the pack top seed drill in the seeding combination.

4.3 Special equipment

CMS-T-00005182-A.1

- 3-point mounting frame extension
- Hydraulically adjustable working depth

- Track marker
- Wheel mark eradicator
- Lighting and identification for road travel
- Trailing rollers in different versions
- Seed drill mounting parts

4.4 Protective equipment

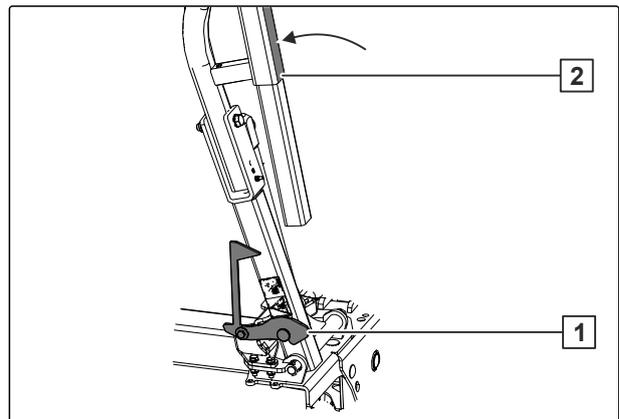
CMS-T-00001493-B.1

4.4.1 Track marker locking mechanism

CMS-T-00001600-B.1

Both track markers must be raised for transporting the implement. Each track marker is secured with a bar

1.



CMS-I-00000956

4.5.3 Description of the warning symbols

CMS-T-00001497-C.1

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

MD 084

Risk of crushing for the whole body from lowering implement parts

- ▶ Make sure that there is nobody standing in the danger area.



CMS-I-000454

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-000216

MD 097

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.

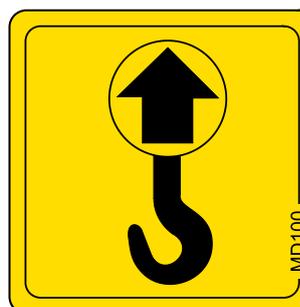


CMS-I-000139

MD 100

Risk of accidents due to improperly attached lifting gear

- ▶ Only attach the lifting gear at the marked positions.



CMS-I-000089

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-00002253

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

4.6 Rating plate on the implement

CMS-T-00004505-D.1

- 1 Implement number
- 2 Vehicle ID number
- 3 Product
- 4 Permissible technical implement weight
- 5 Model year
- 6 Year of manufacture



CMS-I-00004294

4.7 Threaded cartridge

CMS-T-00001776-B.1

The threaded cartridge contains the following items:

- Documents
- Aids



CMS-I-00002306

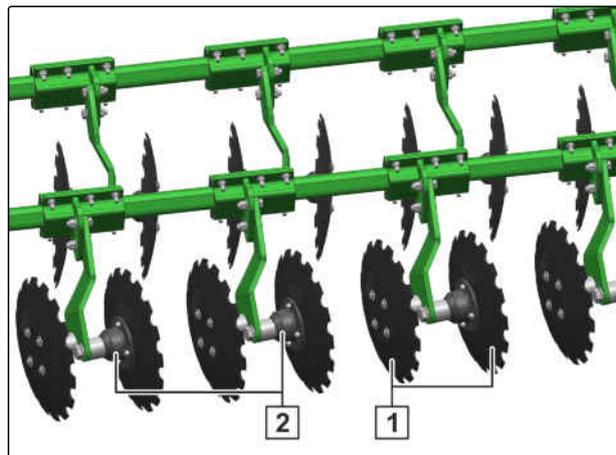
4.8 Soil tillage tools

CMS-T-00001500-E.1

4.8.1 Concave discs

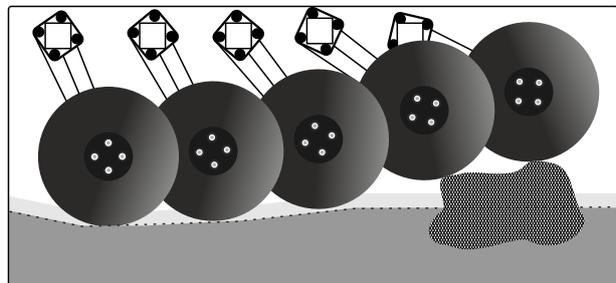
The disc array is equipped with serrated concave discs **1**. The disc gangs have an offset arrangement. The disc bearing **2** is maintenance-free. The working intensity of the concave discs is adjusted with the working depth. Depending on the implement equipment, the working depth is adjusted manually or hydraulically.

CMS-T-00001501-C.1



CMS-I-00001023

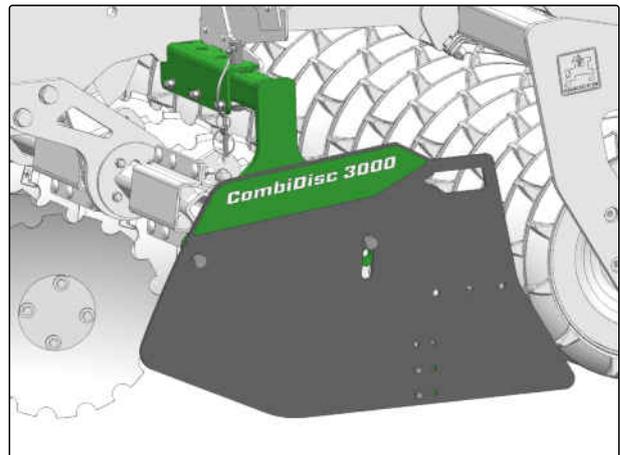
With the rubber-sprung suspension, the concave discs adapt to soil undulations and deflect upon resistance from solid obstacles such as stones. Thanks to the suspension, each disc is protected from overload.



CMS-I-00000043

4.8.2 Side guide plate

The side guide plates ensure uniform levelling of the soil surface across the whole working width. To do so, the working width and height of the side guide plates can be adjusted. During operation, the side guide plates can deflect upwards. To reduce the transport width, the side guide plates are pushed in.



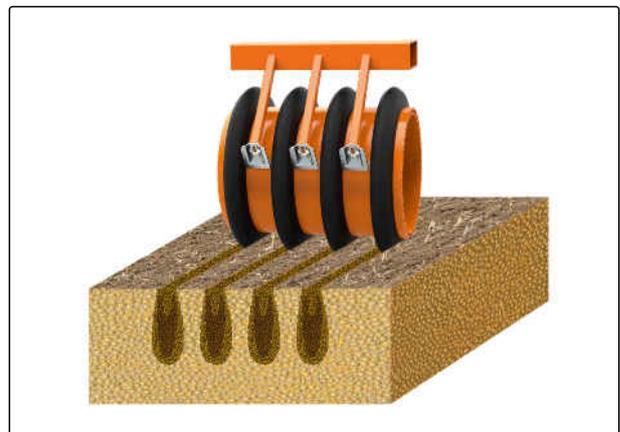
CMS-T-00001656-C.1

CMS-I-00001024

4.8.3 Rollers

4.8.3.1 Wedge ring roller KW

The wedge ring roller with a diameter of 580 mm is very suitable for medium soils. The adjustable scrapers keep the area between the wedge rings clean.



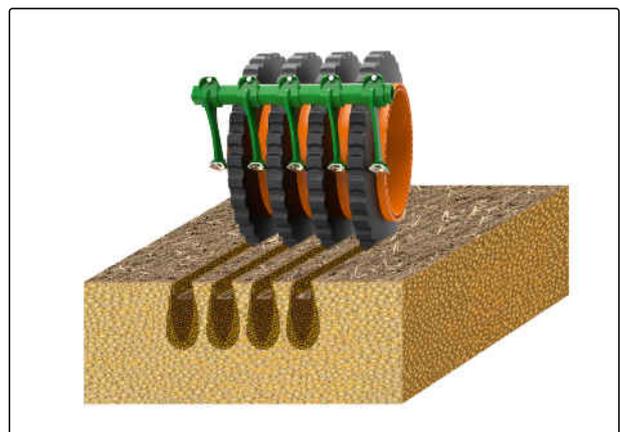
CMS-T-00001504-E.1

CMS-T-00000601-A.1

CMS-I-00000505

4.8.3.2 Wedge ring roller with matrix tyre profile

The wedge ring roller with matrix tyre profile and 650 mm diameter is very suitable for light, medium and heavy soils. The adjustable scrapers keep the area between the wedge rings clean.



CMS-T-00000602-A.1

CMS-I-00000510

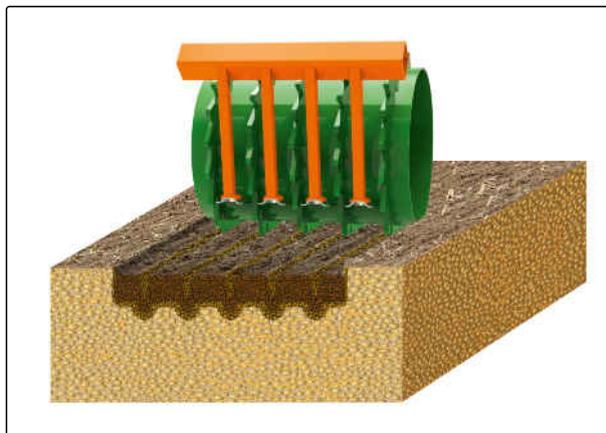
4 | Product description

Soil tillage tools

4.8.3.3 Tooth packer roller PW

CMS-T-00000121-B.1

The tooth packer roller with a diameter of 600 mm is very suitable for medium and heavy soils. The adjustable scrapers keep the area between the sprocket wheels clean.

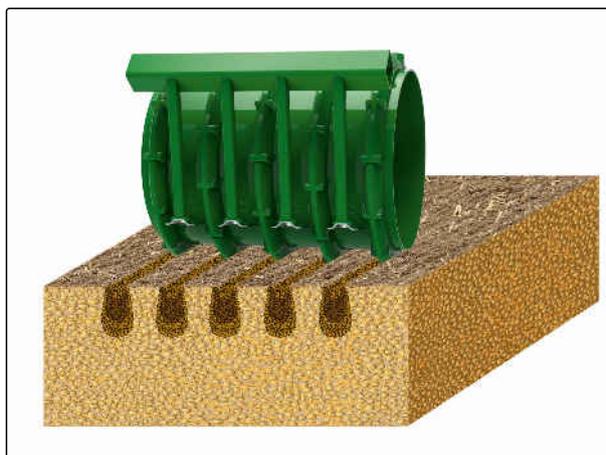


CMS-I-00000508

4.8.3.4 Trapeze ring roller TRW

CMS-T-00001508-A.1

The trapeze ring roller with a diameter of 500 mm is very suitable for medium soils. The larger trapeze ring roller with 600 mm is suitable for heavy soils.



CMS-I-00000962

4.8.3.5 Packer rollers from other manufacturers

CMS-T-00005061-B.1

The AMAZONE roller product range is supplemented with rollers from suppliers.

Packer rollers from other manufacturers	Working width 3 m	Working width 4 m	Roller frame
Güttler Simplex prismatic roller with spheroidal graphite iron rings	3000-SX-45 SG	/	1-tube roller frame
Güttler Simplex prismatic roller with synthetic ultra rings	3000-SX-45 SU	/	
	3000-SX-50 SU	4000-SX-50 SU	2-tube roller frame
	3000-SX-56 SU	4000-SX-56 SU	

4.9 Universal operating tool

CMS-T-00001735-B.1

Setting work on the implement is performed with the universal operating tool **1**. The universal operating tool is parked in a holder on the implement frame.



