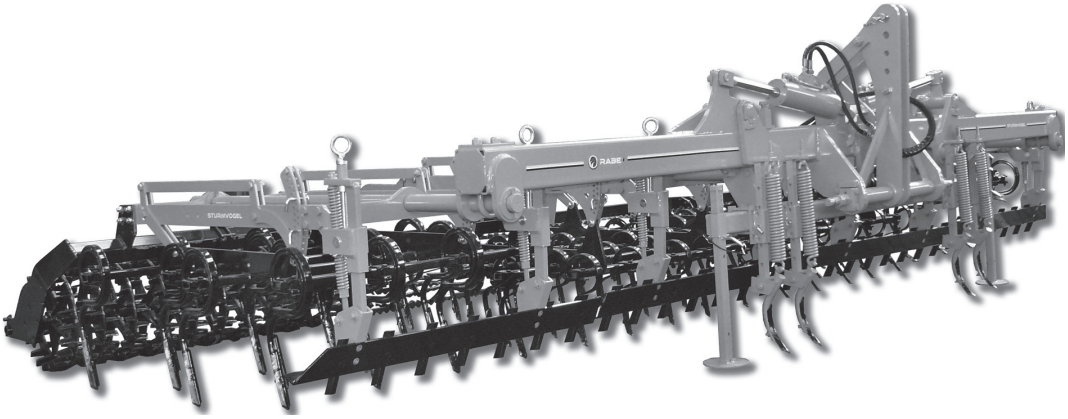
CE



Mounted - Seed bed harrow

Tetra 3001 L, 4501 L, 6001 L, 7500 L, 9000 L

Tetra 4501 LS, 6001 LS

Series 0

Implement serial no.

EN: Operating Instructions

GRÉGOIRE BESSON

Introduction

The design and construction of this Tetra seed bed combination harrow, which you have purchased, places great value on ease of use and a long service life.
Our range of products is completed by a comprehensive range of accessories, which provides for a multitude of different uses.

The operating instructions are intended to familiarise you with the functions of the Tetra seed bed combination harrow and provides descriptions on setup, operation, care and maintenance tasks.
It is an integral part of the implement, and must always be carried on it or in the tractor's cab.

These operating instructions are intended for skilled agricultural workers and individuals, who are employed in other qualified positions in the agricultural industry.
They assume that the user has already received instruction on how to operate this implement.

The individual descriptions are complemented by photographs and diagrams, illustrating the Tetra seed bed combination harrow. The implement illustrated in these diagrams may differ from the implement before you, due to the different equipment variants which exist.
All instructions pertaining to direction should be taken to mean in the direction of travel.

This document was produced using the information with respect to equipment and operation, which was known at the time of printing.
Changes due to technical improvements are reserved.

In order to confirm that the initial commissioning and orientation on the implement with respect to:

- Completeness of the scope of delivery
- Instruction/training on the safety instructions
- Instruction/training on operation

have taken place, please fill out the whole of the enclosed delivery declaration.
Return the original (see details on the declaration itself) to Grégoire Besson GmbH.

There is a copy of the delivery declaration in the Appendix. If the declaration is missing, you can fill this out, then copy it and send it in.

NOTE
Should you decide to sell or hand on the used implement, the operating instructions must be provided with it, and the purchaser should be instructed/ trained as to the safety instructions and how to operate it.

If you have any questions, contact your specialist dealer or us directly at:
Grégoire Besson GmbH • Am Rabewerk 1 • D-49152 Bad Essen • Germany
Phone: +49(0) 5472-7710 • Fax: +49(0) 5472-771100
info@rabe-agri.eu • www.rabe-agri.eu

Before start-up, read and take note of the operating instructions and safety instructions!

Contents

1.0 For your safety

1.1 Explanations about these operating instructions

The individual descriptions are complemented by photographs and diagrams.
We would like to advise you that the implement depicted in the photos may differ from the standard scope of delivery.
All information pertaining to directions or sides are given as seen when facing the driving direction.

1.2 Symbol descriptions

The operating instructions use the following symbols to identify hazards which occur when using the implement or information on using the implement.

Symbol in this document	Meaning
	**Hazard warning** Hazard warnings allude to risks which occur when using the implement.
	The hazard warnings are arranged into different levels and are described with the signal words "*Danger, Warning, Caution*". The signal words specify the severity of the impending hazard. **Danger** Identifies hazards with a *high* degree of risk. Failure to observe these hazards can result in the most serious injuries or death. **Warning** Identifies hazards with a *moderate* degree of risk. Failure to observe these hazards can result in serious injuries or death. **Caution** Identifies hazards with a *low* degree of risk. Failure to observe these hazards can result in moderate injuries.
	**ATTENTION** Information on using the implement. Failure to observe these instructions can result in malfunctions to its proper functioning.
	**NOTE** Instructions which help to simplify use of the implement and the operating instructions are indicated by this symbol.
►	List of working instructions
① ⓐ	Item designations in figures
(Not shown)	This item does not appear in the figure
WAF	Width across flats for the tool to be used

1.3 Target audience of these operating instructions

These operating instructions are intended for skilled agricultural workers and individuals, who are employed in other qualified positions in the agricultural industry and who have received instruction on working with this implement.

1.4 General safety information

Take note of the safety instructions

- in the interests of your own safety
- in the interests of the safety of your colleagues
- in order to guarantee the safety of the equipment.

A number of hazards may occur as the result of incorrect operation of agricultural implements. You should therefore work with particular care and never in a hurry.

► Familiarise yourself with the contents of these operating instructions prior to start-up or assembly of this implement.

► Make sure that the operating instructions have been read and understood by all persons working with the implement or charged with care or maintenance tasks.

► Make sure that all persons working with the implement or charged with care-related tasks have access to the operating instructions at all times.

► Regularly inform those working with the implement about the safety instructions and statutory regulations.

► Conduct training on a regular basis for all persons who work with the implement; at least once a year.
Untrained or unauthorised personnel may not use the implement.

1.5 Intended use

The implement is intended exclusively for its normal usage in agricultural work.
Any use surpassing this is regarded as non-intended use. The manufacturer shall not be liable for any damage resulting from this. It is solely the user who bears this risk.

The intended use also involves compliance with the operating, servicing and repair instructions specified by the manufacturer.

The implement may only be used by individuals who are familiar with its features. Instructions for operation, service and the safe use of the implement, as indicated in the operating instructions in the form of warning notices and on the implement in the form of warning signs, must be observed.

The applicable accident prevention rules as well as any other generally accepted safety requirements, occupational health and traffic regulations must be observed.

Any unauthorised changes to the implement exclude from the manufacturer's liability for any damage resulting from this.

Foreseeable incorrect use
In order to prevent use of the implement in a manner not intended by the operating instructions, the warning notices and warning signs indicate potential incorrect use. The instructions provided must be observed at all times.

1.6 Who may operate the implement

Qualified persons only.
The implement may only be operated, maintained or repaired by persons whose qualifications authorise them to do so and who are sufficiently informed with regard to the dangers involved with operating the equipment.
In general, these persons have received agricultural education or are comparably trained.

1.6.1 Definition of personnel qualification

Qualified persons

Persons, who have been trained in the tasks assigned to them, who have been briefed on the potential dangers with improper conduct and who have been instructed with regards to the necessary protective equipment and measures.

Specialists

Persons with specialist technical training. Due to their qualifications and knowledge of the applicable regulations they are able to evaluate the work assigned to them and identify potential hazards.

1.7 Operator's position

The operator's position is on the driver's seat of the tractor. This is where the implement is operated from.
The implement may only be operated by a single person, from the driver's seat of the tractor.

1.8 Safety instructions - General usage

WARNING

Risk of accident and injury due to missing or incorrect operator safety equipment.

- *Always wear the prescribed work clothing, e.g. closely-fitting clothing, safety shoes and protective gloves, when carrying out all work on or with the implement.*

DANGER

Risk of accident due to operating errors.

- *Prior to starting work or starting up the implement, familiarise yourself with all equipment and operating controls and their functions.*

WARNING

Risk of accident due to failure to establish operational and road safety.

- *Bear in mind the maximum permitted dimensions and axle loads for the tractor/implement combination.*
- *Follow the general safety and accident prevention regulations.*
- *Check the tractor and implement for operational and road safety prior to every start-up.*
- *Before first use, re-tighten all bolts to the stipulated tightening torque.*
- *All safety devices must be fully installed and secured.*
- *Prescribed setting, maintenance and inspection work must be carried out within the required timeframe.*

DANGER

Risk of accident due to riding on the implement during operations and transport.

- *Riding on the implement and standing within areas of danger is prohibited.*

Risk of accident due to uncontrolled movements of the tractor/implement combination.

- *The operator must not leave the operator's platform while the vehicle is in motion.*
- *Before leaving the tractor, always:*
  - *wait until the implement has come to a complete standstill*
  - *lower the implement fully*
  - *apply the tractor's parking brake*
  - *switch off the engine*
  - *remove the ignition key*

Accident and injury hazard due to damaged parts.

- *Only use the implement when it is in a technically flawless condition.*
- *Take damaged implements out of service immediately and secure them against being re-used.*

Risk of accident due to components swinging out.

- *No persons may be standing in the slewing range during slewing in or out operations.*

Risk of injury due to heavy components.

- *When handling heavy components, use suitable lifting accessories or seek the assistance of a second person.*

WARNING

Risk of accident when lifting implements or implement combinations with the tractor's three-point linkage.

- *When lifting implements, make sure that the they do not collide with components of the tractor, e.g. the rear window.*
- *When lifting implements, make sure that no persons are standing in the danger area.*
- *When lifting implements, make sure that there is adequate clearance around the implement.*

WARNING

Risk of accident from the folding and unfolding of implement parts.

- *When folding and unfolding implement parts, make sure that no persons are standing in the danger area.*
- *When folding and unfolding implement parts, make sure that there is adequate clearance around the implement.*
- *Close the rear window on the tractor.*

DANGER

Electric shock due to overhead power lines.

- *When lifting implements and folding/unfolding implement parts, ensure that sufficient clearance is left for power lines.*

1.9 Safety instructions - Loading

DANGER

Risk of accident due to suspended loads.

- *Do to walk under suspended loads.*
- *Do not stand under or in the vicinity of the implement while it is lifted.*
- *When lifting the implement, proceed with care and pay attention to balance.*
- *Only lift the implement with the designated crane points.*

1.10 Safety instructions - Coupling and uncoupling

WARNING

Risk of accident while coupling the implement to and uncoupling it from the tractor.

- *During coupling and uncoupling, no person may stand between the tractor and the implement; also do not step between the tractor and the implement while operating the external hydraulics control.*
- *Take note of all crushing and shearing points on all moving parts of the implement.*
- *Before coupling and uncoupling the hydraulic plug couplings, depressurise the hydraulic system. Follow the operating instructions and safety instructions.*
- *Prior to uncoupling:*
  - *wait until the implement has come to a complete standstill*
  - *lower the implement fully*
  - *apply the tractor's parking brake*
  - *switch off the engine*
  - *remove the ignition key*
- *Secure the implement from rolling away. If necessary, apply the handbrake, apply the brake on the implement.*
- *Secure the implement from rolling away by using wheel chocks.*

1.11 Safety instructions - Hydraulics

WARNING

Risk of accident due to hydraulic fluid escaping at high pressure.

The hydraulic system is under high pressure; hydraulic fluid may escape when connecting or disconnecting hydraulic hoses.

- *When connecting or disconnecting, make sure that the hydraulic system on the tractor (floating position) and on the implement have been depressurised!*

Risk of accident due to operating errors caused by improperly connected hydraulic hoses.

Incorrectly connected hydraulic hoses may result in malfunctions and serious injury or death.

When connecting, ensure that:

- *the hydraulic hoses are connected to the prescribed connections.*

Risk of injury and infection due to hydraulic fluid penetrating under the skin.

Fluids (hydraulic oil) escaping under high pressure may penetrate the skin and cause severe injury.

- *Check hydraulic hoses regularly and replace if damaged or aged!*
  Only use original spare parts!
- *Use suitable tools when looking for leakages!*
- *Set down implement, depressurise the system, switch off the engine and remove the ignition key before commencing work on the hydraulic system!*
- *Consult a doctor immediately in case of injury!*

1.12 Ballast calculation

WARNING

Risk of accident due to inadequate steering and braking power and stability caused by incorrectly configured ballast offset.

Incorrectly configured or absent ballast offset may negatively affect the steering, braking and stability of the tractor.

- *The tractor/implement combination must never be used without the calculated front or rear ballasting.*
  See the Appendix for the calculation formulas.
- *Never use the tractor/implement combination if the weight or axle load exceeds the permitted values for the tractor or tyres.*

1.13 Safety instructions - Travelling by road / transport

WARNING

Risk of accident while transporting the implement by road.

- *Pay attention to national laws and regulations on the use of public highways.*
- *Ensure that the lights on your implement are in an excellent condition.*
  An implement with defective lighting is not roadworthy.
- *Lock the hydraulic control devices to prevent accidental operation, before each journey by road.*
- *Before moving off, check the immediate vicinity. No item or person may be in the immediate vicinity.*
- *The operator must not leave the operator's platform while the vehicle is in motion.*

Risk of accident due to unsecured attachment components.

- *Secure all components of the attachment to prevent uncontrolled movements, using the retaining system provided (transport lock) or other suitable measures.*
- *Always use the supplied covers (e.g. tine protection equipment).*

Risk of accident due to wide working radius of the implement.

During cornering, the wide working radius of the implement can cause accidents.

- *When cornering and making turns, pay attention to obstacles and the traffic situation.*

Risk of tipping due to the large centrifugal mass of the implement.

When cornering, the large centrifugal mass can cause the implement to tip over.

- *Drive slowing when cornering and in turns.*

1.14 Safety instructions - Field use

WARNING

Risk of accident while using the implement in the field.

- Prior to starting work, familiarize yourself with all equipment and operating controls and their functions.
- Before start-up, check the immediate vicinity. No item or person may be in the immediate vicinity.
- Only perform adjustment work with the implement lowered.

WARNING

Risk of accident due to objects being ejected.

- Before start-up, check the immediate vicinity. No item or person may be in the immediate vicinity.

Risk of tipping due to the large centrifugal mass of the implement.
When working on a slope, the large centrifugal mass can cause the implement to tip over.
- *Pay attention to the position of the centre of gravity during lifting and turning.*

1.15 Safety instructions - Care, maintenance and repair

WARNING
Risk of accident when performing maintenance work.
- *You should always work with particular care and never in a hurry.*
- *When working on attached implement:*
  - *wait until the implement has come to a complete standstill*
  - *lower the implement fully*
  - *switch off the engine*
  - *remove the ignition key*
- *Before performing work on the hydraulic system, lower the implement and depressurise the system.*
- *When performing care and maintenance tasks, wear work gloves and the prescribed working clothing.*
- *All tasks must be performed using suitable tools.*
- *Always disconnect the power before starting any work on the electrical system (e.g. lighting)!*
- *Separate the implement from the tractor before welding work.*
- *Secure the implement to prevent unauthorised start-up while such work is in progress.*

WARNING
Risk of accident due to pinching or crushing while performing adjustment, care, maintenance and repair work.
- *Turn off the engine of the tractor and take the key out of the ignition.*
- *Only perform work when the implement is in a safe condition and has been secured to prevent it from dropping and rolling away.*
  Use all provided supports.
- *During all work, wear work gloves, the prescribed working clothing and protective equipment.*
- *If the implement is folded, use additional means to secure it against unfolding unintentionally.*
  - *Close the provided shut-off valves, engage mechanical locks.*

Risk of accident due to failure to perform maintenance tasks or not doing so properly.
- *Replace self-locking nuts during reassembly with new ones.*
- *Do not replace self-locking nuts with normal nuts.*
- *For threaded connections with spring washers, inspect the spring washers during reassembly, and if necessary replace with new ones.*
- *Never replace shear bolts with standard bolts.*
- *Only replace nuts and bolts, where necessary, with those of the same strength class, e.g. 8.8.*
- *Observe the tightening torques.*
- *Check the tyre pressure regularly.*
- *Perform a regular visual inspection of the brake system for damage and leaks.*
- *Only use original spare parts.*

Risk of injury due to heavy components.

- *When handling heavy components, use suitable lifting accessories or seek the assistance of a second person.*

Risk of accident due to defective brake systems

(dependent on equipment).

Improper repairs to the brake systems cause the brakes to fail and result in serious accidents.

- *Adjustment and repair work on brake systems may only be performed by individuals with the proper technical training or by service centres.*

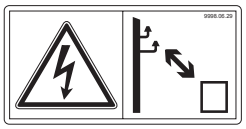
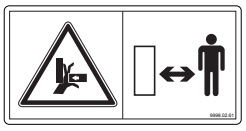
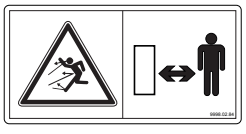
Risk of accident due to improperly carried out work on tyres and wheels.

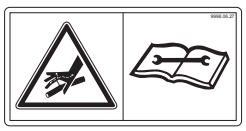
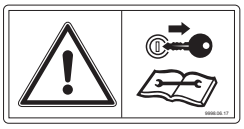
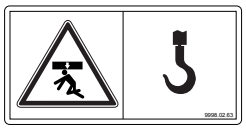
The removal and installation of wheels requires thorough expertise and approved mounting tools.

- *Repairs to tyres and wheels may only be undertaken by service centres.*

1.16 Meaning of the safety symbols on the implement

The following labels are affixed to the implement, for your safety.
These labels must not be removed.
Damaged or illegible labels must be replaced.
The position of safety symbols is detailed in the diagrams in the Appendix.

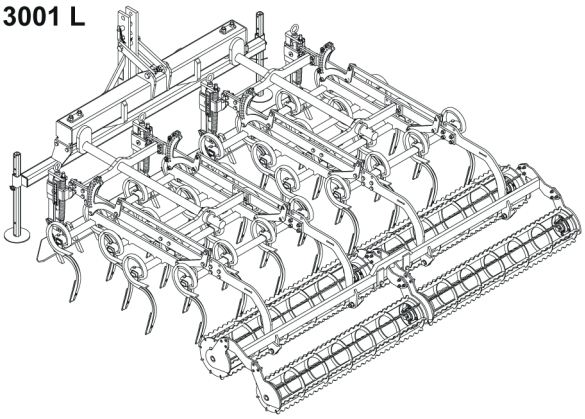
Order no.	Warning signs	Meaning
9998.02.59		Read the operating instructions before start-up. Observe the safety instructions. Observe the transport and assembly instructions.
9998.02.73		**Re-tighten all bolts after first use** Check that all bolts are tightly secured on a regular basis. Applicable breakaway torques see operating instructions or spare parts list. Use torque wrench.
9998.02.56		**Riding on the implement while it is operational or being transported is not permitted.** Only step on the loading ramp or platform while the implement is at a standstill, fully mounted and securely supported.
9998.02.53		**Fold-out side parts. Keep your distance.** Stay out of the folding area. Check that there is adequate free space when folding out.
9998.06.29		**Fold-out side parts.** Maintain sufficient distance from high voltage lines.
9998.02.81		**Crushing hazard when staying between tractor and the implement.** When coupling the implement combination to the tractor, ensure that no-one is standing between the tractor and the implement! Do not step between the tractor and the implement when activating the external control for the three-point linkage.
9998.02.61		**Risk of crushing. Keep your distance.** Do not reach into the crushing hazard zone so long as parts can move there.
9998.02.84		Hazard due to projectile foreign bodies. Keep your distance. Direct persons to leave the hazard area.
9998.06.26		**Operating pressure** The operating pressure of the hydraulic system must not exceed 200 bar.

Order no.	Warning signs	Meaning
9998.06.27		**Exercise great care with the emergence of high pressure liquid.** Risk of injury and infection due to hydraulic fluid penetrating under the skin. Observe information in the operating instructions.
9998.06.17		**Read the operating instructions prior to set-up, maintenance and repair** **Observe the safety instructions.** Observe the set-up and assembly instructions.
9998.02.63		**Do not remain in the vicinity of the implement when lifted up.** Attaching lifting accessories here.

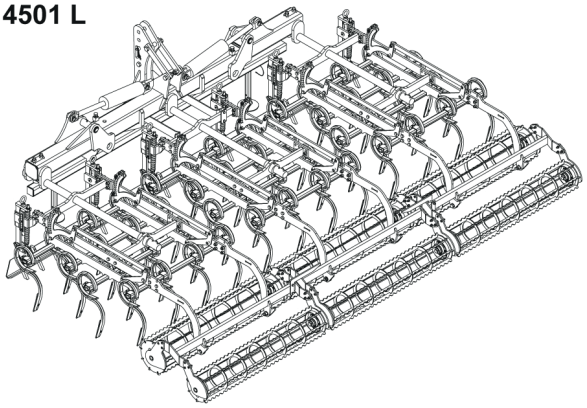
2.0 Variants

Fig. 1; Tetra variants

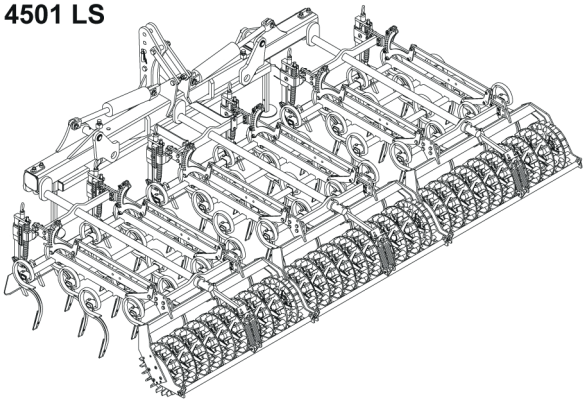
3001 L



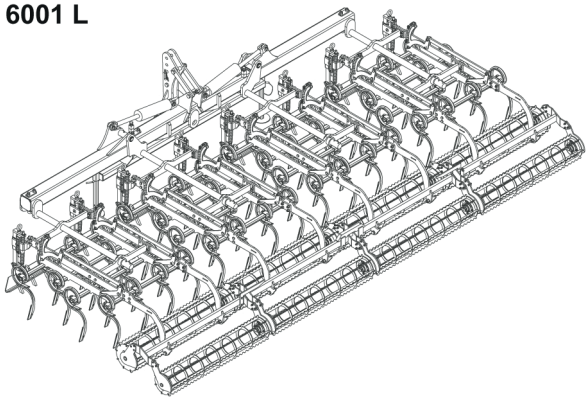
4501 L



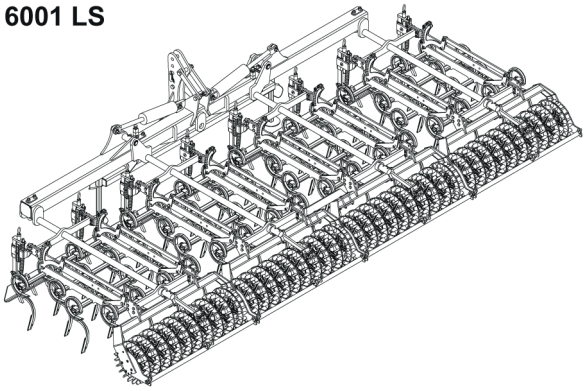
4501 LS



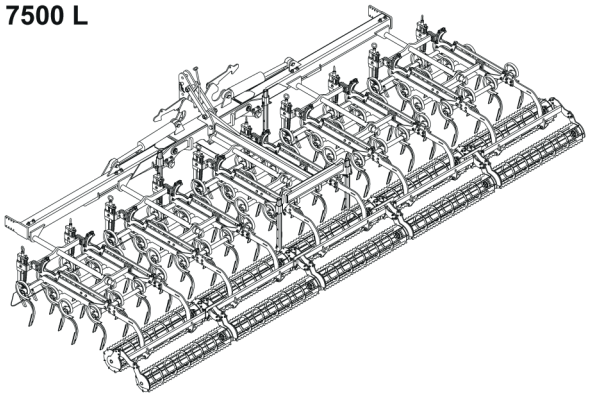
6001 L



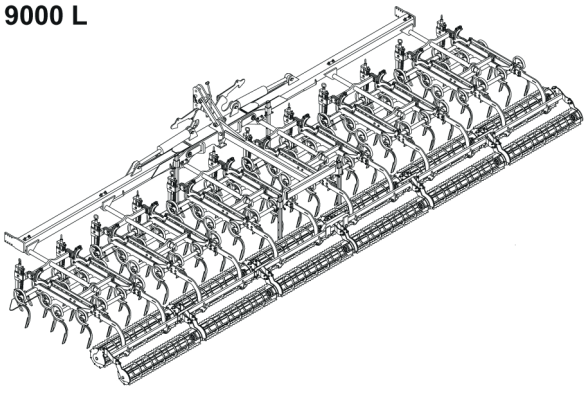
6001 LS



7500 L



9000 L

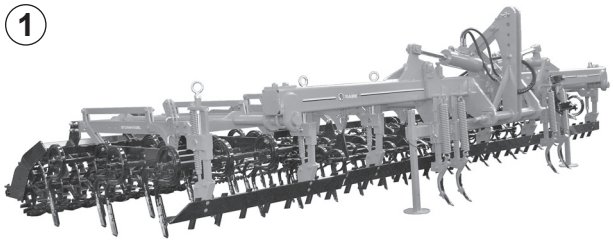


3.0 Scope of delivery

Before start-up, check the delivery for completeness.
Inform your dealer, importer or manufacturer immediately in writing of any missing parts or parts damaged during transport.

NOTE
A few parts must be fitted after delivery.
More information on this can be found in Chapter “Assembly after delivery“ - Page 77.

Fig. 2; Scope of delivery

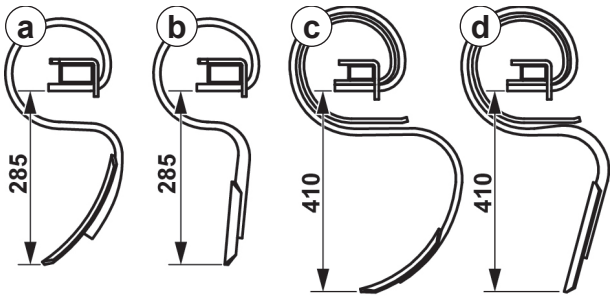


3.1 Basic equipment

Included in the delivery:

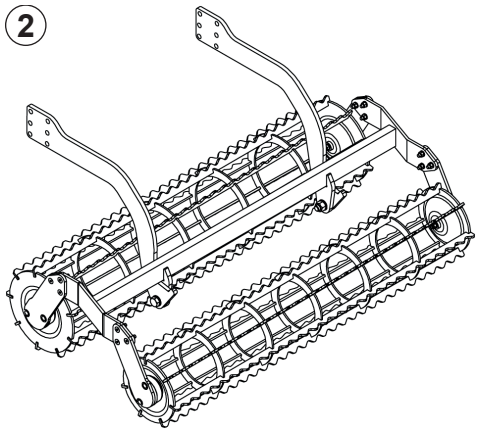
1) Implement with either:
   a) Mild harrow tines, or
   b) Upright mild harrow tines, or
   c) Dual spring reinforced tines, or
   d) Upright vibra-tines

Fig. 3; Scope of delivery - tines



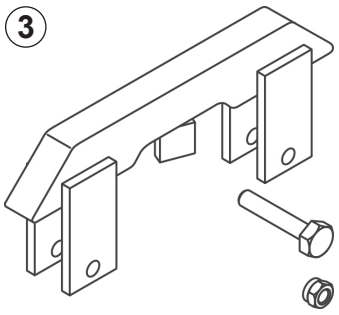
2) L variant - with dual spike disc harrow

Fig. 4; Scope of delivery - Dual spike disc harrow



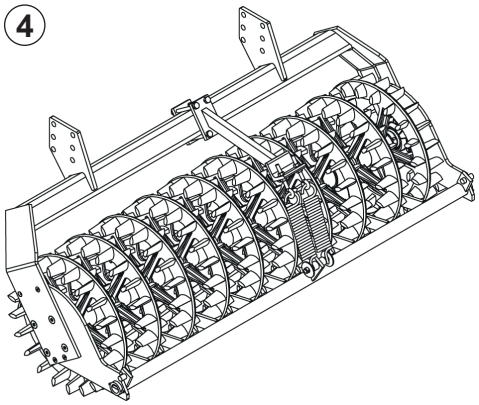
3) Roller binder for dual spike disc harrow

Fig. 5; Scope of delivery - Spike disc, roller binder



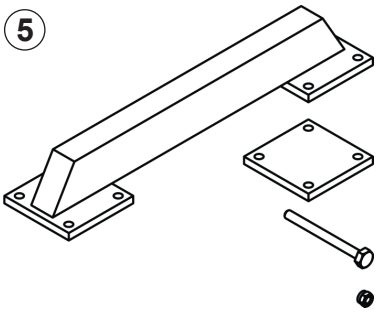
4) LS variant - with crosskill roller

Fig. 6; Scope of delivery - Crosskill roller



5) Roller binder for crosskill roller

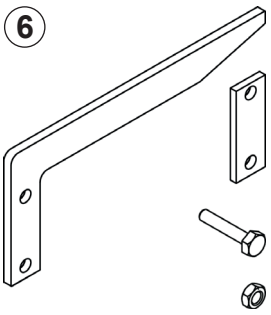
Fig. 8; Scope of delivery - Crosskill roller, roller binder



6) Transport lock
for Tetra 4501 L and 6001 L

7) Operating instructions (not shown)

Fig. 7; Scope of delivery - Transport lock



3.2 Additional equipment

1) Mechanical tines trail
2) Hydraulic tines trail

Fig. 9; Scope of delivery - tine trail, mechanical hydraulic

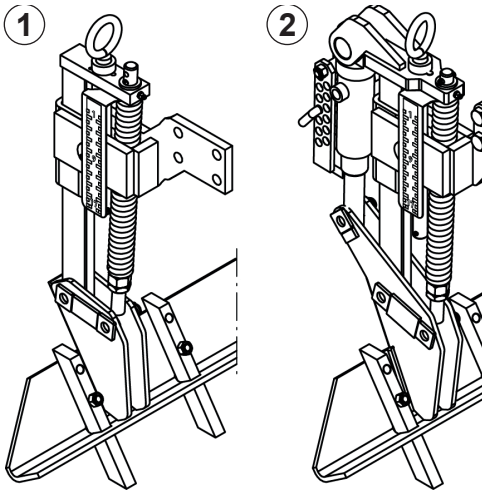


Fig. 10; Scope of delivery - Wheel mark eradicator Support wheel

3) Wheel mark eradicator, sprung version
4) Support wheels for Tetra 7500 L and 9000 L

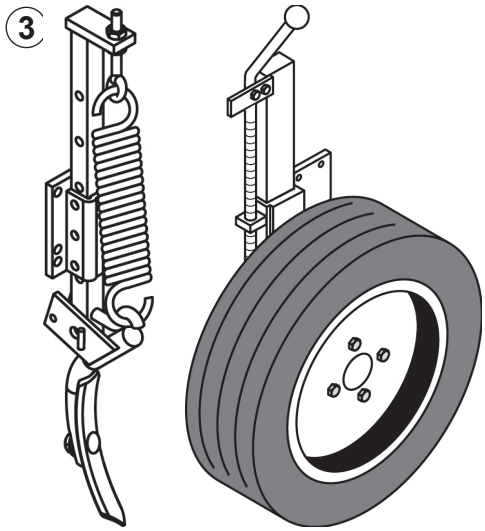
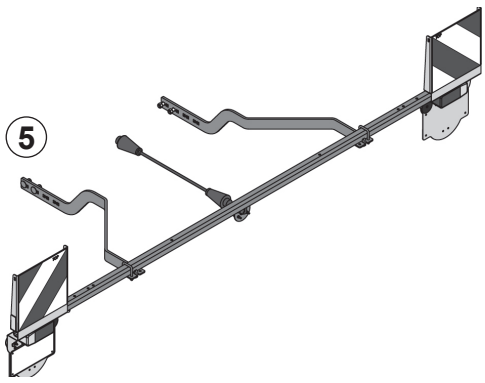


Fig. 11; Scope of delivery - Lighting

5) Lighting



4.0 Description of the implement

This section contains general information relating to your implement, as well as information regarding:

- Characteristics of the implement
- Description of the assemblies
- Technical data

4.1 Functional description

The seed bed combination harrow serves to loosen and crumble the top ground layer and thus prepare the seed bed before sowing. It is coupled to the tractor with the three-point linkage.

The working widths lie between 3.0 m in rigid versions and between 4.5 m and 9 m in folding versions. In the folding versions the side frames are folded in by means of hydraulic cylinders.

The transport width of 3 m is maintained with all versions.

The basic design of the seed bed combination harrow is comprised of a main frame with a tower, tine modules and trailing rollers.

The 150 x 150 mm main frame ensures a sturdy and durable design.

The tine modules are individually swing-suspended.
Depending on the tine design they are equipped with 4 rows or 5 rows of tines.
The rows of tines are each equipped with either 4 or 5 tines.
The tines are distributed across the harrow field such that there is a tine spacing (line spacing) of 94 mm (4 rows, 4 tines) or 60 mm (5 rows, 5 tines), depending on the version.
The tine rows are installed onto a parallelogram frame and adapt perfectly to the ground contours.
The working depth is adjusted via a perforated bar with pins.

The trailing rollers bear the construction during operation.

The seed bed combination harrow can be equipped with tine trails and wheel mark eradicator.

The height adjustable tine trails even out the ground without forming walls and break up large clods.
In order to side-step stones the tine trail levelling bar is suspended using springs - stone protection.

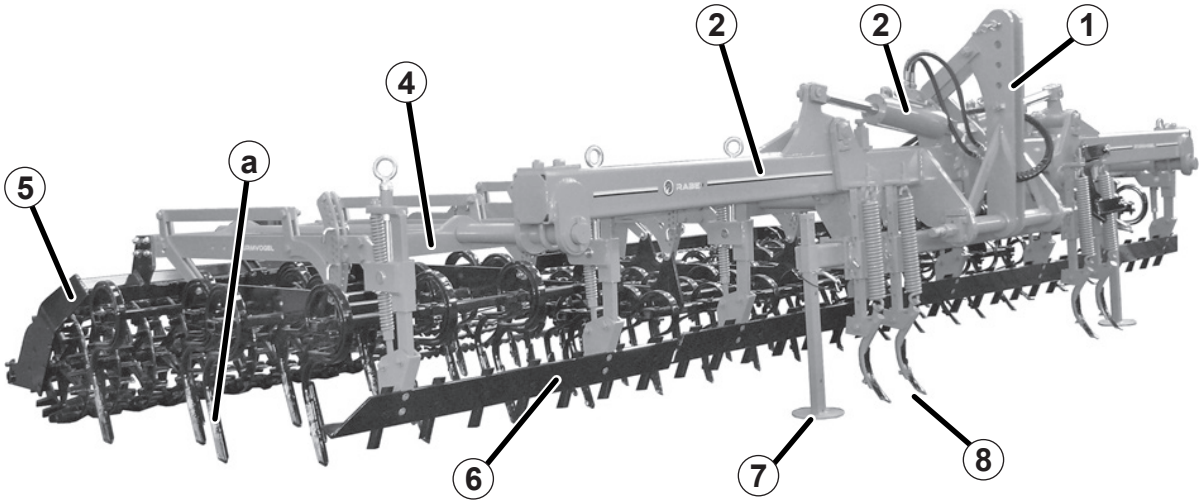
The wheel mark eradicator can be adjusted to the tractor wheel track.

With large working widths the height adjustable support wheels are fitted to support the side frames.

The maximum working speed for the seed bed combination harrow is 15 km/h.

4.2 Description of the components

Fig. 13; Description of the assemblies- View from front (illustration 6001 L)



1) Tower
2) Folding cylinder
3) Main frame (folding from 4501 L)
4) Tine field with tines (a)
5) Roller
   Either a spike disc harrow or crosskill roller design depending on the version.
6) Tine trailer
7) Set-down support
8) Wheel mark eradicator

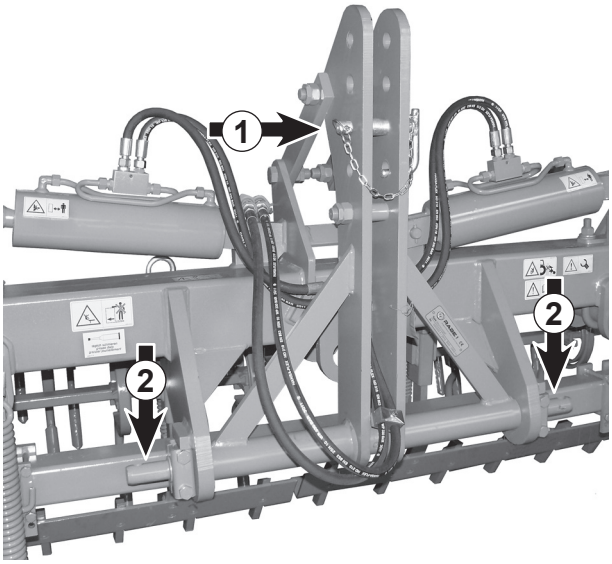
4.3 Description of the components

4.3.1 Tower

The tower consists of:

1) The top coupling point for coupling the top link.
2) The three-point axis for coupling the tractor's bottom links.
   Designed for category 3 and 3-short three-point linkage, depending on version.
   Tetra 3001 and Tetra 4501 can also be selected with category 2.

Fig. 12; Tower



4.3.2 Tine field

The swing-suspended (a) tine fields guarantee good ground contour following and an even operating level.

Depending on the tine design the tine fields are arranged as 4-row or 5-row (R) and the tine rows equipped with 4 or 5 tines (Z).

This gives a tine fitment of 16 or 25 tines.

A 4-row tine field with 16 tines has a line spacing (S) of 94 mm.

