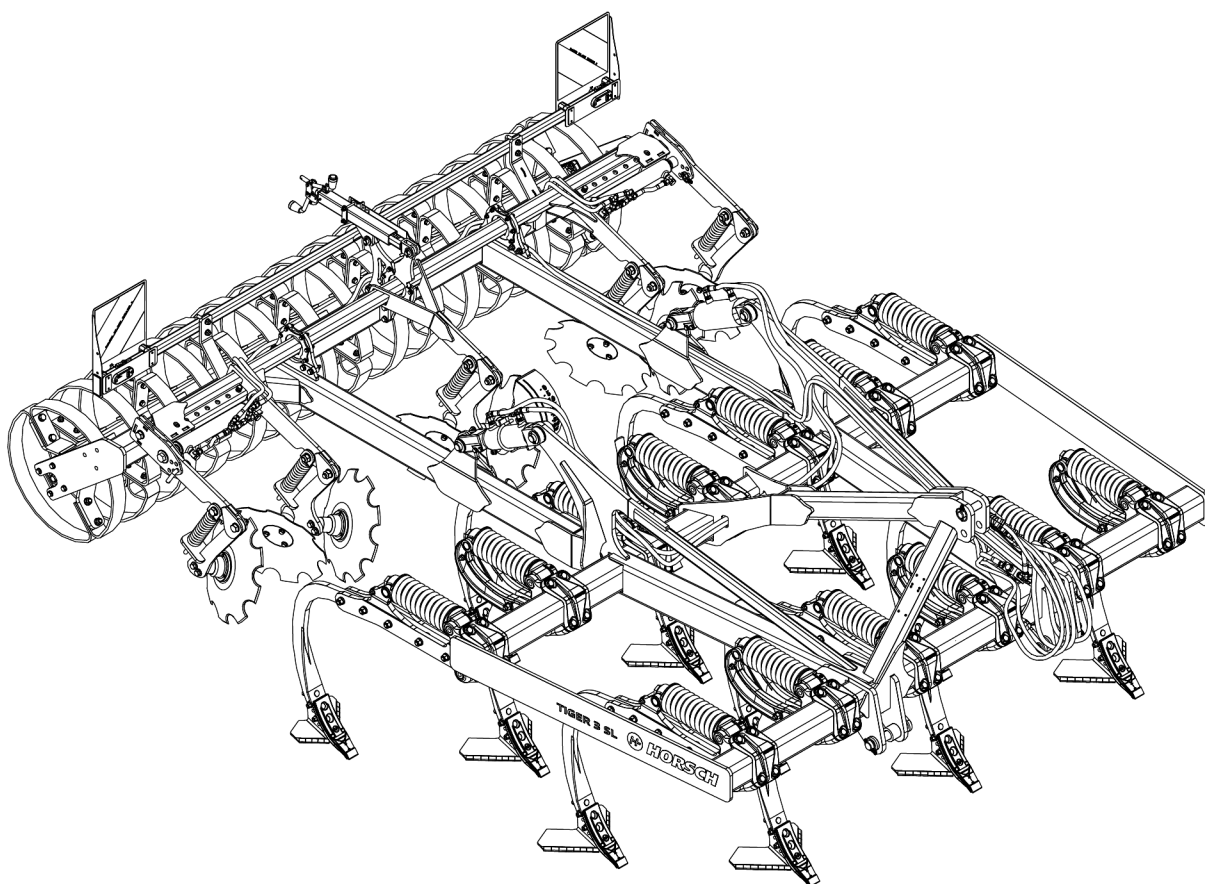




OPERATING INSTRUCTIONS

Tiger 3 SL



TRANSLATION OF THE ORIGINAL OPERATING INSTRUCTIONS
READ CAREFULLY PRIOR TO STARTING UP!
KEEP OPERATING INSTRUCTIONS IN A SAFE PLACE!

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EG-Konformitätserklärung

Der Hersteller HORSCH Maschinen SE & Co. KG, Sitzenhof 1, D-92421 Schwandorf, erklärt hiermit, dass das nachfolgend genannte Produkt

Tiger 3 SL

den einschlägigen grundlegenden Sicherheits- und Gesundheitsanforderungen der Richtlinie 2006/42/EG entspricht.

Schwandorf, 24.03.2026

Klaus Winkler

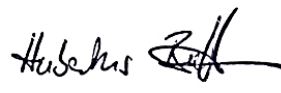
Dokumentationsbevollmächtigter



Philipp Horsch

Geschäftsführender Direktor

HORSCH Maschinen Management SE



Hubertus Bultmann

Leiter Forschung & Entwicklung

Translation of EC declaration of conformity

The manufacturer HORSCH Maschinen SE & Co. KG, Sitzenhof 1, D-92421 Schwandorf hereby declares that the product specified below

Tiger 3 SL

conforms with the relevant fundamental health and safety requirements of the EC directive 2006/42/EC.

Schwandorf, 24/03/2026

Klaus Winkler

Documentation Representative

Philipp Horsch

Managing Director

HORSCH Machines Management SE

Hubertus Bultmann

Director Research & Development

Identification of machine

Please enter the corresponding data into the following list upon reception of the machine.

Machine information

Machine	
Serial number:	
Machine type:	
Year of construction:	
Initial use:	
Accessories:	

Dealer information

Dealer	
Name:	
Road:	
Place:	
Phone:	
Cust. No. Dealer:	
Cust. No. HORSCH	

1 Introduction

1.1 Foreword

Before commissioning the machine, read and strictly comply with the operating instructions. This will avoid dangers, reduce repair costs and downtimes and increase the reliability and service life of your machine.

The operating instructions facilitate getting to know the machine and its utilisation in the framework of the intended use options.

Observe the safety notes!

HORSCH will not assume liability for any damage or malfunctions resulting from failure of complying with the operating instructions.

Any person commissioned to performing tasks on or with the machine must read and apply the operating instructions.

These tasks include:

- Operation of the machine, including preparation, fault rectification during work and care.
- Preventive and regular maintenance and inspection.
- Transport

Trained personnel of our service and sales partners will provide orientation on how to operate and maintain the machine.

By submitting the acknowledgement of receipt proper acceptance of the machine is considered confirmed. The warranty period starts with the date of delivery.

Illustrations and information on technical data and weights in these operating instructions are subject to change for the purpose of improvement.

The illustrations in these operating instructions show different versions of the machine and different equipment variants.

1.2 Notes on representation

The designations right, left, front and rear apply as seen in travel direction.

1.2.1 Warning notes

DANGER!

Indicates a danger that **will lead** to death or severe injury if it is not avoided.

WARNING!

Indicates a danger **that may lead** to death or severe injury if not avoided.

CAUTION!

Indicates a danger that can lead to injury if not avoided.

NOTE!

Indicates a danger that may lead to material damage or faulty working results if not avoided.

1.2.2 Information



Additional information and tips that facilitate understanding or operation are labelled with an i icon.

1.2.3 Instructions

Instructions for actions and their elements are marked by different symbols:

- Prerequisites for instructions for actions.
 - 1. Instructions for actions that need to be carried out step by step.
 - ⇒ Intermediate results of instructions for action.
 - ⇒ Final results of instructions for action.
 - 2. Keep the order of the instructions.
- The designations *right*, *left*, *front* and *rear* apply as seen in travel direction.

1.2.4 Listing

- Indicates a listing without defined order.

1.2.5 Formatting

Bold terms indicate an element in the graphical user interface.

Italicised formatting indicates references to other section in the manual or hyperlinks if they are not part of an info paragraph: See *Information* section.

2 Safety and responsibility

The following warnings and safety notes apply to all sections in these operating instructions.

The machine has been built in accordance with latest technical standards and generally accepted safety regulations. However, risks for life and limb of the operator or third parties and impairment of the machine or other material assets can occur during use.

- Observe the following safety notes before using the machine.

2.1 Intended use

The machine is intended for the tillage of agricultural areas.

The intended use also includes taking note of and observing the notes and instructions given in these operating instructions, observing all pictograms and warnings on the machine, observing all maintenance and repair intervals and complying with the defined technical limits and areas of application.

When participating with the machine in public road traffic, the respective national registration and traffic law must also be complied with.

Any other kind of use of the machine contradicting the above, is considered not as intended, especially:

- connecting/attachment to an agricultural tractor that is not suitable
- using the machine to loosen and tear up roads, lanes and other paved substrates
- loosening extremely compacted field areas (can be recognised by the constant jumping up of the tines when traversed or by the repeated shearing off of the tines with shear bolt protection)
- deliberate detachment and/or pulling out of stone slaps or boulders during tillage of an agricultural area
- operating the machine while persons are still in the danger zone (this includes in particular transport rides on the machine)
- carrying out maintenance and/or repair work on a machine that has not been shut down or is not secured against restarting

HORSCH does not assume any liability for damages resulting from the unintended use of the machine.

2.2 Operating Instructions

The operating instructions are a part of the machine!

Failure to comply with the operating instructions can result in severe or even fatal physical injuries.

- Read and follow the corresponding sections in the operating instructions before starting work.
- Store the operating instructions and keep for future use.
- Pass the operating instructions on to a later user.

2.3 Qualification of personnel

Unintended use of the machine can lead to severe or even fatal physical injuries. In order to prevent accidents, each person involved in work with the machine must meet the following general minimum requirements:

- ▶ It is physically and mentally able to work with the machine.
- ▶ The person is able to perform work with the machine safely within the scope of these operating instructions.
- ▶ The person is acquainted with the function of the machine within the scope of its work and is able to assess and avoid any work related dangers. The person is able to recognize and avoid work-related dangers.
- ▶ The person has understood the operating instructions and is able to implement the information given in the operating instructions accordingly.
- ▶ The person is fully familiar with the safe operation of vehicles.
- ▶ The person knows all applicable road traffic regulations and is in possession of a valid driving permit for road travel.
- ▶ A person in training must only work with or on the machine under the supervision of an experienced person.

The owner of the machine must

- Regulate the area of responsibility, competence and monitoring of personnel.
- Train and instruct the personnel.
- Make the operating instructions accessible for the operator.
- Ensure that the operator has read and understood the operating instructions.

2.3.1 Groups of operators

Persons who work with the machine must have been trained for the different activities involved.

Instructed operators

These persons must have been trained for their respective activities by the owner or other qualified experts.

This refers to the following activities:

- Road transportation
- Application and set-up work
- Operation
- Maintenance
- Troubleshooting and repair

Operator trained by HORSCH

Furthermore, for certain activities the corresponding personnel must have been trained by service personnel from HORSCH.

This refers to the following activities:

- Loading and transport
- Commissioning
- Troubleshooting and repair
- Disposal

Certain work concerning maintenance and repair must only be carried out by an expert workshop. Such work is identified with the additional comment *Workshop work*.

2.4 Children in danger

Children are not able to assess dangers and may behave unpredictably. Children are therefore especially endangered.

- ▶ Keep children away from the machine
- ▶ Especially before driving off and before triggering machine movements you must make sure that the danger zone is free of children.
- ▶ Shut down the tractor before leaving it. Children can trigger dangerous machine movements. An insufficiently secured machine parked without being attended poses a danger for playing children.

2.5 Personal protective outfit

Missing or incomplete protective equipment increases the risk of damage to health. Personal protective equipment includes, for example:

- tight-fitting clothing / protective clothing, hair net if necessary
- safety shoes
- protective gloves
- safety goggles to protect against dust or splashes when handling fertiliser or liquid fertiliser. Observe the regulations of the fertiliser manufacturers!
- ▶ Respirator masks and protective gloves when handling dressing or dressed seed. Observe the safety data sheets of the dressing manufacturer!
- ▶ Determine the personal protective equipment for the corresponding work assignment.
- ▶ Provide effective protective equipment in proper condition.
- ▶ Never wear rings, bracelets or other jewellery.

2.6 Safety in traffic



No passengers are allowed to ride on the machine!

- ▶ Pay attention to permissible transport widths and heights. Pay attention to the transport height when passing under bridges and low hanging overhead power lines.
- ▶ Do not exceed the permissible axle load, tyre load bearing capacity and total weight, in order to ensure sufficient steering and braking capabilities.
The weight of the tractor must at least be equivalent to the curb weight of the machine. The front axle must be loaded with at least 20 % of the tractor weight.
- ▶ For machines without brake select the weight of the tractor and the speed so that the machine can be managed securely under all conditions. Remember the extended breaking distance.

The machine must be in transport position for road transport. The machine must be folded in and secured, see chapter *Folding in, Hitch up and Transport position*.

- ▶ Clean soil from the folding areas before folding in. Otherwise there could be damage to the mechanics.
- ▶ Secure the hydraulic cylinders, if so equipped on undercarriage and drawbar in transport position against uncontrolled movements using aluminium clips, see chapter *Connecting and Transport Position*.
- ▶ Assemble lighting, warning and protective features and check the function.
- ▶ Before road travel clean the entire machine from picked up dirt.

- ▶ Handling is affected by the connected equipment. Pay particular attention to the wide overhang and the centrifugal mass of the working implement when cornering.
- ▶ Raised machines (3-point hydraulics): Consider the limited stability and steering capability of the tractor.
- ▶ When transporting along public roads pay attention to the permissible top speed specified in the type approval.
- ▶ The specifications in the type approval document or in the technical data are decisive for the design dependent top speed.
- ▶ Always match the travel mode to the road conditions to avoid accidents and damage to the undercarriage.
- ▶ Consider your personal abilities, carriage way, traffic, sight and weather conditions.

2.6.1 Brake system

Depending on the equipment, the machines can be equipped with a pneumatically or hydraulically operated service brake system.

For road travel the brake system must always be connected and fully functional.

1. After coupling the machine and before transportation check the function and condition of the brake system.
2. If available, check the setting on the brake pressure regulator.
3. Release the parking brake before driving off.
4. Before unhitching the machine secure it against rolling away and apply the parking brake.

2.7 Safety in operation

2.7.1 Commissioning

The operational safety of the machine cannot be guaranteed without orderly performed commissioning. This can lead to accidents with severe or even fatal physical injuries.

- ▶ The machine must only be put into operation after receiving instructions by employees of the authorized dealer, factory representatives or HORSCH employees.

All protective features and safety equipment, such as detachable protective devices (wheel chocks, etc.), must be correctly in place and reliably functioning before the machine is put into operation.

- ▶ Check nuts and bolts, especially the ones on wheels and cultivation tools regularly for tight fit and retighten if necessary.
- ▶ Check the tyre pressure at regular intervals, see maintenance overview.

2.7.2 Damage to the machine

Damage to the machine can impair the operational safety of the machine and cause accidents. This can lead to severe or even fatal physical injuries.

The following machine parts are particularly important for safety:

- Hydraulics
- Brakes (if available)
- Connecting features
- Protective features
- Lighting

If in doubt about the safety-relevant status of the machine, e.g. in case of leaking operating fluids, visible damage or unexpected changes in driving behaviour:

- ▶ Immediately shut down and secure the machine.
- ▶ If possible, locate and rectify the faults by following these operating instructions.
- ▶ Rectify possible causes for damage (e.g. remove coarse dirt and tighten loose screws).
- ▶ Have damage that could affect safety and that cannot be rectified by you rectified by a qualified expert workshop.

2.7.3 Hitching and uncoupling

Faulty coupling of the machine to the pulling tool of the tractor causes dangers, which could result in severe accidents.

- ▶ Comply with all operating instructions:
 - These operating instructions
 - The operating instructions for the tractor
- ▶ Exercise special caution when reversing the tractor. It is prohibited to stand between the tractor and the machine.
- ▶ Only park the machine on level and firm ground. Park the towed machine on the ground before unhitching.
- ▶ Secure the machine against rolling away.

2.7.4 Hydraulics

The hydraulic system is under high pressure.

The machine's hydraulics has several functions, which can cause injury to persons or damage to the machine if operated incorrectly:

- Escaping fluid may penetrate the skin.
- Hydraulically supported machine parts may drop.
- Hydraulic components may be flung away. Pressurised hydraulic hoses may whip about when detaching them.
- ▶ Only connect the hydraulic hoses to the tractor when the hydraulics are depressurised on the tractor and the implement side.
- ▶ Lower all hydraulically lifted parts (e.g. wings, packer, undercarriage, etc.) to the ground before performing any work on the hydraulic system.
Depressurise the hydraulics on the tractor and the implement side.
Block off the machine's danger zone or folding area.
- ▶ The hydraulic system is under high pressure. Regularly check all lines, hoses and screwed connections for leaks and any externally visible damage!
- ▶ Only use appropriate tools when searching for leaks. Repair any damage immediately! Spouting oil can lead to burns and fire!
- ▶ Mark the hydraulic connections' power sockets and connectors to eliminate the possibility of operating errors.
- ▶ Consult a doctor immediately in the event of injury.
- ▶ Secure and lock the control units on the tractor if they are not in use!
- ▶ Replace hydraulic hoses after six years at the latest; see the maintenance overview.
- ▶ Hydraulic cylinders must be filled with hydraulic oil prior to installation in the machine so as to prevent unintentional machine movements caused by air trapped in the hydraulic cylinders. The cylinder and hose line are then bled by retracting and extending the cylinder several times.

Pressure accumulator

Depending on the equipment, pressure accumulators may be installed in the hydraulic system of the machine.

The regulations applying at the location of use during operation must be observed to this end. The owner is solely responsible for complying with them.

- ▶ Do not open or work (welding, soldering, drilling) on pressure accumulators. Even when empty, the tanks are still preloaded by gas pressure.
- ▶ Maintenance and repair work on the pressure accumulator must only be carried out by trained and qualified personnel.

Impact of the ambient temperature

The hydraulic system or the hydraulic oil it contains are subject to temperature-dependent expansion and contraction. Changes in the temperature level (e.g. heating of the hydraulic oil by performing hydraulically actuated work functions and subsequent cooling after stopping the machine or during road travel) lead to a change in the volume of the hydraulic oil and may thus cause movements of hydraulically actuated components.

The effects of thermal expansion and contraction cannot be entirely avoided through technical measures.

For this reason, minor movements of hydraulically operated functions may occur while the hydraulic oil cools down. The respective movements occur slowly and end after the temperature has adjusted itself. This can possibly lead to changed machine dimensions.

To avoid resulting dangers, the following points must be observed:

- ▶ When parking the machine, sufficient distance to buildings and other machines/vehicles must be ensured.
- ▶ For longer road travel, stop after 2 hours at the latest and check the correct transport position.

2.7.5 Overhead lines

When unfolding or folding in the wings, the machine may reach the height of overhead lines. Possible voltage flashover to the machine may cause fatal electric shock or fire.

- ▶ Keep a safe distance to electric high voltage power lines with the wings folded and when unfolding or folding in the wings.
- ▶ Do not unfold or fold in the wings in the vicinity of pylons and power lines.
- ▶ Never leave or access the machine under overhead lines to avoid possible risks of electric shock or voltage flashover.

What to do in case of voltage flashover

Voltage flashover generates high electric voltages on the outside of the machine. This results in extreme voltage differences at the ground around the machine. Wide strides, laying on the ground or supporting yourself with your hands on the ground can cause life-threatening electric currents (pace voltage).

1. Do not leave the cabin.
2. Do not touch any metal objects.
3. Do not create a conductive connection to ground.
4. Warn persons: DO NOT come near the machine. Electric voltages at the ground can cause severe electric shock.
5. Wait for professional rescuers. The overhead power line needs to be switched off.

If persons need to leave the cabin despite the voltage flashover, e.g. in case of a potential life-threatening risk of fire:

6. Jump away from the machine. Ensure a safe stand when jumping. Do not touch the outside of the machine.
7. Move away from the machine with short stepping strides.

2.7.6 Technical limiting values

If the technical limiting values of the machine are not observed, the machine may get damaged. This can lead to accidents with severe or even fatal physical injuries.

The following technical limiting values are of particular importance for safety:

- Permissible total weight
- Maximum axle loads
- Maximum drawbar load
- Maximum speed

See chapter Technical data, Type plate and Type approval.

- ▶ Also pay attention to the maximum loads for the tractor.

2.7.7 Use in the field



DANGER!

No passengers are allowed to ride on the machine!

- ▶ Check the area around the machine immediately (children!) before driving off and commissioning the machine. Ensure sufficient visibility.
- ▶ Check the condition of the cultivation tools and their mounting before use.
- ▶ Driving stability may be affected in the following situations, especially when cornering: Driving at accelerated speed, along the contour line toward the slope and on uneven terrain with longitudinal and lateral incline. Ensure sufficient stability of the machine. Pay attention to the limiting values for the tractor.
- ▶ Driving stability may be affected when using auxiliary equipment or, if permitted, driving with filled seed hopper. Ensure sufficient stability of the machine. Pay attention to the limiting values for the tractor.
- ▶ Do not remove any of the prescribed and supplied protective devices.
- ▶ Make sure that there are no persons in the slewing range of hydraulically operated parts.
- ▶ Do not drive backwards with the machine lowered. The components have only been designed for forward travel in the field and may be damaged when reversing.

