

Assembly instructions

Original assembly instructions

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Preliminary information

Target group for these assembly instructions



Simplified illustrations for better understanding

Illustrations of the machine in the operator's manual are shown without protective equipment – or with the protective equipment open – for better understanding. Be sure to observe the safety information and follow the handling instructions in the operator's manual. Serious or fatal injury may be caused as a result.

These instructions are intended for authorised dealers, workshops and agents qualified in the field of agricultural mechanical engineering and who have completed the appropriate training at Kverneland Service.

For your safety

You must familiarise yourself with the contents of these assembly instructions before assembly or operating the machine. In this way, you will achieve optimum work results and operational safety. The assembly instructions form an integral part of the machine and must always be kept to hand. This will ensure that you:

- accidents to be avoided,
- warranty conditions to be met.

For the employer:

Untrained or unauthorised individuals are not permitted to assemble the machinery.

For the employee:

Stop assembly work immediately if the assembly instructions are unclear or ambiguous. Consult your supervisor or your employer. In such cases, your supervisor or employer must consult the service departments of the manufacturer.

Symbols used

In these assembly instructions, the following symbols and terms have been used:

- A bullet point accompanies each item in a list.
- ▶ A triangle indicates operating functions which must be performed.

We have also used pictograms to help you find instructions more quickly:



The "Information" pictogram indicates tips and additional information.



The "Examples" pictogram indicates examples that assist understanding of the instructions.



The warning triangle indicates important safety information and danger. Failure to observe this safety information can result in:

- Serious faults in the correct operation of the machine,
- Damage to the machine,
- Personal injury or accidents.



The spanner indicates tips for assembly or adjustment work.



This arrow in the diagram shows the direction of travel.



The brush indicates the points that must be lubricated using the brush.



The grease gun indicates the points that must be lubricated using the grease gun.



- ▶ Switch on the tractor engine.



- ▶ Switch off the tractor engine, put the parking brake in the park position, remove the ignition key and secure the tractor against rolling away.



For your safety

Please carefully read and observe the safety information in this chapter prior to assembly. All persons involved in assembling or setting up this machine must read and pay close attention to the assembly instructions that follow.



Caution

Danger indicators signify the risk of serious injury or death. Whenever you see this sign in the assembly instructions, please make sure that you implement all appropriate safety measures. Moreover, danger indicators warn of damage to machinery as well as of financial and legal consequences (e.g. invalidation of warranty, legal liabilities, etc.).

Faulty assembly or misuse results in:

- Risks to life and limb of the operator, third parties, and animals in the vicinity of the machine.
- Risks for the machine and other property belonging to the operator or third parties.
- Impairment of the efficient and damage-free operation of the machine.

Correct assembly

Non-compliance with the following rules amounts to gross negligence. As a result, the manufacturer cannot be held liable for any damage caused by negligence. The risk is then borne solely by the operator.

This machine must only be assembled by trained technicians in accordance with the current version of the assembly instructions. Before the implement is coupled to a tractor, transported, or initially operated, the operator's manual and its safety instructions must be thoroughly read and observed.

It is the responsibility of the operator to ensure that all personnel involved in the assembly are provided with the relevant accident prevention regulations, as well as generally applicable health and safety and road safety regulations. All personnel involved in the assembly must be aware of these rules and regulations and adhere to them; they must also be instructed on the potential risks and dangers.

Unauthorised alterations to the machine invalidate any liability of the manufacturer for resultant damage.

The following rules and regulations must be observed:

- The locally applicable accident prevention regulations,
- The recognised safety regulations, occupational health requirements and road traffic regulations
- The functional limits and safety regulations as set out in the technical operating instructions.



General safety and accident prevention regulations

Requirements

- Responsibilities for the various activities on the machine must be clearly defined and maintained. There must not be any confusion regarding responsibilities, otherwise the safety of the assembly personnel is put at risk.
- Before you start work, familiarise yourself with all the fittings and actuation elements and their functions.
- Wear close-fitting clothes when operating the machine. Wear sturdy footwear and prescribed protective equipment.
- Support and secure the machine carefully during assembly.
- Protective equipment must be properly attached and swung into its protective position.

Work material

- For all work on the machine, use only appropriate tools and implements in perfect condition.
- You must only use parts (accessories, lubricants etc.) which comply with at least the manufacturer's specifications; you must use them in accordance with the instructions.
- A part conforms to the requirements only if it is an original part or if it is expressly approved by the manufacturer.

Hazard areas

- Do not leave the engine running in enclosed spaces.
- Actuation elements (ropes, chains, and rod assemblies) of remotely controlled equipment must be fitted in such a way that they cannot cause unintended movement in any transport or work position.
- All tightening torques specified in this manual must be observed for screwed connections.
- All remote-powered and all other movable parts (e.g. hydraulically actuated parts) have crush or shear points.
- Pay close attention to the markings on reversible connections and be aware of the risk of installing a part the wrong way round.
- Always disconnect the power supply before working on the electrical system.
- When carrying out electric welding on the machine, always disconnect electric cables from the alternator and battery.
- Particular care must be taken in dealing with energy accumulators such as springs and hydraulic or compressed-air assemblies.

Environment

- Dispose of oils, grease, and filters in accordance with regulations.



Screwed connections



Observe the torque specifications

Securely tighten screws, nuts and bolts to the specified torques. Incorrectly tightened screwed connections can loosen or become jammed. This could result in machine damage or injury.

Use original parts

Machine components have special properties that are essential for the stability and correct operation of the machine. Only spare parts and accessories supplied by the manufacturer have been tested and approved. Other products may adversely affect the correct operation of the machine and safety. The use of non-OEM replacement parts renders the manufacturer's guarantee null and void and frees the manufacturer from all liability.

On this machine, bolts and nuts with a minimum quality of "8.8" (can be seen on the bolt head) are used. If no screw and bolt tightening torques are shown in the drawing, tighten the screwed connections in accordance with the table. Deviating screw and bolt tightening torques are shown in the relevant assembly steps.

→ See »Screw and bolt tightening torques«, page 9.

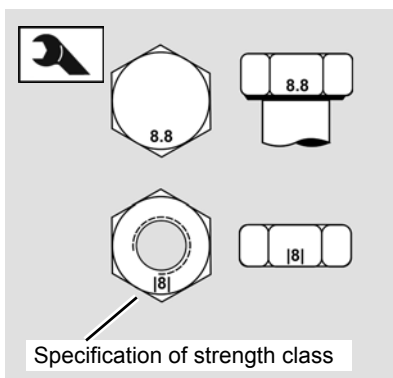
Tightening bolts

All bolts must be retightened:

- After the first 5 hours of operation.
- According to the frequency of use.
- At least once per season.



Screw and bolt tightening torques



Use the correct screw and bolt tightening torques

Securely tighten screws, nuts and bolts to the specified torques. Otherwise, damage to the machine and serious or fatal injury may be caused as a result.

Note the strength class specification for screws, nuts and bolts. Refer to the table for the corresponding tightening torque. Securely tighten screws, nuts and bolts to the specified values, provided that no other value is specified. The torque specifications refer to a dry coefficient of friction (0.12).

Bolt size	Bolt quality		
	8.8	10.9	12.9
M 6	9.9 Nm (7.3 ft.lbs)	14 Nm (10.3 ft.lbs)	17 Nm (12.5 ft.lbs)
M 8	24 Nm (17.7 ft.lbs)	34 Nm (25 ft.lbs)	41 Nm (30.3 ft.lbs)
M 10	48 Nm (35.4 ft.lbs)	68 Nm (50.2 ft.lbs)	81 Nm (59.8 ft.lbs)
M 12	85 Nm (62.7 ft.lbs)	120 Nm (88.6 ft.lbs)	145 Nm (107 ft.lbs)
M 14	135 Nm (99.6 ft.lbs)	190 Nm (140 ft.lbs)	230 Nm (166 ft.lbs)
M 16	210 Nm (155 ft.lbs)	290 Nm (214 ft.lbs)	350 Nm (258 ft.lbs)
M 20	410 Nm (302 ft.lbs)	580 Nm (428 ft.lbs)	690 Nm (509 ft.lbs)

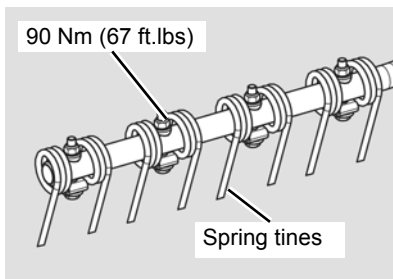


Tighten safety bolts and lock nuts to a 10% higher value.

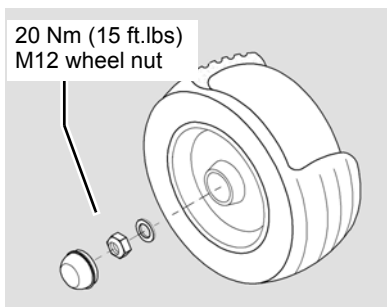


Special tightening torques

Observe the special tightening torques for the following screwed connections:

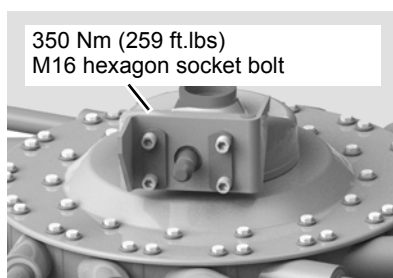


- Spring tines: 90 Nm (67 ft.lbs).

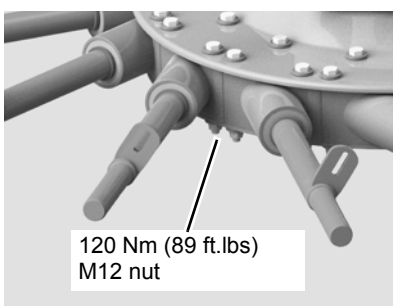


- Wheel nuts on the rotor chassis: 20 Nm (15 ft.lbs).

- ▶ M20 nut on the rotor chassis wheel stud: 450 Nm (332 ft.lbs).



- ▶ M16 hexagon socket bolt, rotor gear: 350 Nm (259 ft.lbs).



- ▶ M12 nut, rotor disc: 120 Nm (89 ft.lbs)



Direction and rotary direction

Direction information (right, left, front, rear) is given in relation to the direction of travel. Rotary direction is defined as follows:

- Rotary direction right = clockwise.
- Rotary direction left = counterclockwise.
- Rotation about a vertical axis, viewed from top to bottom.
- Rotation about a horizontal axis, viewed at right angles to the direction of travel, from left to right.
- The rotation of bolts and nuts, etc. is always viewed from the operating side.