Fig. 14; Tine field, 4 rows, 16 tines

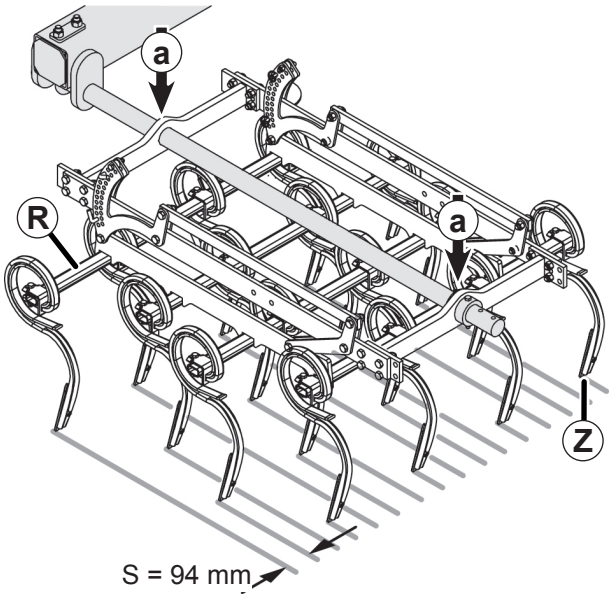


Fig. 15; Tine field, 5 rows, 25 tines

A 5-row tine field with 25 tines has a line spacing (S) of 60 mm.

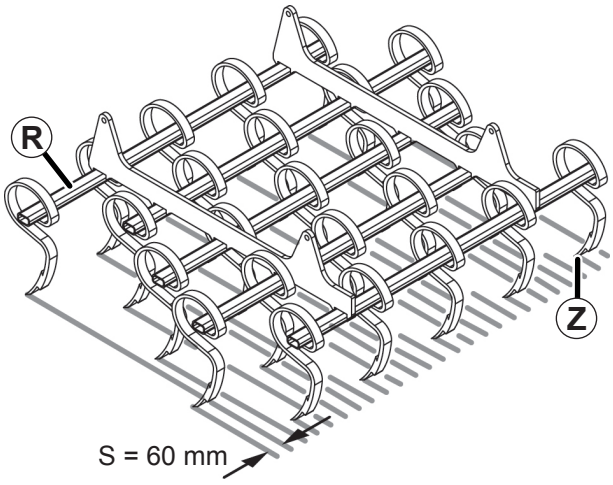
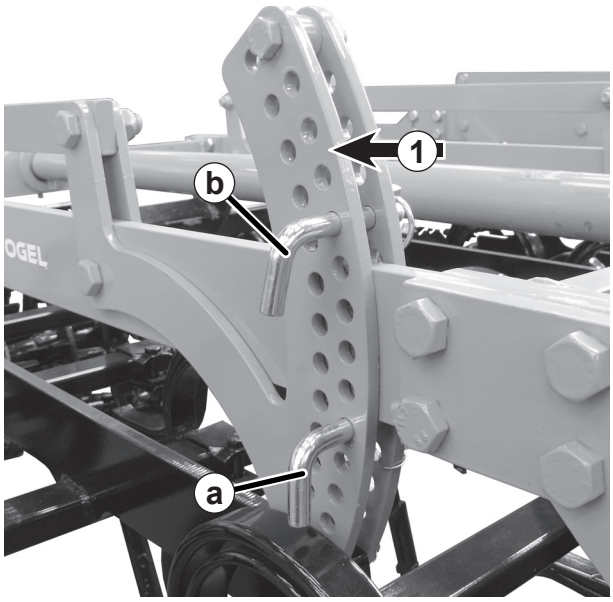


Fig. 16; Perforated bar fortine adjustment

The height of the tine fields can be adjusted via a perforated bar (1).
With the height adjustment the lower spring pin (a) serves to adjust the working depth of the tine field.
The upper spring pin (b) limits the travel of the tine field when lifting the Tetra.



4.3.3 Tines

Tine variants:

(a) Mild harrow tines

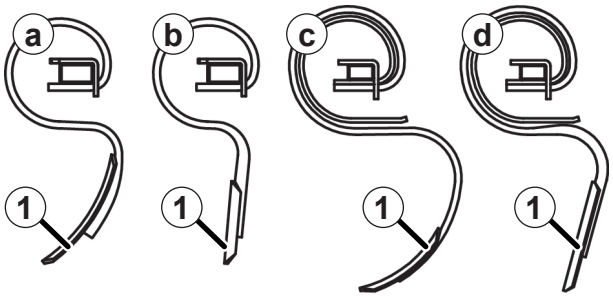
(b) Upright mild harrow tines

(c) Dual spring reinforced tines

(d) Upright vibra-tines

All tines are equipped with replaceable shares (1).
Shares can be turned around when worn.

Fig. 17; Tine variants



4.3.4 Spike disc harrow or crosskill roller

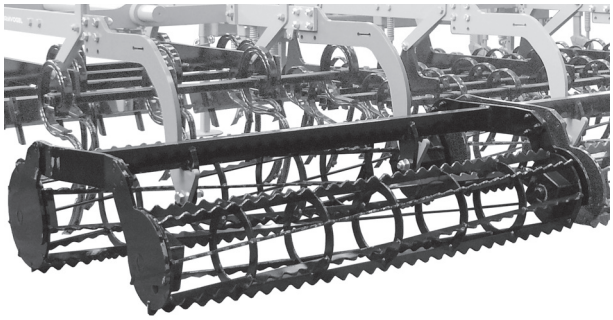
Spike disc harrows and crosskill rollers fulfil the following tasks:

- They improve the crumbling and, depending on the version, reconsolidate the loosened soil.
- They serve to support the seed bed combination harrow.

Design for Tetra - Dual spike disc harrow

The dual spike disc harrow is designed for light soil.
It is equipped with two rollers.
Roller diameter, front 330 mm, rear 270 mm.
The dual spike disc harrow provides better crumbling without reconsolidating the soil.

Fig. 18; Dual spike disc harrow

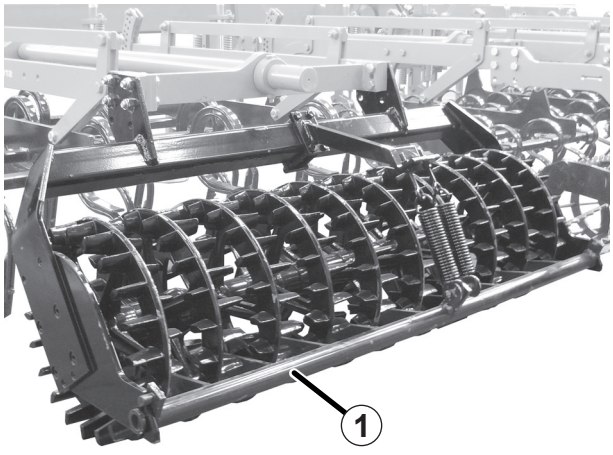


Design for Tetra LS - Crosskill roller

The crosskill roller is designed for heavy soil.
Roller diameter 440 mm.
The crosskill roller provides comprehensive reconsolidation of the soil across the whole working width, in addition to the crumbling.

The spring-mounted scraper (1) prevents soil build-up and the blocking of the crosskill roller.

Fig. 19; Crosskill roller



4.3.5 Tine trailer

The height adjustable tine trails (1) even out the ground and break up large clods.

Fig. 20; Tine trailer

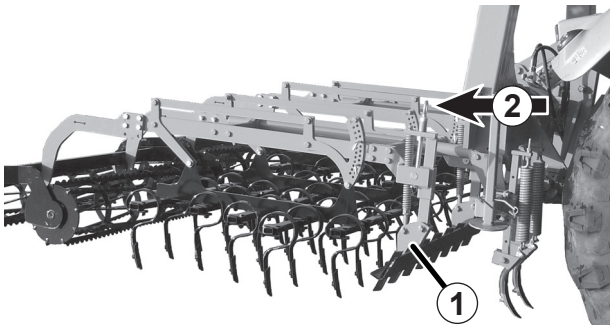


Fig. 21; Tine trailer - Height adjustment

The height adjustment is implemented via rotating spindles (2).
A height scale (3) simplifies equal adjustment.

The tine trailer's spring-mounted (4) levelling bar (5) can side-step stones - stone protection.
The tines (6) screw on make the breaking of the clods easier.

The tines can be transferred to a second hole once they are worn.
Levelling bars and tines can be replaced.

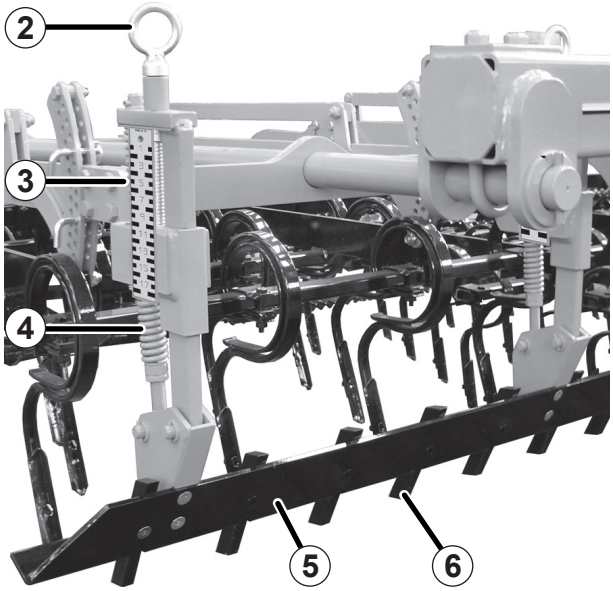
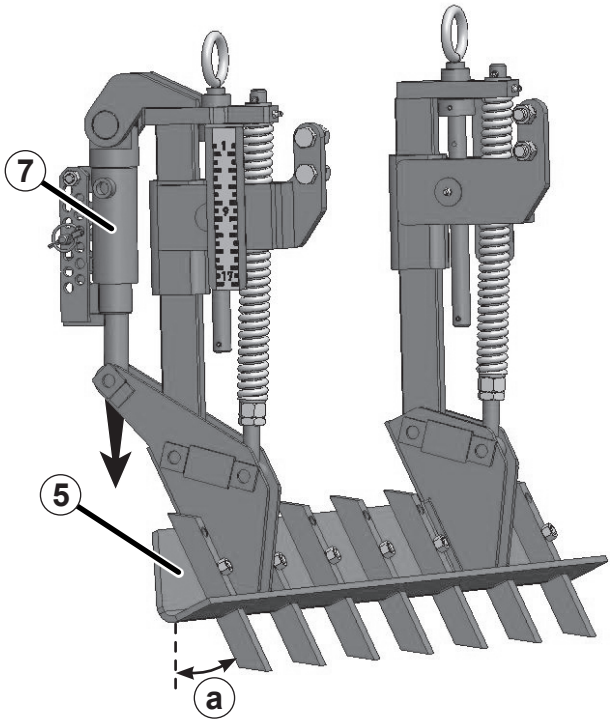


Fig. 22; Hydraulic tines trail

With the hydraulic tine trailer the angle of attack (a) for the levelling bar (5) can be adjusted by the hydraulic cylinder (7) and levelling bar blockages can be rectified by hydraulic driven movement of the levelling bar.



4.3.6 Wheel mark eradicator [additional equipment]

The wheel mark eradicator (1) is used to eradicate the tracks left by the tractor. They can be adapted to the tractor tracks and can be adjusted in height.

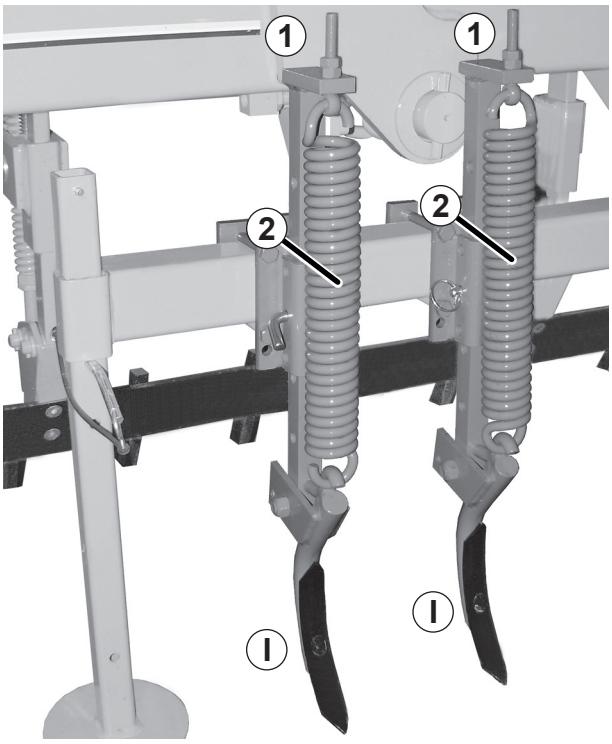
Wheel mark eradicator versions:

Sprung (2) with spring as overload/stone protection.

With narrow share (I)

Shares can be turned around when worn.

Fig. 23; Wheel mark eradicator



4.3.7 Lighting (additional equipment)

The lighting comprises

1) Warning panel
2) Side spotlight
3) Rear spotlight
4) Rear light
5) Location for number plate
6) Sidelight

NOTE
The design of the lighting delivered may differ from one country to another.

Fig. 24; Lighting

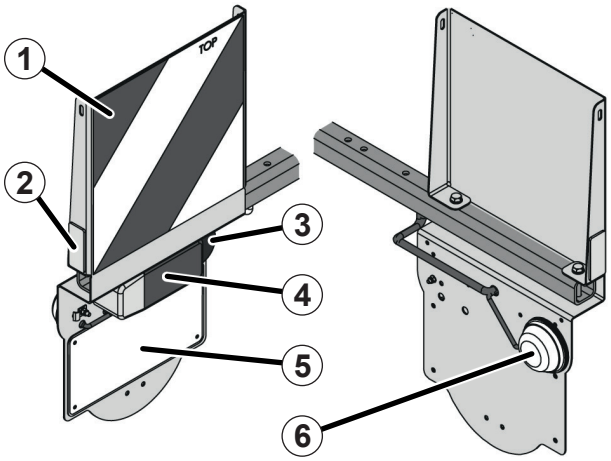
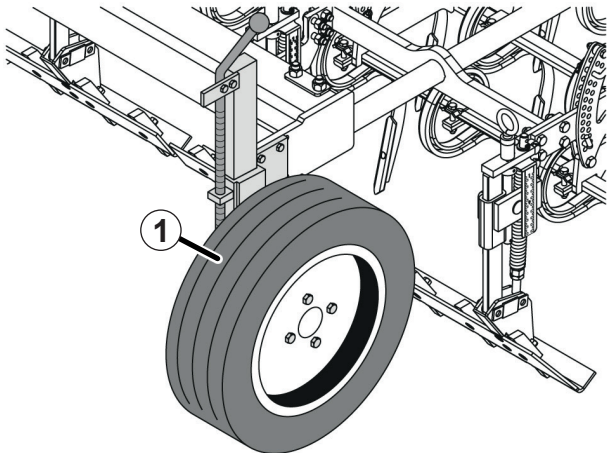


Fig. 25; Support wheel



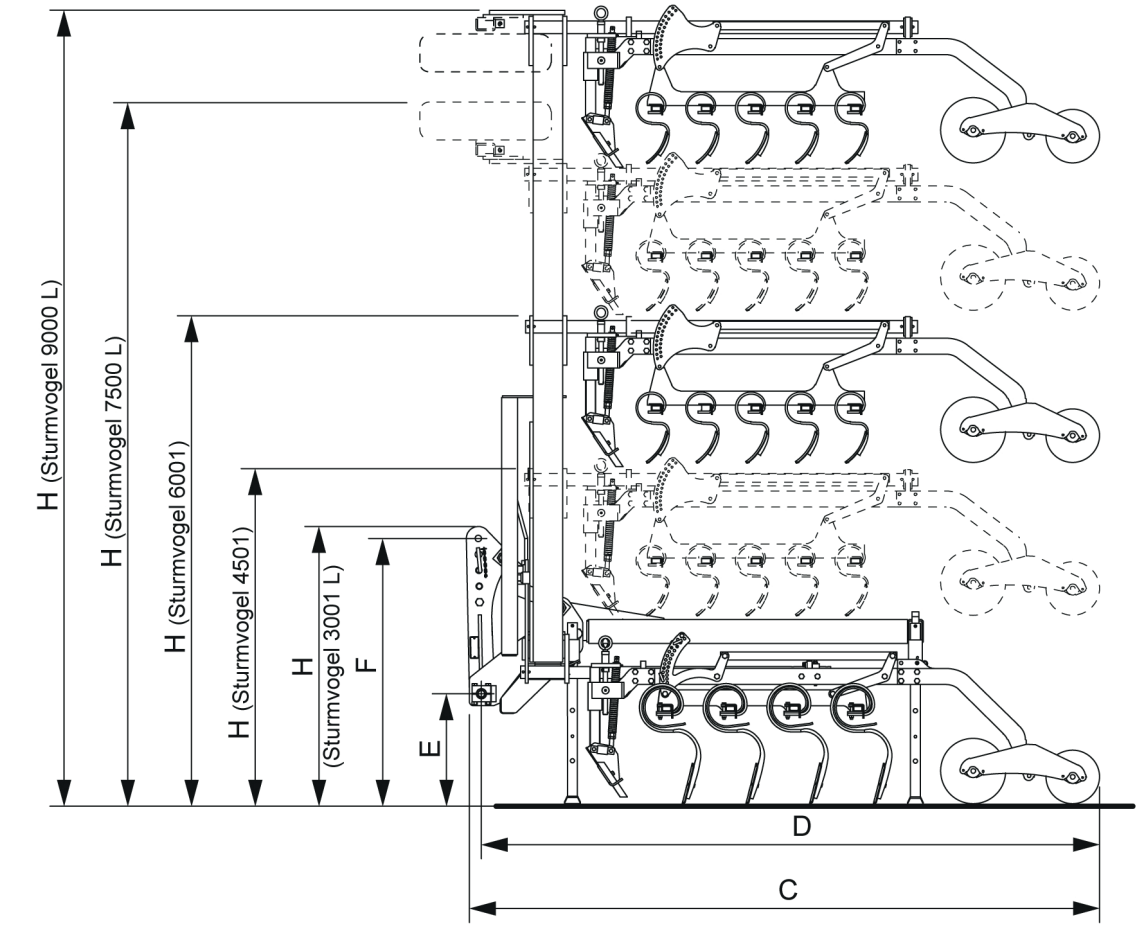
4.3.8 Support wheel (additional equipment) - Tetra 7500 L, 9000 L

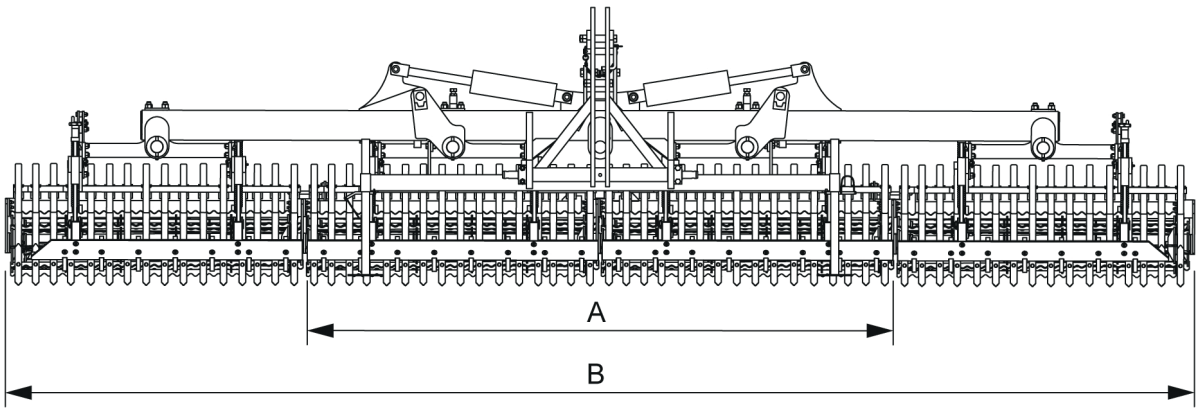
The side support wheels (1) serve to support the side arms on wide implements. The stabilise the working depth of the outer tines. They prevent the outer tines "digging in".

4.4 Technical data

4.4.1 Dimensions in basic configuration

Fig. 26; Tetra dimensions





Type		3001 L	4501 L	4501 LS	6001 L	6001 LS	7500 L	9000 L
Dimensions ca.	A (Transport width)	3000 mm						
	B (Working width)	3000 mm	4500 mm		6000 mm		7500 mm	9000 mm
	C	3035 mm		2680 mm	3037 mm	2680 mm	3205 mm	
	D	2965 mm		2610 mm	2965 mm	2610 mm	3135 mm	
	E	510 mm						
	F	1290 mm						
	H	1350 mm	1750 mm		2360 mm		3400 mm	4100 mm*

* Transport height over 4 m, transport on public roads forbidden.

4.4.2 Weight and data in basic configuration

Type		3001 L	4501 L	4501 LS	6001 L	6001 LS	7500 L	9000 L
Tine fields		2	3	3	4	4	5	6
Roller variants		Dual spike disc harrow	Dual spike disc harrow	Crosskill roller	Dual spike disc harrow	Crosskill roller	Dual spike disc harrow	Dual spike disc harrow
Total weight ca.	with mild harrow tines 5 rows x 5 tines	957 kg	1584 kg	2293 kg	1774 kg	2666 kg	2945 kg	3440 kg
	with upright mild harrow tines, or 5 rows x 5 tines	977 kg	1614 kg	2323 kg	1841 kg	2706 kg	2995 kg	3500 kg
	with reinforced dual spring reinforced tines 4 rows x 4 tines	1005 kg	1656 kg	2265 kg	1870 kg	2762 kg	3065 kg	3585 kg
	with upright Vibra-tines 4 rows x 4 tines	1005 kg	1656 kg	2265 kg	1870 kg	2762 kg	3065 kg	3585 kg
Transport width		3.0 m						
Working width		3.0 m	4.5 m	4.5 m	6.0 m	6.0 m	7.5 m	9.0 m
Tractor power up to		80 kW / 112 HP	100 kW / 135 HP	100 kW / 135 HP	133 kW / 180 HP	133 kW / 180 HP	147 kW / 200 HP	178 kW / 240 HP
Three-point linkage		Cat 3 / 3-short Cat 2 can also be selected		Cat 3 / 3-short				
Max. hydraulic pressure		200 bar						
Working speed		max. 15 km/h						
Transport speed		= Tractor speed						
Sound pressure level		< 70 dB(A)						
Tyres for support wheels							185R14C 8PR	
Tyre pressure for support wheels							2.5 bar / 250 kPa / 36.3 PSI	

4.4.3 Maximum permissible dimensions and weights for transport by road

Maximum length of the combination (tractor + implement)	12 m	
Maximum width	3 m (DE)	3.5 m (FR)
Maximum height	4 m	

4.4.4 Required electrical connection (for additional equipment)

Consumer	Poles	Voltage	Power connection
Lighting system	7-pole	12 VDC	Acc. to DIN-ISO 1724

4.4.5 Required hydraulic connection

Consumer	Hydraulic connection		Colour of protecting cap
	Single-acting	Double-acting	
Hydraulic folding function		1 X	Red
Hydraulic tine trailer (additional equipment)	1 X		Yellow

4.5 The type plate and its position

The type plate is attached to the left tower brace and displays the following data:

Implement designation	Implement no. / Year of construction	Weight (kg) Min. - max.

The CE mark indicates that the implement is in compliance with the provisions of the Machinery Directive and other relevant EU Directives.

The EU Declaration of Conformity (extract in the Appendix) attests to the fact that implement being placed on the market is manufactured in accordance with the relevant standards.

Fig. 27; Position of the type plate

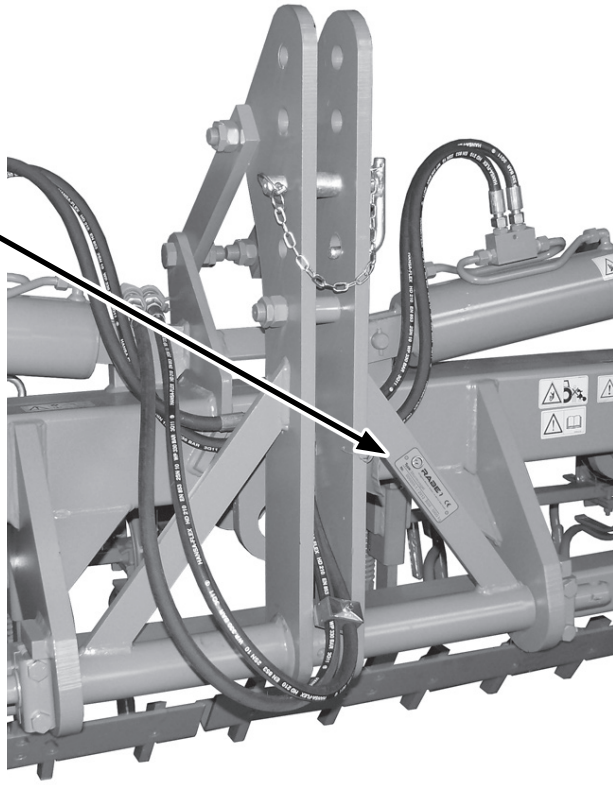
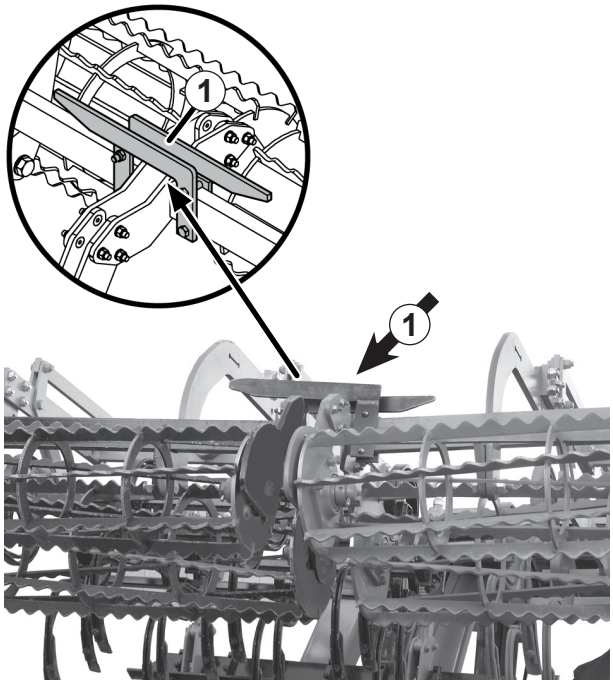


Fig. 28; Safety component - Transport lock



4.6 Safety components

4.6.1 Transport lock - Only for folding variants with spike disc harrow

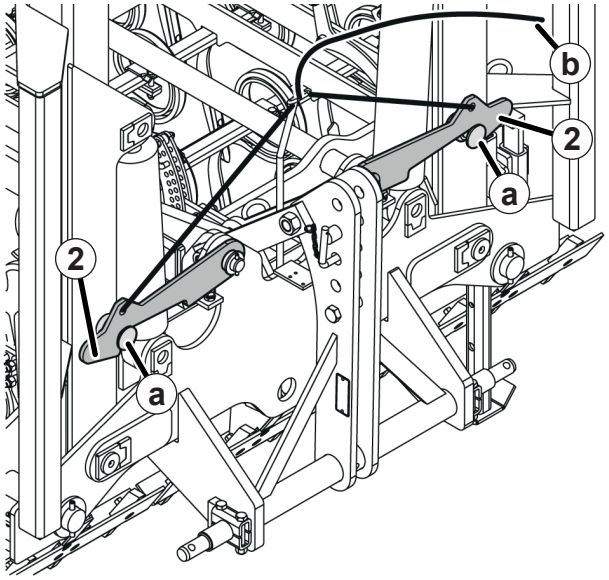
The transport lock (1) is attached to the outer tine fields and locks the folded tine fields.
This prevents the tine fields swinging around during transportation.

4.6.2 Side arm locking - Tetra 7500 L, 9000 L

The locking latch (2) locks the side arms of the raised tine fields during transportation.
a) Pawl for locking latch

b) Unlocking cable

Fig. 29; Safety component - Side arm locking



4.6.3 Roller binder

The roller binder (3) ties the inner fields of the...

... Spike disc harrow on the Tetra 3001 L, 6001 L, 9000 L

or

... The crosskill roller on the Tetra 6001 LS.

This prevents the fields swinging around during transportation.

Fig. 30; Safety component - Roller binder, dual spike disc harrow

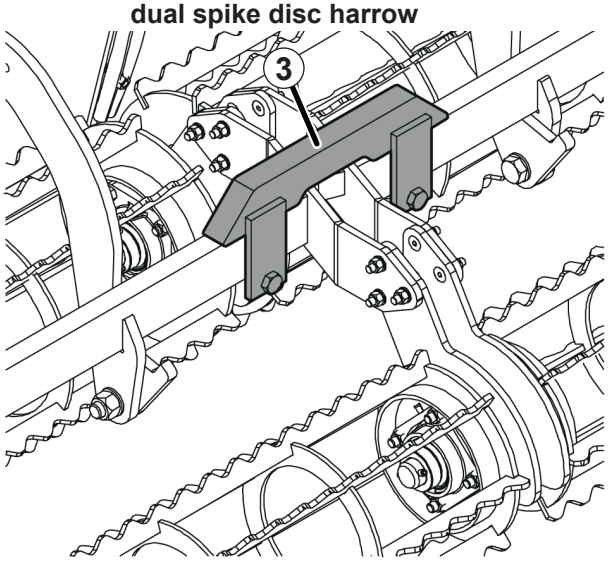
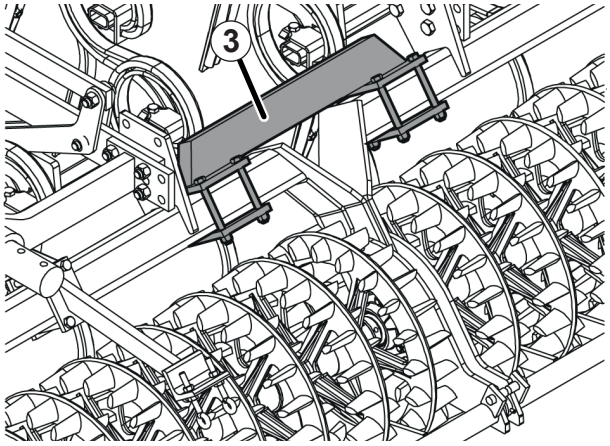


Fig. 31; Safety component - Roller binder, crosskill roller



5.0 Loading

DANGER

General risk of accident while working with the implement.

- *Observe the safety instructions in Chapter "For your safety" - Page 9 all cases.*

Risk of accident due to suspended loads.

- *Do to walk under suspended loads.*
- *Do not stand under or in the vicinity of the implement while it is lifted!*

Risk of tipping when lifting the implement.

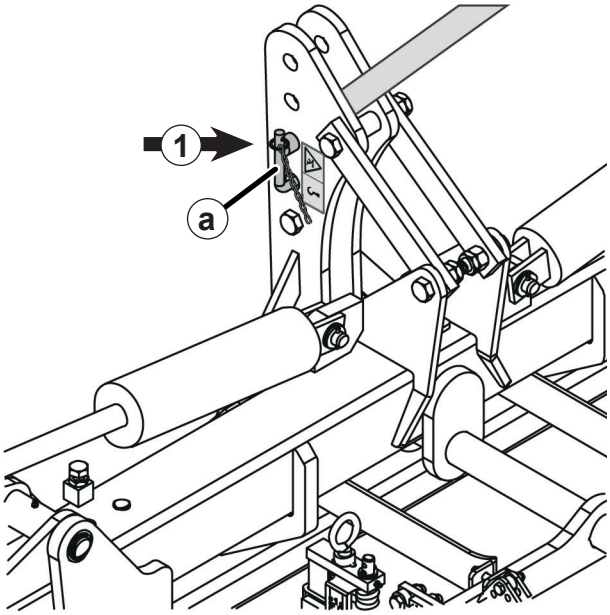
- *When lifting the implement, proceed with care and pay attention to balance.*

Crane points:

The crane points for attaching hoisting accessories are identified with the following stickers.

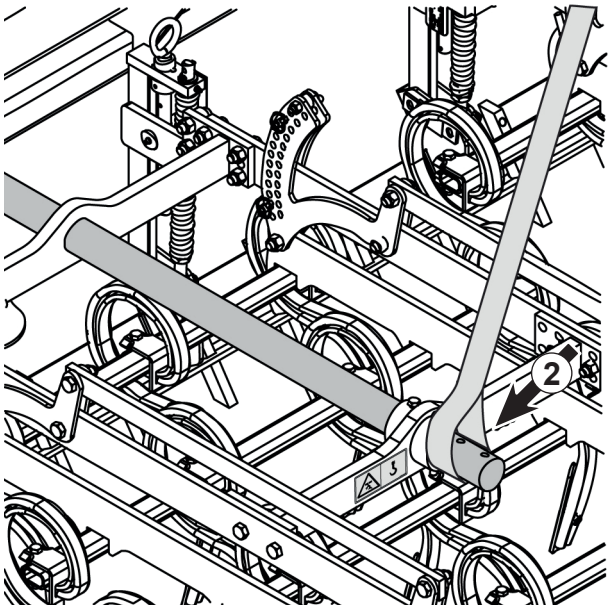
(1) = Crane point on the tower
For fastening hoisting accessories to the tower insert and secure the top link stock (a).

Fig. 32; Crane point on the tower



(2) = Crane points on the load bearing axles of the tine fields

Fig. 33; On the tine field



Prior to loading:

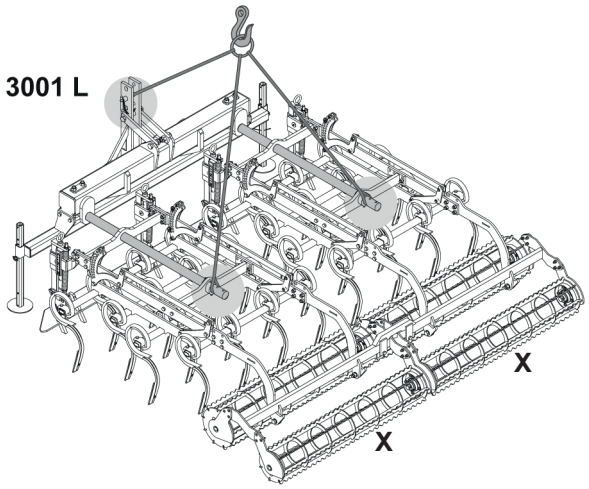
- Implement can be lifted in folded in or folded out condition.

With cranes, ensure that:

- Only suitable hoisting accessories are used.
- Only hoisting accessories that will not damage the paintwork on the implement are used.
- Only hoisting accessories authorised for the weight of the implement (technical data) are used.
- The safety guidelines of the hoisting accessories and the crane are taken into account.

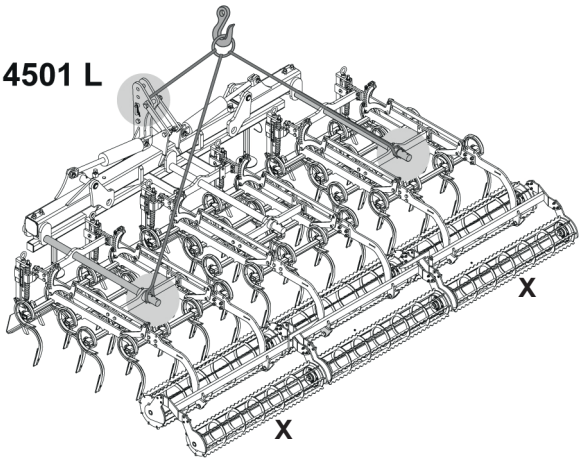
Fig. 34; Crane points on the implement

3001 L

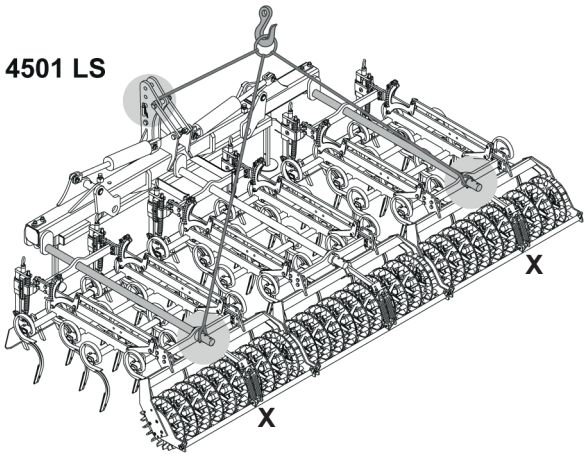


X = Crane point positions

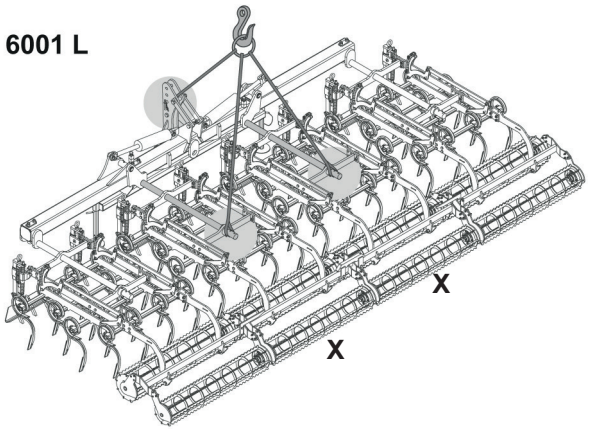
4501 L



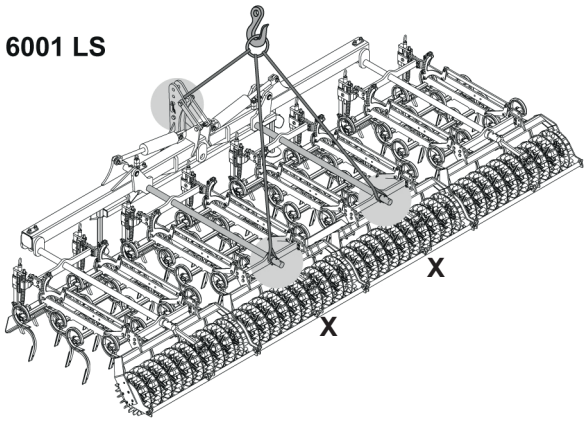
4501 LS



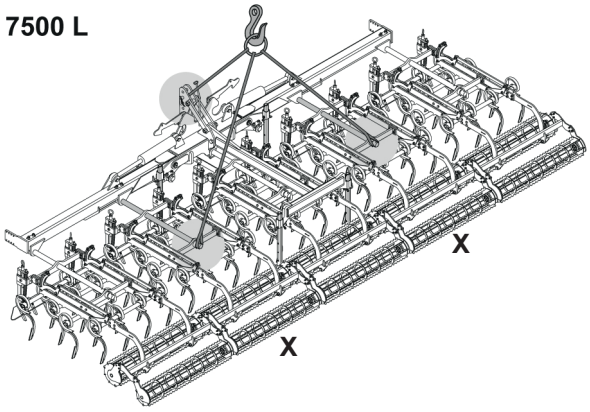
6001 L



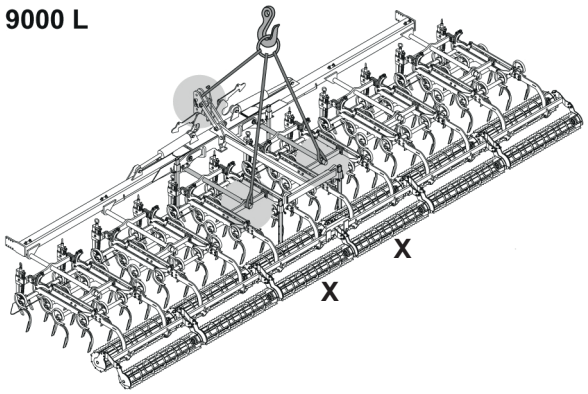
6001 LS



7500 L



9000 L



6.0 Preparations

6.1 Checking requirements for the tractor

► Check the output and lifting capacity of the rear power lift on the tractor in relation to the implement.
  - Tractor: See tractor operating instructions
  - Implement: See technical data

► Check permissible axle load for the tractor - See tractor operating instructions

► Calculate required ballast for the tractor - see chapter 6.2.