CMS-I-00001082

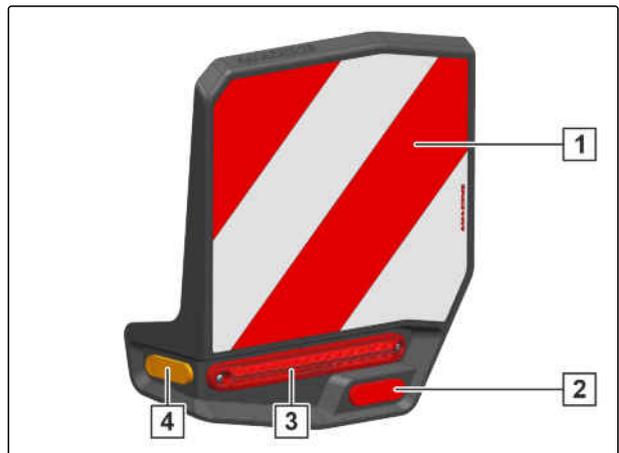
4.10 Lighting and identification for road travel

CMS-T-00006398-A.1

4.10.1 Lighting and identification to the rear

CMS-T-00001498-C.1

- 1** Warning signs
- 2** Reflector, red
- 3** Rear lights, brake lights, and turn indicators
- 4** Reflector, yellow



CMS-I-00004545



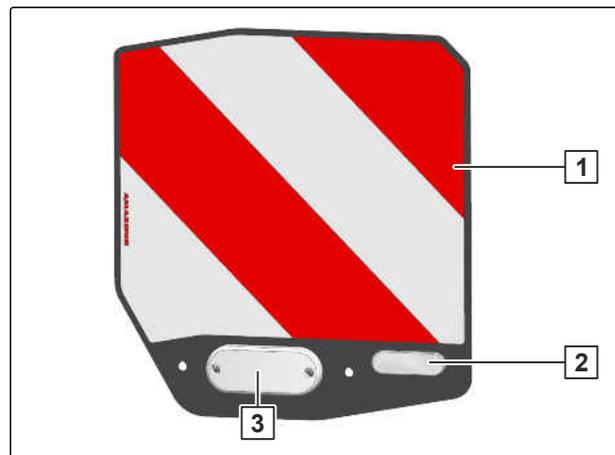
NOTE

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

4.10.2 Lighting and identification to the front

- 1 Warning signs
- 2 Reflector, white
- 3 Side marker lights

CMS-T-00006393-A.1



CMS-I-00002940

NOTE

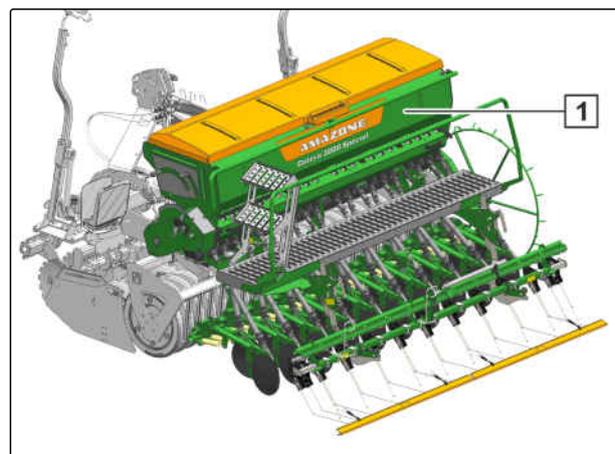
The lighting and identification for road travel can vary depending on the national regulations.

4.11 QuickLink quick-coupling system

CMS-T-00001659-B.1

Using the quick-coupling system, the soil tillage implement can be combined with a pack top seed drill. The QuickLink quick-coupling system consists of one top coupling point and two lower coupling points on the roller frame.

Soil tillage implement combined with a mechanical pack top seed drill **1**.



CMS-I-00001026

Technical data

5

CMS-T-00003163-D.1

5.1 Dimensions

CMS-T-00003165-B.1

Dimensions	CombiDisc 3000 [mm]
Transport width	3000
Transport height	1560
Total length	1870
Working width	3000
Centre of gravity distance	1100

5.2 Permissible total weight

CMS-T-00003167-B.1

CombiDisc 3000
4180 kg

5.3 Soil tillage tool

CMS-T-00003169-A.1

CombiDisc 3000	
Number of concave discs	24
Thickness of the concave discs	4 mm
Disc diameter	410 mm
Pitch of the 1st gang	14°
Pitch of the 2nd gang	12°
Working depth	30-80 mm

5.4 Mounting category

CMS-T-00003170-B.1

Type	
CombiDisc 3000 as a solo implement	Category 3 top link Category 2 or Category 3 lower link
CombiDisc 3000 as a seeding combination	Category 3

5.5 QuickLink quick-coupling system

CMS-T-00003190-C.1

Working width of the implement	Distance of the QuickLink catching sockets
2.5 m	1529 ±3 mm
3 m	2029 ±3 mm
3.5 m	2529 ±3 mm
4 m	3029 ±3 mm

5.6 Working speed

CMS-T-00003171-B.1

CombiDisc 3000
8-15 km/h

5.7 Performance characteristics of the tractor

CMS-T-00003172-A.1

Engine rating	
Use as a solo implement	Use as a seeding combination
CombiDisc 3000	CombiDisc 3000
Starting at 59 kW / 80 HP	Starting at 103 kW / 140 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 oil is suitable for the combined hydraulic oil circuits of all standard tractors.
Control units	Depending on the implement equipment

5.8 Noise development data

CMS-T-00002296-B.1

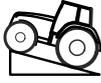
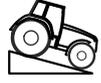
The workplace-related emission sound pressure level is lower than 70 dB(A), measured in operating condition at the ear of the tractor driver with the cab closed.

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

5.9 Drivable slope inclination

CMS-T-00002297-C.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%	

5.10 Lubricants

CMS-T-00002396-A.1

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

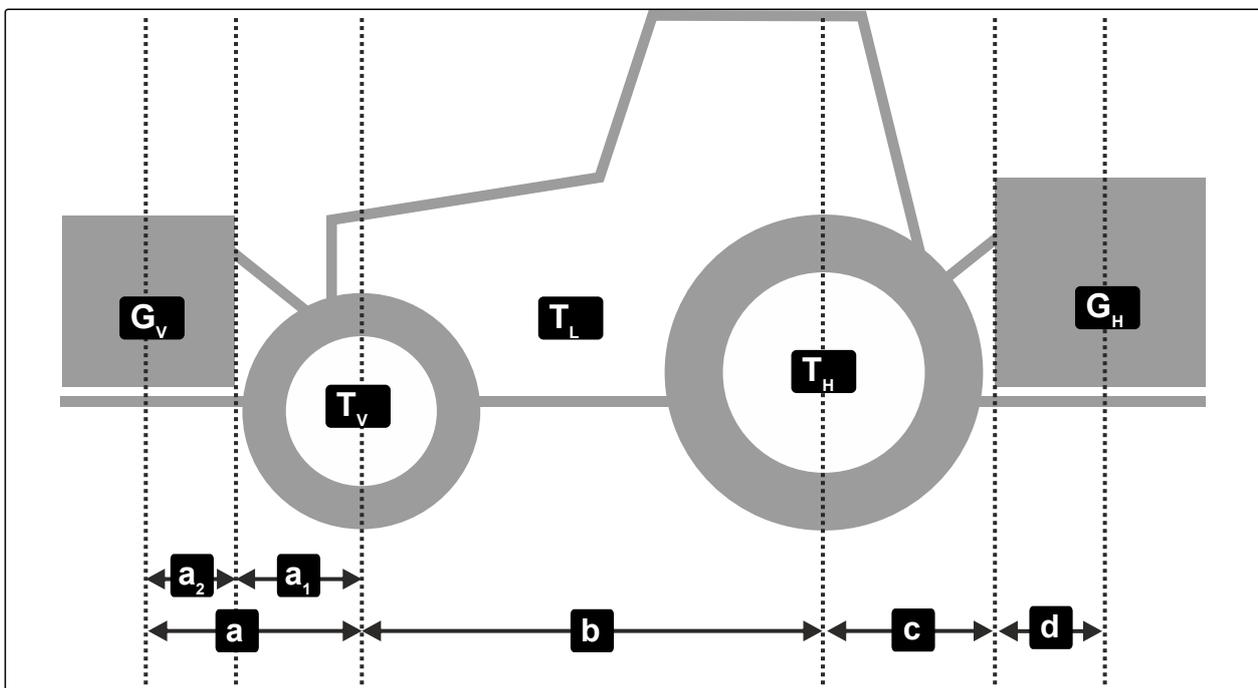
Preparing the machine

6

CMS-T-00001472-D.1

6.1 Calculating the required tractor characteristics

CMS-T-0000063-B.1



CMS-I-00000581

Designation	Unit	Description	Calculated values
T_L	kg	Tractor empty weight	
T_V	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	
a	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	
c	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 ballast weight.

$$G_{\min} = \frac{G_H \cdot (c + d) - T_V \cdot b + 0,2 \cdot T_L \cdot b}{a + b}$$

$$G_{\min} = \underline{\hspace{10em}}$$

$$G_{\min} = \text{[Grey box]}$$

CMS-I-00000513

2. Calculate the actual front axle load.

$$T_{\text{Vtat}} = \frac{G_V \cdot (a + b) + T_V \cdot b - G_H \cdot (c + d)}{b}$$

$$T_{\text{Vtat}} = \underline{\hspace{10em}}$$

$$T_{\text{Vtat}} = \text{[Grey box]}$$

CMS-I-00000516

6 | Preparing the machine
Calculating the required tractor characteristics

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

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

$G_{tat} =$

$G_{tat} =$

CMS-I-00000515

4. Calculate the actual rear axle load.

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

$T_{Htat} =$

$T_{Htat} =$

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

- Check if the calculated loads are smaller or equal to the permissible loads.

	Actual value according to calculation			Permitted value according to tractor operating manual			Tyre load capacity for two tractor tyres	
Minimum front ballast weight		kg	≤		kg		-	-
Total weight		kg	≤		kg		-	-
Front axle load		kg	≤		kg	≤		kg
Rear axle load		kg	≤		kg	≤		kg

6.2 Coupling the implement

CMS-T-00003183-C.1

6.2.1 Preparing the 3-point mounting frame

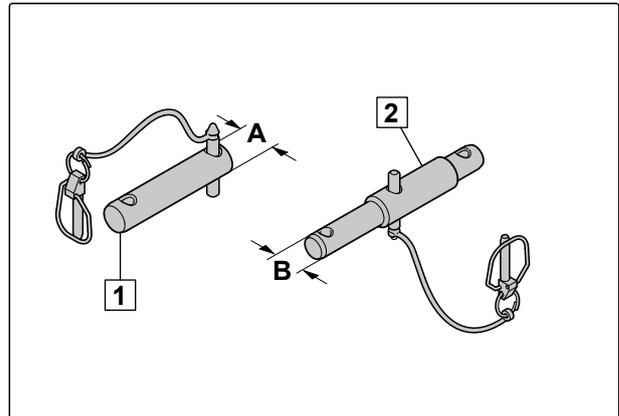
CMS-T-00003187-B.1

6.2.1.1 Attach the ball sleeves for mounting category 2

CMS-T-00003188-B.1

Mounting category 2 measurements	Diameter
A	25 mm
B	28 mm

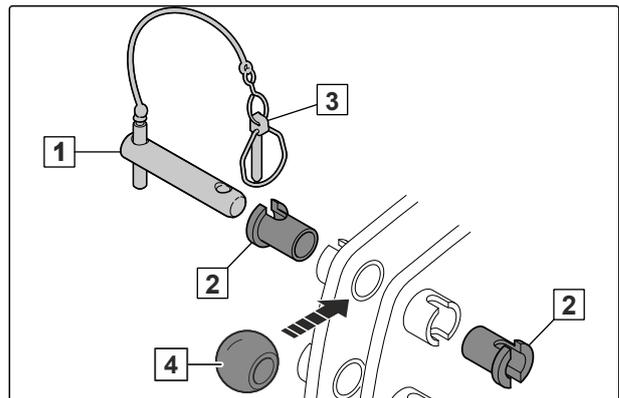
1. Select the top link pin **1** and lower link step pin **2** for mounting category 2.



CMS-I-00001816

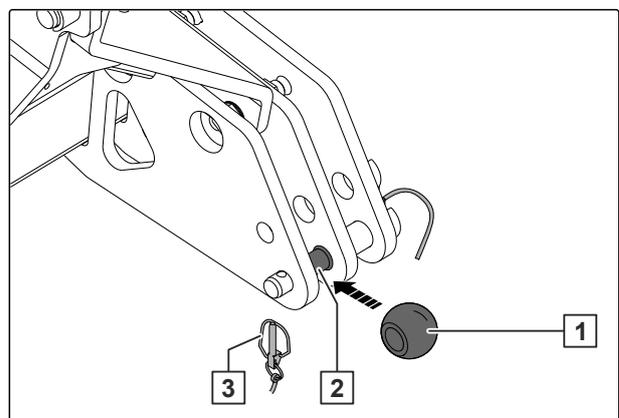
For the top link pin **1** of mounting category 2, adapter sleeves **2** are required.

2. Insert the top link pin together with the adapter sleeve in one of the holes.
3. Fit the top link pins with ball sleeves **4**.
4. Secure the top link pin with a linch pin **3**.



CMS-I-00001221

5. Insert the lower link step pin **2** into the mount from the outside.
6. Equip the lower link step pins with ball sleeves **1**.
7. Secure the lower link step pin **2** with a linch pin.