2.7.8 Changing equipment / wear items

- ▶ Only towing gear approved by Horsch may be attached. HORSCH does not assume any liability for damages resulting from the attachment of non-fitting pulling tools as well as incorrect mounting.
- ▶ For machines with valid type approval only pulling tools may be attached that are covered by the type approval. Attaching pulling tools not covered by the type approval will void the registration.
- ▶ Secure the machine against unintended rolling away!
- ▶ Secure raised frame parts under which persons will be present with suitable supports!
- ▶ Caution! Danger of injury caused by projecting parts (e.g. coulters)!
- ▶ Assume ergonomic working postures with any assembly work.
- ▶ Do not step on rotating parts when climbing onto the machine. They may spin and create the danger of very serious injuries from falling.

2.7.9 Fertiliser and dressed seed

Inappropriate handling of fertiliser and dressed seed can cause poisoning and death.

- ▶ Follow the information given in the safety data sheet of the manufacturer. If necessary, ask the dealer for the safety data sheet or safety notes.
- ▶ Determine and provide the personal protective outfit as specified by the manufacturer.

2.7.10 Environmental protection

Operating materials such as hydraulic oil, lubricants, etc. can damage the environment and the health of persons.

- ▶ Do not allow operating materials to drain out into the environment.
- ▶ Pick up drained operating materials with absorbent material or sand, fill it into a leak tight tank and dispose of in accordance with statutory regulations.

2.7.11 Retrofitting and conversions

Structural changes not approved by HORSCH may affect the functionality and operational safety of the machine and will void any warranty claim.

HORSCH is not liable for damages to life and limb as well as property damages resulting from unapproved retrofitting and conversions.

- ▶ Do not perform any structural changes to the pulling tool of the machine.
- ▶ Do not make any structural changes or extensions that have not been approved by HORSCH.
- ▶ Modifications and extensions approved by HORSCH are only to be performed at an authorized workshop or by an operator who has been trained by HORSCH for this purpose.
- ▶ Comply with country-specific regulations for weights, weight distribution and dimensions.

For equipment affecting the weight or weight distribution the regulations concerning towing facility, support and axle load must be checked and complied with. For machines without brakes a brake system may need to be retrofitted if the permissible weight limits are exceeded.

In case of changes concerning data mentioned on the type plate, a new type plate with updated data must be attached.

In case of changes which concern the data in the type approval, this type approval needs to be renewed.

2.7.12 Spare parts

Genuine spare parts and accessories from HORSCH have been specially designed for this machine.

Spare parts and accessories which are not delivered by us have not been tested or approved by us.

The installation or use of other than HORSCH products can therefore negatively affect the design characteristics of the machine and thus impair the safety of man and machine.

HORSCH will not assume liability whatsoever for damage resulting from the use of non-original parts and accessories.

If the component to be replaced is marked with a safety sticker, these stickers must also be ordered and attached to the spare part.

2.7.13 Care and maintenance

Inappropriate care and maintenance put the operational safety of the machine at risk. This can lead to accidents with severe or even fatal physical injuries.

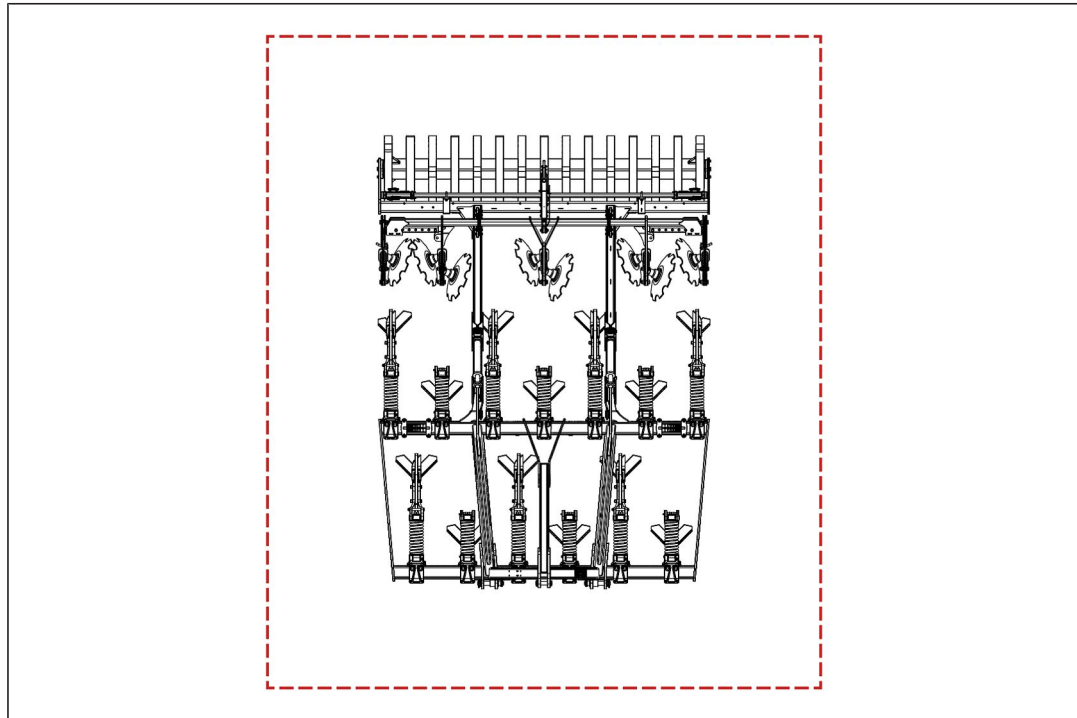
- ▶ Conform to prescribed schedules for recurring tests or inspections.
- ▶ Service the machine according to the maintenance plan, see the *Care and maintenance* section.
- ▶ Only perform the work described in these operating instructions.
- ▶ Before starting maintenance and service work park the machine on level and firm ground and secure it against rolling away.
- ▶ Depressurise the hydraulic system and lower or support the implement.
- ▶ Prior to working on the electrical system, disconnect it from the electric current supply.
- ▶ When performing welding work on the machine, disconnect the cables from electronic components. Attach the ground connection as close to the welding point as possible.
- ▶ Before cleaning the machine with high pressure cleaner cover all openings, which should stay clear of water, steam or cleaning agents for reasons of safety or function. Do not aim the water jet directly on electric or electronic components or bearings. When cleaning with high-pressure cleaning equipment or steam jet always keep a distance of at least 50 cm to machine components.
- ▶ After cleaning, check all hydraulic lines for leaks and loose connections.
- ▶ Check for chafing and signs of damage. Correct any faults detected immediately!
- ▶ Retighten screw connections loosened for care and maintenance work with the stipulated torque.
- ▶ Do not clean new machines with a steam jet or a high pressure cleaner. The paint takes approx. 3 months to cure and could thus be damaged before.
- ▶ Danger of explosion! Do not exceed the specified tire pressure, see *Maintenance overview*.

NOTE!

All other maintenance and repair tasks, which are not described in the operating instructions, must only be carried out by an authorized professional workshop or by an operator who has been trained by HORSCH for this purpose.

2.8 Danger zone

The area indicates the danger zone of the machine:



Danger zone

The danger zone around the machine poses the following hazards:

- Accidental operation of the hydraulics can trigger dangerous movements of the machine.
- With the drive still running, machine parts may rotate or swing out.
- Hydraulically raised machine parts can lower slowly and unnoticed.

Failing to pay attention to the danger zone can result in severe or even fatal physical injuries.

1. Do not walk under lifted loads. Lower such loads to the ground first.
2. Instruct persons to leave the danger zone around the machine and tractor before any machine movements.
3. Before working in the danger zone of the machine or between machine and tractor: **Shut down the tractor!**
This also applies to short-term inspection tasks.
Many serious accidents happen because of carelessness and running machines!
4. Observe the information in all operating instructions.

2.9 Safety stickers

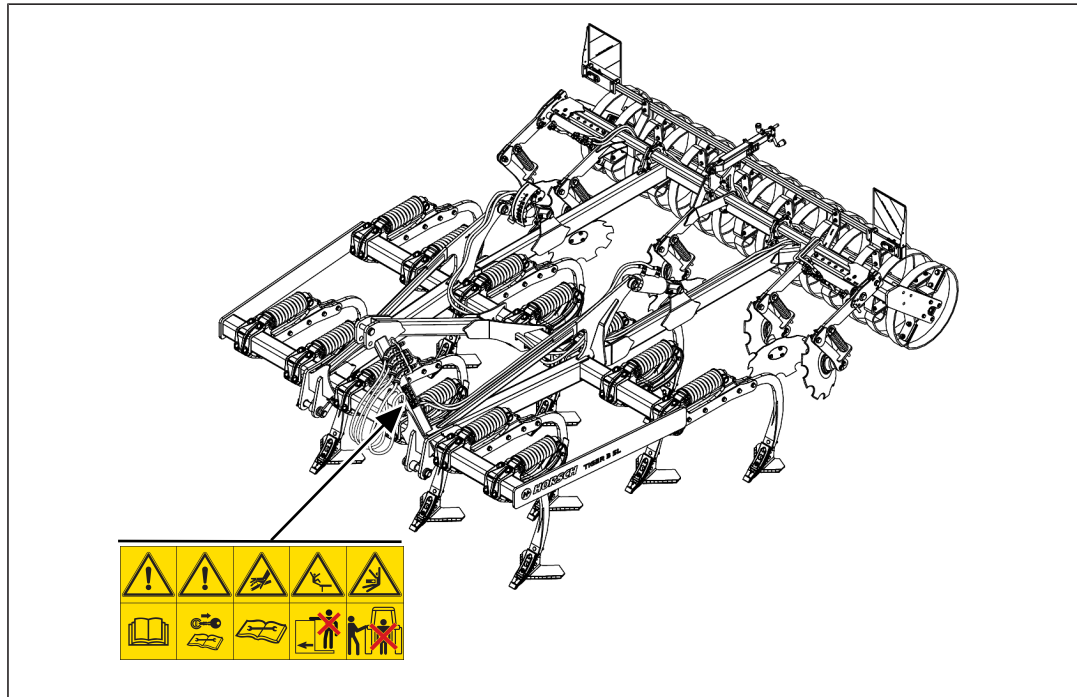
Safety stickers on the machine warn of hazards at dangerous points and are an important part of the safety equipment of the machine. Missing safety stickers increase the risk of severe or even fatal injuries.

- ▶ Clean soiled safety stickers.
- ▶ Damaged or illegible safety stickers must be replaced immediately.
- ▶ Affix the specified safety stickers to spare parts.

  Collective sticker 60038306	Before commissioning the machine the operating instructions must be read and followed!
  Collective sticker 60038306	Shut down the engine and pull off the key before starting maintenance and repair work.
  Collective sticker 60038306	Caution for fluids spraying out under high pressure, follow the notes in the operating instructions!
  Collective sticker 60038306	No passengers are allowed to ride on the machine!
  Collective sticker 60038306	When hitching up the machine and when operating the hydraulics, no persons are allowed between the machines!

2.9.1 Positions of the safety stickers

The positions of the safety stickers depend on the equipment.
Deviation from the graphics presentation possible.



Safety stickers on the machine

3 Commissioning

NOTE!

These work activities may be carried out only by persons trained by HORSCH for this purpose.



WARNING!

Increased danger of accidents during commissioning.

- ▶ Observe the notes in the Safety chapter and familiarise yourself with the machine!

During initial commissioning and when changing the tractor, the machine must be adapted to the tractor.

3.1 Delivery

The machine with implements (if so equipped) is normally delivered completely assembled. If this is not possible, the machine is loaded and shipped as a kit.

If parts or assembly groups had to be disassembled for transport purposes, these will be assembled locally by the sales partner or field technician.

- ▶ Use only lifting equipment and lifting gear with adequate lifting capacity and approval!
- ▶ Points with the associated stickers "Strapping point" must **not** be used for load suspension!
- ▶ When using other lifting points pay careful attention to the centre of gravity and the weight distribution. These points must, in any case, only be on the frame of the machine.

Delivery with low loader

- ▶ Depending on the design of the low loader the machine can be unloaded with a tractor or needs to be lifted off with suitable lifting gear (forklift truck or crane).
- ▶ Remove any transport and loading aids present.

Delivery with truck

- ▶ The machine must be unloaded with suitable lifting gear (forklift truck or crane).
- ▶ Remove any transport and loading aids present.

Delivery in a container

- ▶ Unload the machine from the container. Note the slinging points on the loading/unloading aids.
- ▶ Remove any transport and loading aids present.

3.2 Transport

Depending on country specific regulations and working width the equipment can be transported on public roads, either attached to a tractor or on a trailer or low loader.

1. The permissible dimensions and weights for transport must be complied with.
2. Choose the tractor large enough, to ensure sufficient steering and braking capabilities.
3. On machine with tractor link arm or three-point connection: block the tractor link arms against swinging sideways.
4. Secure the machine on a trailer or low loader with suitable securing means (e.g. Load straps or chains).
5. Attach lifting tackle only at the marked points.

3.3 Installation

Instruction of the operator and initial installation of the machine will be carried out by our service technicians or distributors.

Any preceding use of the machine is prohibited!

The machine can only be released for operation after the instruction session conducted by service technicians or sales partners and after the operating instructions have been read.

1. Take loosely delivered parts off the machine.
2. Check all important screw connections.
3. Lubricate all lubrication points.
4. Check the air pressure in all tyres and correct it if necessary.
5. Check all hydraulic connections and hoses for correct fastening and function.
6. Immediately rectify any occurring damage or have it corrected.

4 Technical data

4.1 Technical data

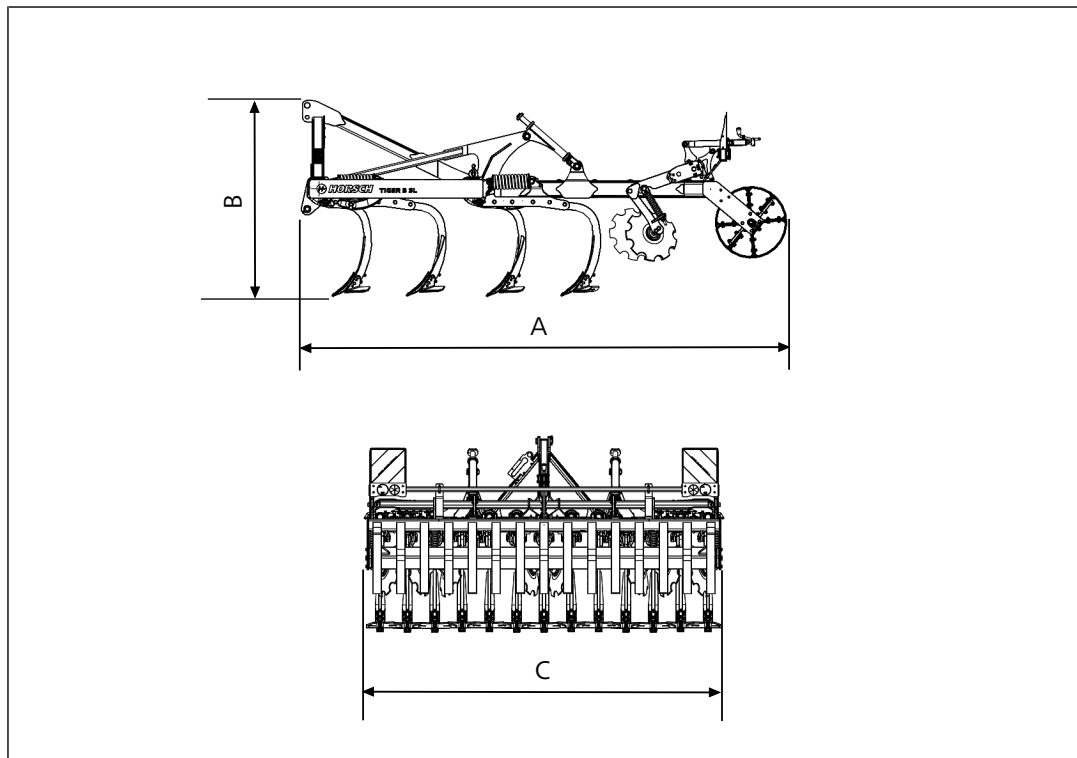
Table

Tiger 3 SL	
Working width	3.00 m [9'10"]
Transport width	3.00 m [9'10"]
Transport height	1.65 m [13'1"]
Length (min. / max.)	4.25 m / 5.00 m [13'11"] / [16'5"]
Frame height	85 cm [33"]
Weight (depending on equipment)	2,450 kg [5.400 lbs] 3,000 kg [6.600 lbs]
Number of tines	13
Number of bars in tine section	2 bars / 4 rows
Tine spacing in row	92 cm [36.2"]
Groove spacing	23 cm
Number of discs	8 (6 + 2)Border discs)
Working speed	8 – 15 km/h [5 – 9.3 mph]
Double acting control units	(For specifications see section "Requirements on the tractor")

NOTE:

- Deviations due to technical further development reserved.
- The weight of the implement used depends on the equipment.
- The permissible transport heights and transport width for road traffic may differ from country to country.
Comply with the national registration regulations.

Dimensions



Tiger 3 SL For dimensions, see table

Dimension table — dimensions in mm (rounded)

—	A (*)	B	C
Tiger 3 SL	min. 4,250 max. 5,000	min. 1,650	max. 3,000

(*) Dimension depending on equipment minimum / maximum

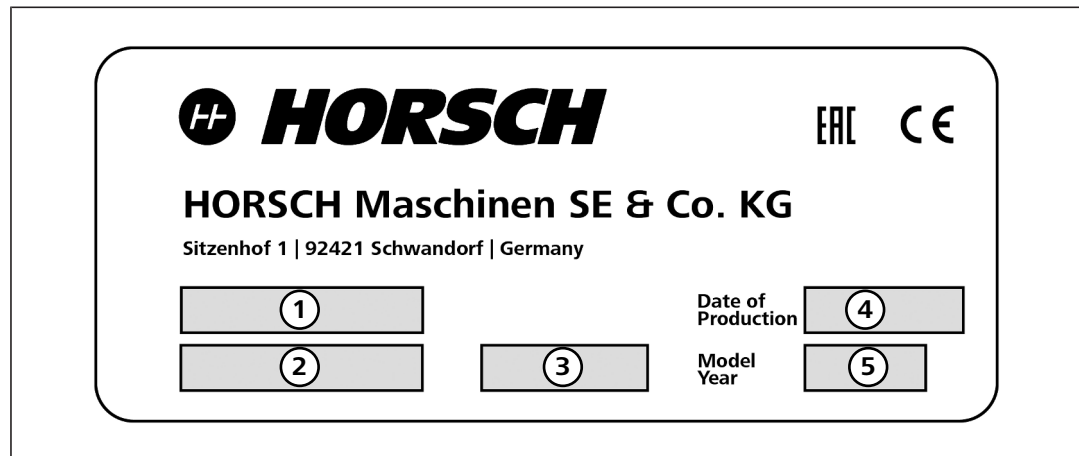


Linear dimensions depend on equipment and situation and may therefore differ!

4.2 Type plate

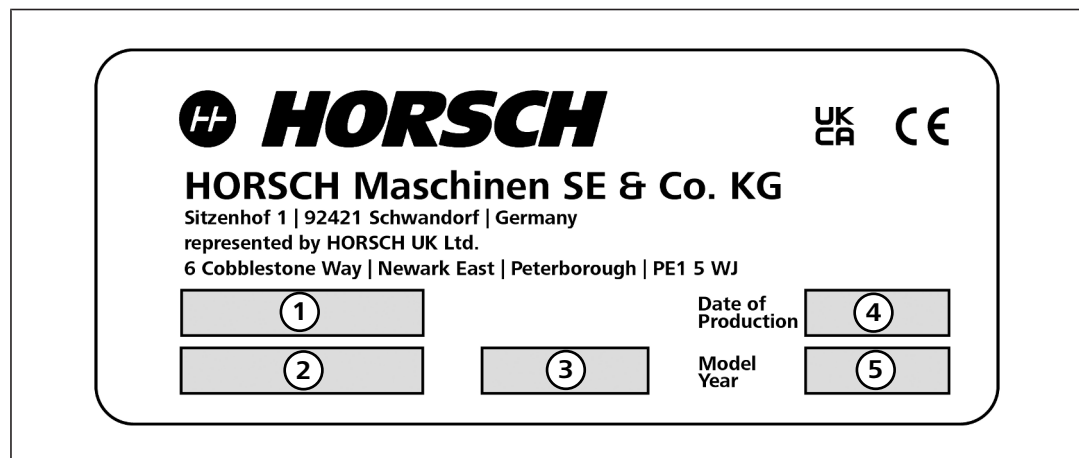
The type plate with the CE marking is located on the frame or the hopper of the machine.