► Check that the connection category of the tractor and implement is the same.
  - Tractor: See tractor operating instructions
  - Implement: CAT 2 (selectable for Tetra 3001, 4001) or CAT 3 / 3-short (depending on order)

► Attach ballast weight.
  - See tractor operating instructions

► Check tractor tyres for correct and even air pressure.
  - See tractor operating instructions

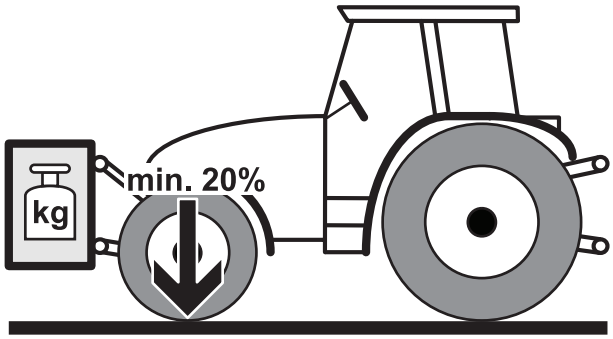
► Follow the coupling instructions in the tractor operating instructions.

6.2 Ballast weight

The tractor should be equipped with sufficient ballast at the front to guarantee the steering and braking capabilities.
Note ballast calculation in the annex, see Chapter “Ballast calculation“ - Page 96.

At least 20% of the vehicle's empty weight on the front axle.

Fig. 35; Ballast weight



6.3 Adjusting the track width of the wheel mark eradicator (additional equipment)

DANGER

General risk of accident while working with the implement.

- *Always observe the safety instructions in chapter 1.0, page 9.*

Risk of accident due to crushing between tractor and implement.

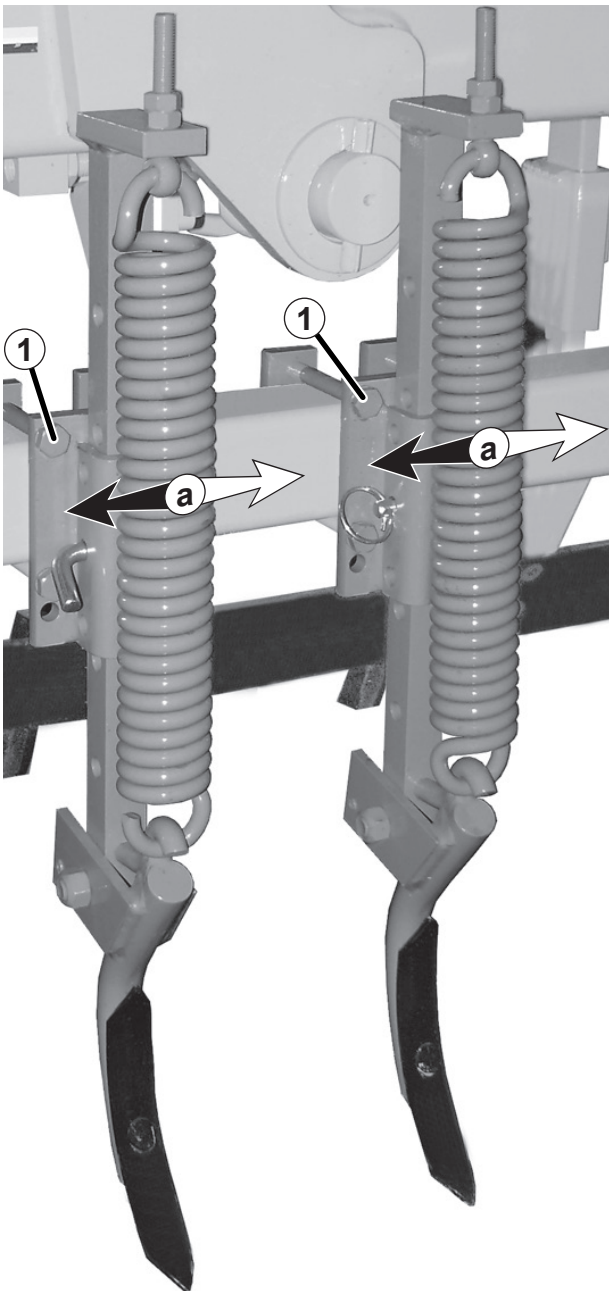
- *Turn off the engine of the tractor and take the key out of the ignition.*
- *When coupling the implement, do not stand between the tractor and the implement. Non-compliance may result in serious or fatal injuries.*

WARNING

Risk of accident due to crushing during set-up and adjustment.

- *With all work care must be taken to ensure that the implement is in a safe position and has been secured against rolling away.*

Fig. 36; Adjusting the track gauge of the wheel mark eradicator



- ► Loosen all four clamping bolts(**1**, WAF 19).
- ► Slide wheel mark eradicator to suite track gauge (**a**).
- ► Tighten the clamping bolts. Tightening torque = 450 Nm

7.0 Coupling the implement

WARNING

Risk of accident while coupling the implement to and uncoupling it from the tractor.

- *During coupling and uncoupling, no person may stand between the tractor and the implement; also do not step between the tractor and the implement while operating the external hydraulics control.*
- *Take note of all crushing and shearing points on all moving parts of the implement.*
- *Before coupling and uncoupling the hydraulic plug couplings, depressurise the hydraulic system. Follow the operating instructions and safety instructions.*
- *Prior to uncoupling:*
  - *wait until the implement has come to a complete standstill*
  - *lower the implement fully*
  - *apply the tractor's parking brake*
  - *switch off the engine*
  - *remove the ignition key*
- *Secure the implement from rolling away. If necessary, apply the handbrake, apply the brake on the implement.*
- *Secure the implement from rolling away by using wheel chocks.*

NOTE

- Route all connecting lines (hydraulics, lighting, control elements) carefully and make allowances for movements of the mounted implement.
- Do not route connecting cables in the vicinity of slewing or rotating components.

7.1 Coupling the bottom links

NOTE

Always additionally consult the operating instructions of the tractor manufacturer when coupling.

► Set the bottom links (1) to the same height (h).
To do so, adjust both lifting rods (2) to the same length (L).

► Limit the bottom links to a low lateral tolerance with the side locks (**3**).

Fig. 37; Adjusting the bottom links

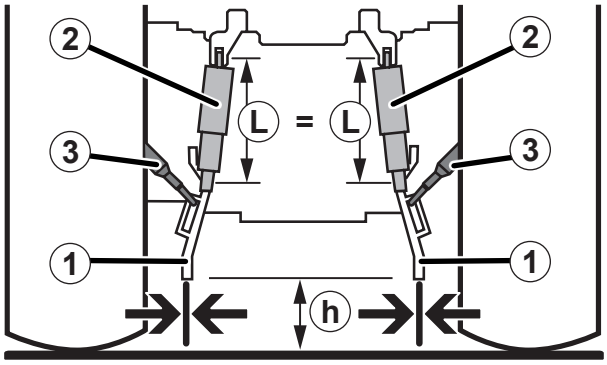
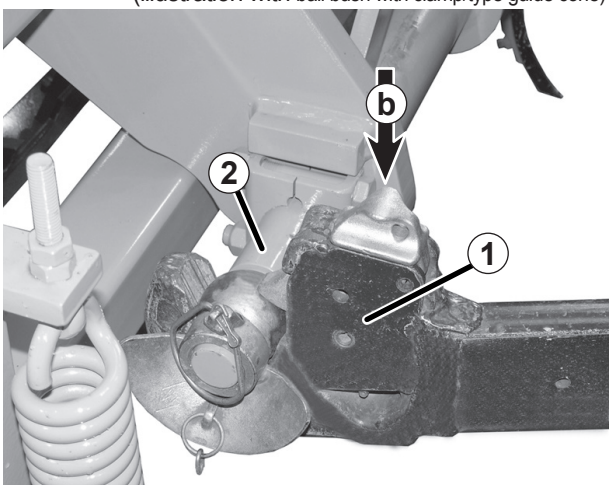


Fig. 38; Couple the bottom link
(illustration with ball bush with clamp/type guide cone)



- ► Couple the bottom links (**1**) to the implement's three-point axis (**2**) and lock.
  During coupling, make sure that the lock (**b**) engages securely.
- ► Properly secure the coupling device.

7.2 Coupling the top link

NOTE
Attach the upper link (3) such that it rises slightly relative to the implement or is parallel to the lower links (1) when in working position.
This assures an almost parallel implement behaviour.

The incline can be changed by inserting the top link stock in position A to D.

Fig. 39; Top link position

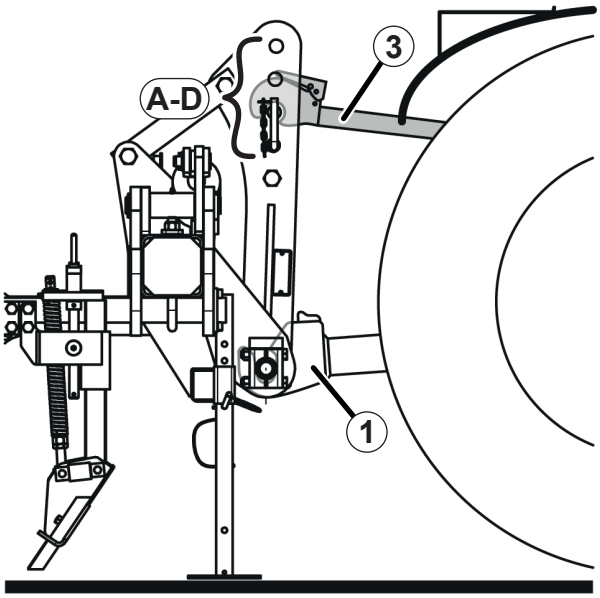
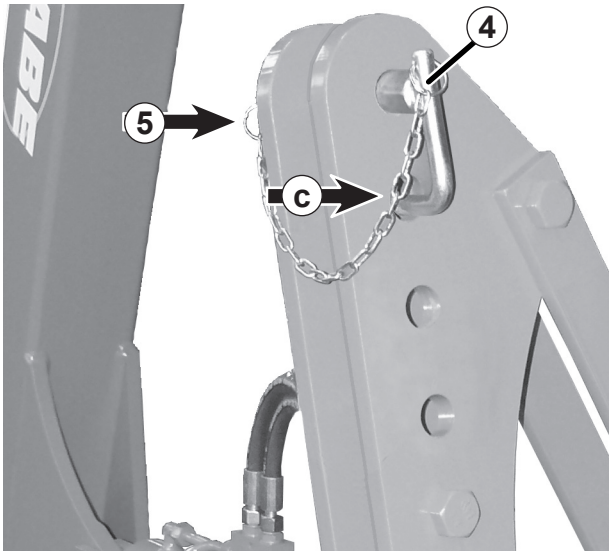


Fig. 40; Insert top link stock



- ► Insert the top link stock (4) in the selected hole (fig.31, A to D).
- ► Insert the anti-twist device of the top link stock (c) into the opposite hole.
- ► Secure the top link stock with the locking pin (5).

► Couple the top link (3) to the pin and lock.

► During coupling, make sure that the lock (d) engages securely.

Fig. 41; Couple the top link (example photo)

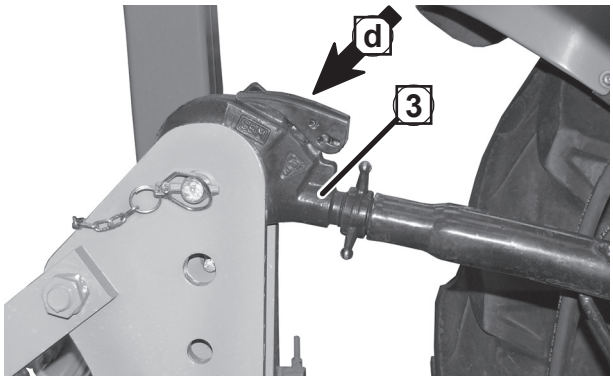
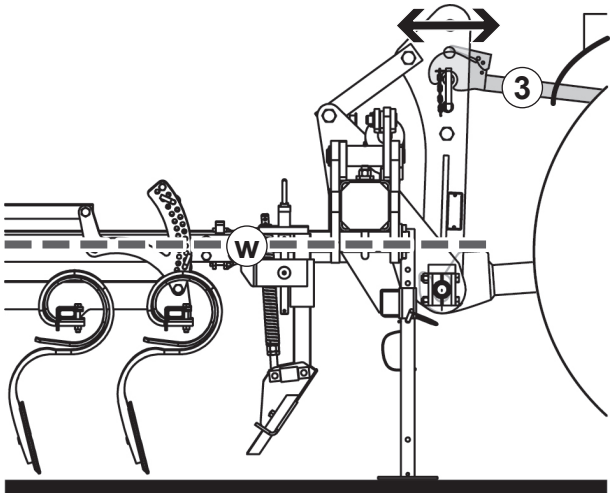


Fig. 42; Align Tetra

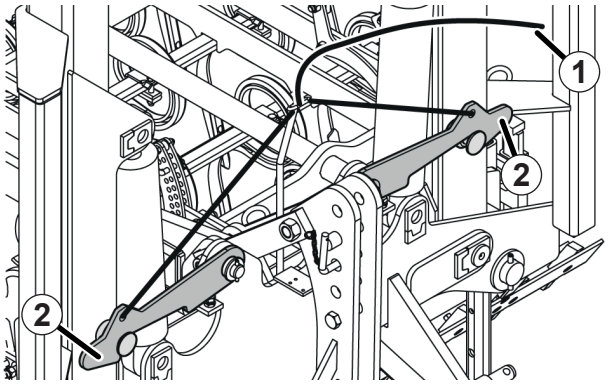
► Align the Tetra horizontally (w) by adjusting the length of the top link (3).



7.3 Install the cable for releasing the side arm locking on Tetra 7500 L, 9000 L

► Install the release cable (1) from the locking latch (2) of the folding lock into the tractor cab.

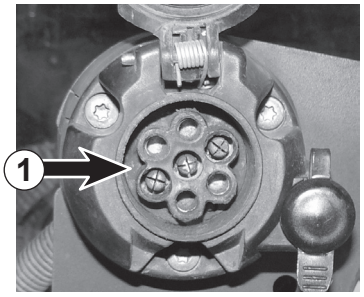
Fig. 43; Install the cable for the side arm locking



7.4 Connecting lighting (additional equipment)

► Connect the connection cable for the lighting to the lighting socket (1) on the tractor.

Fig. 44; Connecting the lighting



7.5 Connecting hydraulic lines - Folding cylinder and additional equipment

DANGER

Risk of accident due to hydraulic fluid escaping at high pressure.

- *When connecting, make sure that the hydraulic system on the tractor (floating position) and on the implement have been depressurised.*

Risk of accident due to incorrectly connected pressure lines

- *When connecting, ensure that:*
  - *the hydraulic hoses are connected to the prescribed connections. Incorrect connection may result in incorrect operation and serious injury or death.*

Risk of accident and crushing due to the implement tipping over.

- During connection work, secure the tractor to prevent it from unintentional rolling.

RISK OF INFECTION!

Fluids (hydraulic oil) escaping under high pressure may penetrate the skin and cause severe injury.

- *Set down implements, depressurise the system, switch off the engine and remove the ignition key before commencing work on the hydraulic system!*
- *Use suitable tools when looking for leakages!*
- *Consult a doctor immediately in case of injury!*

NOTE

- Maximum operating pressure 200 bar
  - *The operating pressure of the hydraulic system must not exceed 200 bar. Adjust the pressure from the tractor accordingly if required.*
- Do not mix hydraulic mineral oil and bio-oil.
  - *Before connecting, check that the implement and tractor hydraulic systems are filled with the same type of hydraulic oil.*
- When connecting the hydraulic system, make sure that the connectors and couplings are clean.

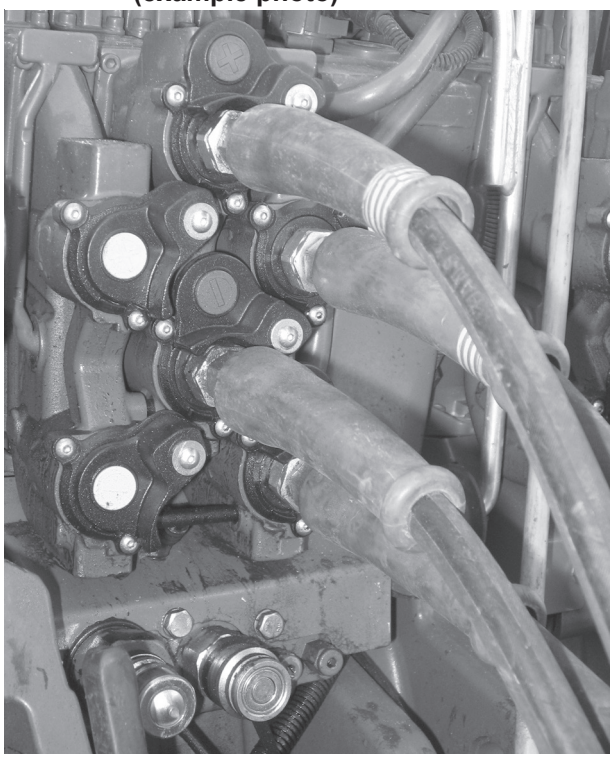
7.5.1 Required hydraulic connections

Consumer	Hydraulic connection		Colour of protecting cap
	Single-acting	Double-acting	
Hydraulic folding function		1 X	Red
Hydraulic tine trailer (additional equipment)	1 X		Yellow

7.5.2 Connecting hydraulic lines

- ► Check the operating pressure of the hydraulic system on the tractor.
  Max. operating pressure = 200 bar
- ► Turn off tractor hydraulic system or switch to floating position (depressurise).
- ► Connect the hydraulic hoses for the folding cylinder and hydraulic tine trailer (additional equipment) in accordance with the table - chapter 7.5.1.
  During connection, make sure that the lock on the hydraulic connection audibly engages.
- ► Open the hydraulic system on the tractor.

Fig. 45; Connect hydraulic couplings (example photo)



7.6 Insert the supports

NOTE
Before inserting the set-down supports the folded out implement must be folded into its transport condition - see Chapter “Fold in the implement“ - Page 54.

► Lift the implement with the three-point power lift until the supports (I + II) are free of the ground.

Fig. 46; Bottom supports

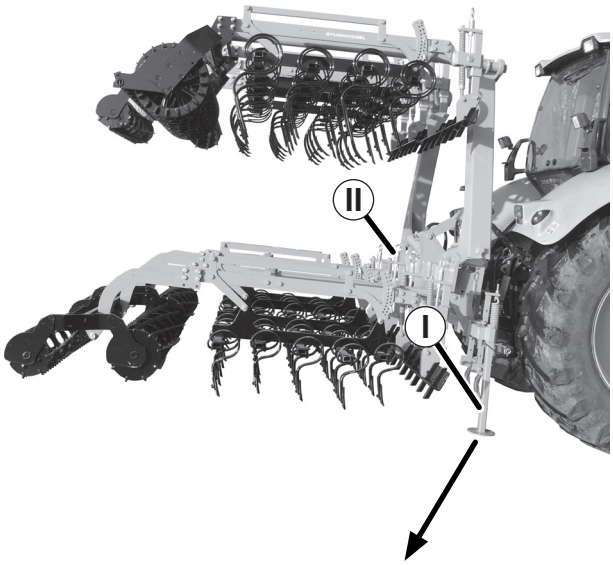
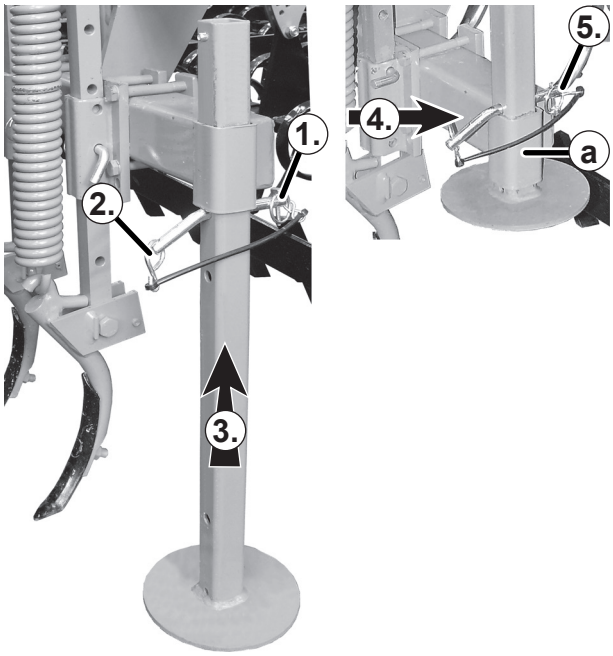


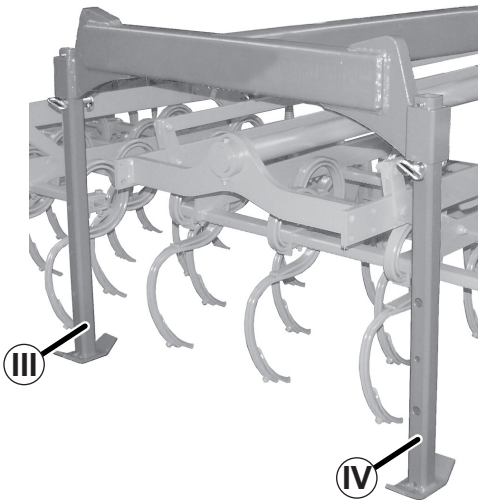
Fig. 47; Slide in the support



► 1.) Pull out spring cotter.
► 2.) Pull out pins.
► 3.) Slide in the support fully.
► 4.) Fasten the support by inserting the pin above the receptacle (a).
► 5.) Secure the pin with a spring cotter.

NOTE
The Tetra 7500 L and 9000 L are also equipped with set-down supports (III + iV) at the rear. These must also be retracted as described above before driving on the roads or working in the fields.

Fig. 48; Rear support, Tetra 7500 L and 9000 L



8.0 Travelling by road

DANGER

General risk of accident while working with the implement.

- *Always observe the safety instructions in chapter 1.0, page 9.*

WARNING

Risk of accident when lifting implements with the tractor's three-point linkage and folding in and out of machine parts.

- *When lifting implements, make sure that the they do not collide with components of the tractor, e.g. the rear window.*
- *When lifting implements and folding and unfolding implement parts, make sure that no persons are standing in the danger area.*
- *When lifting implements and folding and unfolding implement parts, make sure that there is adequate clearance around the implement.*

DANGER

Electric shock due to overhead power lines!

- *When lifting implements and folding/unfolding implement parts, ensure that sufficient clearance is left for power lines.*

Risk of accident due to unsecured attachment components.

- *Secure all components of the attachment to prevent uncontrolled movements, using the retaining system provided (transport lock) or other suitable measures.*
- *Always use the supplied covers (e.g. tine protection equipment).*

Risk of tipping due to the large centrifugal mass of the implement.

When cornering, the large centrifugal mass can cause the implement to tip over.

- *Drive slowing when cornering and in turns.*

DANGER

Risk of accident due to riding on the implement during operations and transport.

- *Riding on the implement and standing within areas of danger is prohibited.*

8.1 Transport instructions

- When driving on public streets and roads the tractor and the implement must comply with the national road traffic regulations and the accident prevention regulations.
- The vehicle owner or the vehicle driver is responsible for complying with all legal requirements.
- Follow the safety instructions in the operating instructions.
- Adapt transport speed to the street and way conditions.
- Take care when navigating turns: Attachments swing out.
- The provisions of the road traffic regulations must be complied with.
- Working machinery must not interfere with the safe driving of the tractor combination.
  The mounted implement must not exceed the permissible tractor axle loads, the permissible total weight and the load bearing capacity of the tyres.
- The front axle load must be at least 20% of the empty vehicle weight to ensure steering safety (observe ballast calculation in the annex).

- Observe the maximum permissible dimensions.
  Transport width 3 m, height 4 m and the overall length 12 m.
- Excessively wide machines require special authorisation for transportation or the transportation must be carried out with a suitable transportation wagon (low loader).

8.2 Machine identification / lighting

NOTE
The following description is based on German conditions.
In all cases the current national road traffic regulations must be observed.

No parts may protrude from the outline of the implement in such a way that they endanger traffic to a greater extent than is unavoidable (section 32 of the German Road Traffic Licensing Regulations).
If protruding parts cannot be avoided they must be covered and marked with a red/white striped warning sign 423 x 423 mm (DIN 11030; stripes each 100 mm wide, at an angle of 45° running outwards/downwards) and illuminated.

Warning signs and lighting devices are required under the following conditions for marking the extremities of the implement.

Marking to the rear:
- If there is more than 1 m distance from the tractor's tail lights to the end of the machine.
- If attachments cover the tractor's tail lights.

Marking to the front and rear:
- If the machine protrudes at the side more than 40 cm over the sidelights or tail lights of the tractor.

The lighting must comprise of white lights to the front and red lights to the rear.
If the tractor license plate is covered by the machine when lifted then the license plate of one of the in-house tractors must be repeated on the machine.

Fig. 49; Rear lighting

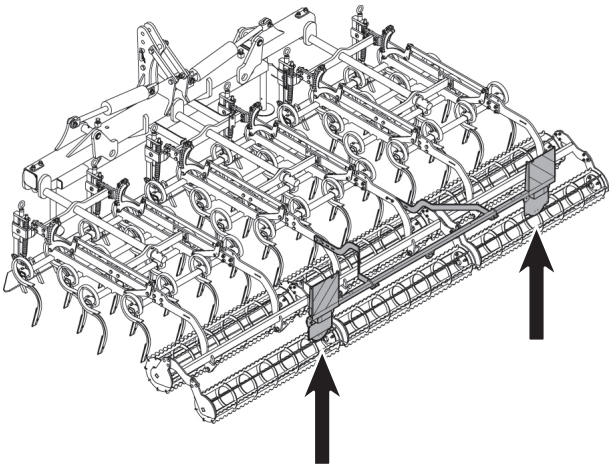


Fig. 50; Rear warning sign and lighting

8.3 Preparations for travelling by road

NOTE

- Before use, check the pressure in the tractor tyres (tractor operating instructions).
- For driving on roads implements that are 4.5 m or more in width must be folded from working position to transport position, see Chapter “Fold in the implement“ - Page 54

Preparations for road travel:

► Lift the implement with the three-point power lift until it is sufficiently free of the ground.
Take transport height into consideration.

► Lock all hydraulic control devices to prevent accidental operation (tractor operating instructions).

► Apply lower link lateral lock (tractor operating instructions)

► Check the function of the lighting

Fig. 51; Working position (example 6001 L)

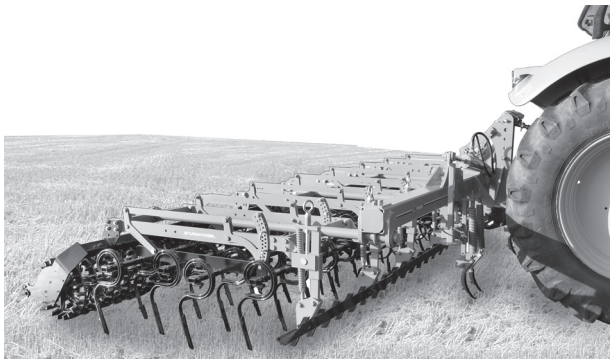
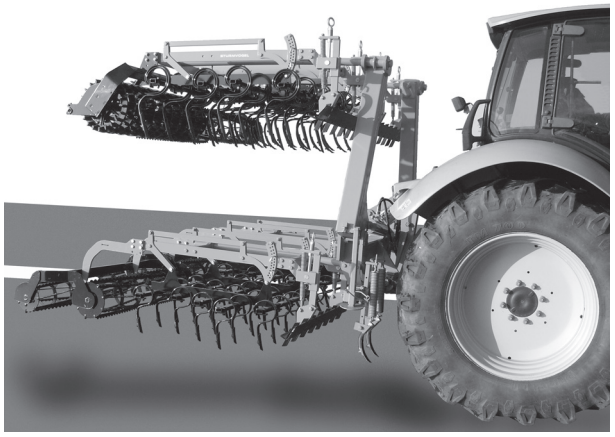


Fig. 52; Transport position (example 6001 L)



8.4 Travelling by road

Adapt driving speed to the conditions of the street or road.

Max. driving speed = Tractor speed

Before moving off, check that:

1) Are all set-down supports retracted.
2) Is the lower link lateral lock applied (tractor operating instructions).
3) Is the side arm locking correctly latched in. Only Tetra 7500 L and 9000 L
4) Has the implement been lifted high enough - ground clearance.
5) Are turn indicators and tail lights working.

Fig. 53; Check before moving off

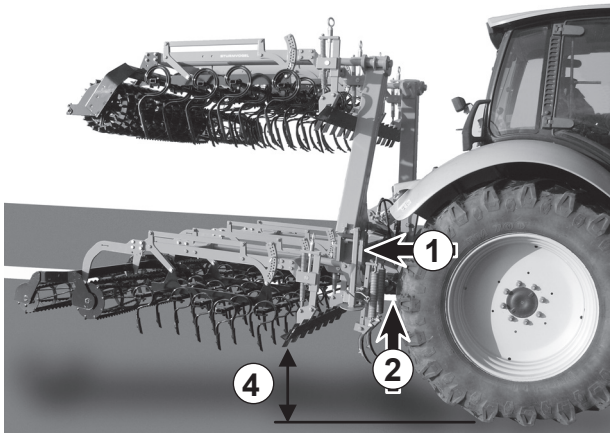
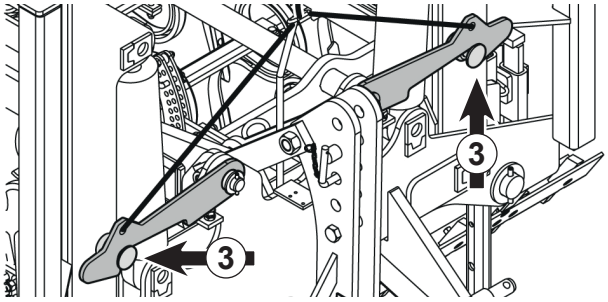


Fig. 54; Side arm locking latched in, Tetra 7500 L and 9000 L



9.0 Working in the field

9.1 Safety during operation

DANGER

General risk of accident while working with the implement.

- *Always observe the safety instructions in chapter 1.0, page 9.*

DANGER

Risk of accident due to riding on the implement during operations and transport.

- *Riding on the implement and standing within areas of danger is prohibited.*

WARNING

Risk of accident while using the implement in the field.

- Prior to starting work, familiarize yourself with all equipment and operating controls and their functions.
- Before start-up, check the immediate vicinity. No item or person may be in the immediate vicinity.

Risk of accident due to objects being ejected.

- Before start-up, check the immediate vicinity. No item or person may be in the immediate vicinity.

Risk of tipping due to the large centrifugal mass of the implement.

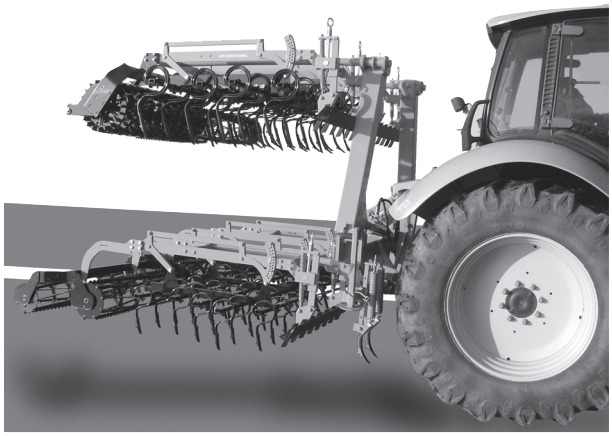
When working on a slope, the large centrifugal mass can cause the implement to tip over.

- *Pay attention to the position of the centre of gravity during lifting and turning.*

Risk of accident due to crushing during set-up and adjustment.

- *With all work care must be taken to ensure that the implement is in a safe position and has been secured against rolling away.*

Fig. 55; Transport position (example 6001 L)



9.2 Working speed

Working speed = max. 15 km/h

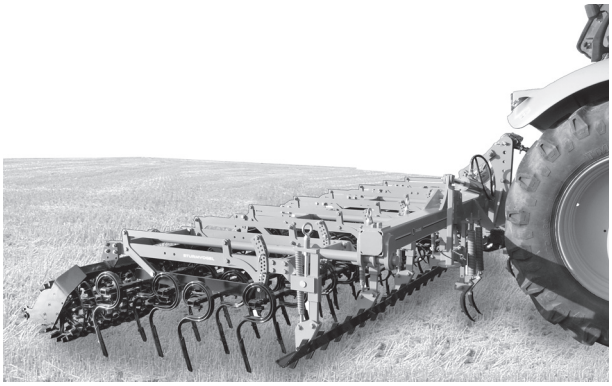
9.3 Preparations in the field

Before working in the field, the implement must be moved from **transport position** to **working position**.

To do so, the following preparations are necessary:

- Fold the implement into working position (with machine whose working width is 4.5 m or more)
- Adjust the working depth of the tine fields.
- Adjust the height of the tine trailer.
- Adjust the depth of the wheel mark eradicator.

Fig. 56; Working position (example 6001 L)



9.4 Fold machine out into working position

WARNING

Risk of accident from the folding and unfolding of implement parts.

- *When folding and unfolding implement parts, make sure that no persons are standing in the danger area.*
- *When folding and unfolding implement parts, make sure that there is adequate clearance around the implement.*
- *Close the rear window on the tractor.*

DANGER

Electric shock due to overhead power lines.

- *When lifting implements and folding/unfolding implement parts, ensure that sufficient clearance is left for power lines.*

► Lift up the implement with the three-point power lift.

Fig. 57; Lift the implement

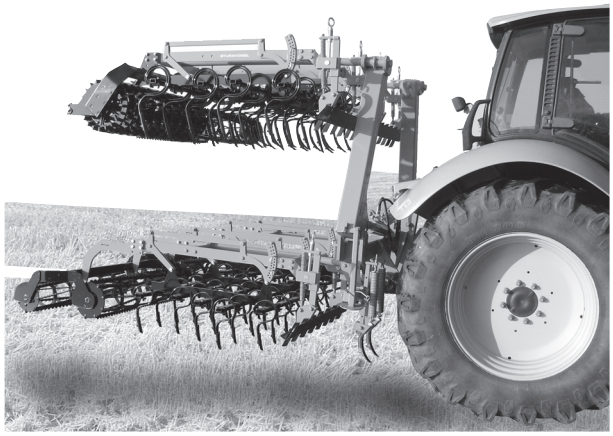


Fig. 58; Unlock side arm locking, Tetra 7500 L and 9000 L

Only with Tetra 7500 L and 9000 L:

► Actuate the "Fold in" command on the control unit briefly until the locking latch loosens.

► Unlatch the side arm locking by pulling on the release cable (1).