CMS-I-00002453

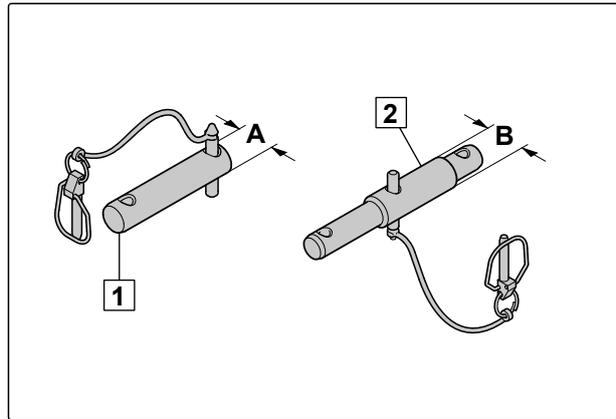
6 | Preparing the machine Coupling the implement

6.2.1.2 Attach the ball sleeves for mounting category 3

CMS-T-00003189-B.1

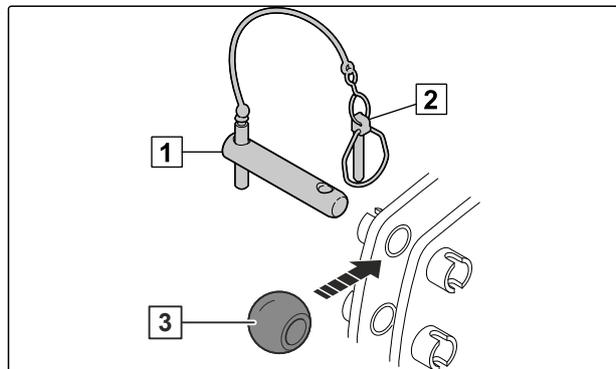
Mounting category 3 measurements	Diameter
A	31.7 mm
B	36.6 mm

1. Install the top link pin **1** and lower link step pin **2** of mounting category 3.



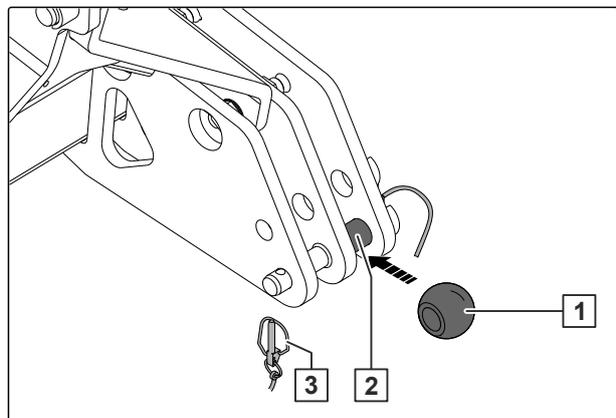
CMS-I-00001817

2. Insert the top link pin **1** in one of the holes.
3. Fit the top link pins with ball sleeves **3**.
4. Secure the top link pin with a linch pin **2**.



CMS-I-00001220

5. Insert the lower link step pin **2** into the mount from the outside.
6. Equip the lower link step pins with ball sleeves **1**.
7. Secure the lower link step pin with a linch pin **3**.

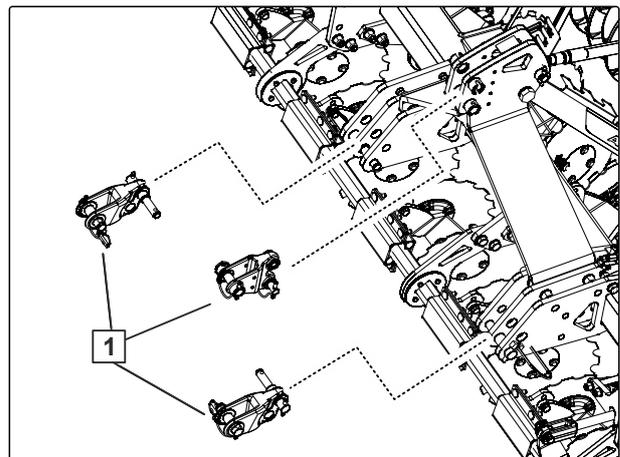


CMS-I-00002454

6.2.1.3 Mounting the 3-point mounting frame extension

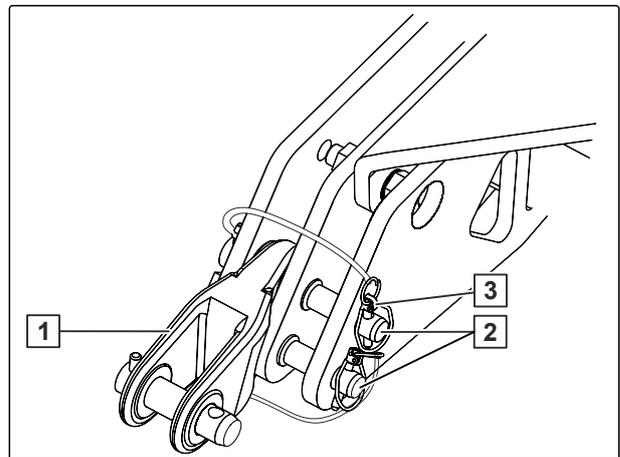
The extension of the 3-point mounting frame **1** serves to enlarge the distance from the tractor to the implement.

1. The 3-point mounting frame extension consists of 3 spacer elements. The 3-point extension is mounted in the 3-point mounting frame of Category 3.



CMS-I-00000954

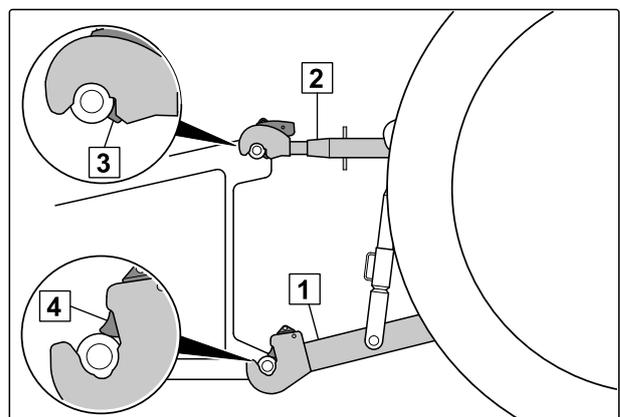
2. Fix each spacer element **1** on the implement with 2 pins **2** of Category 3.
3. Secure all pins with linch pins **3**.



CMS-I-00001073

6.2.2 Coupling the 3-point mounting frame

1. Set the tractor lower links **1** to the same height.
2. Couple the lower links **1** 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.



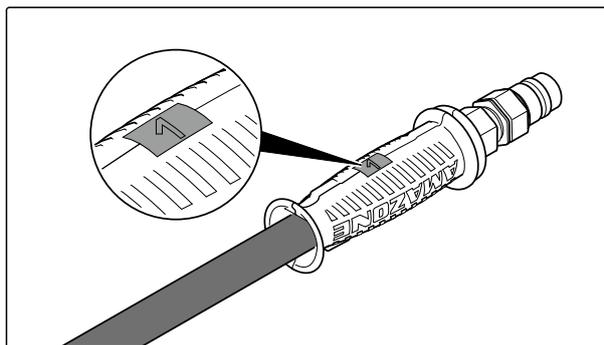
CMS-I-00001225

6.2.3 Coupling the hydraulic hose lines

CMS-T-00006275-A.1

All hydraulic hoses are equipped with handles. The handles have colour labels with a code number or a code letter. The labels are assigned to the respective hydraulic functions of the pressure line of a tractor control unit. Stickers are applied on the implement for the labels, which illustrate the respective hydraulic functions.

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



CMS-I-00000121

Type of actuation	Hydraulic function	Symbol
Latching	Permanent hydraulic oil circulation	
Momentary	Hydraulic oil flow until action is executed	
Floating	Free hydraulic oil flow in the tractor control unit	

Designation		Function			Tractor control unit	
Green			Working depth of the concave discs	Reduce	Double-acting	
				Increase		
Yellow			Track marker	Lifting	Single-acting	

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.

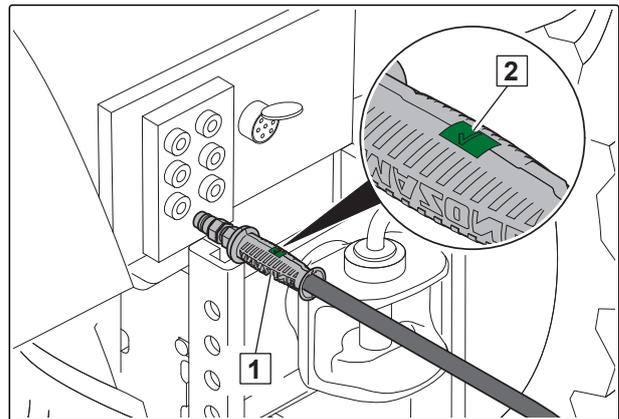


IMPORTANT

Implement damage due to insufficient hydraulic oil return flow

- ▶ Only use DN16 lines for the pressureless hydraulic oil return flow.
- ▶ Select short return paths.
- ▶ Connect the pressureless hydraulic return flow correctly.
- ▶ Install the supplied coupling sleeve on the pressureless hydraulic oil return.

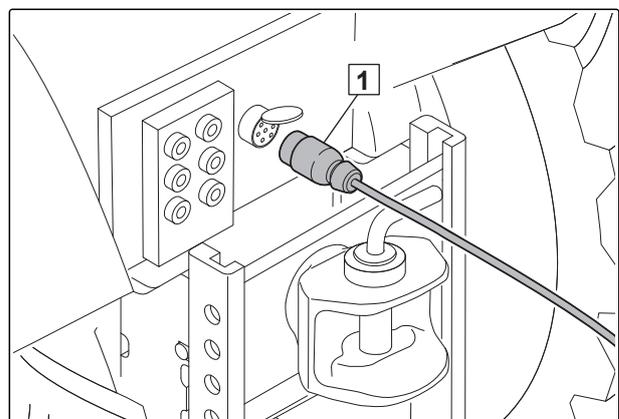
1. Depressurise the hydraulic system between the tractor and the implement using the tractor control unit.
 2. Clean the hydraulic plugs.
 3. Couple the hydraulic hose lines **1** to the hydraulic sockets of the tractor according to the marking **2**.
- ➔ The hydraulic plugs lock perceptibly.
4. Route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



CMS-I-00001045

6.2.4 Coupling the power supply

1. Insert the plug **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-C.1

CMS-I-00001048

6.3 Preparing the implement for operation

CMS-T-00003184-C.1

6.3.1 Adjusting the working depth

CMS-T-00001475-C.1

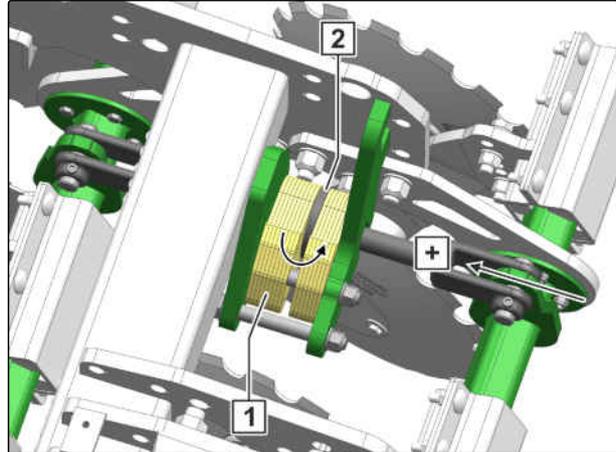
6.3.1.1 Manually adjusting the working depth of the concave discs

CMS-T-00001727-B.1

6.3.1.1.1 Increase the working depth of the concave discs manually

CMS-T-00001554-B.1

1. lower the implement.
➔ The rear spacer elements **1** are relieved.
2. *To increase the working depth,* swivel out the desired number of spacer elements behind the stop washer **2**.
3. Raise the implement.
➔ The front spacer elements are relieved.
4. Swivel in the free spacer elements in front of the stop washer.