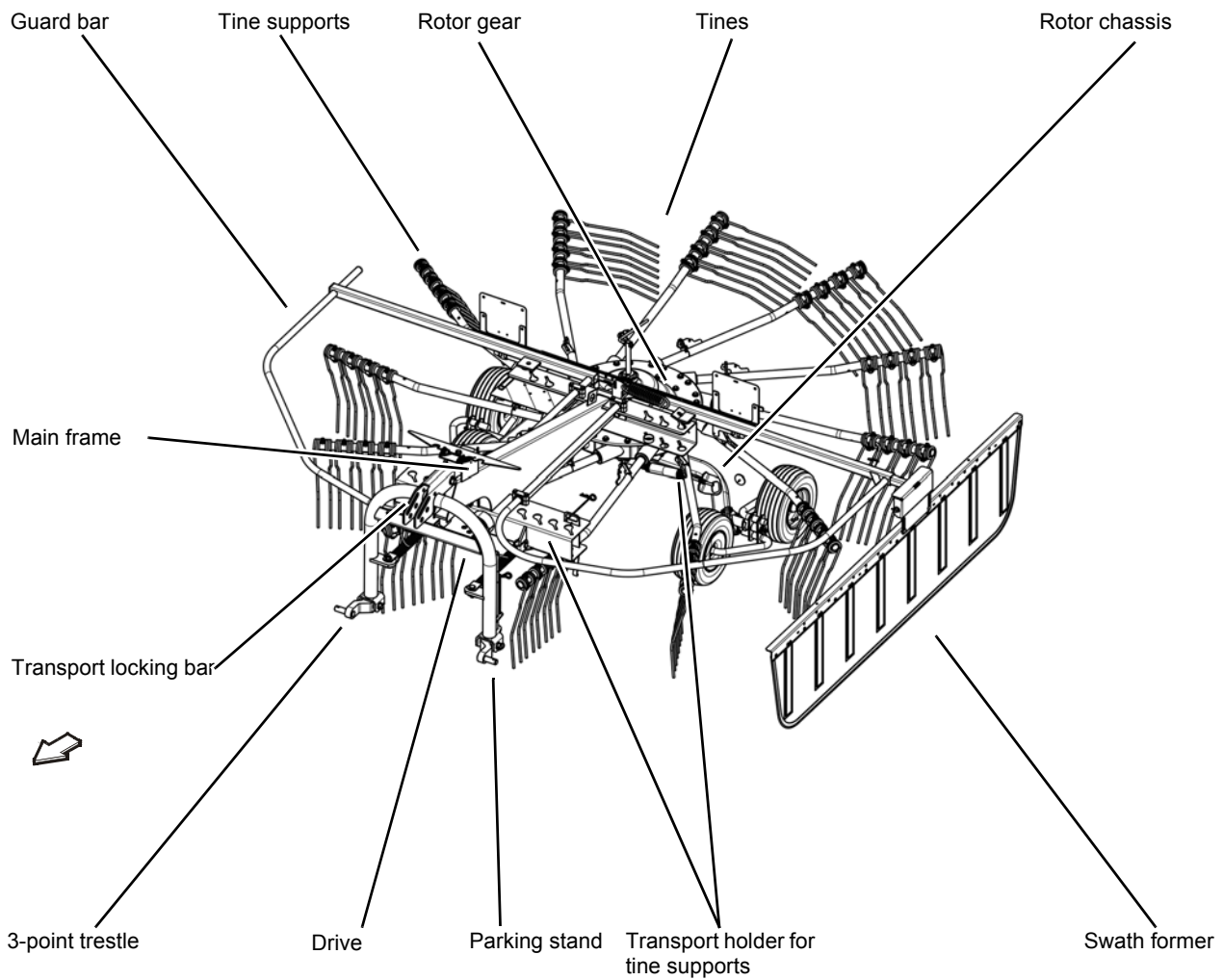
Lubricant

Lubricant used on this machine must meet the following requirements:

Lubricant	Specifications
Gear oil	SAE 90 API-GL-4 or 5
e.g.: KUBOTA HEAVY DUTY 80W-90 GEAR OIL	
Grease	NLGI GC/LB
e.g.: KUBOTA Polyurea Grease	

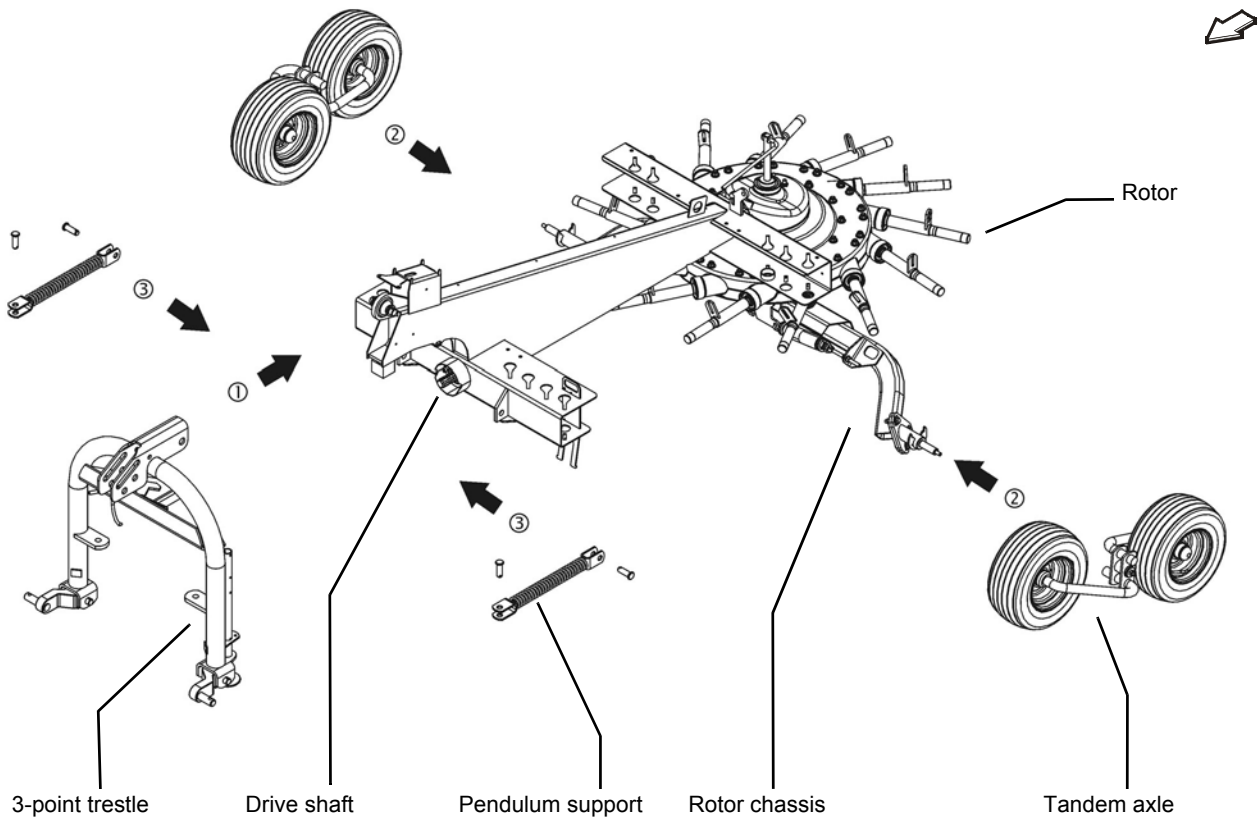
Overview

Designation of components



Crate packaging

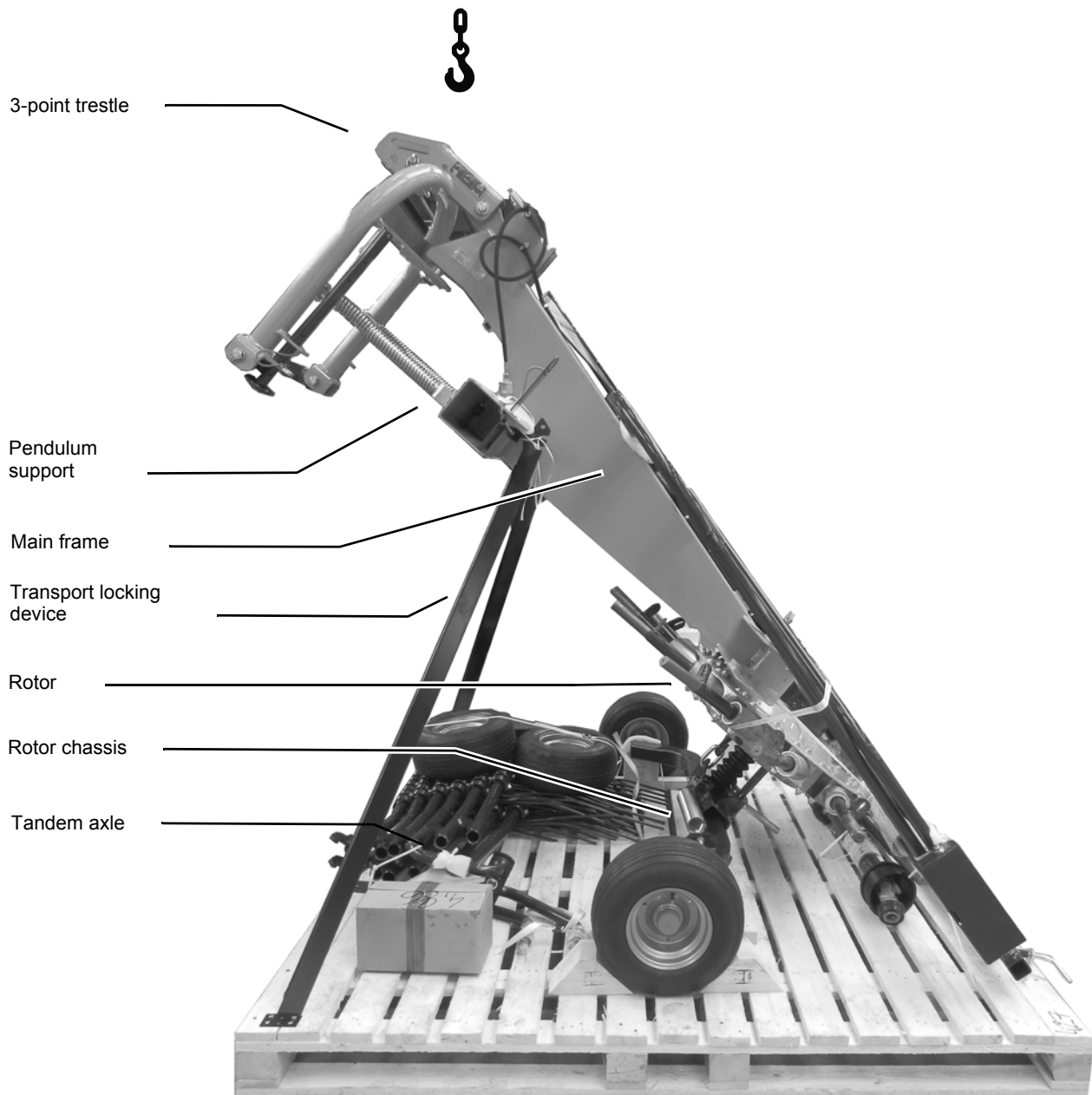
Overview of assembly groups



No.	Assembly group	Page
1	»Fitting the bleed valve«	17
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4	»Fitting the tandem axles«	21
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Overview

Pallet packaging



No.	Assembly group	Page
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Requirements

- Suitable flat surface approx. 10 x 10 m as assembly space.
- Lifting gear with lifting accessories for at least 1,000 kg.
- Floor conveyor (pallet truck or fork lift)
- Stands for safely depositing implement parts.
- Spanners for tightening bolts.

Preparations for assembly



Observe the safety information

Observe the safety information when carrying out all work. Disregard for safety information can lead to serious or fatal injury.

Ensure that hydraulic connections are correct

Before lowering the implement, you must check that the hydraulic lines are correctly connected. Wrongly connected hydraulic hoses can trigger unpredictable movements of the machine. Serious or fatal injury may be caused as a result.