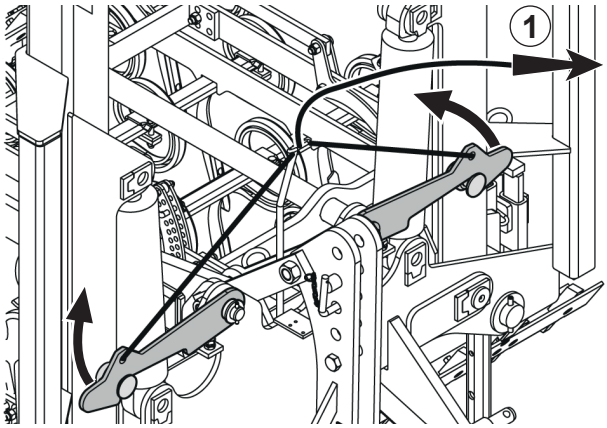
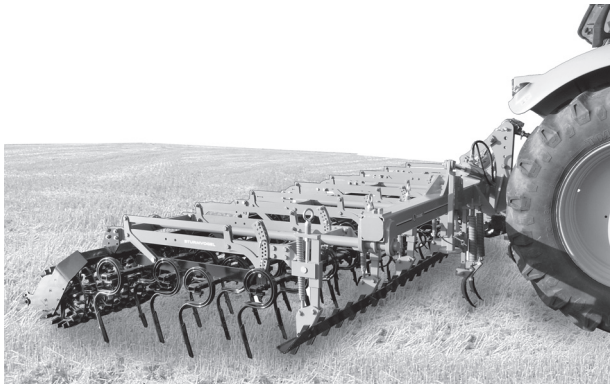


Fig. 59; Fold out and lower implement

► Actuate the control device until the implement has folded out to the working position.

► Lower the implement with the three-point power lift.



9.5 Adjust the working depth of the tine fields

The working depth of the tine fields (1) is adjusted via the perforated bar (2) of the tine field suspension.

NOTE
Insert the top and bottom spring pin (fig. 65, 4 + 6) for all perforated bars in the same position.

Preparations

- ► Fold the implement out into working position.
- ► lift the implement with the three-point power lift until both spring pins (fig. 65, 4 + 6) can move freely.
- ► Switch off the tractor and secure it from rolling away.
- ► Pull spring cotter (3) and remove upper pin (4).

Adjust working depth (depth stop) - lower spring pin (6)

- ► Pull spring cotter (5) and remove lower pin (6).
- ► Adjust working depth by moving the spring pin (6) to the appropriate hole.
  ⊕ = Large working depth
  ⊖ = Small working depth
- ► Secure the spring pin by inserting the spring cotter.

NOTE
To insert the spring pin (3) into the desired hole the implement may have to be lifted with the three-point power lift.

Adjust excavation stop - upper spring pin (4)

- ► Pull spring cotter (3) and remove upper pin (4).
- ► Secure the spring pin by inserting the spring cotter.

Fig. 60; Working depth adjustment

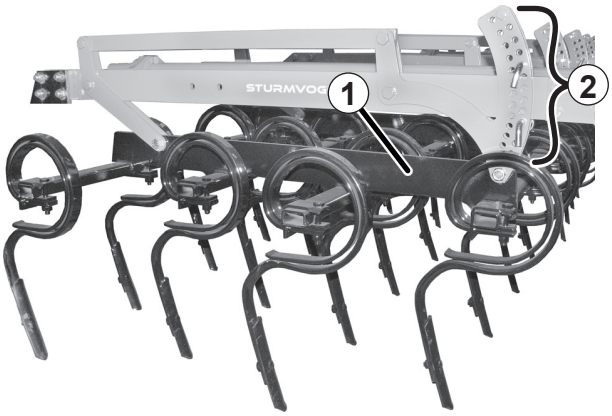


Fig. 61; Adjust working depth and excavation stop

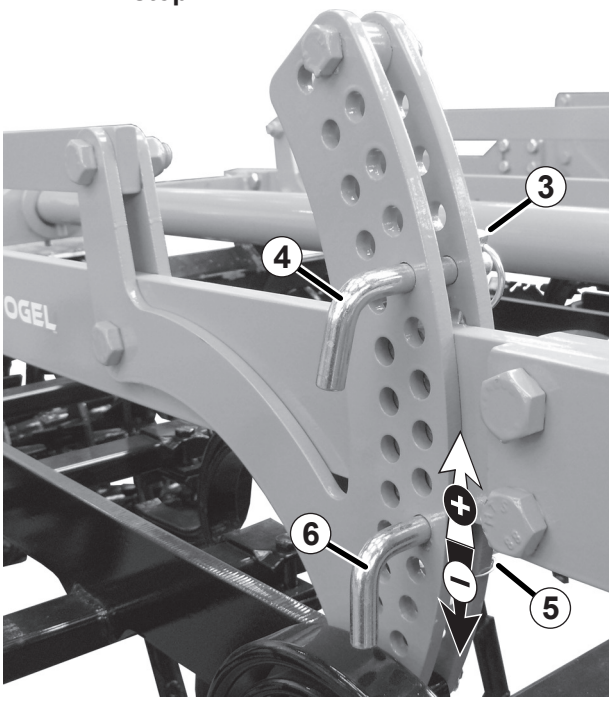
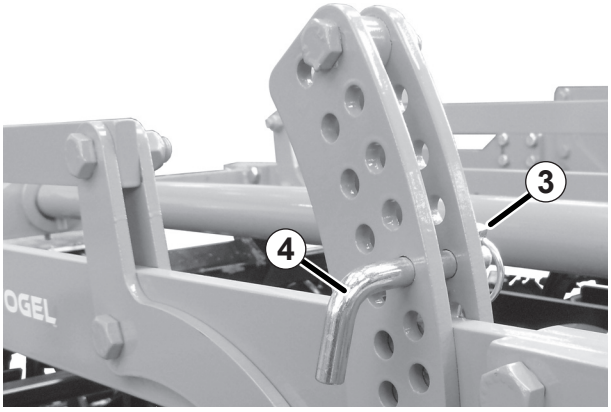


Fig. 62; Adjust excavation stop



9.6 Adjust the height of the tine trailer

Setup instructions

- Adjust all tine trailer holders to the same height.
- Do not set the tine trailer too deep, so that soil is not pushed in front.
- Set the tine trailer high if the ground is stony.

NOTE
The height adjustment is the same with the mechanical and hydraulic tine trailer.

9.6.1 Tine trailer

The height of the tine trailer (1) can be steplessly adjusted with the spindles (2).

Preparations

► The height of the tine trailer can be adjusted when the implement is lowered.

► Fold the implement out into working position, see Chapter “Fold machine out into working position“ - Page 47.

► Switch off the tractor and secure it from rolling away.

Adjustment

► Set the desired tine trailer ground clearance (1) by turning the spindles (2).

Set all tine trailer holders to the same height by means of the adjustment scale (a).

Fig. 63; Tine trailer, height adjustment

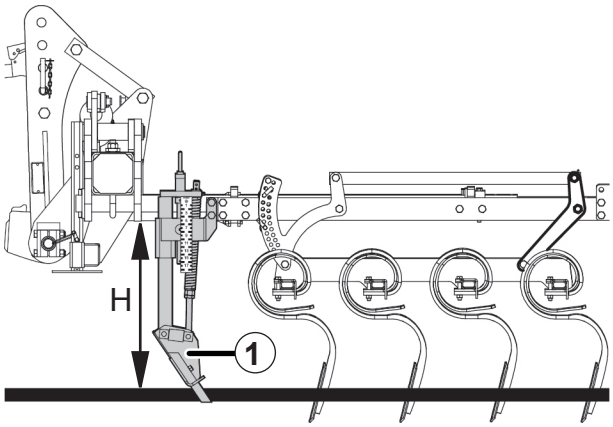
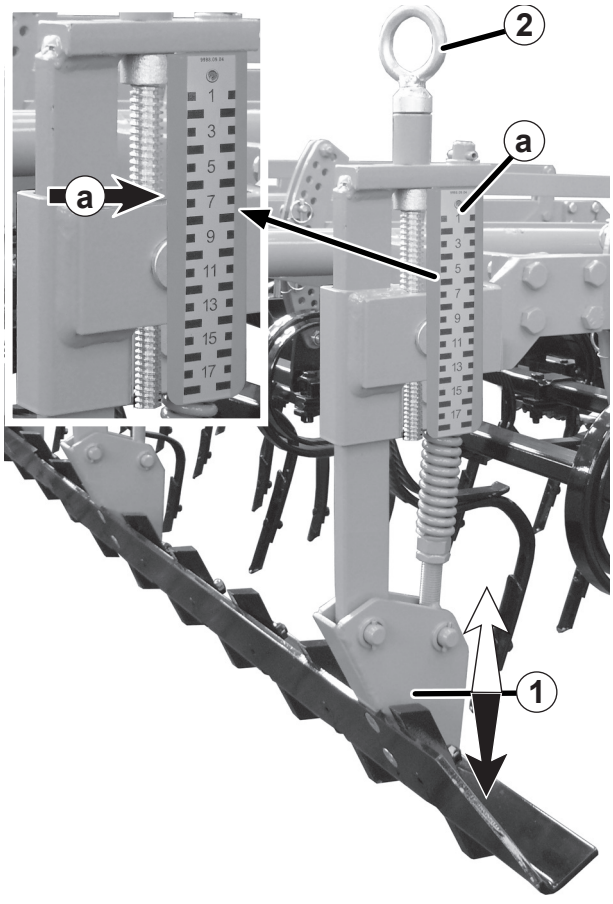


Fig. 64; Mechanical tine trailer, adjustment and height scale



9.6.2 Hydraulic tine trailer (additional equipment)

NOTE
The height adjustment is implemented as described in chapter 9.6.1 .

Adjust end stop

The stroke (h) of the hydraulic cylinder and thus the pivot area (a) of the tine trailer can be restricted by moving the spring pins (3).

Fig. 65; End stop and pivot area, hydraulic tine trailer

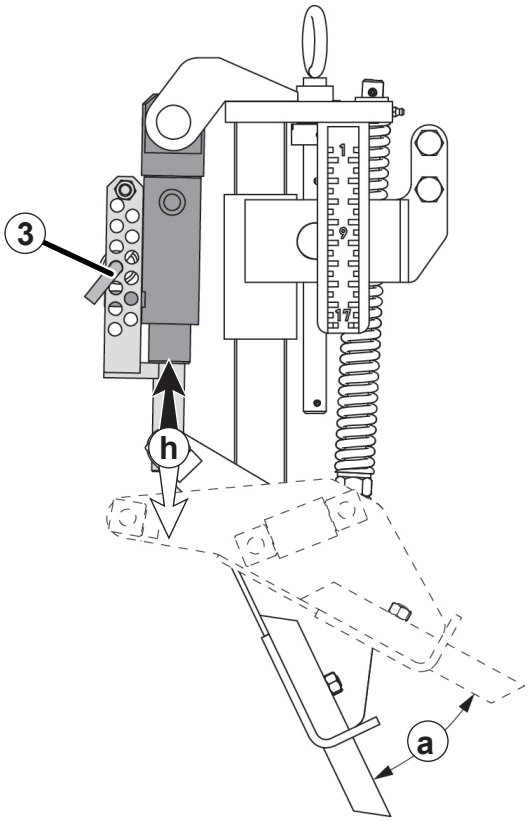
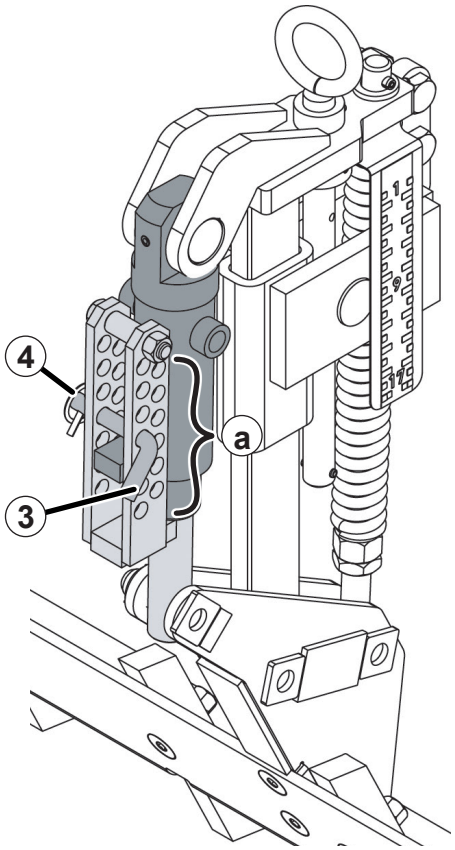


Fig. 66; Adjust end stop, hydraulic tine trailer



- ► Remove retaining ring (4).
- ► Remove spring pin (3).
- ► Set adjustment range by inserting the spring pin into the corresponding hole (a).
- ► Fasten the spring pin with the retaining ring.

  Set the tine trailer stop height equally on all hydraulic cylinders.

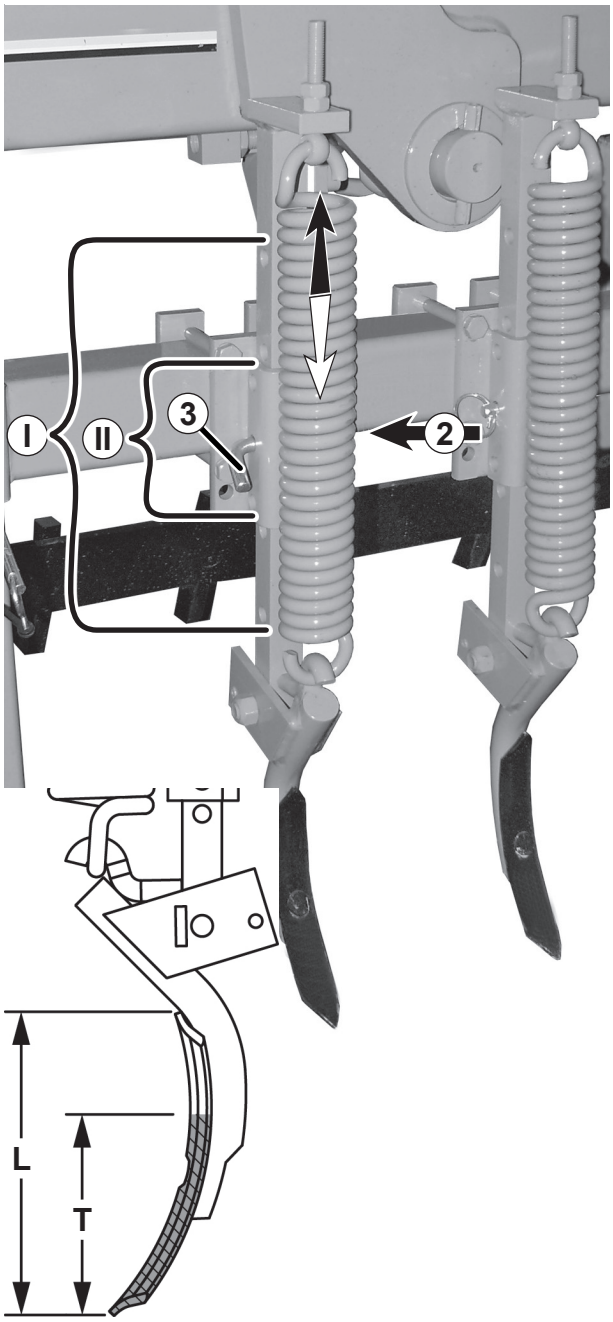
9.7 Adjusting the working depth of the wheel mark eradicator (additional equipment)

Fig. 67; Wheel mark eradicator

Preparations

► Lift the implement with the three-point power lift until the wheel mark eradicator (1) is free of the ground.

Fig. 68; Adjusting the depth of the wheel mark eradicator



Adjust depth:

► Remove retaining ring (2).

► Remove pin (3) and ...

► ... adjust working depth by aligning the hole in the rod (I) with the hole in the bracket (II).

► Insert the pin in the corresponding hole and secure with the retaining ring.

NOTE
Do not set the wheel mark eradicator too deep.

Max. working depth (T) = ca. 2/3 Share length (L)

9.8 Adjust the height of the support wheels - Tetra 7500 L, 9000 L

The height of the support wheels (1) can be arbitrarily adjusted with the spindles (2). Set the height of the support wheels such that the side arms are horizontal during operation.

The default setting with a fully lowered implement with horizontal side arms: Lower edge of wheel = Lower edge of spike disc harrow or crosskill roller.

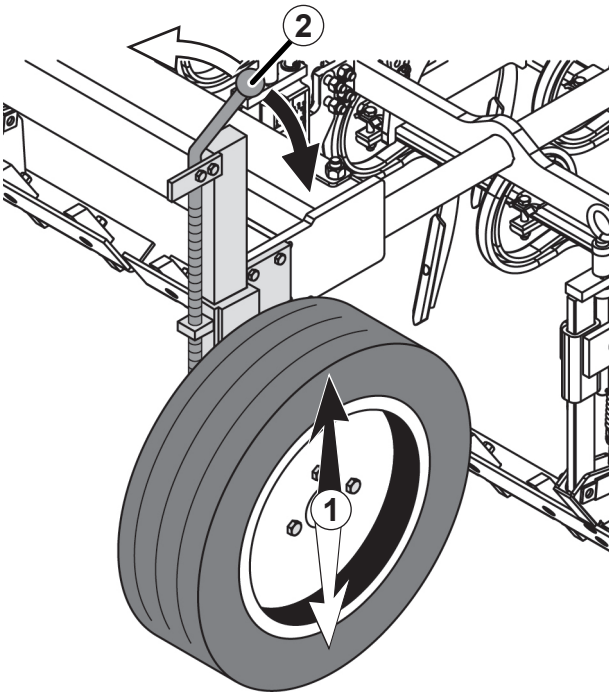
Preparations

- ► Fold the implement out into working position, see Chapter “Fold machine out into working position“ - Page 47.
- ► Switch off the tractor and secure it from rolling away.

Adjustment

- ► Set the height of the support wheels (1) by turning the spindles (2).

Fig. 69; Support wheel - adjust height, Tetra 7500 L and 9000 L



9.9 Working information

Working speed = max. 15 km/h

- ► Release the lower link lateral lock (tractor operating instructions).
  When working on gradients restrict the side movement of the bottom link (tractor operating instructions).
- ► When dealing with very uneven ground activate the swing equalisation on the tractor (tractor operating instructions).
- ► Set the tractor hydraulics to "Floating position" (tractor operating instructions).
  When working in "Floating position" the setting of the top link influences the pressing force of the dual spike disc harrow or the crosskill roller.
  - • Top link severely inclined towards implement = less pressing force
  - • Top link flat to implement = more pressing force
- ► Do not drive round tight corners when in use.
- ► Lift the implement before turning or reversing.

9.10 Adjustments during operation

During operation, you can make or modify the following settings:

- • Readjusting working depth of the tine fields, description Page 48.
- • Readjusting the height of the tine trailer, description Page 49.
- • Readjusting working depth of the wheel mark eradicator, description Page 51.
- • Readjusting the height of the support wheels, description Page 52.

9.11 Remove wall of earth in front of tine trailer

Mechanical tines trailer:

► Lift the implement briefly with the three-point power lift whilst working until the tine trailer releases the wall of earth.

► The lower the implement again.

Hydraulic tine trailer:

► Fold up the tine trailer with the tractor hydraulics until the tine trailer has driven over the wall of earth.

NOTE

With increasing walls of earth forming in front of the tine trailer, reduce the height of the tine trailer - see Chapter “Adjust the height of the tine trailer“ - Page 49.

9.12 Rectifying blockages

DANGER

Risk of accident while alleviating blockages.

- Alleviate blockages with suitable tools - never reach into the implement.
- Lower implement.
- If the implement is raised, do not work underneath it whilst unsecured.
- Secure the implement from lowering.

Rectify blockage:

► Stop tractor.

► Lift up the implement with the three-point power lift..

The blockage is not freed when lifted, then:

► Switch off the tractor and secure it from rolling away.

► Secure tractor against being started up (remove ignition key).

► Take all safety precautions into account when removing blockages.

► Alleviate blockages with suitable tools and never reach into the implement.

10.0 After working - fold in the implement

After work, the implement must be prepared for transport by road and moved from the working position to the transport position.

► Before driving on roads observe the instructions in Chapter “Travelling by road“ - Page 43.

Fig. 70; Working position

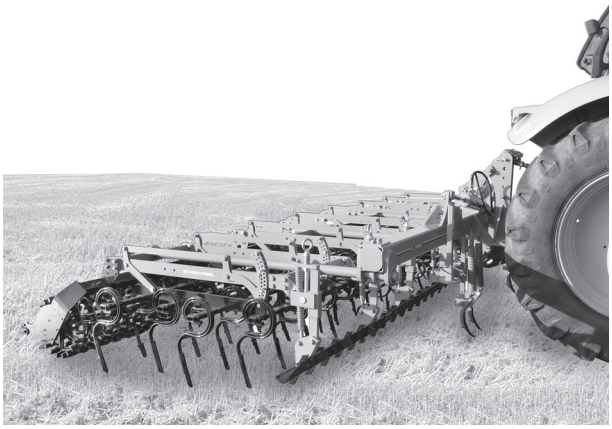
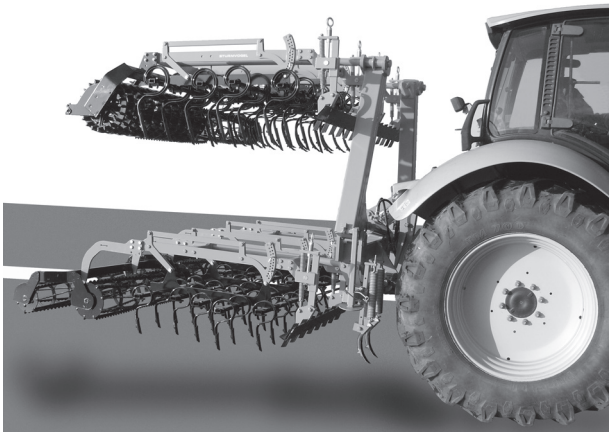


Fig. 71; Transport position



10.1 Preparations for folding in the implement

Tetra 4501 L / LS, 7500 L

► Pin the tine fields in the top position, see Chapter “Adjust the working depth of the tine fields“ - Page 48.

Fig. 72; Raise tine field, Tetra 4501 L / LS and 7500 L

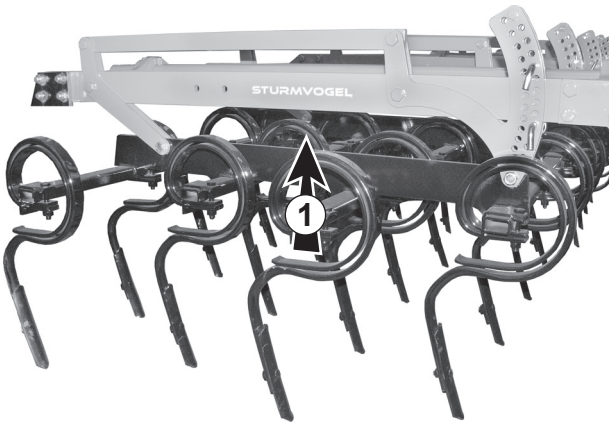
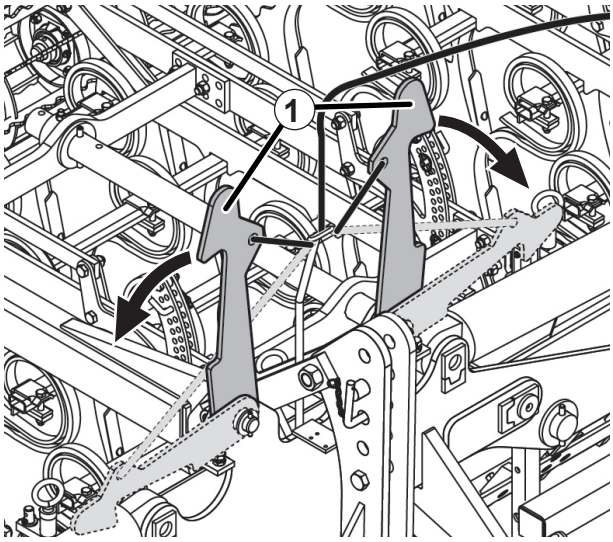


Fig. 73; Tetra 9000 L
Raise wheel mark eradicator

Tetra 9000 L

► Raise the wheel mark eradicator, seeChapter “Adjusting the working depth of the wheel mark eradicator“ - Page 51.

Fig. 74; Fold down the side arm **locking, Tetra 7500 L and 9000 L**



Tetra 7500 L and 9000 L

► Fold down the projecting side arm locking (1).

10.2 Folding the Tetra to the transport position

WARNING

Risk of accident from the folding and unfolding of implement parts.

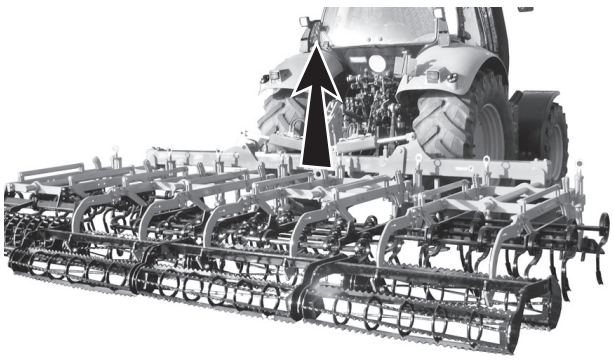
- *When folding and unfolding implement parts, make sure that no persons are standing in the danger area.*
- *When folding and unfolding implement parts, make sure that there is adequate clearance around the implement.*
- *Close the rear window on the tractor.*

DANGER

Electric shock due to overhead power lines.

- *When lifting implements and folding/unfolding implement parts, ensure that sufficient clearance is left for power lines.*

Fig. 75; Lift the implement



► Lift up the implement with the three-point power lift.

► Actuate the control device until the implement has folded in to the transport position.

NOTE
When folding in ensure that the transport lock (fig. 80 + fig. 81; 1) is not bent and does not foul the frame of the spike disc harrow.

Fig. 76; Fold in implement

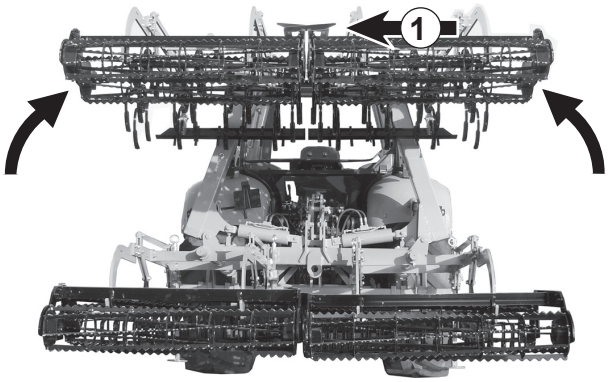


Fig. 77; Transport lock

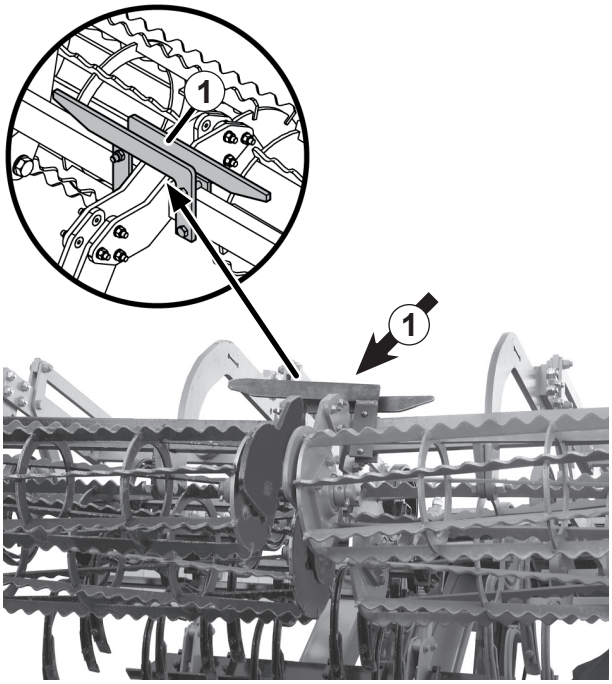
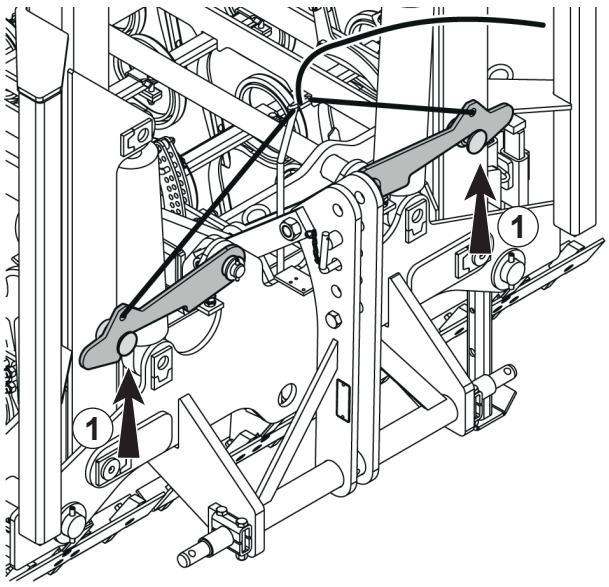


Fig. 78; Side arm locking, Tetra 7500 L and 9000 L



With Tetra 7500 L, 9000 L:

► Check that the side arm locking (1) is corrected latched in.

11.0 Set implement down and uncouple

WARNING

Risk of accident while coupling the implement to and uncoupling it from the tractor.

- *During coupling and uncoupling, no person may stand between the tractor and the implement; also do not step between the tractor and the implement while operating the external hydraulics control.*
- *Take note of all crushing and shearing points on all moving parts of the implement.*
- *Prior to uncoupling:*
  - *wait until the implement has come to a complete standstill*
  - *lower the implement fully*
  - *apply the tractor's parking brake*
  - *switch off the engine*
  - *remove the ignition key*
- *Secure the implement from rolling away. If necessary, apply the handbrake, apply the brake on the implement.*
- *Secure the implement from rolling away by using wheel chocks.*

11.1 Note the following before setting down

The machine can be set down when folded out or folded in.

- Use the set-down supports.
- Do not set the implement down on the share points of the tine fields or the wheel mark eradicator (additional equipment) - avoid damaging the shares.

If there is not enough ground clearance for the shares:

► Pin the tine fields in the top position, see Chapter “Adjust the working depth of the tine fields“ - Page 48.

► Raise the wheel mark eradicator, seeChapter “Adjusting the working depth of the wheel mark eradicator“ - Page 51.

Fig. 79; Tetra folded out (example 6001 L)

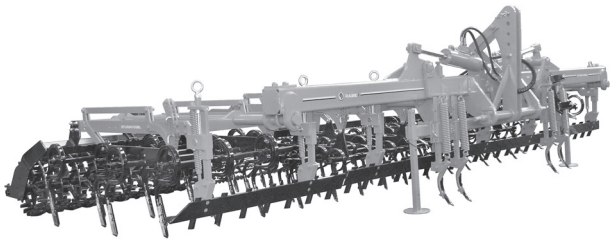
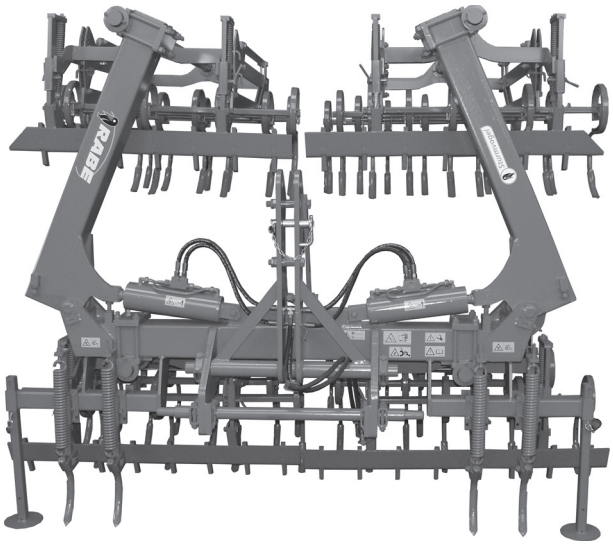


Fig. 80; Tetra folded in (example 4501 L)



11.2 Pull out the set-down supports and lower the implement

NOTE
Before pulling out the set-down supports the folded out implement must be folded in - see Chapter “Fold in the implement“ - Page 54.

► Lift the implement with the three-point power lift until the supports (I + II) can be freely pulled out.

Fig. 81; Top set-down support

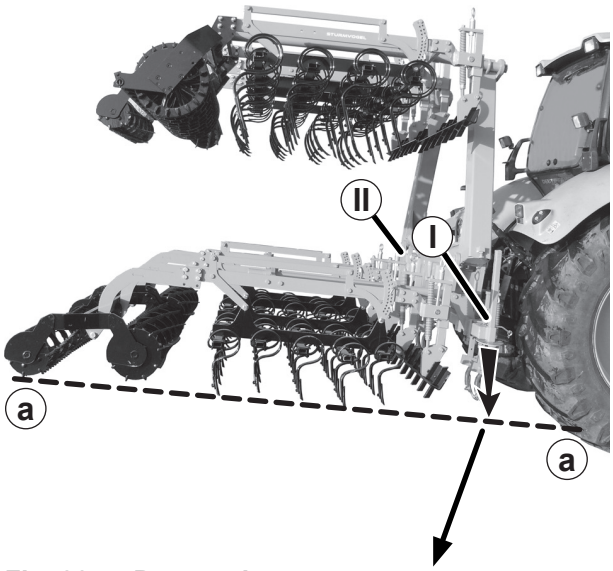
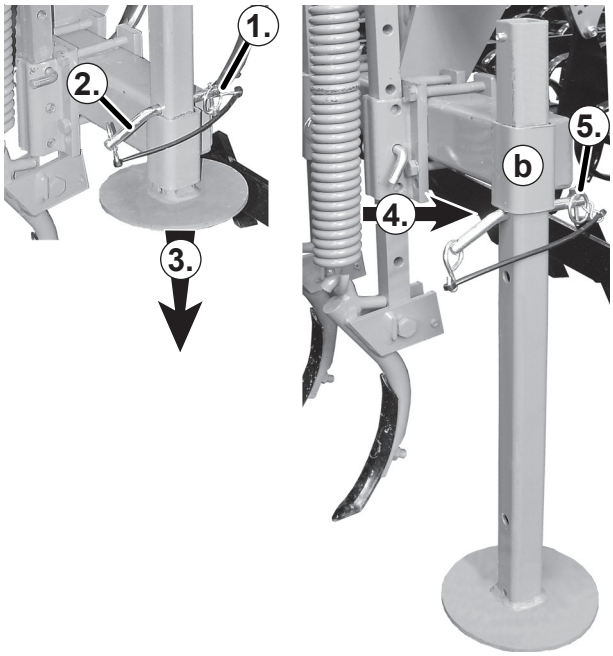


Fig. 82; Put out the support

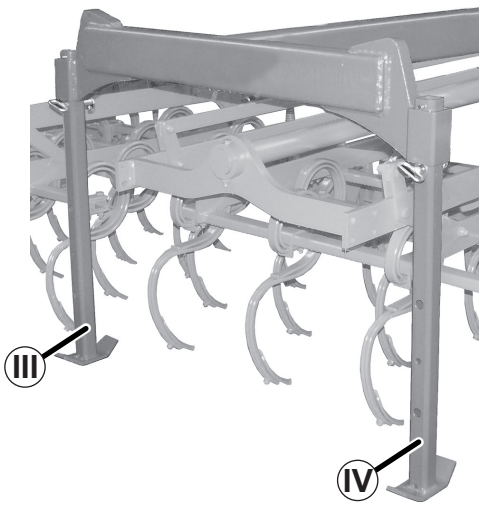


► 1.) Pull out spring cotter.
► 2.) Pull out pins.
► 3.) Pull out the support as far as the lower edge of the spike disc harrow / crosskill roller (fig. 85, a).
► 4.) Fasten the support by inserting the pin below the receptacle (b).
► 5.) Secure the pin with a spring cotter.

NOTE
The Tetra 7500 L and 9000 L are also equipped with set-down supports (III + IV) at the rear.
These must also be pulled out as described above before setting down the implement.

► Lower the implement onto the supports with the three-point power lift.

Fig. 83; Rear support, Tetra 7500 L and 9000 L



11.3 Separating hydraulic connections - Folding cylinder and additional equipment

DANGER

Risk of accident due to hydraulic fluid escaping at high pressure.

- *When disconnecting the hydraulic connections, make sure that the hydraulic system on the tractor (floating position) and on the implement have been depressurised.*

Risk of accident and crushing due to the implement tipping over.

- During work, secure the tractor to prevent it from unintentional rolling.

RISK OF INFECTION!

Fluids (hydraulic oil) escaping under high pressure may penetrate the skin and cause severe injury.

- *Set down implements, depressurise the system, switch off the engine and remove the ignition key before commencing work on the hydraulic system!*
- *Consult a doctor immediately in case of injury!*

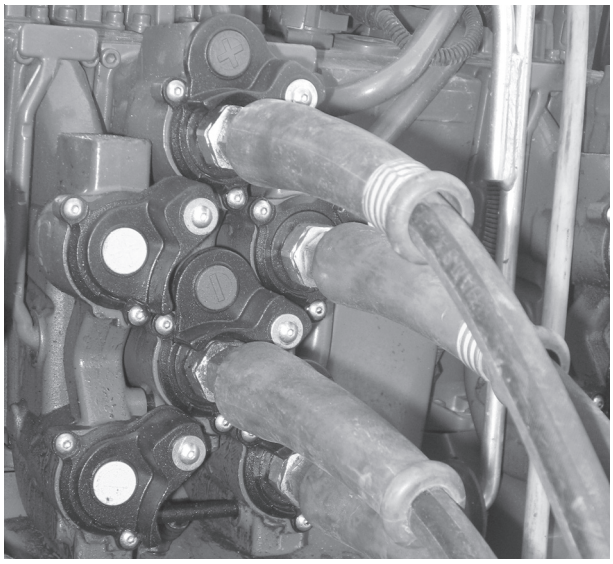
NOTE

Always additionally consult the operating instructions of the tractor manufacturer when disconnecting.