CMS-I-00000949



NOTE

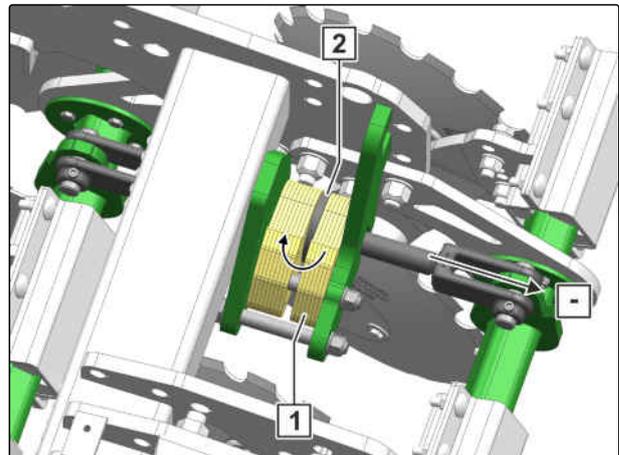
Selection of the working depth depends on different factors, e.g.:

- Soil type: light to heavy, dry to wet
- Forward speed
- Setting
- Condition of the seedbed

6.3.1.1.2 Reduce the working depth of the concave discs manually

CMS-T-00001728-B.1

1. Raise the implement.
 - ➔ The front spacer elements **1** are relieved.
2. *To reduce the working depth,* swivel out the desired number of spacer elements in front of the stop washer **2**.
3. lower the implement.
 - ➔ The rear spacer elements are relieved.
4. Swivel in the free spacer elements behind the stop washer.



CMS-I-00003764



NOTE

Selection of the working depth depends on different factors, e.g.:

- Soil type: light to heavy, dry to wet
- Forward speed
- Setting
- Condition of the seedbed

6.3.1.2 Adjust the working depth of the concave discs hydraulically

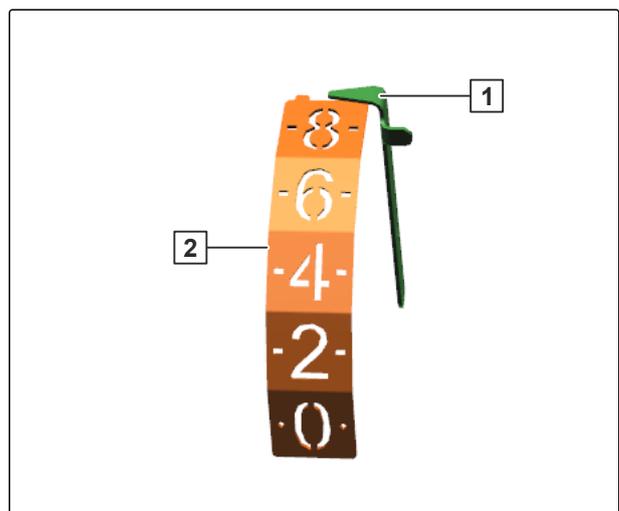
CMS-T-00001482-C.1

The arrow **1** shows the change in the set working depth. The scale only serves as orientation. The scale value does not represent the working depth in centimetres.

- ▶ *To reduce the working depth of the concave discs,* actuate the "green 1" tractor control unit

or

To increase the working depth of the concave discs, actuate the "green 2" tractor control unit.



CMS-I-00002447

NOTE

Selection of the working depth depends on different factors, e.g.:

- Soil type: light to heavy, dry to wet
- Forward speed
- Setting
- Condition of the seedbed

6.3.1.3 Adjust the working depth of individual concave discs manually

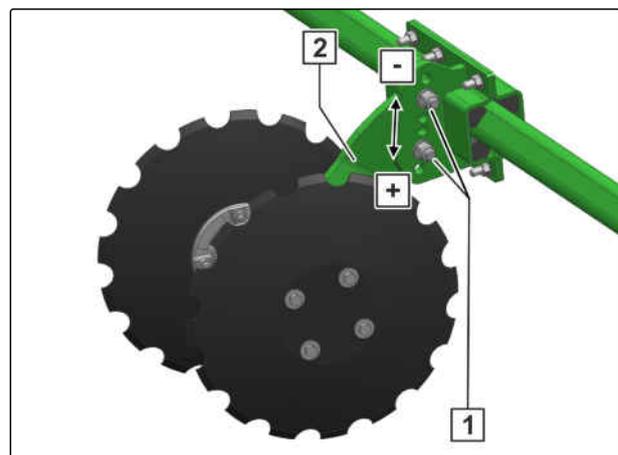
CMS-T-00001480-B.1

CAUTION

Crushing hazard for hands

- ▶ Use the bearing pin and hub as handle.

1. Remove the bolted connections **1**.
2. *For better levelling or to prevent ridge formation, move the concave disc pair on the holding arm **2** to the desired position.*
3. Insert and tighten the bolts **1**.
4. Operate the implement over 30 m to 50 m at working speed.
5. Check the seedbed.
6. Repeat the procedure until a uniform seedbed is produced.

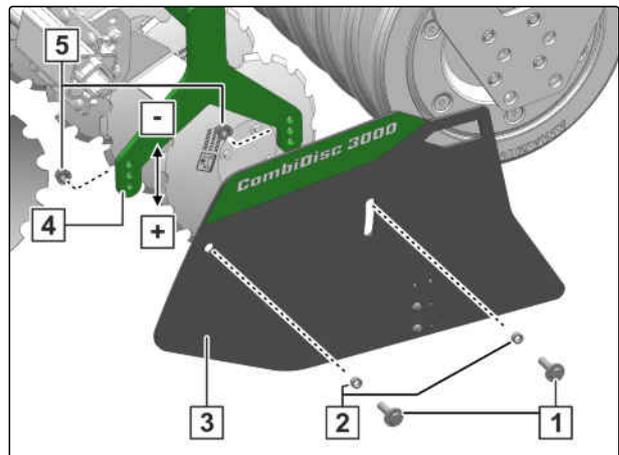


CMS-I-00000947

6.3.1.4 Adjust the working depth of the side guide plates

CMS-T-00001483-B.1

1. Remove the nuts and washers **5**.
2. *To adjust the working depth of the side guide plates **3**,*
install the side guide plates in the hole pattern **4**
in the desired position.
3. Install the bolts **1** and spacers **2**.
4. Install the nuts and washers.
5. Operate the implement over 30 m to 50 m at
working speed.
6. Check the seedbed.
7. Repeat the procedure until a uniform seedbed is
produced.



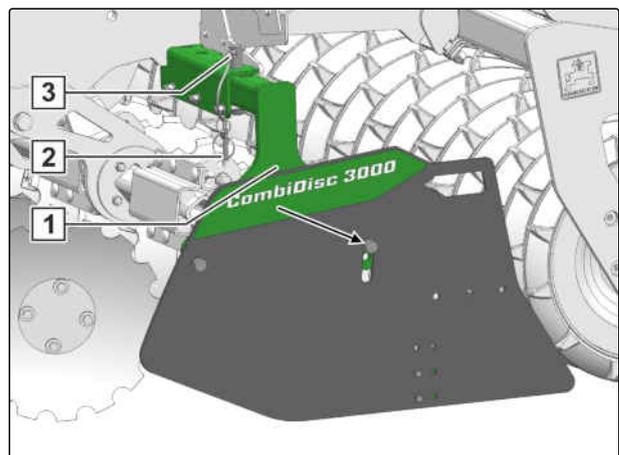
CMS-I-00000946

6.3.2 Preparing the side guide plates for operation

CMS-T-00001489-C.1

- CAUTION**
Crushing hazard for hands!
▶ Carefully telescope the side guide plates.

1. Raise the implement.
2. Remove the linch pin **2**.
3. Pull out the pin **3**.
4. *To prevent ridge formation during operation,*
move the side guide plates **1** to the desired
position.
5. Secure the side guide plate with the pin.
6. Secure the pin with the linch pin.
7. Operate the implement over 30 m to 50 m at
working speed.
8. Check the seedbed.
9. Repeat the procedure until a uniform seedbed is
produced.



CMS-I-00000953

6.3.3 Preparing the track marker for operation

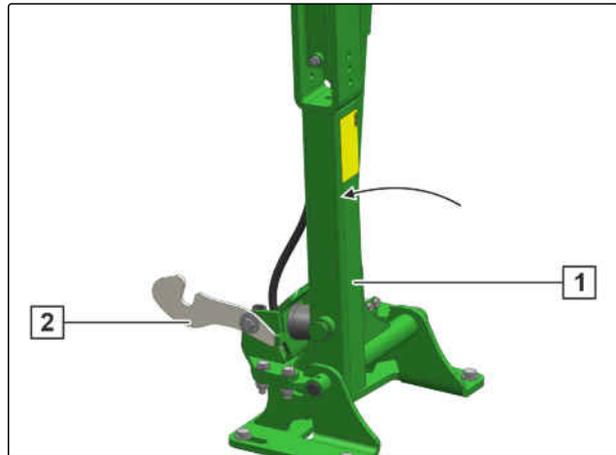
CMS-T-00001725-D.1

6.3.3.1 Unfolding the track markers

CMS-T-00001561-C.1

The hydraulically actuated track markers produce alternating marks. This mark serves as a reference to the tractor driver for driving the next bout after turning at the headland. The length and pitch of the track markers are adjustable.

1. Put the "yellow" tractor control unit in the neutral position.
2. Press the track marker **1** against the rubber block.
➔ The transport lock **2** is relieved.
3. Swivel back the transport lock.
4. *The track markers are guided into the parking position by the spring pressure.*
Slowly swivel the track markers into the parking position.
5. Repeat the procedure for the opposite side of the implement.
6. Put the "yellow" tractor control unit in float position.
➔ The track marker folds into working position.
7. *If the wrong track marker is folded into working position,*
actuate the "yellow" tractor control unit.
➔ The track marker is folded up.
8. Put the "yellow" tractor control unit in float position again.
➔ The track marker on the opposite side folds into working position.



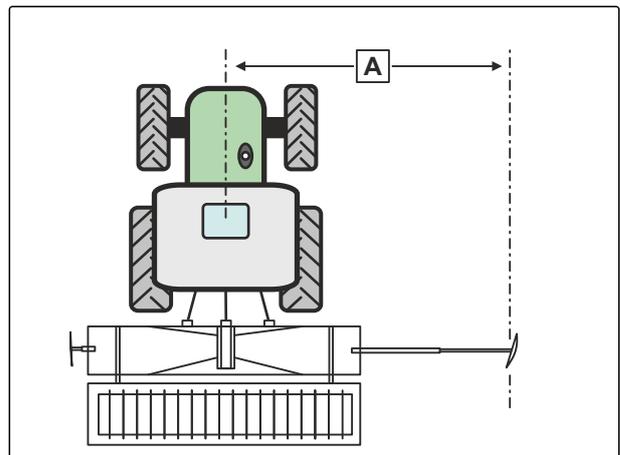
CMS-I-00000952

6.3.3.2 Determining the track marker length

CMS-T-00004725-B.1

Working width of the implement [m]	Distance A [m]
2.5	2.5
3.0	3.0
3.5	3.5
4.0	4.0

- Read the distance **A** from the centre of the implement to the track marker disc from the table.

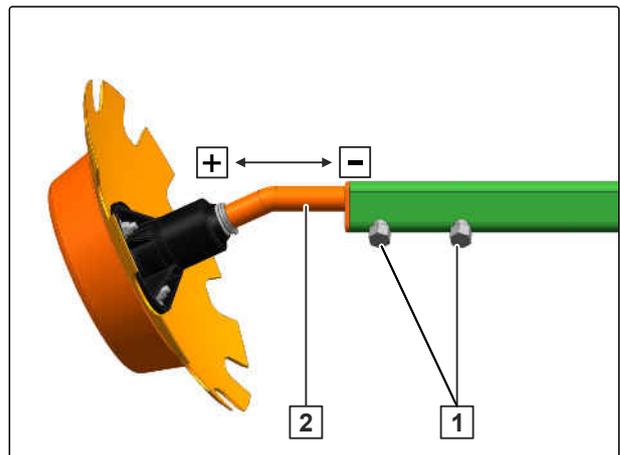


CMS-I-00003078

6.3.3.3 Adjusting the track marker length

CMS-T-00001487-C.1

1. Loosen the bolts **1** with the universal operating tool
2. Pull out the track marker disc **2** until the desired distance is reached.
3. Tighten the bolts with the universal operating tool.
4. Make the same setting for the opposite side of the implement.
5. After 5 hours of operation, check the bolt connection for tight fit.