No persons within the slewing range

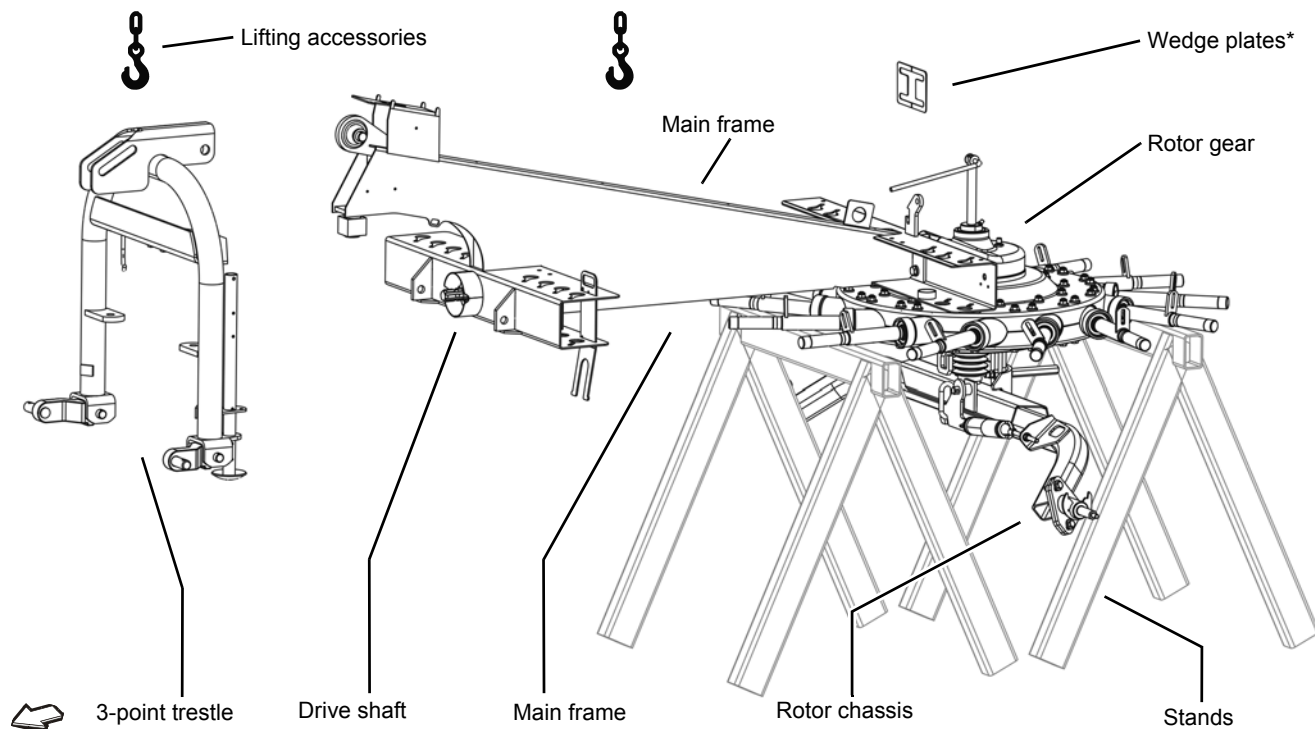
There is an acute risk of injury within the slewing range from machine parts which are slewing or folding. Serious or fatal injury may be caused as a result.

- ▶ Place the wooden crate on level ground (with the pallet floor at the bottom) and open it without damaging the parts inside.
- ▶ Take out loose parts (wheels, axles, boxes etc.).
- ▶ Clear plenty of space around larger components to make access easier.

Crate packaging

Main frame

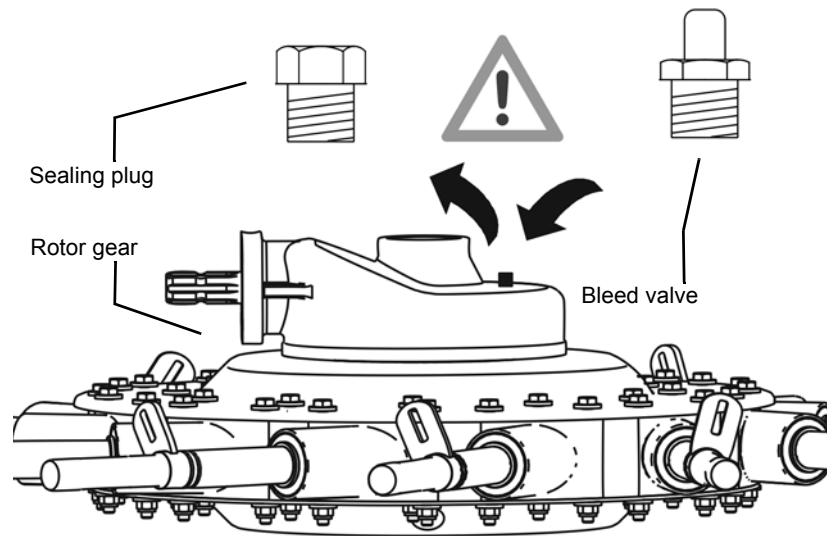
► Place the main frame securely on stands and secure it using suitable lifting accessories.



No.	Quantity	Part
1	1	Main frame
2	1	Rotor gear with chassis
3	1	3-point trestle
4	1	Drive shaft

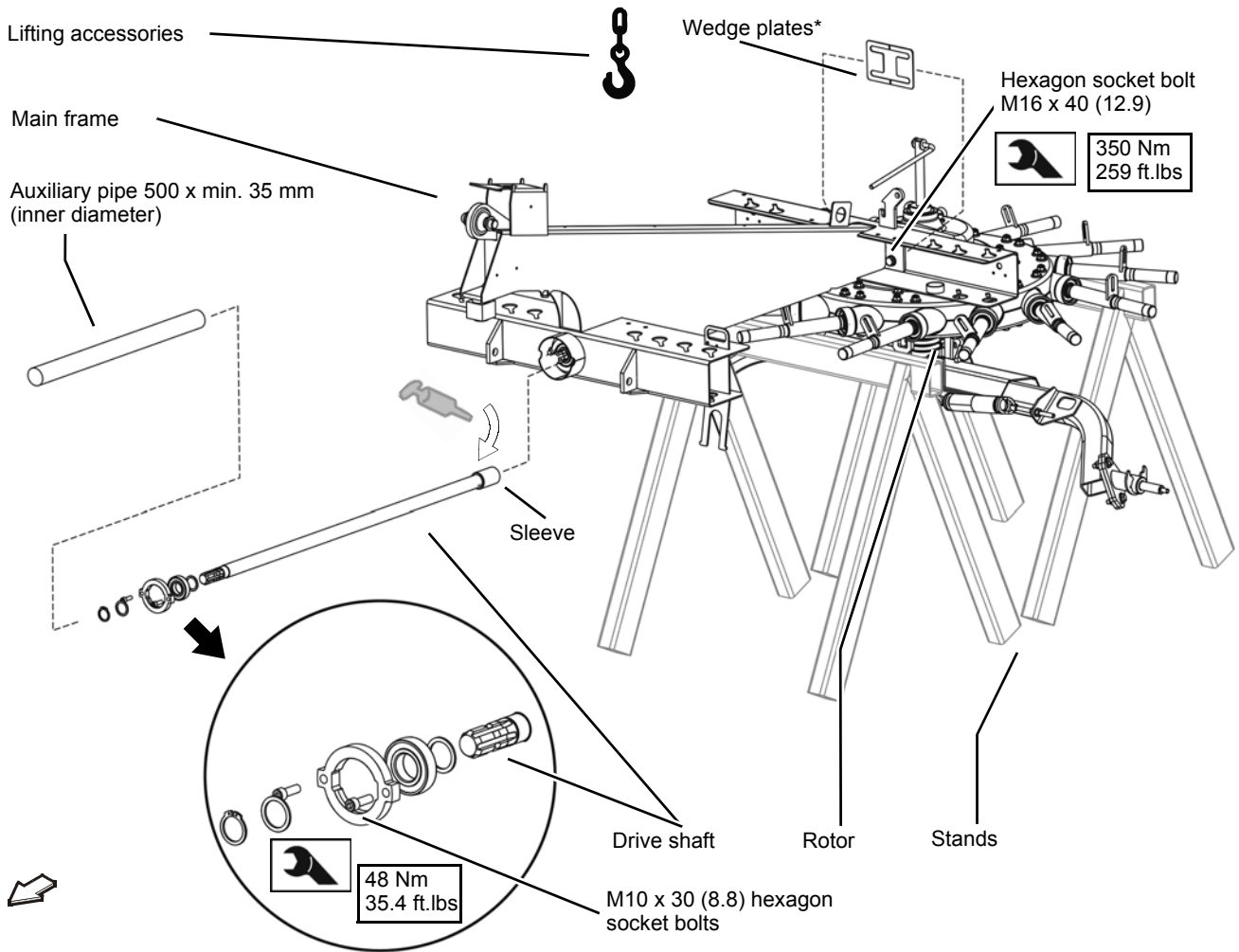
Fitting the bleed valve

- ▶ Remove the sealing plug from the rotor gear.
- ▶ Fit the bleed valve.



Crate packaging

Fitting the rotor

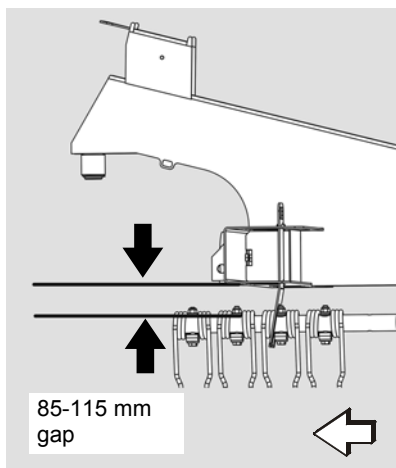


- ▶ Undo the two M10 x 30 bolts from the drive shaft bearing.
- ▶ Remove the bearing and shaft.
- ▶ Guide the main frame to the rotor and peg it in place using four M16 x 40 hexagon socket bolts.

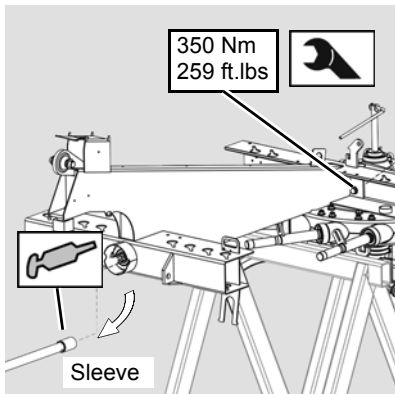
- ▶ Fit the tine support and check the gap between the main frame and tine support:
 - Ideal values: 85 – 115 mm (3.35 – 4.53 in)
 - For values other than these, fit the wedge plates between the main frame and rotor.



* Wedge plates are not included in the scope of delivery. Contact Kverneland Service if the ideal values cannot be achieved.



Fitting the drive shaft



Positioning the main frame exactly

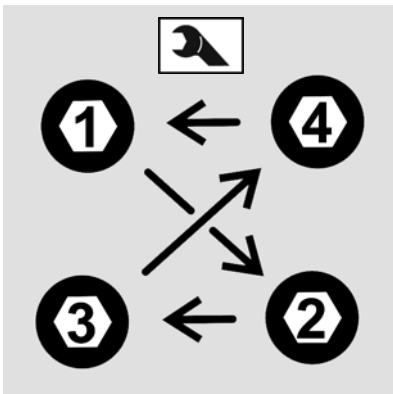
The connection between the main frame and the rotor must be positioned exactly and must be tightened to the specified torque. If it is fitted incorrectly, serious damage to the machine may be caused.

- ▶ Fill the sleeve of the drive shaft with grease.
- ▶ Move the drive shaft onto the stub of the rotor gear (installation opening on the underside of the main frame).



Use a short auxiliary pipe (approx. 0.5 m long, with an inner diameter of at least 35 mm) as an extension to position the drive shaft more easily. The auxiliary pipe is not included in the scope of delivery.

- ▶ Tighten the four M16 x 40 hexagon socket bolts evenly to 350 Nm (259 ft.lbs), alternating between the bolts.
- ▶ Refit the drive shaft housing and tighten the two M10 x 30 bolts to 48 Nm (35.4 ft.lbs).



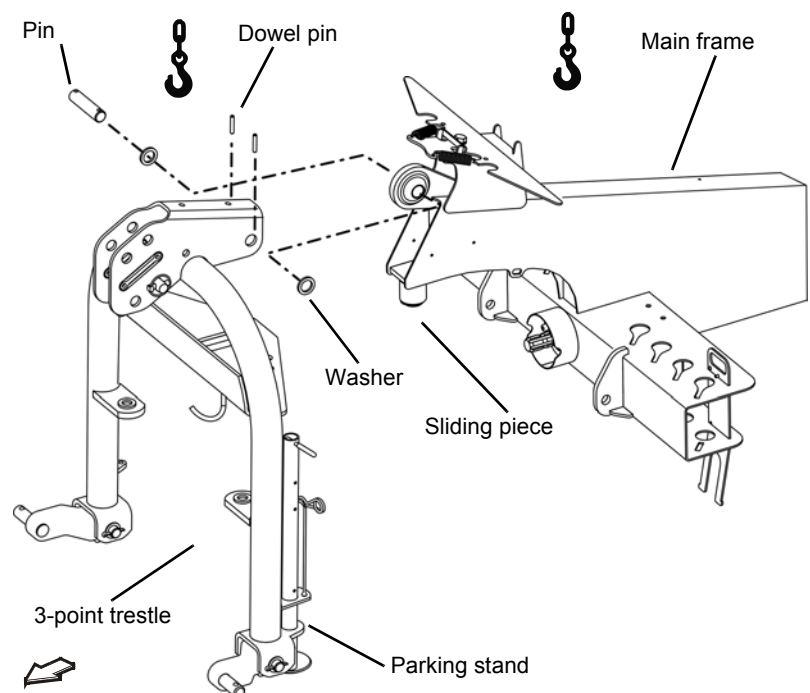
Crate packaging

Fitting the 3-point trestle

The machine is equipped at the factory for coupling to the tractor's three-point lift support.