► Turn off tractor hydraulic system or switch to floating position (depressurise).

► Disconnect the hydraulic hose connections.

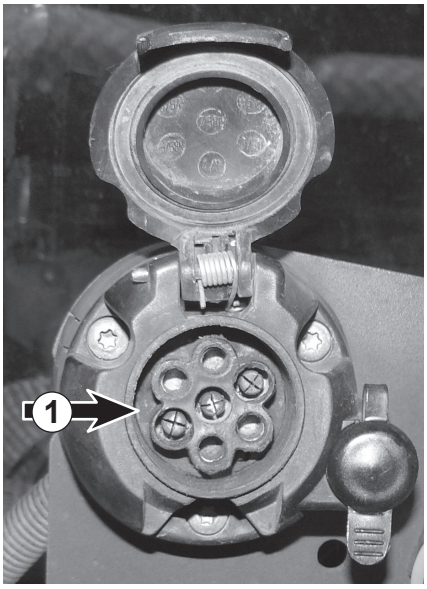
Fig. 84; Separate hydraulic connections



11.4 Separating lighting (additional equipment)

► Pull the connection cable for the lighting out of the lighting socket (1) on the tractor.

Fig. 85; Disconnect lighting



11.5 Uncoupling the top link

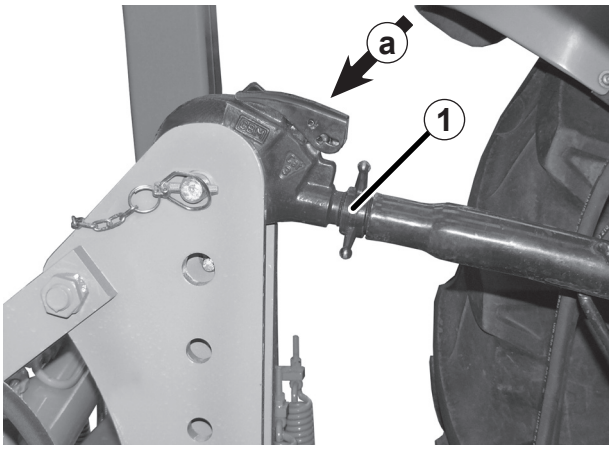
NOTE

- Always additionally consult the operating instructions of the tractor manufacturer when uncoupling.
- Before coupling ensure that the upper link is relieved of load.

► Open the lock (a) on the top link and ...

► ... Uncouple the top link (1) from the pin.

Fig. 86; Uncouple top link



11.6 Uncoupling the bottom links

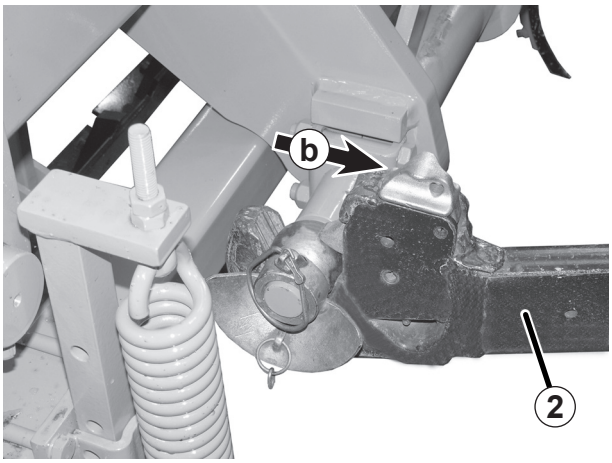
NOTE

- Always additionally consult the operating instructions of the tractor manufacturer when uncoupling.
- Before coupling ensure that the lower links are relieved of load.

► Open the lock (b) on the bottom links and

► uncouple the bottom links (2) from the bottom link pins.

Fig. 87; Uncouple lower link



12.0 Cleaning

12.1 Safety instructions, cleaning

WARNING

Risk of accident due to pinching or crushing while performing cleaning work.

- *Turn off the engine of the tractor and take the key out of the ignition.*
- *Only perform work when the implement is in a safe condition and has been secured to prevent it from dropping and rolling away. Use all provided supports.*
- *During all work, wear work gloves, the prescribed working clothing and protective equipment.*
- *Secure the implement to prevent unauthorised start-up while such work is in progress.*

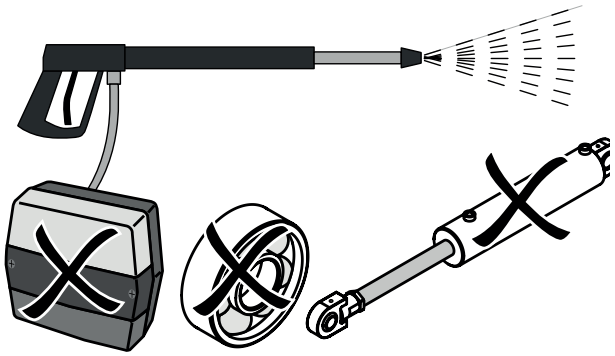
12.2 Cleaning

- ► Do not direct jets of water onto electrical components or bearing points.
- ► Do not use a pressure washer to clean hydraulic components.
- ► Using too high a pressure for cleaning can cause damage to paintwork. Maintain a minimum distance of the cleaning nozzle from the implement of approx. 30 cm.
- ► After cleaning, lubricate the implement as per the lubrication schedule.
- ► Take precautions to prevent rust forming.
  Uncoated metal parts of the implement and piston rods must be treated with an environmentally compatible corrosion protection agent.
- ► Repair damage to the paintwork.

NOTE

Crumblers, rollers and tines keep themselves in good condition if they are cleaned after every use and protected from corrosion.

Fig. 88; Do not direct jets of water onto electrics, bearing points or hydraulics.



13.0 Storing the implement

- Before placing into storage, clean the implement thoroughly.
- Protect lighting plug from dirt.
- Park the machine in a location which is protected from the elements, and cover.
- Protect uncoated metal parts of the implement from rust.
- Lubricate all lubricating points.

14.0 Maintenance

14.1 Safety instructions - maintenance

WARNING

Risk of accident due to pinching or crushing while performing maintenance work.

- *Always observe the safety instructions in chapter 1.0, page 9.*
- *Turn off the engine of the tractor and take the key out of the ignition.*
- *Only perform work when the implement is in a safe condition and has been secured to prevent it from dropping and rolling away.*
  Use all provided supports.
- *During all work, wear work gloves, the prescribed working clothing and protective equipment.*
- *Always disconnect the power before starting any work on the electrical system.*
- *Secure the implement to prevent unauthorised start-up while such work is in progress.*

Risk of injury due to heavy components.

- *When handling heavy components, use suitable lifting accessories or seek the assistance of a second person.*

Risk of accident due to failure to perform maintenance tasks or not doing so properly.

- *Observe the tightening torques.*
- *Check the tyre pressure regularly.*
- *Only use original spare parts.*

Risk of accident due to improperly carried out work on tyres and wheels.

The removal and installation of wheels requires thorough expertise and approved mounting tools.

- *Repairs to tyres and wheels may only be undertaken by service centres.*

14.2 Who may carry out maintenance

Qualified persons

Persons, who are trained in the tasks assigned to them, who have been made aware of the potential hazards with improper use and who have been briefed about the necessary safety devices and protective measures.

Specialists

Persons with specific expert training. They are able to assess the work assigned to them and recognise the potential dangers due to their specialist training and knowledge of the relevant regulations.

Service centre

A service has the knowledge and resources (hoists, lifting gear and support equipment) required to assure a professional and safe execution of the tasks involved in maintaining and repairing the implement.

Instructions on who should carry out which maintenance tasks can be found in the maintenance schedule.

14.3 Maintenance schedule

NOTE

- As proof that the maintenance tasks have been performed, particularly those on the hydraulic system, they should be logged upon completion.
- Work on the hydraulic system may only be performed by specialists or at service centres.

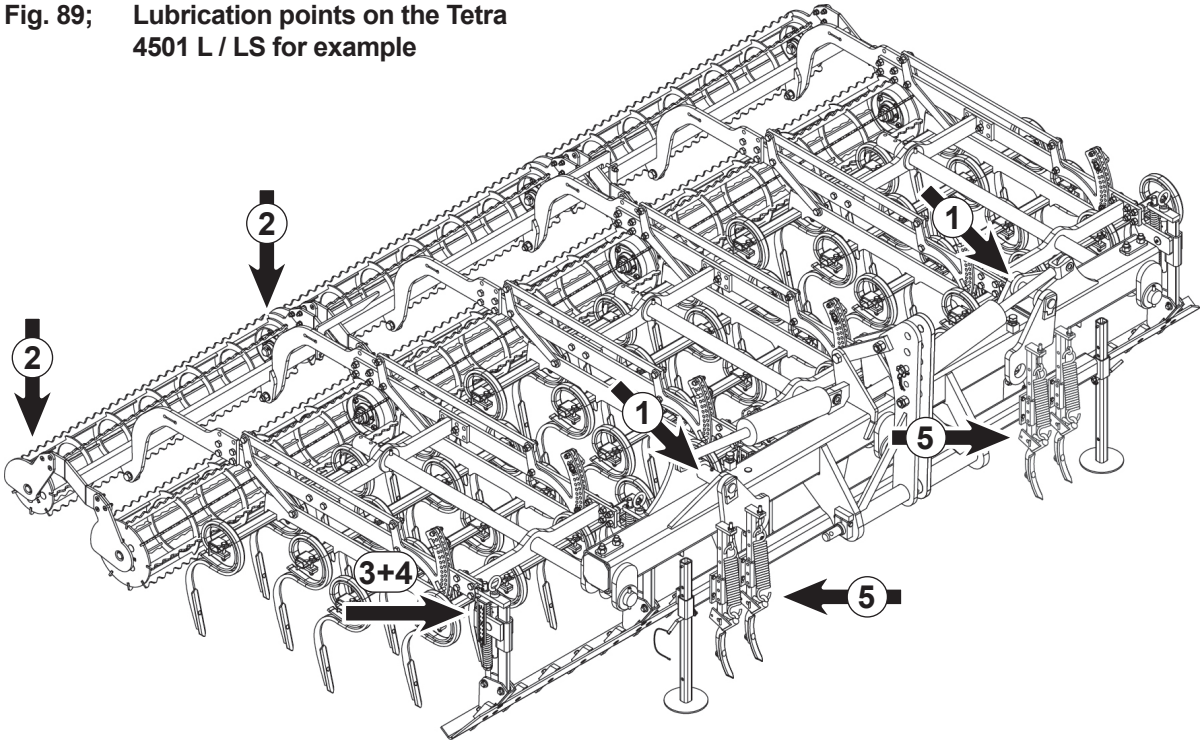
Tasks	Information on page	By		When						
		Qualified person	Service centre / Specialist	After first use	At commissioning	Every 10 operating hours	Every 50 operating hours	After cleaning	after the season	Every 5 years
Lubricate all lubricating points	64			+				+	+	
Keep the adjusting spindle serviceable	- - -							+	+	
Check all frame parts of the implement for damage	- - -							+	+	
Check all bearing points of the implement for damage	- - -							+	+	
Check tightness of all screws.	66			+			+			
Check the tine fields for wear, replace if necessary	69				+			+	+	
Check the tines and levelling bar of the tine trailer for wear, replace if necessary	73				+			+	+	
Check the wheel mark eradicator for wear, replace if necessary	75				+			+	+	
Check the top and bottom links for wear	- - -				+			+	+	
Check the safety devices for correct function and for wear	31				+			+	+	
Check safety symbols for damage	98							+		
Repair damage to the paintwork	- - -							+		
Check air pressure in support wheel tyres	66				+				+	
Check the function and condition of the lighting	28				+				+	
Check the hydraulic system for leak-tightness	67				+	✣*	+		+	
Check the hydraulic hoses for wear and damage	67			+		+		+	+	
Replace hydraulic hoses	- - -									+

* First check, thereafter every 50 operating hours.

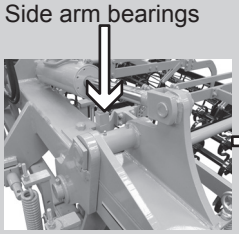
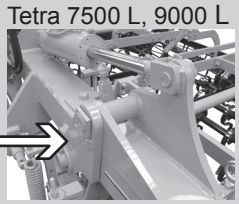
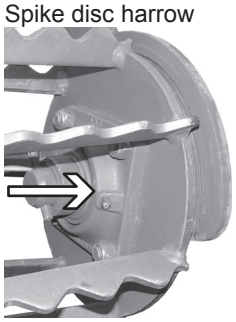
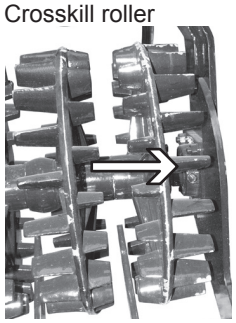
14.4 Lubricating points

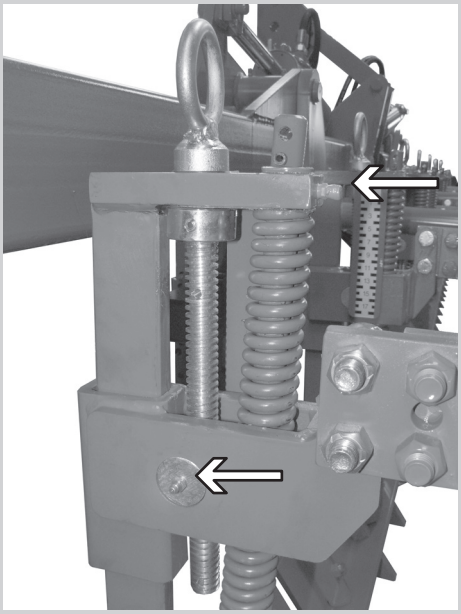
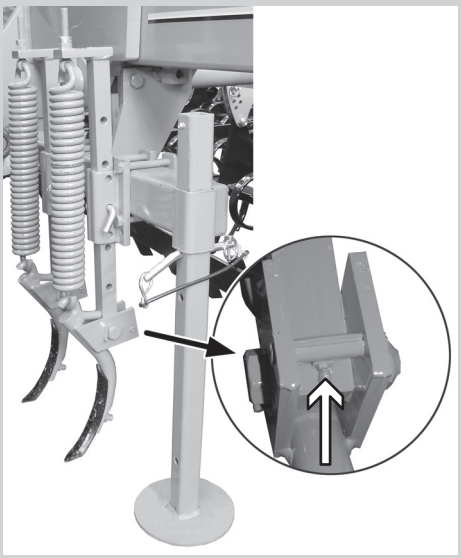
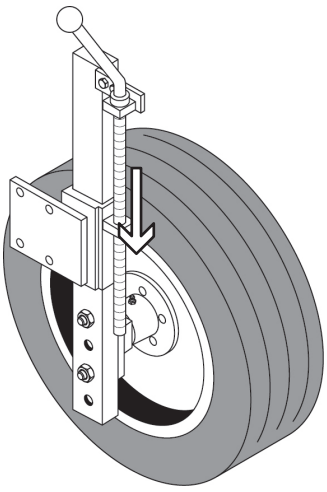
Lubricating grease = standard grease

Fig. 89; Lubrication points on the Tetra 4501 L / LS for example



NOTE
The arrows indicate examples of lubrication nipple locations. Grease all parts evenly.

Position				Every	After cleaning	Before + after the season
1	Side arm joints	Side arm bearings 	Tetra 7500 L, 9000 L 	40 h	+	+
2	Outer bearing	Spike disc harrow 	Crosskill roller 	40 h	+	+

Position			Every	After cleaning	Before + after the season
3	Tine trailer Spring hanger		40 h	+	+
4	Tine trailer adjustment spindles		40 h	+	+
5	Wheel mark eradicator		40 h	+	+
6	Support wheel bearings		40 h	+	+

14.5 Tighten allbolts

Check all fastening bolts are tight after first use and then regularly thereafter.
Use torque wrench.
Observe table with torque information.

Torques for metric screws - standard threads

Size	Quality class						Width Across Flats
	8.8 or 9.8 Dry		10.9 Dry		12.9 Dry		
	Nm	lb-ft	Nm	lb-ft	Nm	lb-ft	
M6	11	8.5	17	12	19	14.5	10
M8	28	20	40	30	47	35	13
M10	54	40	79	58	93	69	16 (17)*
M12	93	69	137	101	160	118	18(19)*
M14	148	109	218	161	255	188	21(22)*
M16	230	170	338	250	395	292	24
M18	329	243	469	346	549	405	27
M20	464	342	661	488	773	570	30
M22	634	468	904	667	1057	780	34 (32)*
M24	798	589	1136	838	1329	980	36
M27	1176	867	1674	1235	1959	1445	41
M30	1597	1178	2274	1677	2662	1964	46

Since tightening torques are dependent upon the condition of the surfaces (coefficient of friction) and on lubrication, the values in the table should only be taken as a guideline.
* per DIN ISO 272

14.6 Support wheels tyres pressures

Check the air pressure of the tyre on a regular basis.

Tyre	Air pressure
185R14C 8PR	2.5 bar / 250 kPa / 36.3 PSI

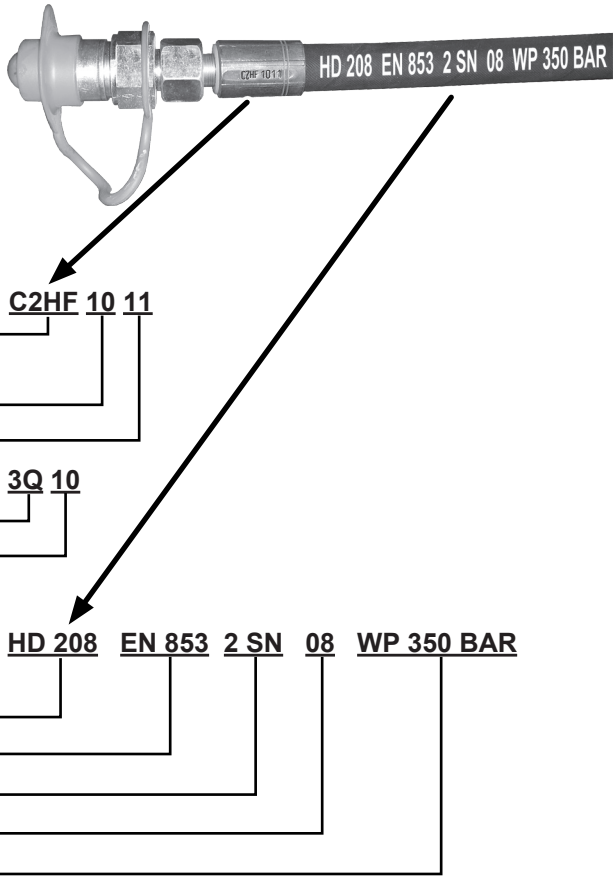
14.7 Checking the hydraulic system

Risk of injury and infection from hydraulic fluid.

Fluids (hydraulic oil) escaping under high pressure may penetrate the skin and cause severe injury.

- *Use suitable tools when looking for leakages!*
- *Set down implements, depressurise the system, switch off the engine and remove the ignition key before commencing work on the hydraulic system!*
- *Consult a doctor immediately in case of injury!*

Fig. 90; Identification on the hydraulic hose



Identification on the hydraulic hose

- Identification of the manufacturer
- Date of manufacture
  Year (10 = 2010)
  Month (11 = November)

or

- Quarter (3Q = 3rd quarter)
  Year (10 = 2010)

- Type and nominal values
  (HD = high pressure, 208 = nominal width 8 mm)
- Hose standard
- Hose type
- Internal diameter (8 mm)
- Maximum permitted operating pressure (350 bar)

Check...

...each time before start-up

► Check hydraulic hoses for wear.

Hydraulic hoses are subject to natural ageing.
The period of usage for hydraulic hoses must not exceed 5-6 years.

► Check the date of manufacture.

...after the first 10 operating hours and every 50 operating hours thereafter:

► Check the hydraulic system, lines and hoses for leak-tightness and if necessary re-tighten the threaded connections.

NOTE

The hydraulic hoses employed must comply with the technical specifications of the implement manufacturer.
Only use original spare parts.

15.0 Repair

15.1 Safety instructions - Repairs

DANGER

General risk of accident while working with the implement.

- *Always observe the safety instructions in chapter 1.0, page 9.*
- *Always render the hydraulic system pressureless before starting any work on the system.*
- *Always disconnect the power before starting any work on the electrical system.*
- *Before performing welding work, disconnect all power connections to the tractor.*
- *Switch off engine.*
- *Take out ignition key*
- *Secure the implement to prevent unauthorised start-up while such work is in progress.*
- *When performing care and maintenance tasks, wear work gloves and the prescribed working clothing.*

WARNING

Risk of accident due to pinching or crushing while performing repair work.

- *Only perform work when the implement is in a safe condition and has been secured to prevent it from dropping and rolling away.*
  Use all provided supports.
- *During all work, wear work gloves, the prescribed working clothing and protective equipment.*

Risk of injury due to heavy components.

- *When handling heavy components, use suitable lifting accessories or seek the assistance of a second person.*

Risk of accident due to failure to perform maintenance and repair tasks or not doing so properly.

- *Replace self-locking nuts during reassembly with new ones.*
- *Do not replace self-locking nuts with normal nuts.*
- *For threaded connections with spring washers, inspect the spring washers during reassembly, and if necessary replace with new ones.*
- *Observe the tightening torques.*
- *Check the tyre pressure regularly.*
- *Only use original spare parts.*

15.2 Who may carry out repairs

Qualified persons

Persons, who are trained in the tasks assigned to them, who have been made aware of the potential hazards with improper use and who have been briefed about the necessary safety devices and protective measures.

Specialists

Persons with specific expert training. They are able to assess the work assigned to them and recognise the potential dangers due to their specialist training and knowledge of the relevant regulations.

Service centre

A service has the knowledge and resources (hoists, lifting gear and support equipment) required to assure a professional and safe execution of the tasks involved in maintaining and repairing the implement.

15.4 Replacing shares or tines

WARNING

Risk of injury during repair work.

- *Wait until the implement has come to a complete standstill.*
- *With the machine coupled: - Turn off the tractor engine - take the key out of the ignition.*
- *Only perform work when the implement is in a safe condition and has been secured to prevent it from dropping and rolling away.*
- *Wear protective gloves and safety footwear.*
- *Only use suitable tools.*

NOTE

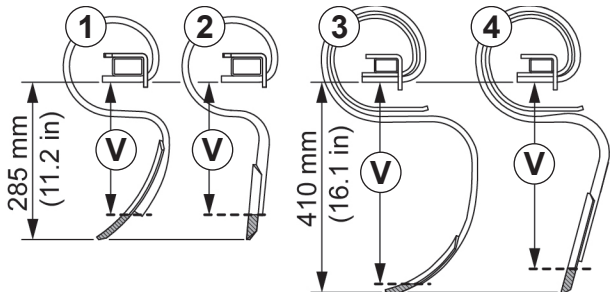
Worn out shares can be turned around once.

Replace worn shares in good time.

Share wear limits - Tines (V):

1) Mild harrow tines
   V = ca. 240 mm (9.5 in)
2) Upright, mild harrow tines
   V = ca. 240 mm (9.5 in)
3) Dual spring reinforced tines
   V = ca. 380 mm (15 in)
4) Upright, vibra tines
   V = ca. 360 mm (14.2 in)

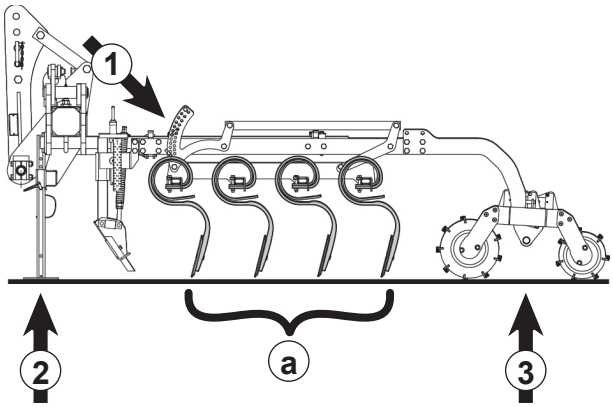
Fig. 91; Share - wear limits



15.4.1 Preparation

- ► Fold the implement out into working position, see Chapter “Fold machine out into working position“ - Page 47.
- ► Pin the tine fields in the top position (1) Chapter “Adjust the working depth of the tine fields“ - Page 48.
- ► Set the implement down on the supports (2) and spike disc harrow or crosskill roller (3) - the tines (a) must be free to move.

Fig. 92; Raise tines

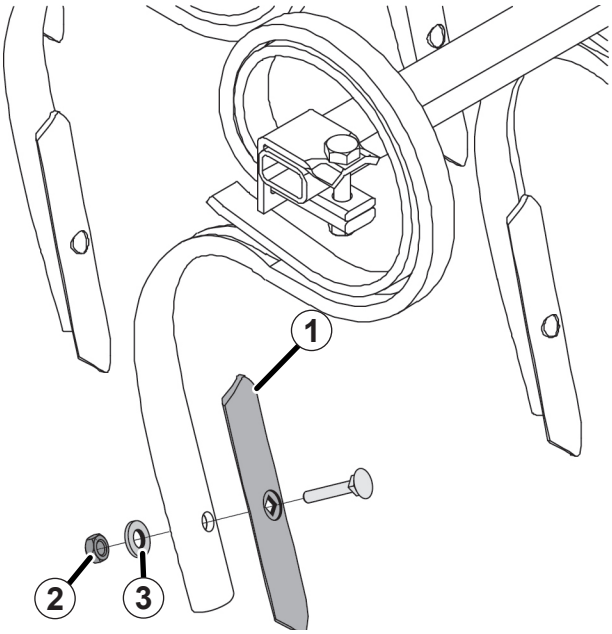


15.4.2 Turning / replacing shares

- ► Remove nut (2, WAF 19 mm) and washer (3).
- ► Turn share (1) or fit new share.
- ► Fit washer.
- ► Screw on the nut.
- ► When tightening the nuts ensure that the share does not turn.

NOTE
Observe torque, seeChapter “Torques for metric screws“ - Page 100.

Fig. 93; Turning / replacing share
(example: Dual spring reinforced tines)



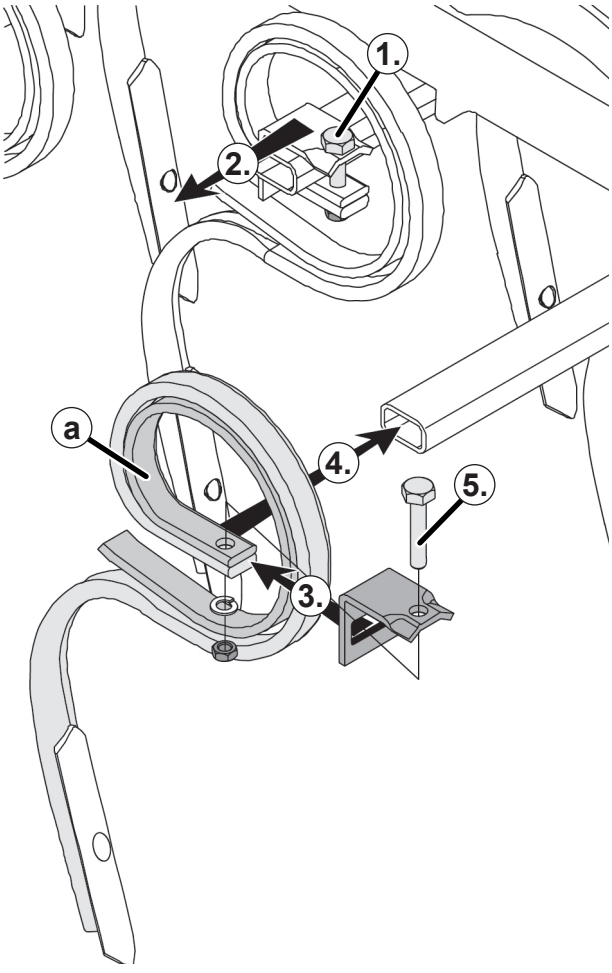
15.4.3 Replace tines

Tine spacing, see following chapters 15.4.4 and 15.4.5

- ► 1.) Remove hex bolt (1; WAF 19 mm) with nut and spring washer.
- ► 2.) Remove tines (2) with mounting bracket (3) from the tine field.
- ► 3.) Slide mounting bracket onto new tine, with reinforcing spring (a) in the case of reinforced tines.
- ► 4.) Attach tines with mounting bracket to the bar of the tine field.
- ► 5.) Insert hex bolt, fit spring washer and tighten nut.

NOTE
- Always use new spring washers.
- Observe torque, seeChapter “Torques for metric screws“ - Page 100.

Fig. 94; Replace tines
(example: Dual spring reinforced tines)

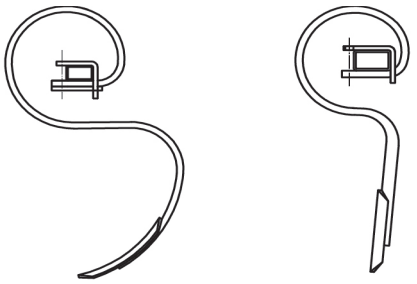


15.4.4 Tine spacing, mild harrow tines

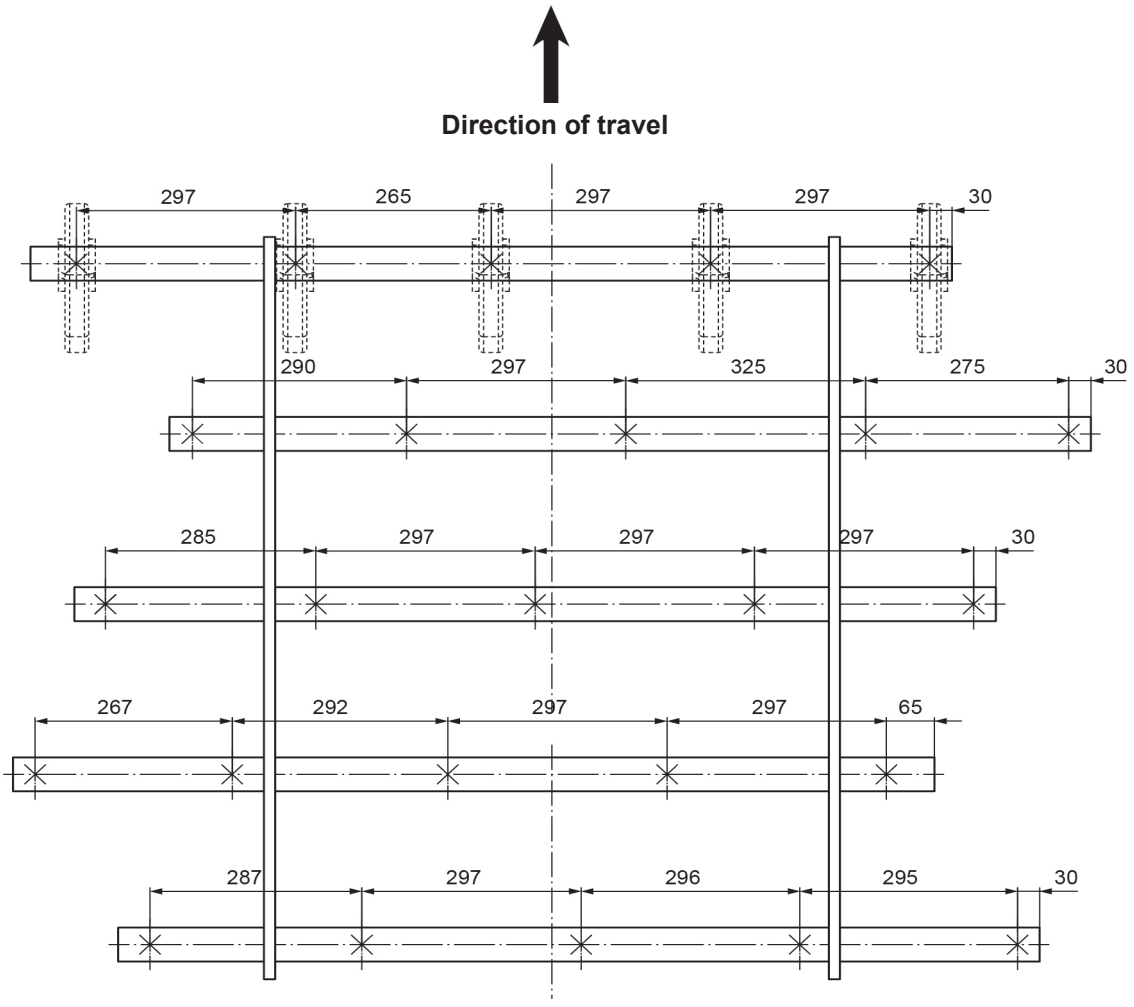
Tine field with 5 bars

Stipulated spacing = central tine fastening

Fig. 95; Tine field,mild harrow tines



Mild harrow tines Upright mild harrow tines



NOTE

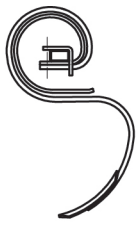
The different spacing of the tines on the bars provides an almost even tine spacing in the tine field.

15.4.5 Tine spacing, reinforced dual spring tines, upright vibra-tines

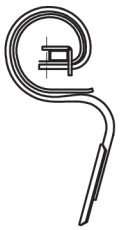
Tine field with 4 bars

Stipulated spacing = central tine fastening

Fig. 96; Tine fielddual spring vibra tines

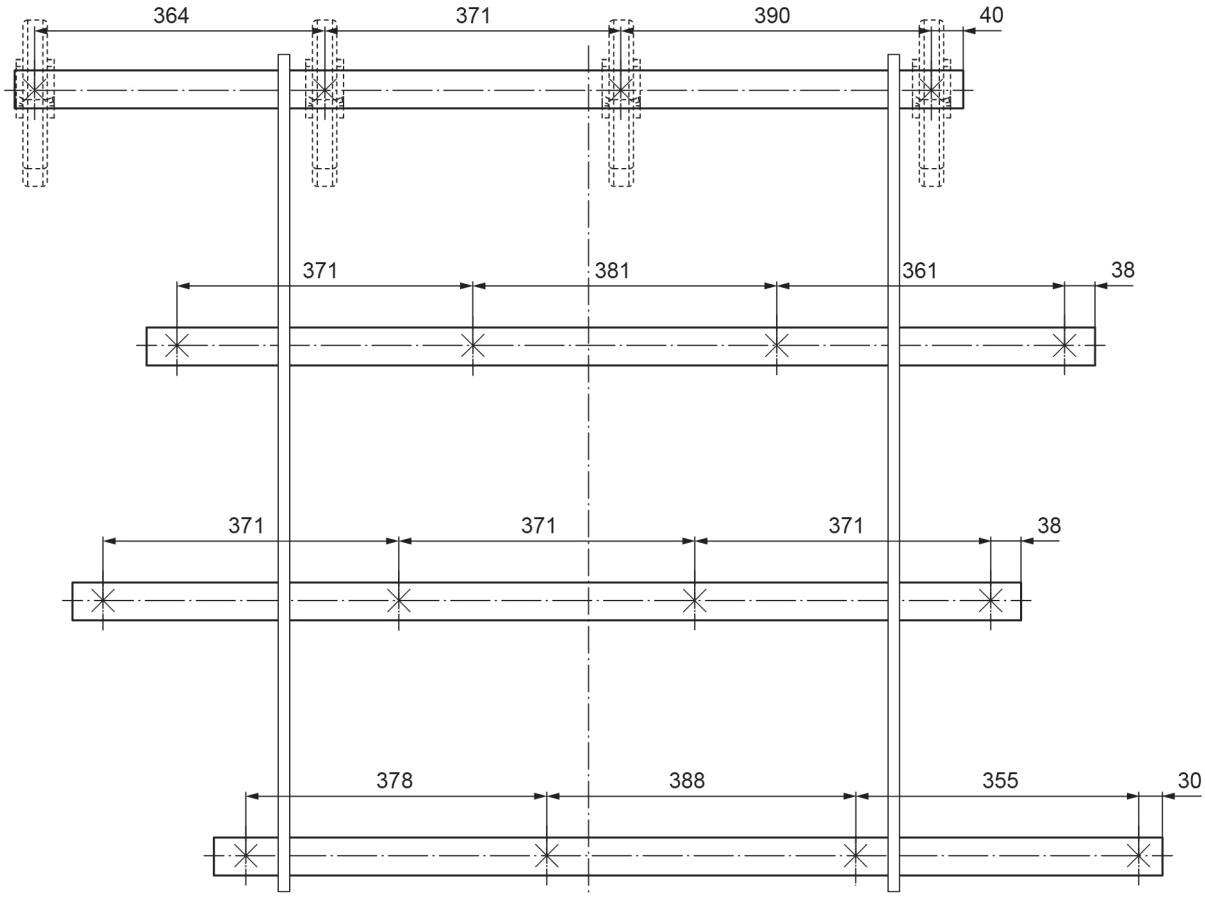


Dual spring



Vibra tines

Direction of travel



NOTE

The different spacing of the tines on the bars provides an almost even tine spacing in the tine field.

15.5 Replacing tine trailer tines or bars

WARNING

Risk of injury during repair work.

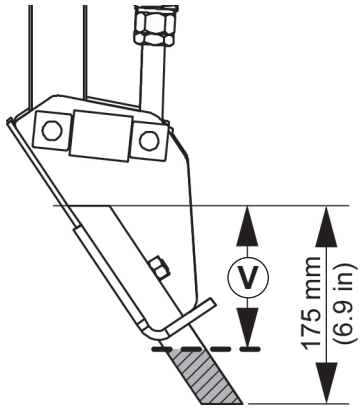
- *Wait until the implement has come to a complete standstill.*
- *With the machine coupled: - Turn off the tractor engine - take the key out of the ignition.*
- *Only perform work when the implement is in a safe condition and has been secured to prevent it from dropping and rolling away.*
- *Wear protective gloves and safety footwear.*
- *Only use suitable tools.*

Replace worn tines in good time.