CMS-I-00001074

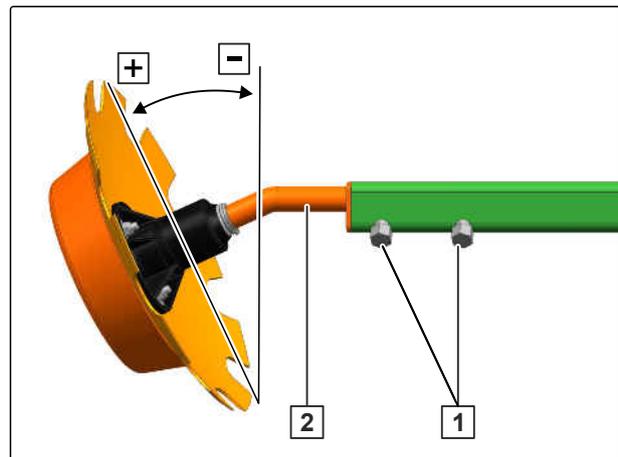
6 | Preparing the machine

Preparing the implement for operation

6.3.3.4 Adjusting the track marker intensity

1. Loosen the bolts **1** with the universal operating tool.

Work application	Pitch
Light soils	Reduce - About parallel to the direction of travel
Heavy soils	Increase + More on-grip to the direction of travel



CMS-I-00001077

2. Move the track marker disc to the desired position by turning the track marker axis **2**.
3. Tighten the bolts with the universal operating tool.
4. Make the same setting for the opposite side of the implement.
5. After 5 hours of operation, check the bolt connection for tight fit.

6.3.4 Preparing the wheel mark eradicator for operation

CMS-T-00004718-B.1

6.3.4.1 Adjusting the working depth of the wheel mark eradicators

CMS-T-00001486-C.1



IMPORTANT

Increased wear of the wheel mark eradicator bracket

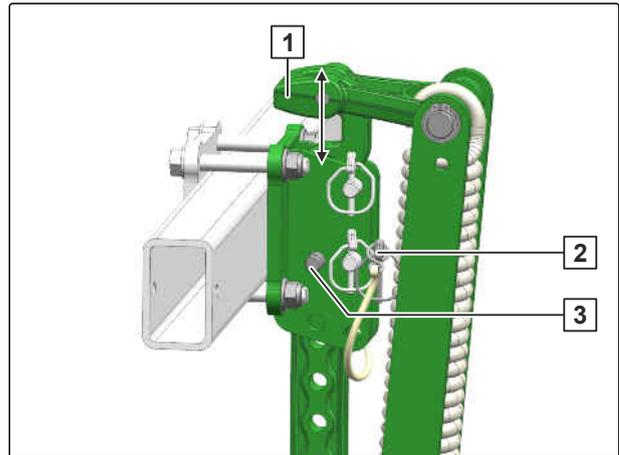
- ▶ When the overload safety is triggered at short intervals, reduce the working depth.
- ▶ Change to a wheel mark eradicator coulter that is easy to pull.



NOTE

The adjustment of the working depth must be adapted to the respective operating conditions. The optimum adjustment can only be determined during field operation.

1. Raise the implement.
2. Release the linch pin **2**.
3. Hold the wheel mark eradicator by the recessed grip **1**.
4. Remove the locking pin **3**.



CMS-I-00000942

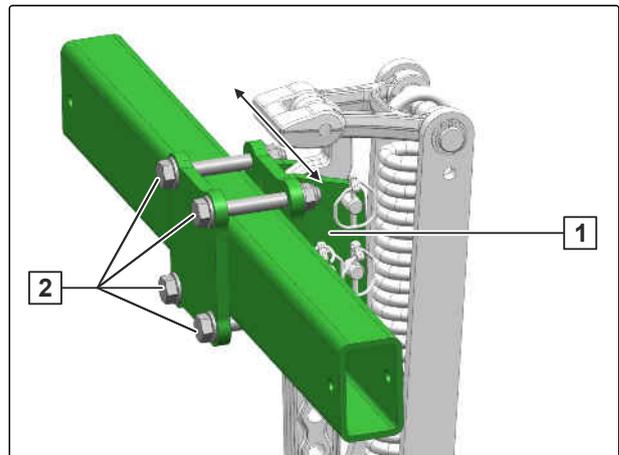
The maximum working depth is 150 mm.

5. Move the wheel mark eradicator to the desired position.
6. Secure the wheel mark eradicator with the locking pin.
7. Secure the locking pin with the linch pin.

6.3.4.2 Adjusting the track width of the wheel mark eradicator

CMS-T-00001553-B.1

1. Loosen the nuts for the clamp connection **2**.
2. Move the wheel mark eradicator bracket **1** to the desired position.
3. Tighten the nuts.
4. After 5 hours of operation, check the bolt connection for tight fit.

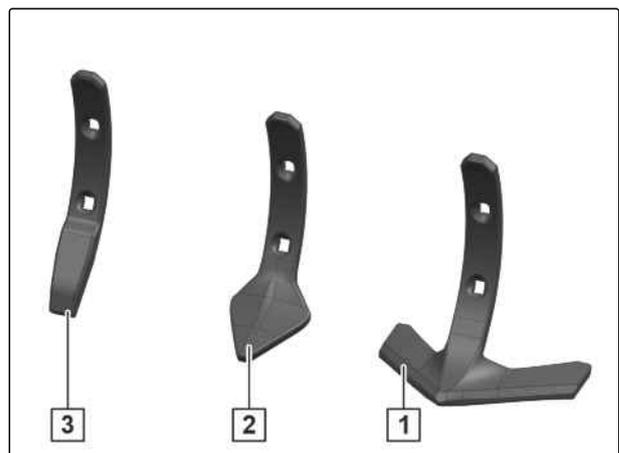


CMS-I-00000943

6.3.4.3 Replacing the wheel mark eradicator coulter

CMS-T-00002425-C.1

Different wheel mark eradicator coulters can be installed on the wheel mark eradicator. The choice of the wheel mark eradicator coulter depends on the operating conditions.



CMS-I-00001967

6 | Preparing the machine

Preparing the implement for operation

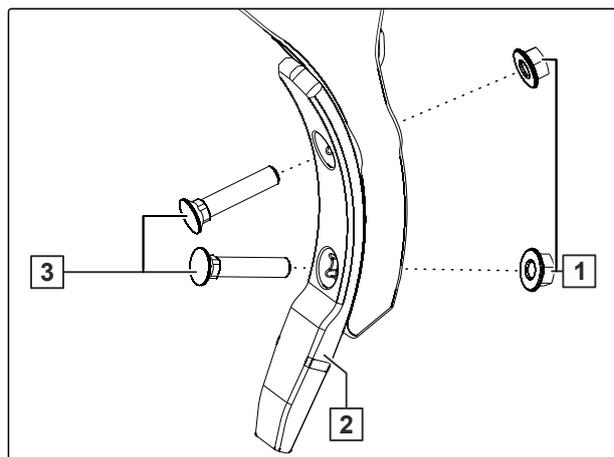
Number	Wheel mark eradicator couler	Operating conditions	Pulling force requirement
1	Wing couler	Shallow loosening and levelling of medium, silty soils	High pulling force requirement
2	Heart-shaped couler	Medium-depth loosening of various soils	Medium pulling force requirement
3	Narrow couler	Deep loosening of light soils	Low pulling force requirement

CAUTION

Risk of injury from sharp edges on the coulers and the bolt heads

- ▶ Wear gloves.
- ▶ Pay attention to sharp edges.
- ▶ Do not allow carriage bolts to rotate.

1. Remove the nuts **1**.
2. Remove the bolts **1**.
3. Install the desired wheel mark eradicator couler **2** on the tool carrier.
4. Install the bolts **3**.
5. Install the nuts and tighten them.
6. After 5 hours of operation, check the bolt connection for tight fit.

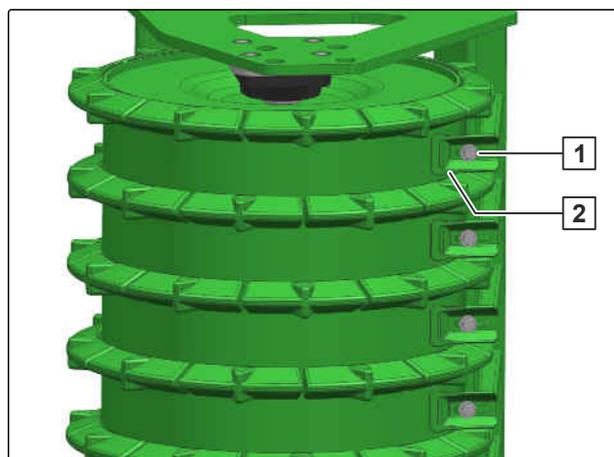


CMS-I-00001080

6.3.5 Adjusting the scraper to the roller

The scrapers on the roller are set at the factory. The scrapers can be adapted to the working conditions.

1. Loosen the bolt **1** under the scraper.
2. Move the scraper **2** in the elongated slot.
3. *To check the distance,* rotate the roller **2**.
4. Tighten the bolt.
5. Make the same setting for all scrapers.



CMS-T-00001534-B.1

CMS-I-00000933



NOTE

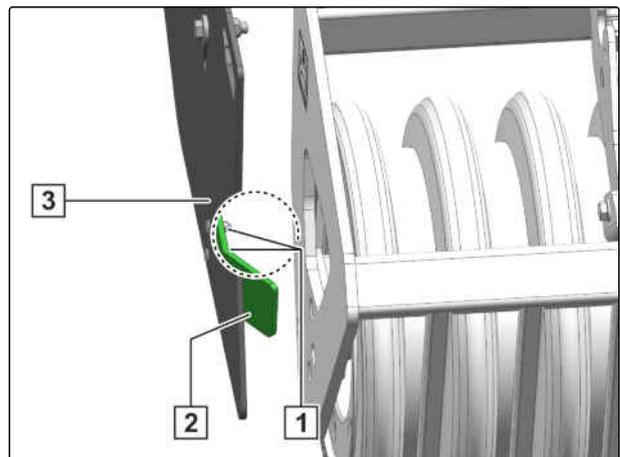
Permitted distances between the roller element and scraper:

- Wedge ring roller: 10 mm to 15 mm
- Tooth packer roller and trapeze ring roller: 0.5 mm to 4 mm

6.3.6 Adjusting the soil guiding angle bracket

CMS-T-00005249-A.1

1. Remove the nuts **1**.
2. *To prevent ridge formation during operation,* install the soil guiding angle bracket **2** in the desired hole pattern in the side guide plate **3**.
3. Install the nuts **1** and tighten them.
4. Operate the implement over 30 m to 50 m at working speed.
5. Check the seedbed.
6. Repeat the procedure until a uniform seedbed is produced.



CMS-I-00003765

6.4 Preparing the machine for road travel

CMS-T-00001747-D.1

6.4.1 Preparing the side guide plates for road travel

CMS-T-00001490-C.1



CAUTION

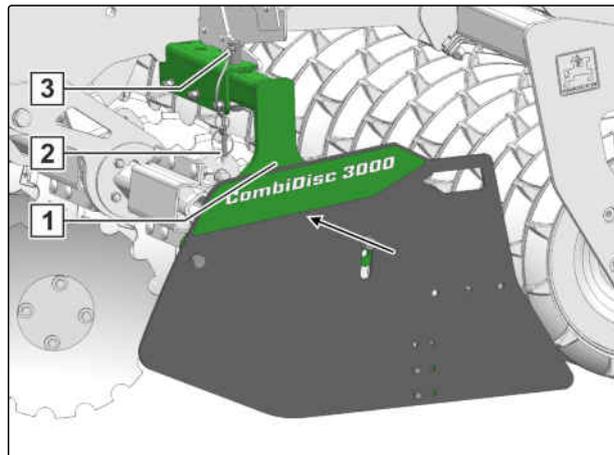
Crushing hazard for hands!

- ▶ Carefully telescope the side guide plates.

6 | Preparing the machine

Calculating the permissible payload

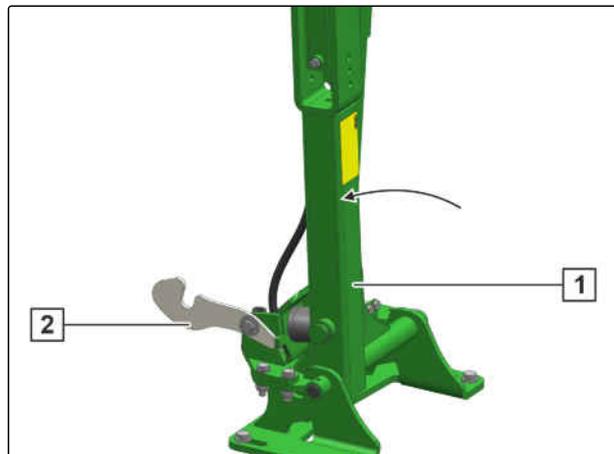
1. Raise the implement.
2. Remove the lynch pin **2**.
3. Pull out the pin **3**.
4. *To maintain the transport width,* move the side guide plates **1** to the desired position.
5. Secure the side guide plate with the pin.
6. Secure the pin with the lynch pin.