To fit the 3-point trestle:

- ▶ Guide the preassembled 3-point trestle to the main frame using suitable lifting accessories.
- ▶ Guide the ball joint on the main frame into the adapter on the 3-point trestle.
- ▶ Insert the pins through the 3-point trestle support and the main frame. Slide the washers onto the pins.
- ▶ Secure the pins with dowel pins on both sides.
- ▶ Secure the 3-point trestle with a parking stand.

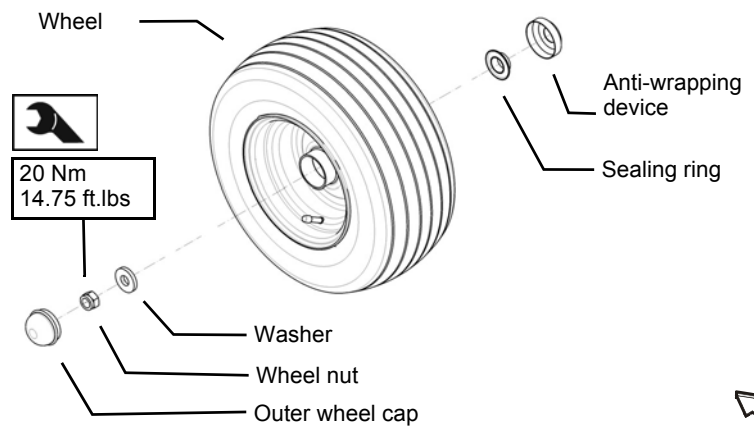
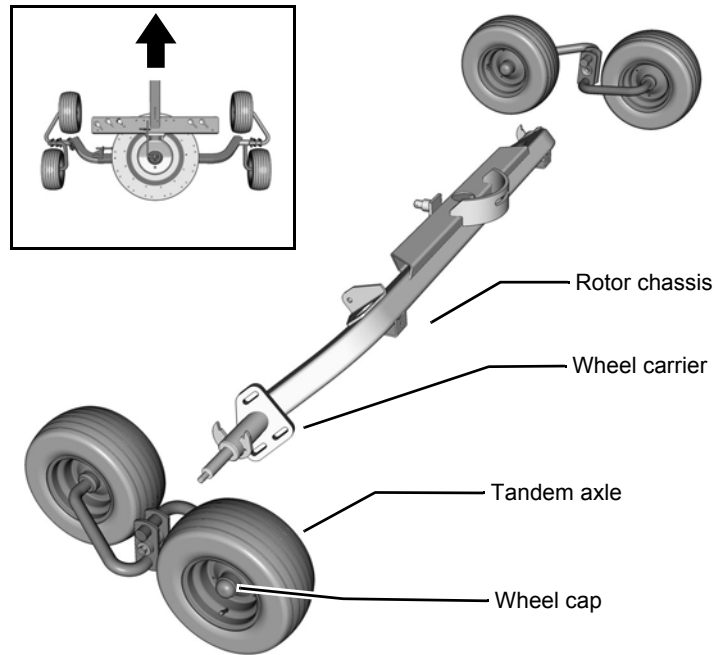


No.	Quantity	Part
1	1	Preassembled basic machine with main frame
2	1	Preassembled 3-point trestle
3	1	28 x 118 mm pins
4	2	29 x 42 x 5 washers
9	2	8 x 45 dowel pins

Fitting the tandem axles

Fit the tandem axles and wheels to the rotor chassis. Ensure that the wheel carrier for adjusting the rotor pitch is on the left in relation to the direction of travel. Ensure that the tandem axles are aligned correctly.

- ▶ Fit the tandem axles.
- ▶ Fit the wheels.
- ▶ Fit the wheel nuts using a torque of 20 Nm (14.75 ft.lbs).

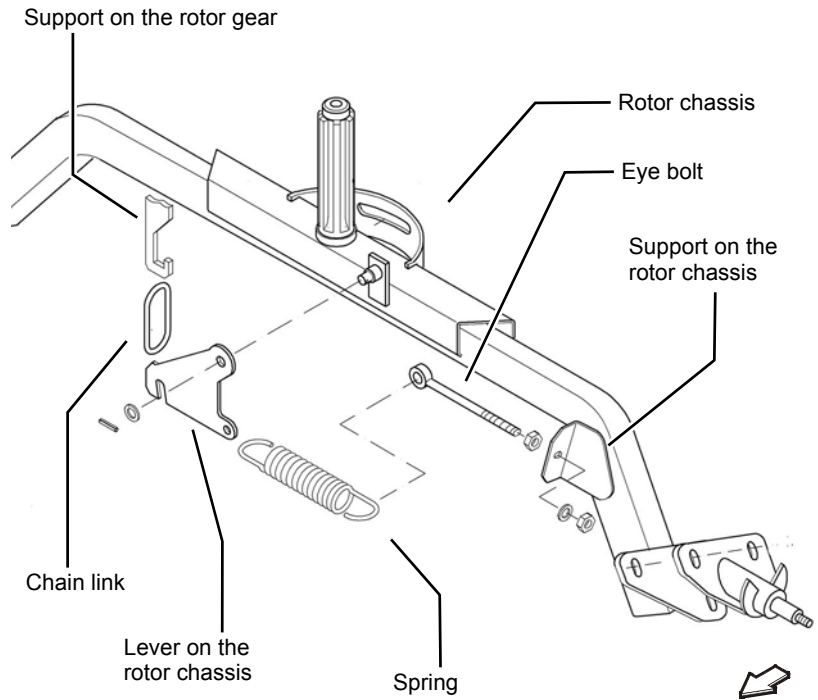


No.	Quantity	Part
1	1	Rotor chassis
2	2	Tandem axles
3	4	Wheels
4	4	Wheel caps
5	2	Washers
6	2	M12 self-locking nuts

Crate packaging

Fitting the tension spring

- ▶ Attach the chain links to the support on the rotor gear.
- ▶ Fit the lever on the rotor chassis and secure it using a washer and dowel pin.
- ▶ Attach the spring to the lever.
- ▶ Attach the eye bolt to the spring and guide it through the support on the rotor chassis.
- ▶ Tighten the eye bolt on the block.
- ▶ Secure the eye bolt using a washer and nut.



No.	Quantity	Part
1	1	Chain link
2	1	Lever
3	1	Spring
4	1	Dowel pin
5	1	Washer
6	1	Eye bolt
7	2	M12 washers
8	2	M12 nuts

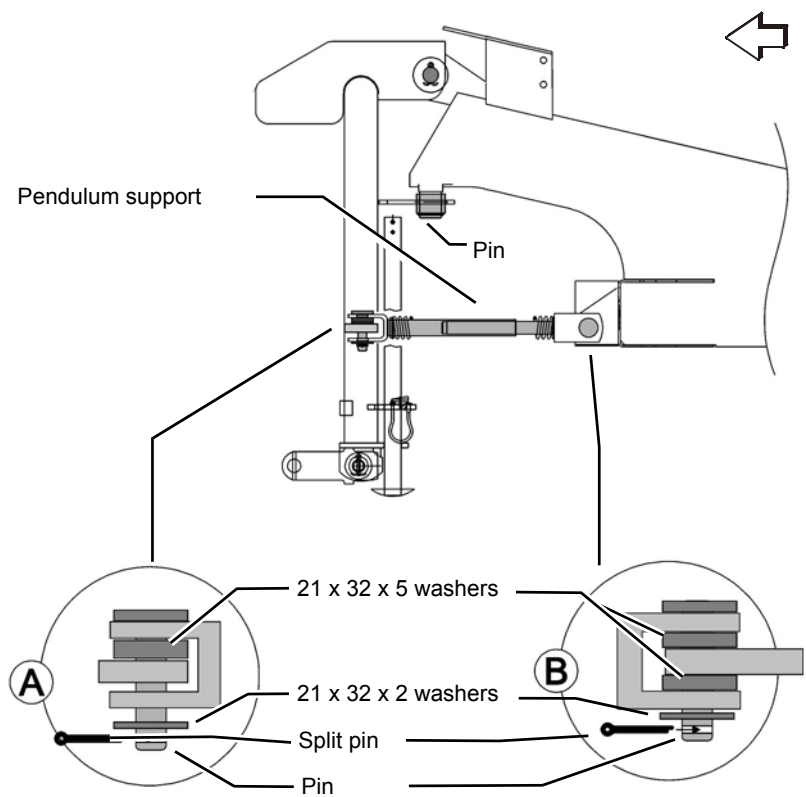
Fitting the pendulum support



Maintaining the installation sequence.

Observe the described sequence during the installation. Otherwise, the machine may be damaged.

- ▶ Fit the left pendulum support with the spring (see detailed drawings A and B).
- ▶ Only couple the machine to the clevises on the tractor.
- ▶ Drive the tractor and machine in a turn to the left until the springs on the pendulum support have completely pushed together.
- ▶ Switch off and secure the tractor.
- ▶ Fit the right pendulum support with the spring (see detailed drawings A and B).



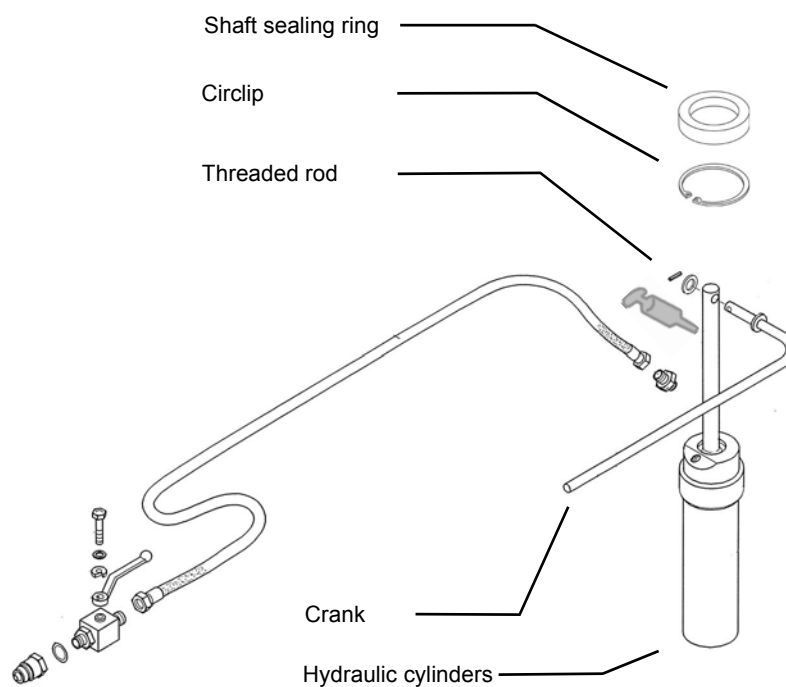
No.	Quantity	Part
1	2	Pendulum support
2	4	20 x 60 pin
3	4	21 x 32 x 2 washers
4	4	5 x 32 split pins
5	6	21 x 32 x 5 washers

Crate packaging

Fitting the Hydrolift

Fit the hydraulic cylinder for adjusting the working depth.

- ▶ Set the machine down on the rotor chassis.
- ▶ Grease the threaded rod and screw it into the raking wheel axle completely.
- ▶ Fit the circlip.
- ▶ Grease and fit the shaft sealing ring on the sealing lip.