Data on the type plate:



- | | |
|----------------------------|-------------------------------------|
| 1 Model designation | 2 Serial number |
| 3 Permissible total weight | 4 Year of construction (year/month) |
| 5 Model year | |

The following type plate is used in England:



- | | |
|----------------------------|-------------------------------------|
| 1 Model designation | 2 Serial number |
| 3 Permissible total weight | 4 Year of construction (year/month) |
| 5 Model year | |

Information on year of manufacture

- Year of manufacture on the type plate:
Time of final production of the machine in the respective equipment version

4.3 Requirements on the tractor



WARNING!

Risk of accident from overloading the tractor.

- ▶ Observe the permissible values of the tractor for axle loads, total weight, tyre load bearing capacity and tyre pressure.
 - ▶ The front axle of the tractor must always be loaded with at least 20% of the curb weight of the tractor to maintain steerability.
-
- ▶ Verify the suitability of the tractor before commissioning.

The tractor must meet the following requirements to be able to use the machine as intended:

Implement attachment

Tiger	3 SL
Three-point	Cat. III/III
Three-point	Cat. III/IV

Three-point/tractor link arm implement attachment

III/III:	Coupling point distances Cat. III	Pin diameter Cat. III
IV/IV:	Coupling point distances Cat. IV	Pin diameter Cat. IV
II/III:	Coupling point distances Cat. II	Pin diameter Cat. III
III/IV:	Coupling point distances Cat. III	Pin diameter Cat. IV

Electrics / Control system

Component	Property
Power supply	12 V
Lighting	Socket, 7-pin, see chapter <i>Lighting</i>

Hydraulics

Property	Designation / Value
Number of double-acting control devices	Standard equipment: None Additional equipment: 1 × Hydraulic depth adjustment 1 × Hydraulic edge disc
Oil type Specification	Mineral hydraulic oil Oil purity according to ISO 4406: 18/16/13
Maximum system pressure	210 bar [3.000 psi]

Engine power

Tiger 3 SL	
☐ Performance minimal	150 kW 200 PS
☒ Performance maximal	220 kW 300 PS

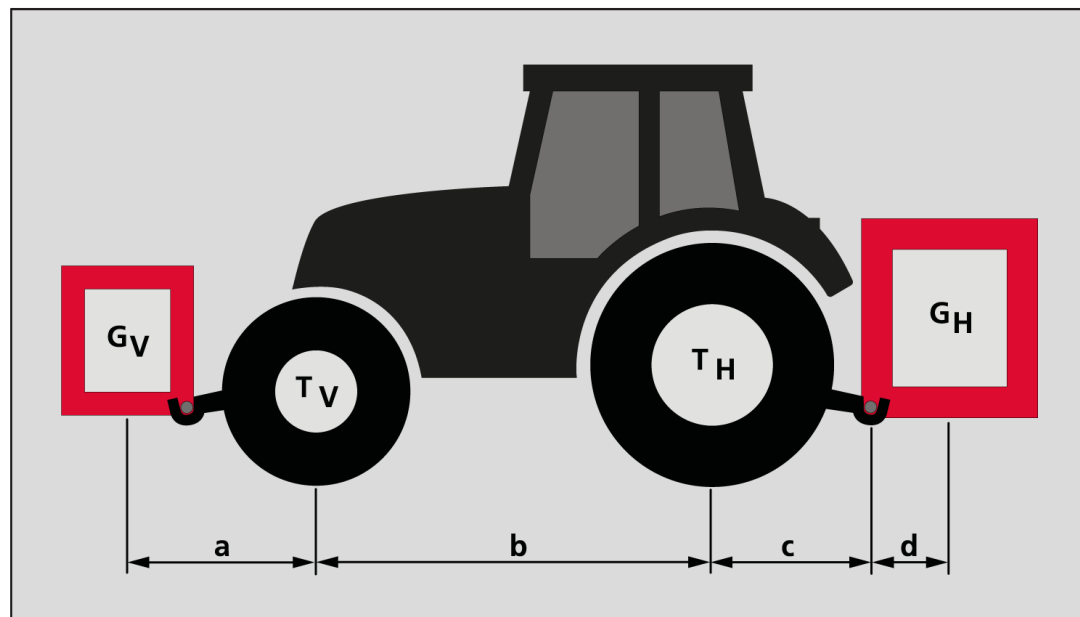
4.3.1 Calculating the ballasting

The permissible total weight, the permissible axle loads and the tyre load bearing capacity must not be exceeded when mounting or connecting implements.

The front axle of the tractor must always be loaded with at least 20 % of the curb weight of the tractor.

- ▶ Check before road transport whether the tractor used is suitable for this implement and whether it is not overloaded.
- ▶ Weigh the implement separately. Since different equipment variants are possible, the weight of the implement must be determined by weighing.

Required data



- T_L Curb weight of tractor
- T_V Front axle load of empty tractor
- T_H Rear axle load of empty tractor
- G_H — Total weight of rear implement
 - In case of towed machines:
Maximum permissible drawbar load for road transport.
- G_V Total weight of front implement/front ballast
- a Distance from front implement/front ballast centre of gravity to middle of front axle
- b Tractor wheel base
- c — Distance from middle of rear axle to middle of tractor link arm ball.
 - In case of towed machines:
Distance from middle of rear axle to middle of lifting point.
- d — Distance from middle of tractor link arm ball to centre of gravity of rear mounted implement/rear ballast.
 - The following applies to towed machines: $d = 0$.
- x Information of tractor manufacturer for minimum rear ballasting.
If no information is available, enter 0.45.

All specified weights in kg [lbs].

All dimensions in m [ft/in].

- * The centre of gravity of the machines cannot be specified exactly because of optional equipment. Enter half the machine length for calculation.

Calculations

1. Calculation of minimum front ballasting with rear implement:

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

Enter the result into the table.

2. Calculation of minimum rear ballasting with front implement

$$G_{Hmin} = \frac{G_V \cdot a - T_H \cdot b + x \cdot T_L \cdot b}{b + c + d}$$

Enter the result into the table.

3. Calculation of the real front axle load

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

Enter the result of the calculated actual front axle load and the permissible front axle load from the operating instructions of the tractor into the table.

4. Calculation of the actual total weight

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

Enter the result of the calculated total weight and the permissible total weight from the operating instructions of the tractor into the table.

5. Calculation of the actual rear axle load

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

Enter the result of the calculated actual rear axle load and the permissible rear axle load from the operating instruction of the tractor into the table.

- ▶ Checking the calculations
- ▶ Check the calculated values additionally by weighing.
- ▶ Weigh the combination of tractor and towed or connected machine to determine the front and rear axle load.
- ▶ Compare the determined values with the calculated values.

This includes:

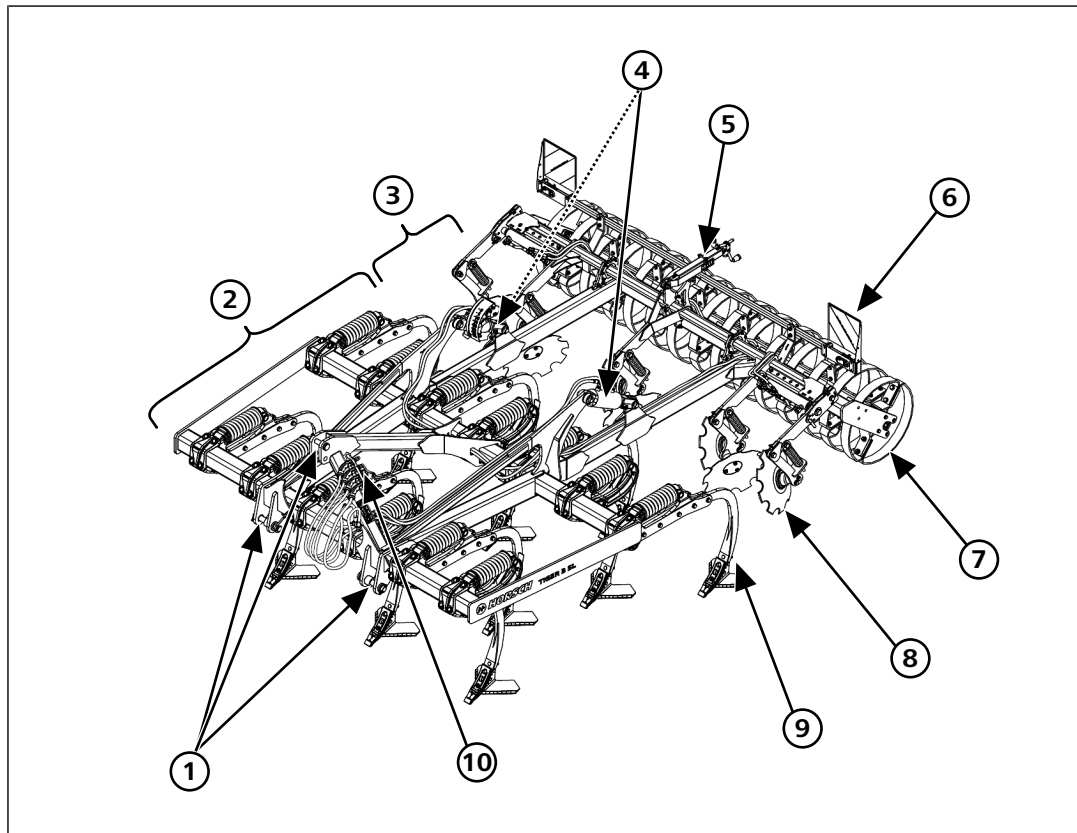
- permissible total weight
- maximum front and rear axle load
- minimum front axle load (20% of the tractor's curb weight)

The calculated values must not exceed the permissible values:

	Actual value as calculated		Permissible value from operating in- structions		Two-times the per- missible tyre load bearing capacity
Minimum front ballasting (for rear implements)	$G_{V \min} =$ _____				
Minimum rear ballasting (for front implement)	$G_{H \min} =$ _____				
Total weight	$G_{act} =$ _____	$\leq$	_____		
Front axle load	$T_{V act} =$ _____	$\leq$	_____	$\leq$	_____
Rear axle load	$T_{H act} =$ _____	$\leq$	_____	$\leq$	_____

5 Structure

5.1 Overview



Structure of the machine Example with additional equipment "hydraulic depth adjustment"

- | | | | |
|---|-------------------------------------|----|---|
| 1 | Implement attachment | 2 | Tine section |
| 3 | Disc levelling | 4 | Hydraulic cylinders for depth setting
(Optional equipment) |
| 5 | Adjustment fixture (Disc levelling) | 6 | Rear lighting |
| 7 | Packer
(depending on equipment) | 8 | Border disc |
| 9 | Tines and coulter | 10 | Hose bracket |

5.2 Hydraulics



WARNING!

Risk of serious accidents and injuries due to unintentional hydraulic movements!

- ▶ Lock the hydraulic control units of the tractor. See also the operating instructions for the tractor.
- ▶ Direct people away from the slewing range of folding machine parts.
- ▶ Before switching the tractor back on, switch all control units to the locked position.
- ▶ Only connect hydraulic lines when the hydraulics on the machine and implement side are depressurized.
- ▶ Check all hydraulic hoses regularly for damage and replace after 6 years at the latest, see *Maintenance overview* section.

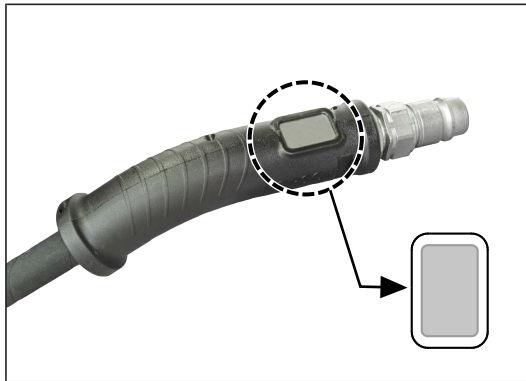
NOTE!

The following requirements apply for safe operation of the hydraulics:

- ☐ The machine is operated with mineral hydraulic oil.
- ☐ Mineral oils must not be mixed with bio oils or ester oils.
- ☐ Mineral hydraulic oil must be present in the hydraulic circuit of the tractor or the hydraulic unit.
- ☐ Oil purity acc. to ISO 4406: 18/16/13
- ▶ Always connect all hydraulic lines to the same control unit according to their function! Otherwise components may be damaged due to interrelated functions.
- ▶ Ensure cleanliness and that the plug-and-socket connections are tight!
- ▶ Observe the notes on hydraulics and pressure accumulators in the chapter on *Safety and Responsibility!*

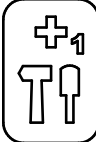
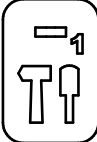
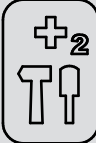
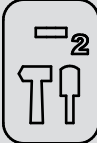
5.2.1 Marking of hydraulic hoses

The symbols on the handles of the hydraulic couplings indicate the function of the respective hoses.



Note:

The presence of the control units depends on the equipment!

Symbol	Function
 	+ Working depth: Set Processing to shallower – Working depth: Set processing to deeper
 	+ Tool 2 / Extend hydraulic edge disc – Tool 2 / Draw in hydraulic edge disc

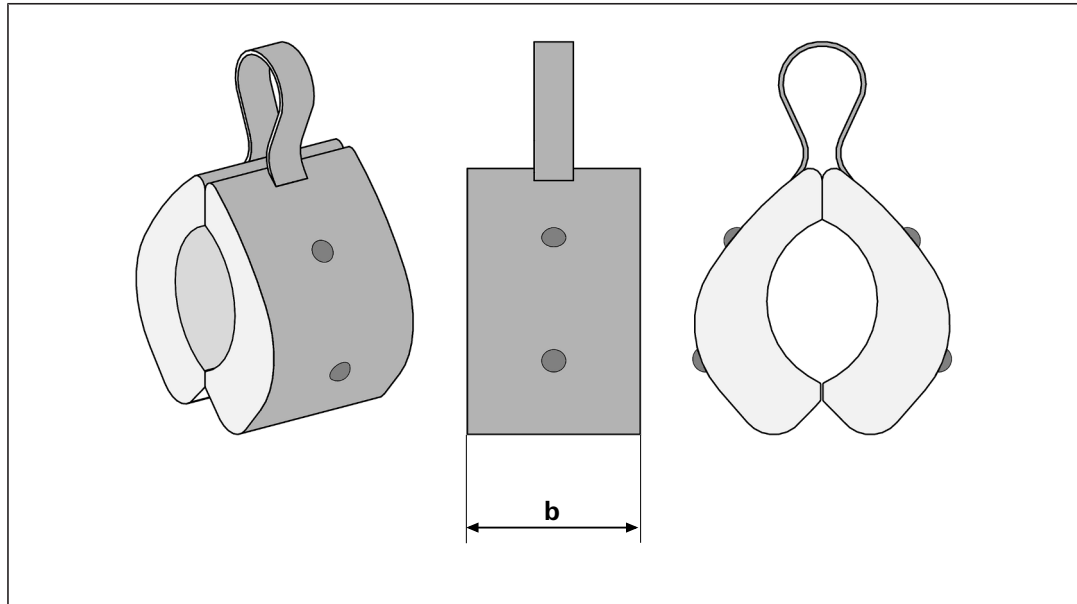
5.2.2 AluClips

The AluClips are used to limit the lift and are plugged on the piston rods of specific hydraulic cylinders or on clip rods.

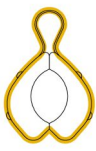
Depending on the version, different settings can be made this way (e.g. working depth, transport bracing).

More information is provided in the respective section.

The following AluClips are available:



AluClip in standard version
thickness **b** see table

Colour	 Blue	 Red	 Yellow	 Black	 Silver
Width b	7 mm [0.28"]	10 mm [0.39"]	19 mm [0.75"]	30 mm [1.18"]	50 mm [1.97"]



Green AluClips may also be available on the machine. Their width is machine-specific. They must not be used in other machines.



WARNING!

Risk of injury on the hydraulic cylinders!

Limbs may be pinched or crushed by unintentional retraction of the piston rods.

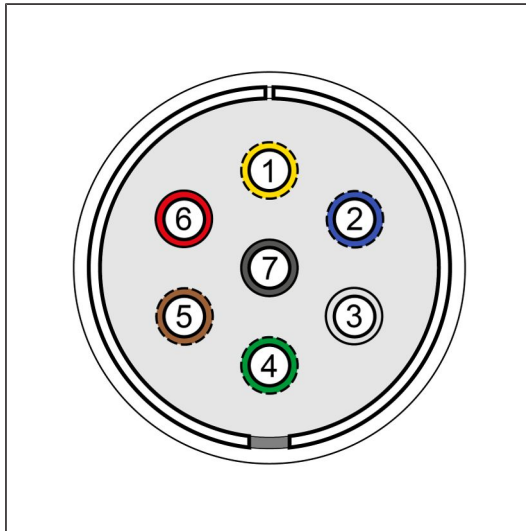
- ▶ Order persons to leave the area of the tractor cab.
- ▶ Make sure when placing or removing clips that the control units are not operated by any other person.
- ▶ Lock control units mechanically or electrically, depending on the version.

NOTE!

- Observe the ratio of the thickness of AluClips to the working depth of the machine. Refer to the respective sections regarding the setting.

5.3 Lighting

Lighting plug



Plug 7-pin (schematic presentation)

Contact assignment

Number	Designation	Colour	Function
1	L	yellow	Direction indicator left
2	54 G	—	—
3	31	white	Ground
4	R	green	Direction indicator right
5	58 R	brown	Tail light right Additionally: right side and clearance lamps right lighting fixture for rear licence plate
6	54	red	Brake lights
7	58 L	black	Tail light left Additionally: left side and clearance lamps left lighting fixture for rear licence plate

**WARNING!**

Traffic accidents caused by defective lighting.

- Ensure cleanliness and tight fit of the plug-and-socket connections.
- Check the lighting before driving off.
- Check warning boards and lighting equipment for cleanliness.

5.4 Instruction stickers

- ▶ Clean soiled stickers.
- ▶ Damaged or illegible stickers must be replaced immediately.
- ▶ Apply the specified stickers to spare parts.

 60010418	Lashing points Hook fastening gear (lashing belts, chains, etc.) here. The lashing point must not be used to lift the machine. Loading work only by operators trained by HORSCH!
 60021384	Eurasische Zollunion (Eurasian Tariff Union)

6 Assembly groups

WARNING!

Serious crushing due to lowering / dropping machine parts.

- ▶ Support the raised machine mechanically by appropriate means.
- ▶ Do not work under the raised machine without proper safeguards.

CAUTION!

Risk of injury during assembly work

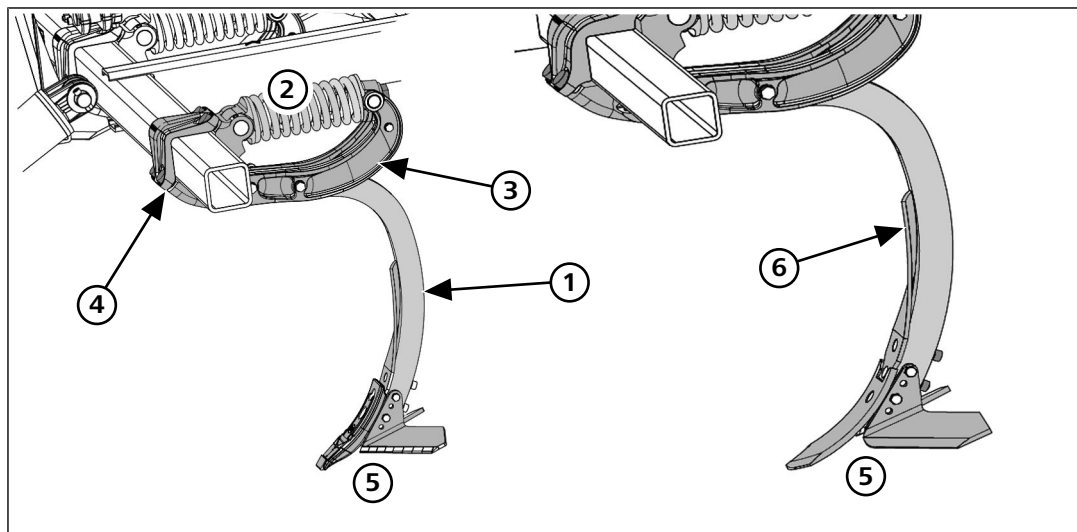
- ▶ Observe the safety notes and accident prevention instructions.
- ▶ Always use an appropriate protective outfit for all repair, maintenance, and adjustment work.

6.1 Tines

The tines are robust and simple in design and suitable for all soil types. They are available in short and long versions ((TerraGrip 3L – kurz / TerraGrip 3L – lang).

The spring-loaded stone protection prevents damage to the tines, tine holders, and the coulters.

Due to the inclination of the tines, long-fibred harvest residues can quickly rise upwards and turn away.