CMS-I-00000977

6.4.2 Preparing the track markers for road travel

1. Actuate the "yellow" tractor control unit.
- ➔ Fold the track markers into transport position.
2. Press the track marker **1** against the rubber block.
 3. Lock the transport lock **2**.
 4. Repeat the procedure for the opposite side of the implement.



CMS-I-00000952

6.5 Calculating the permissible payload

CMS-T-00002254-C.1



WARNING

Risk of accident due to exceeded payload

If the payload is exceeded, the implement can be damaged or/and it can result in uncontrolled driving behaviour of the tractor.

- ▶ Carefully determine the payload of the implement.
- ▶ Never exceed the payload of the implement.

Maximum payload = Permissible technical implement weight - tare weight

1. Read the permissible technical implement weight from the rating plate.
2. *To determine the tare weight,* weigh the implement with empty hoppers.
3. Calculate the payload.

Using the machine

7

CMS-T-00001492-A.1

7.1 Using the implement

CMS-T-00001531-A.1

During field operation as a solo implement, operations are limited to lifting and lowering the implement at the headlands.

1. Align the implement parallel to the ground.
2. Lower the implement on the field.
3. Lower the track markers for operation.
4. Move the hydraulic system of the 3-point power lift into float position.



NOTE

Raise the active track marker on the field before passing obstacles.

The working depth can be adjusted hydraulically during operation.

7.2 Turning the implement on the headlands

CMS-T-00001532-A.1

1. *To prevent lateral loads when driving in curves,* lift the soil tillage tools before driving into the headlands.
2. *When the direction of the implement matches that of the direction of travel,* lower the soil tillage tools.

Parking the machine

8

CMS-T-00001609-D.1

8.1 Moving the wheel mark eradicator into parking position

CMS-T-00001616-B.1

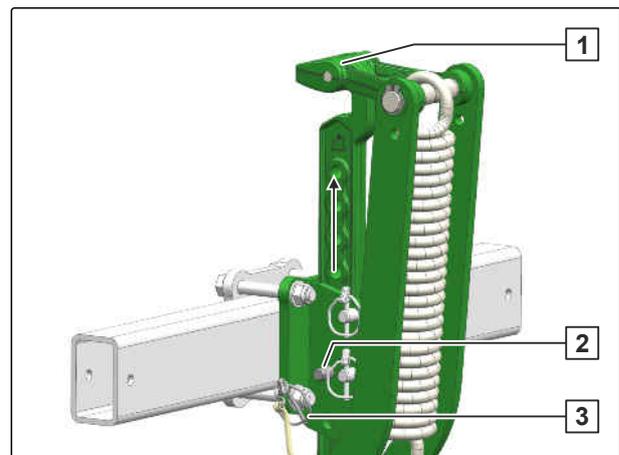


IMPORTANT

Damage to the wheel mark eradicators due to the implement weight

- ▶ *When you park the implement, put the wheel mark eradicators into parking position.*

1. Remove the linch pin **3**.
2. Hold the wheel mark eradicator by the recessed grip **1**.
3. Remove the locking pin **2**.
4. Using the recessed grip, move the wheel mark eradicator into the topmost position.
5. Secure the wheel mark eradicator with the locking pin.
6. Secure the locking pin with the linch pin.

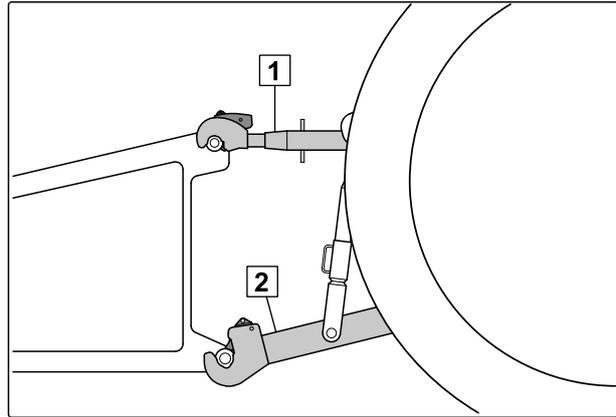


CMS-I-00000992

8.2 Uncoupling the 3-point mounting frame

CMS-T-00001401-C.1

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.
4. Release the lower links **2**.
5. Uncouple the lower links **2** from the implement from the tractor seat.

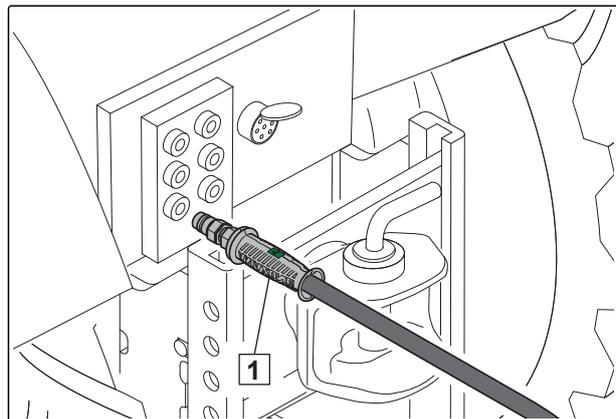


CMS-I-00001249

8.3 Disconnecting the hydraulic hose lines

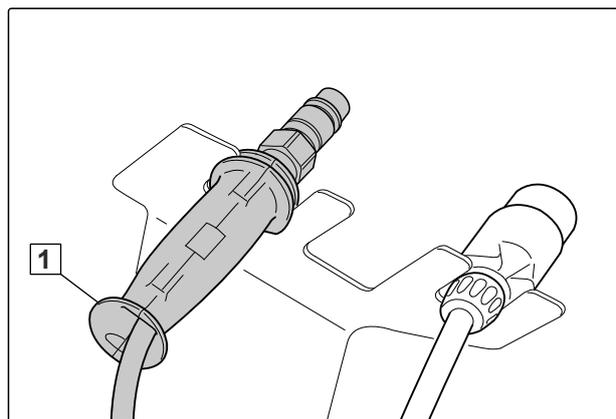
CMS-T-00000277-D.1

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.

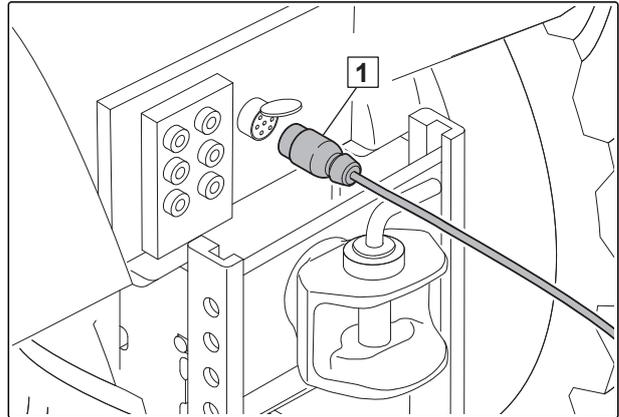


CMS-I-00001250

8.4 Uncoupling the power supply

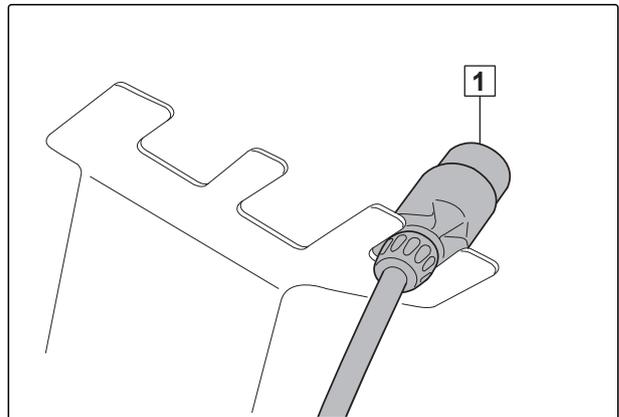
CMS-T-00001402-D.1

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



CMS-I-00001048

2. Hang the plugs **1** in the hose cabinet.



CMS-I-00001248

Repairing the machine

9

CMS-T-00001529-E.1

9.1 Maintaining the machine

CMS-T-00003174-C.1

9.1.1 Maintenance schedule

After initial operation	
Checking the hydraulic hose lines	see page 63
Checking the concave disc carrier connection	see page 64
Checking the roller	see page 66
as required	
Replacing the discs	see page 64
daily	
Checking the top link pin and lower link pin	see page 63
Every 50 operating hours / weekly	
Checking the hydraulic hose lines	see page 63
Every 50 operating hours / Every 3 months	
Checking the wheel mark eradicator coulter	see page 65
Every 200 operating hours / Every 3 months	
Checking the roller	see page 66

9.1.2 Checking the top link pin and lower link pin

CMS-T-00002330-C.1



INTERVAL

- daily

1. Check the top link pins and lower link pins for cracks or broken areas.
2. Replace the pins if there is significant wear.

9.1.3 Checking the hydraulic hose lines

CMS-T-00002331-B.1



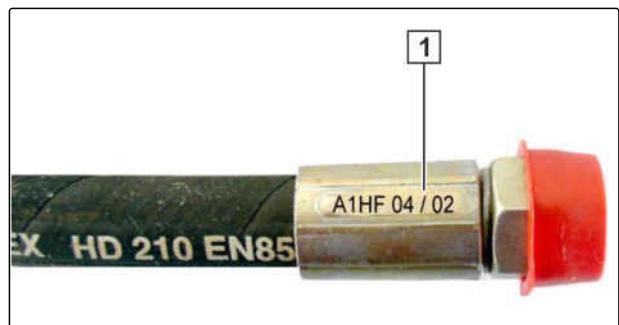
INTERVAL

- 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.

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

3. Check the manufacturing date **1**.



CMS-I-00000532

4. Have any worn, damaged or aged hydraulic hose lines immediately replaced at a specialist workshop.
5. Retighten loose bolted connections.

9.1.4 Replacing the discs

CMS-T-00002327-C.1

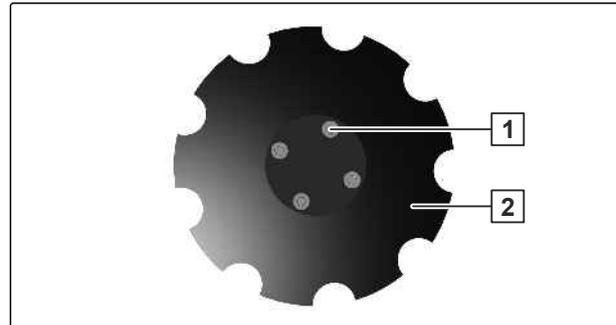
INTERVAL

- as required

REQUIREMENTS

- ✓ The wear limit specified in the technical data has been reached.

1. Slightly raise the implement.
2. Loosen the 4 bolts **1** for the disc fastening.
3. Remove the washer **2**.
4. Fasten the new disc with the 4 bolts.



CMS-I-00002450

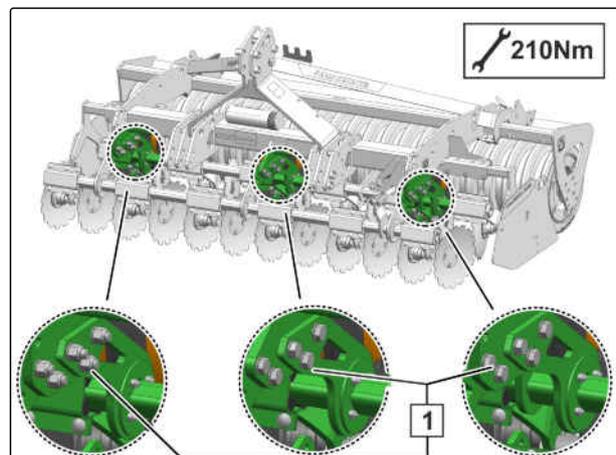
9.1.5 Checking the concave disc carrier connection

CMS-T-00003193-B.1

INTERVAL

- After initial operation

- ▶ Check the bolts **1** for tightness.



CMS-I-00000936

9.1.6 Checking the wheel mark eradicator coulter

CMS-T-00002497-C.1

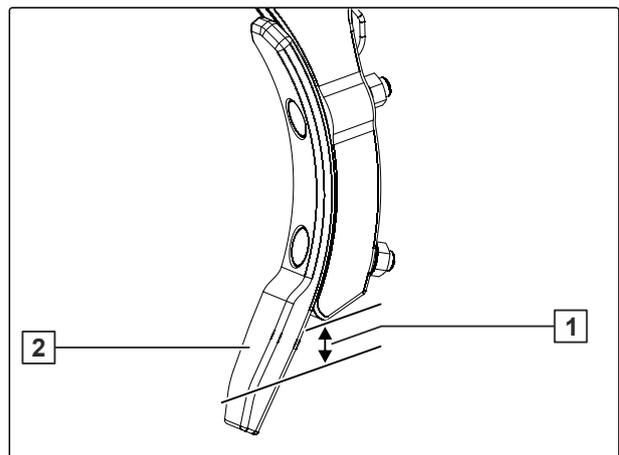
INTERVAL

- Every 50 operating hours
or
Every 3 months

IMPORTANT

The tool carriers become worn when constantly working in the soil.