Tine wear limits - Tine trailer:

V = ca. 125 mm (4.9 in)

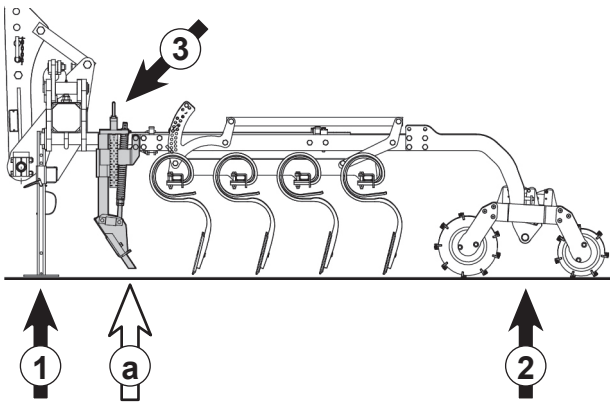
Fig. 97; Tine trailer tines, wear limits



15.5.1 Preparation

- ► Fold the implement out into working position, see Chapter “Fold machine out into working position“ - Page 47.
- ► Set the implement down on the supports (1) and spike disc harrow or crosskill roller (2) - the tines (a) must be free to move.
- ► If necessary set the tine trailer in higher position (3), see Chapter “Adjust the height of the tine trailer“ - Page 49.

Fig. 98; Raising tine trailer

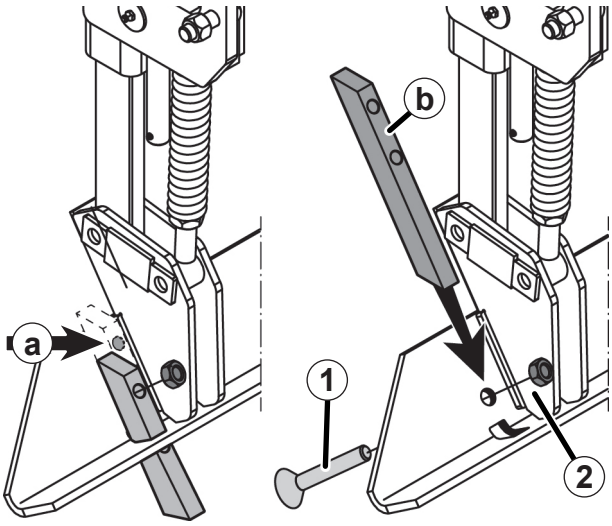


15.5.2 Tine trailer - Moving / replacing tines

NOTE
The tines can be transferred to the second hole (a) once they are worn.

- ► Remove Allen head bolt (1, WAF 8 mm) and nut (2; WAF 19 mm).
- ► Move tine to other hole (a) or insert new tine (b).
- ► Insert Allen head bolt and tighten nut. Observe torque, seeChapter “Torques for metric screws“ - Page 100.

Fig. 99; Tine trailer - Moving / replacing tines



15.5.3 Replacing tine trailer bars

NOTE
With multi-part tine trailers the sloped (a) bar ends must point outwards.

Fig. 100; Tine trailer - bar position

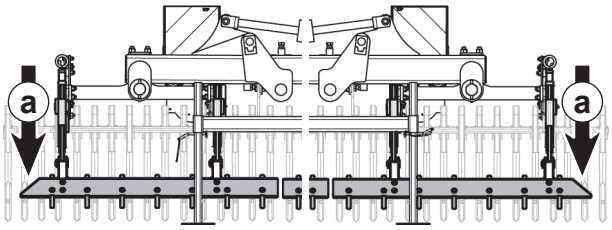
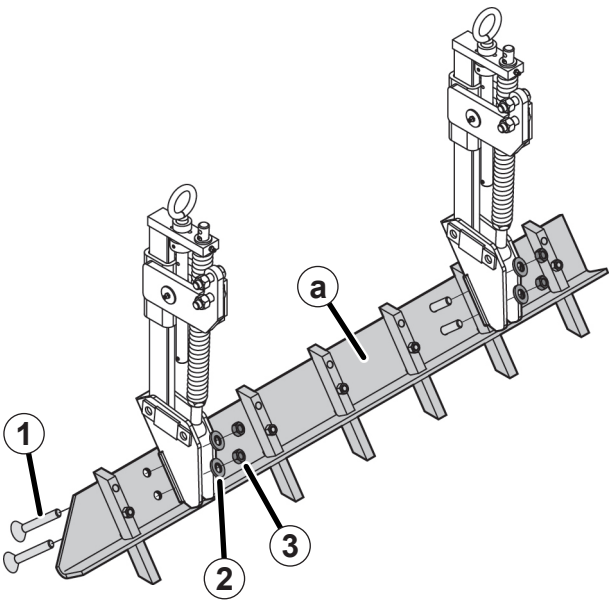


Fig. 101; Tine trailer - Replacing bars



- ► Remove all Allen head bolts (1, WAF 8 mm), washers (2) and nuts (3; WAF 19 mm).
- ► Insert new bar (a).
- ► Insert Allen head bolts, fit washers and tighten nuts.
  Observe torque, seeChapter “Torques for metric screws“ - Page 100.

15.6 Replacing wheel mark eradicator shares

WARNING

Risk of injury during repair work.

- *Only perform work when the implement has been decoupled from the tractor, is in a safe condition and has been secured to prevent it from dropping and rolling away.*
- *Wear protective gloves and safety footwear.*
- *Only use suitable tools.*

NOTE

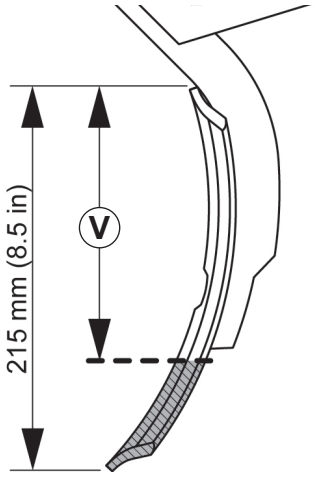
Worn out shares can be turned around once.

Replace worn shares in good time.

Share wear limits - wheel mark eradicator:

V = ca. 150 mm (5.9 in)

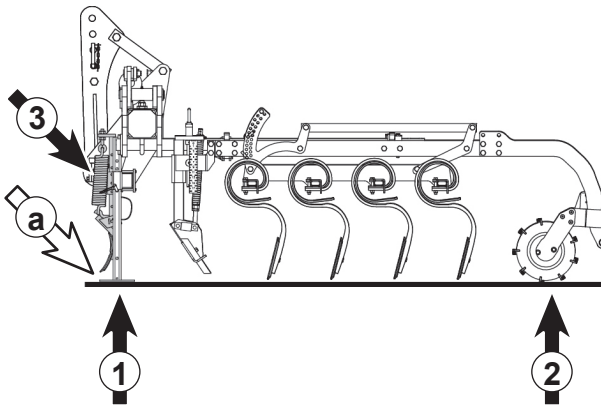
Fig. 102; Share - wear limits



15.6.1 Preparation

- ► Set the implement down on the supports (1) and spike disc harrow or crosskill roller (2) - the wheel mark eradicator (a) must be free to move.
- ► If necessary pin the wheel mark eradicator higher (3)Chapter “Adjusting the working depth of the wheel mark eradicator“ - Page 51.

Fig. 103; Raise wheel mark eradicator



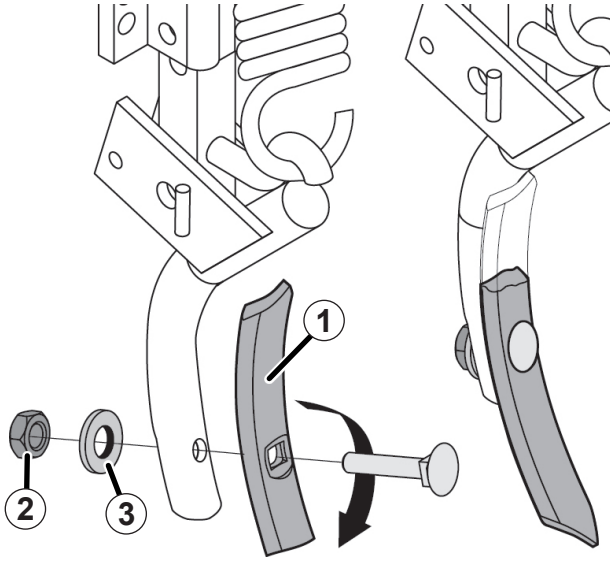
Turning / replacing share

- ► Remove nut (2, WAF 19 mm) and washer (3).
- ► Turn share (1) or fit new share.
- ► Fit washer.
- ► Screw on the nut.
- ► When tightening the nuts ensure that the share does not turn.

NOTE

Observe torque, seeChapter “Torques for metric screws“ - Page 100.

Fig. 104; Turning / replacing share



15.7 Replacing bulbs in the lighting system

Types used:

Side marker lamps:

(1) Soffit 12V / 5W

Fig. 105; Side marker lamps

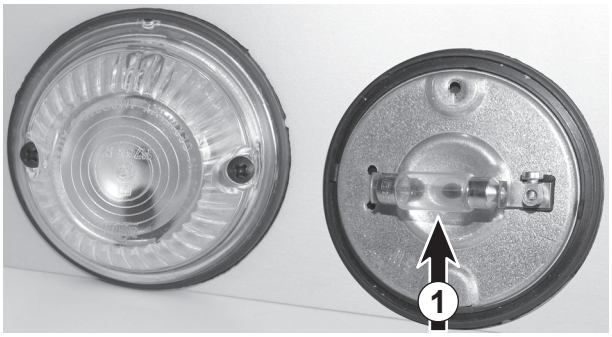
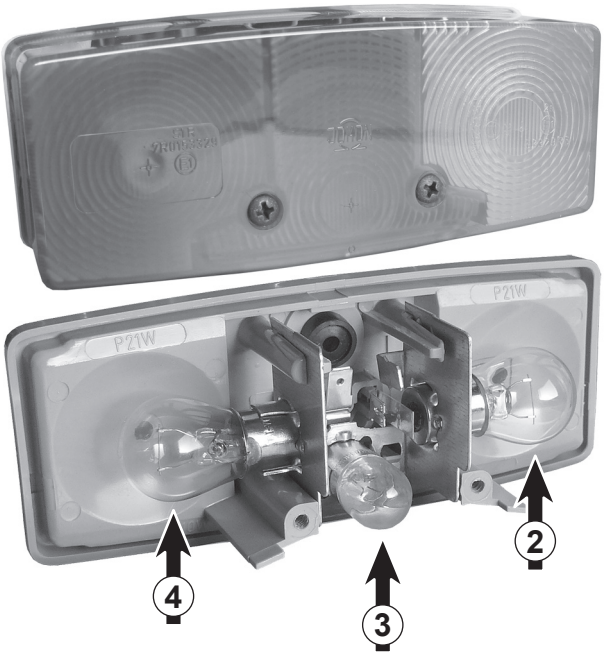


Fig. 106; Tail light



Tail light:

(2) Turn indicator 12V / 21W

(3) Brake light 12V / 21W

(4) Tail light 12V / 5W

16.0 Assembly after delivery

16.1 Safety instructions - Assembly

WARNING

Risk of accident when performing installation work.

The installation must only be carried out by specialists.

- *The applicable accident prevention rules as well as any other generally accepted safety requirements, occupational health regulations must be observed.*
- *You should always work with particular care and never in a hurry.*
- *All tasks must be performed using suitable tools.*
- *Secure the implement to prevent unauthorised start-up while such work is in progress.*

Risk of injury due to heavy components.

- *When handling heavy components, use suitable lifting accessories or seek the assistance of a second person.*

WARNING

Risk of accident due to pinching or crushing while performing installation work.

- *Only perform work when the implement is in a safe condition and has been secured to prevent it from dropping and rolling away. Use all provided supports.*
- *During all work, wear the prescribed working clothing and protective equipment.*
- *If the implement is folded, use additional means to secure it against unfolding unintentionally.*
  - *Close the provided shut-off valves, engage mechanical locks.*

Risk of accident due to failure to perform installation tasks or not doing so properly.

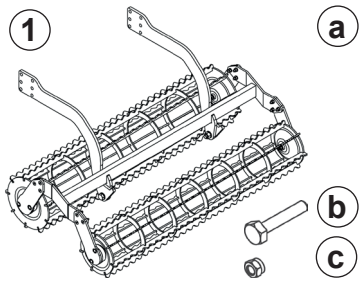
- *Do not replace self-locking nuts with normal nuts.*
- *Only replace nuts and bolts with those of the same strength class, e.g. 8.8.*
- *Observe the tightening torques.*

16.2 Parts delivered separately

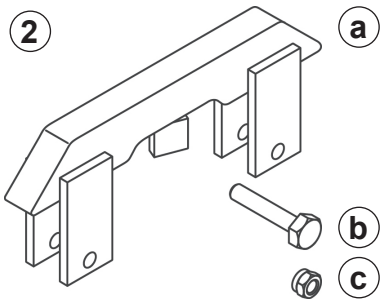
Depending on the scope of delivery the following parts are delivered separately and must be installed after delivery.

1) Dual spike disc harrow
   (number depends on overall width)
   a) 1 x Dual spike disc harrow
   b) 8 x bolt M16 x 50
   c) 8 x self-locking nut M16

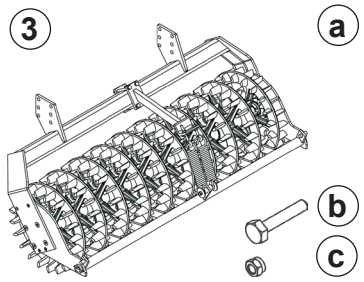
   per dual spike disc harrow



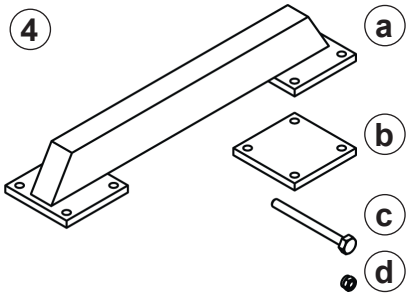
2) Roller binder for dual spike disc harrow:
   a) 1 x roller binder
   b) 2 x bolt M16 x 75
   c) 2 x self-locking nut M16



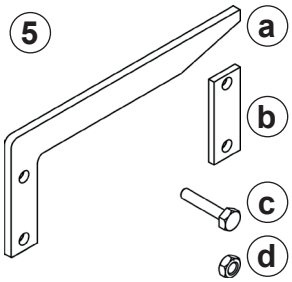
3) Crosskill roller
   (number depends on overall width)
   a) 1 x crosskill roller
   b) 8 x bolt M16 x 65
   c) 8 x self-locking nut M16
   per crosskill roller



4) Roller binder for crosskill roller:
   a) 1 x roller binder
   b) 2 x flange
   c) 8 x bolt M12 x 120
   d) 8 x nut M12



5) Transport lock
   for Tetra 4501 L and 6001 L:
   a) 2 x lock
   b) 2 x lug
   c) 4 x bolt M12 x 70
   d) 4 x nut M12



16.3 Installing spike disc harrow / crosskill roller

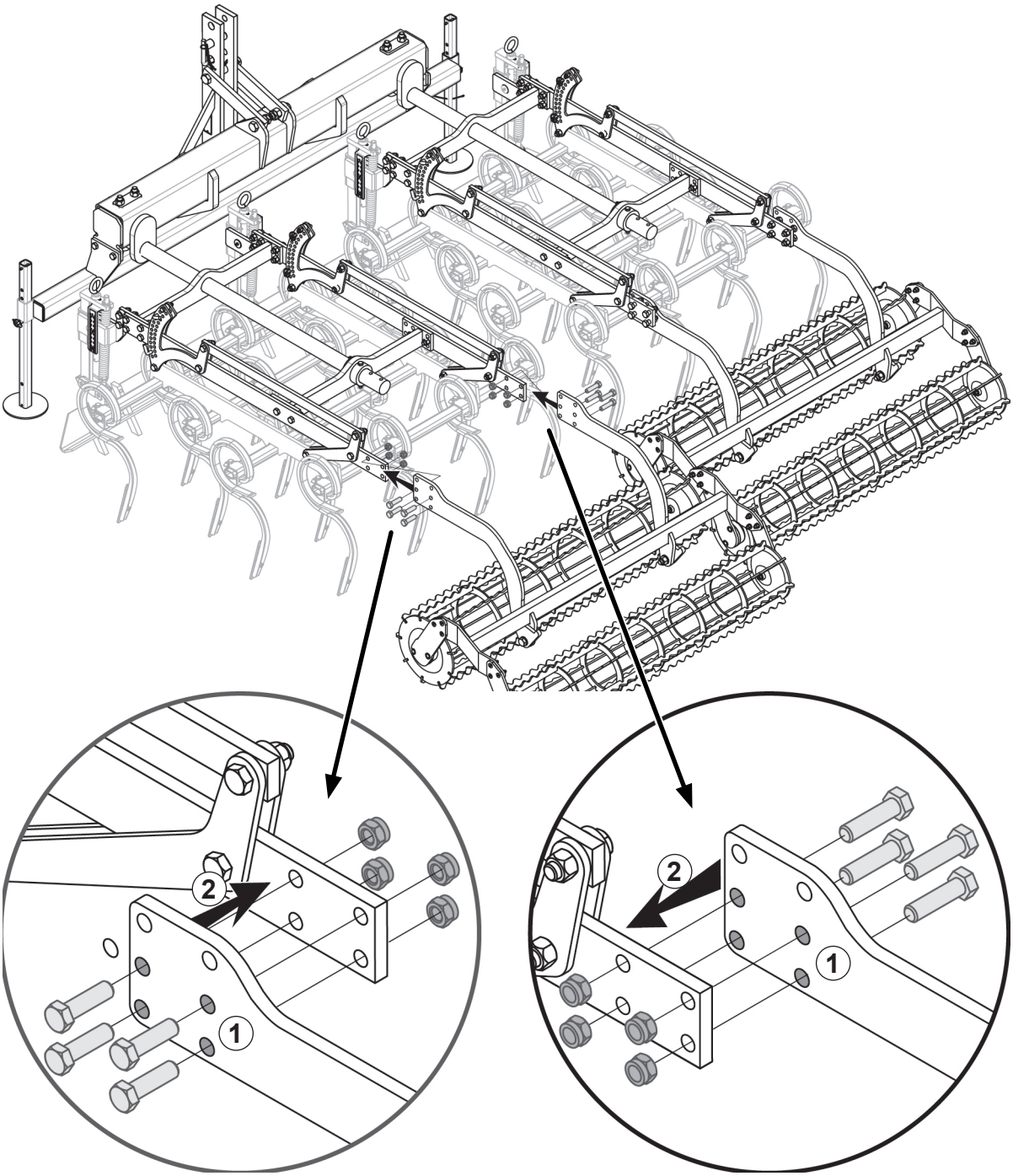
16.3.1 Preparation with Tetra 6001

► Fold out implement - see Chapter “Fold machine out into working position“ - Page 47.

► Switch off the tractor and secure it from rolling away.

16.3.2 Installing spike disc harrow on Tetra

Fig. 107; Install spike disc harrow (example Tetra 3001 L)



Mounting:

4 fastening bolts per bracket.

M 16 x 50 with self-locking nuts

Installation instructions:

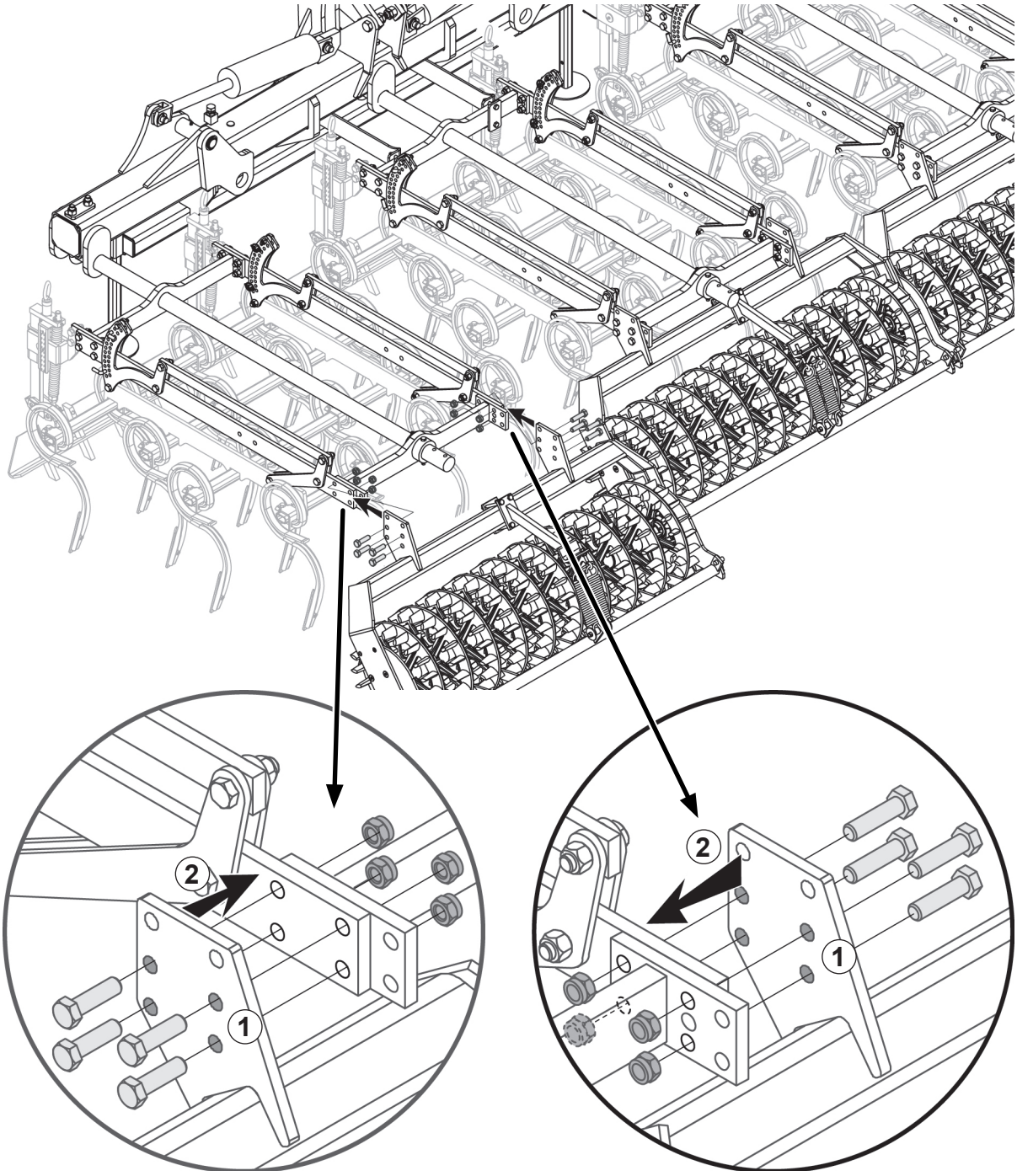
- ► Attach roller arm (1) to the outside of the tine field frame (2).
- ► Bolt the roller arm to the bottom holes (1) on the tine field frame.
- ► Tighten the fastening bolts to the correct torque.

Torque

Size	Quality grade 8.8		Width across flats
	Nm	lb-ft	
M16	230	170	24

16.3.3 Installing crosskill roller on Tetra L

Fig. 108; Install crosskill roller (example Tetra 4501 L)



Mounting:

4 bolts per bracket.

M 16 x 65 with self-locking nuts

Installation instructions:

- ► Attach roller frame (1) to the outside of the tine field frame (2).
- ► Bolt the roller frame to the bottom holes (1) on the tine field frame.
- ► Tighten the fastening bolts to the correct torque.

Torque

Size	Quality grade 8.8		Width across flats
	Nm	lb-ft	
M16	230	170	24

16.4 Installation of the roller binder on spike disc harrow for Tetra 3001 L, 6001 L, 9000 L

1) Position of the roller binder
   Binding of the inner spike disc harrows on the Tetra 3001 L, 6001 L, 9000 L.

Fig. 109; Tetra 3001 L

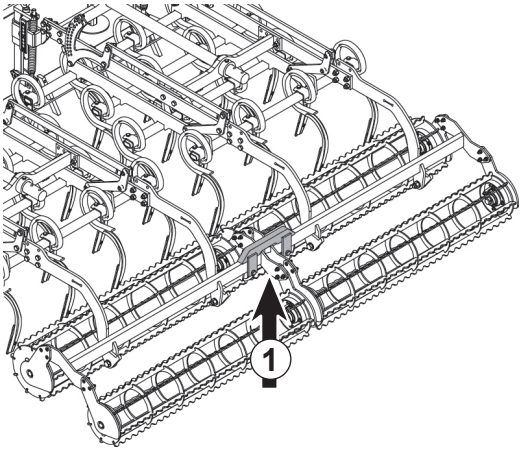


Fig. 110; Tetra 6001 L

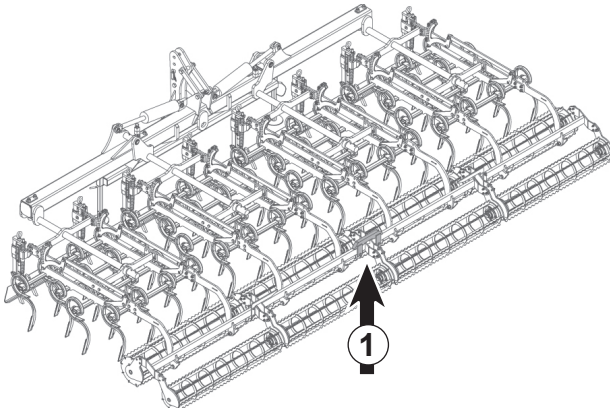
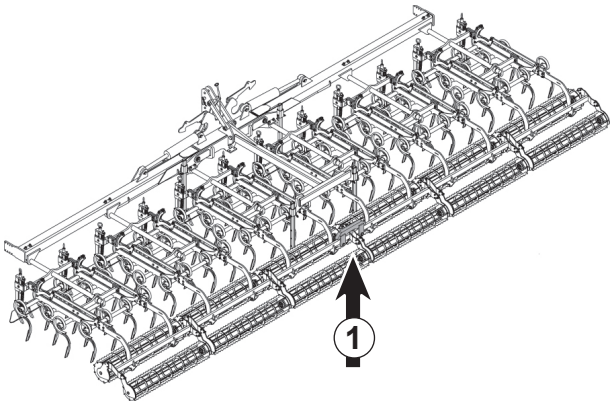


Fig. 111; Tetra 9000 L



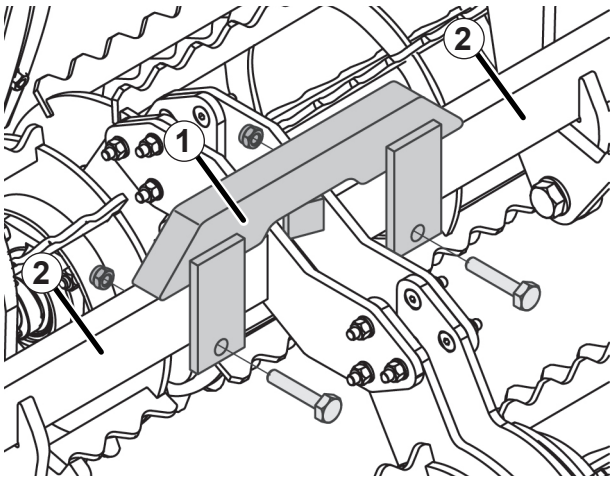
Mounting:

2 bolts M 16 x 75 with self-locking nuts

Installation instructions:

- ► Slide roller binder (1) over the roller frame (2) and bolt down.
- ► Tighten the fastening bolts to the correct torque.

Fig. 112; Install roller binder



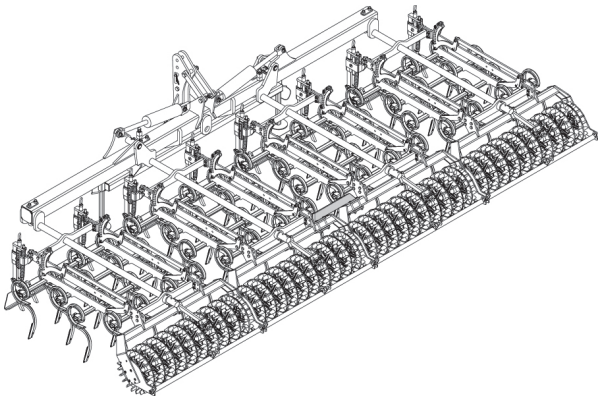
Torque

Size	Quality grade 8.8		Width across flats
	Nm	lb-ft	
M16	230	170	24

16.5 Installing the roller binder on the crosskill rollers on the Tetra 6001 LS

1) Position of the roller binder
   Binding of the inner crosskill rollers on the Tetra 6001 LS

Fig. 113; Tetra 4501 LS



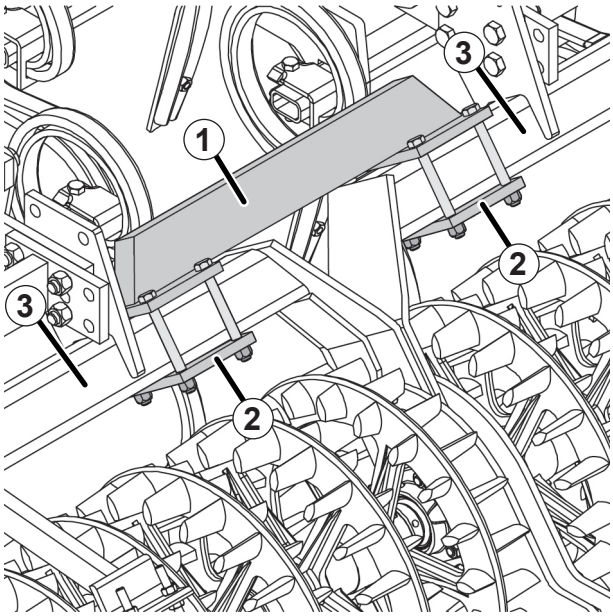
Mounting:

8 bolts M 12 x 120 with self-locking nuts

Installation instructions:

- ► Bolt roller binder (1) with flange (2) onto roller frame (3).
- ► Tighten the fastening bolts to the correct torque.

Fig. 114; Install roller binder



Torque

Size	Quality grade 8.8		Width across flats
	Nm	lb-ft	
M12	93	69	19

16.6 Installing the transport lock

1) Location of the transport lock
   Installation position = Inner side of the outer tine fields.

Fig. 115; Tetra 4501 L

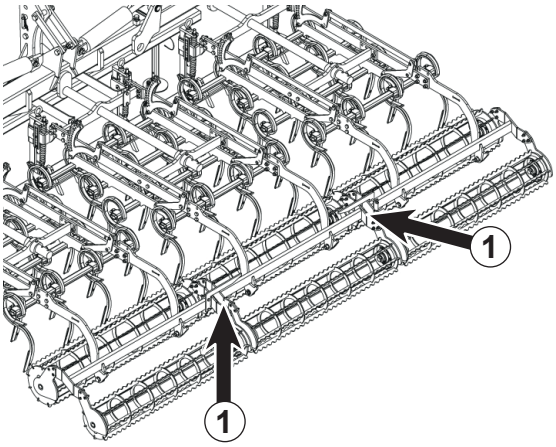
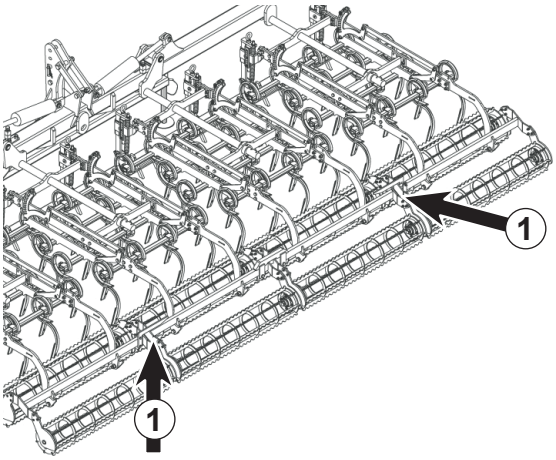


Fig. 116; Tetra 6001 L



Mounting:

2 bolts M 12 x 70 with self-locking nuts, each

Installation instructions:

► Note the offset installation of the lock (1).

Ⓛ Left implement side =
Bolt lock from the rear onto the roller frame (2).

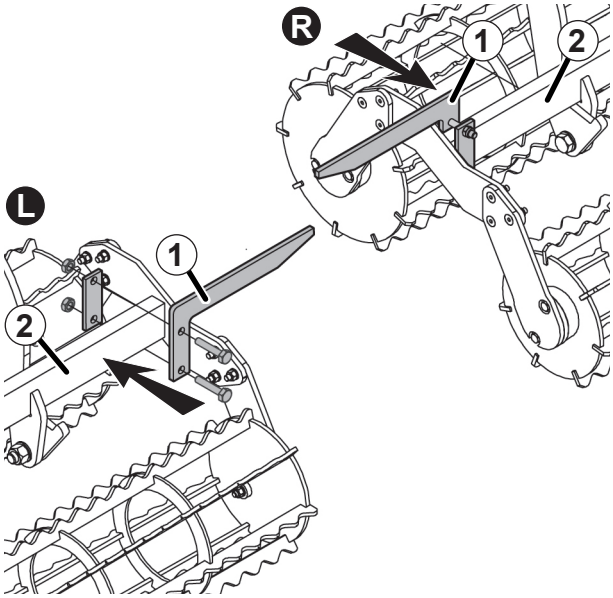
Ⓡ Right implement side =
Bolt lock from the front onto the roller frame (2).

► Tighten the fastening bolts to the correct torque.

Torque

Size	Quality grade 8.8		Width Across Flats
	Nm	lb-ft	
M12	93	69	19

Fig. 117; Installing transport locks



17.0 Install lighting (additional equipment)

Does not apply to Tetra 7500 L and 9000 L.

17.1 Safety instructions - Assembly

WARNING

Risk of accident when performing installation work.

- *The applicable accident prevention rules as well as any other generally accepted safety requirements, occupational health regulations must be observed.*
- *You should always work with particular care and never in a hurry.*
- *All tasks must be performed using suitable tools.*
- *Secure the implement to prevent unauthorised start-up while such work is in progress.*

Risk of injury due to heavy components.

- *When handling heavy components, use suitable lifting accessories or seek the assistance of a second person.*

WARNING

Risk of accident due to pinching or crushing while performing installation work.

- *Only perform work when the implement is in a safe condition and has been secured to prevent it from dropping and rolling away. Use all provided supports.*
- *During all work, wear the prescribed working clothing and protective equipment.*

Risk of accident due to failure to perform installation tasks or not doing so properly.

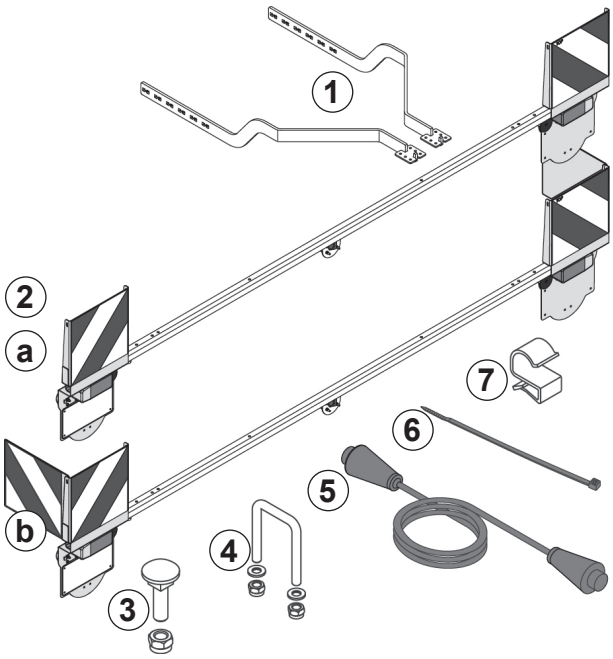
- *Do not replace self-locking nuts with normal nuts.*
- *Only replace nuts and bolts, where necessary, with those of the same strength class, e.g. 8.8.*
- *Observe the tightening torques.*

17.2 Scope of delivery - lighting

The following parts are delivered separately and must be installed after delivery.

1) Lighting bracket
2) Lighting unit, complete
   a) German / European version
   b) French version
3) 4 x mushroom head bolt M12 x 40
   4 x self-locking nut M12
4) 2 x U-bolt
   4 x washer ø8.4
   4 x self-locking nut M8
5) 1 x connection cable, 6 metre
6) Cable ties
7) Carrier clips,
   3 x clip size 8-12 mm
   3 x clip size 15-20 mm

Fig. 118; Scope of delivery Lighting



17.3 Installation preparations, from 4.5 m working width

- ► Fold out implement - see Chapter “Fold machine out into working position“ - Page 47.
- ► Lower implement and ensure that it is stable and secure.
- ► Switch off the tractor and secure it from rolling away.

17.4 Installing the lighting bracket onto the Tetra with dual spike disc harrow

17.4.1 Installation process

1) Determine the connection point for the lighting bracket.
2) Install lighting bracket on the Tetra.
3) Bolt lighting unit to the lighting bracket.
4) Install lighting wiring.