Example: tines TerraGrip 3L (kurze version) with wing point

- | | |
|----------------------------------|---------------|
| 1 Tine shank | 2 Spring unit |
| 3 Tine holder | 4 Clamp |
| 5 Share (depending on equipment) | 6 Guide plate |



Regarding the coulters available for the machine see Coulter variants table.

**WARNING!****Danger of severe injuries caused by the tensioned spring assembly.**

- ▶ Replace the spring assembly only as a complete unit (workshop work).
- ▶ Never open the spring assembly.
- ▶ If a tine is blocked or jammed by stones etc., please contact the HORSCH Service. The blockage may give way and the tine jump forward into its normal position.

NOTE!

The stone release protection serves as protection system against obstacles in the field.

- ▶ Reduce the working depth or the travel speed if the stone release protection is often triggered under hard ground conditions, even without stones as obstacles.

6.2 Points

Depending on requirements and operating conditions, the cultivator is equipped with different point and wing variants.

For some machine versions, the outer side wings may be available in a narrow design to comply with the transport dimensions.

Table point options

Point option	Version
TerraCut wing point 40 cm HM	Wings with carbide equipment
MulchMix point wing 40 cm	Standard
MulchMix point wing HM 40 cm	Wings with carbide equipment
MulchMix point 8 cm	Standard version
MulchMix point tip HM 8 cm	Wear peak with carbide equipment
MulchMix point HM Plus 8 cm	Wear peak with extended carbide equipment
Narrow point LD 4 cm	Standard
Narrow point LD Plus 4 cm	Wear peak with carbide equipment
Narrow point ULD Plus 4 cm	Wear peak and guide plates with carbide equipment

Change coulters

In case of wear, the coulters as well as the coulters fastening can be replaced.

- ▶ Tighten the nuts of the coulters bolts to a torque of 160 ± 10 Nm.
- ▶ Always replace the screws and nuts with every change!
- ▶ After 5 hours of operation, retighten the nuts.

Guide plates

Plans see Arrangement of coulters and guide plates in the appendix!

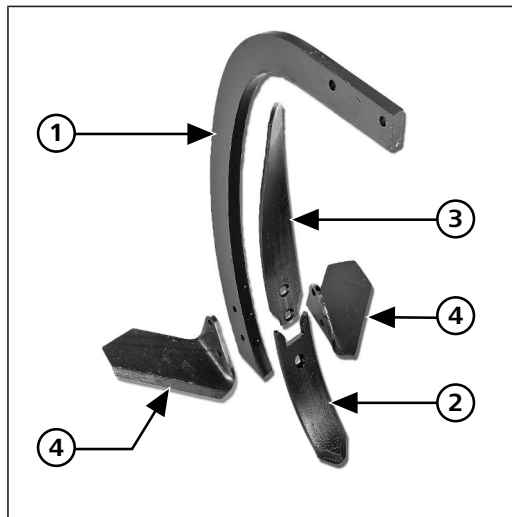
6.2.1 MulchMix points

WARNING!

Danger of injury caused by machine lowering

- ▶ Always support the machine with suitable means before starting any assembly or maintenance work on tines and coulters.
- ▶ Secure the lift cylinders with aluminium clips.

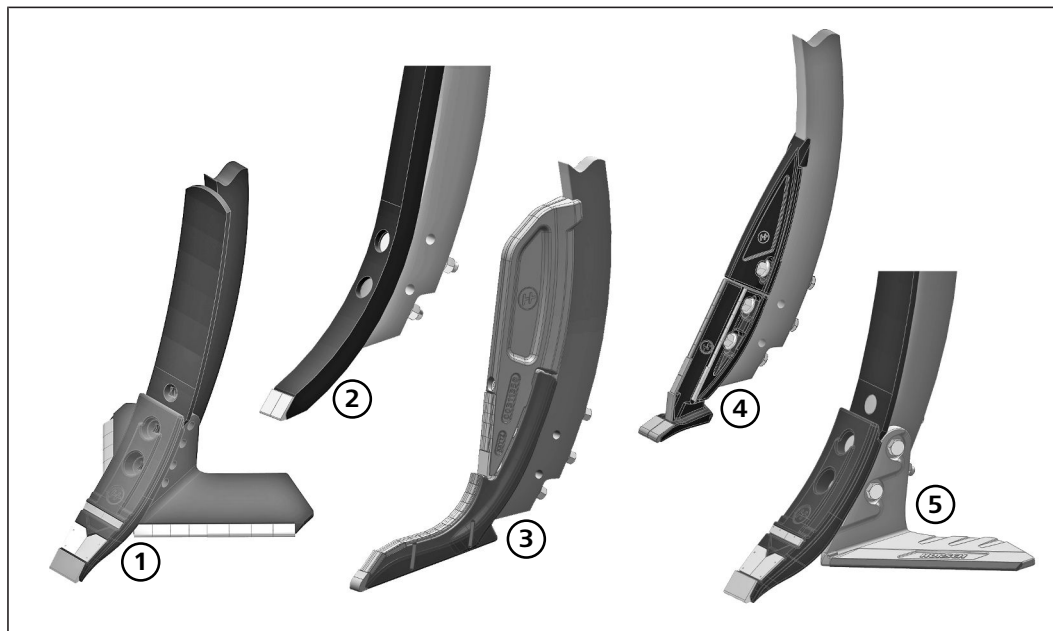
For different operating conditions, the tines can be equipped with various coulters and coulter wings.



Tine shank
(2) Point tip
(3) Guide plate
(4) Point wing

Components MulchMix point

Overview



Dashboard shares

- | | |
|-----------------------------------|---------------------|
| 1 MulchMix point with point wings | 2 LD point |
| 3 ULD point | 4 Sword ploughshare |
| 5 TerraCut point | |

Different variants are available for the components:

- Point tip – narrow and wide, carbide coated (HM), LD, ULD, chisel share
- Guide plate
- Point wing – narrow and wide, carbide-coated (HM), TerraCut

Carbide-coated points and wings increase the service life.

The share wings are suitable for a working depth of up to approximately 15 cm depending on the soil type and ensure full-surface cultivation.

For deep tillage, use without wing shares is recommended.

For light soils, wide points or narrow shares are recommended.

Point wing

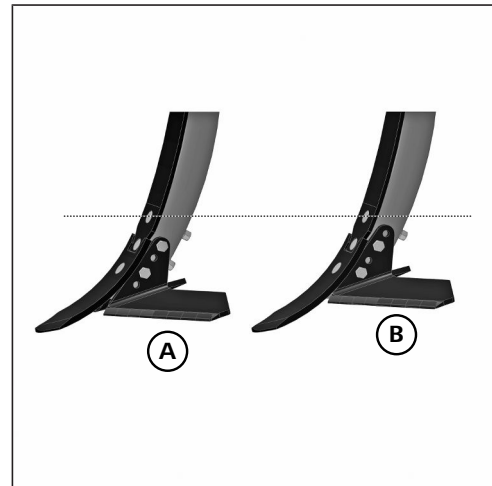
On shallow soils or for all-over cutting of the plants, wing shares are available.

Point wing 4-hole

- The working depth of the 4-hole wing share is adjustable and can be set relative to the working depth of the share point in the row of boreholes. Depending on the desired position of the point wings, select the corresponding drill holes (2 pieces each)!



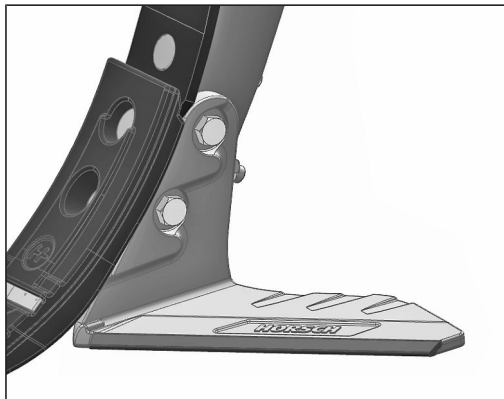
Point wing MulchMix 4-hole



Assembly positions of the wings:
Working depth shallow (A) or deep (B)

Point wing 2-hole

Fixed mounting position for 2-hole share wings.

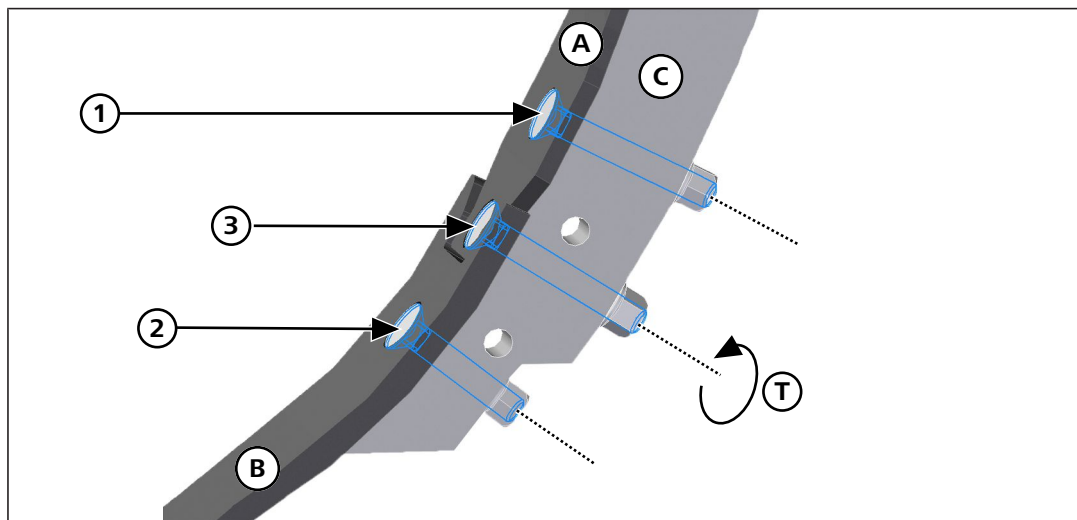


Example: Share wing TerraCut 2-Loch

Change coulters

When replacing components of the shares (coulters points, mouldboards, share wings), the following information must be observed:

1. Install only original HORSCH wear parts.
2. Always use new screws and nuts with every replacement.
3. Ensure that the screws, share points, guide plates, and share wings (if present) are correctly seated.
4. When tightening the screw connections, observe the tightening torque.
Tightening torque: 160 ± 10 Nm.
5. For screw connections with exposed collar nuts, tighten them.
Only tighten the screws when the nuts are countersunk or threaded.
6. When tightening MulchMix point tips together with guide plates, observe the tightening sequence:
first screw (1) at the top, then (2) at the bottom, and finally (3) in the middle.



Tightening sequence of the coulters bolts

- | | |
|--|--|
| 1 Coulter bolt on the guide plate (top) | 2 Coulter bolt at the coulters point (below) |
| 3 Coulter bolt on the guide plate (center) | |

A Guide plate
C Tine shank

B Coulter point
T Tightening torque 160 ± 10 Nm

6.3 Packer

WARNING!

The packers may continue to turn when stepping on them causing falls with serious injuries.

- ▶ Do not step on the packers.

In the working position the machine runs on the packer. The weight of the packer causes consolidation and breaks up coarse lumps of soil. This produces a finely crumbled and level surface.

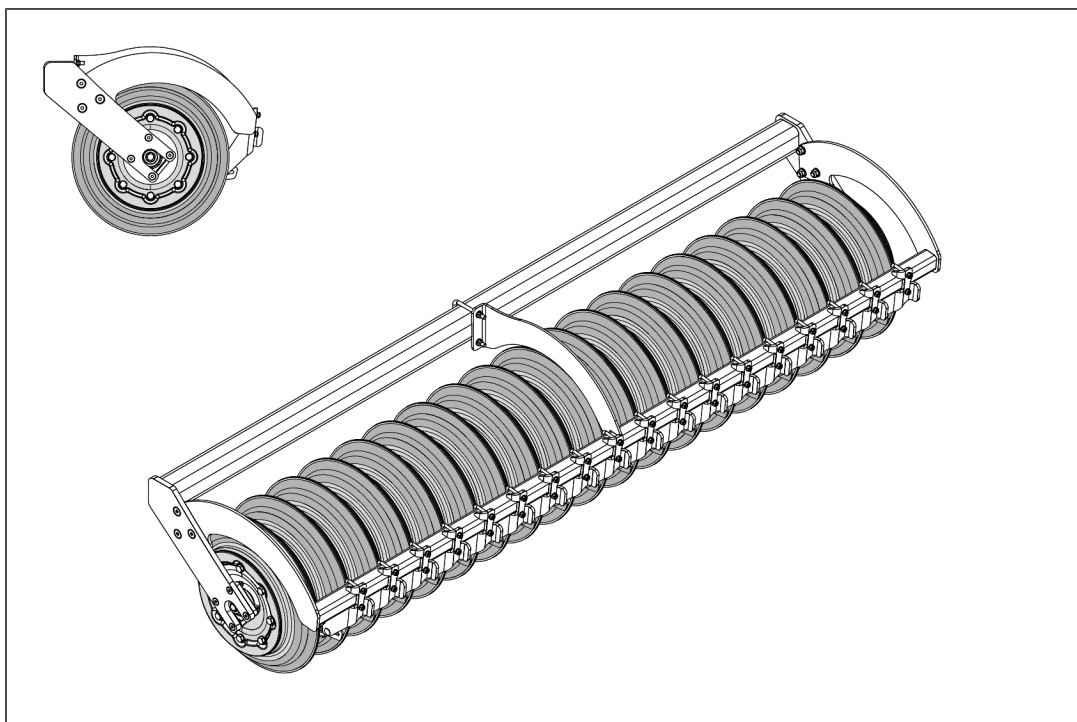
With cohesive soils the packers may pick up soil and thus become considerably heavier. This can cause overloads and damage to components, or may dirty roads during transportation.

The existing scrapers keep the spaces between the teeth free of blockage, even on wet soils.

NOTE!

- ▶ Remove any picked up soil prior to road travel and regularly during field work from the packer.

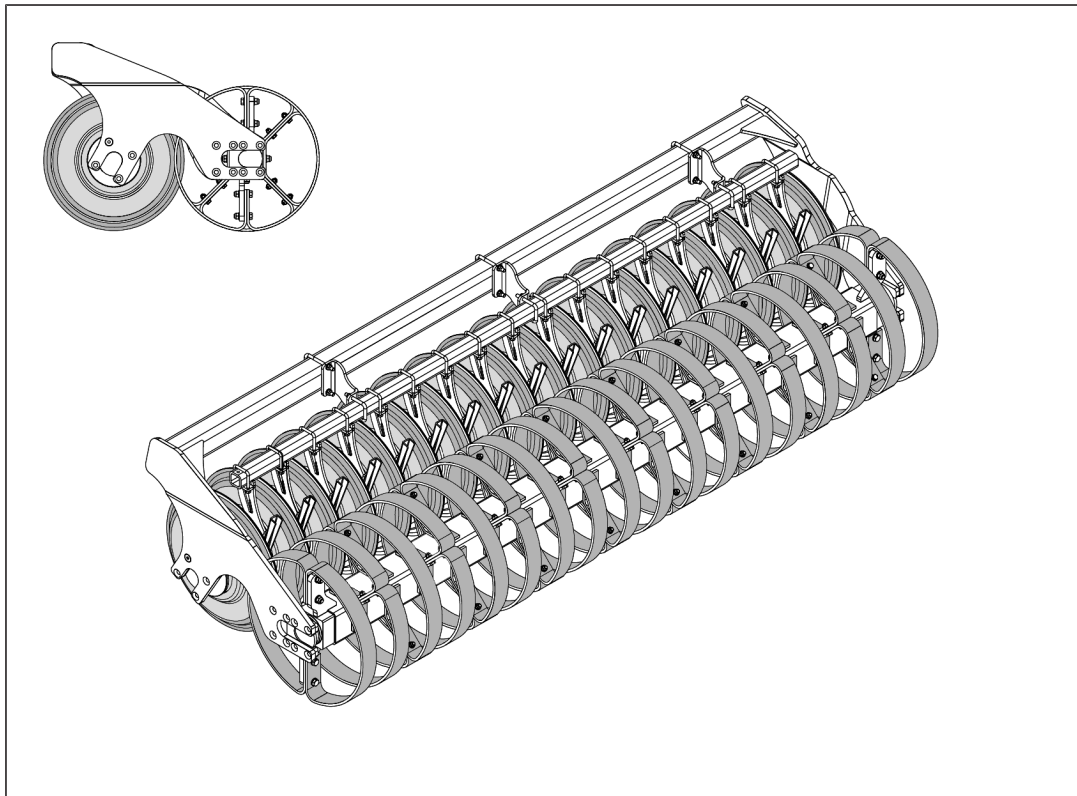
SteelDisc Packer



SteelDisc Packer

Heavy steel ring packer with excellent consolidation on heavy soils.
Suitable for medium and heavy soils with stones.

SteelFlex Packer



SteelFlex Packer

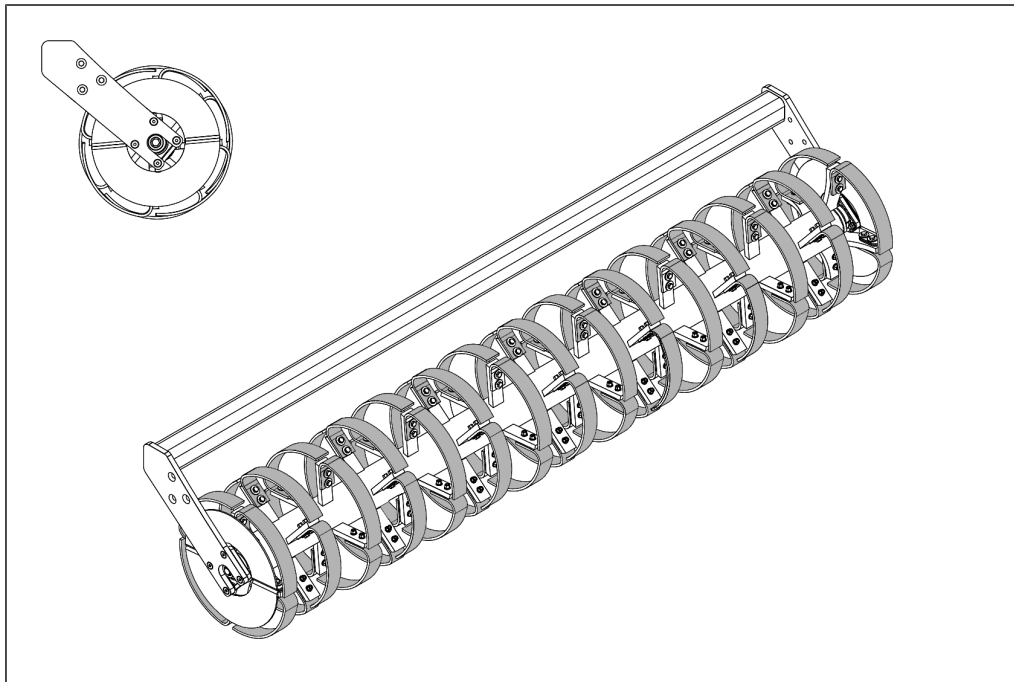
The SteelFlex packer is a heavy packer with strip-type consolidation and high mixing effect on heavy, dry soils.

Due to the leaf springs' own vibration, the packer features excellent self-cleaning properties.

Please note:

The mounting positions and setting options of the packer rollers depend on the machine type and the respective equipment!

RollFlex Packer



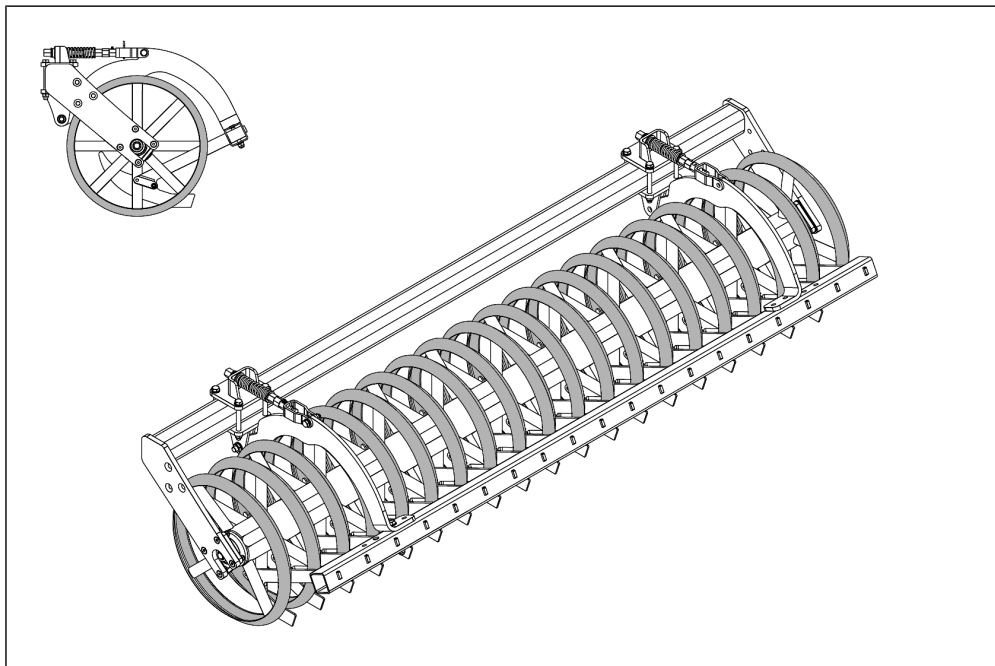
RollFlex Packer (design sample)

Universal packer with very good self-cleaning due to the natural resonance of the leaf springs. Strip-by-strip consolidation with very high mixing effect.

Design version with intermediate spring:

On machines with three-point hitching, an intermediate spring may be installed between the packer rings in addition (without figure).

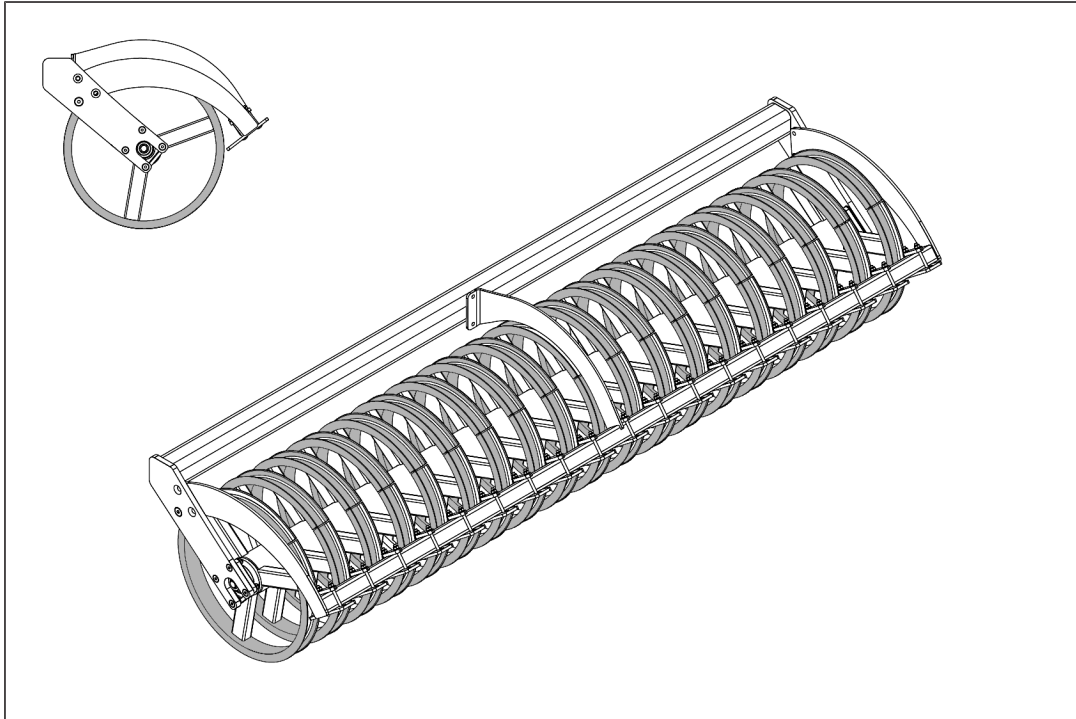
RollCut Packer



RollCut Packer (example embodiment)

Particularly suitable for heavy soils and for deep consolidation. Thanks to its cutting rings, it leaves a finely crumbly surface.

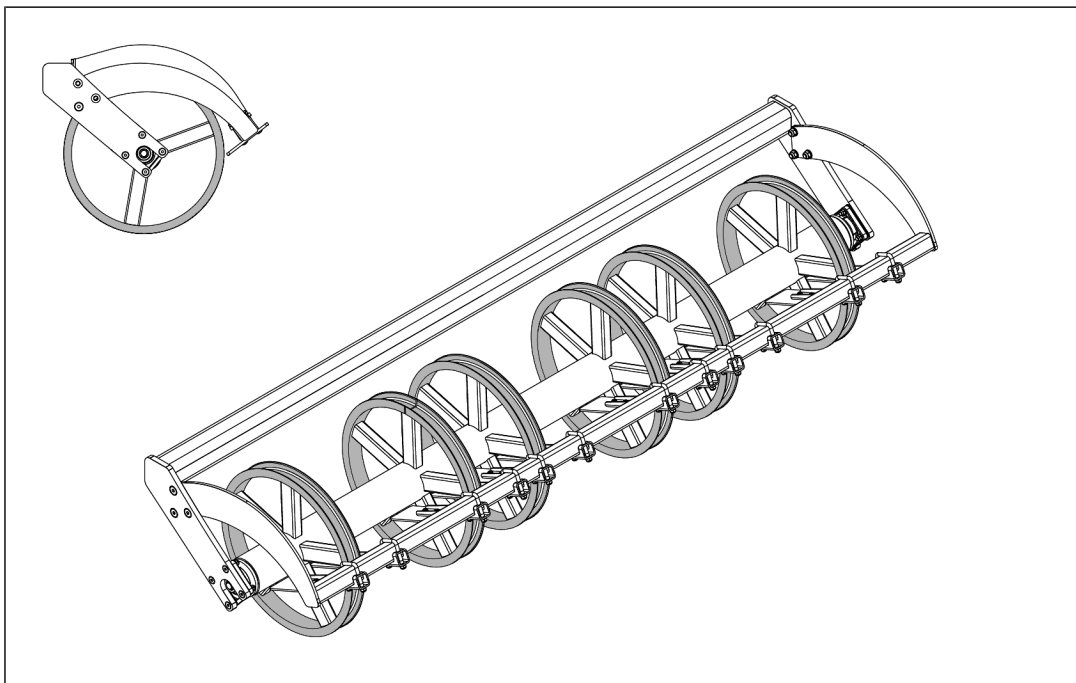
RollPack packer



RollPack Packer (example embodiment)

The sturdy and low-wear packer with steel ring rollers made of U-profiles enables deep-acting consolidation.

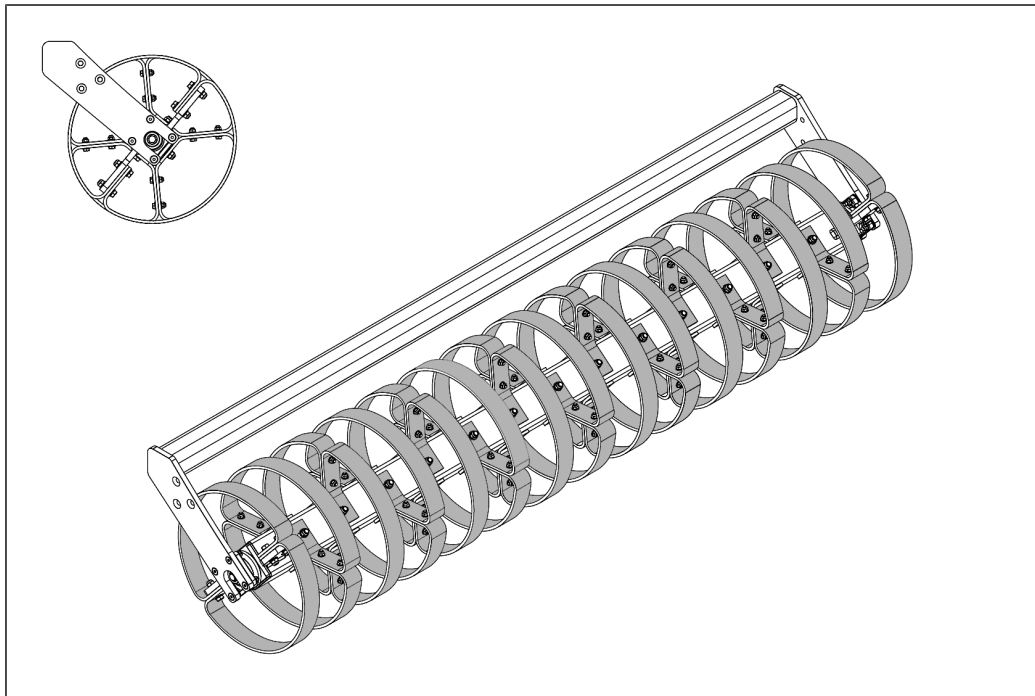
Winter packer



Winter packer (example embodiment)

The winter packer ensures depth control. Due to the minimal consolidation, a rough surface is created for frost conditioning.

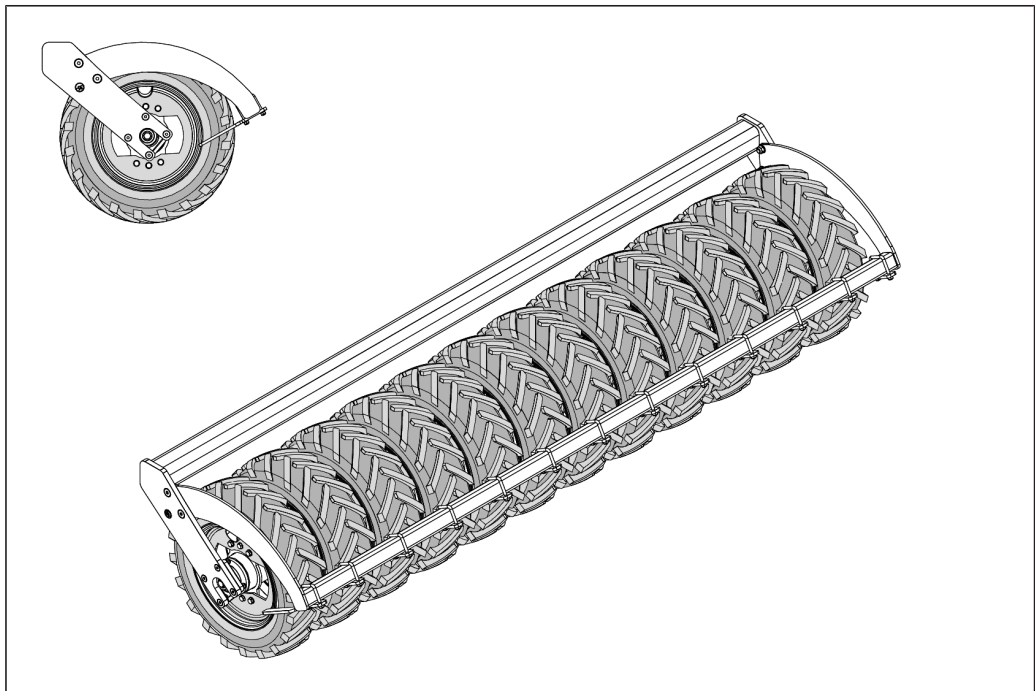
RingFlex Packer



RingFlex Packer (design sample)

Universal packer with very good self-cleaning due to the natural resonance of the leaf springs.
Strip-by-strip consolidation with high mixing effect.
No running direction because of the closed springs.
The spring elements can be detached to allow using the packer for the winter furrow.

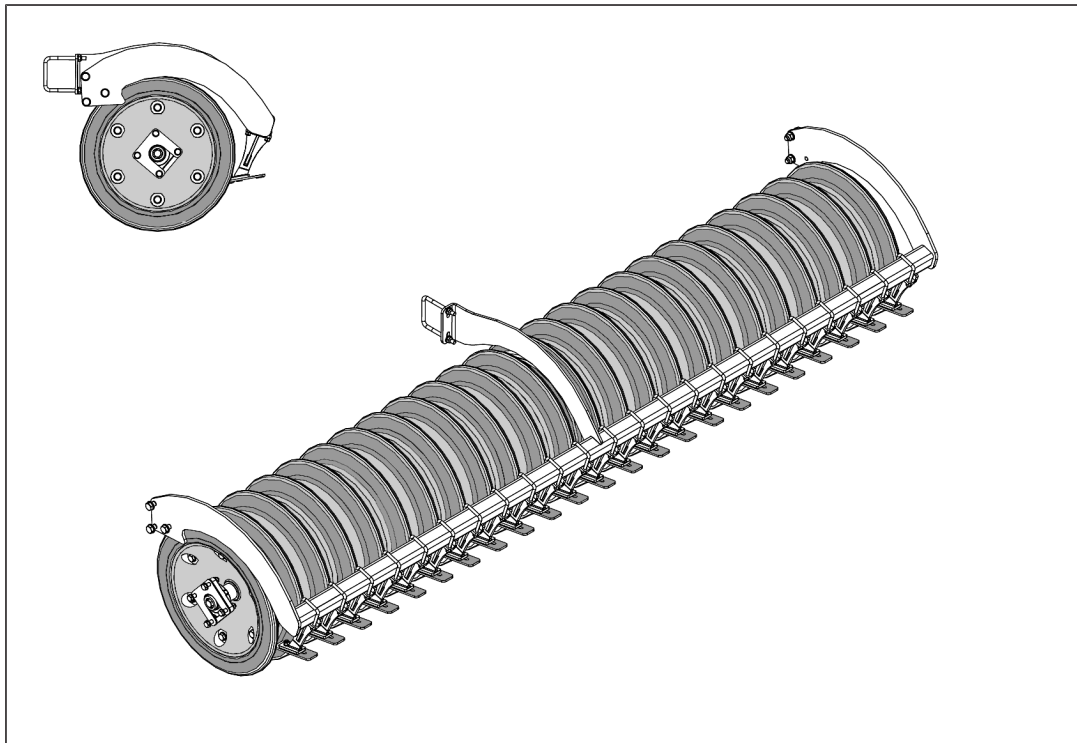
Tyre packer



Tyre packer (example embodiment)

Very good load-bearing capacity as well as easy rolling due to large contact area and wide gaps.
The running direction of the packer tires depends on the machine.

FarmFlex Packer



FarmFlex Packer

Packer for light to medium soils. It works reliably even if there are a lot of stones and is insensitive to stones. The scrapers guarantee optimum cleaning. The large contact area ensures uniform consolidation. Can be converted to a winter packer.

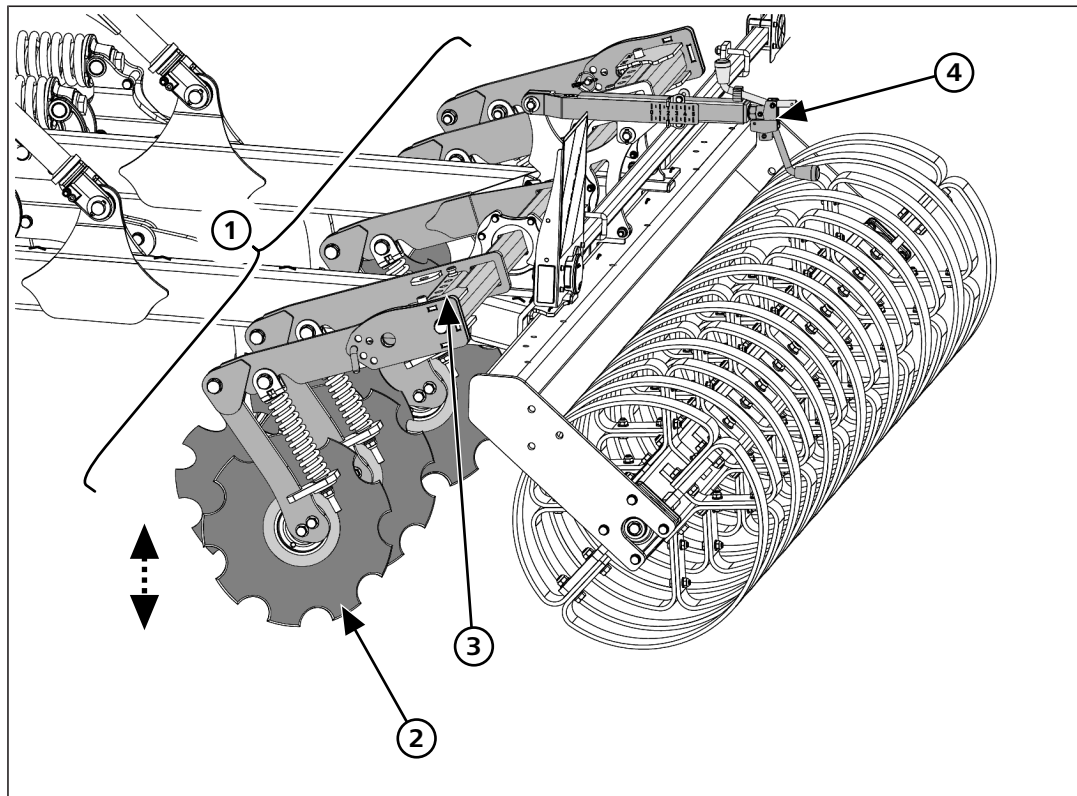
Maintenance for all packers

- For packers with scrapers:
Check the scrapers for wear and secure mounting before use in the field.
Readjust or replace the scrapers as necessary.
- For bolted packer wheels:
Check the threaded connections before field use.
For tightening torques see table in the *Appendix*.

6.4 Levelling discs

To prevent ridge formation under all operating conditions, working depths, and driving speeds, leveling discs are installed behind the tines.

The discs distribute the loosened soil and level the ground in front of the packer.

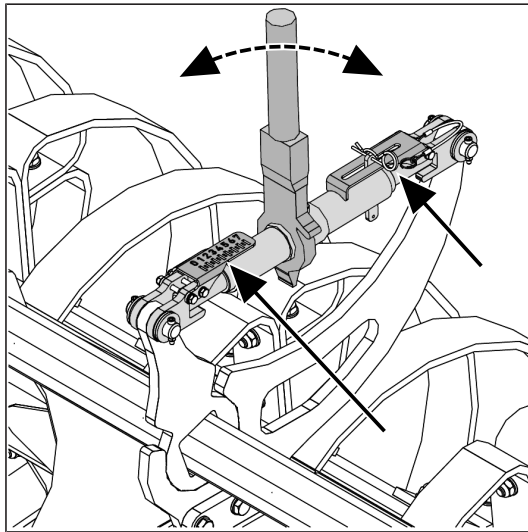


Leveling discs (Tiger 3 SL)

- | | |
|---|---|
| 1 Levelling discs | 2 Edge disc |
| 3 Adjustment device for edge disc position
(mechanical or hydraulic) | 4 Depth adjustment device
(with crank and scale) |

Adjust the working depth of the leveling discs

The required working depth depends on the soil conditions, the quantity and type of harvest residues, the working depth of the tines, and the operational speed.
The ridges raised by the tines must be completely leveled by the discs.

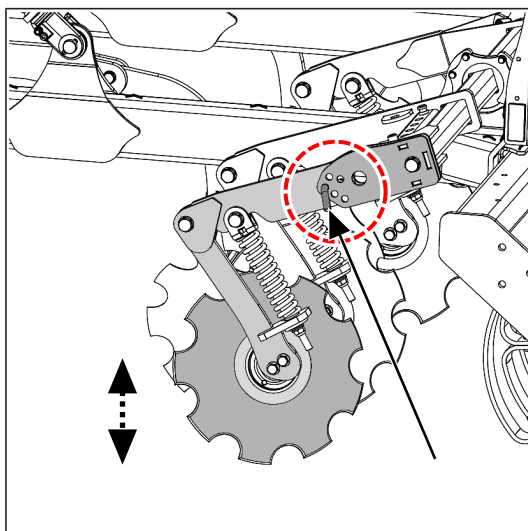


Adjustment device for levelling discs / ratchet top link

- ▶ Remove the cotter pin from the locking plate of the ratchet top link and open the locking plate.
- ▶ Select the direction on the ratchet shift lever.
- ▶ Operate the ratchet and set the desired working depth of the disc system using the scale.
- ▶ After making the adjustment, fold down the locking plate and secure it with a cotter pin.
- ▶ Check the work result and adjust the settings as necessary.

Adjust the working depth of the edge discs

The working depth of the two edge discs on the left and right can be adjusted separately to correct ridge formation at the edge.



Depth adjustment edge disc

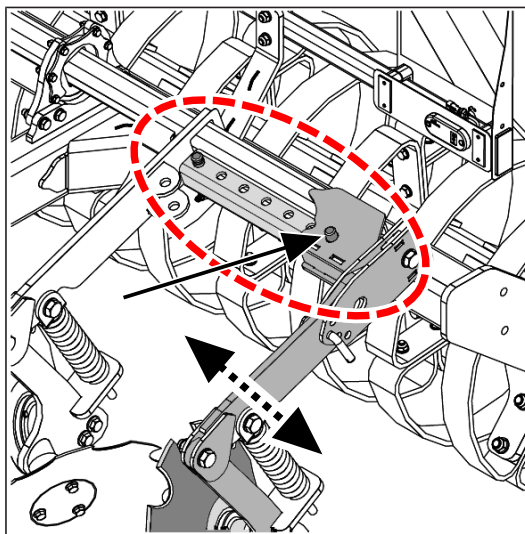
- ▶ Adjust the depth of the edge disc as needed on the left and right using the bolt in the hole system (5 holes).
- ▶ Always secure all bolts with a locking pin.
- ▶ Check the work result and adjust the settings as necessary.

Adjust position of the edge discs

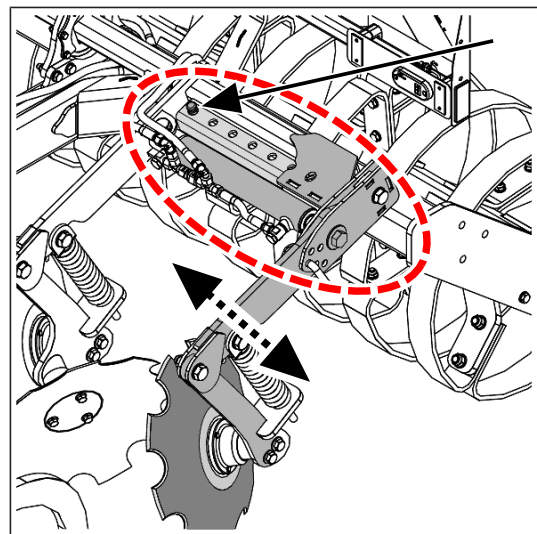
The two edge discs can be adjusted to different positions in width. In operation, the discs can, for example, be inserted at the edge of the field.

For road transport, the edge discs must always be positioned inward into the transport position to comply with the permissible transport dimensions.

Depending on the equipment of the machine, the adjustment of the edge discs is carried out either **mechanically** or **hydraulically**.



Edge disc mechanical / locking pin



Hydraulic edge disc / stop bolt

Mechanically adjust the position of the edge disc / working position

- ▶ Remove the locking bolt and position the edge disc outward into the desired working position.
After adjustment, secure with bolt and cotter pin.

Adjust the position of the edge disc hydraulically / working position

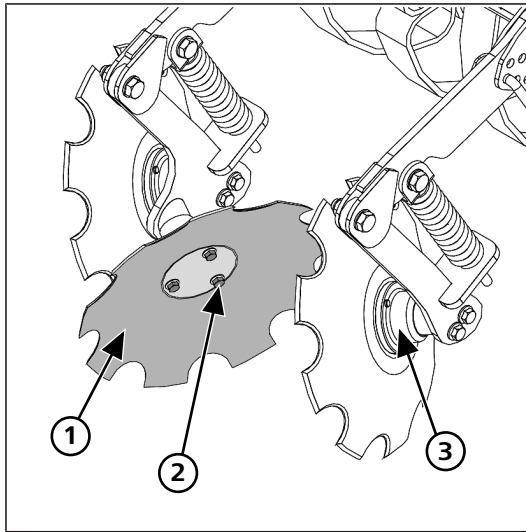
- ▶ Operate the control unit Tool 2 and move the border discs on both sides of the machine outward to the stop. The bolt position defines the set working position.
Then switch the control unit to the "neutral position".
To change the working position, reposition the stop bolt as required and secure it.



Control unit tools 2 +

Change discs

If wear progresses and the work result is insufficient, the levelling discs must be replaced.



Disc blade

- 1 Disc blade
- 3 Bearing stub

- 2 Screw



DANGER!

Serious injuries caused by a sinking machine and uncontrolled machine movements

- ▶ Always park the machine and tractor on level and load-bearing ground.
 - ▶ Support the machine with suitable means.
 - ▶ Secure the machine and the tractor against rolling away.
-
- ▶ Engage the parking brake of the tractor.
 - ▶ Lift the machine using the tractor's lower link.
 - ▶ Lift the machine using suitable means (e.g. Secure the support stand to prevent lowering).
 - ▶ Loosen the screws (3 pieces per disc) on the levelling discs and remove the disc blades from the bearing stub.
 - ▶ Install new levelling discs.
Tightening torque: 200 ± 20 Nm.

Cleaning

NOTE!

When cleaning the parts with high pressure cleaner, make sure **not** to direct the water jet to the bearing points.
Seals and bearings are not waterproof under high pressure!

7 Additional equipment

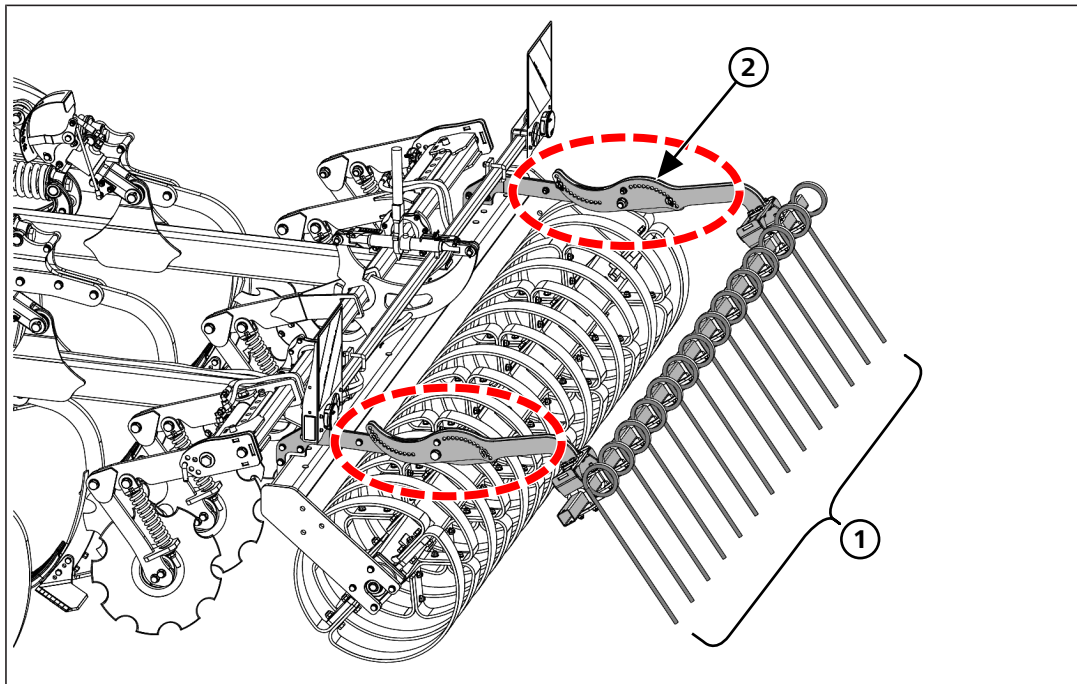
7.1 Harrow

The machine can also be equipped with a single-row harrow. This is positioned after the packer.

With the harrow, weeds and grasses can be combed out again, and the roots can be exposed and freed from soil to further support drying out.

The aggressiveness is adjusted using bolts on the hole system on the harrow arm.

Overview

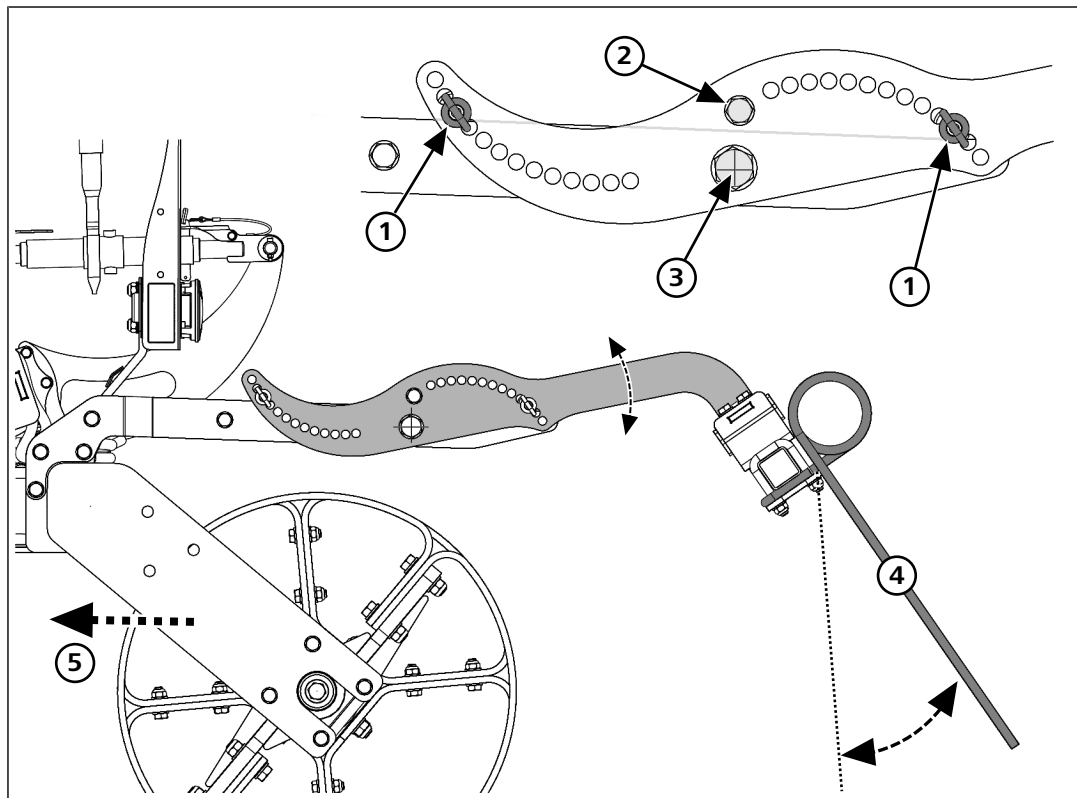


Schematic representation: Mechanical adjustment of the harrow

1 1-row harrow

2 Harrow arm with hole system

Adjust the harrow



Adjustment of the harrow at the hole system

- | | |
|-----------------------|----------------|
| 1 Bolt and cotter pin | 2 Safety screw |
| 3 Pivot point | 4 Harrow tines |
| 5 Direction of travel | |

The inclination of the harrow arm determines the setting angle and thus the aggressiveness of the harrow.

- ▶ Remove the bolts from the hole system.
- ▶ Adjust the inclination of the harrow arm as needed.
- ▶ To secure the adjustment, insert both bolts so that the harrow arm is fixed with almost no play.
Then secure with a cotter pin.
- ▶ Select the same setting on both harrow arms.

8 Operation

WARNING!

- ▶ Whenever working on the machine pay attention to the associated safety notes in the chapter *Safety and Responsibility* as well as the accident prevention regulations!

8.1 Connecting / Parking

DANGER!

Serious accidents when manoeuvring and coupling!

- ▶ Keep an eye on your environment.
- ▶ Order persons to leave the manoeuvring area around the machine.
- ▶ Instruct persons to leave the area between tractor and machine.
- ▶ No person must be present in the danger zone when the tractor approaches the machine or moves away from it!

WARNING!

Leaking hydraulic fluid can cause serious injuries! Danger of injury by unwanted machine movements.

- ▶ Connect and disconnect the hydraulic lines only when the hydraulics are without pressure on both tractor and machine.

8.1.1 Connecting

The machine must be properly connected to a tractor before any machine movements.

NOTE!

- ▶ Check all plug-and-socket connections (hydraulic, electric and pneumatic) for cleanliness and firm seating.
Dirty connectors will contaminate the flowing media. The connectors therefore become worn and this results in malfunctions and failures in the connected assembly groups.
- ▶ Clean the coupling devices of the machine and tractor and check for wear.
- ▶ Drive the tractor to the machine and engage the tractor brake.
- ▶ Connect the lighting.
- ▶ Attach the machine:
 - Pick up the machine by the tractor link arm.
 - Insert the securing device of the catching hooks.
 - Lock the tractor link arms against sideways movement.
 - Hook the upper link, depending on the tractor, into one of the holes and secure it with the cotter pin.
The upper link must rise slightly toward the machine. If necessary, adjust the upper link by turning on the spindle.

8.1.2 Parking

DANGER!

Serious accidents from loss of stability!

- ▶ Park the machine only on a level and firm base.
- ▶ Staying under unsecured raised machine parts is prohibited.
- ▶ Carry out work on raised machine parts only if they are mechanically supported with suitable means.

NOTE!

- ▶ If the machine is parked for a longer period of time, clean it and prepare it accordingly (see section *Care and Maintenance*).

Park the machine

- ▶ Position the machine at a suitable location and engage the tractor brake.
- ▶ Lower the machine completely.
- ▶ Disconnect the lighting and hang it in the holder. If available, attach cover caps.
- ▶ Depressurize the hydraulic lines and disconnect them. If available, attach cover caps.
- ▶ Relieve the upper link and uncouple it.
- ▶ Uncouple and lower the lower link.

8.2 Field/road position

WARNING!

Serious crushing due to lowering/dropping machine parts

- ▶ No persons may stay under raised machine parts.
- ▶ Order persons to leave the danger zone around the machine. Make sure before folding that no persons are present in the danger zone.
- ▶ Comply with the accident prevention instructions.

WARNING!

Risk of accident due to insufficient stability

- ▶ Fold the machine only after it has been fully connected.
- ▶ The machine must not be in an inclined position when folding it.
- ▶ Fold the machine only on a level and firm surface.

CAUTION!

Damages to the machine

- ▶ Before folding in clean the area around the folding joints and the associated hydraulic cylinders.
- ▶ Remove soil picked up from the machine.

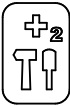
8.2.1 Working position

Bring the machine into the "use in the field" position



Please note the respective equipment variant in the following information!

- ▶ Applies only to machines with mechanically adjustable edge discs:
Move the edge discs on both sides of the machine outwards into the working position. To do this, reposition the bolt for the external stop as needed. Then secure the bolt with a cotter pin.
- ▶ Applies only to machines with hydraulically adjustable edge discs:
Operate the control unit Tool 2 and move the edge discs on both sides of the machine outward to the stop. The bolt position defines the set working position.
Then switch the control unit to the "neutral position."



Control unit tools 2 +

- ▶ Fully lower the machine in the field using the tractor link arm and draw into the ground.
- ▶ Applies only to machines with mechanical depth adjustment: Set the working depth using AluClips on the mechanical clip rods on the main frame. For further information, see section Depth Adjustment.
- ▶ Applies only to machines with hydraulic depth adjustment:
Operate the working depth control unit and set the working depth using the depth scale.
Then switch the control unit to the "float position."



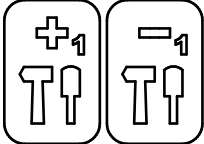
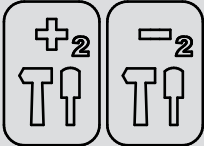
Control unit tools 1

- ▶ Align the machine horizontally to the ground using the upper link of the tractor.
- ▶ Adjust disc leveling:
Fold out the crank and adjust the disc system as needed. Observe the scale.
After making the adjustment, fold the crank back in and secure it in the holder.
- ▶ Applies only to machines equipped with a harrow: Adjust the working depth of the harrow tines using the bolt on the hole system.

Position of the control units during use in the field

Note:

The presence of the control units depends on the equipment!

Function Pictogram	Control unit (use in the field)	
	Float position	Neutral position (locked)
Working depth (tool 1) 		
Hydraulic edge disc (Tool 2) 		

8.2.2 Headland

Info: The machine turns on the tractor link arm.

Turning process

- ▶ Lift out the machine completely via the tractor link arm of the tractor.
- ▶ Turning the machine.

Continuing field work

- ▶ Lower the machine completely via the tractor link arm of the tractor.

8.2.3 Transport position



WARNING!

Danger of traffic accidents

Before driving off:

- ▶ Clean all picked up soil from the entire machine.
- ▶ Check function of lighting system.
- ▶ Lock the control units mechanically or electrically, depending on the version, during transport travel. Never switch them to the floating position.
- ▶ Check all interlockings before starting to drive.
- ▶ Check whether all securing elements of the connection are in place as set correctly.
- ▶ Check components of the connection for condition and wear.

NOTE!

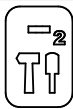
- ▶ Make sure before driving on public roads that the machine meets all respective applicable national road traffic regulations.
- ▶ Make sure that the towing gear is secured according to the specifications in the tractor's instructions.

Before road travels, additionally make the following settings:

- ▶ Check ground clearance. The distance between the point tips and the ground must be at least 10 cm.
- ▶ Position all edge discs inward into the transport position. See information in chapter leveling discs.
- ▶ Before starting to drive, check compliance with the maximum permissible transport dimensions (width, height, length) and lock all control units.

Set the machine to the road travel position

1. Lift out the machine completely via the tractor link arm of the tractor.
2. Applies only to machines with mechanically adjustable edge discs:
Move the edge discs on both sides of the machine inwards into the transport position and secure them with bolts and pins.
3. Applies only to machines with hydraulically adjustable edge discs: Operate the control unit Tool 2 and move the edge discs on both sides of the machine inwards into the transport position. Then switch the control unit to the "neutral position."



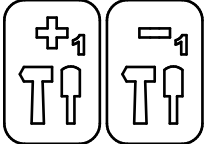
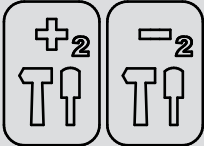
Control unit tools 2 –

- ▶ Before starting to drive, check compliance with the maximum permissible transport dimensions (width, height, length) and lock all control units.

Position of the control units during road travels

Note:

The presence of the control units depends on the equipment!

Function Pictogram	Control unit (road travel)	
	Float position	Neutral position (locked)
Working depth (tool 1) 		
Hydraulic edge disc (Tool 2) 		

8.3 Depth setting



WARNING!

Risk of accident through accidental machine movements



*The working depth adjustment depends on the equipment of the machine.
The maximum working depth is approximately 35 cm.*

The following versions are possible:

- Mechanical depth adjustment
- Hydraulic depth adjustment

Mechanical depth adjustment

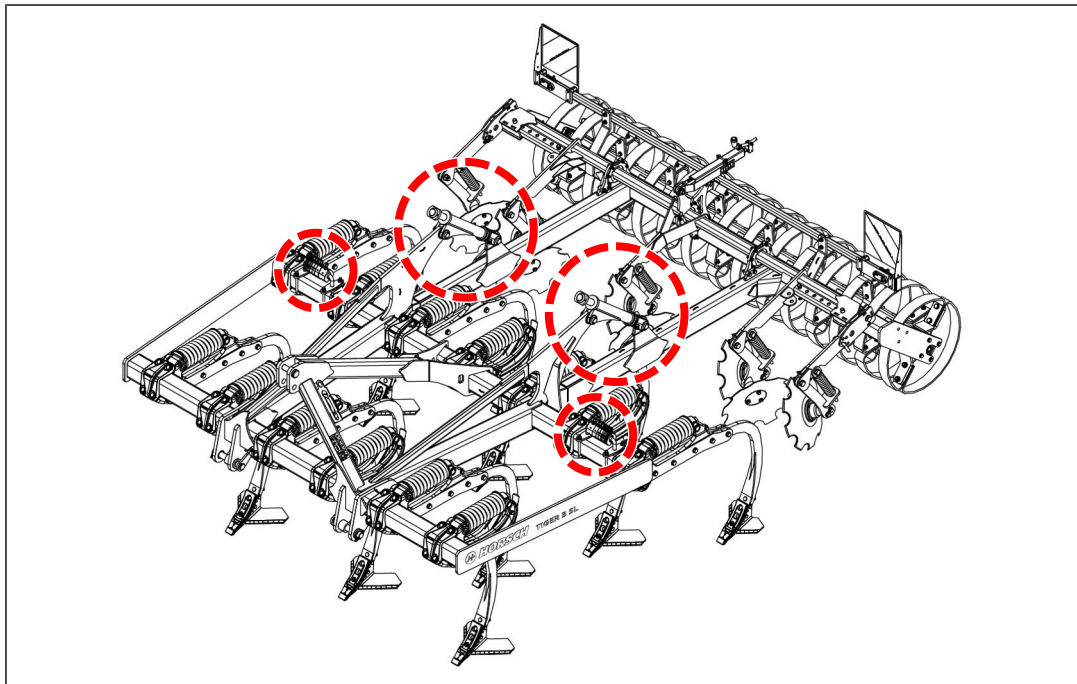
The mechanical adjustment of the working depth on the machine is carried out using AluClips, which are attached to the clip rods on the packer frame.

See also section AluClips in the chapter Structure.

Hydraulic depth adjustment

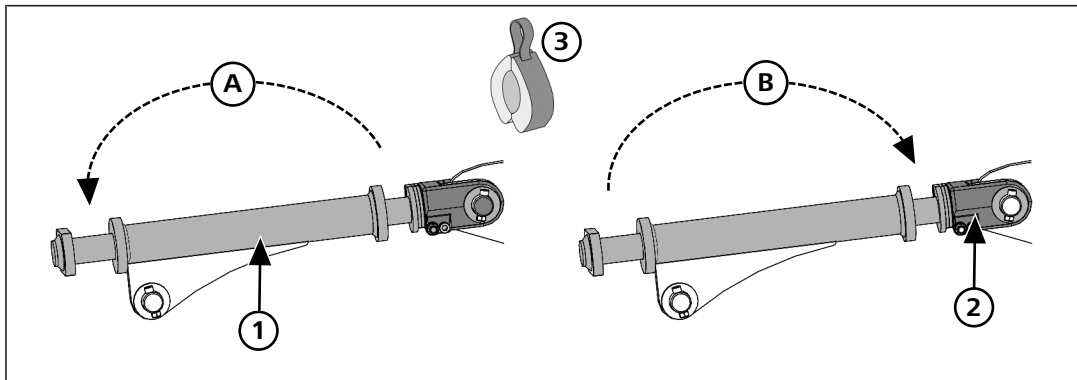
The hydraulic adjustment of the working depth on the machine is carried out by actuating the packer cylinders using the appropriate control unit.

Set working depth — mechanical



Clip rods and AluClips / Mechanical depth adjustment

For fieldwork, the machine is lowered onto the packer.
To adjust the working depth, the clip rods are equipped with AluClips:



Set the working depth on the clip bar

A Increase working depth

B Reduce working depth

1 Clip rod

2 Fork of the clip rod

3 AluClip

To adjust the working depth, the distribution of AluClips on both sides of the respective clip bar is adapted. However, the number of AluClips on each individual clip bar remains unchanged.

The distribution of AluClips on the individual clip bars on the machine must always be even.

It should be noted that the AluClips can only be removed or inserted when the respective side of the clip bar is unloaded. It is therefore necessary to raise or lower the machine so that the packer is relieved or loaded.

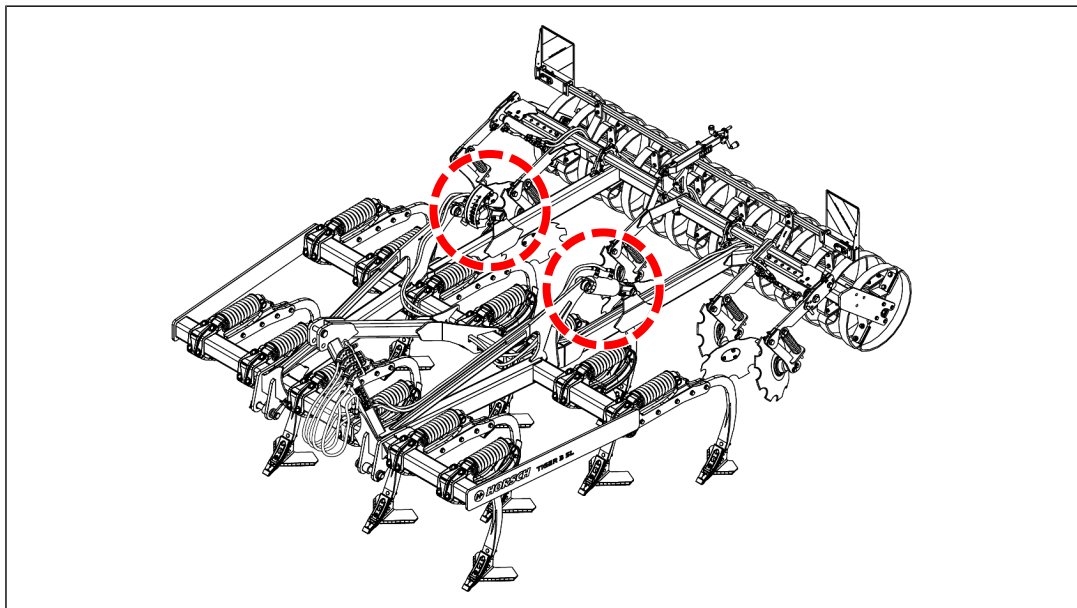
[A] Increase working depth

- ▶ Lift the machine completely.
- ▶ Clip rod:
Reduce the number of AluClips on the fork side.
- ▶ Lower machine.
- ▶ Clip bar:
Insert or refill the removed AluClips on the other side of the clip bar, respectively.

[B] Decrease working depth

- ▶ Clip rod: Reduce the number of AluClips on the rod side.
- ▶ Lift the machine completely.
- ▶ Clip bar: Insert the removed AluClips on the fork side of the clip bars, respectively.
- ▶ Lower machine.
- ▶ Clip bar: Insert or refill the removed AluClips on the other side of the clip bar, respectively.

Adjust working depth — hydraulically



Packer cylinder / Hydraulic depth adjustment

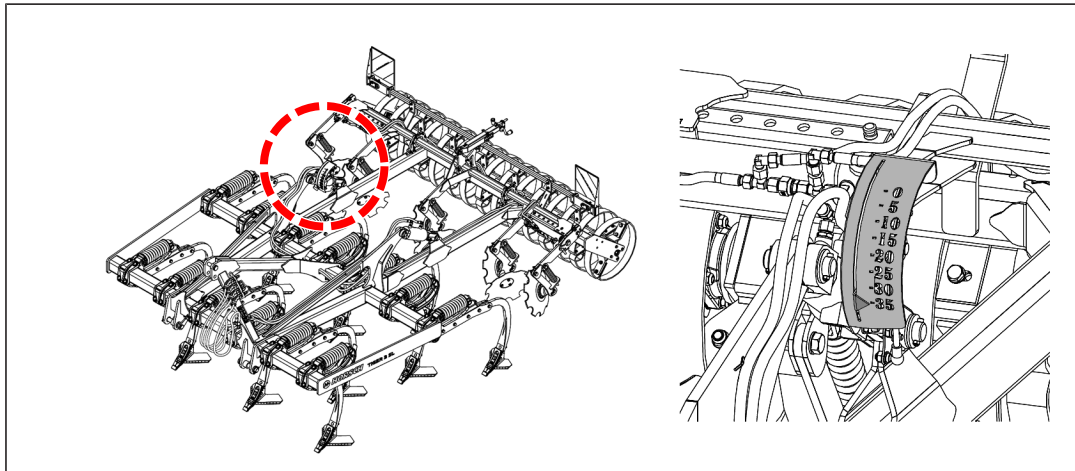
The hydraulic adjustment of the working depth is carried out using the control unit Tool 1 / working depth. The packer cylinders are controlled accordingly.



Control unit tools 1

Advert working depth

The scale for indicating the working depth is located at the rear right of the packer frame!



Depth scale

The machine can be adjusted and also readjusted during field work.

(+) Working depth / Tool 1: Set the operation deeper

(-) Working depth / Tool 1: Processing shallow areas



The actual working depth achieved depends, among other things, on the soil conditions and must be checked in the field and adjusted if necessary.

Leveling

The hydraulic cylinders of the depth adjustment are connected in the rephasing system (series circuit).

To compensate for deviations in the machine during depth changes, the packer cylinders must be regularly leveled (calibrated).

NOTE!

- ▶ Equalize before beginning to work, before depth setting as well as several times during the working day!
- ▶ Activate the working depth control unit / tool 1 and fully extend all cylinders.



Control unit tools 1 –

- ▶ Keep the working depth control unit / tool 1 under pressure for another 5 seconds until all cylinders are fully extended and completely filled.
Repeat the process 2–3 times.

8.4 Use in the field

8.4.1 Work instructions

NOTE!

Please note:

- ▶ The machine must be in horizontal position when used in the field.
- ▶ The upper link of the three-point hydraulics must rise slightly toward attached machine.
- ▶ Good working results require sufficient travel speed, depending on the soil conditions. Test the working results at different travel speeds and adjust the travel speed accordingly.
- ▶ Check the working depth over the entire machine width regularly.
- ▶ Do not drive backwards with the machine lowered. The components are not designed for this and could be damaged.

Preparation

1. Adjust edge discs (mechanically or hydraulically; see chapter Assemblies, section Leveling discs).
2. Lower the machine in the field (see section working position).
3. Set the working depth of the machine (mechanically or hydraulically; see section Depth Adjustment).
4. Adjust the control units for use in the field (see table in the working position section).
5. Set disc levelling (see chapter Assemblies, section Levelling discs).
6. Set the working depth of the harrow (if equipped; see chapter Additional Equipment, section Harrow).

8.4.2 Checks

The working quality essentially depends on the adjustments and checks made prior to and during use, as well as on regular care and maintenance of the machine.

- ▶ Carry out all maintenance tasks and adjustments before starting to work.

NOTE!

- ▶ Perform checks when starting work and with larger fields also regularly in between!

Machine

- ▶ Have the hydraulic lines been connected without being mixed up by mistake?
- ▶ Has the machine been levelled in working position?
- ▶ Are all cultivation tools in serviceable condition?
- ▶ Has the working depth been set correctly?

9 Care and maintenance

The machine has been designed and built to offer maximum performance, economy and operator friendliness under a vast variety of operating conditions.

Prior to delivery, the machine was checked at the factory and by the HORSCH sales partner to ensure the optional condition of the machine.

To maintain troublefree operation it is important to carry out the care and maintenance work at the recommended intervals.



WARNING!

Risk of injuries during maintenance work

- ▶ Observe the safety notes on care and maintenance!
- ▶ Turn off the tractor and secure it against reactivation. Lock manual control units in the locked position.
- ▶ Secure the machine against lowering and unexpected movements.
- ▶ Never stay under unsecured, raised machine parts.
- ▶ Carry out maintenance work on or under raised machine parts only if they are mechanically supported with suitable means.
- ▶ Secure machine parts against falling when dismantling them.
- ▶ Lower all hydraulically lifted parts (e.g. wings, packer, undercarriage, etc.) to the ground before performing any work on the hydraulic system. Depressurise the hydraulics on the tractor and implement side! Empty the pressure accumulators. Refer to the pressure accumulator item.
- ▶ Risk of scalding! Allow hydraulic oil and hydraulic components heated during operation to cool down before any work on the hydraulic system.
- ▶ Hydraulic cylinders must be filled with hydraulic oil prior to installation in the machine so as to prevent unintentional machine movements caused by air trapped in the hydraulic cylinders.

9.1 Maintenance overview

The maintenance intervals are determined by various factors.

Different conditions of use, weather influences, working speeds and soil conditions affect the maintenance intervals. The quality of the lubricants and care agents also affects the time to the next maintenance activities.

The specified maintenance intervals therefore only serve as a reference. In case of deviations from normal operating conditions the intervals for the due maintenance tasks must be adapted accordingly. The *daily* maintenance interval designates maintenance each time before working with the machine. If several intervals are specified, the case that occurs first always applies!

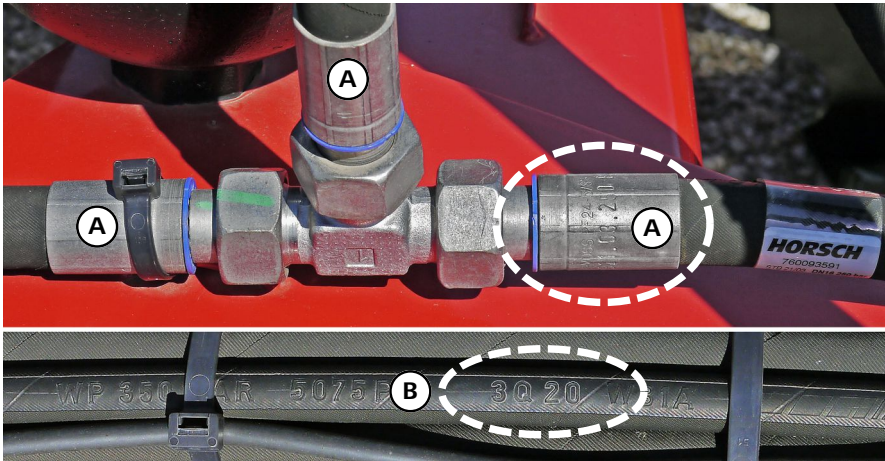
Regular maintenance is the basis for a fully operable machine.

Properly serviced machines reduce the risk of failing and ensure economical use and operation of the machines.

9.1.1 After commissioning

Maintenance location	Work instructions
All threaded, plug, and hydraulic connections	Retighten all threaded, plug and hydraulic connections after 10 hours. Event tight threaded and hydraulic connection may become loose due to material deterioration or paint residues between the threaded joints or unions.
Retighten all wheel nuts/ wheel bolts M 14 x 1.5–160 Nm [118 ft.lb] M 18 x 1.5–300 Nm [221 ft.lb] M 22 x 1.5–510 Nm [376 ft.lb]	Initially after 10 hours or 50 km [31 mi]
	Again after 10 hours or 50 km [31 mi]
	Tighten daily after this
Tines TerraGrip 3L	Retighten the fasteners after 10 hours.

9.1.2 Before the season

Maintenance location	Work instructions
Complete machine	Read the operating instructions carefully as a refresher.
	Check all screw connections for firm seating and retighten as necessary.
	Check condition and function of all protective features and replace, if necessary.
	Check electrical lines for damage and replace, if necessary.
	Cleaning the machine, see chapter <i>Machine Cleaning</i> .
Hydraulic hose lines	Replace hydraulic hoses after 6 years. Information on the manufacturing date as follows: • On the crimp sleeve (A) Showing <i>Year/Month</i> • On the hose (B) Showing <i>Quarter/Year</i>
	
	Depending on the conditions of use (e.g. weather impact) or in case of higher strains on the machine the hoses may need to be replaced earlier.
	Have the hydraulic system checked by an expert at least once every year. Follow the country-specific regulations and directives.

9.1.3 During the season

Maintenance location	Work instructions	Interval
Machine in general		
Frame and frame connecting parts	Check condition and firm seating	Daily
Wear items	Replace all wear items when the — wear limits have been reached — Damages	—
3-point hitch	Check bolts, balls, and connecting devices for wear	40 h
Tools		
Levelling discs	Check condition, wear, bearing, fastening, leak tightness and free rotation	Daily
	In case of loose discs, tighten all screws with 160 ± 20 Nm. When replacing discs, tighten all screws with 200 ± 20 Nm. When using galvanised support discs, tighten all screws with 150 Nm. Do not use threadlocker for securing.	as required
Packer	Check condition, bearing, fastening, and free rotation.	40 h
	Spray the bearing locations with a suitable anti-corrosive before extended idle periods.	
	Before recommissioning the packer, turn it by hand and check for free running. Replace bearings if necessary.	
Coulter and coulter fastening	Check for condition, firm seating and wear	daily
Tines	Tighten fastenings	40 h
Tines, tine holders and stone release protection	Check for condition, firm seating, and wear	daily
Electrics		
Electric lines	Check for damage	40 h
Hydraulics		
Hydraulic system and components	Check all hydraulic components and hoses for function, leak tightness, fastening and chafing.	40 h
Wheels		
Safety devices		
Lighting and warning boards	Check condition and function	daily
Warning and safety stickers	Check that they are in place and legible	40 h

9.1.4 At the end of the season

Maintenance location	Work instructions
Complete machine	Perform care and cleaning work; do not spray plastic parts with oil or similar
	Spray the piston rods of the hydraulic cylinder with a suitable corrosion protection agent.
	Check all screw and plug-and-socket-connections for firm seating; see torque table.
	Check frame and connecting pieces for condition and tight fit.
	Check electrical lines for damage and replace, if necessary.
Levelling discs	Spray mounts with penetrating oil.

9.2 3-point hitch

NOTE!

- Information on maintenance and inspection of wear limits can be found in the tractor manual and in the manufacturer's instructions for the connecting device.

9.3 Coulter/Tines TerraGrip 3L

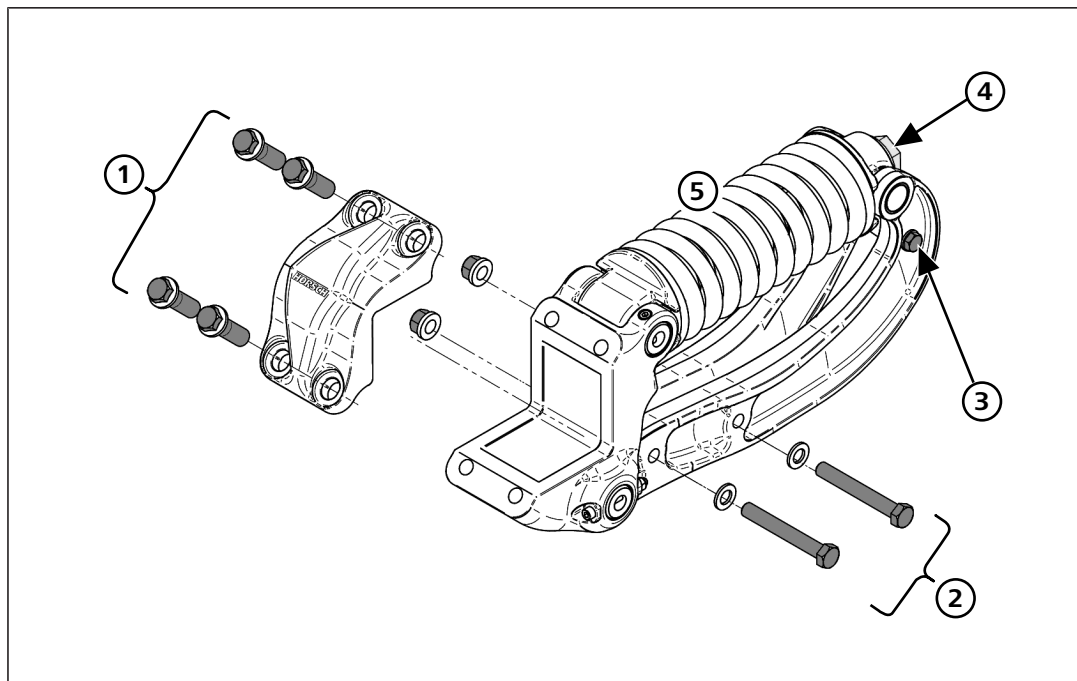
- Check fastening. Intervals see *Maintenance overview* section.
- Retighten the fastening if required. Tighten fasteners with specified tightening torque accordingly (see figure).



WARNING!

Danger of severe injuries caused by the tensioned spring assembly.

- Replace the spring assembly only as a complete unit (workshop work).
- Never open the spring assembly.
- If a tine is blocked or jammed by stones etc., please contact the HORSCH Service. The blockage may give way and the tine jump forward into its normal position.



Tines »TerraGrip 3

- | | |
|--|--|
| 1 Screw M20 (on the clamp)
Tightening torque 500 ± 50 Nm | 2 Screw M16 (on the tine shank)
Tightening torque 350 ± 50 Nm |
| 3 Screw M12 (on the tine holder)
Tightening torque 60 ± 10 Nm | 4 Screw M27 (on the spring unit)
Do not open! Risk of injury! |
| 5 Spring unit | |

9.4 Packer

- ▶ Check the packer bearings for firm seating.
Replace bearings if necessary.
- ▶ Check the packer shafts for free rotation.
- ▶ Check packer segments for wear, deformation and breakage.
Replace damaged components.
For bolted packer wheels:
Check the screw connections and retighten as required
Tightening torques see table in the *Appendix*.
- ▶ If so equipped, adjust the scrapers as needed.

Mounting the packer

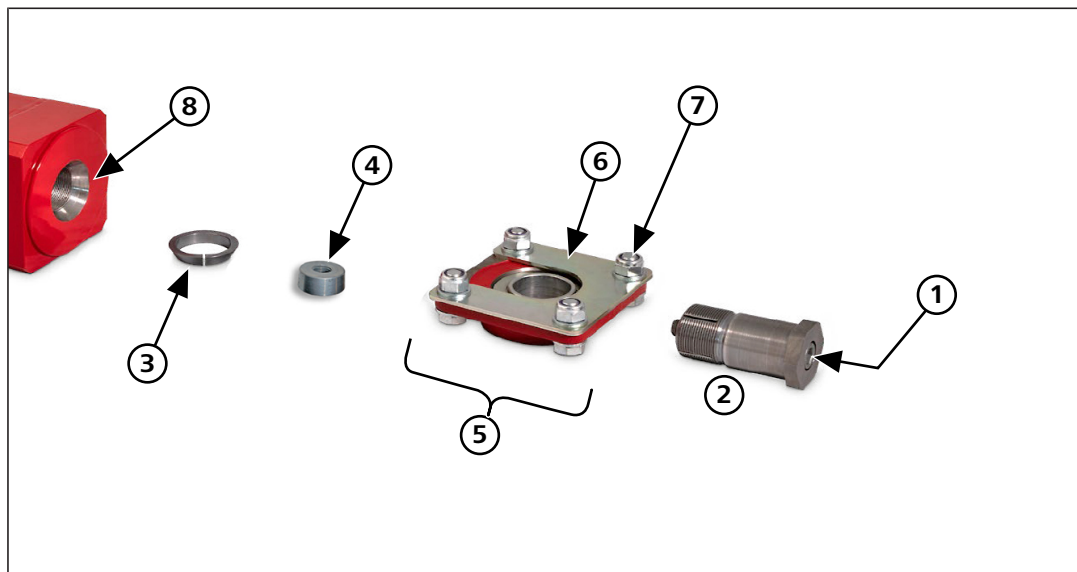


WARNING!

Dropping or rolling machine parts can cause severe crushing injuries, etc.!

- ▶ Support the raised machine by appropriate means and secure the packer against rolling away and dropping.
- ▶ Comply with the accident prevention instructions.

Overview of packer bearing



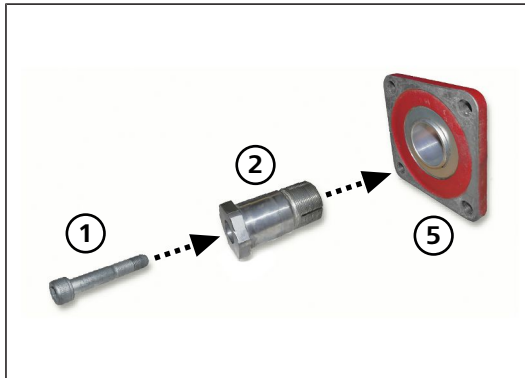
Packer bearing

- | | |
|---|-------------------|
| 1 Inner screw
(Fillister head screw) | 2 Outer screw |
| 3 Conical ring | 4 Conical nut |
| 5 Bearing housing | 6 Shim |
| 7 Screws of the flange plate | 8 Bearing journal |

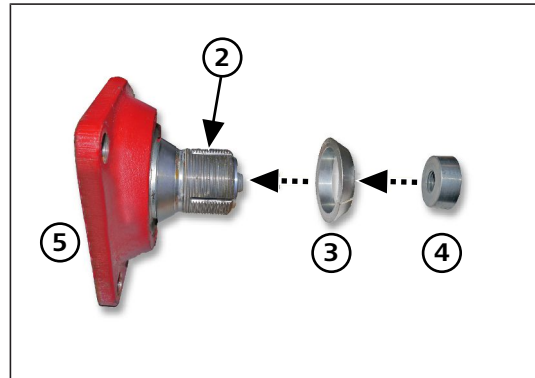
Packer assembly

Perform this action on all packer bearings:

- Place the inner screw (1), outer screw (2) and bearing housing (5) into each other.

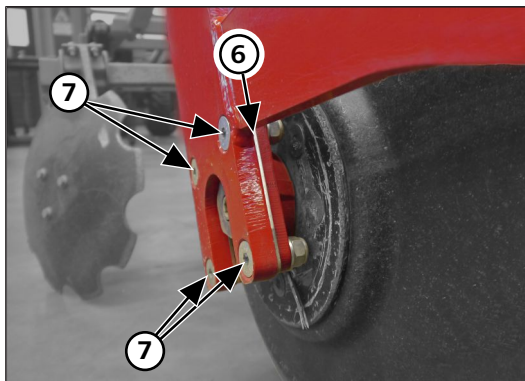


Bearing housing (frame side)



Bearing housing (axle journal side)

- Slide the conical ring (3) on the outer screw (2).
- Screw the conical nut (4) on the inner screw (1).
- Press the conical nut (4) against the outer screw (2).
Do not use a hammer or similar!
- Lubricate the external thread of the outer screw (2) with copper paste.
- Screw the bearing with the outer screw onto the packer shaft.
Tightening torque 370 ± 20 Nm.
- Tighten the inner screw (1).
Tightening torque 180 ± 20 Nm.
- If the screw cannot be tightened:
Pull out the screw (1) to press the conical nut (4) against the outer screw (2).



Side arm of the packer

- Bolt the packer shaft together with the spacer (6) to the side arm using the screw (7).
Include enough spacers so that no gap remains when tightening the bearings on the side arms. The spacers must be evenly distributed on both sides.

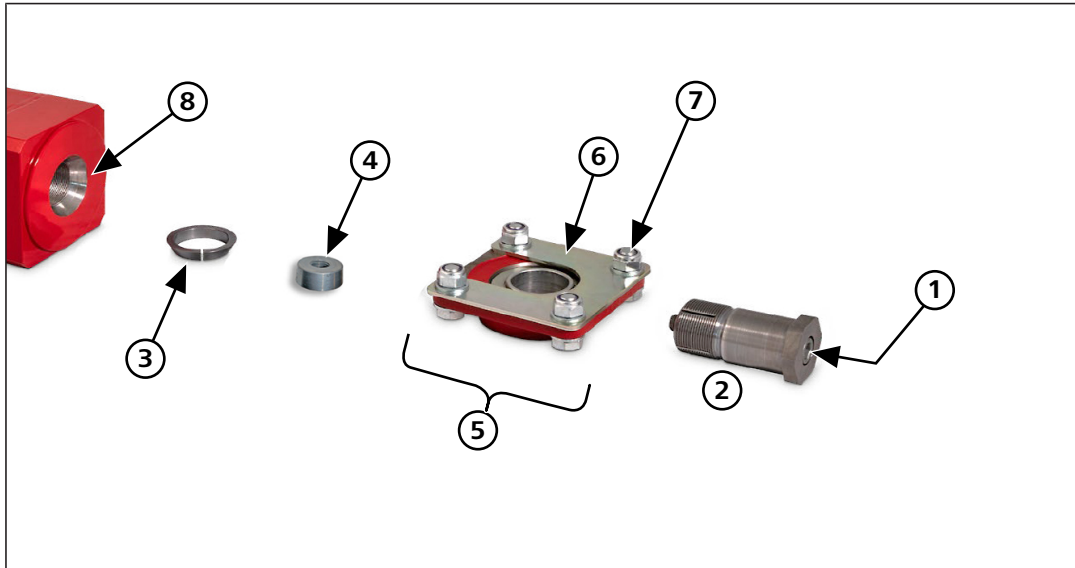
Dismantling the packer

WARNING!

Dropping or rolling machine parts can cause severe crushing injuries, etc.!

- ▶ Support the raised machine by appropriate means and secure the packer against rolling away and dropping.
- ▶ Comply with the accident prevention instructions.

Overview of packer bearing

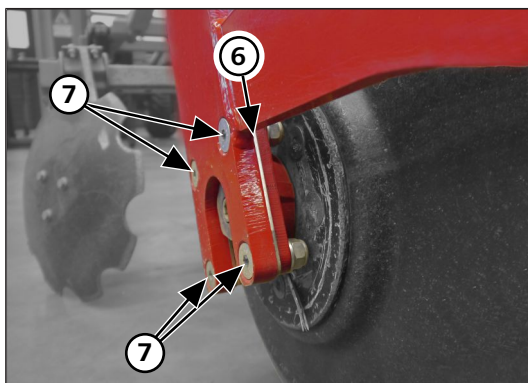


Packer bearing

- | | |
|---|-------------------|
| 1 Inner screw
(Fillister head screw) | 2 Outer screw |
| 3 Conical ring | 4 Conical nut |
| 5 Bearing housing | 6 Shim |
| 7 Screws of the flange plate | 8 Bearing journal |

Dismantling the packer

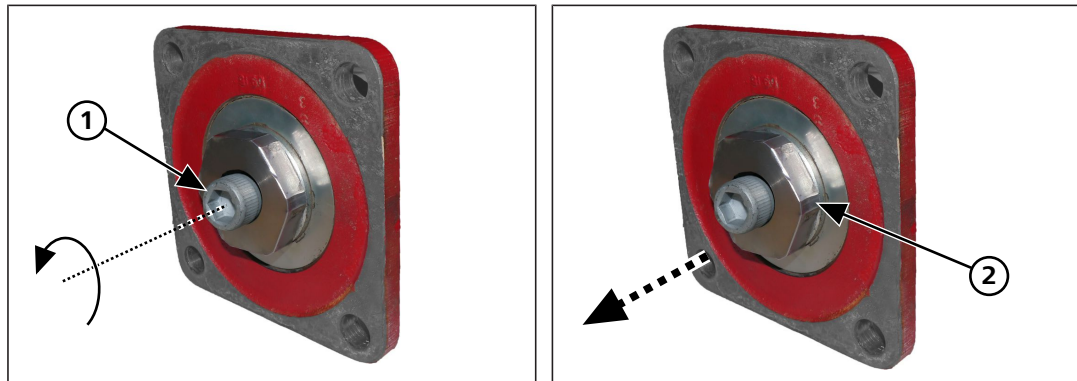
Perform this action on all packer bearings:



Side arm of the packer

- ▶ Remove the screws (7) and detach the packer from the side arm.

- ▶ Remove the spacer (6).



- ▶ Unscrew the inner screw (1) for about 1 cm.
- ▶ Use a hammer to tap the screw (1) inwards. This loosens the conical nut (4) on the inside and the outer screw (2) is loosened.

NOTE!

Machine damage on the packer shaft

Observe the order of dismantling!

- ▶ Make sure the conical nut is loosed before removing the bearing.
- ▶ Loosen the outer screw (2) and remove the bearing.

9.5 Clean the machine

- ▶ Clean the machine thoroughly at regular intervals and after the end of the season.
- ▶ Wear the necessary protective outfit when performing any work to protect your health and safety.

NOTE!

- ▶ Do not clean electrical components, hydraulic cylinders, bearings and stickers with a high pressure cleaner or direct water jet.
Housings, screw fittings and bearings are not waterproof under high pressure.
- ▶ Clean every day when in use.

9.6 Lubricating the machine

- ▶ Lubricate the machine regularly and after each wash with a suitable grease gun.
If in place, temporarily removed the covering caps.

Regular maintenance secured the machines readiness for use, reduces repair costs and avoids downtimes.

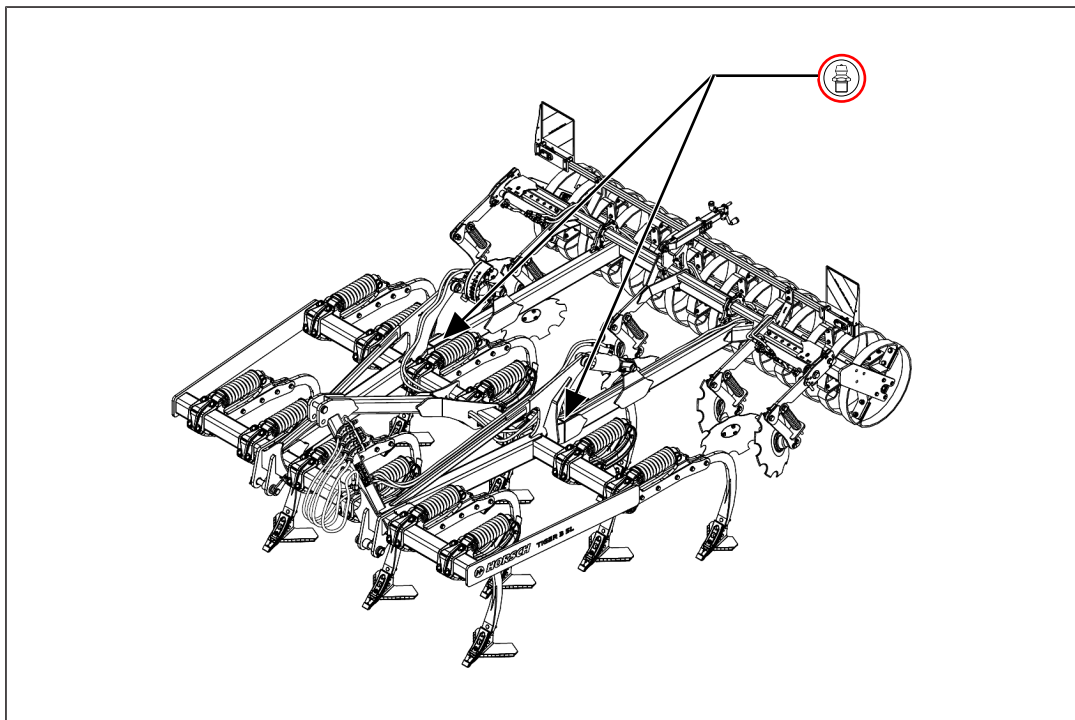
CAUTION!

Handling lubricants

Lubricants and mineral oil products are not harmful as long as they are used as instructed.

- ▶ Avoid prolonged skin contact or the inhalation of vapours.
- ▶ Avoid direct contact with oils. Use gloves or protective creams.
- ▶ Thoroughly clean any oil traces on the skin by washing off with water and soap.
- ▶ Never clean the skin with petrol, diesel or other solvents.
- ▶ Observe the operating instructions of the grease gun used.

Overview of lubrication points



Location of the lubrication points

Lubrication points

Lubrication points in general

- Lubrication points depend on the type and equipment
- Lubricating grease: DIN 51825 KP/2K-40
- Number of lubrication points in brackets (depending on equipment)

List of lubrication points

Lubrication point	Activity (number)	Interval
Packer frame bearing bolt	Lubricate (2)	40 h

9.7 Machine storage

The following steps must be followed if the machine is to be shut down for a longer period of time:

1. Park the machine in a hall or under a roof if possible.
2. Protect the machine against corrosion. Use only biodegradable oils for anti-rust spraying.
3. Protect the hydraulic cylinder piston rods against corrosion.
4. Relieve the wheels from any load.

10 Disposal

Oils, greases and waste contaminated with these substances represent a great danger for the environment and must be disposed of environmentally friendly and in compliance with the corresponding legal regulations.

If necessary, contact your local authorities to obtain all relevant information.

Various substances will accumulate during use and maintenance, which must be disposed of appropriately.

For the waste disposal of auxiliary and operating media as well as other chemicals the specifications in the respective safety data sheets must be strictly complied with!

10.1 Decommissioning

If the machine is no longer suitable for use and needs to be disposed of, it must be decommissioned. All machine parts must be separated by material and passed on to environmentally friendly waste disposal or recycling. Attention must be paid to all valid regulations!

Decommissioning and waste disposal must only be carried out by operators who have been trained by HORSCH or by qualified staff.

Contact a waste disposal company, if this should be necessary.

11 Service

The customers' satisfaction with the machine and the company are of prime importance to HORSCH.

The service staff of our sales partners and the service employees of HORSCH will always be available for assistance with problems.

The service staff require the following information to correct technical defects as quickly as possible:

- Customer number
- Name and address of customer
- Name of customer representative
- Machine model and serial number
- Date of purchase, operating hours and area output
- Type of problem

Warranty claim processing

Warranty claim forms must be submitted to HORSCH through the HORSCH sales partner.

Consequential damage

The machine has been manufactured by HORSCH with greatest care.

Nevertheless, even when used as intended, faults such as deviations in the placing quantity may cause damages up to total failure.

This may have the following causes:

- Damage caused by external influences.
- Wear of wear items.
- Missing or damaged cultivation tools.
- Incorrect travel speeds
- Incorrect setting of the device, such as faulty attachment or disregard of calibration instructions.
- Failure to comply with the operating instructions.
- Neglected or improper care and maintenance.
- Check the correct function of the machine before each use and during work.

A claim for compensation for damage not caused to the machine is excluded. Any liability for consequential damage resulting from driving or operating mistakes is also excluded.

12 Annex

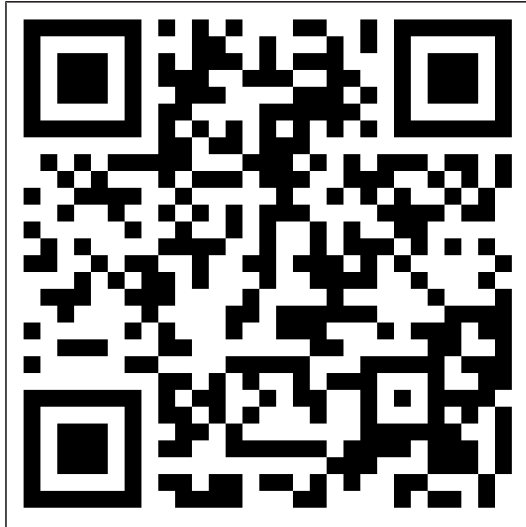
12.1 Assistance

myHorsch:

All services and information relating to the machine can be found here.

After successful verification by the responsible sales partner, all digital applications are available, such as the spare parts search in PartFinder.

QR code:



Link:

<https://my.horsch.com>

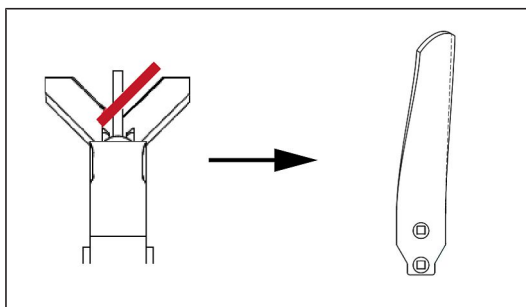
12.2 Arrangement of points and guide plates

Helical guide plates point in different directions to ensure good mixing and distribution of the tilled soil to the left or right.

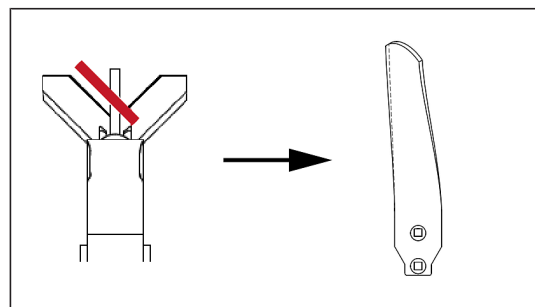
Straight guide plates point forward and are not twisted.

If replacement of the points is necessary, the correct installation direction must be observed.

General information on the installation of the points and guide plates can be found in chapter Points.



Guide plate on the left



Guide plate on the right

12.3 Tightening torque

NOTE!

- ▶ The tightening torques only serve as guidelines and are generally valid. Actual data given at the corresponding points in the operating instructions have priority.
- ▶ Screws and nuts must not be treated with lubricants, since this would change the friction value.

12.3.1 Metric screws (Nm)

Tightening torques – metric screws in Nm							
Size ø mm	Pitch mm	Screw design – strength classes					Wheel nuts
		4.8	5.8	8.8	10.9	12.9	
3	0.50	0.9	1.1	1.8	2.6	3.0	
4	0.70	1.6	2.0	3.1	4.5	5.3	
5	0.80	3.2	4.0	6.1	8.9	10.4	
6	1.00	5.5	6.8	10.4	15.3	17.9	
7	1.00	9.3	11.5	17.2	25	30	
8	1.25	13.6	16.8	25	37	44	
8	1.00	14.5	18	27	40	47	
10	1.50	26.6	33	50	73	86	
10	1.25	28	35	53	78	91	
12	1.75	46	56	86	127	148	
12	1.25	50	62	95	139	163	
14	2.00	73	90	137	201	235	
14	1.50	79	96	150	220	257	
16	2.00	113	141	214	314	369	
16	1.50	121	150	229	336	393	
18	2.50	157	194	306	435	509	
18	1.50	178	220	345	491	575	300

(Continued on next page)

(Continuation)

Tightening torques – metric screws in Nm							
Size ø mm	Pitch mm	Screw design – strength classes					Wheel nuts
		4.8	5.8	8.8	10.9	12.9	
20	2.50	222	275	432	615	719	
20	1.50	248	307	482	687	804	
22	2.50	305	376	502	843	987	
22	1.50	337	416	654	932	1,090	510
24	3.00	383	474	744	1,080	1,240	
24	2.00	420	519	814	1,160	1,360	
27	3.00	568	703	1,000	1,570	1,840	
27	2.00	615	760	1,200	1,700	1,990	
30	3.50	772	995	1,500	2,130	2,500	
30	2.00	850	1,060	1,670	2,370	2,380	

12.3.2 Inch screws (ft.lb)

Tightening torques – inch screws in ft.lb							
Screw diameter		Strength 2		Strength 5		Strength 8	
		No marks on the head		3 marks on the head		6 marks on the head	
Inch	mm	Coarse thread	Fine thread	Coarse thread	Fine thread	Coarse thread	Fine thread
1/4	6.4	4.13	4.7	6.4	7.2	9	10
5/16	7.9	8	9	13	14	18	20
3/8	9.5	8	17	23	26	33	37
7/16	11.1	25	27	37	41	52	58
1/2	12.7	35	40	57	64	80	90
9/16	14.3	50	60	80	90	115	130
5/8	15.9	70	80	110	125	160	180
3/4	19.1	125	140	200	220	280	315
7/8	22.2	130	145	320	350	450	500
1	25.4	190	205	480	530	675	750
1 1/8	28.6	265	300	600	670	960	1.075
1 1/4	31.8	375	415	840	930	1.360	1.500
1 3/8	34.9	490	560	1.100	1.250	1.780	2.030
1 1/2	38.1	650	730	1.450	1.650	2.307	2.670

All details on technical specifications and illustrations are
approximate and non-binding.
Subject to technical product revisions.



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