- ▶ *When the wear limit of the wheel mark eradicator coulter has been exceeded, the tool carriers constantly work in the soil horizon.*
Replace the coulter when the wear limit has been reached.
- ▶ *If the distance **1** between the coulter tip and the tool carrier is less than 15 mm, replace the wheel mark eradicator coulter **2**.*



CMS-I-00001081

9.1.7 Checking the roller

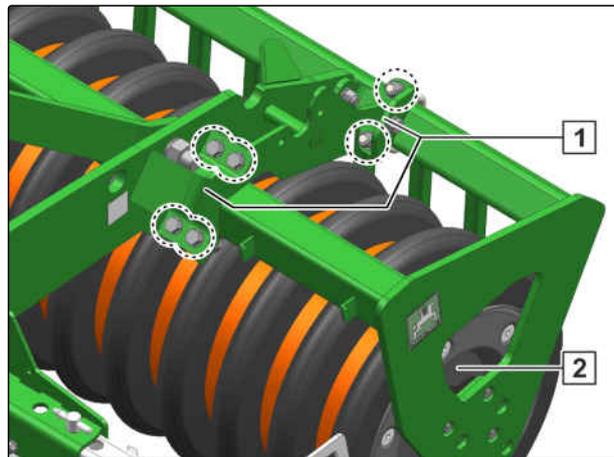
CMS-T-00003191-B.1



INTERVAL

- After initial operation
- Every 200 operating hours
or
Every 3 months

1. Check the alignment of the bolted connection **1**.
2. Check the bolts for tightness.
3. *To check the bearings of the roller for ease of movement,* turn the roller **2** by hand.



CMS-I-00001079

9.2 Lubricating the machine

CMS-T-00003175-B.1



IMPORTANT

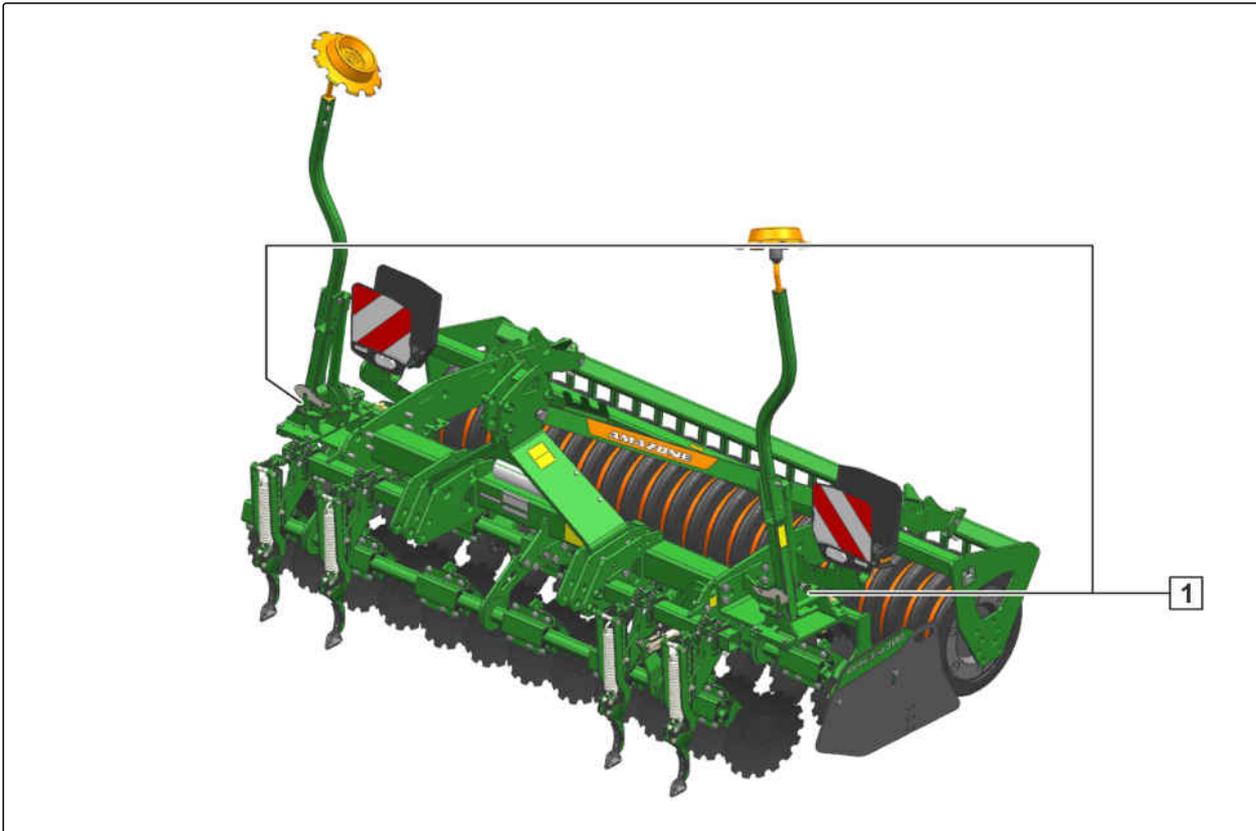
Implement damage due to improper lubrication

- ▶ 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.



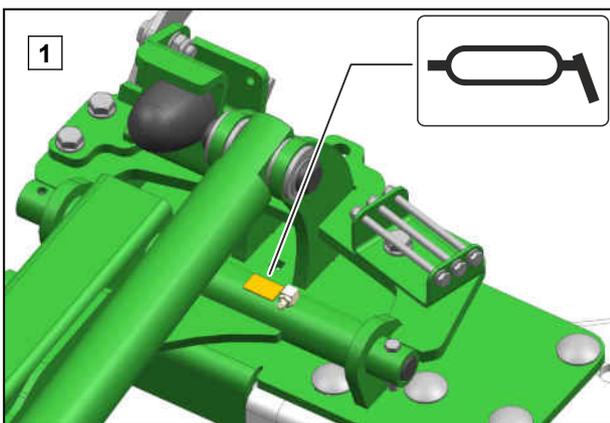
9.2.1 Overview of lubrication points

CMS-T-00003176-B.1



CMS-I-00002452

Every 50 operating hours



CMS-I-00002080

9.3 Eliminating faults

CMS-T-00003178-B.1

Errors	Cause	Solution
The packer roller turns stiffly.	If the tooth packer roller rotates stiffly during initial operation, e.g. due to areas glued by paint,	▶ pull the roller over firm ground.
The track marker collision protection is triggered.	The track marker has encountered a solid obstacle. The shear bolt is torn and the track marker folded to the rear.	see page 70
The lighting for road travel has a malfunction.	Lamp or lighting supply line is damaged.	▶ Replace the lamp. ▶ Replace the lighting supply line.
It lowers the wrong track marker.	When actuating the tractor control unit, the wrong track marker is lowered.	▶ Switch the control unit several times.
The tension spring of the wheel mark eradicator is broken.		▶ To install and remove the tension springs, contact Customer Service or your dealer.

9.3.1 The track marker collision protection is triggered.

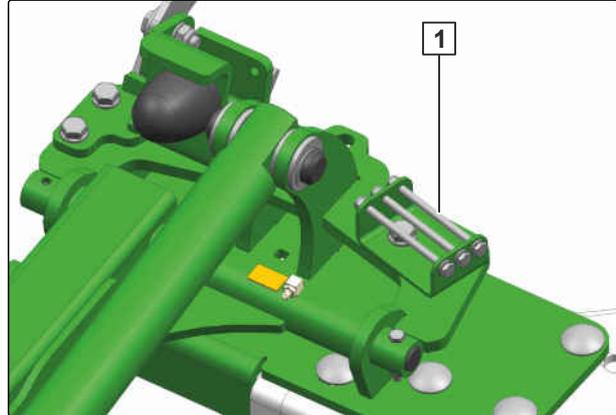
CMS-T-00002345-B.1

The track marker has encountered a solid obstacle. The shear bolt is torn and the track marker folded to the rear.

i NOTE

Only use original bolts as a replacement. Refer to the online spare parts list. Spare bolts are in the track marker bracket **1**.

1. Remove the damaged bolt from the overload safety.
2. Insert the spare bolt in the track marker boom.
3. Tighten the spare bolt.



CMS-I-00002081

9.4 Cleaning the machine

CMS-T-00000593-C.1



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 300 mm between the high-pressure nozzle and the machine.
 - ▶ Do not exceed a water pressure of 120 bar.
- ▶ Clean the machine with a high-pressure cleaner or a hot water high-pressure cleaner.

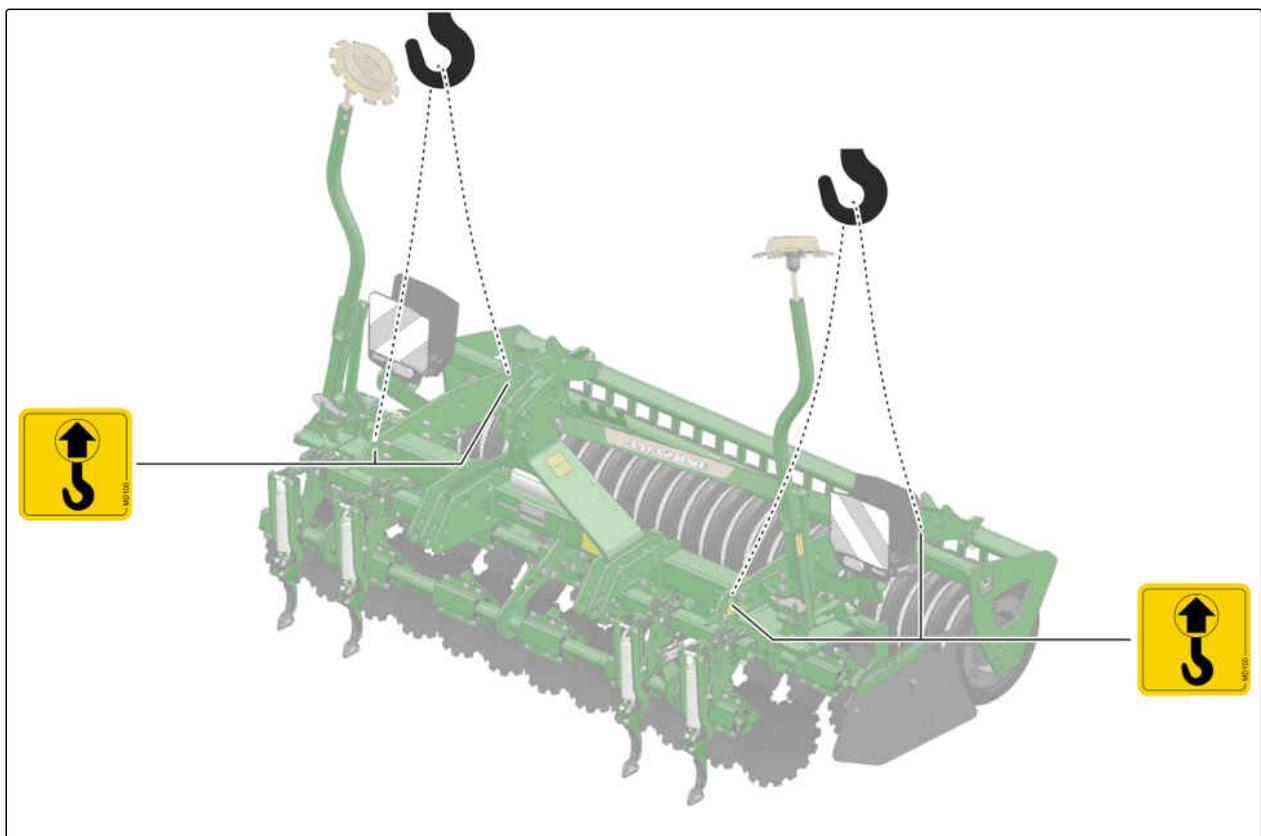
Loading the machine

10

CMS-T-00001527-D.1

10.1 Lifting the implement

CMS-T-00001528-D.1



CMS-I-00001012

The implement has 4 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.

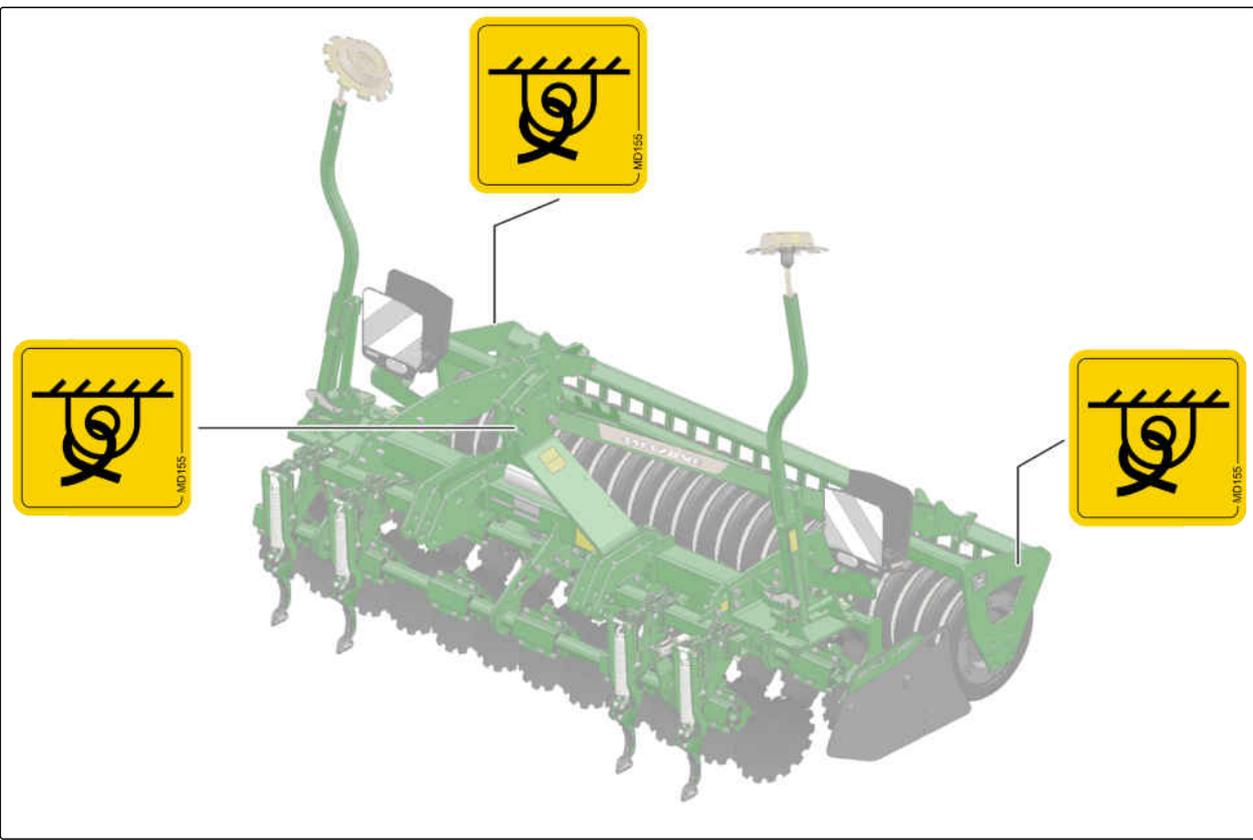
- ▶ Only attach the slings for lifting at the marked lashing points.
- ▶ *To determine the required load-bearing capacity of the slings,* observe the specifications in the following table.

Required load-bearing capacity per sling	2000 kg
--	---------

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

10.2 Lashing the machine

CMS-T-00006694-A.1



CMS-I-00004745

The implement has 3 lashing points for lashing straps.



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.

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.

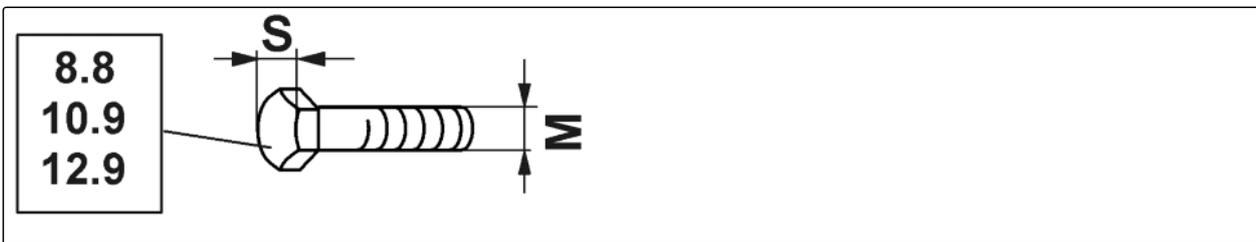
Appendix

11

CMS-T-00001468-C.1

11.1 Bolt tightening torques

CMS-T-00000373-B.1



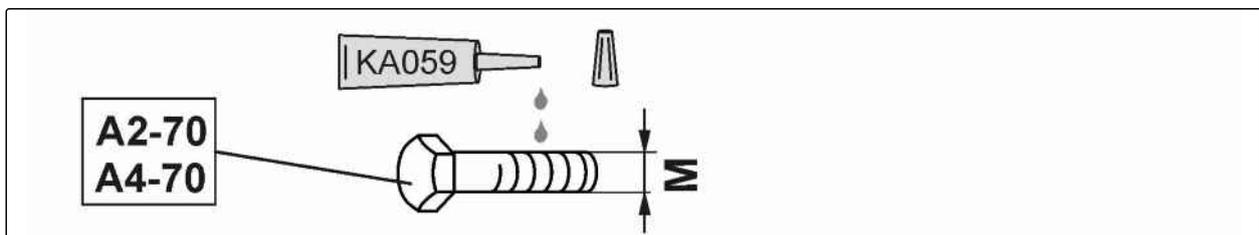
CMS-I-000260

i NOTE

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

M	S	Nm		
		8.8	10.9	12.9
M8	13	25	35	41
M8x1		27	38	41
M10	16(17)	49	69	83
M10x1		52	73	88
M12	18(19)	86	120	145
M12x1.5		90	125	150
M14	22	135	190	230
M 14x1.5		150	210	250
M16	24	210	300	355
M16x1.5		225	315	380
M18	27	290	405	485
M18x1.5		325	460	550
M20	30	410	580	690
M20x1.5		460	640	770

M	S	Nm		
		8.8	10.9	12.9
M22	32	550	780	930
M22x1.5		610	860	1050
M24	36	710	1000	1200
M24x2		780	1100	1300
M27	41	1050	1500	1800
M27x2		1150	1600	1950
M30	46	1450	2000	2400
M30x2		1600	2250	2700



CMS-I-00000065

M	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24
Nm	2.4	4.9	8.4	20.4	40.7	70.5	112	174	242	342	470	589

11.2 Other applicable documents

CMS-T-00001469-A.1

- Tractor operating manual
- Operating manual for the Cataya 3000 Special/ Super
- Operating manual for the Centaya 3000 Super
- Operating manual for the GreenDrill 200-E

Directories

12

12.1 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.

O

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.

12.2 Index

3		Contact data	
		<i>Technical editing</i>	4
3-point mounting frame		D	
<i>coupling</i>	43	Dimensions	35
<i>Extension, installation of</i>	43	Discs	
<i>uncoupling</i>	60	<i>replacing</i>	64
3-point mounting frame extension		Documents	30
<i>mounting</i>	43	Drivable slope inclination	37
A		E	
Address		Eliminating faults	69
<i>Technical editing</i>	4	H	
Adjusting the soil guiding angle bracket	55	Headlands	
Adjust the working depth of the concave discs		<i>turning on the headlands</i>	58
<i>hydraulically</i>	47	Hydraulic hose lines	
Adjust the working depth of the individual		<i>checking</i>	63
concave discs manually	48	<i>coupling</i>	44
Adjust the working depth of the side guide plates	49	<i>uncoupling</i>	60
Aids	30	Hydraulic system	
Attach the ball sleeves		<i>coupling</i>	44
<i>for mounting category 2</i>	41	I	
<i>for mounting category 3</i>	42	Implement	
B		<i>lashing</i>	72
Bolt tightening torques	74	<i>lifting</i>	71
C		<i>loading and unloading</i>	71
Calculating the tractor characteristics	38	<i>lowering</i>	58
Checking the lower link pin	63	<i>Overview</i>	23
Checking the top link pin	63	<i>parking</i>	59
Cleaning	70	<i>preparing</i>	38, 38
Combination options	34	<i>preparing for operation</i>	56
Concave discs, working depth		<i>Preparing for road travel</i>	55
<i>adjusting manually</i>	46	<i>repairing</i>	62
Concave discs		<i>turning on the headlands</i>	58
<i>Adjust the individual working depth manually</i>	48	<i>using</i>	58
<i>Adjust the working depth hydraulically</i>	47	Increase the working depth of the concave discs	
<i>Description</i>	30	<i>manually</i>	46
<i>Increase the working depth manually</i>	46	Intended use	22
<i>Reduce the working depth manually</i>	47		
<i>Working depth, manual adjustment</i>	46		

L		Preparing the track marker for operation	
		<i>Adjusting the track marker intensity</i>	52
		<i>Adjusting the track marker length</i>	51
Lighting and identification		<i>Determining the track marker length</i>	51
<i>Front</i>	34	<i>Unfolding the track markers</i>	50
<i>Rear</i>	33		
Loading	71	Preparing the wheel mark eradicator for operation	
Lubricants	37	<i>Adjusting the track width of the wheel mark eradicator</i>	53
Lubricating the machine	67	<i>Adjusting the working depth</i>	52
		<i>Replacing the wheel mark eradicator coulter</i>	53
M		Product description	
Maintenance		<i>Lighting and identification to the front</i>	34
<i>Checking the hydraulic hose lines</i>	63	<i>Lighting and identification to the rear</i>	33
<i>Checking the lower link pin</i>	63	<i>Roller</i>	31
<i>Checking the roller</i>	66	<i>Side guide plate</i>	31
<i>Checking the top link pin</i>	63	<i>Track marker locking mechanism</i>	25
<i>Checking the wheel mark eradicator coulter</i>	65	Protective equipment	25
<i>Removing the disc carrier</i>	64		
<i>Replacing discs</i>	64	Q	
Mounting category	36	QuickLink quick-coupling system	34, 36
Moving the wheel mark eradicator into parking position	59	QuickLink	
		<i>Refer to QuickLink quick-coupling system</i>	34
N		R	
Noise development data	37	Reduce the working depth of the concave discs	
		<i>manually</i>	47
O		Repairing the machine	
Operating tool		<i>Lubricating the machine</i>	67
<i>Product description</i>	33	Repairs	62
P		Road travel	
Parking the machine		<i>preparing</i>	55
<i>Moving the wheel mark eradicator into parking position</i>	59	Roller	
Payload		<i>Adjusting the scraper</i>	54
<i>calculation</i>	56	<i>Product description</i>	31
Performance characteristics of the tractor	36	S	
Power supply		Scraper	
<i>coupling</i>	45	<i>adjusting</i>	54
<i>uncoupling</i>	61	Side guide plates	
Preparing the implement for operation		<i>Adjust the working depth</i>	49
<i>Adjusting the soil guiding angle bracket</i>	55	<i>Preparing for operation</i>	49
<i>Preparing the track marker for operation</i>	50	<i>Preparing for road travel</i>	55
<i>Preparing the wheel mark eradicator for operation</i>	52	<i>Product description</i>	31
Preparing the machine for road travel		Soil tillage tool	35
<i>Preparing the track markers for road travel</i>	56	Soil tillage tools	
		<i>Concave discs</i>	30

<i>Rollers</i>	31
<i>Side guide plate</i>	31

T

Technical data	
<i>Dimensions</i>	35
<i>Drivable slope inclination</i>	37
<i>Lubricants</i>	37
<i>Mounting category</i>	36
<i>Noise development data</i>	37
<i>Performance characteristics of the tractor</i>	36
<i>QuickLink quick-coupling system</i>	36
<i>Soil tillage tool</i>	35
<i>Working speed</i>	36
Threaded cartridge	30
Three-point hitch	
<i>coupling</i>	43
Track marker locking mechanism	
<i>Product description</i>	25

U

Unloading	71
-----------	----

W

Warning symbols	
<i>Description</i>	27
<i>Layout</i>	26
<i>Positions</i>	26
Wheel mark eradicator coulter	
<i>checking</i>	65
Working depth, adjusting	46
Working speed	36



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