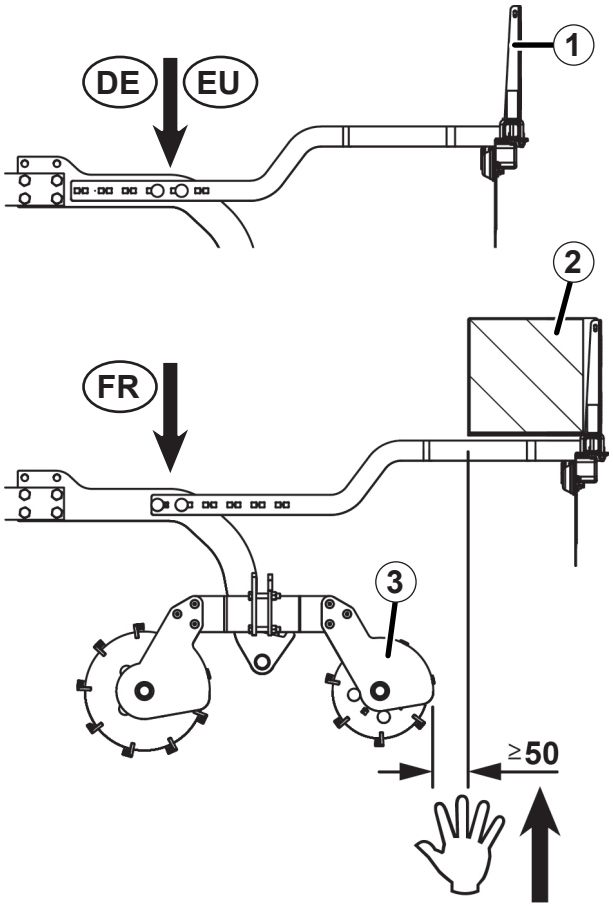
17.4.2 Determine the connection point for the lighting bracket

The lighting bracket is bolted on at different locations depending on the country-specific design of the lighting unit.

DE / EU = Connection point for German / European design.
Lighting unit without side panels (1).

FR = Connection point for French version.
Lighting unit with side panels (2).

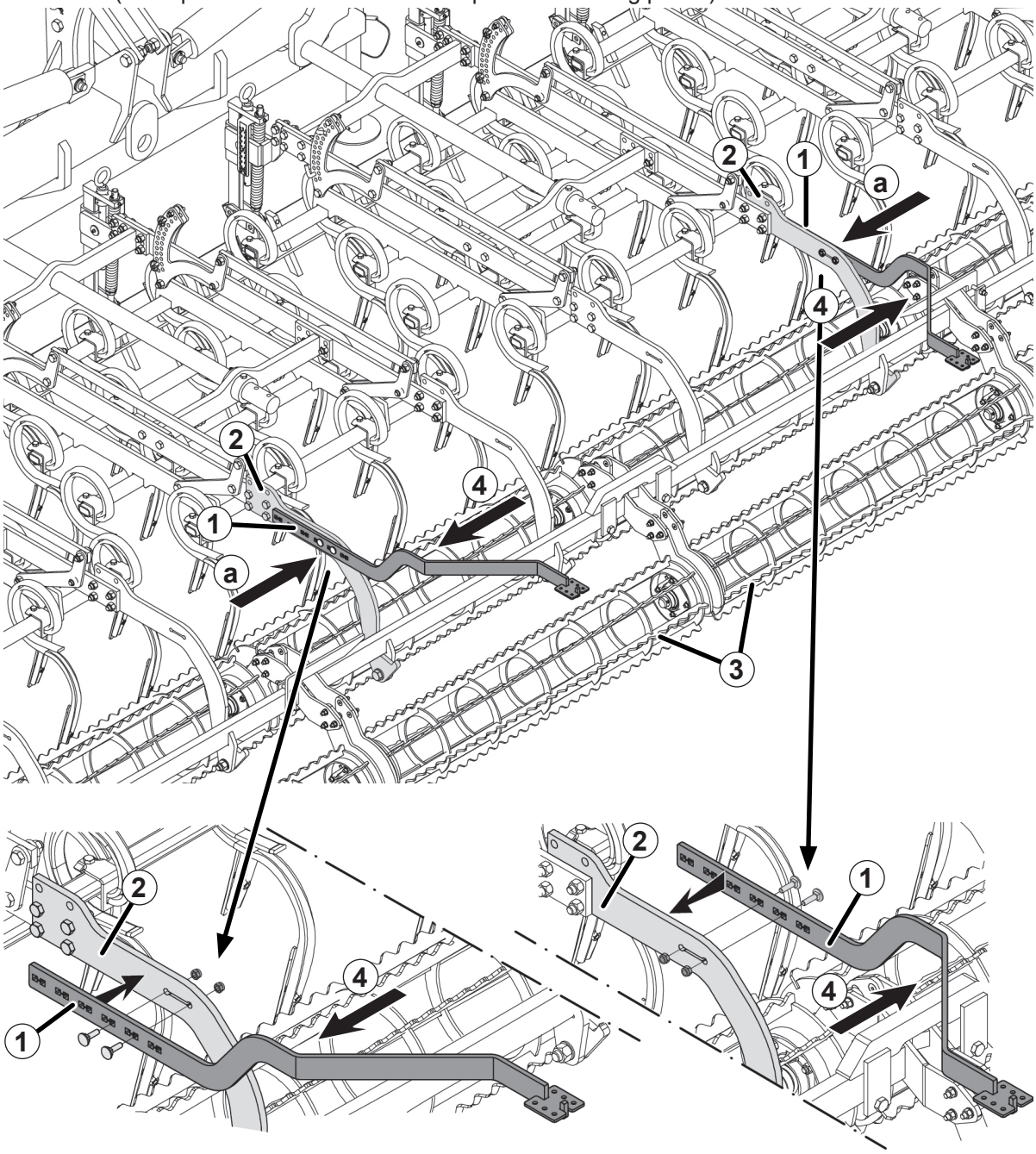
Fig. 119; Connection point for the lighting bracket



NOTE
The clearance between the side plates of the French lighting (2) and the rear crumbling roller (3) must be 50 mm or more.
Smaller clearances will result in the lighting unit being damaged when the implement is folded in.

17.4.3 Installing lighting bracket on Tetra 3001 L, 6001 L

Fig. 120; Install lighting bracket
(Example illustration: German/European connecting points)



Mounting:

2 x mushroom head bolts M 12 x 40 with self-locking nuts per bracket.

Installation instructions:

- Fit lighting bracket (1) to the outer roller arms (2) of the two centre dual spike disc harrows (3).
- Install the lighting bracket (1) with the bends *upwards* and *inwards* (4).

Installation:

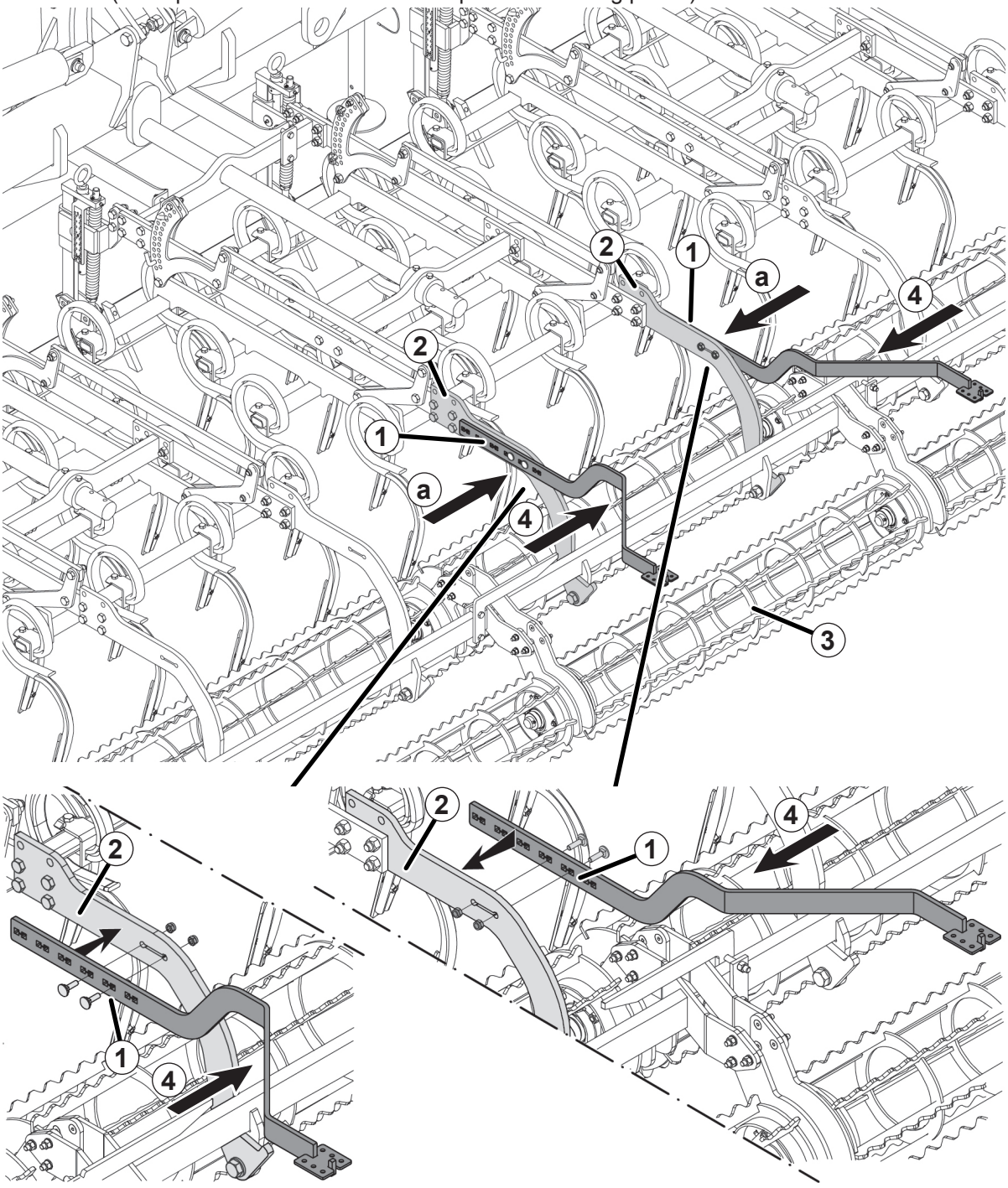
► Attach the lighting bracket (1) with the selected holes (Chapter “17.4.2 Determine the connection point for the lighting bracket“ - Page 85) from the outside (a) to the roller arm (2).

► Bolt the lighting bracket to the roller arms with the mushroom head bolts.

► Tighten nuts.

17.4.4 Installing lighting bracket on Tetra 4501 L

Fig. 121; Install lighting bracket
(Example illustration: German/European connecting points)



Mounting:

2 x mushroom head bolts M 12 x 40 with self-locking nuts per bracket.

Installation instructions:

- Fit lighting bracket (1) to the roller arms (2) of the centre dual spike disc harrow (3).
- Install the lighting bracket (1) with the bends *upwards* and *outwards* (4).

Installation:

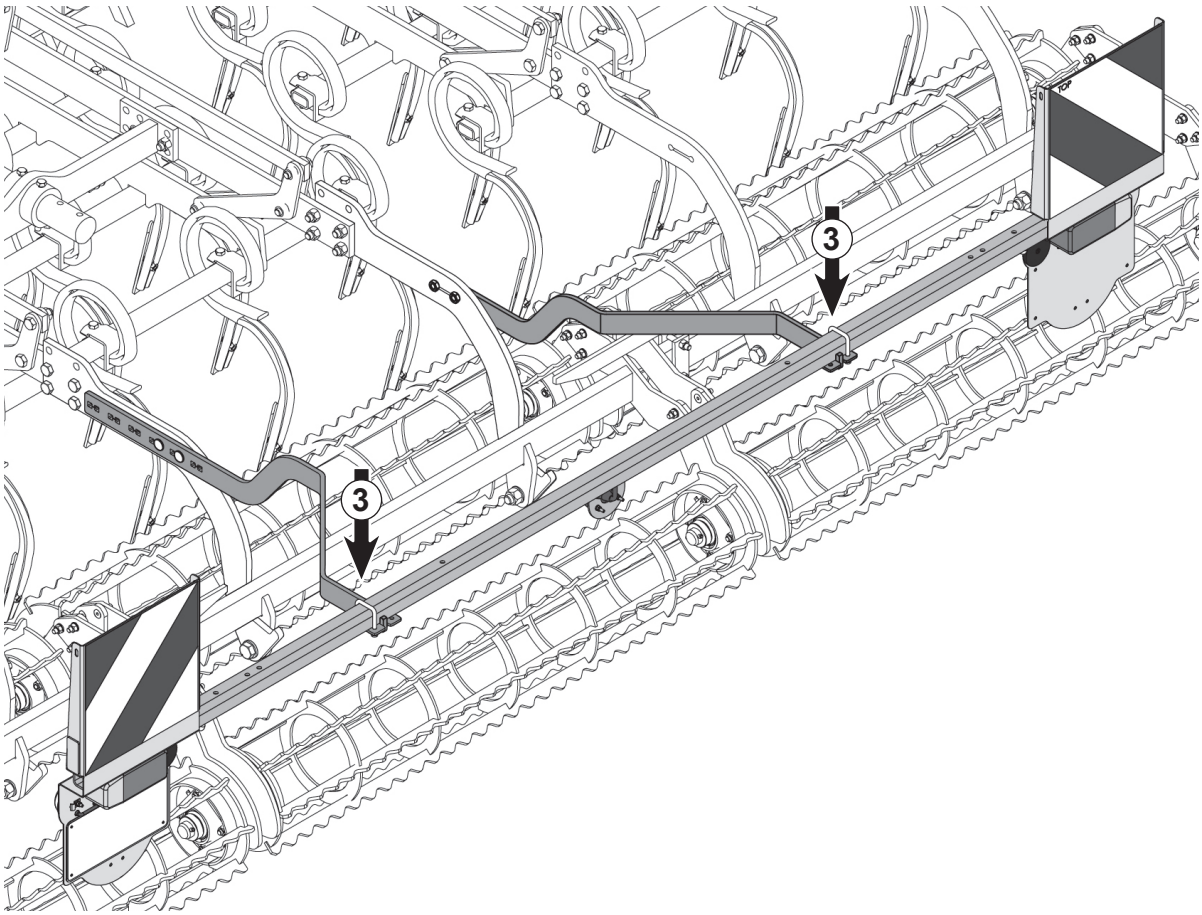
► Attach the lighting bracket (1) with the selected holes (Chapter “17.4.2 Determine the connection point for the lighting bracket“ - Page 85) from the outside (a) to the roller arm (2).

► Bolt the lighting bracket to the roller arms with the mushroom head bolts.

► Tighten nuts.

17.4.5 Fastening the lighting unit onto the lighting bracket - Tetra

Fig. 122; Fasten lighting unit



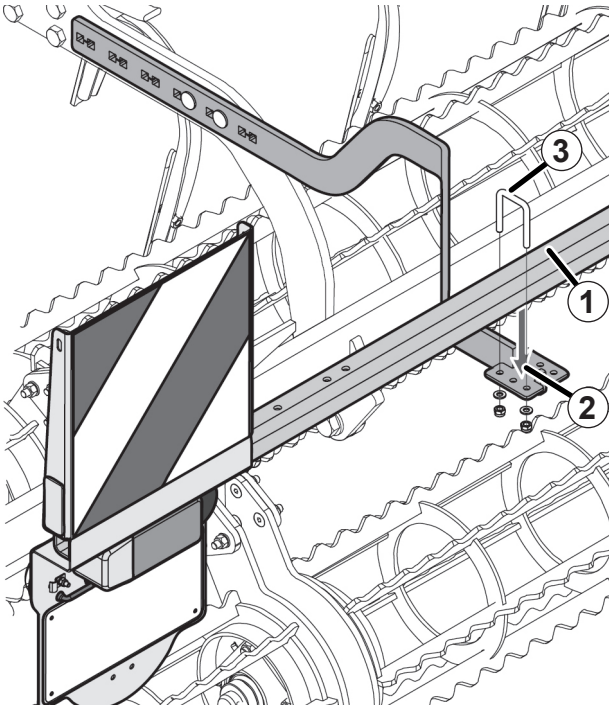
Mounting:

2 x U-bolt M 8 with washers and self-locking nuts

Installation instructions:

- ► Fit lighting unit (1) onto the lighting bracket (2) from above.
- ► Insert U-bolt (3) and fasten loosely with washers and nuts.
- ► Centre the lighting unit.
- ► Tighten the nuts to the correct torque. Observe torque, seeChapter “Torques for metric screws“ - Page 100.

Fig. 123; Fit the lighting unit



17.5 Installing the lighting bracket onto the Tetra with crosskill roller

17.5.1 Installation process

1) Determine the connection point for the lighting bracket.
2) Install lighting bracket on the Tetra.
3) Bolt lighting unit to the lighting bracket.
4) Install lighting wiring.

17.5.2 Determine the connection point for the lighting bracket

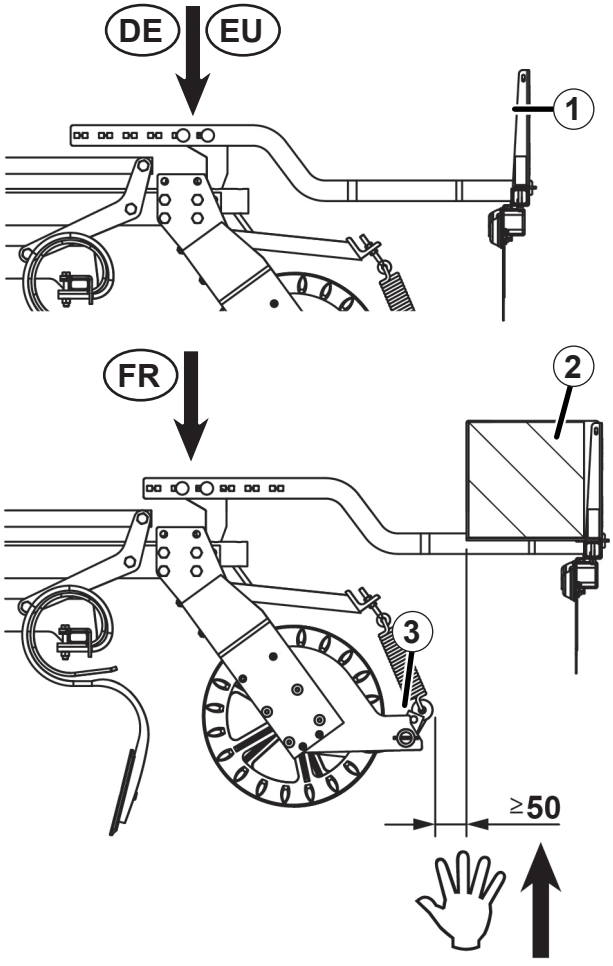
The lighting bracket is bolted on at different locations depending on the country-specific design of the lighting unit.

DE / EU = Connection point for German / European design.
Lighting unit without side panels (1).

FR = Connection point for French version.
Lighting unit with side panels (2).

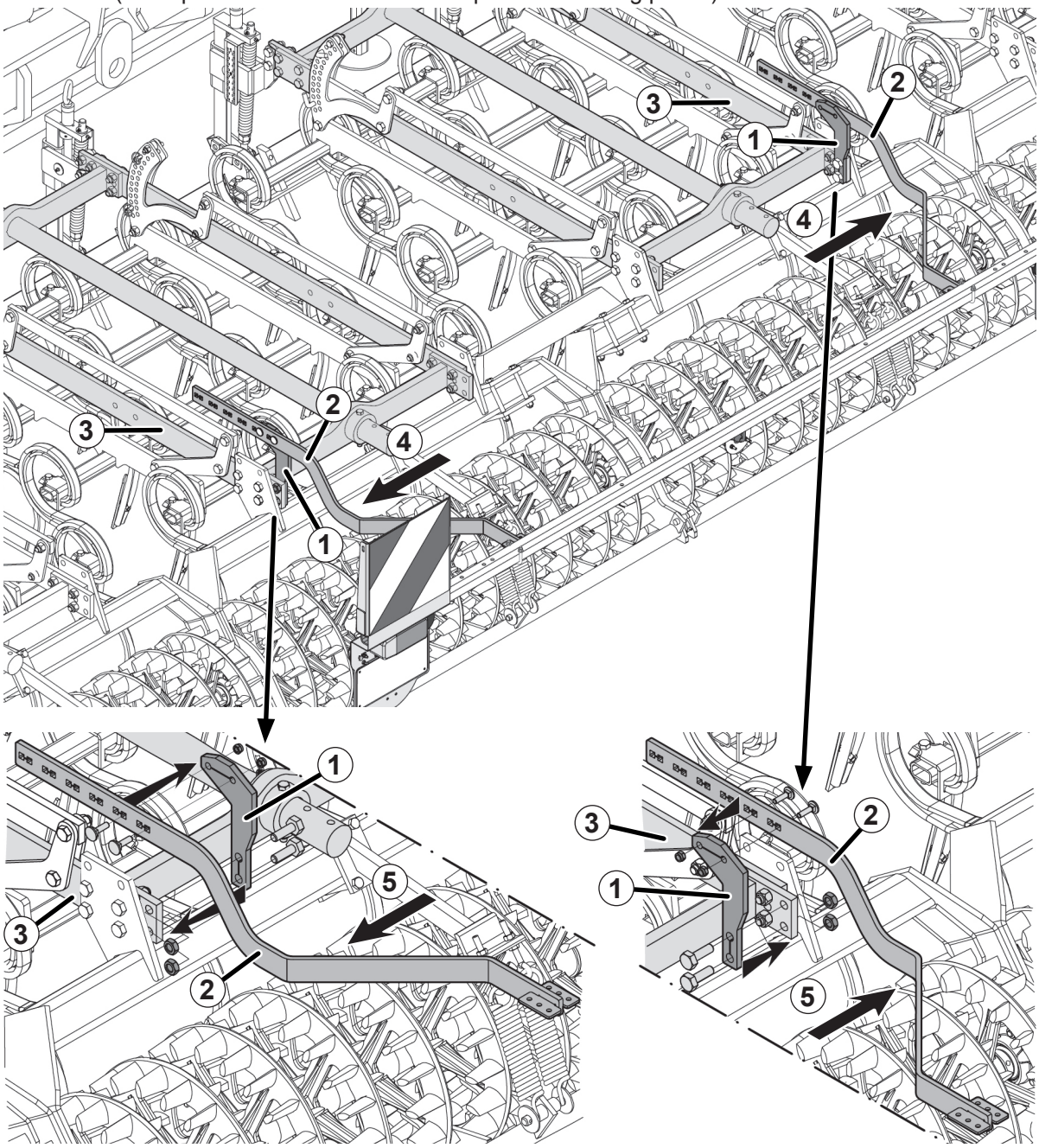
NOTE
The clearance between the side plates of the French lighting (2) and the crosskill roller (3) must be 50 mm or more.
Smaller clearances will result in the lighting unit being damaged when the implement is folded in.

Fig. 124; Connection point for the lighting bracket



17.5.3 Installing lighting bracket with adapter on Tetra 6001 LS

Fig. 125; Install lighting bracket and adapter
(Example illustration: German/European connecting points)



Mounting:

2 x hex bolts M 16 x 40 with (thin) nuts per bracket.

2 x mushroom head bolts M 12 x 40 with self-locking nuts per bracket.

Installation instructions:

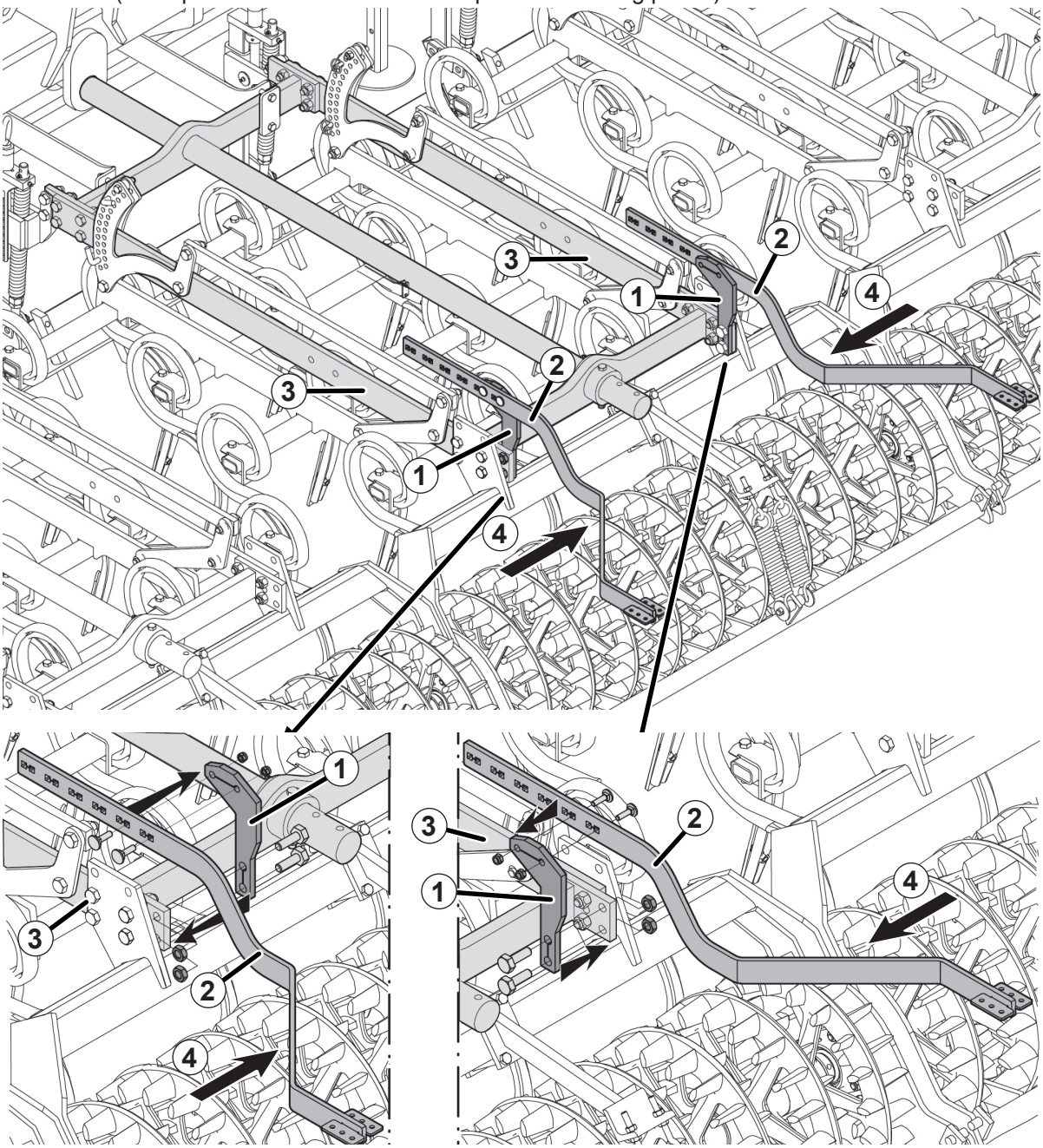
- Fit the adapter (1) for the lighting bracket (2) onto the outer profile (3) of the middle tine field frame.
- Install the lighting bracket (2) with the bends *downwards* and *inwards* (4).

Installation:

- ► Bolt the adapter (1) from the inside to the tine field frame (3) with the hex bolts.
- ► Attach the lighting bracket (2) with the selected holes (Chapter “17.5.2 Determine the connection point for the lighting bracket“ - Page 89) from the outside to the adapter (1).
- ► Bolt the lighting bracket to the adapter with the mushroom head bolts.
- ► Tighten nuts.

17.5.4 Installing lighting bracket on Tetra 4501 LS

Fig. 126; Installing lighting bracket
(Example illustration: German/European connecting points)



Mounting:

2 x hex bolts M 16 x 40 with (thin) nuts per bracket.

2 x mushroom head bolts M 12 x 40 with self-locking nuts per bracket.

Installation instructions:

- Fit adapter (1) for lighting bracket (2) onto the middle tine field frame (3).
- Install the lighting bracket (2) with the bends *downwards* and *outwards* (4).

Installation:

► Bolt the adapter (1) from the inside to the tine field frame (3) with the hex bolts.

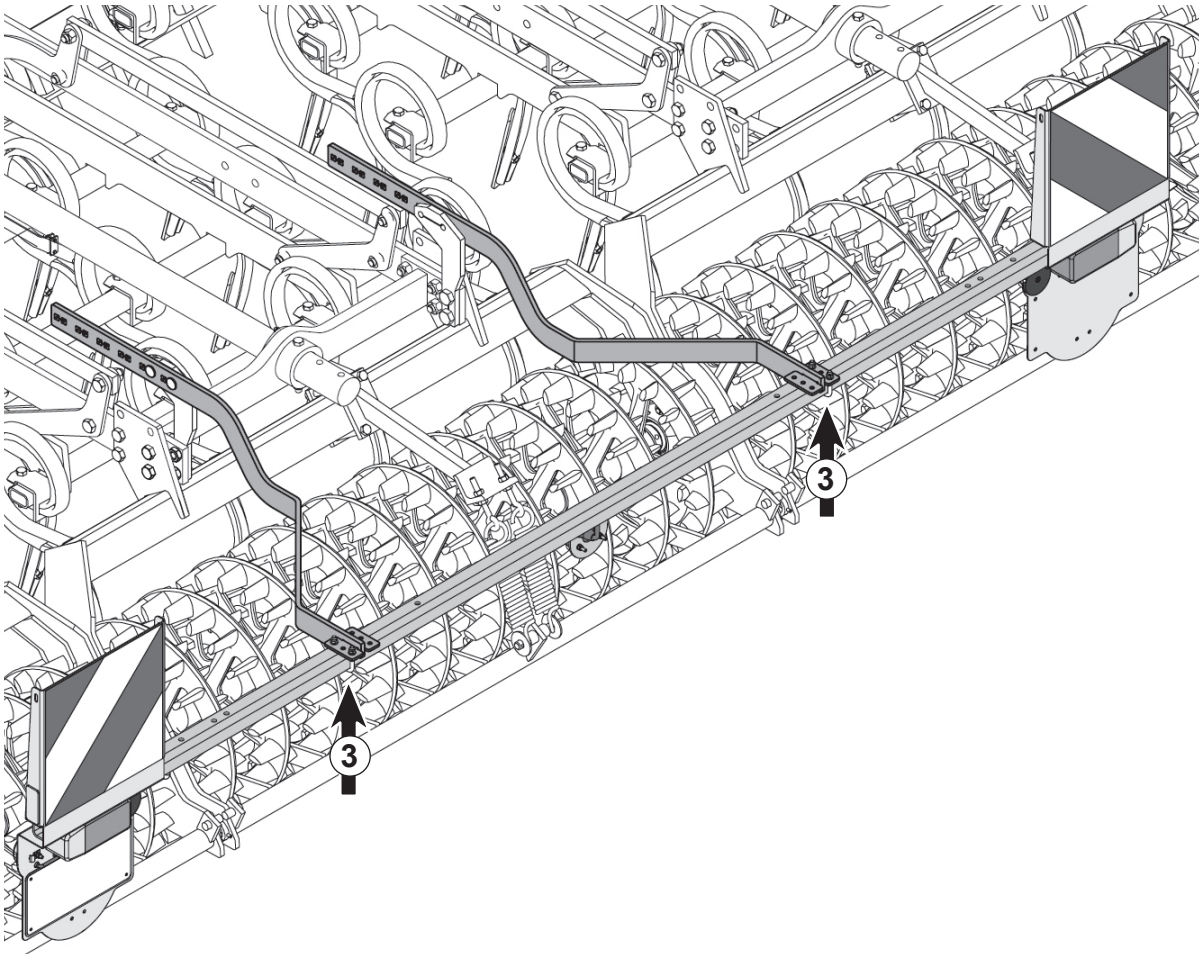
► Attach the lighting bracket (2) with the selected holes (Chapter “17.5.2 Determine the connection point for the lighting bracket“ - Page 89) from the outside to the adapter (1).

► Bolt the lighting bracket to the adapter with the mushroom head bolts.

► Tighten nuts.

17.5.5 Fastening the lighting unit onto the lighting bracket - TetraS

Fig. 127; Bolt on the lighting unit



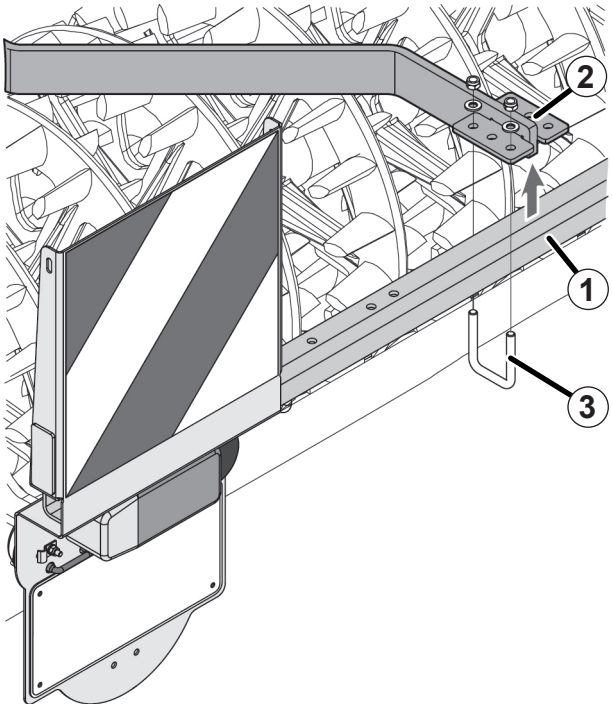
Mounting:

2 x U-bolt M 8 with washers and self-locking nuts

Installation instructions:

- ► Fit lighting unit (1) onto the lighting bracket (2) from below.
- ► Insert U-bolt (3) and fasten loosely with washers and nuts.
- ► Centre the lighting unit.
- ► Tighten the nuts to the correct torque. Observe torque, seeChapter “Torques for metric screws“ - Page 100.

Fig. 128; Fit the lighting unit



17.6 Lay lighting cable

NOTE

- Route all connecting lines (hydraulics, lighting, control elements) carefully and make allowances for movements of the mounted implement.
- Do not route connecting cables in the vicinity of slewing or rotating components.

Symbols in the illustration:

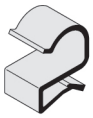
= Cable fastening with cable ties

= Cable fastening with cable clips

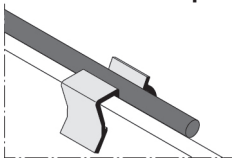
► After installing the cable check that the lighting cable will not be crushed or kinked whilst working with the implement.