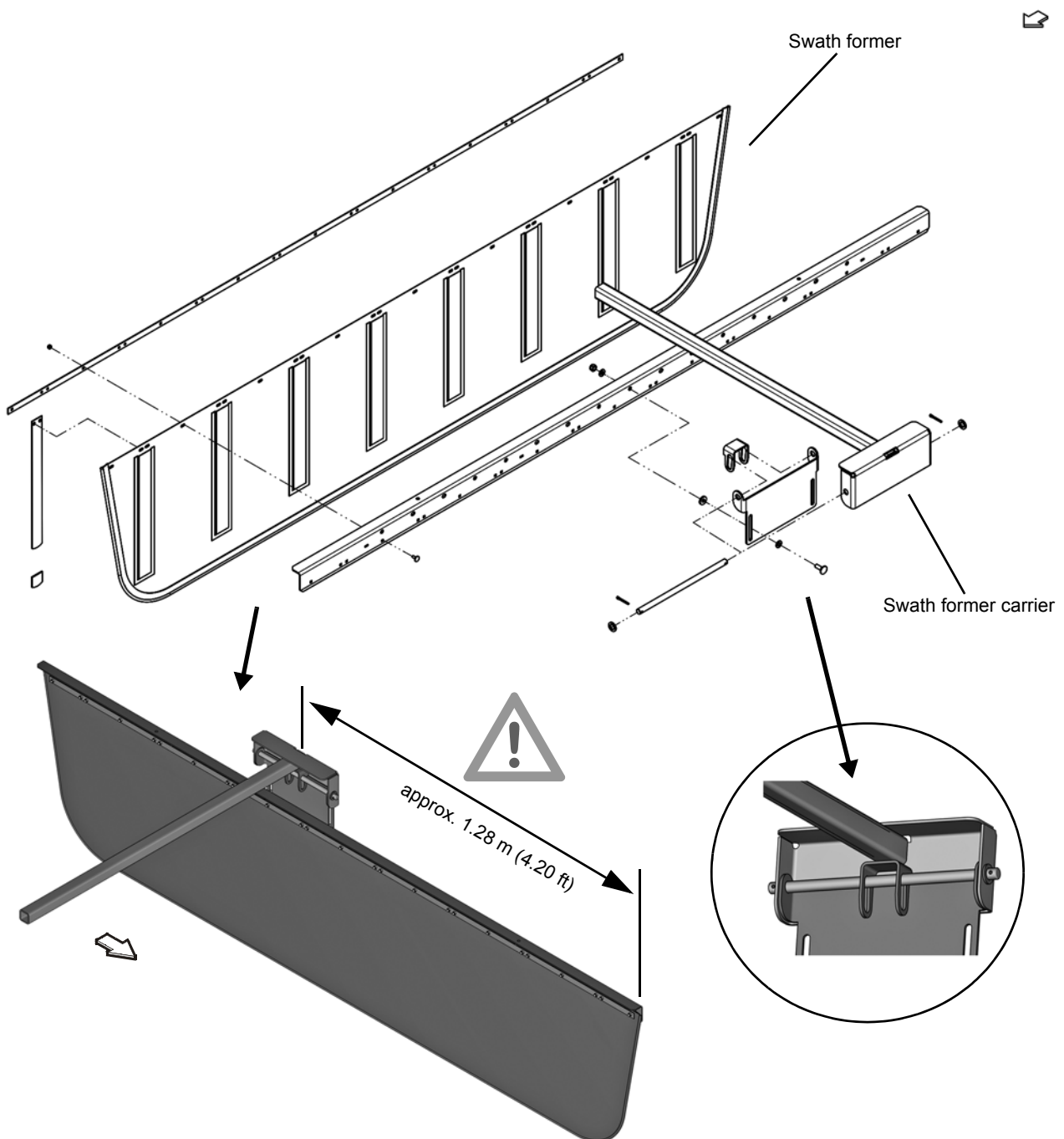


No.	Quantity	Part
1	1	Hydraulic cylinders
2	1	Crank
3	1	Shaft sealing ring
4	1	Threaded rod
5	1	Circlip
6	1	Split pin
7	1	Washer

Assembling the protective equipment

Fitting the swath former

- ▶ Fitting the swath former carrier.
- ▶ Fit the swath former onto the swath former carrier.



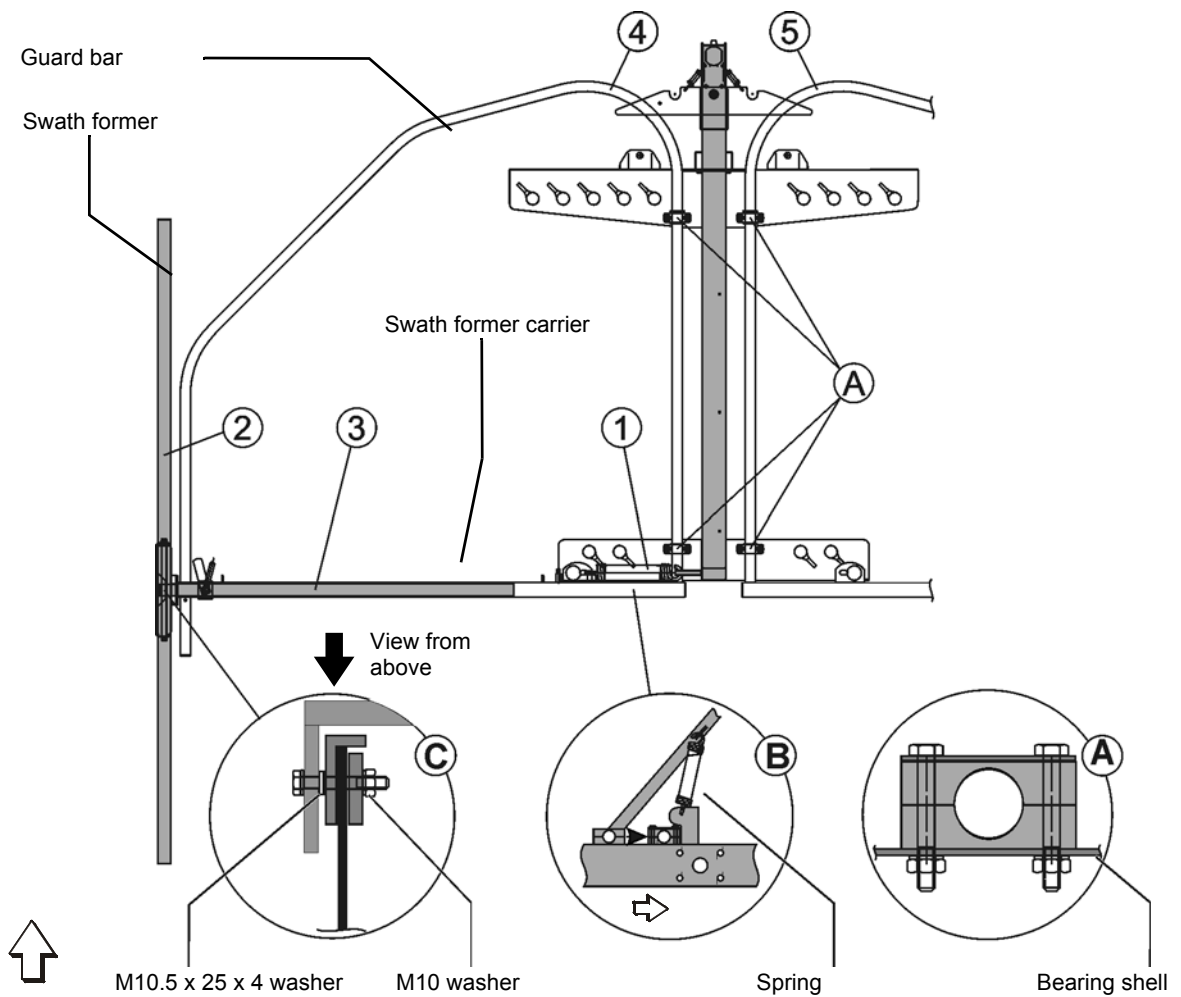
Crate packaging

Fitting the guard bar

- ▶ Fit the lower bearing shells (see detailed drawing A).
- ▶ Attach the spring to the plate on the main frame (1).
- ▶ Place the left guard bar (4) in the lower bearing shells.
- ▶ Fold the left guard bar into the transport position and attach the spring (B). Move the bar inwards.
- ▶ Fit the upper bearing shells (see detailed drawing A).
- ▶ Fit the right guard bar (5) without spring.

Fitting the swath former

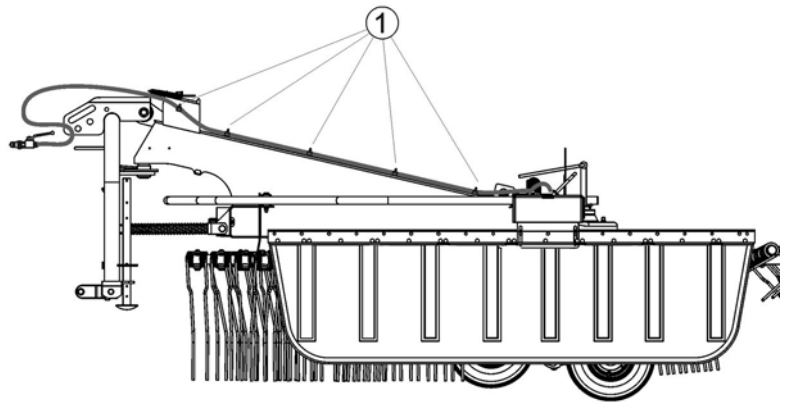
- ▶ Fit the swath former (2) to the swath former carrier (3).
- ▶ Move the swath former carrier to the left guard bar and secure it using a T-bolt.



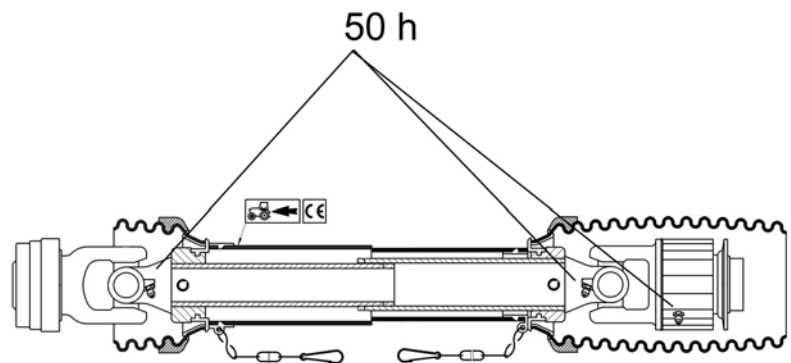
No.	Quantity	Part
1	2	Guard bar
2	4	Bearing shells
3	1	Spring
4	1	Swath former
5	1	Swath former carrier

Fitting the hydraulics

- ▶ Connect and route the hydraulic hose on the Hydrolift and secure it to the main frame using cable ties (1).



Greasing schedule for PTO shafts



No.	Quantity	Part	Greasing interval
1	1	Drive shaft	50 h

Final assembly for crate packaging

Proceed as follows to complete the assembly:

- ▶ »Adjustment work«, see page 31.
- ▶ »Accessories«, see page 38.
- ▶ »Final tasks«, see page 43.

Pallet packaging

Requirements

- Suitable flat surface approx. 10 x 10 m as assembly space.
- Lifting gear with lifting accessories for at least 1,000 kg.
- Floor conveyor (pallet truck or fork lift)
- Supports for safely depositing machine parts.
- Spanners for tightening bolts.

Preparations for assembly



Observe the safety information

Observe the safety information when carrying out all work. Disregard for safety information can lead to serious or fatal injury.

Ensure that hydraulic connections are correct

Before lowering the implement, you must check that the hydraulic lines are correctly connected. Wrongly connected hydraulic hoses can trigger unpredictable movements of the machine. Serious or fatal injury may be caused as a result.

No persons within the slewing range

There is an acute risk of injury within the slewing range from machine parts which are slewing or folding. Serious or fatal injury may be caused as a result.

- ▶ Place the bottom of the pallet flat without damaging parts lying on it.
- ▶ Take out loose parts (wheels, axles, boxes etc.).
- ▶ Clear plenty of space around larger components to make access easier.
- ▶ Check that the scope of delivery is complete.
- ▶ If parts are missing or have been damaged during transportation, please inform the dealer, importer or manufacturer immediately.

Checking the scope of delivery

Removing the surface protection



- ▶ Remove the surface protection (e.g. Tectyl) with which the bare surfaces (such as tine arms, tine supports and bearing shafts) have been coated.
- ▶ Grease the bare surfaces using a brush.

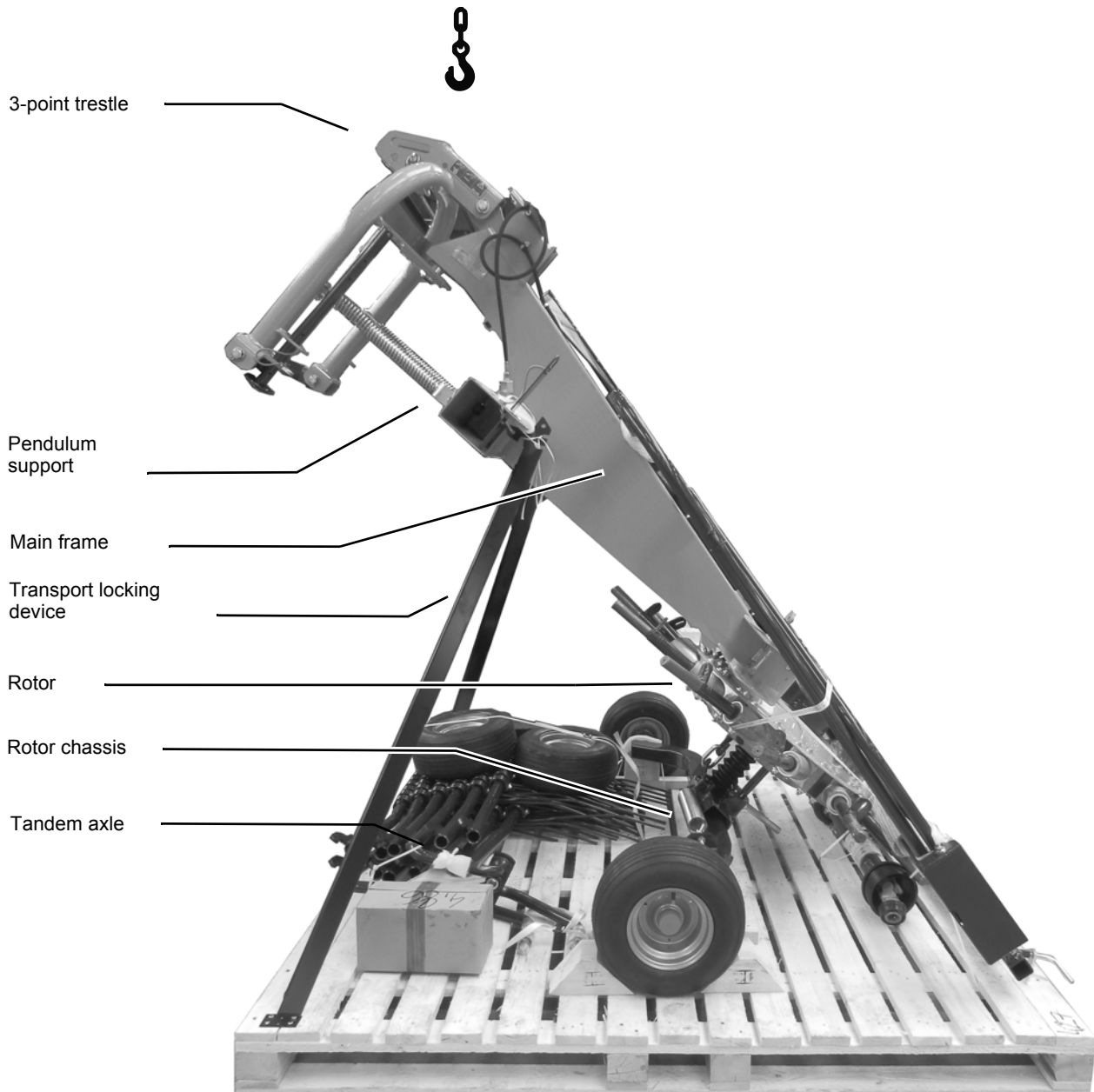


- ▶ Only clean the flange surfaces. Do not grease them.

Pallet assembly

Use suitable lifting accessories to lift the frame elements.

- ▶ Loosen all fastenings (wires, lashing straps).
- ▶ Secure the machine using suitable lifting accessories.
- ▶ Remove the transport locking devices.
- ▶ Extend and secure the parking stand.
- ▶ Set the machines down using suitable lifting accessories.



Final assembly for pallet packaging

Proceed as follows to complete the assembly:

- ▶ »Crate packaging«, see page 13.
- ▶ »Fitting the swath former«, see page 26.
- ▶ »Greasing schedule for PTO shafts«, see page 27.
- ▶ »Adjustment work« from page 31.
- ▶ »Accessories«, see page 38.
- ▶ »Final tasks«, see page 43.

Length of PTO shaft

The length of the PTO shaft was selected at the factory to suit almost all types of tractor. Only in exceptional cases is a correction of the PTO shaft length required on individual tractors. Check the length of the PTO shaft on each tractor prior to first use.

A manufacturer's operator's manual for the PTO shaft is enclosed. This includes detailed information on the relevant version of the PTO shaft and must be observed.

Safety



Switch off the tractor and secure it

Before you dismount:

- ▶ Lower all implements to the ground.
- ▶ Switch all operating controls to their neutral or park position.
- ▶ Put the tractor's parking brake into the park position. Switch off the tractor.
- ▶ Remove the ignition key.
- ▶ Secure the tractor against rolling away.



An unsecured tractor can run you over or trap you. Serious or fatal injury may be caused as a result.



Correct length

A PTO shaft that is too long must not be used. This would result in damage to the drive bearings of the tractor and the machine.

Checking the length of the PTO shaft

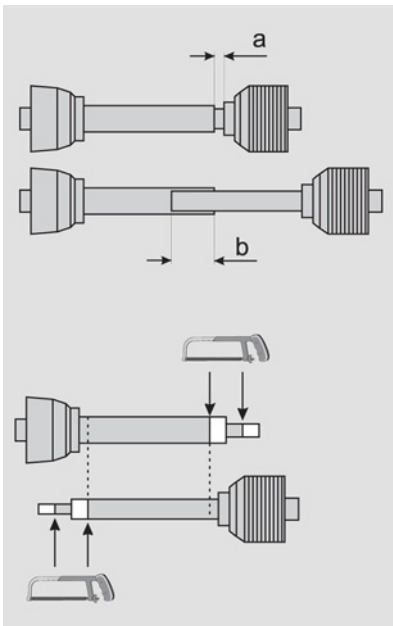
- ▶ Couple the machine to the tractor without the PTO shaft.
- ▶ Lower the tractor's lower link.
- ▶ Set the combination (tractor and machine) to the smallest steering angle.
- ▶ Switch off the tractor engine, put the parking brake in the park position, remove the ignition key and secure the tractor against rolling away.



If the PTO shaft has been shortened, the minimum overlap and the minimum distance must be checked again when it is operated with another tractor.

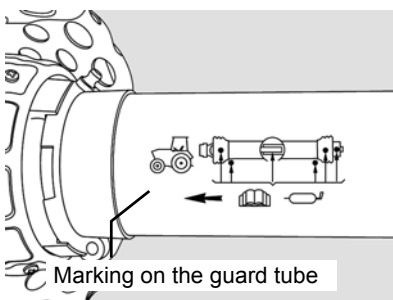
Adjustment work

Shortening the PTO shaft



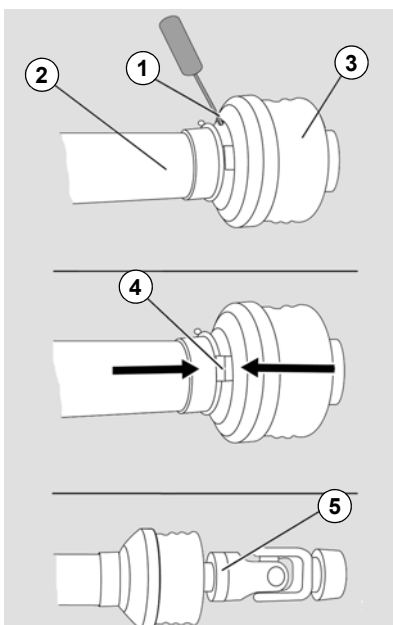
- ▶ Pull the PTO shaft apart and connect one half to the tractor PTO shaft drive and one to the machine and secure them.
- ▶ Place the two shaft halves next to each other and:
 - Check for a minimum of 250 mm overlap (b).
 - Check that the PTO shaft is not blocked at one end (minimum distance (a) = 20 mm).
- ▶ Shorten the slide tube and guard tube by the same dimension.
- ▶ Deburr the ends of the tubes.
- ▶ Remove the swarf.
- ▶ Grease the sliding surfaces well.

Fitting the PTO shaft



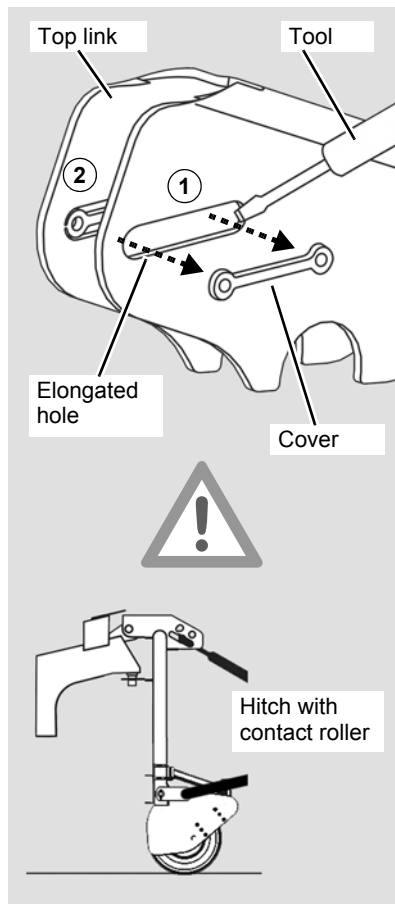
Make sure that you fit the PTO shaft in the correct installation position. There is a marking on the guard tube of the PTO shaft.

- ▶ Check the length of the PTO shaft and shorten it if necessary.
- ▶ Place the PTO shaft onto the PTO stub shaft of the machine.
- ▶ Secure the PTO shaft with a locking pin.



- ▶ Remove the locking screw (1) between the guard tube (2) and the guard cone (3).
- ▶ Twist the guard cone (3) and the guard tube (2) in opposite directions so that the "noses" of the slide ring (4) are positioned directly over the slots on the guard cone (3).
- ▶ Pull the guard cone (3) and guard tube (2) back until the single joint (5) is accessible.
- ▶ Connect the PTO shaft to the machine.
- ▶ Push the guard cone (3) and guard tube (2) back over the single joint (5).
- ▶ Tighten the locking screw (1).
- ▶ Secure the guard cone to the gear box using a jubilee clip.

Prepare the top link



Only when using the optional contact roller: Remove the cover of the elongated hole from the top link of the 3-point trestle.

Please note the following: Otherwise, damage to the machine may be caused as a result:

- Only with the optional contact roller:
 - ▶ Remove the cover of the elongated hole from both sides of the top link using an appropriate tool.
 - See adjacent illustration. Items (1) and (2).



Please ensure that, where an optional contact roller is used, the hitch pin for the upper link attachment is in the middle of the elongated hole when the machine is lowered. Otherwise, the machine may not be able to handle the unevenness of the ground.

Adjusting the machine

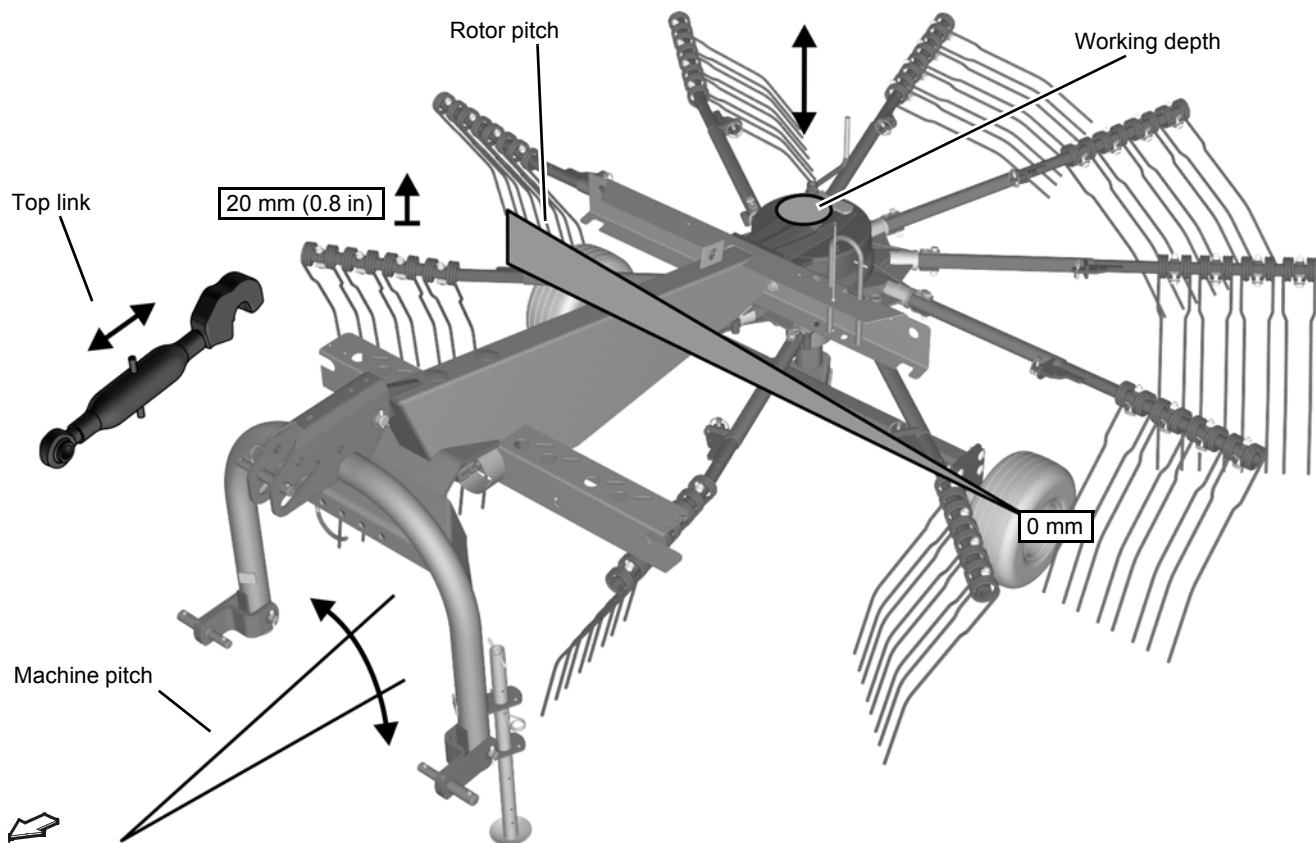


Setting the tractor's lower link to the floating position

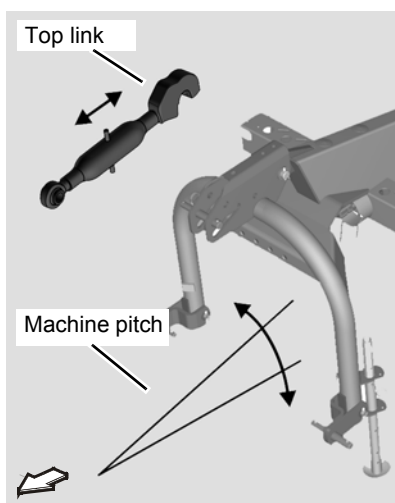
Set the tractor's lower link to the floating position. The machine cannot adjust to the contour of the terrain. Otherwise, damage to the machine may be caused as a result.

The machine is preset at the factory. The following illustration shows an overview of the basic settings. Detailed information can be found on the following pages.

Adjustment work



Machine pitch

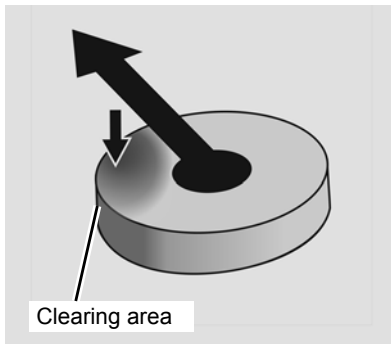


For improved pick-up of the crop, use the top link to incline the machine further to the front.

- ▶ Using the top link, incline the machine further to the front until the crop is picked up cleanly.

Adjustment work

Rotor pitch



The rotors are inclined at an angle to the chassis so that the crop is picked up in the clearing area. The rotor is already inclined transversely ex-factory. If the crop is not picked up cleanly, the raking quality can be improved by adjusting the rotor pitch.

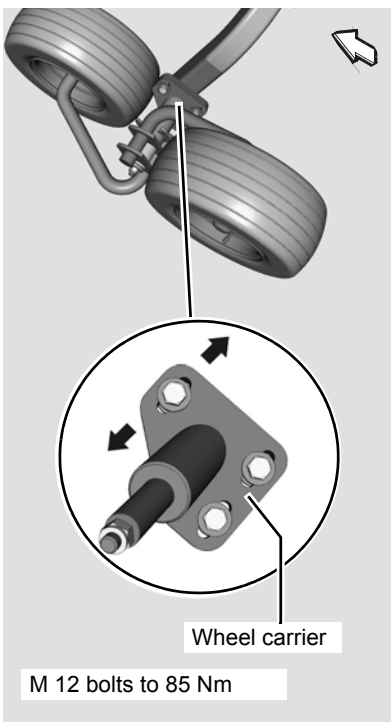
The rotor pitch is adjusted as follows:

- ▶ Raise the machine to the headland position using the hydraulic control device.
- ▶ Switch off the tractor engine, put the parking brake in the park position, remove the ignition key and secure the tractor against rolling away.
- ▶ Secure the rotors using supports.
- ▶ Remove the tine supports.



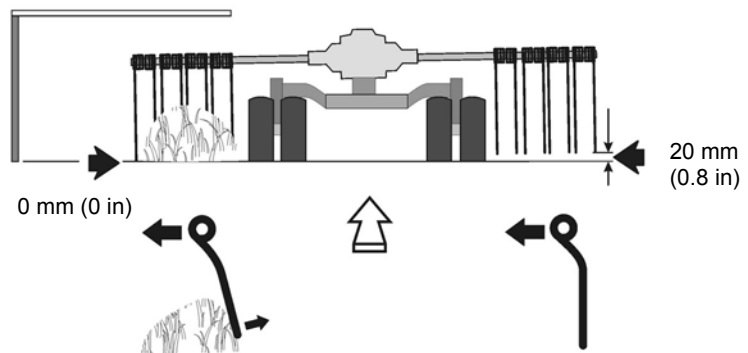
The optimum raking quality is achieved when the tines in the front working area and before the crop is deposited have the lowest possible ground clearance (see adjacent illustration).

Adjusting the rotor pitch



It is possible to adjust the position of the rotors laterally to the direction of travel.

- ▶ Remove the tine supports via the wheel carrier.
- ▶ Slightly loosen the three bolts on the wheel carrier.
- ▶ Push the wheel carriers into the required position (see graphic below).
- ▶ Retighten the bolts to a tightening torque of 85 Nm.
- ▶ Fit and secure the tine supports.



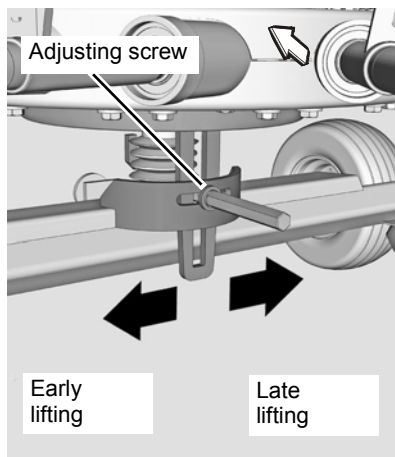
Crop pick-up increases the distance between the tines and the ground.



On the side opposite the swath former, the distance between the tines and the ground must be approximately 20 mm (0.8 in) greater than on the swathing side.

Adjustment work

Tine lifting



The time for lifting the tines can be adapted to the crop (early or late lifting). The control cam (cam disc) can be infinitely adjusted. Proceed as follows:



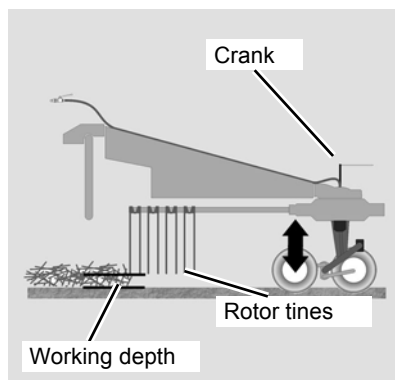
- ▶ Switch off the tractor engine, put the parking brake in the park position, remove the ignition key and secure the tractor against rolling away.
- ▶ Remove the tine supports via the adjusting screw.
- ▶ Loosen the adjusting screw on the rotor chassis.
- ▶ Adjust the control cam.
 - The adjacent illustration shows the position of the adjusting screw on the rotor.
- ▶ Tighten the adjusting screw.
- ▶ Fit and secure the tine supports.



The swath form is affected by the position of the adjusting screw.

- ▶ Move the adjusting screw in the rotational direction of the rotor:
 - Late lifting of the tines increases the swath width.
- ▶ Move the adjusting screw against the rotational direction of the rotor:
 - Early lifting of the tines means that the working speed can be increased.

Working depth



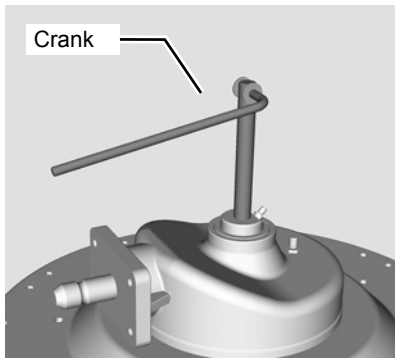
Adjust the working depth as follows:



- ▶ Fully lower the machine using the tractor's hydraulic control device.
- ▶ Switch off the tractor and secure it.
- ▶ Check the working depth to the ground.

Adjustment work

Basic working depth setting



The crank sets the basic working depth setting. This task should only be carried out if the rotors have been completely lowered and the hydraulic system is pressureless. The working depth can be controlled with Hydrolift when in operation on the field.

- ▶ Release the crank retainer on the rotor chassis and adjust the working depth by turning the crank.
- Basic setting: the tines slightly touch the ground.
- ▶ After adjusting, secure the crank against turning using the retainer.
- ▶ Readjust the working depth to suit the field conditions if necessary.



1 turn of the crank for working depth equates to a rotor tine height adjustment of about 5 mm. The thread is left-handed.

Further influencing factors for the working depth are:

- The soil condition and stubble length.
- The type and quantity of crop.

Tines that are set too low will soil the crop. The load on the rotor tines and the drive is increased.

Hydrolift

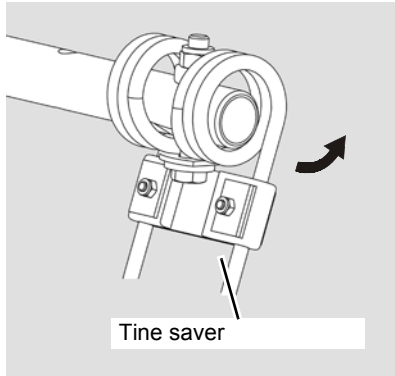
The working depth can be controlled with Hydrolift when in operation on the field.

Accessories

Additional equipment

Optional additional equipment does not form part of the standard scope of delivery, and, in this manual, is indicated by a plus symbol [+]. Additional equipment is available to order from your dealer.

Tine saver

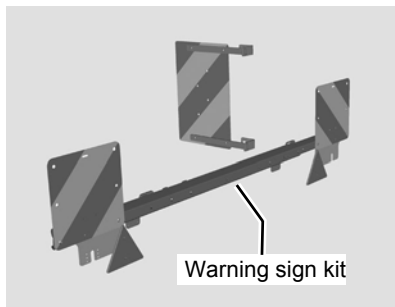


For a good swath deposit, both tine legs must run parallel to one another. This must also be ensured after fitting the tine saver.

Proceed as follows:

- ▶ Fit one tine saver on each tine.
- ▶ Check the direction of rotation of the rotor. The nuts must be attached against the rotor direction.
- ▶ Check the tine position. The tine legs must be parallel.
- ▶ If necessary, loosen the screwed connection until both tine legs run parallel.

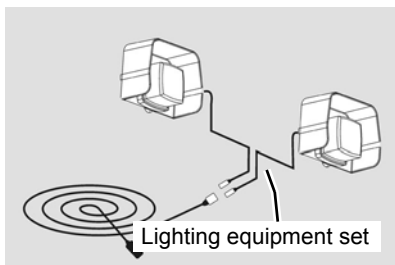
Warning sign kit [+]



The optional warning sign kit increases safety when travelling on the road.

- ▶ Observe the special assembly instructions.

Lighting equipment set [+]



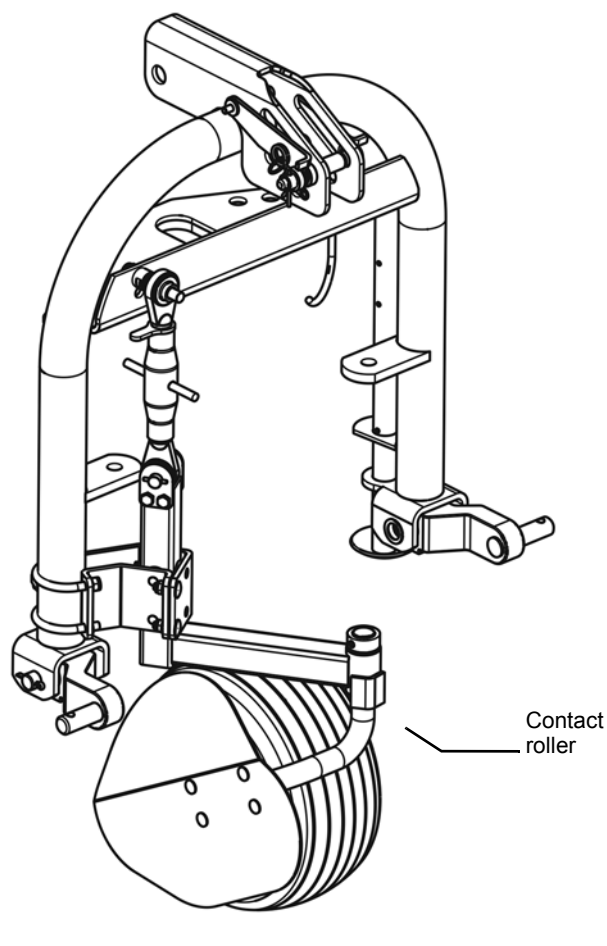
The optional lighting equipment set increases safety when travelling on the road.

Accessories

Support wheel

The optional support wheel on the 3-point trestle provides better contour guidance.

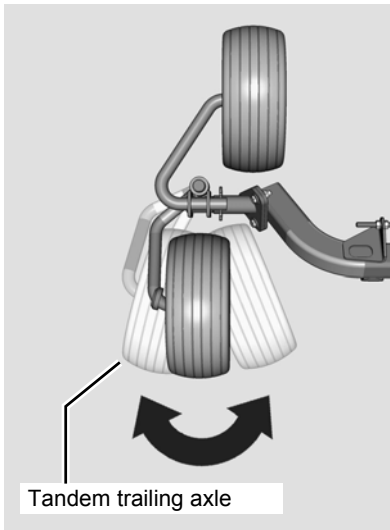
- ▶ Please note: With the optional support wheel, insert the hitch pin for the top link into the elongated hole and secure it using a safety splint.
- ▶ Observe the special assembly instructions.



In the work position, the top link pin must be fitted centrally in the elongated hole, so that the machine is able to adapt to the unevenness of the ground.

Accessories

Tandem trailing axle [+]

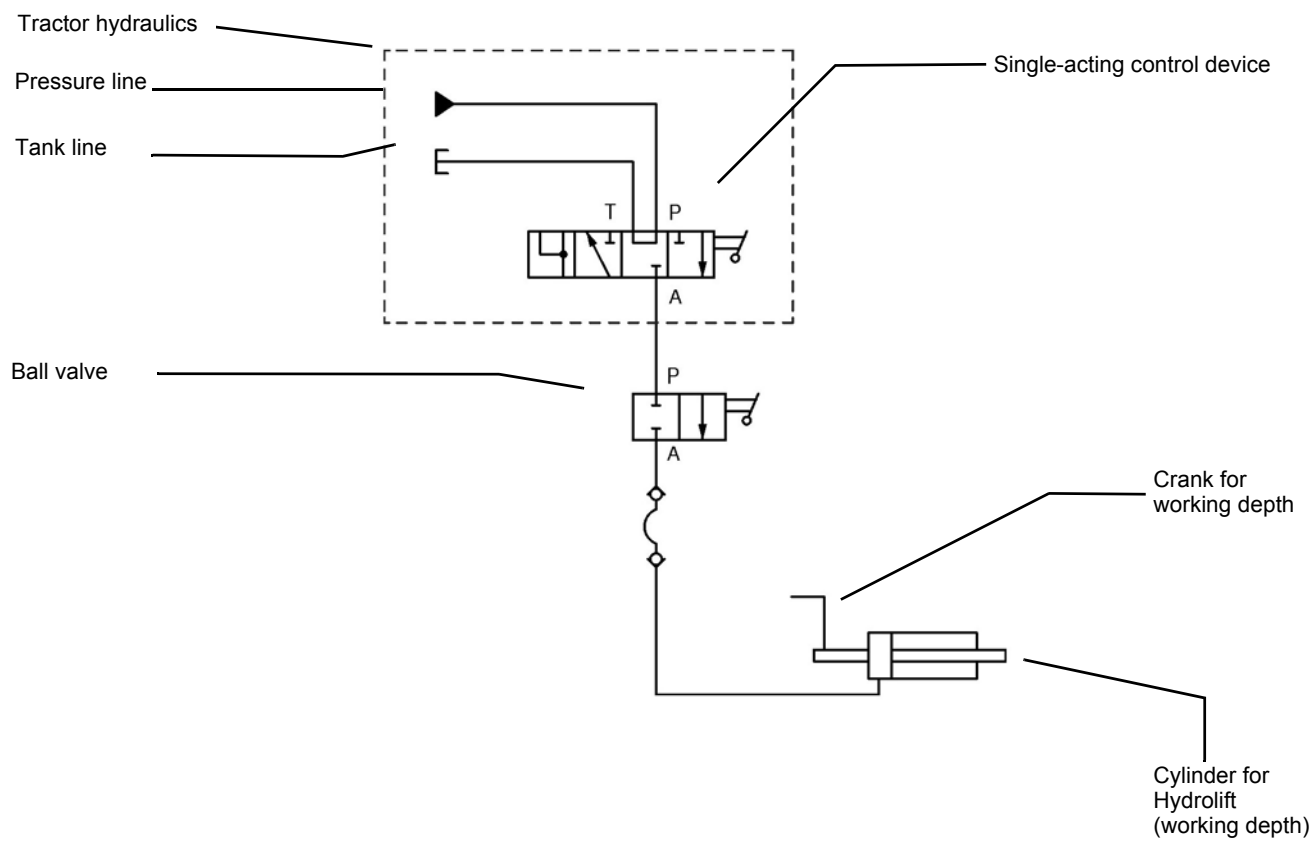


The optional tandem trailing axles facilitate driving with tight cornering.

- ▶ Fit the contact roller.
- ▶ Observe the special assembly instructions.

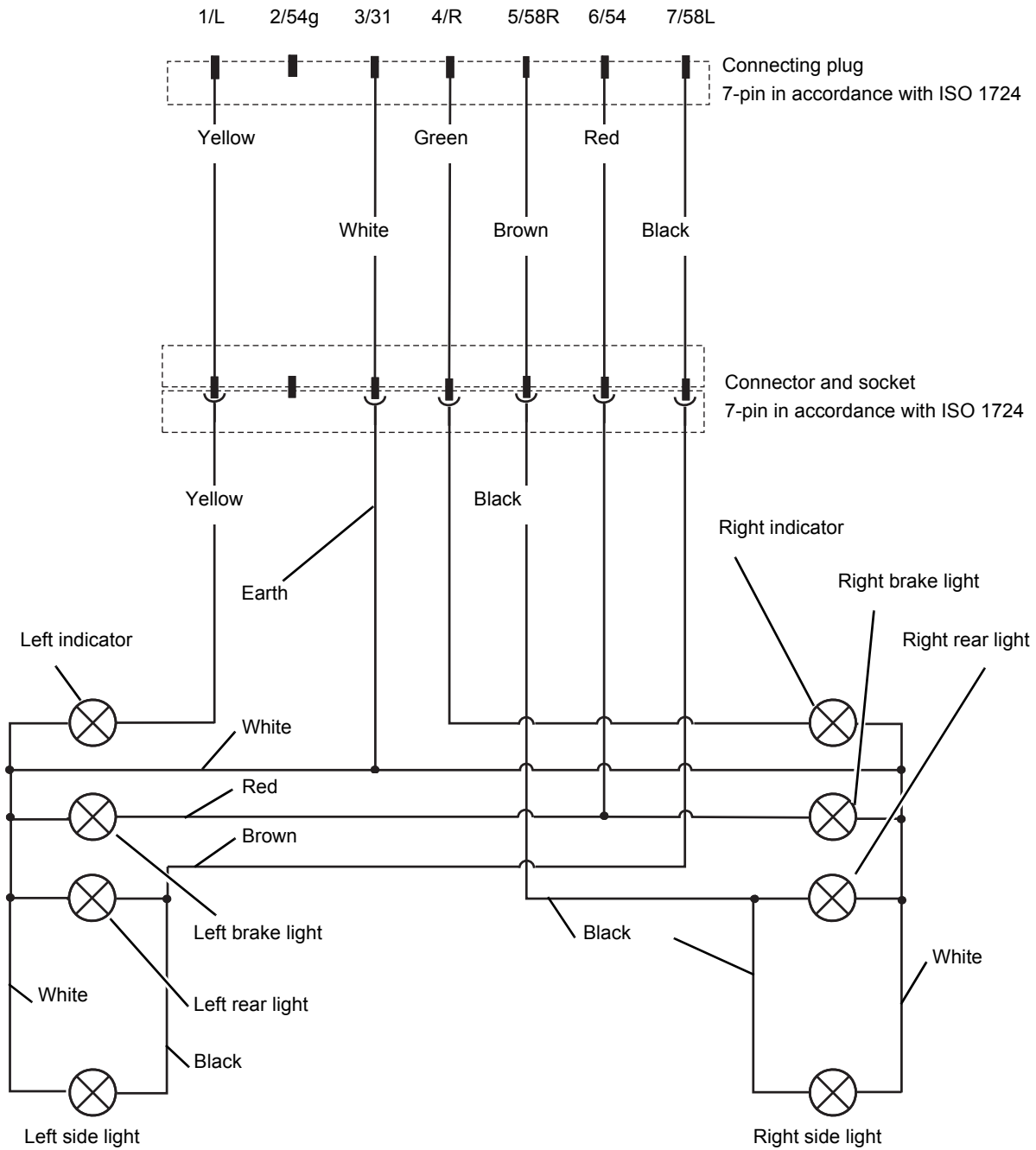
Circuit diagrams

Hydraulic circuit diagram



Circuit diagrams

Lighting circuit diagram



Final tasks

Trial run



No persons within the slewing range

There is an extreme risk of injury within the slewing range from slewing or folding machine parts.

- ▶ Referring to the operator's manual, adjust the machine and carry out a trial run.
- ▶ Check the following after the assembly process:
 - Length of PTO shaft. See »Length of PTO shaft«, page 31.
 - All bolts and torques.
 - Correct routing of the hydraulic hoses and electrical cables.
 - Hydraulic connections (based on the components).
- ▶ Extend and retract the hydraulic cylinders from the end position at least 10 times in order to bleed the cylinders.
- ▶ Once complete, check the hydraulic system for leaks.

Environment

- Dispose of packaging according to the current local waste disposal guidelines.
- Ensure that lubricants are handled and disposed of correctly.

Final tasks