Fig. 129; Cable tie

Cable clip

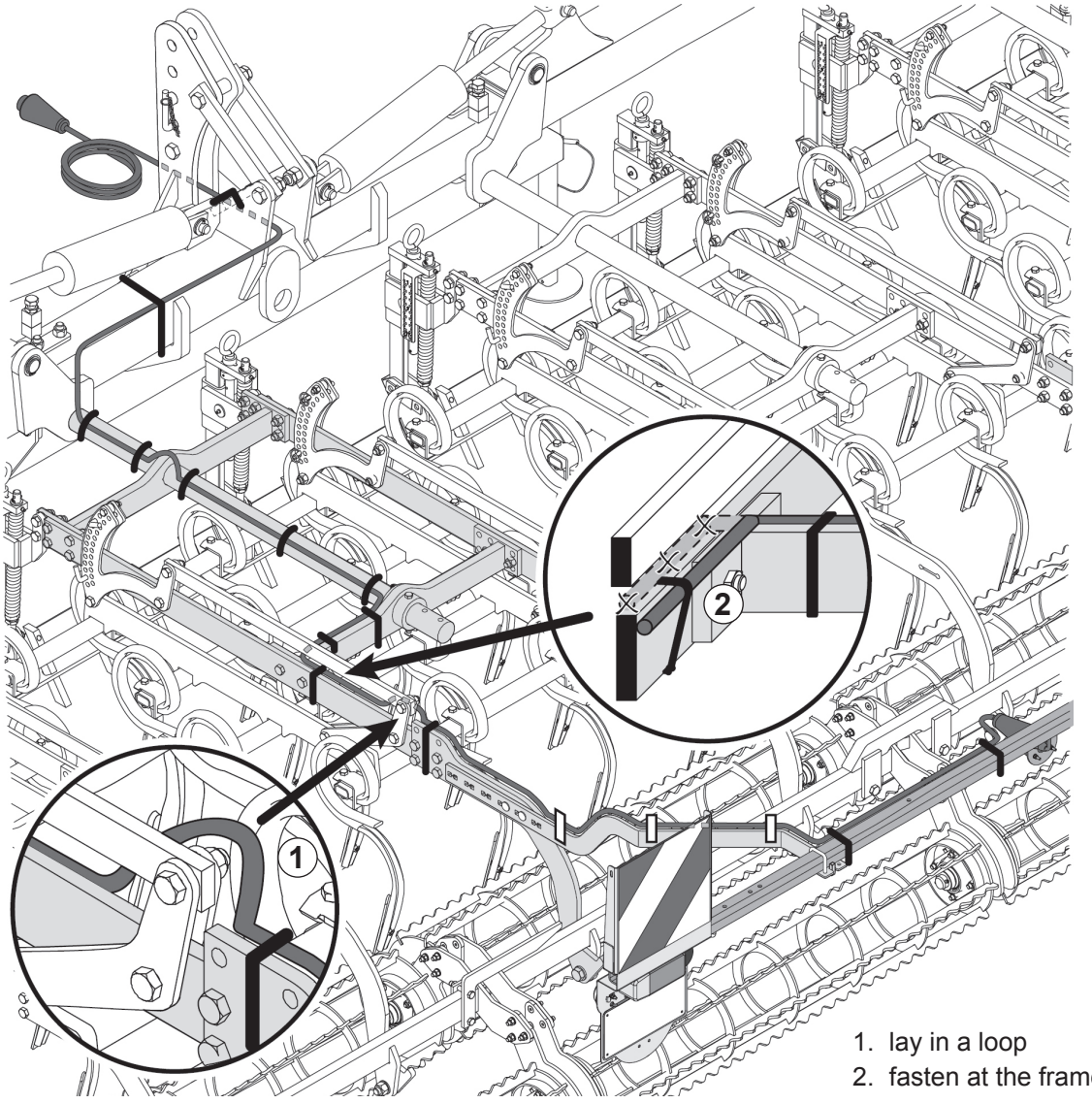


Installation example



17.6.1 Installing lighting cable on Tetra 3001 L, 6001 L, 6001 LS

Fig. 130; Installing lighting cable, Tetra 3001 L, 6001 L



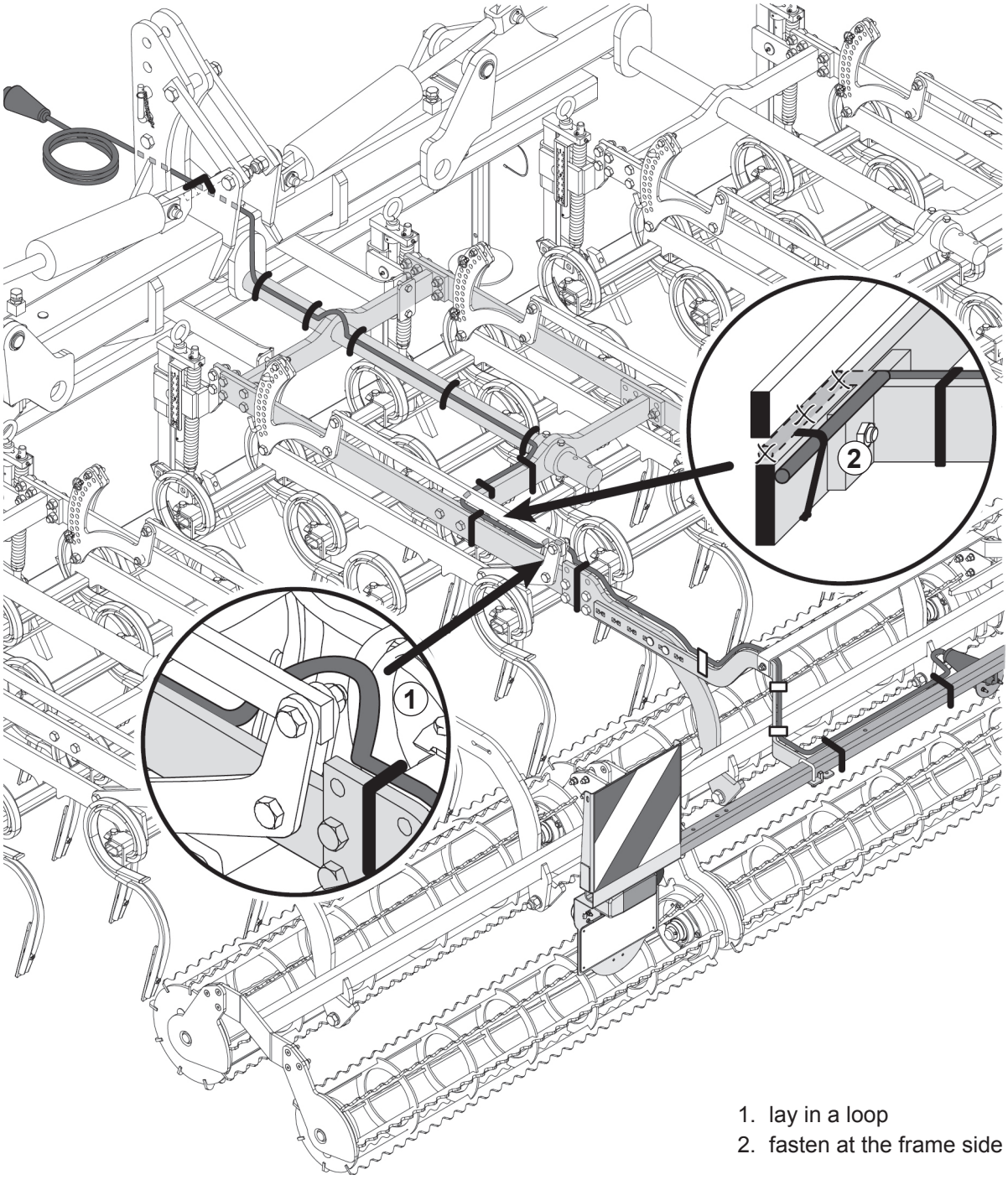
1. lay in a loop
2. fasten at the frame side

NOTE

The cable installation on the 6001 LS with crosskill roller should be implemented in principle in the same manner as shown in Fig. 130.

17.6.2 Installing lighting cable on Tetra 4501 L, 4501 LS

Fig. 131; Installing lighting cable on Tetra 4501 L, 4501 LS



1. lay in a loop
2. fasten at the frame side

NOTE
The cable installation on the 4501 LS with crosskill roller should be implemented in principle in the same manner as shown in Fig. 131.

18.0 Disposal of the implement

The disposal of the implement must be carried properly and in compliance with the current relevant waste disposal guidelines.

Hand over metal parts and hydraulic oil to a licensed waste management company.

Plastic, rubber and electronic components should be disassembled and handed in for recycling.

The installation must only be carried out by a qualified specialist from an agricultural machinery workshop or by Grégoire-Besson service personnel!
The applicable accident prevention rules as well as any other generally accepted safety requirements, occupational health regulations must be observed.

DANGER OF ACCIDENTS!

- *When setting down the implement always use the various supports provided.*

DANGER OF CRUSHING DURING INSTALLATION!

- *Never reach into the crushing hazard zone so long as parts can move there.*

NOTE
After assembling check all fastening and safety components are properly seated.

19.0 Appendix

19.1 Ballast calculation - combination of the tractor and implement

Coupling implements to the front and rear three point linkage must not result in the total permitted weight, axle load or tyre capacity of the tractor being exceeded.
The front axle load of the tractor must be at least 20% of the empty weight of the tractor at all times.
You should ensure that these requirements have been fulfilled before coupling the implement by carrying out the following calculations.

For the calculation, data is required:

- from the operating instructions for the tractor
- from the implement's operating instructions
- from weighing and measuring

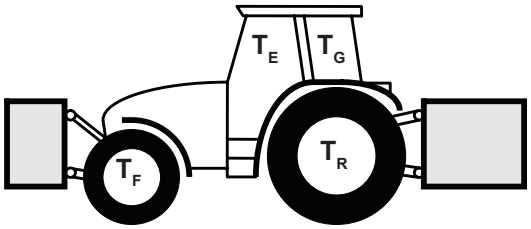
NOTE
Enter the values that you have obtained into the table at the top of the following page.

Obtain from the tractor operating instructions or by weighing

Data	Description
T_E	Empty weight of tractor
T_F	Front axle load of the empty tractor
T_R	Rear axle load of the empty tractor
T_G	Total permitted weight of the tractor

Enter data into the table in kg

Fig. 132; Determine tractor data

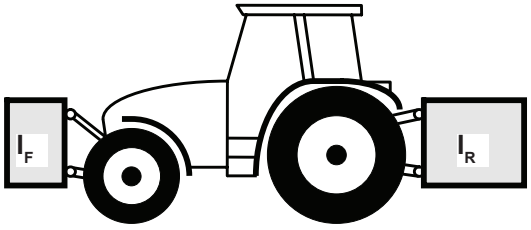


From the implement's operating instructions

Data	Description
I_F	Total weight of front attachment/ front ballast
I_R	Total weight of rear attachment/rear ballast

Enter data into the table in kg

Fig. 133; Determine machine data

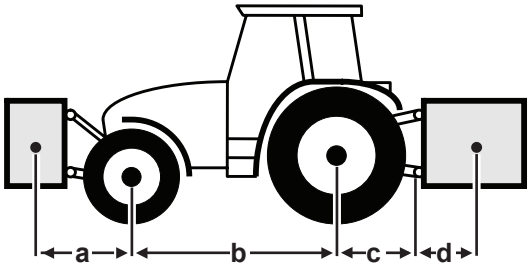


Obtain/measure distances

Data	Description
a	Distance between front attachment/ballast centre of gravity and centre of front axle
b	Tractor wheelbase
c	Distance between centre of rear axle and centre of lower link ball
d	Distance between centre of lower link ball and rear attachment/ballast centre of gravity

Enter data into the table in mm

Fig. 134; Determine distances



Enter data obtained:

Value	Value	Value
T_E = kg	I_R = kg	**a** = mm
T_F = kg	I_F = kg	**b** = mm
T_R = kg		**c** = mm
T_G = kg		**d** = mm

Calculations:

Minimum front ballasting = IF min (for rear implement)

$$I_{F\,min} = \frac{I_R \times (c + d) - T_F \times b + 0.2 \times T_E \times b}{a + b}$$

Minimum rear ballasting = IR min (for front implement)

$$I_{R\,min} = \frac{I_F \times a - T_R \times b + 0.45 \times T_E \times b}{b + c + d}$$

Calculate actual front axle load = TF act

$$T_{F\,act} = \frac{I_F \times (a + b) + T_F \times b - I_R \times (c + d)}{b}$$

Calculate actual total weight = TG act

$$T_{G\,act} = I_F + T_E + I_R$$

Calculate actual rear axle load = TR act

$$T_{R\,act} = T_{G\,act} - T_{F\,act}$$

Enter into the table:

Calculations — Enter the calculated values into the table at the bottom of the page.

Tyre capacity — Enter the tyre capacity of two tyres into the table - data from the tyre manufacturer.

Permitted weights and loads — Enter the permitted values for the tractor into the table - data from the operating instructions.

Evaluate table: — The weights and loads calculated must be less than or equal to (≤) the permissible values.

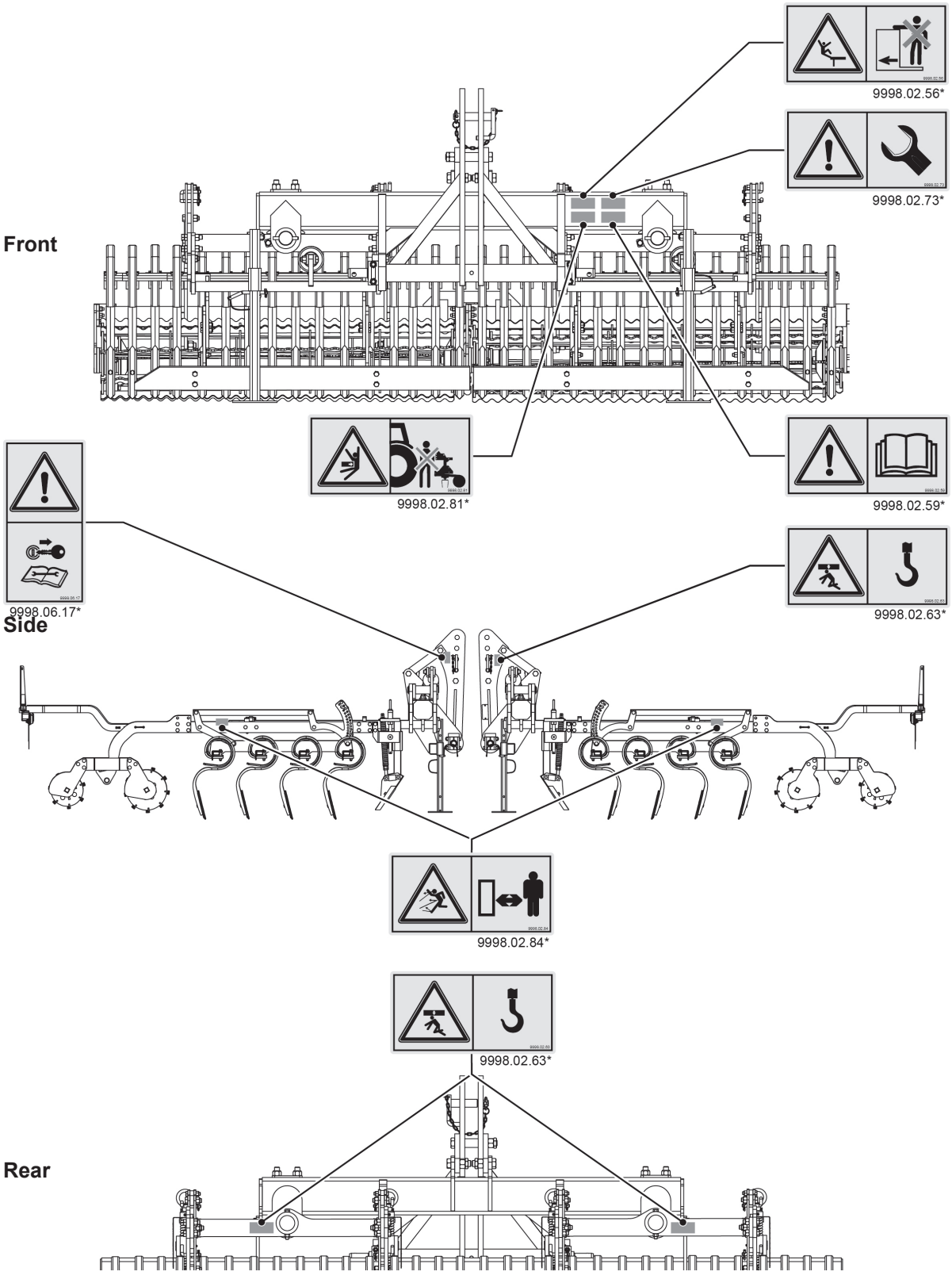
	Value according to calculation		Permissible value according to operating instructions		2 x permitted tyre load bearing capacity (2 tyres)
Minimum ballast $I_{F\,min}$ / $I_{R\,min}$	/ kg		###		###
Overall weight T_G	kg	≤	kg		###
Front axle load T_F	kg	≤	kg	≤	kg
Rear axle load T_R	kg	≤	kg	≤	kg

19.2 Position of the safety symbols

Labels are affixed to the implement, for your safety.
These labels must not be removed.
Damaged or illegible labels must be replaced.
The position of safety symbols is detailed in the following outline.

19.2.1 Safety symbols, Tetra 3001 L

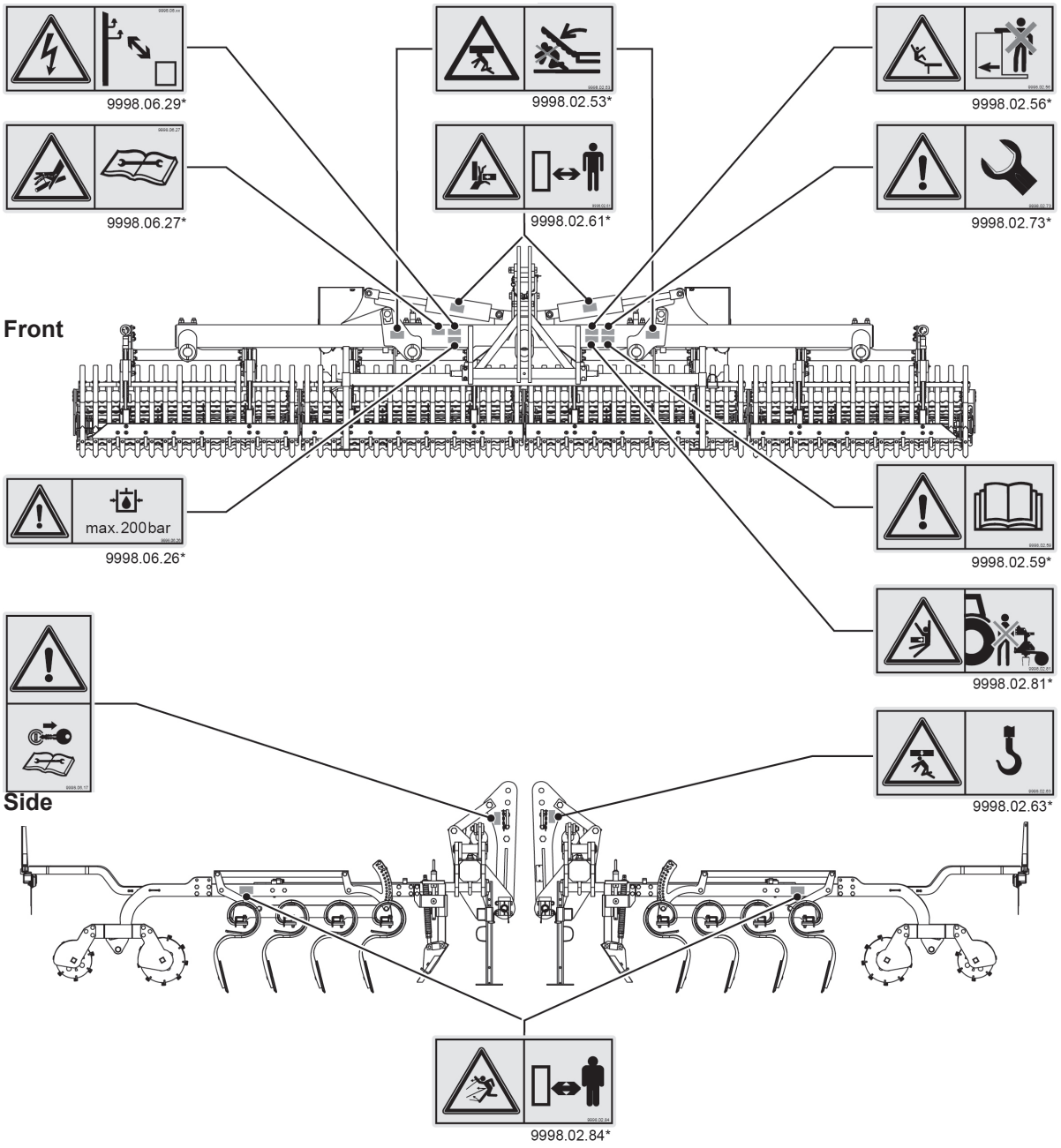
Fig. 135; Safety symbols



* Bestellnummer / Order No. / Numéro de commande

19.2.2 Safety symbols, Tetra 4501 L, 4501 LS, 6001 L, 6001 LS, 7500 L, 9000 L

Fig. 136; Safety symbols



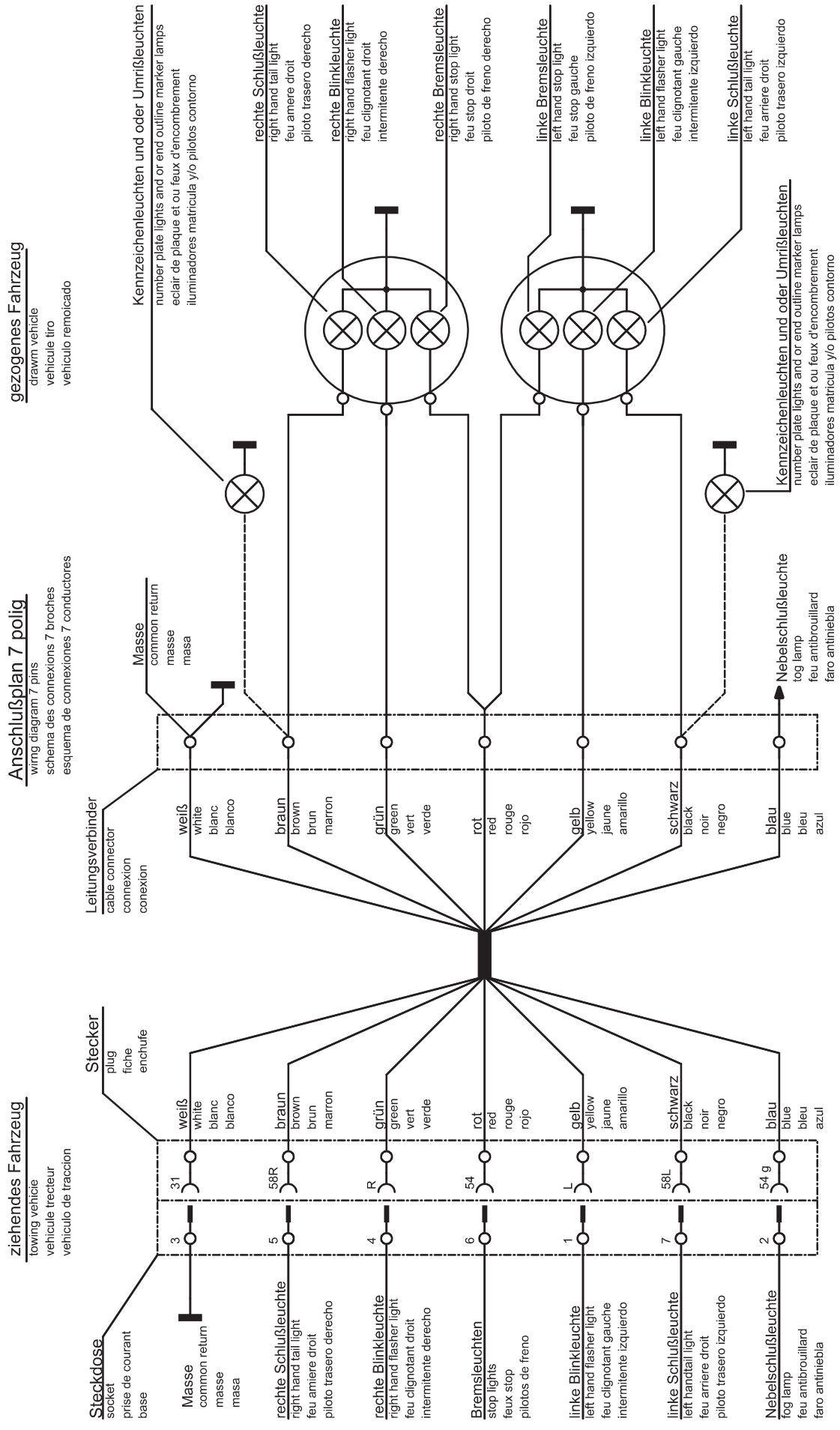
* Bestellnummer / Order No. / Numéro de commande

19.3 Torques for metric screws - standard threads

Size	Quality class						Width Across Flats
	8.8 or 9.8 Dry		10.9 Dry		12.9 Dry		
	Nm	lb-ft	Nm	lb-ft	Nm	lb-ft	
M6	11	8.5	17	12	19	14.5	10
M8	28	20	40	30	47	35	13
M10	54	40	79	58	93	69	16 (17)*
M12	93	69	137	101	160	118	18(19)*
M14	148	109	218	161	255	188	21(22)*
M16	230	170	338	250	395	292	24
M18	329	243	469	346	549	405	27
M20	464	342	661	488	773	570	30
M22	634	468	904	667	1057	780	34 (32)*
M24	798	589	1136	838	1329	980	36
M27	1176	867	1674	1235	1959	1445	41
M30	1597	1178	2274	1677	2662	1964	46

Since tightening torques are dependent upon the condition of the surfaces (coefficient of friction) and on lubrication, the values in the table should only be taken as a guideline.
* per DIN ISO 272

19.4 Electrical diagram - lighting (additional equipment)



19.5 Hydraulic diagram - Folding hydraulics

Fig. 137; Hydraulic diagram, Tetra 4501 L/LS, 6001 L/LS

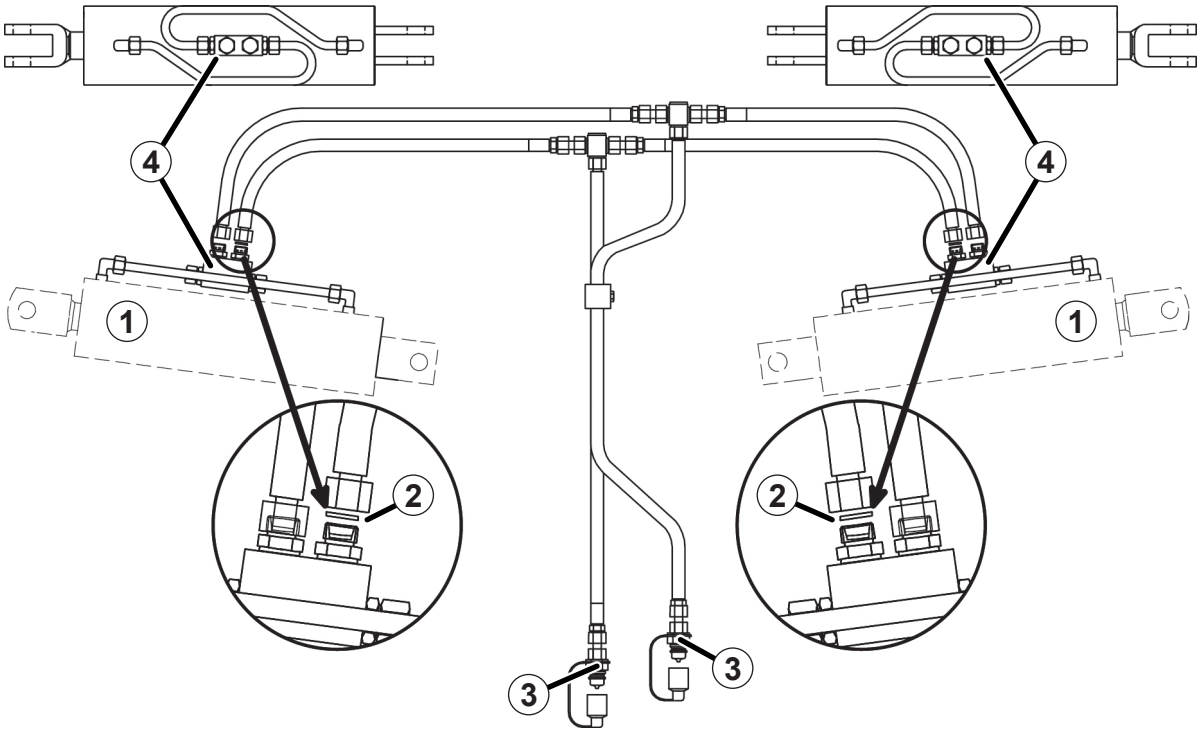
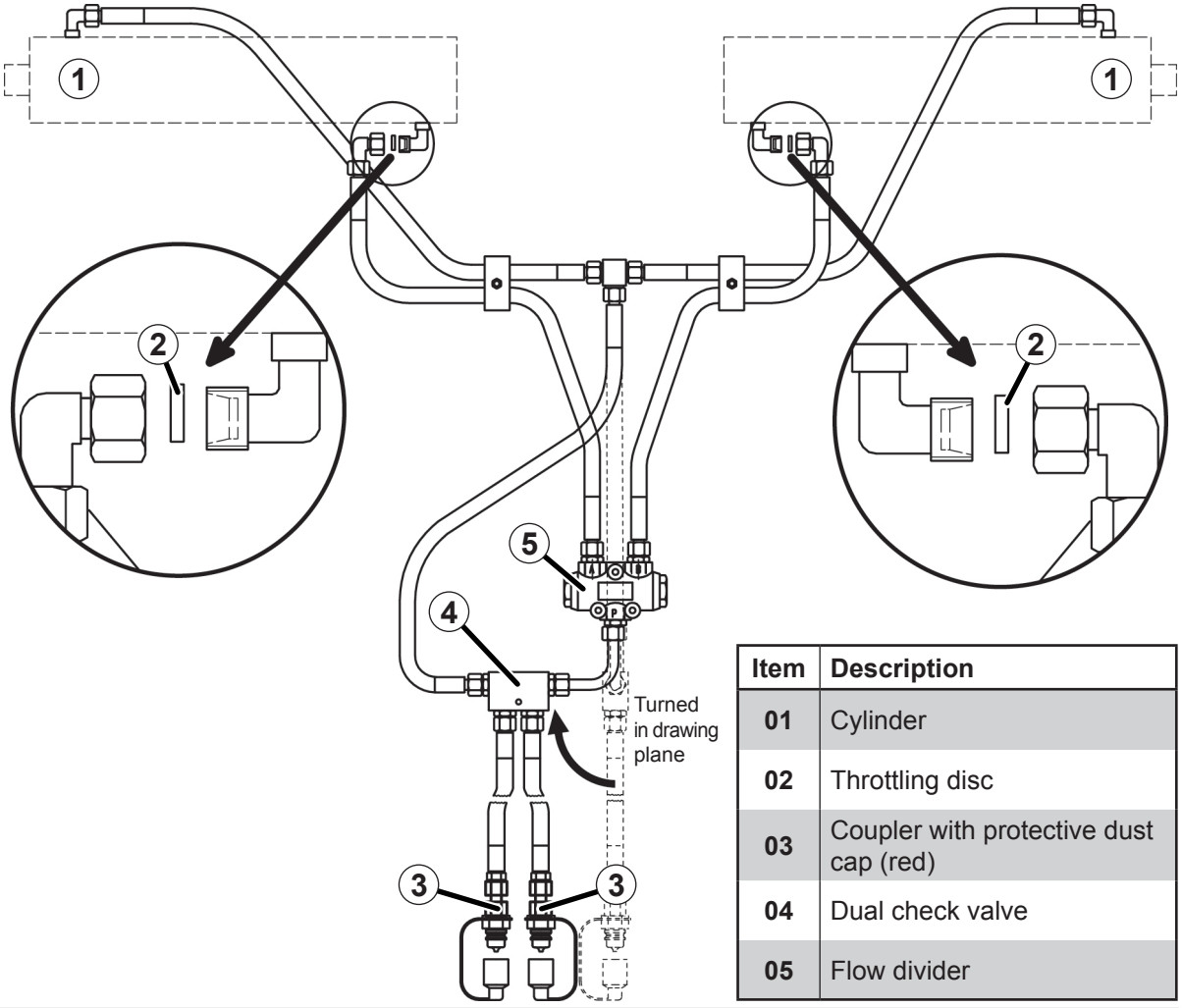


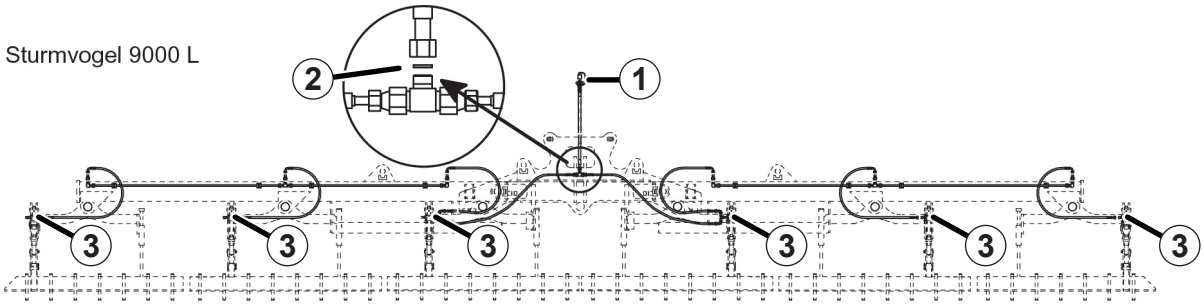
Fig. 138; Hydraulic diagram, Tetra 7500 L and 9000 L



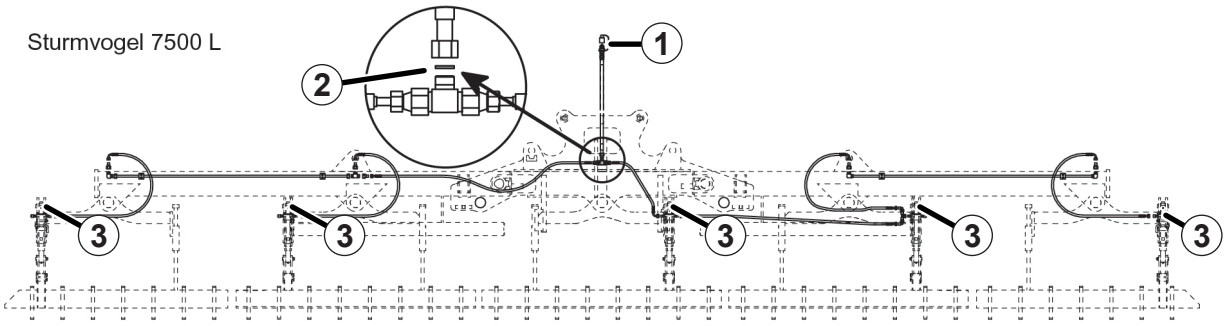
Item	Description
01	Cylinder
02	Throttling disc
03	Coupler with protective dust cap (red)
04	Dual check valve
05	Flow divider

19.6 Hydraulic diagram - Tine trailer (additional equipment)

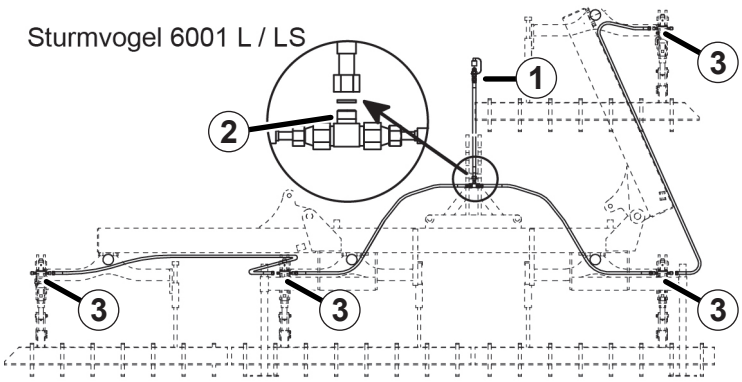
Sturmvogel 9000 L



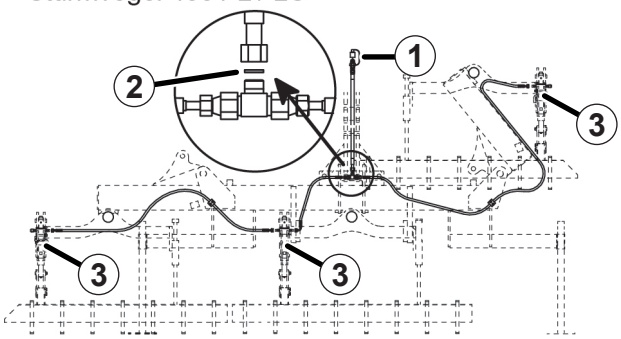
Sturmvogel 7500 L



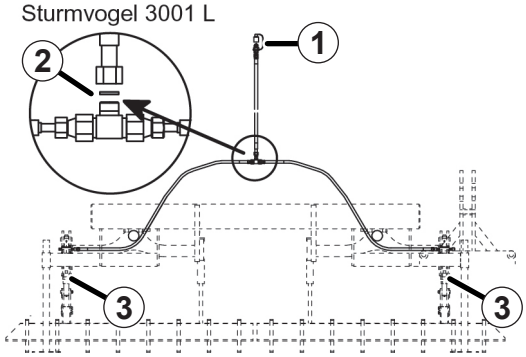
Sturmvogel 6001 L / LS



Sturmvogel 4501 L / LS



Sturmvogel 3001 L



Item	Description
1	Coupler with protective dust cap (yellow)
2	Throttling disc
3	Cylinder

Grégoire Besson GmbH
Am Rabewerk 1
D-49152 Bad Essen
Fax: +049(0) 5472 77 11 00

1) Delivery date: ____ . ____ . _____

2) Implement designation: _____

Type: _____ Serial no.: _____

Chassis no.: _____

3) Customer contact details:

Surname: _____ First name: _____

Street: _____

Country: _____ Post code: _____ City: _____

District: _____ Telephone: _____

Size of farm (ha): _____

4) Contact details of the dealer / importer

Company: _____

Surname: _____ First name: _____

Street: _____

Country: _____ Post code: _____ City: _____

District: _____ Telephone: _____

The implement was delivered to the customer in a complete (see delivery note) and fully functional condition.
The customer has received training on the function and operation of the machine.
First use (commissioning) was carried out properly.

_____ _____
Signature of the customer service specialist Date

5) The implement named under 2) and delivered under reservation of title was handed over in factory-new / used condition, ready for use, and was deployed in full recognition of the supply and warranty provisions*.

With the implement, I received**:

☐ Operating instructions, order no. _____
☐ Spare parts list
☐ EU Declaration of Conformity
☐ _____

_____ _____
Signature of the customer Date

We are entitled to process personal data obtained in the context of the business relationship in accordance with the German Federal Data Protection Act. This form must be filled out and returned within 21 days to Grégoire Besson GmbH.
*Cross out items in the text which do not apply, **tick those which do.

CE EC declaration of conformity in accordance with the EC-Directive 2006/42/EC, Appendix II A

Declared herewith by the manufacturer

Grégoire-Besson GmbH
Am Rabewerk 1
49152 Bad Essen

that the following product

Designation:	Seed bed harrow (Saatbettkombination)	
Type:	Sturmvogel	Serial no.: .....

fulfils all essential provisions of the directive regarding machines (2006/42/EC) including the changes applicable at the time this declaration was prepared.

The machine also fulfils the provisions of the following EC directives, with the changes applicable at the time this declaration was prepared:

EN ISO 4254-1:2009	Agricultural machinery - Safety - Part 1: general requirements
EN ISO 12100:2010	Safety of machinery - Basic concepts, general design principles

This declaration relates exclusively to machinery in the state in which it was placed on the market. Subsequent changes or subsequently added components are not taken into account and make the declaration no longer applicable or valid.

Person authorised to compile documentation

Grégoire-Besson GmbH
Am Rabewerk 1
49152 Bad Essen

Signatory

Issued in:	*Bad Essen*
Name of the signatory:	.....
Business function:	.....
Issued on:	.....
Signature:	.....

Index

Order number	9901.00.02EN01GB
Edition	05.2012
Version	01
Language	EN Translation of the original operating instructions DE

Grégoire-Besson GmbH

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D-49152 Bad Essen

Germany

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Fax: +49(0) 5472-771100

info@rabe-agri.eu

www.rabe-agri.eu

GRÉGOIRE BESSON

Obtained from:

(Dealer stamp)

on: