

ORIGINAL INSTRUCTIONS - according to Directive 2006/42/EC, Annex I 1.7.4.1 and according to Supply of Machinery (Safety) Regulations 2008, Annex I 1.7.4.1

OPERATOR'S MANUAL

PRO 5400

PRO 6200

PRO 7900

Seedbed cultivator



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1 - GENERAL INFORMATION

Note to the owner

This manual has been prepared to assist you in the correct procedure to run in, to drive, to operate, to adjust and to maintain your new implement.

This implement has been designed and built to give maximum performance, economy and ease of operation under a wide variety of conditions.

Prior to delivery, your implement was carefully inspected both at the factory and by your dealer to make sure that it reaches you in optimum condition. To maintain this condition and assure trouble-free operation it is important that routine services, as specified in this manual, are carried out at the recommended intervals.

Read this manual carefully (especially Chapter 2 that covers the safety information) and keep this manual in a convenient place for future reference. DO NOT operate or permit anyone to operate or service this implement until you and/or other persons have read this manual. Read the manual, it will save you time and hassle later. Lack of knowledge can lead to accidents. Employ only trained operators who have demonstrated the ability to operate and service this implement correctly and safely. Contact your dealer for assistance providing the required training to your operators. Contact your dealer to obtain additional manuals or alternate language versions.

If at any time you require advice that concerns your implement, do not hesitate to contact your authorized dealer. He has factory-trained personnel, genuine service parts and the necessary equipment to carry out your service requirements.

NOTICE: *This implement has been designed and built in line with the requirements put forward by the European Directives 2006/42/EC and 2014/30/EU.*

Always use genuine KONGSKILDE - SEKO SRL Service Parts or parts that match at least the same quality, reliability and functionality as the equivalent original Service Parts when you service and repair your implement and do not modify your implement without a written permission of the manufacturer. Failure to do so will void the responsibility of the manufacturer.

Check local road legislation before you drive the implement on public roads.

When you operate interchangeable implement, make sure that the implement is CE approved.

As this publication is distributed throughout our international network, the implement illustrated, either as standard or as an accessory, may vary according to the country in which the implement is to be used. Low specification configurations, as chosen by the customer, may deviate from the specifications given.

Several figures in this operator's manual show the safety guarding or the additional guards, legally required by certain countries, open or removed to better illustrate a particular feature or adjustment. The implement must not be used in this condition. For your own safety, make sure that all guards are closed or replaced before you operate the implement.

OWNER ASSISTANCE

We at KONGSKILDE - SEKO SRL and your KONGSKILDE - SEKO SRL dealer want you to be completely satisfied with your investment. Normally, your dealer's Service Department will handle any problems with your implement. Sometimes however, misunderstanding can occur. If your problem has not been handled to your satisfaction, we suggest you to contact the owner or General Manager of the dealership, explain the problem and request assistance. When additional assistance is needed, your dealer has direct access to our branch office.

COMPANY POLICY

Company policy, which is one of continuous improvement, reserves the right to make changes in design and specification at any time without notice and without obligation to modify units previously built.

All data given in this book is subject to production variations. The information in this publication is provided on the basis of information that was available at the time that the manual was written. Settings, procedures and other items can change. These changes can affect the service that is given to the implement. Dimensions and weights are approximate only and the illustrations do not necessarily show the implement in standard condition. For exact information about any particular implement please consult your dealer. Make sure that you have the most current and complete information from your dealer before you start any job.

ACCESSORIES AND OPTIONS

Your implement has been designed to operate in a wide variety of soils/crops and conditions. Nevertheless additional equipment may, in certain cases, be required to improve the implement performance. A list of this additional equipment is given in the "Accessories" chapter in this manual. Use only those accessories designed for your implement.

PARTS AND ACCESSORIES

Genuine KONGSKILDE - SEKO SRL parts and accessories have been specifically designed for KONGSKILDE - SEKO SRL implements.

We would like to point out that "non-genuine" parts and accessories have not been examined and released by KONGSKILDE - SEKO SRL. The installation and/or use of such products could have negative effects upon the design characteristics of your implement and thereby affect its safety. KONGSKILDE - SEKO SRL is not liable for any damage caused by the use of "non-genuine" parts and accessories.

Rely on your authorized dealer to supply you with genuine KONGSKILDE - SEKO SRL parts only. These parts are covered by our warranty and will give you the best performance.

See the parts catalog or browse the KONGSKILDE - SEKO SRL portal to find service parts for your implement.

When you order service parts, always quote the model and serial number printed on the Product Identification Number (PIN) plate.

LUBRICANTS

Your dealer sells a selection of specially formulated lubricants based on own engineering specifications.

Recommended lubricants for your implement are listed in the maintenance chapter.

WARRANTY AND LIABILITY

Warranty

This Warranty covers the product to which it was annexed at the time of purchase.

With this Warranty, you guarantee the product against any material or manufacturing defects for the duration of 12 MONTHS from the original date of purchase.

If during the warranty period there are defects in materials or workmanship (at the original date of purchase), we will repair or (at our discretion) replace the defective product or its components under the terms and conditions set out below, without any charge for the costs of spare parts. The service department reserves the right to replace defective products or their components with new or revised products or parts. All products and components replaced will become the property of the KONGSKILDE - SEKO SRL. **Errore. L'origine riferimento non è stata trovata..**

Conditions

Warranty interventions will only be carried out if the defective product is presented within the warranty period together with the original sales invoice or a purchase receipt (showing the date of purchase, the type of product and the name of the retailer).

KONGSKILDE - SEKO SRL. **Errore. L'origine riferimento non è stata trovata.** reserves the right to refuse warranty interventions in the absence of the afore-mentioned documents or in the event that the information contained therein is incomplete or illegible. This Warranty will lapse if the model or serial number shown on the product has been modified, deleted, removed or made illegible.

All parts shipped upon request of warranty will be invoiced and any recognition of the warranty will only be credited after receipt of the damaged piece and related verification by our Technical Department.

The Purchaser will be responsible for all charges relating to shipping, packaging and labour of both any defective parts and those recognised under warranty.

The charges deriving from the labour necessary for the replacement of the defective part and for the set-up of the machine are excluded from the warranty.

For petrol, diesel, electric, hydraulic engines, for hydraulic components for electric or electro-hydraulic control panels and in any case for all those components assembled on the machine but not manufactured by SEKO, the warranty conditions of each individual manufacturer apply.

The following are excluded from this Warranty:

- Periodic maintenance and repair or replacement of parts due to wear and tear;
- The consumable material (components that are expected to require periodic replacement during the useful life of a product, such as tools, lubricants, filters, etc.).
- Damage or defects due to use or improper treatment of the product, for purposes other than normal professional use;
- Damage or changes to the product resulting from improper use, including:
 - Treatments causing damage or physical, aesthetic or superficial alterations;
 - Incorrect installation or use of the product for purposes other than those envisaged or non-compliance with the instructions on installation and use;
 - Improper maintenance of the product, not in accordance with the instructions on correct maintenance;
 - Installation or use of the product that does not comply with the technical or safety regulations in force in the country where the product is installed or used;
 - Condition or defects of the systems to which the product is connected or in which it is incorporated;
 - Repair interventions or repair attempts by unauthorised personnel;
 - Adjustments or modifications made to the product without prior written authorisation by the manufacturer, updating of the product exceeding the specifications and functions described in the instruction manual or modifications made to the product to make it comply with the national or local technical or safety standards in countries other than those for which the product was specifically designed and manufactured;

- Negligence;
- Fortuitous events, fires, liquids, chemicals or other substances, flooding, vibrations, excessive heat, inadequate ventilation, current surges, excessive or incorrect input supply voltage, radiations, electrostatic discharges, including lightning, other external forces and impacts.

Exclusions and limitations

Except as noted above, KONGSKILDE - SEKO SRL **Errorre. L'origine riferimento non è stata trovata.** issues no warranties (express, implied, statutory or otherwise) regarding the product in terms of quality, performance, precision, reliability, suitability for a particular use or otherwise.

If this exclusion is not fully or partially permitted by applicable law KONGSKILDE - SEKO SRL **Errorre. L'origine riferimento non è stata trovata.** excludes or limits its warranties to the maximum extent permitted by applicable law.

Any warranty that cannot be completely excluded will be limited (within the terms permitted by applicable law) to the duration of this Warranty.

The only obligation of KONGSKILDE - SEKO SRL **Errorre. L'origine riferimento non è stata trovata.** under this Warranty is to repair or replace the products under these warranty terms and conditions. KONGSKILDE - SEKO SRL **Errorre. L'origine riferimento non è stata trovata.** disclaims all liability for loss or damage regarding products, services, this Warranty or otherwise, including economic or intangible losses – the price paid for the product – loss of profits, income, data, enjoyment or use of the product or other associated products – indirect, incidental or consequential loss or damage. This applies to loss or damage resulting from:

Impairment of the operation or failure of the product or associated products as a result of defects or unavailability during the time it is held at KONGSKILDE - SEKO SRL **Errorre. L'origine riferimento non è stata trovata.** or at other authorised assistance centre, resulting in downtime, loss of useful time or interruption of activity;

Imperfect performance of the product or associated products.

This applies to losses and damages under any legal theory, including negligence and other wrongful acts, breach of contract, express or implied warranties and strict liability (even if KONGSKILDE - SEKO SRL **Errorre. L'origine riferimento non è stata trovata.** or the authorised assistance centre have been informed of the possibility of such damages).

Where applicable law prohibits or limits these disclaimers KONGSKILDE - SEKO SRL **Errorre. L'origine riferimento non è stata trovata.** excludes or limits its liability to the maximum extent permitted by applicable law.

Some nations, for example, prohibit the exclusion or limitation of damages due to negligence, gross negligence, willful default, fraud, and other similar acts. The liability of KONGSKILDE - SEKO SRL **Errorre. L'origine riferimento non è stata trovata.** under this warranty shall in no event exceed the price paid for the product, it being understood that, where applicable law imposes higher limits of liability, such limits shall apply.

The purchaser must inform the manufacturer, in writing, of any defect that occurred within 8 days of the occurrence of the same.

Reserved legal rights

Applicable national laws grant purchasers statutory rights in relation to the sale of consumer products.

This warranty does not affect the rights of the purchaser established by the laws in force, nor the rights that cannot be excluded or limited, nor the rights of the customer against the retailer. The customer may decide to assert the rights due at its sole discretion.

The Court of Padua (Italy) is competent for any dispute.

CLEANING YOUR IMPLEMENT

When you use a high pressure washer, do not stand too close to the implement and avoid directing the jet at electronic components, electrical connections, breathers, seals, filler caps, and so on.

Clean decals only with a soft cloth, water and a gentle detergent. DO NOT use solvent, gasoline or other harsh chemicals to clean decals. Decals could be removed or get damaged.

DISASSEMBLY OR SCRAPPING

The critical condition of the equipment is the complete wear and tear of all components. When the costs of repair, restoration or replacement of the individual components and/or assemblies become economically impractical, a de-

cision is made on decommissioning the equipment.

When your implement is taken out of service because it is damaged beyond repair or has reached the end of its useful life, disassembly, scrapping and/or recycling of components must be performed only by a qualified technician with service instructions, and in compliance with local law and regulations.

Intended use

KONGSKILDE - SEKO SRL Germinator Pro can only perform the usual work in agriculture. Only connect the implement to a tractor that corresponds with the specifications of the implement and is legal to use.

The Germinator Pro is attachable machines equipped with a special system for maintaining a permanent working depth, designed for precise soil preparation for sowing, all performed within one working drive. The implement also allow for preparing the soil as to provide the ultimate conditions for fast and even sprouting. This translates into bigger crops, higher efficiency and larger profits

The work must occur under reasonable conditions, or thorough agricultural knowledge and authorised operation, on a normal cultivation that has a reasonable extension without foreign matter and the like. The performance of the implement will depend on the crop, the condition of the field, the ground, and finally the weather.

Intended use implies that you observe the prescriptions concerning adjustment, operation and maintenance in the instruction manual. Observed altogether the safety instructions as well as common rules concerning technical safety, working practices and road safety. Also read the spare parts catalog and use original spare parts. If necessary contact an authorised workshop.

If you notice degradation of performance, contact your dealer for assistance. He may have useful information for improvements, or a kit may be available to enhance the performance.

With respect for the routine maintenance and with operating conditions, the assigned service life for the implement is minimum seven years.

Prohibited usage

NOTICE: DO NOT use this implement for another purpose than intended by the manufacturer (as described in the manual, shown by the decals, or in other product safety information provided with the implement). These information sources define the intended use of the implement.

Do not use this implement:

1. To perform other operations than farming operations basing on preparing soil for plant seeding.
2. On slopes with a **8.5°** or bigger inclination.
3. Without having read this operator's manual.
4. Without having learned the structure and operation of the implement.

Any other use beyond the intended use is regarded as misuse and requires the authorization of the manufacturer. The manufacturer is not responsible for any dam-

age that results from the improper use of the implement. The user bears that risk.

Contact your local dealer when you are not sure about the use or function of your implement in a particular application (for example crop, variety, unique conditions, etcetera) or you do not know if there is a need for special equipment or special precautions.

No parts must be fitted to this implement, which have not been released by KONGSKILDE - SEKO SRL. They might affect the implement operation, safety of the user or other people, stability or wear characteristics of the implement. They may also void the homologation approval obtained for your country and compliance with EC directives.

Do not make changes to the implement and its construction without the permission from the manufacturer. The manufacturer does not accept any responsibility for damages that results from unauthorized modification.

Electro-Magnetic Compatibility (EMC)

This machine complies strictly with the European Regulations on electro-magnetic emissions. However, interference may arise as a result of add-on equipment which may not necessarily meet the required standards. As such interference can result in serious malfunction of the unit and/or create unsafe situations, you must observe the following:

- Ensure that each piece of non- KONGSKILDE - SEKO SRL equipment fitted to the machine bears the CE mark.
- The maximum power of emission equipment (radio, telephones, etc.) must not exceed the limits imposed by the national authorities of the country where you use the machine.
- The electro-magnetic field generated by the add-on system should not exceed **24 V/m** at any time and at any location in the proximity of electronic components.

Failure to comply with these rules will render the KONGSKILDE - SEKO SRL warranty null and void.

Manual scope and required training level

Introduction to this manual

This manual gives information about the use of your KONGSKILDE - SEKO SRL machine as intended and under the conditions foreseen by KONGSKILDE - SEKO SRL during normal operation, routine service, and maintenance.

This manual does not contain all the information that relates to periodic service, conversions, and repairs that only trained service personnel can perform. Some of these activities may require appropriate facilities, technical skills, and/or tools that KONGSKILDE - SEKO SRL does not supply with the machine.

The manual contains the chapters as shown on the Contents pages. See the Index at the end of this manual to locate specific items about your KONGSKILDE - SEKO SRL machine.

Normal operation

Normal operation consists of the use of this machine for the purpose KONGSKILDE - SEKO SRL intends by an operator that:

- Is familiar with the machine and any mounted equipment or towed equipment
- Complies with the information on operation and safe practices as specified by KONGSKILDE - SEKO SRL in this manual and by the signs on the machine

Normal operation includes:

- Preparation and storage of the machine
- Addition and removal of ballast
- Connection and disconnection of mounted equipment and/or towed equipment
- Adjustment and configuration of the machine and equipment for the specific conditions of the job site, field, and/or crop
- Movement of components into and out of working positions

Routine service and maintenance

Routine service and maintenance consists of the daily activities necessary to maintain the proper machine function. The operator must:

- Be familiar with the machine characteristics
- Comply with the information on routine service and safe practices as specified by KONGSKILDE - SEKO SRL in this manual and by the signs on the machine

Routine service can include:

- Fueling
- Cleaning
- Washing
- Topping up fluid levels

- Greasing
- Replacing consumable items such as light bulbs

Periodic service, conversions, and repairs

Periodic service consists of activities that are necessary to maintain the expected life of the KONGSKILDE - SEKO SRL machine. These activities have defined intervals.

Trained service personnel familiar with the machine characteristics must perform these activities at the defined intervals. Trained service personnel must comply with the information on periodic service and safe practices as partly specified by KONGSKILDE - SEKO SRL in this manual and/or other company literature.

Periodic service includes:

- Oil change service for the engine, hydraulic circuits, or transmission
- Periodic exchange of other substances or components as required

Conversion activities rebuild the KONGSKILDE - SEKO SRL machine in a configuration that is appropriate for a specific job site, crop, and/or soil conditions (e.g., installation of dual wheels). Conversion activities must be done:

- By trained service personnel familiar with the machine characteristics
- By trained service personnel that comply with the information on conversion as partly specified by KONGSKILDE - SEKO SRL in this manual, assembly instructions, and/or other company literature

Repair activities restore proper function to a KONGSKILDE - SEKO SRL machine after a failure or degradation of performance. Dismantling activities occur during the scrapping and/or dismantling of the machine.

Trained service personnel familiar with the machine characteristics must perform these activities. Trained service personnel must comply with the information for repair as specified by KONGSKILDE - SEKO SRL in the service manual.

Before you operate

Read this manual before you start the engine or operate this KONGSKILDE - SEKO SRL machine. Contact your KONGSKILDE - SEKO SRL dealer if:

- You do not understand any information in this manual
- You need more information
- You need assistance

All persons training to operate, or who will operate this KONGSKILDE SEKO SRL machine should be old enough to possess a valid local vehicle operating permit

(or meet other applicable local age requirements).

These persons

must demonstrate the ability to operate and service the KONGSKILDE SEKO SRL machine in a correct and safe manner.

aging depending on the kind of shipment and the related procedure to assemble the received components.

Additional documents

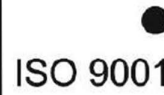
When required, the machine is delivered with an assembly instruction. The assembly instruction shows the pack-

Product Identification Number (PIN)

The Product Identification Number (PIN) is a serial number that identifies the implement.

The serial number, model, and other specifications, are on the plate.

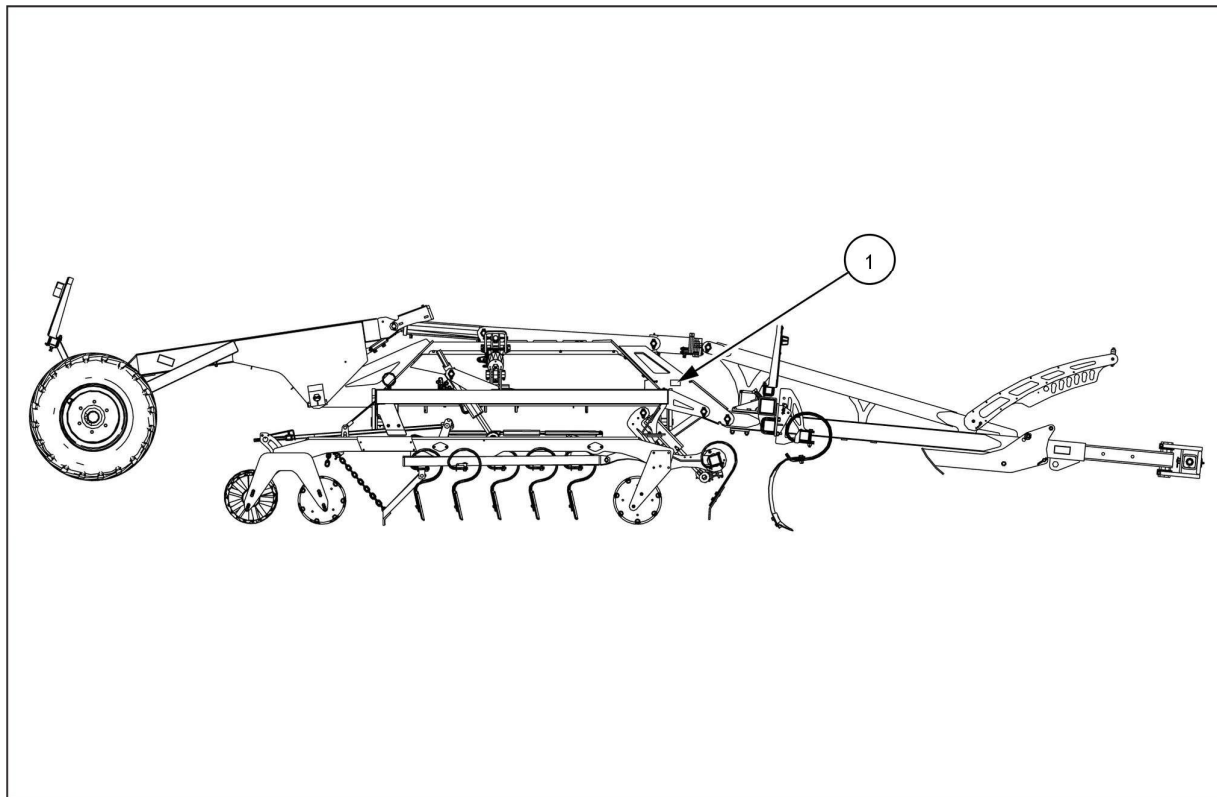
Provide your KONGSKILDE SEKO SRL dealer with the model and PIN when you order spare parts.

		 KONGSKILDE SEKO Kongskilde - Seko Srl Via Gorizia, 90 - 35010 Curtarolo (PD) Italy		 ISO 9001	
MODELLO - MODEL MODÈLE - MODELL TIPO - TYPE TYPE - TYP MATRICOLA - SERIAL NUM. N. DE SERIE - DIE SERIE NUM. N. OMOLOGAZIONE - OMOLOGATION NUM. N. OMOLOGATION - BESTÄTIGUNG					
kW R.P.M. MASSA - MASS - MASSE - MASSE: a vuoto - empty à vide - vakuum max. ammessa - max. allowed max. Admis - max. zugelassen		CARICHI AMMESSI - LOADS ALLOWED CHARGES ADMIS - LADUNG ZUGELASSEN: gancio di traino - draw-eye - crochet de traction - der Ösenhaken primo asse - first axle premier axe - ersten brett secondo asse - second axle deuxième axe - Zweite brett terzo asse - third axle troisième axe - drittes brett quarto asse - fourth axle quatrième axe - viertes brett			
		LUBRIFICANTI RACCOMANDATI - RECOMMENDED LUBRICANTS - LUBRIFIANTS CONSEILLES - EMPFEHLEN SCHMIERMITTELN ARNICA 46 BLASIA 220 GR MU EP 2		PARTI DA LUBRIFICARE - PARTS TO LUBRICATE - PARTIES A LUBRIF. - ERSATZTEILEN ZU SCHMIEREN VEDI LIBRETTO ISTRUZIONI LOOK INSTRUCTION BOOK VOIR LE LIVRE D'INSTRUCTION SEHEN DAS UNTERRICHT - BUCH	

Product identification

NOTE: Do not remove or change the Product Identification Number (PIN) plate (1) on the implement.

The PIN plate (1) is on the front of the implement.



1

For future reference, record your implement model and PIN in the spaces below.

Model

Product Identification Number (PIN)

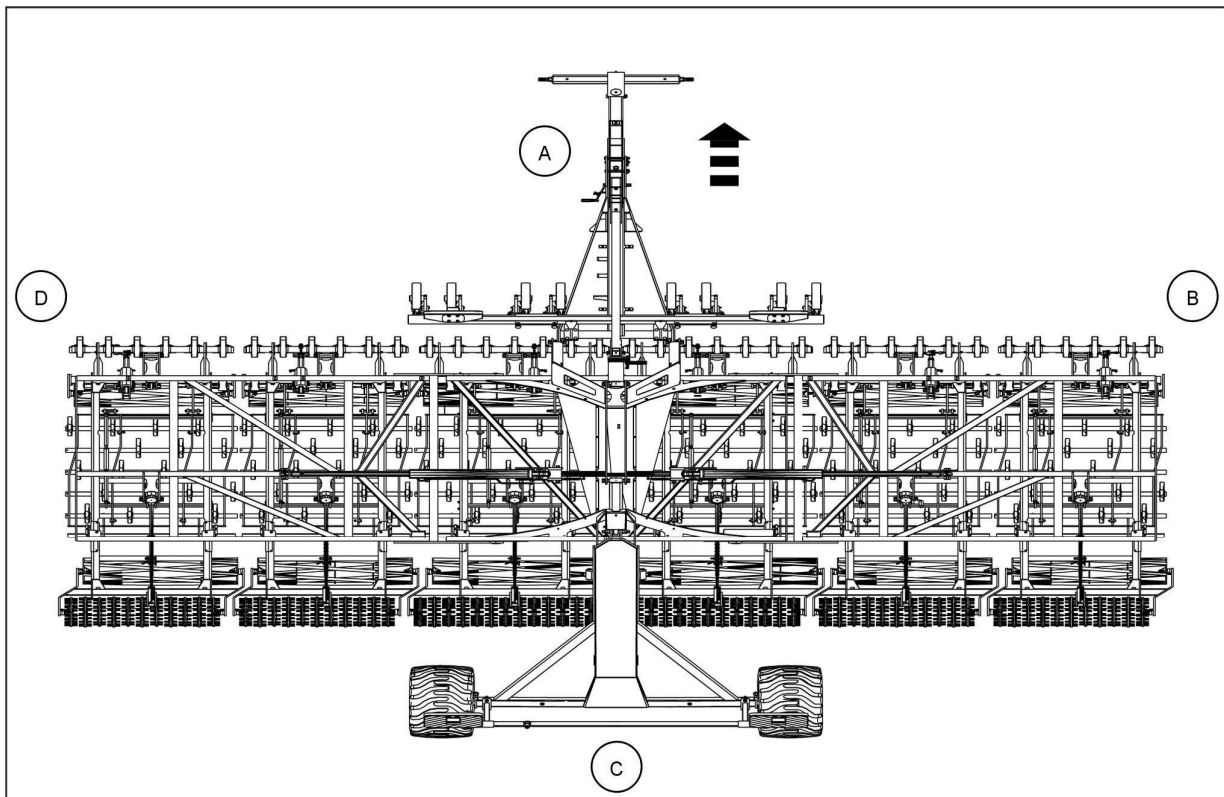
Operator's manual storage on the machine

Keep this operator's manual protected and accessible on the tractor whenever you transport or operate the implement.

Implement orientation

NOTE: To determine the left-hand side and the right-hand side of the implement, stand behind the implement and face the direction of travel during working operation.

The following overhead view illustration is a general representation of the implement. The illustration indicates the sides, front, and rear orientations of the implement as referred to throughout this operator's manual.



1

NOTE: The arrow indicates the direction of the implement during working operation.

- (A) Front of the implement
- (B) Right-hand side of the implement
- (C) Rear of the implement
- (D) Left-hand side of the implement

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2 - SAFETY INFORMATION

Safety rules and signal word definitions

Personal safety



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

 DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury.

 WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.

 CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.

Machine safety

NOTICE: Notice indicates a situation that, if not avoided, could result in machine or property damage.

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine or property damage. The word Notice is used to address practices not related to personal safety.

Information

NOTE: Note indicates additional information that clarifies steps, procedures, or other information in this manual.

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

General recommendations

You can avoid most farm machinery accidents with the observance of a few simple safety precautions.

- This operator's manual contains important information concerning operation, maintenance and adjustment of the implement. Furthermore, this operator's manual mentions and emphasizes all the safety instructions.
- Read the operator's manual thoroughly before you start, operate, service, or carry out any other operation on the implement. Even though you have been driving a similar implement before, you must read the manual. This is a matter of your own and other people safety. A few minutes reading will save you time and hassle later. Lack of knowledge can lead to accidents.
- In case of an accident, stop the tractor, turn off the engine and remove the key from the contact, assess the situation and call emergency services when required.
- Your implement was designed with safety in mind. However, there is no real substitute for caution and attention when you need to prevent an accident. Once an accident has occurred, it is too late to think about what you should have done. This means that it is very important that you as user of the implement pay attention and use the implement correctly and thereby avoid exposing yourself and others to unnecessary danger.
- The implement must be operated only by responsible persons who have been adequately trained and authorized to use the implement. Never leave the implement to others before you have made sure that they have the necessary knowledge to operate the implement safely.
- Never let the implement run without supervision.
- Always keep a first aid kit handy.
- The implement has only one operator station and this is the cab of the tractor, which is a one man operated implement. Never permit anyone to ride on or in an implement. Do not allow riders on the implement or tractor; do not allow people to stand on the ladder or steps. Your view to the left or right will be obstructed and a rider risks to fall from the implement or tractor during unforeseen or abrupt movements. There is no need for other people on or around the implement during normal operation.
- Do not use this implement as a lift, ladder or platform to work at heights.
- Before you work on the implement, disengage all drives, stop the engine and remove the ignition key. Wait for the rotating parts to run down.
- Never work around the implement with loose clothing, jewelry, watches, long hair and other loose or hanging items can be pulled in by the moving parts of the implement.
- Keep hands away from moving parts of the implement.
- Never leave the tractor seat when driving.
- Always adjust the driving speed to the conditions of the ground. When driving up and down and across hill-sides, sharp turns should be avoided.

Illustrations

WARNING

Illustrations in this manual may show protective shielding open or removed to better illustrate a particular feature or adjustment.

Replace all shields before operating the machine.
Failure to comply could result in death or serious injury.

NOTE: Some of the illustrations in this manual have been obtained by photographing prototypes. Standard production machines may differ in some details.

Local obligations

Your machine may be equipped with special guarding or other devices in compliance with local legislation. Some of these require active action by the operator.

Therefore, check local legislation on the usage of this machine.

Fire or explosion prevention

1. Crop material, trash, debris, bird nests or flammable material can ignite on hot surfaces.
2. Inspect the electrical system for loose connections or frayed insulation. Repair or replace loose or damaged parts.
3. Do not store oily rags or other flammable material on the implement.
4. Do not weld or flame cut any items that contain flammable material. Clean items thoroughly with non-flammable solvent before you weld or cut with a flame.
5. Do not expose the implement to flames, burning brush or explosives.
6. Promptly investigate any unusual smells or odors that may occur during the operation of the implement.

Hazardous chemicals

1. If you are exposed to or come in contact with hazardous chemicals you can be seriously injured. The fluids, lubricants, paints, adhesives, coolant, etcetera. required for the function of your machine can be hazardous. They may be attractive and harmful to domestic animals as well as humans.
2. Material Safety Data Sheets (MSDS) provide information about the chemical substances within a product, safe handling and storage procedures, first aid measures and procedures to be taken in the event of a spill or accidental release. MSDS are available from your dealer.
3. Before you service your machine check the MSDS for each lubricant, fluid, etcetera. used in this machine. This information indicates the associated risks and will help you service the machine safely. Follow the information in the MSDS, on manufacturer containers, as well as the information in this manual when you service the machine.
4. Dispose of all fluids, filters and containers in an environmentally safe manner in accordance with local laws and regulations. Check with local environmental and recycling centers or your dealer for correct disposal information.
5. Store fluids and filter in accordance with local laws and regulations. Use only appropriate containers for the storage of chemicals or petrochemical substances.
6. Keep out of reach of children or other unauthorized persons.
7. Additional precautions are required for applied chemicals. Obtain complete information from the manufacturer or distributor of the chemicals before you use them.

Starting up the implement safely

Before you attach the implement to the tractor, ensure that the tractor is in good working order and that the brakes are efficient, particularly if you operate on hilly ground. Also, ensure that the hydraulic or pneumatic system is compatible with that of the implement.

When you attach the implement to the tractor:

- Never allow anyone to stand between the tractor and the implement. An unintentional manoeuvre with the tractor may cause serious injury.
- Never go under an unsupported implement.

Install all the guards correctly before you use the implement.

Before you start up the implement (for example the first time after a long standstill period), make sure that there are no detached loose parts on the drive line area and on the moving parts of the implement.

Replace worn and damaged parts as soon as possible in order to ensure that the implement operates correctly and safely. Do not use the implement until all worn and damaged parts have been replaced.

Traveling on public roads

Comply with the relevant traffic regulations

WARNING

Loss of control hazard!

Uneven brake force exists on left-hand and right-hand brakes. Always use brake pedal coupler when traveling on public roads to ensure brakes are actuated together.

Failure to comply could result in death or serious injury.

WARNING

Impact hazard!

Take care when making turns. The machine rear end swings out when changing direction.

Failure to comply could result in death or serious injury.

The implement is built according to the homologation requirements of your country. Do not modify the implement in a sense that would conflict with the national regulations.

If you wish to transport the implement on the public road, make sure that the combination tractor and implement observes the traffic rules in your country. This gives you and your surroundings the best possible safety.

The operators must observe relevant statutory or other national regulations that deal with road safety and labor safety issues.

Before you drive the implement on public roads:

- Check the allowable transport dimensions and weights.
- Install correctly the lighting and the warning panels.

Always observe the principles for permissible axle loads, the total unit mass and the transport gauge.

Observe the tractor manufacturer regulations and recommendations, specifically those relating to maximum transport loads and maximum speed.

Even in similar circumstances, the maximum allowed speed can vary depending on which country you travel in.

Always drive with the statutory lights and safety marking during transport on public road and at night.

Install all the required signs that indicate the vehicle width. Also install all the required lights that indicate the vehicle width during the nightly transport. If in doubt, contact your government department responsible for road transport.

Travel may be restricted to certain road types. Transport may be restricted to daytime or outside peak traffic hours. However plan your route to avoid heavy traffic and peak traffic hours.

Passengers

Do not allow passengers to ride in the tractor unless a specific seat is provided.

During transport, the transportation of people on the top of the implement is strictly forbidden.

Transport safety

Transport the implement only in transport position. Secure the implement for transport. Always activate the mechanical transport safety devices before transport.

Make sure to fit all the hitch pins with retaining pins correctly. Mechanically secure the hydraulic cylinders to prevent cylinders from creeping.

Drive safe

Do not drive under the influence of alcohol or drugs.

Never travel at speed in crowded areas.

When you maneuver the tractor with the implement, always be aware and conscious of its size.

The tractor driver must not leave the cabin during transport.

Always consider other road users.

Always adopt safe driving practices. Slow down and signal before turning. Give way to oncoming traffic in all situations, including narrow bridges, intersections etcetera. Pull over to allow faster traffic to pass.

If the implement is marked with a maximum speed limit, never exceed this maximum speed limit.

Always adjust the driving speed to the road and weather conditions. In case of bad road conditions and high driving speeds, big forces may occur and cause overload of tractor and implement.

Drive at a safe speed to ensure control and ability to stop in an emergency.

Lock the tractor brake pedals together. Never use independent breaking at transport speeds.

Mounted implements and ballast weights influence the driving, steering and braking capacity of the tractor. Make sure that the additional weight of the implement on the linkage does not compromise driving, steering and braking capacity of the tractor. Install front weights or repair the brakes if the tractor is not safe to drive.

Reduce speed during turns. Tractors have not been designed for fast turning. Avoid that the rear end of the implement hits an obstacle.

When you turn during transport pay attention to the overhang and/or oscillating weight of the implement.

Use engine braking when you drive down hills. Do not coast.

Watch for obstructions, particularly if over-width. Observe any load ratings applicable on bridges.

After you finish the transport, before you leave the tractor, always lower the implement to the ground in parking position, turn off the tractor engine, pull the parking brake, and remove the key from the ignition.

Operating the implement safely

WARNING

Hazard to bystanders!

Always sound the horn before starting the machine. Make sure the work area is clear of other persons, domestic animals, tools, etc. before you operate the machine. Never allow anyone in the work area during machine operation.

Failure to comply could result in death or serious injury.

NOTE: Only put the implement into operation according to the instructions from the dealer.

Never operate the implement under the influence of alcohol, drugs, or while otherwise impaired.

Keep people away from the implement during operation. Ask bystanders to leave the field. There is the risk for bystanders to be overrun by the implement. Stop the implement immediately if someone approaches.

The tractor or its implement may strike or crush against a person or pet within the operator area of the tractor. Do not allow anyone to enter the work area. Make sure that the area is clear and operation is safe before you move the implement.

Always start the implement with the engine running at low speed.

Before you raise or lower the implement with the link arms of the tractor, check that nobody is near the implement or touches the implement.

When you operate the implement, always remain seated in the tractor cab. Operate controls only when seated in the tractor seat, except for those controls expressly intended for use from other locations.

The transportation of people on top of the implement is strictly forbidden at all times.

Before you start the implement, make sure that all sub-assemblies are fully operational and complete. Pay particular attention to all locks and safety devices. Repair or replace all malfunctioning elements with new ones.

During operation, the safe distance to the implement is **5 m (16.4 ft)**. Unauthorized access to the implement, when in operation, is strictly prohibited.

Due to the presence of dust when working in the field, we recommend the use of tractors equipped with a dust-proof cabin with adequate filters.

Avoid using the implement in unsuitable weather conditions. It is better to stop work temporarily rather than to operate in such conditions.

Do not operate the implement during a thunderstorm. If you are on the ground during a thunderstorm, stay away from machinery and equipment. Seek shelter in a permanent, protected structure.

If a lightning from a thunderstorm should strike during operation, remain in the tractor cab. Do not leave the cab. Do not make contact with the ground or objects outside the machine.

Always operate the implement at a safe speed in accordance with the ground conditions. On uneven ground, proceed with the utmost caution to ensure proper stability.

Do not leave the implement on slopes without securing it against unintentionally rolling down.

Drive in a low tractor gear if you work on hillsides.

When you drive up and down and across hillsides, avoid sharp turns.

Farming operations performed on the slopes of hills and inclined surfaces must not be performed obliquely to the direction of the slope, due to the risk of the tractor rolling over.

When you turn during operation, pay attention to the overhang and/or oscillating weight of the implement.

Avoid changing direction abruptly, especially when you reverse, to avoid dangerous pitching of the implement.

Pay the necessary attention while you operate next to public roads or footpaths.

Danger of death by electrocution!

Pay special attention to the overhead power lines. Always ask the owner of the field about the presence of overhead power lines. Make sure the implement has sufficient clearance to pass in all directions (also with raised or opened implement components). Also think of the radio aerial(s) or any other accessory or parts which may have been added afterwards.

High voltage lines may require significant clearance for safety. Contact local authorities or utilities to obtain safe clearance distances from high voltage power lines.

Should a contact between the implement and an electric power line occur, then the following precautions must be taken: Stop the implement movement immediately, stop the tractor engine and apply the tractor handbrake.

Check if you can safely leave the cab or your actual position without direct contact with electric wires. If not, stay in your position and call for help. If you can leave your position without touching the lines, jump off the last step or support position and make sure that there is no contact between any part of your body, the tractor and the ground at the same time. Never touch the tractor or the implement to the lines has been shut off. When people approach the tractor or the implement, warn them not to touch the tractor or the implement but

to ask the electric power supply company to shut off the power to the lines.

Stopping the implement safely

Always interrupt the operation of the implement before you leave the tractor seat.

Make sure to secure the tractor by means of the hand brake and/or stop blocks if you need to stand between the tractor and the implement.

When, due to exceptional circumstances, you decide to keep the tractor engine running after you leave the tractor cab, you must:

- Bring the tractor engine to low idle speed.
- Disengage all drive systems.
- Shift the tractor transmission into neutral.
- Apply the parking brake.

When you park the implement there are some operational risks which may cause personal injury. Therefore, you must:

- Make sure that the ground is firm and even during parking.
- Make sure that tractor and implement cannot move.
- Always lower the implement to the ground.
- Stop the tractor engine and remove the ignition key.
- Use correct support or transport safety device when the implement is parked. Make sure that the parking stand is secured.

When you detach the implement from the tractor:

- Never allow anyone to stand between the tractor and the implement. An unintentional manoeuvre with the tractor may cause serious injury.
- Always detach the implement carefully and on a flat surface to prevent damage.
- Never go under an unsupported implement.

Maintenance

WARNING

Maintenance hazard!

Before you start servicing the machine, attach a DO NOT OPERATE warning tag to the machine in a visible area.

Failure to comply could result in death or serious injury.

- Follow the maintenance schedule with regard to the implement servicing intervals.
Remember that the implement requires attention from time to time. Also remember that the maintenance will greatly extend the life of the implement.
 - Take the necessary precautions: not to spill any oil, fuel or grease.
To avoid oil and grease contact with your skin, wear protective gloves.
 - Service the implement on a firm level surface.
 - Stay clear from the area of the three point linkage during maintenance or checking operations.
 - Do not attempt to remove material from any part of the implement, clean, lubricate or carry out any adjustments on the implement while it is in use.
 - Keep hands, feet and/or garments away from parts which move.
 - Raised implement and/or loads can fall unexpectedly and crush persons underneath. Never enter or allow anyone to enter the area underneath raised implement during operation.
Unsupported hydraulic cylinders can lose pressure and drop the implement and cause a crushing hazard. Do not leave the implement in a raised position while parked or during service, unless securely blocked on wooden blocks.
 - Never work under a raised implement unless a support chain or other mechanical securing device secure the link arms of the tractor so that the implement cannot move to a lower position unintentionally.
 - Relieve the pressure, stop the engine and remove the ignition key, before you connect or disconnect fluid lines.
 - Before you adjust, clean, lubricate or you carry out repairs on the implement, stop the engine and remove the ignition key.
 - Any leakage of hydraulic oil or fuel under pressure may cause severe harm, so always use a shield, goggles and gloves when you trace oil or fuel leaks.
- Do not use your hand to check for leaks. Use a piece of cardboard or paper.
- Continuous long term contact with hydraulic fluid may cause skin cancer. Avoid long term contact and wash the skin promptly with soap and water.
 - If hydraulic fluid or diesel penetrates the skin, seek medical care immediately.
 - Observe all recommendations that are mentioned in this manual such as service intervals, torques, lubricants, etcetera.
 - Always replace all parts that have damage or wear.
 - Never build flexible hose assemblies from hoses that were previously part of a hose assembly.
 - Never weld to the tubes.
 - Always use gloves when you work with parts on the implement as the parts can have sharp edges.
 - Transmission and hydraulic lines may become hot during operation. Be careful when you service such components. Allow surfaces to cool before you handle or disconnect hot components. Wear protective equipment when required.
 - Make sure that tires are correctly inflated. Do not exceed any recommended load or pressure. Over pressure could cause explosion hazard, with risk of death or serious injury. Follow the instructions in the manual for proper tire inflation
 - Tires are heavy. Always handle the tires with proper equipment. Failure to comply could cause death or serious injury.
 - Never weld on a wheel with a tire installed. Always remove the tire completely from the wheel before you weld.
 - Always have a qualified tire technician service the tires and wheels. If a tire has lost all pressure, take the tire and wheel to a tire shop or your dealer for service. Explosive separation of the tire can cause serious injury.
 - Do not weld to a wheel or rim until the tire is completely removed. Inflated tires can generate a gas mixture with the air that can be ignited by high temperatures from welding procedures performed on the wheel or rim. Removing the air or loosening the tire on the rim (breaking the bead) will not eliminate the hazard. This condition can exist whether tires are inflated or deflated. The tire must be completely removed from the wheel or rim prior to welding the wheel or rim.

Personal Protective Equipment (PPE)

Wear Personal Protective Equipment (PPE) such as protective clothing, eye protection, hearing protection, dust mask, hard hat, heavy gloves, work boots, and/or any other PPE that provides for the safety and protection of the individual that operates this equipment.



1

Safety requirements for fluid power systems and components - hydraulic systems

WARNING

Escaping fluid!

Hydraulic fluid or diesel fuel leaking under pressure can penetrate the skin and cause infection or other injury. To prevent personal injury: Relieve all pressure before disconnecting fluid lines or performing work on the hydraulic system. Before applying pressure, make sure all connections are tight and all components are in good condition. Never use your hand to check for suspected leaks under pressure. Use a piece of cardboard or wood for this purpose. If injured by leaking fluid, see your doctor immediately.

Failure to comply could result in death or serious injury.

Before you start the engine or pressurize the hydraulic system, install and tight correctly all the hydraulic couplings. Check that all hoses and fittings are undamaged. Replace immediately damaged components.

Only connect the hydraulic hoses to the tractor outlets if the tractor and the implement are pressure-free. If the hydraulic system of the tractor is activated, the hydraulic system may lead to uncontrolled movements which may cause secondary damage.

Make sure that no persons are near the implement when you start the implement, as there might be air in the hydraulic system which might lead to sudden movements.

When the tractor engine has stopped, activate the tractor hydraulic spool valves to make sure that there is no pressure in the hydraulic hoses.

To expel all the air from the oil in the hydraulic cylinders, test all the functions after you connect the hydraulic connections to the tractor, especially before you enter or drive on the public roads. Otherwise you risk that the header suddenly moves downward after you open the transport lock.

Ecology and the environment

Soil, air, and water quality is important for all industries and life in general. When legislation does not yet rule the treatment of some of the substances that advanced technology requires, sound judgment should govern the use and disposal of products of a chemical and petrochemical nature.

Familiarize yourself with the relative legislation applicable to your country, and make sure that you understand this legislation. Where no legislation exists, obtain information from suppliers of oils, filters, batteries, fuels, anti-freeze, cleaning agents, etc., with regard to the effect of these substances on man and nature and how to safely store, use, and dispose of these substances. Your KONGSKILDE - SEKO SRL dealer can also provide assistance.

Helpful hints

- Avoid the use of cans or other inappropriate pressurized fuel delivery systems to fill tanks. Such delivery systems may cause considerable spillage.
- In general, avoid skin contact with all fuels, oils, acids, solvents, etc. Most of these products contain substances that may be harmful to your health.
- Modern oils contain additives. Do not burn contaminated fuels and or waste oils in ordinary heating systems.
- Avoid spillage when you drain fluids such as used engine coolant mixtures, engine oil, hydraulic fluid, brake fluid, etc. Do not mix drained brake fluids or fuels with lubricants. Store all drained fluids safely until you can dispose of the fluids in a proper way that complies with all local legislation and available resources.
- Do not allow coolant mixtures to get into the soil. Collect and dispose of coolant mixtures properly.
- Do not open the air-conditioning system yourself. It contains gases that should not be released into the atmosphere. Your KONGSKILDE - SEKO SRL dealer or air-conditioning specialist has a special extractor for this purpose and can recharge the system properly.
- Repair any leaks or defects in the engine cooling system or hydraulic system immediately.
- Do not increase the pressure in a pressurized circuit as this may lead to a component failure.

Battery recycling

Batteries and electric accumulators contain several substances that can have a harmful effect on the environment if the batteries are not properly recycled after use. Improper disposal of batteries can contaminate the soil, groundwater, and waterways. KONGSKILDE - SEKO SRL strongly recommends that you return all used batteries to a KONGSKILDE - SEKO SRL dealer, who will dispose of the used batteries or recycle the used batteries properly. In some countries, this is a legal requirement.



1

Mandatory battery recycling

Since batteries contain sulfuric acid solution and heavy metals such as lead, before disposing of them, check your country regulations in terms of content and obligations related to the collection and recycling of used batteries.

Safety signs

The following safety signs are on your implement as a guide for your safety and for the safety of those who work with you.

Walk around the implement and note the content and location of all safety signs before you operate your implement. Read all the safety signs adhered to the implement and follow the instructions.

Keep all safety signs clean and legible. Clean safety signs with a soft cloth, water, and a gentle detergent.

NOTICE: Do not use solvent, gasoline, or other harsh chemicals. Solvents, gasoline, and other harsh chemicals may damage or remove the safety signs.

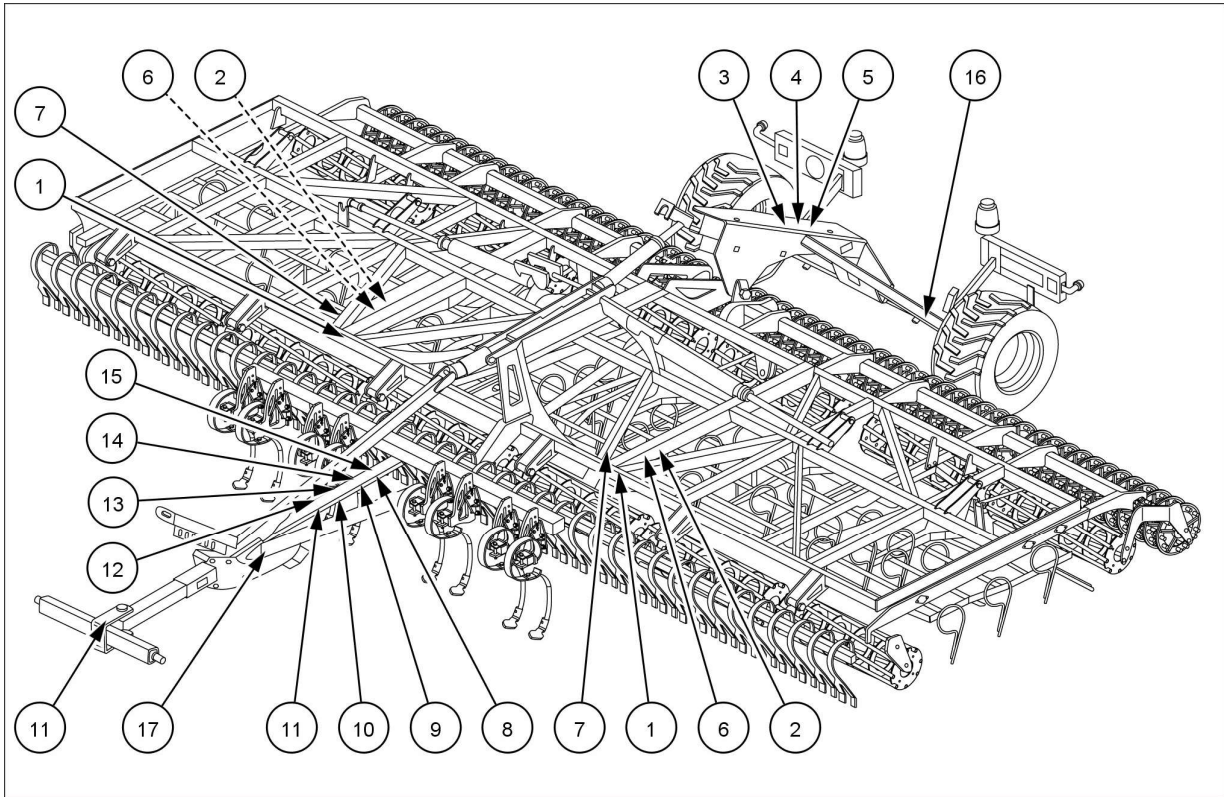
Replace all safety signs that are damaged, missing, painted over, or illegible. If a safety sign is on a part that you or your dealer replaces, make sure that you or your dealer install the safety sign on the new part. Contact your dealer for the replacement of the safety signs.

Safety signs that display the “Read operator’s manual” symbol direct you to the operator’s manual for further information regarding maintenance, adjustments, or procedures for particular areas of the implement. When a safety sign displays this symbol, consult the appropriate page of the operator’s manual.

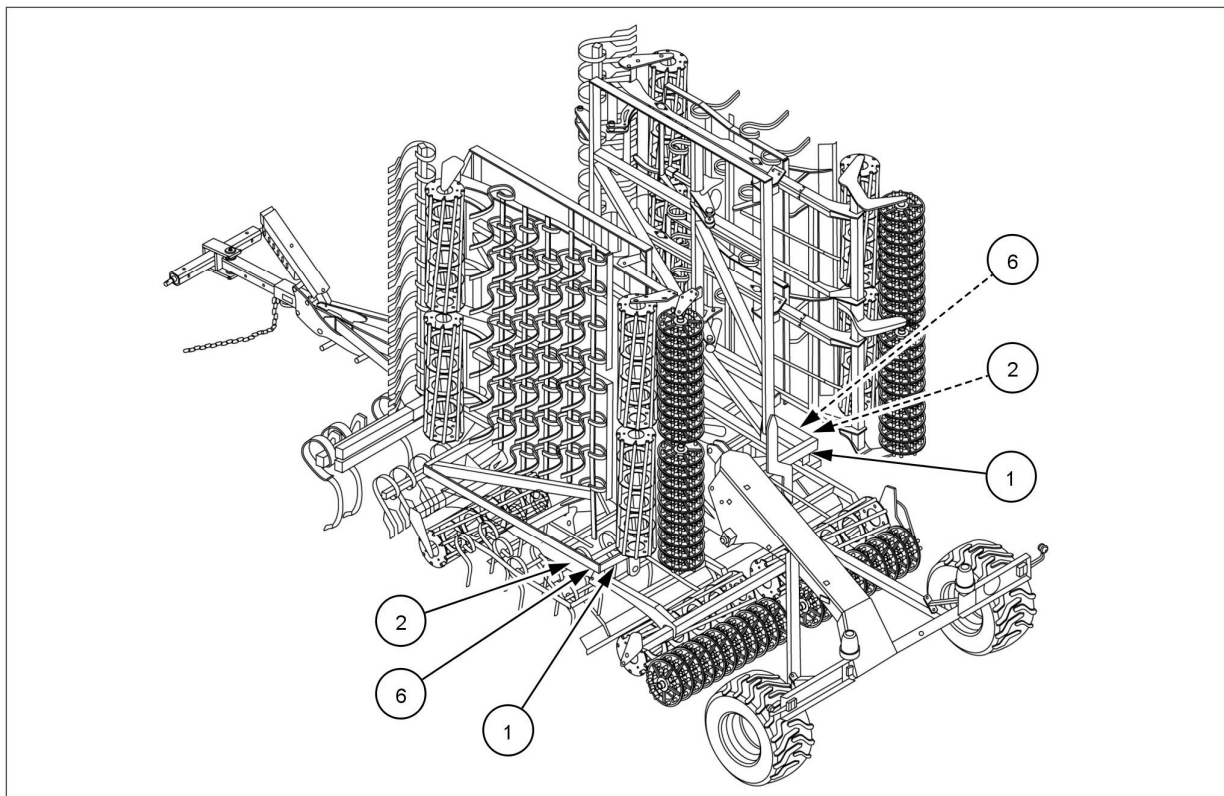


Safety signs that display the “Read service manual” symbol direct you to the service manual. If you doubt your ability to perform service operations, contact your dealer.





1



2

Safety sign (1)

Hazard of having the fingers or palms crushed by mobile implement elements.

The hazard will result in death or serious injury.

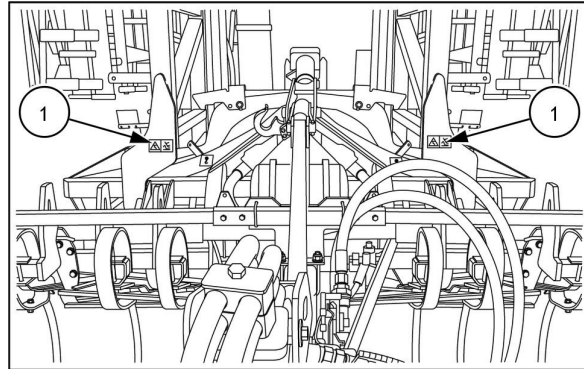
Reaching to the hazard zone with the engine running and the hydraulic or electrical installation connected is strictly prohibited.

Part number: 71000629546



3

Located on both sides frame of the implement. Two at the front of the implement (one on the left-hand wing, one on the right-hand wing) and two at the rear of the implement (one on the left-hand wing, one on the right-hand wing).



4

Safety sign (2)**⚠ WARNING****Falling object hazard!**

Loss of hydraulic pressure or movement of a control can cause raised equipment to fall. Never work under an implement or attachment supported only by the hydraulic system. Always use suitable equipment to support an implement or attachment that must be serviced in a raised position.

Failure to comply could result in death or serious injury.



5

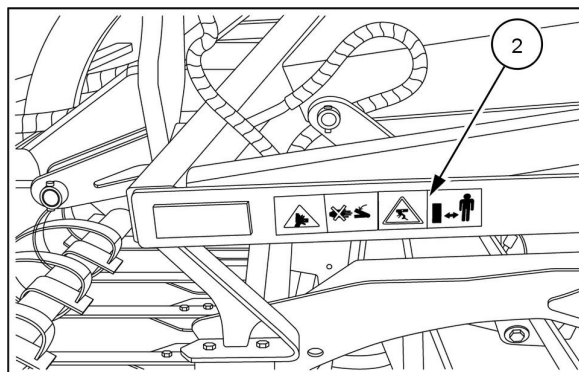
A hazard of your body being crushed by lowered implement elements.

The hazard will result in death or serious injury.

Reaching to the hazard zone with the engine running and the hydraulic or electrical installation connected is strictly prohibited.

Part number: 330600020

Located on both hand sides of the center frame Two at the front of the implement (one on the left-hand side, one on the right-hand side) and two at the rear of the implement (one on the left-hand side, one on the right-hand side).



6

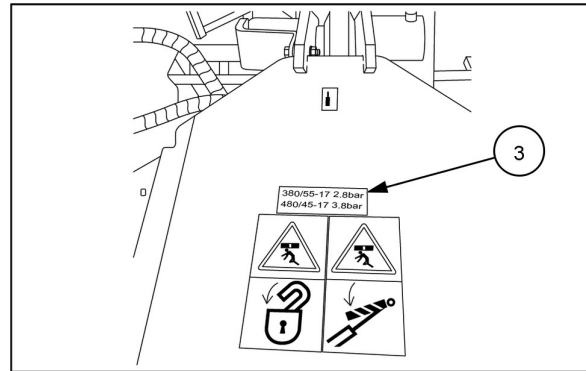
Safety sign (3)

Required tire pressure.

Part number: 301010037

380/55-17 2,8bar
480/45-17 3,2bar

Located on the chassis at rear of the implement.

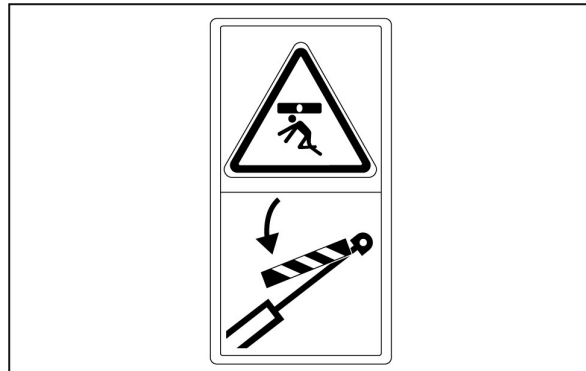


Safety sign (4)

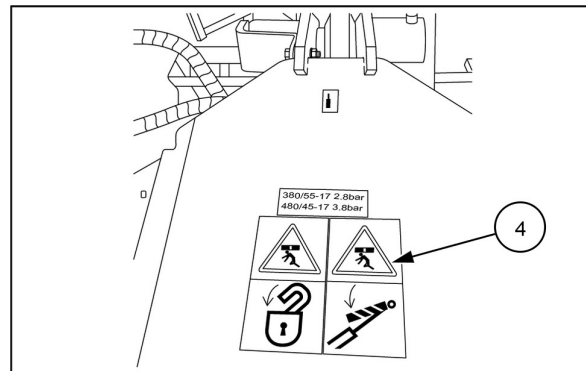
Hazard of your body parts being crushed causing severe injuries, with possible lethal effect.

Make sure the transport lock is safely closed during transport, operation and maintenance.

Part number: 301010039



Located on the chassis at rear of the implement.

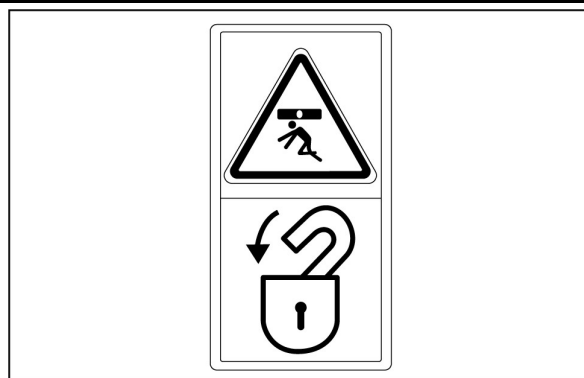


Safety sign (5)

Hazard of your body parts being crushed causing severe injuries, with possible lethal effect.

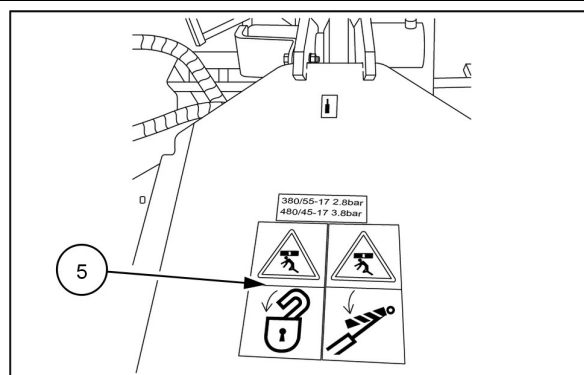
Make sure wing hooks are safely locked during transport, operation and maintenance.

Part number: 301010041



11

Located on the chassis at rear of the implement.



12

Safety sign (6)

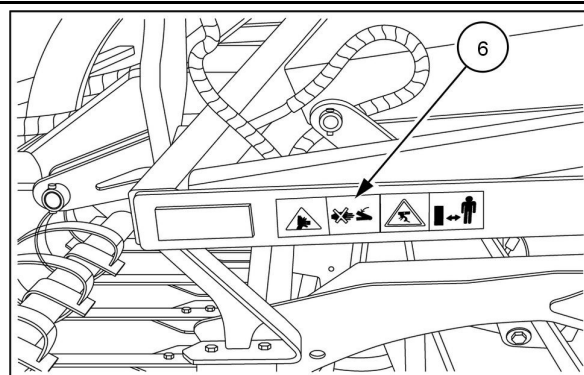
Never move your hand into the danger zone as long as the parts can move. The hazard could result in death or serious injury.

Part number: 810689410



13

Located on both hand sides of the center frame Two at the front of the implement (one on the left-hand side, one on the right-hand side) and two at the rear of the implement (one on the left-hand side, one on the right-hand side).



14

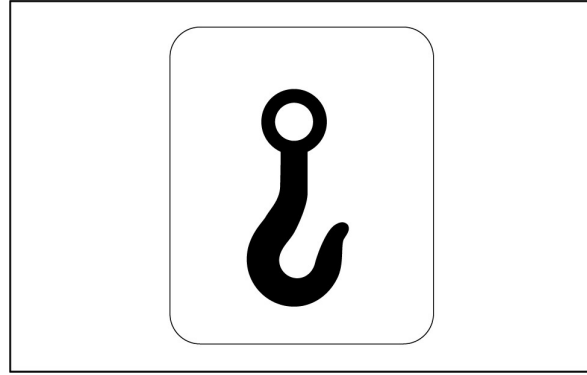
Safety sign (7)**⚠ WARNING****Crushing hazard!**

Use the machine lifting points when you lift and/or move the machine with heavy handling equipment. Lift the machine only from the indicated lifting eye hookup points. Always use adequate lifting equipment.

Failure to comply could result in death or serious injury.

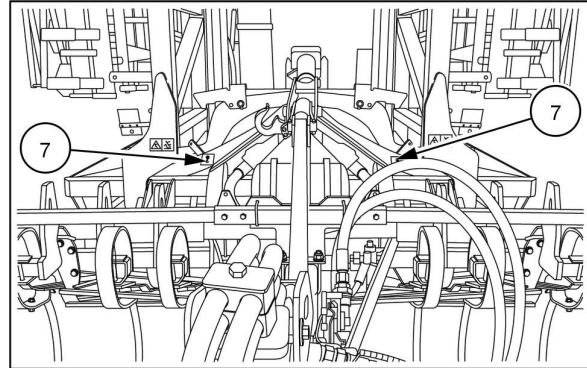
This safety sign indicates the lift points by which the implement can be lifted using a lifting device.

Part number: 74000666103



15

Located on the center frame.



16

Safety sign (8)

A hazard of your body being crushed when standing between the tractor and the implement to be connected.

The hazard could result in death or serious injury.

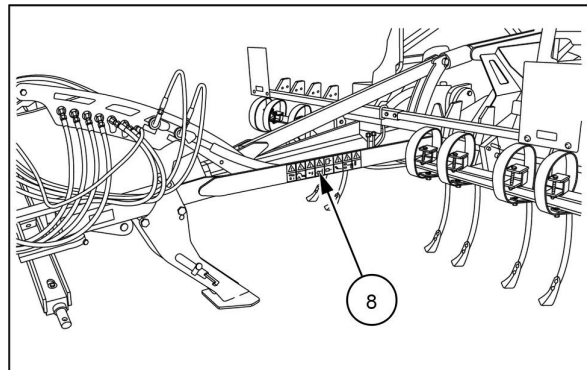
When connecting the implement to a tractor, standing in between the implement and the tractor with the tractor engine running and the tractor not secured against accidental rolling is strictly prohibited.

Part number: 300007974



17

Located on the left-hand side of the drawbar.



18

Safety sign (9)

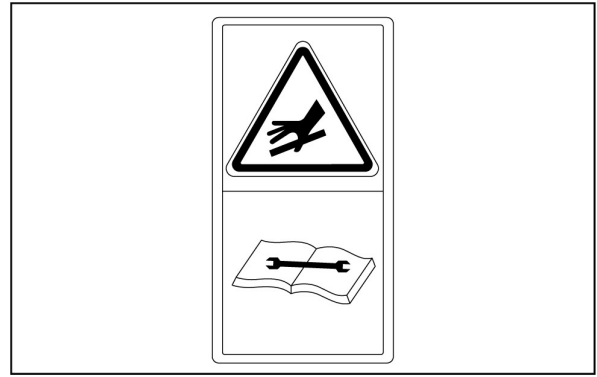
Hazard generated by hydraulic oil outflowing under pressure.

The hazard could result in death or serious injury.

Before proceeding to maintenance procedures or repairs of the hydraulic system, make sure the system is depressurized.

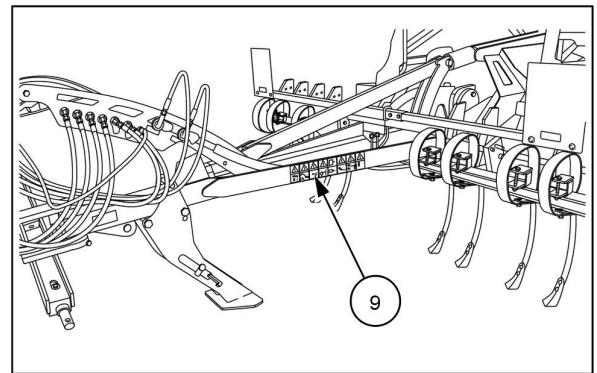
Do not try to seal hydraulic oil leaks using your hands or fingers.

Part number: 300007973



19

Located on the left-hand side of the drawbar.

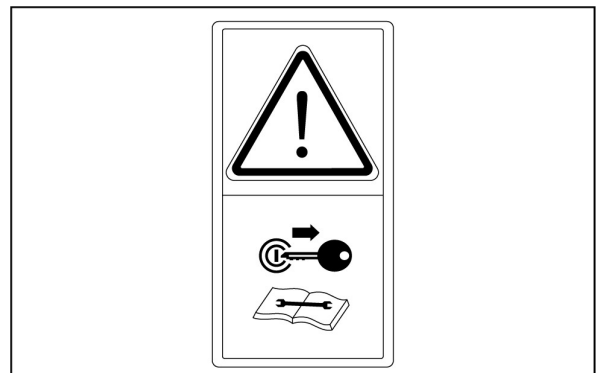


20

Safety sign (10)

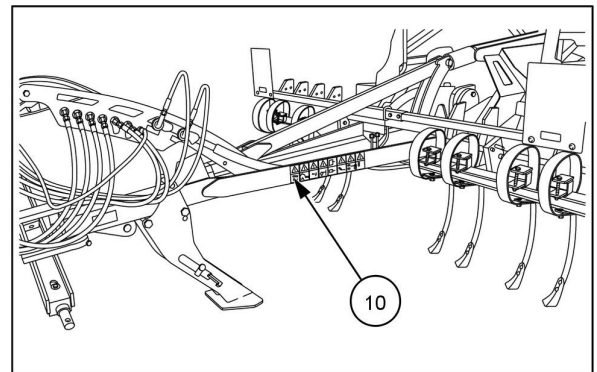
Stop the engine and take the key out of the ignition. Before proceeding to implement operation or repair, turn off the tractor engine and take the key out of the ignition.

Part number: 71000629551



21

Located on the left-hand side of the drawbar.



22

Safety sign (11)

⚠ WARNING

IMPROPER OPERATION OF THIS MACHINE CAN CAUSE DEATH OR SERIOUS INJURY.

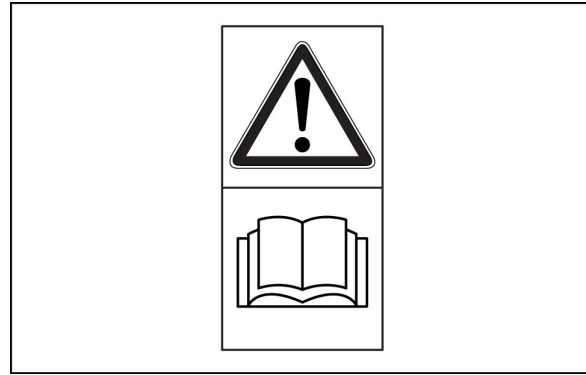
MAKE SURE THAT EVERY OPERATOR:

- is instructed in the safe and proper use of this machine.
- reads and understands the operator's manual for this machine.
- reads and understands **ALL** safety signs on the machine.

Failure to comply could result in death or serious injury.

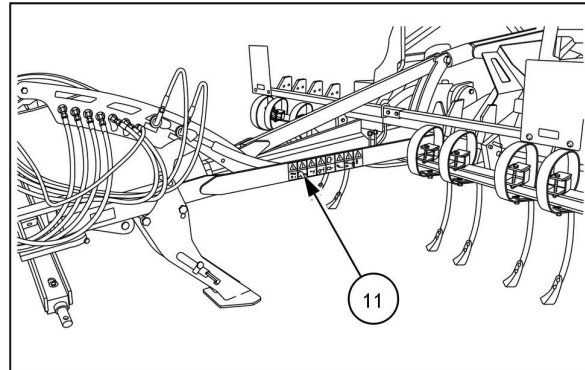
Carefully read the operator's manual before handling the implement. Observe instructions and safety rules when operating.

Part number: 200043774



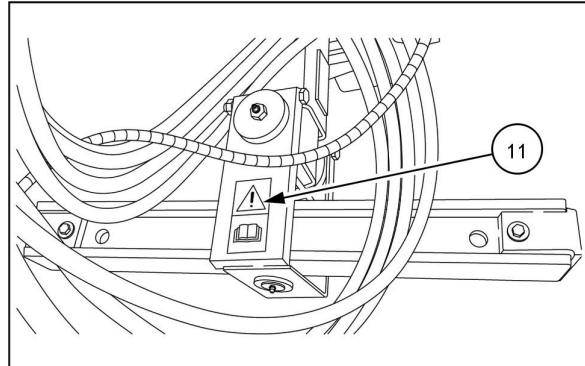
23

Located on the left-hand side of the drawbar.



24

Located on the beam at the front of the drawbar



25

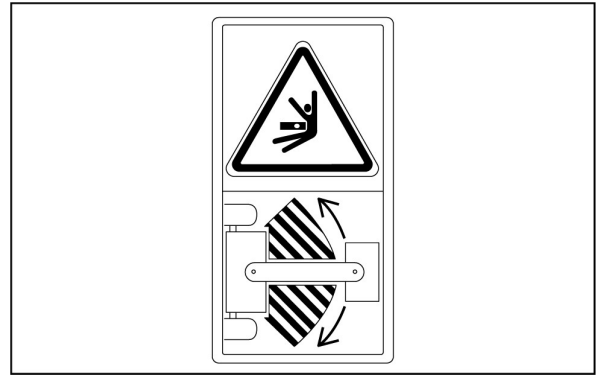
Safety sign (12)

A hazard of having your body crushed by standing in the drawbar motion range, between the tractor and the implement being connected.

The hazard could result in death or serious injury.

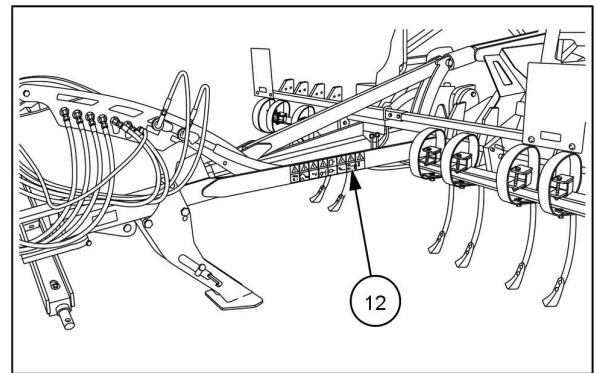
Standing in the hazard zone between the tractor and the implement with the tractor engine running and the tractor not secured against unintentionally rolling is strictly prohibited.

Part number: 301010040



26

Located on the left-hand side of the drawbar.

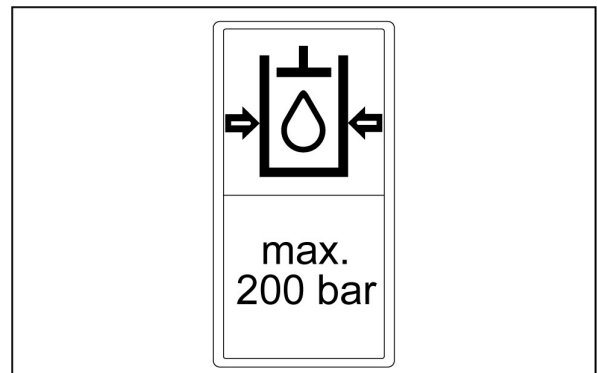


27

Safety sign (13)

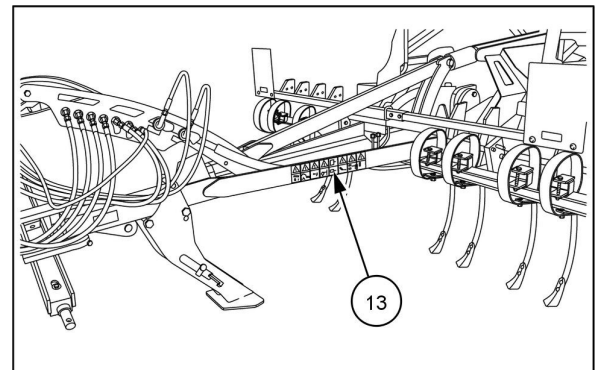
Maximum working pressure of the hydraulic system:
200 bar (2900 psi)

Part number: 300007977



28

Located on the left-hand side of the drawbar.



29

Safety sign (14)**⚠ WARNING****Electrocution hazard!**

Contact with overhead power lines can cause severe electrical burns or death from electrocution. Make sure there is enough clearance between equipment and overhead power lines. Failure to comply could result in death or serious injury.

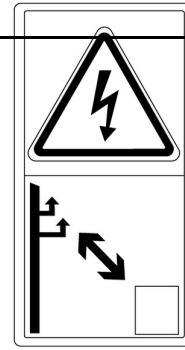
Hazard of being electrocuted or fire hazard caused by accidental hooking onto overhead electrical lines or by unauthorized proximity to live-current overhead electrical lines.

The hazard could result in death or serious injury.

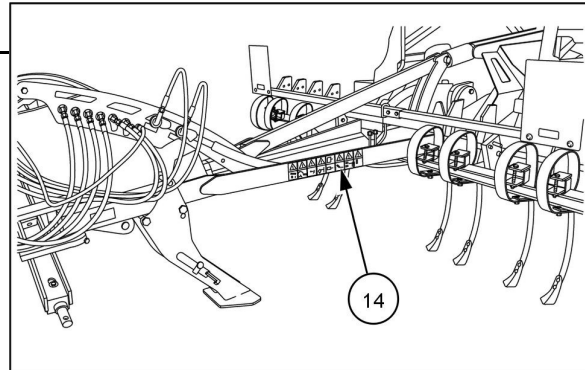
Maintain a safe distance to any electrical wires when folding, unfolding and traveling in the vicinity of electrical lines.

Part number: 301010038

Located on the left-hand side of the drawbar.



30



31

Safety sign (15)

A hazard of falling caused by standing on the implement when working or in transport. The hazard could result in death or serious injury.

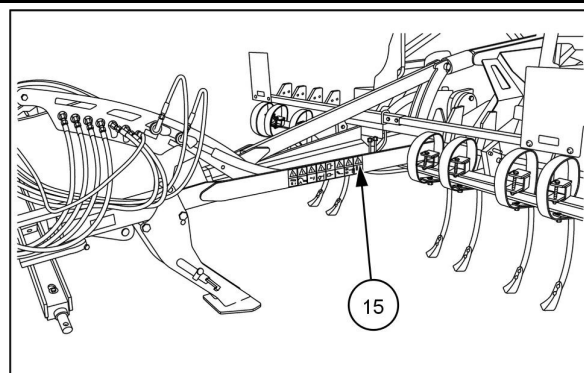
Traveling on the implement or entering the implement when working is strictly prohibited. This reservation refers to implements with walking surfaces and platforms as well. Make sure that no one is traveling on the implement.

Part number: 300007972



32

Located on the left-hand side of the drawbar.



33

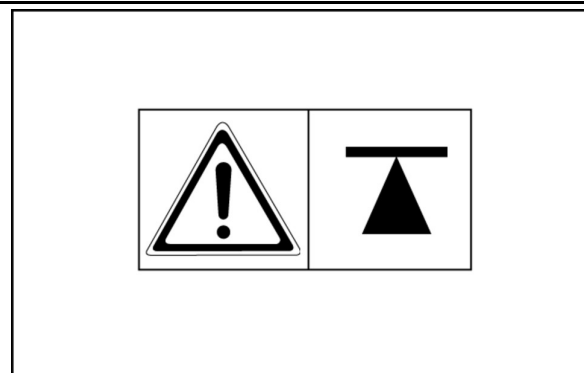
Safety sign (16)**▲ WARNING**

Crushing hazard!

Unit could fall if not properly supported. Follow jacking instructions provided for the unit. Use suitable jack stands. Be sure to position them properly.

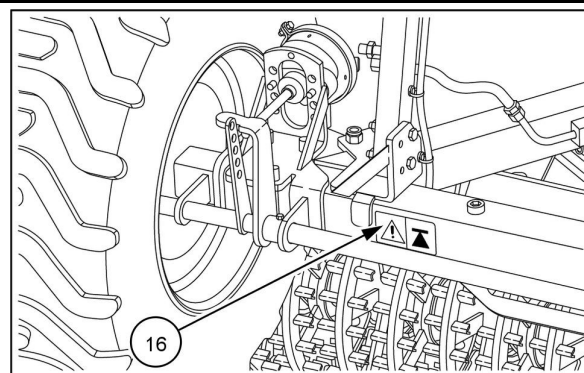
Failure to comply could result in death or serious injury.

Part number: 84389459



34

Located on both sides of wheel axle.



35

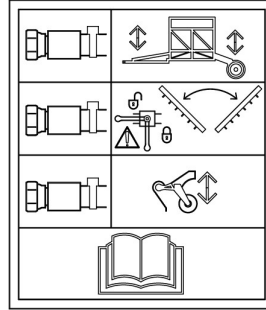
Safety sign (17)

Unexpected machine movement can cause death or serious injury.

Make sure the implement is connected to a stable device when activating the hydraulics to fold and unfold the wings. Follow the correct operating procedure.

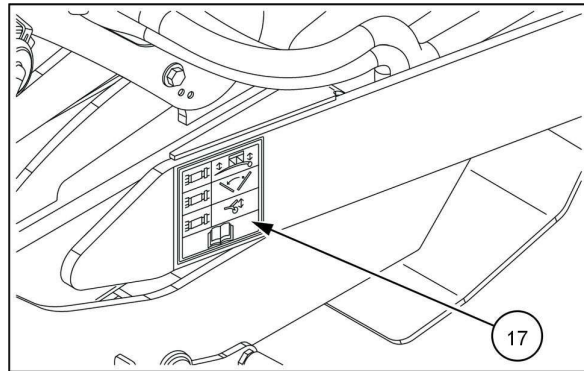
When working underneath the wings, when transporting, or when leaving the implement wings up for any extended length of time, make sure the valve which preventing from accidental unfolding is closed.

Part number: 330290096



36

Located on front left-hand side of the drawbar.

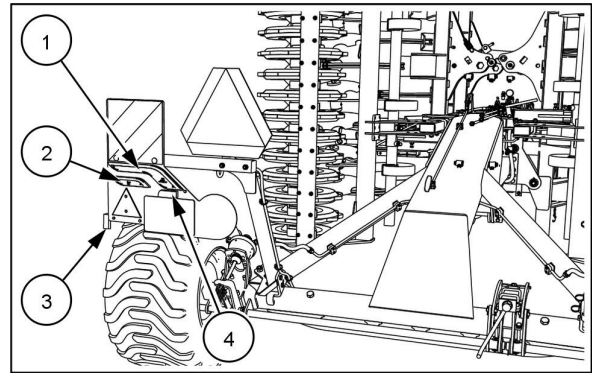


37

Road travel lights, signs, and reflectors

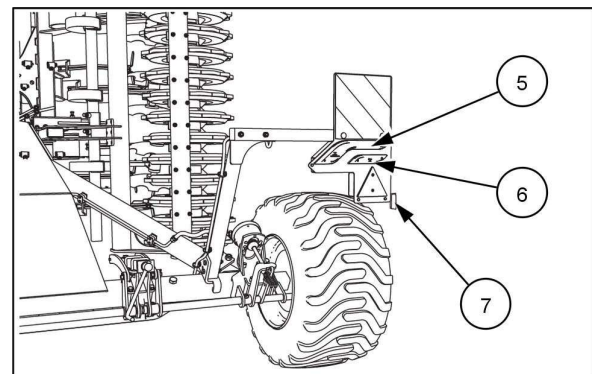
Road lights

- Rear position and stop lights **(1)** left-hand side
- Rear direction indicator light **(2)** left-hand side
- End outline marker light **(3)** left-hand side
- License plate light **(4)**



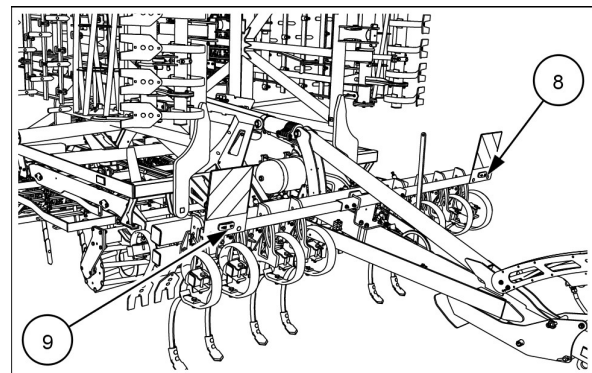
1

- Rear position and stop lights **(5)** right-hand side
- Rear direction indicator light **(6)** right-hand side
- End outline marker light **(7)** right-hand side



2

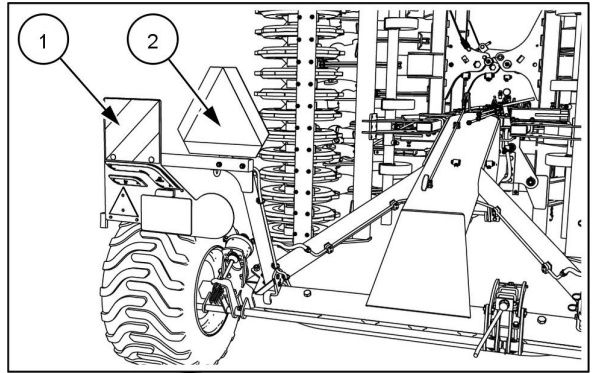
- Front lights **(8)** left-hand side
- Front lights **(9)** right-hand side



3

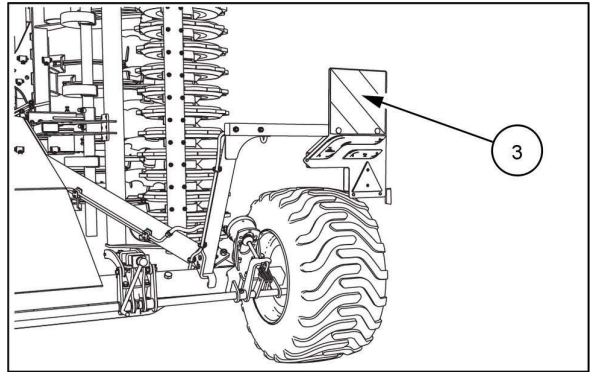
Signal plates

- Rear signal plate **(1)** left-hand side
- Slow-Moving Vehicle (SMV) sign **(2)** (if equipped)



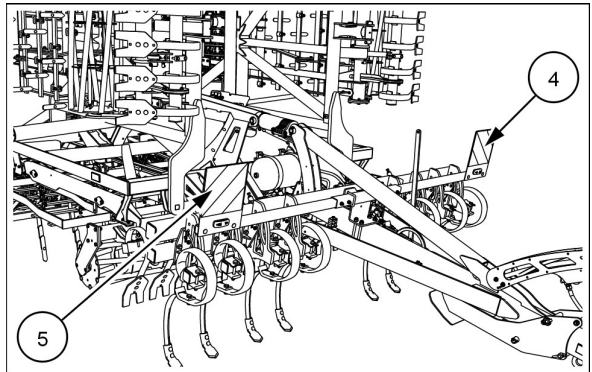
4

- Rear signal plate **(3)** right-hand side



5

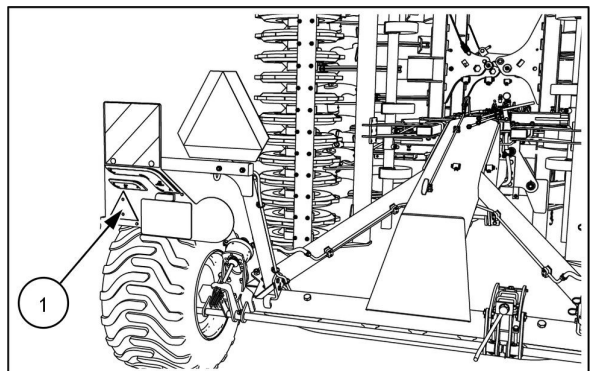
- Front signal plate **(4)** left-hand side
- Front signal plate **(5)** right-hand side



6

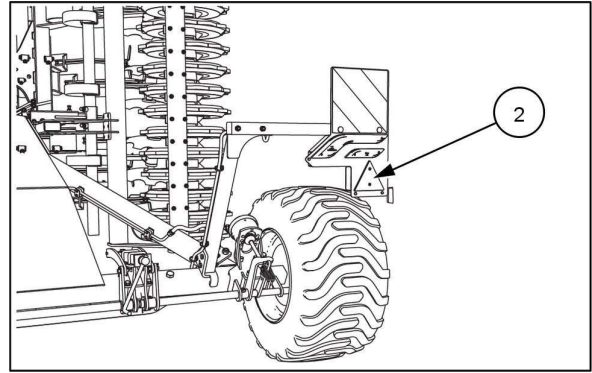
Reflectors

- Rear reflector **(1)** left-hand side



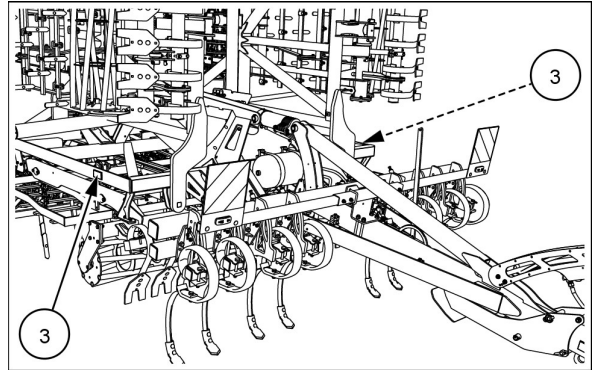
7

- Rear reflector **(2)** right-hand side

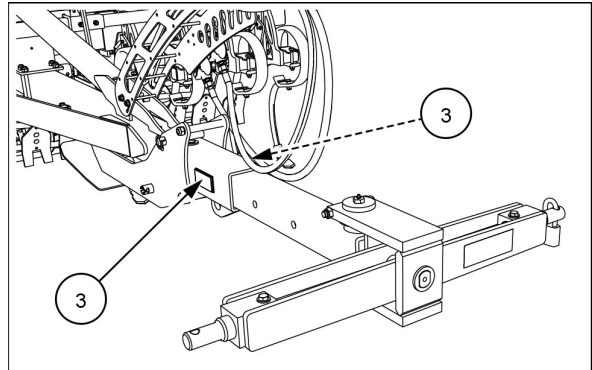


8

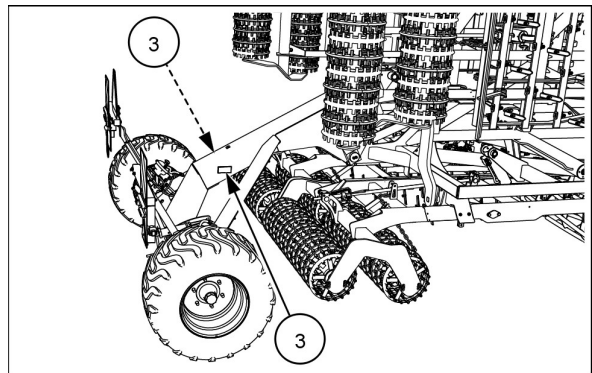
- Side reflectors **(3)**



9



10



11

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3 - CONTROLS AND INSTRUMENTS

Information

Operating principles

For all information related to the description and the location of the controls to use your implement, see chapter “Controls and Instruments” in the operator’s manual of your vehicle.

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4 - OPERATING INSTRUCTIONS

Starting the unit

Connection to the tractor

Use only tractors specified in the instruction manual as recommended for connecting the implement.

Before connecting the implement, control all coupling elements, inspect the implement for cracks, loose screws or nuts, or parts missing. Always make sure that the implement will not accidentally disconnect from the tractor during operation.

Mount the implement to the tractor in dedicated places only.

The pincers of the three-point implement suspension system on the tractor must be properly mounted on the implement and secured against possible unintentional disconnection.

Be very careful when you connect the implement to the tractor and when you disconnect the implement from the tractor. Do not enter the space between the tractor and the implement when the tractor is moving.

Hydraulic system

NOTICE: *When you connect or disconnect hydraulic hoses or connections, make sure that the system is depressurized both in the tractor and in the implement. There is a risk of infection from the side of the outflowing pressurized oil.*

Prior to connecting the implement to the hydraulic system:

1. Verify if the oil used in the tractor hydraulics and the implement hydraulics matches.
2. Remember that the permissible working pressure of oil in the system is **200 bar (2900.00 psi)**.
3. Verify that the quick-couplers are properly clean; if not, clean them.
4. Verify that the connection are properly tightened.
5. Set the tractor's steering implement in the neutral position.

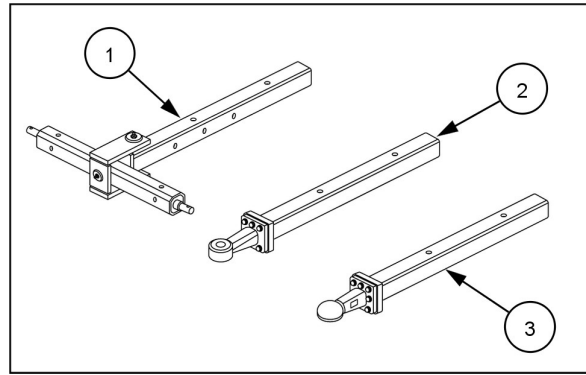
NOTICE: *Only qualified servicing personnel may perform adjustment and repair of the hydraulic system.*

Before you connect the implement to the tractor:

1. Verify if the connection matches the three-point suspension system of the implement and the tractor.
2. Perform all the necessary adjustments if the connection is inconsistent.
3. Make sure that the implement is standing on firm ground and is secured against unintentional rolling.

The implement can be connected to the tractor either by linkage or drawbar.
Standard equipment is a 2-point drawbar category 3 **(1)**.
The optional equipment is:

- Towing eye coupling **(2)**.
- K80 ball coupling **(3)**.
- 2-point drawbar category 4 narrow coupling.



Hitching the implement to a three-point suspension system:

NOTICE: Before you approach the implement with the tractor, make sure that no one is standing in the hazard zone between the tractor and the implement.

NOTICE: When you connect or disconnect hydraulic hoses or connections, make sure that the hydraulic system is depressurized both in the tractor and in the implement. There is a risk of contamination from the side of the outflowing pressurized oil.

Hydraulic connections are marked with the following colors:

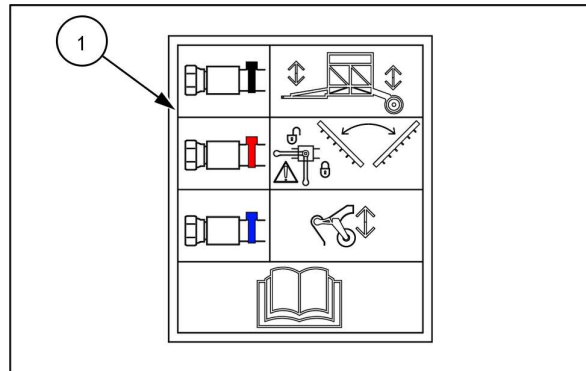
- Black – the line operating the drawbar cylinder and the transport trailer.
- Red – the line operating the wing cylinders.
- Blue – the line operating the location of the front planing beam.

NOTE: Refer to decal **(1)** to identify the hydraulic hoses.

To connect the implement to a three-point suspension system, proceed as follows:

1. Lower the lower linkages and reverse the tractor to place the hooks of the lower linkages under the ball sleeves.
2. Place the correct ball couplings on the pivot of the connecting rod.
3. Raise the jack until the hooks of the lower linkage grab the ball sleeves.
4. Secure all connections against disconnecting unintentionally.
5. Make sure that all hydraulic connectors are clean and then make all the necessary hydraulic connections.

NOTE: In order to facilitate the attachment of hoses to the tractor, they have been marked with labels of various colors. This is to ensure that hoses with the same colors are attached to the same pair of hydraulic ports on the tractor. If necessary, the user can replace the labels with labels of the same color so as to connect appropriate hoses to appropriate hydraulic ports on the tractor.



2

6. Open the ball valve at the hydraulic connector.
7. Inspect the implement for any leaks from hydraulic connections.
8. Connect implement lighting.
9. Check if all devices are fully operational.
10. Lift the implement using the trailer's and drawbar's cylinders so that the supporting leg does not touch the ground.

Hitching the implement to a transport coupling

NOTICE: Before you approach the implement with the tractor, make sure that no one is standing in the hazard zone between the tractor and the implement.

NOTICE: When you connect or disconnect hydraulic hoses or connections, make sure that the hydraulic system is depressurized both in the tractor and in the implement. There is a risk of contamination from the side of the outflowing pressurized oil.

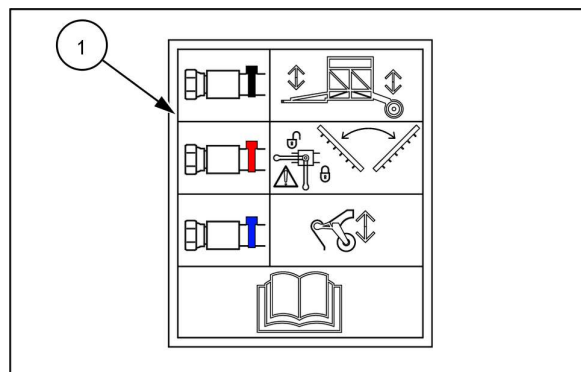
Hydraulic connections are marked with the following colors:

- Black – the line operating the drawbar cylinder and the transport trailer.
- Red – the line operating the wing cylinders.
- Blue – the line operating the location of the front planning beam

NOTE: Refer to decal (1) to identify the hydraulic hoses.

1. Reverse the tractor to approach the implement, so that their couplings line up.
2. Stop the tractor at approximately **50 cm (19.7 in)** from the implement.
3. Make sure that all hydraulic connectors are clean and then make all the necessary hydraulic connections.
4. Connect the hydraulic hoses marked black.

NOTE: In order to facilitate the attachment of hoses to the tractor, they have been marked with labels of various colors. This is to ensure that hoses with the same colors are attached to the same pair of hydraulic ports on the tractor. If necessary, the user can replace the labels with labels of the same color so as to connect appropriate hoses to appropriate hydraulic ports on the tractor.



3

To connect the implement to the transport coupling of a tractor, proceed as follows:

5. Use the hydraulic line to change the position of the drawbar cylinder until the coupling reaches the proper height to connect it to the tractor.
6. Connect the tractor with the implement.
7. Secure all connections against unintentional disconnection.
8. Inspect the hydraulic connection for oil leaks.
9. Connect implement lighting.
10. Check if all devices are fully operational.
11. Lift the implement using the trailer's and drawbar's cylinders so that the supporting leg does not touch the ground.
12. Lift the supporting leg by following the instructions of "Hitching a implement attached in the three-point linkage system".

Hitching the implement with the K80 ball coupling

NOTICE: Before you approach the implement with the tractor, make sure that no one is standing in the hazard zone between the tractor and the implement.

NOTICE: When you connect or disconnect hydraulic hoses or connections, make sure that the hydraulic system is depressurized both in the tractor and in the implement. There is a risk of contamination from the side of the outflowing pressurized oil.

Hydraulic connections are marked with the following colors:

- Black – the line operating the drawbar cylinder and the transport trailer.
- Red – the line operating the wing cylinders.
- Blue – the line operating the location of the front planing beam.

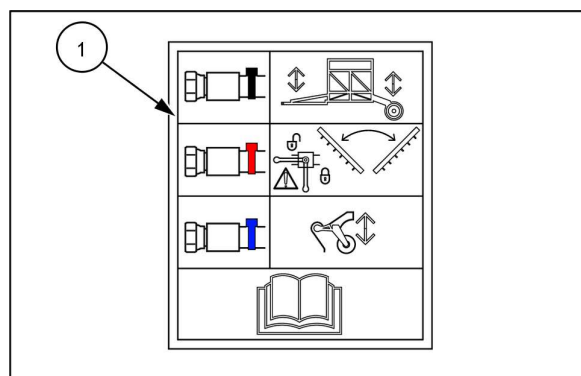
NOTE: Refer to decal (1) to identify the hydraulic hoses.

To connect the implement to the transport coupling of a tractor, proceed as follows:

1. Reverse the tractor to approach the implement, so that their couplings line up.
2. Stop the tractor at approximately **50 cm (19.7 in)** from the implement.
3. Make sure that all hydraulic connections are clean and then make all the necessary hydraulic connections.
4. Connect the hydraulic hoses marked black.

NOTE: In order to facilitate the attachment of hoses to the tractor, they have been marked with labels of various colors. This is to ensure that hoses with the same colors are attached to the same pair of hydraulic ports on the tractor. If necessary, the user can replace the labels with labels of the same color so as to connect appropriate hoses to appropriate hydraulic ports on the tractor.

5. Use the hydraulic line to change the position of the drawbar cylinder until the coupling reaches the proper height to connect it to the tractor.
6. Reverse the tractor so that the coupling of the implement is placed directly above the tractor coupling.
7. Use the hydraulic line to lower the implement so that the coupling ball rests on the tractor coupling.
8. Secure all connections against unintentional disconnection.
9. Connect the remaining hydraulic hoses and additional equipment.
10. Connect the tractor with the implement.
11. Inspect the hydraulic connections for oil leaks.
12. Connect implement lighting.
13. Check if all devices are fully operational.



4

14. Lift the implement using the trailer and drawbar cylinders so that the supporting leg does not touch the ground.
15. Lift the supporting leg by following the instructions of "Hitching a implement attached in the three-point linkage system".

Drawbar length adjustment

The length of the implement may be increased to provide the tractor with sufficient space for making turns. When using double rear wheels, the drawbar length may need to be increased even more **(A)**.

To change the position of the drawbar, proceed as follows:

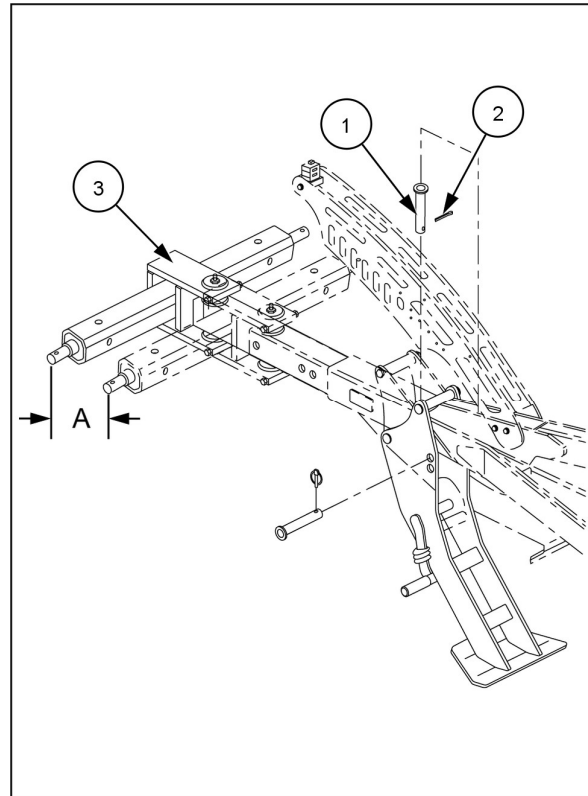
1. Remove the pin **(2)** and pivot **(1)**.
2. Adjust the drawbar **(3)** by shifting in the desired direction.
3. Re-install the pivot **(1)** in the chosen slot and lock it using pin **(2)**.

NOTE: Three possible position are available:

0 mm (0 in)

250 mm (10 in)

500 mm (20 in)



Parking the unit

Disconnection and parking

NOTICE: Do not disconnect the implement on slopes. The implement may roll down.

NOTICE: When you disconnect the implement from the tractor, stop the tractor, remove the key from the ignition and secure the tractor against unintentional rolling.

NOTICE: When you connect or disconnect hydraulic hoses or connections, make sure that the system is depressurized both in the tractor and in the implement. There is a risk of contamination from the side of the outflowing pressurized oil.

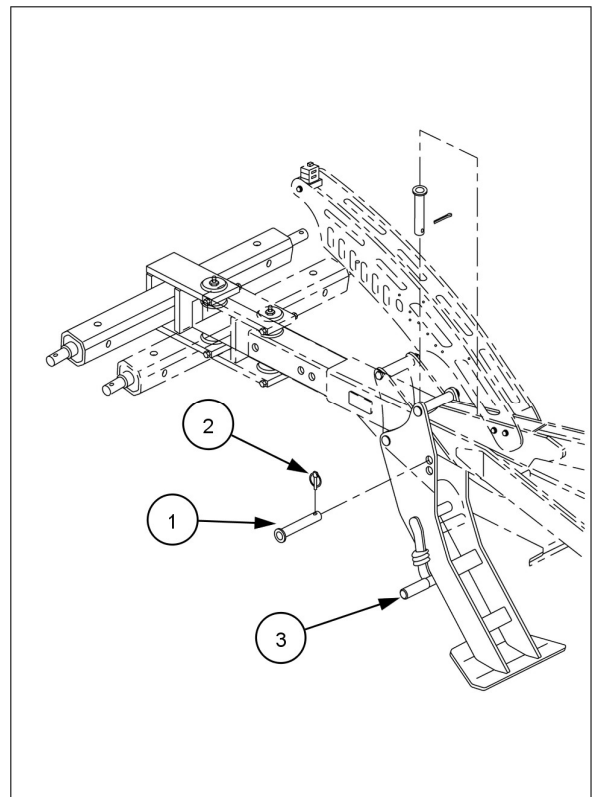
1. Park the implement in the transport position on flat, stable ground.
2. Depressurize the hydraulic system.

Disconnecting the implement attached on the three-point suspension system

1. Disconnect the hoses of the hydraulic system from the tractor.
2. Disconnect the lighting equipment.
3. Lift the jack.
4. Remove the linchpin (2) and pull out the pivot (1).
5. Grab the handle (3) and lower the jack.
6. Re-install the pivot (1) and lock it with the linchpin (2).
7. Unlock and pull out the hooks from lower couplings.
8. Lower the jack arms until they are released from the couplings on the implement.

NOTICE: Before driving away from the implement with the tractor, make sure that all components are disconnected. Risk of damaging implement components.

9. Drive the tractor slowly forward.

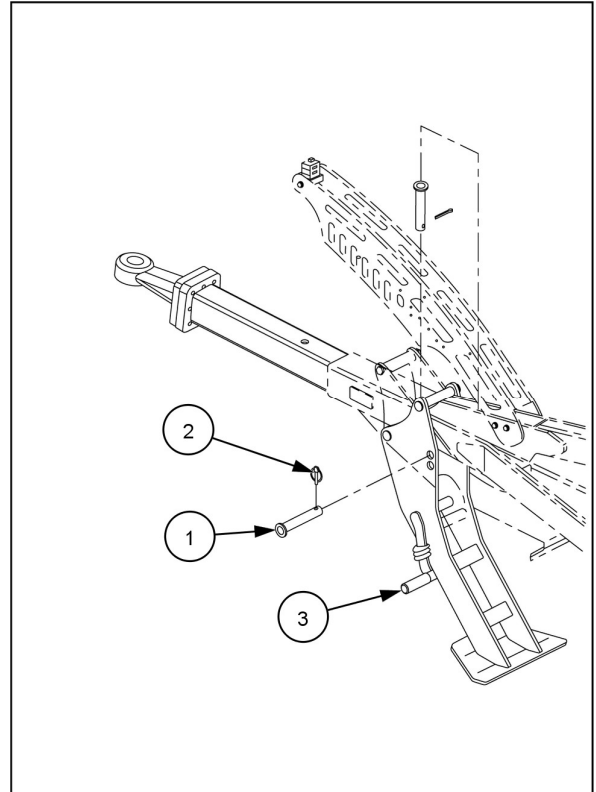


Disconnecting the implement attached on a towing eye coupling

1. Use the trailer's and drawbar's hydraulic line to lift the implement.
2. Remove the linchpin (2) and pull out the pivot (1).
3. Grab the handle (3) and lower the jack.
4. Re-install the pivot (1) and lock it with the linchpin (2).
5. Use the trailer's and drawbar's hydraulic line to position the coupling as to allow for disconnecting the drawbar.
6. Unlock the coupling.
7. Stop the tractor at approximately **25.0 cm (9.8 in)** from the implement.
8. Use the trailer's and drawbar's hydraulic line to lower the implement.
9. Disconnect the hoses of the hydraulic system from the tractor.
10. Disconnect the lighting equipment.

NOTICE: Before driving away from the implement with the tractor, make sure that all components are disconnected. Risk of damaging implement components.

11. Drive the tractor slowly forward.

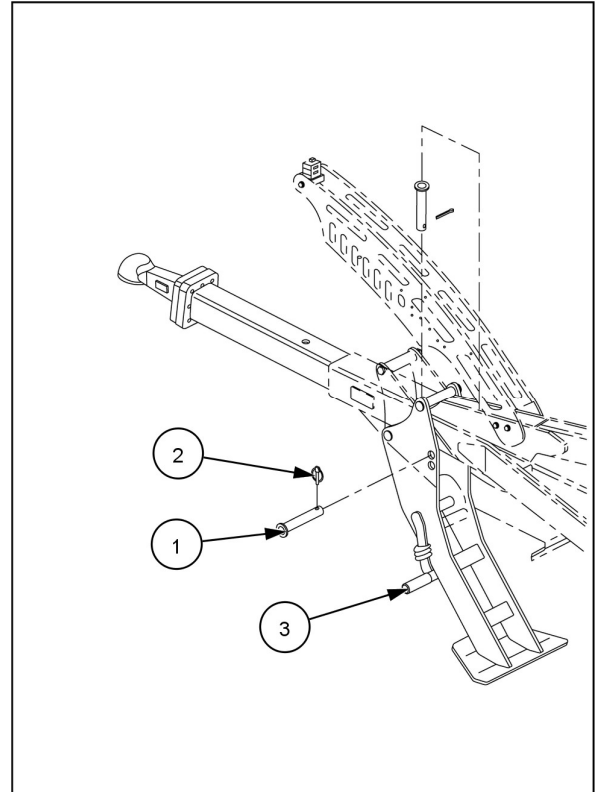


Disconnecting the implement attached in a K80 ball coupling

1. Use the trailer's and drawbar's hydraulic line to lift the implement.
2. Remove the linchpin (2) and pull out the pivot (1).
3. Grab the handle (3) and lower the jack.
4. Re-install the pivot (1) and lock it with the linchpin (2).
5. Unlock the coupling.
6. Use the trailer's and drawbar's hydraulic line to position the coupling as to allow for disconnecting the drawbar.
7. Stop the tractor at approximately **25.0 cm (9.8 in)** from the implement.
8. Use the trailer's and drawbar's hydraulic line to lower the implement.
9. Disconnect the hoses of the hydraulic system from the tractor.
10. Disconnect the lighting equipment.

NOTICE: Before driving away from the implement with the tractor, make sure that all components are disconnected. Risk of damaging implement components.

11. Drive the tractor slowly forward.

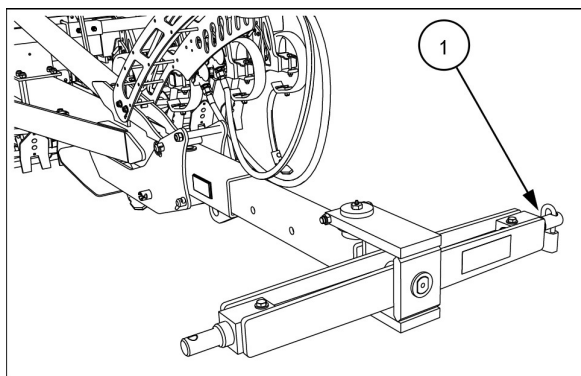


Anti-theft protection

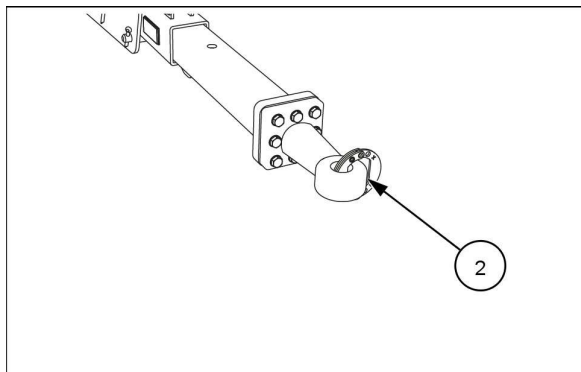
The implement is fitted with a device against unauthorized use, to be used at the end of the work shift, during parking or during downtime, to prevent it from being hooked to a tractor and reducing the risk of unauthorized use.

Depending on the equipped front couplings listed below, use the proper device against unauthorized use:

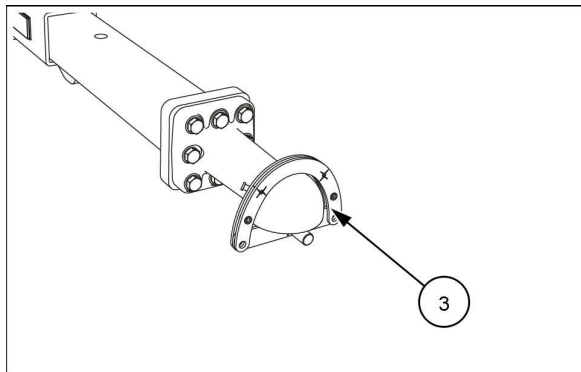
- Three point drawbar **(1)**
- Towing eye hook **40 mm / 50 mm (2)**
- K80 ball coupling **(3)**



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6

Jack point locations

⚠ WARNING

Jack stands can slip or fall over. Dropping, tipping, or slipping of machine or its components is possible.

DO NOT work under a vehicle supported by jack stands only. Park machine on a level surface. Block wheels. Support machine with safety stands.

Failure to comply could result in death or serious injury.

⚠ WARNING

Crushing hazard!

Unit could fall if not properly supported. Follow jacking instructions provided for the unit. Use suitable jack stands. Be sure to position them properly.

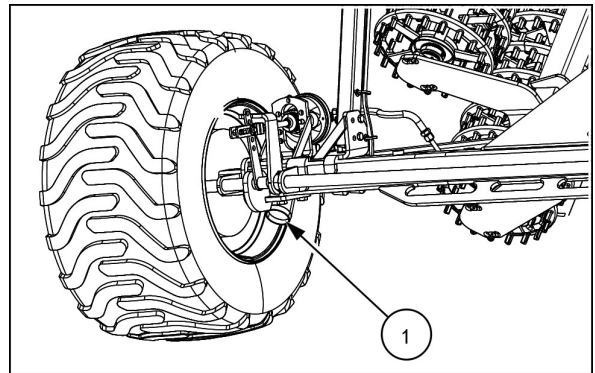
Failure to comply could result in death or serious injury.

To jack the implement in a correct way, proceed as follows:

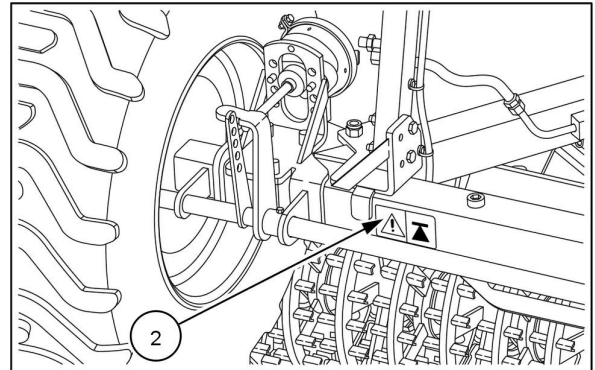
1. Park the implement on a firm and level ground.
2. Place the jack under the jack point (1) of the implement.

NOTE: A safety decal (2) highlights the correct position.

NOTE: The picture depicts the left-hand side of the implement. The same jack point is present on the right-hand side of the implement.



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2

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5 - TRANSPORT OPERATIONS

Road transport

Transport on public roads

When traveling on public roads, always observe the official regulations regarding the safety of road traffic, vehicle lighting, etceteras. The implement should be equipped with rear lights (turn signals, position lights, braking lights) connected to the electrical installation of the tractor. Also, a SMV (slow moving vehicle) signal must be mounted in the provided slot on the implement.

NOTICE: *The behavior of the tractor when pulling the implement may vary. Adjust the style of driving to the conditions on the road. Pay special attention to the location of the center of gravity of these implement elements which are folded with the use of hydraulic cylinders.*

When driving with the implement attached on any public roads, railway tracks or other surfaces, never exceed the maximum permissible transport width, specified by applicable regulations. If the maximum permissible transport width is exceeded, then, in extraordinary conditions, the authorities may issue a special permit for the transport of a large-size vehicle.

Make sure the air pressure in the implement's tires is correct. See Page 9-3.

Always observe the principles for permissible axle loads, the total implement mass and the transport gauge.

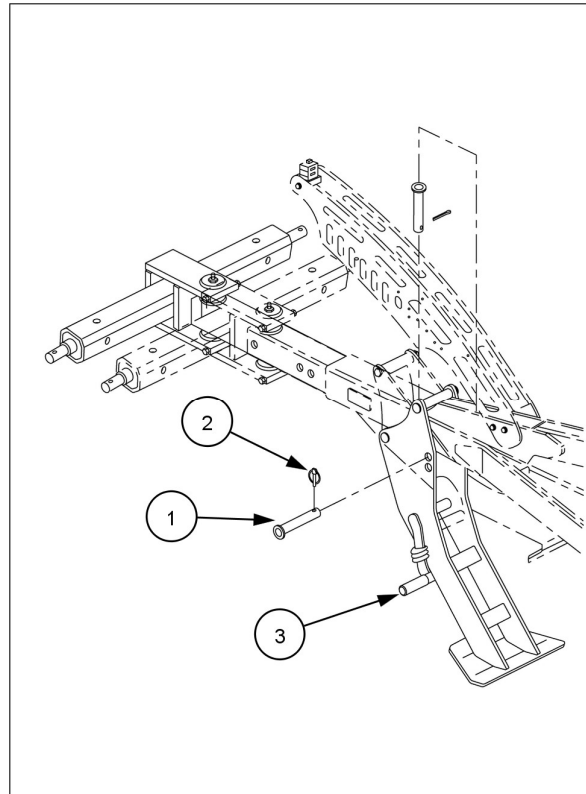
NOTE: *The maximum permissible speed for driving with the implement attached is **25 km/h (16 mph)**, except for Germany where the maximum speed is **40 km/h (25 mph)**.*

Preparing for road transport

Transport position

NOTICE: During transport, the jack must be raised.

1. Remove the pin (2) and pull out the pivot (1).
2. Grab the handle (3) and lift the jack up.
3. Re-insert the pivot (1) and secure it with a pin (2).



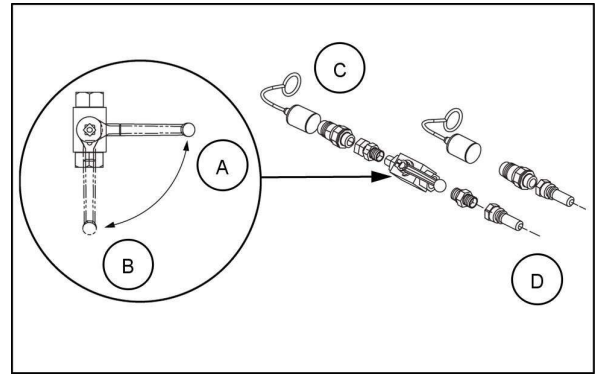
NOTICE: Make sure that the hooks are fully closed.

4. Lift the implement and fold it as described below (see **Folding implement wings**).
5. Close the ball valve at the hydraulic connector.
6. In order to lower the center of gravity, and to ensure more stable transport conditions, the implement should be lowered to the lowest position available, ensuring however that sufficient space is left from between the road and the implement.
7. Make sure that the implement is safe and that nothing falls off it during transport, for instance large lumps of soil.
8. Control the operation of the implement's lamps and the condition of warning plates.
9. Lock the control valves of the tractor.

10. Make sure that the valve which prevents from accidental unfolding is closed.

- (A) Valve closed
- (B) Valve open
- (C) To the tractor
- (D) To the implement

NOTICE: The security locking device prevents from accidental unfolding in case of a defect in the hydraulic hoses.



2

Folding implement wings

NOTICE: When you fold the wings of the implement, make sure that the working range of the implement is clear of people.

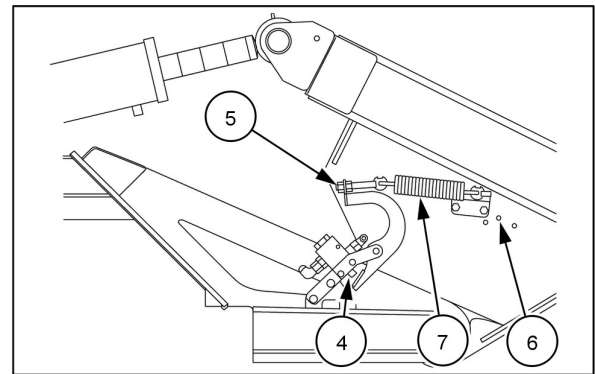
NOTICE: When you fold the implement's wings, maintain a safe distance from high-voltage lines, trees and other obstacles which could potentially damage the implement.

For easier service, hydraulically folded implements are equipped with an automatic system for locking the wings and locking the transport trailer.

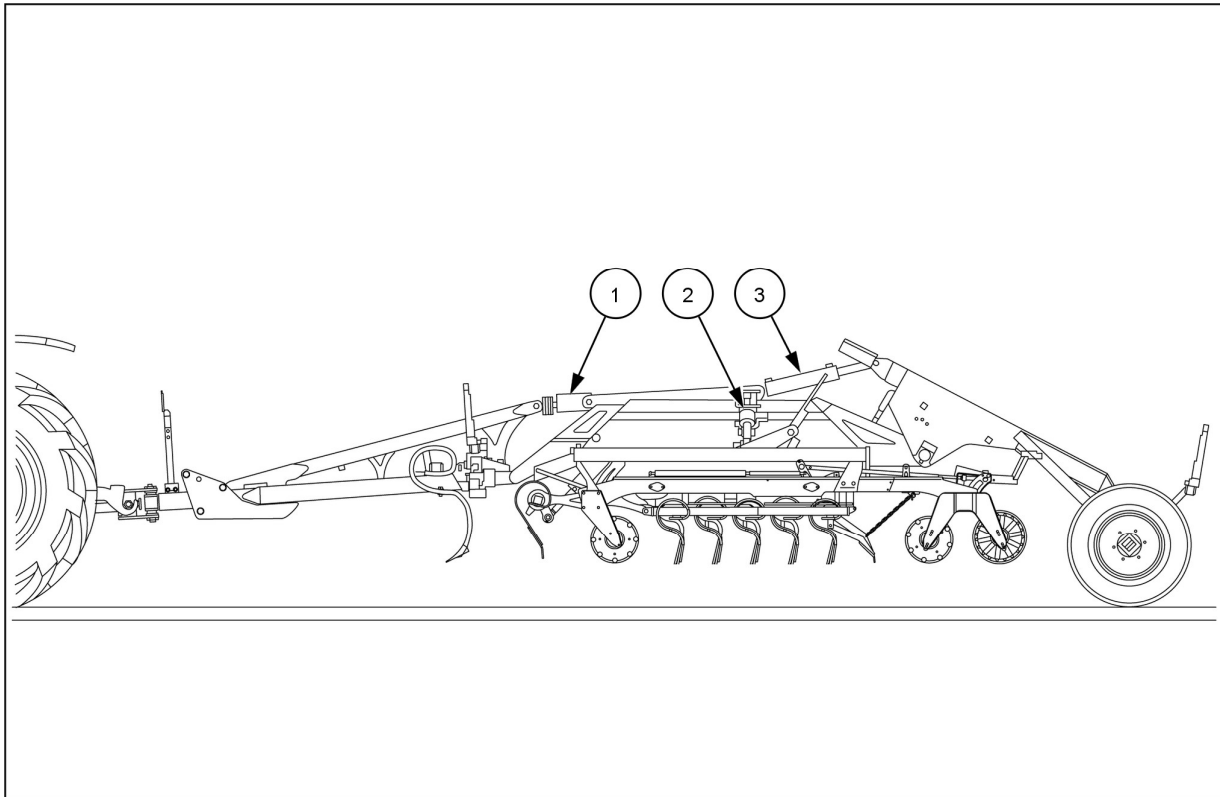
To fold the implement in transport position, proceed as follows:

1. Lift the implement using the black hydraulic line operating the cylinders of the drawbar (1) and trailer (3). The cylinder (3) has to be fully extended before you start to fold the wings. If the cylinder (3) will not be fully extended, the end stroke valve (4) will not be activated and it is not possible to fold the wings.
2. In order to fold the implement, use the red hydraulic line to fold the implement, cylinder (2).

NOTE: To get proper preload on the spring (7), adjust the length of the bolt (5) or use the additional holes (6).



3

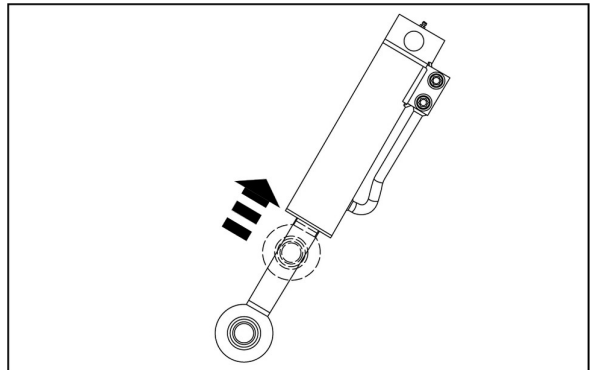


4

Proper implement folding sequence

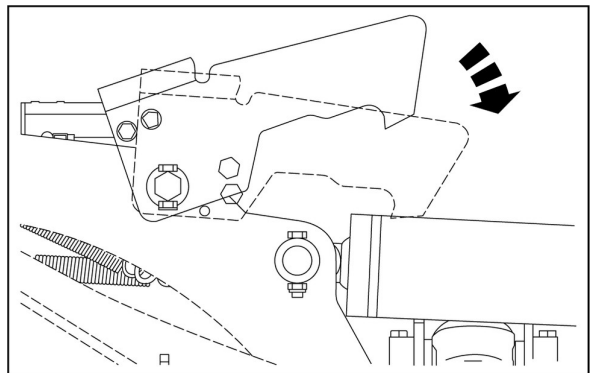
NOTICE: Prior to implement folding or unfolding, it is necessary to ensure that all the lines are properly connected.

1. Section cylinders are retracting (if not already retracted).



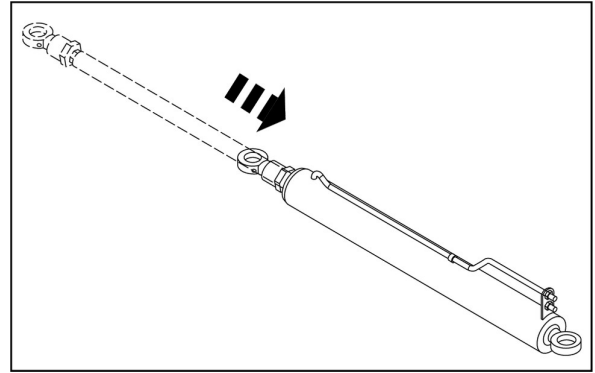
5

2. Wing holdback catches are closing (if not already closed).



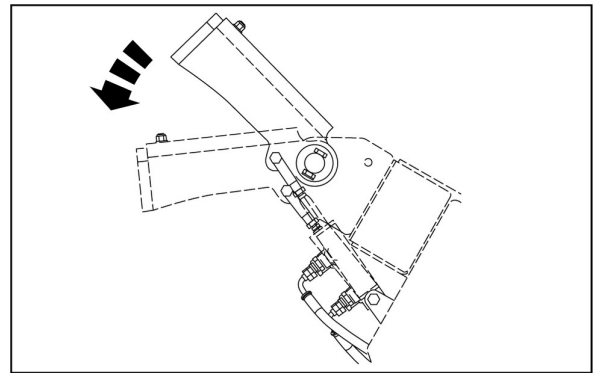
6

3. The wings are folding.



7

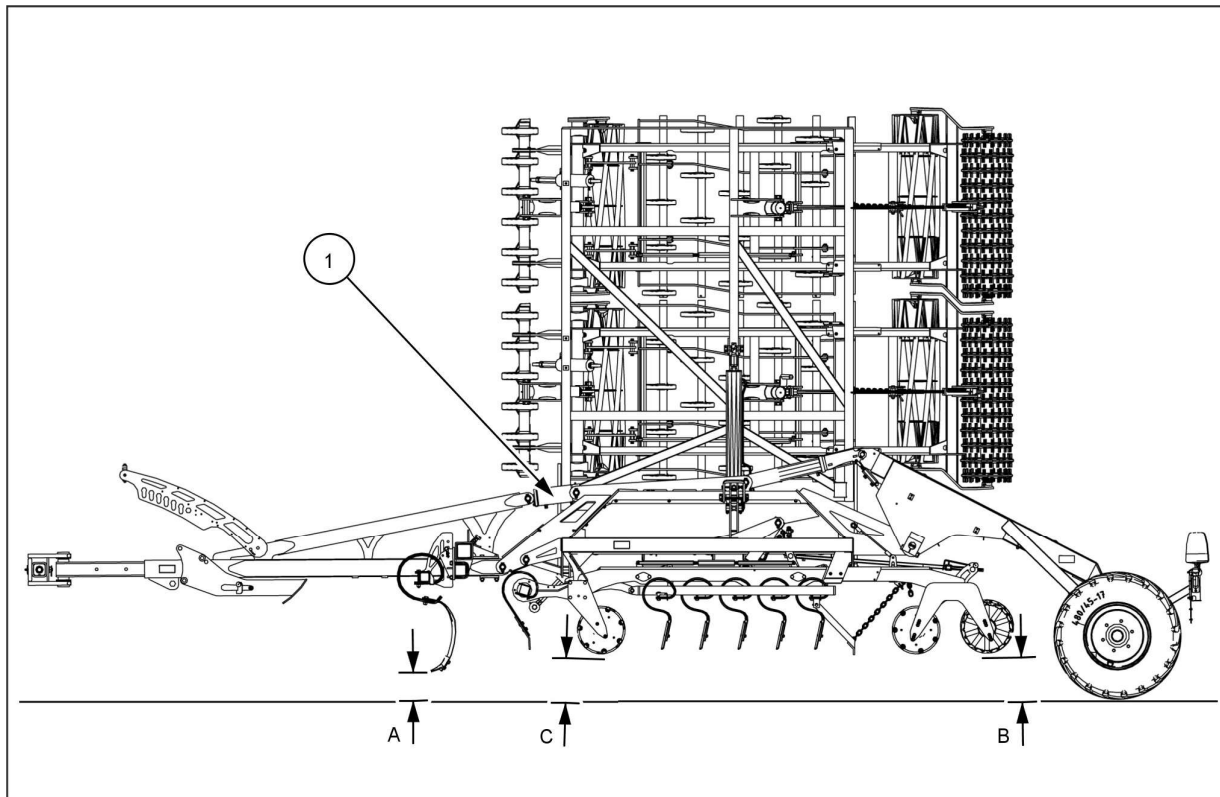
4. The transport lock is closing.



8

After folding the implement

1. Verify if the couplings automatically locked the wings.
2. Verify if the couplings are blocking the wings in the vertical position.
3. Verify if the transport lock is fully closed.
4. Lower the implement using cylinders **(1)** and **(2)** so that the implement rests on drawbar cylinder plates and the transport lock.
5. Verify that the dimension **(C)** is not bigger than dimension **(B)** but not smaller than **150.0 mm (5.9 in)**. If it is bigger than **(B)** or if it is smaller than **150.0 mm (5.9 in)**, use the plates on drawbar cylinder **(1)** in order to adjust it.
6. Verify that the dimension **(A)** is not smaller than **150.0 mm (5.9 in)**. If it is smaller than **150.0 mm (5.9 in)**, lift the track eradicator tines up to increase the ground clearance.
7. Check that all the lights work properly, are clearly visible and perpendicular to the ground.
8. Check that the height of the cultivator is below **4.0 m (157.5 in)**.



Shipping transport

Lifting the implement

Use only a suitable lifting device with a fully operational braking installation for loading and unloading the implement.

Before you proceed to loading / unloading, connect the implement to the tractor in the correct way.

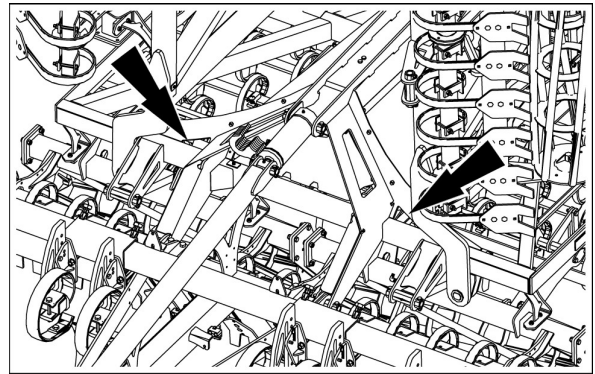
When you perform the loading / unloading procedure, the assistance of another person may be required.

When you load the implement, disconnect it from the tractor and secure it for the duration of transport, according to applicable regulations.

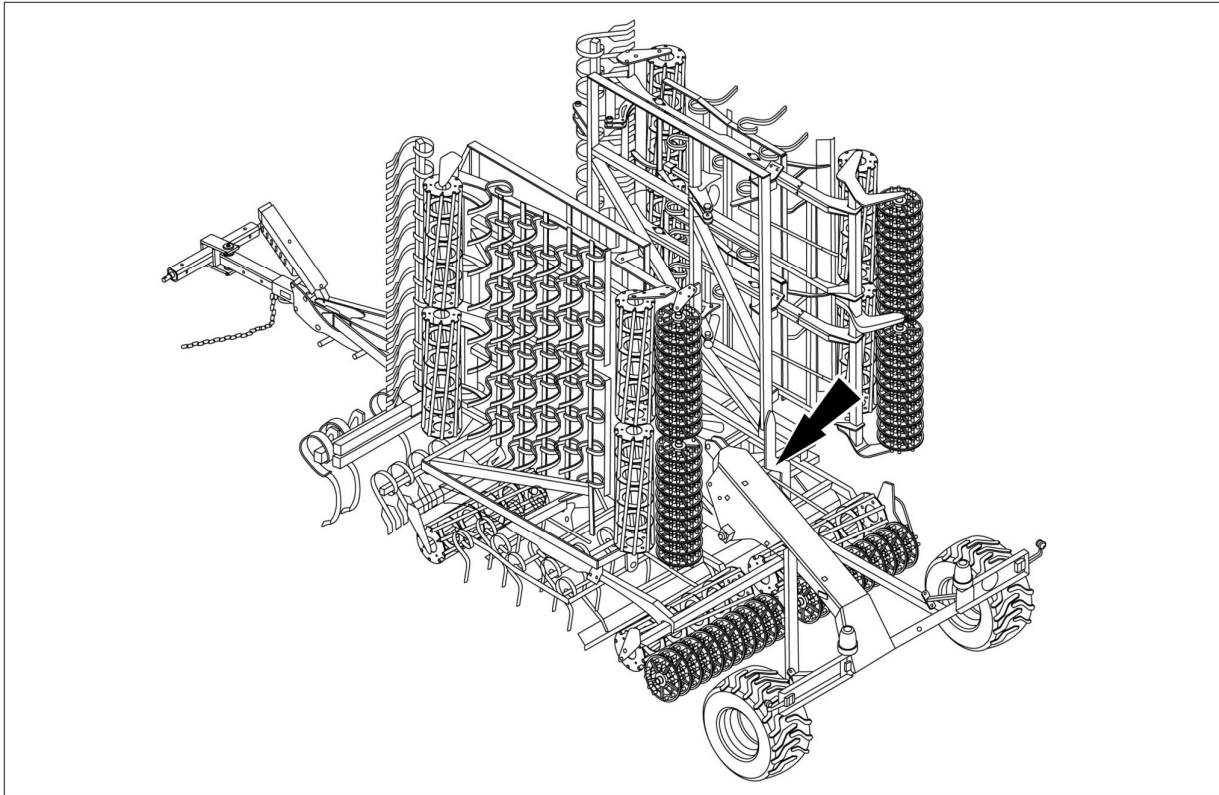
NOTICE: *Never enter underneath the implement when it is being lifted.*

If the implement be lifted by a crane or a forklift, always proceed according to the following guidelines:

- The crane or forklift used to lift the implement must have proper lifting capacity and must be equipped with proper ballast.
- Lift the implement at the lifting points, which are indicated with a decal (see figure).
- Always use transport belts with proper load-bearing capacity.
- The correct method of lifting the implement is presented in the figures.



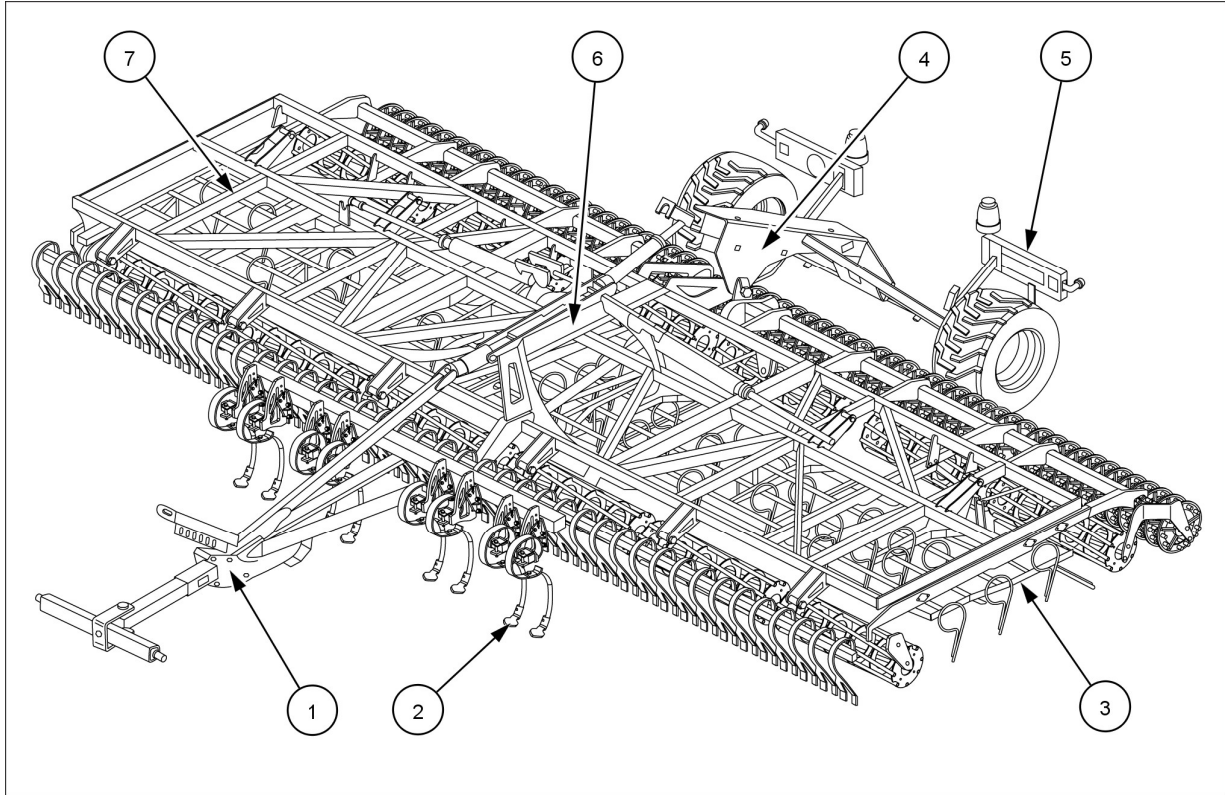
1



6 - WORKING OPERATIONS

General information

Implement overview



1

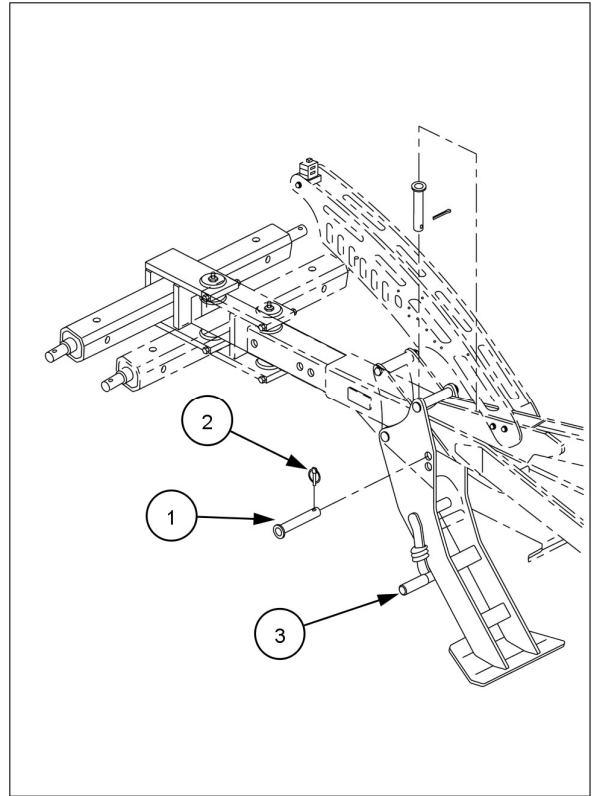
- | | |
|----------------------|------------------|
| 1. Drawbar | 5. Lighting set |
| 2. Track eradicators | 6. Central frame |
| 3. Working section | 7. Wing |
| 4. Transport trailer | |

Working position

Implement position in operation

NOTICE: Raise the jack during operation.

1. Remove the linchpin (2) and pull out the pivot (1).
2. Grab the handle (3) and lift the jack up.
3. Re-insert the pivot (1) and secure it with a linchpin (2).



1

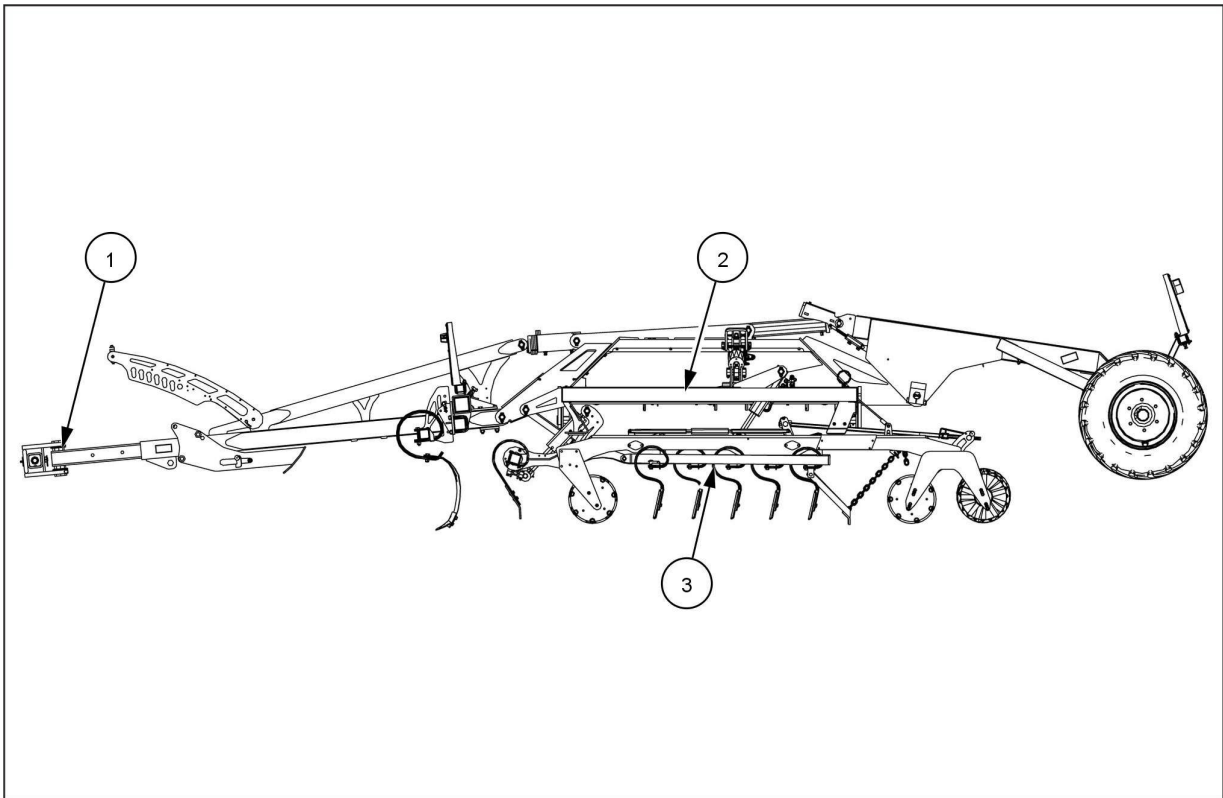
Implement position in operation

NOTICE: When regulating the drawbar cylinder, do not start any hydraulic cylinders. Crushing hazard.

NOTICE: When regulating the drawbar cylinder, stop the engine and remove the key out of the ignition.

The implement consists of 4 to 6 individual hydraulically suspended sections (3), mounted beneath a carrying frame. This results in a constant pressure and working depth over the full working width of the machine. This enables the machine to follow the contours of the soil accurately, in a variable range of soil types.

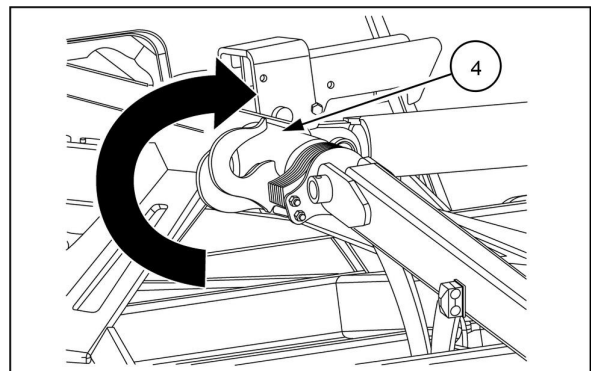
When in operation, the frame (2) of the implement must be leveled at all times.



2

Frame leveling may be performed using the lower pincers (1) or by the number of plates (4) which are mounted on the drawbar cylinder.

In order to change the number of plates on the cylinder, pull the cylinder out to its maximum position, and then increase or decrease the number of plates to the desired amount and lower the implement so that its weight rests on the drawbar cylinder.

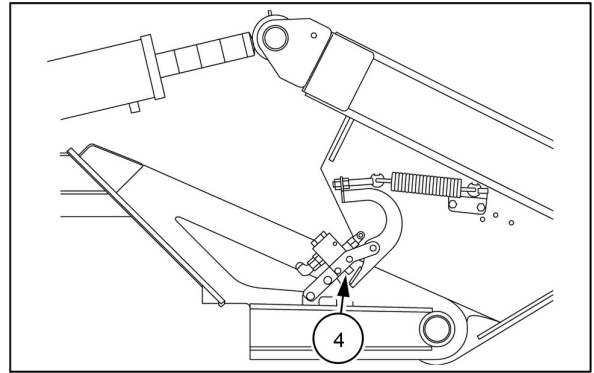


3

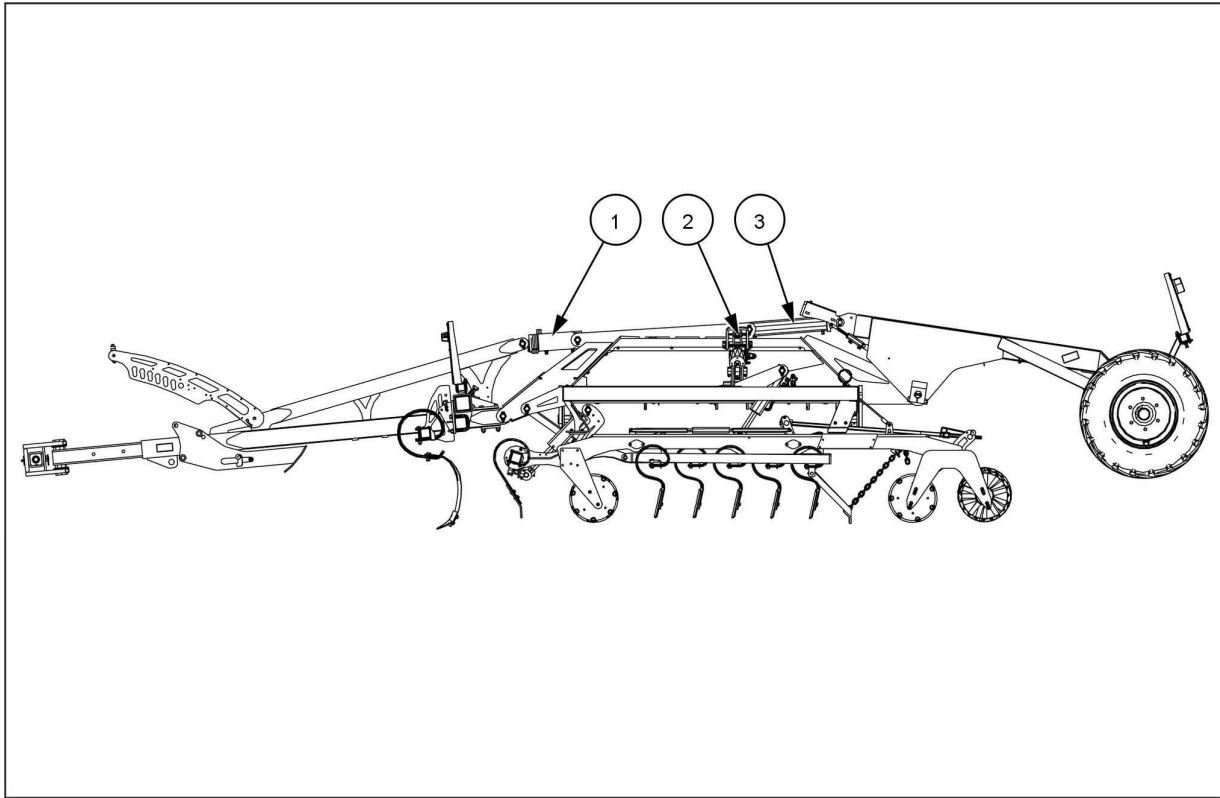
How to unfold the implement

NOTICE: Do not unfold the implement on slopes. Hazard of the implement falling down.

1. Lift the implement using the cylinder (1) and the cylinder (3).
2. The cylinder (3) has to be fully extended before you start to unfold the wings.
3. If the cylinder (3) will not be fully extended, the end stroke valve (4) will not be activated and it is not possible to unfold the wings.
4. Use the red hydraulic line to unfold the implement, cylinder (2).



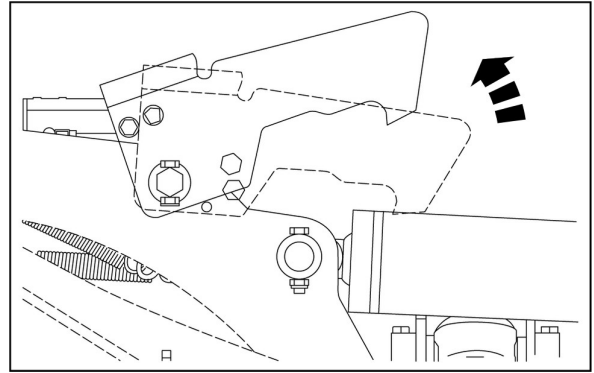
4



5

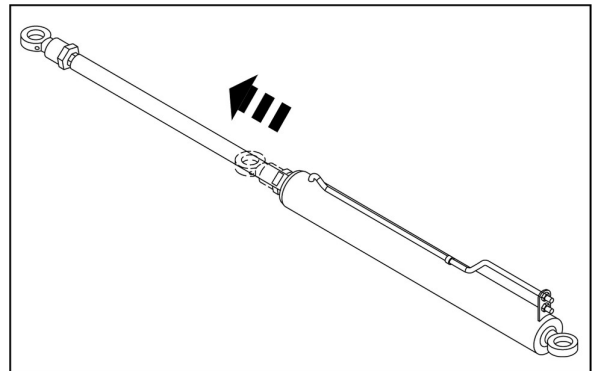
Proper unfolding sequence of the implement with hydraulic lines supplied with pressure.

1. Wing holdback catches are opening.



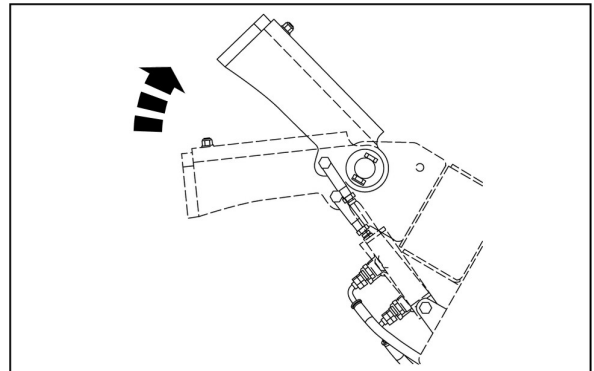
6

2. Wings are opening.



7

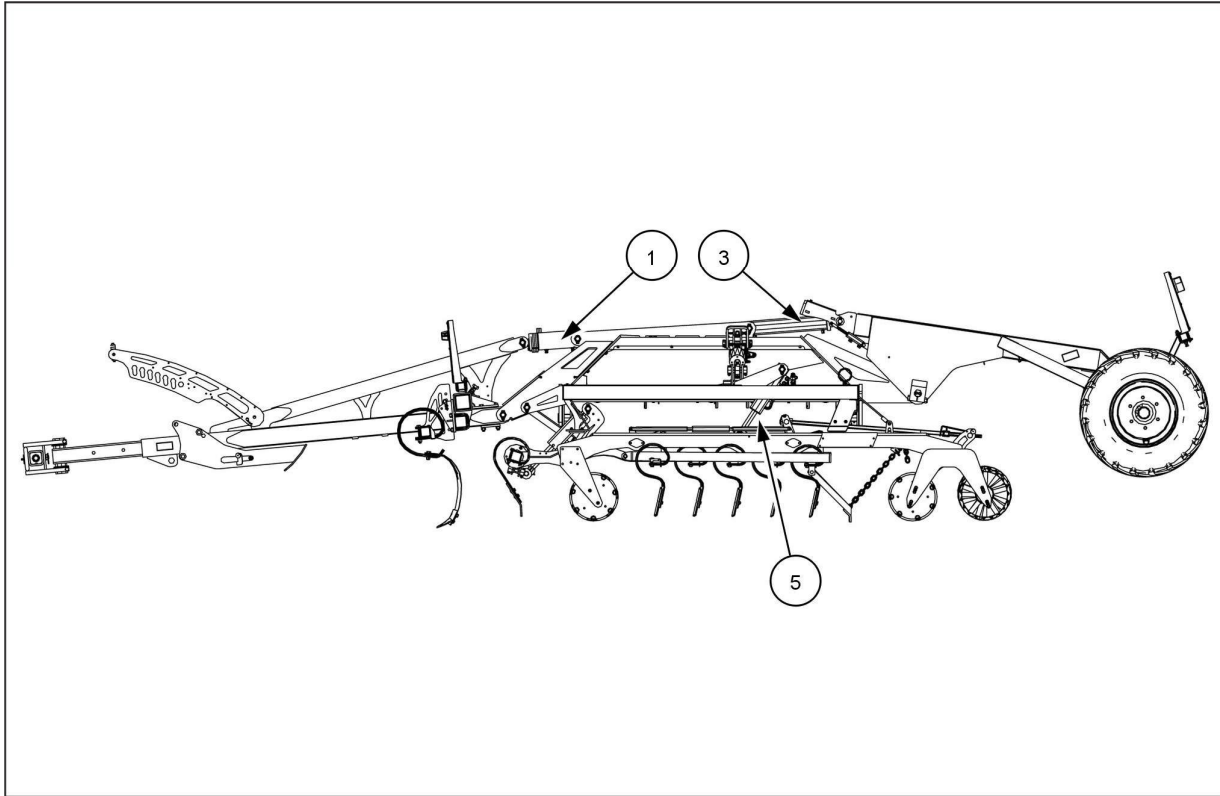
3. Transport lock is opening.



8

Lower the implement using the cylinder **(1)** and the cylinder **(3)** so that are fully retracted. During lowering the section cylinder **(5)** are pushed out to around **75%** of stroke (around **150 mm (6 in)**).

The working sections demand proper pressure for optimal performance. Therefore, the weight of the upper frame is transferred onto the gear sections by means of parallel hydraulic cylinders. Oil pressure is the same in all the cylinders, which ensures a uniform pressure of each section onto soil surface. If any of the sections is in close encounter with an obstacle, oil will be distributed to the other cylinders. In order to ensure proper performance of the implement, the cylinders should be filled around **75%** with oil (extended around **150 mm (6 in)**).



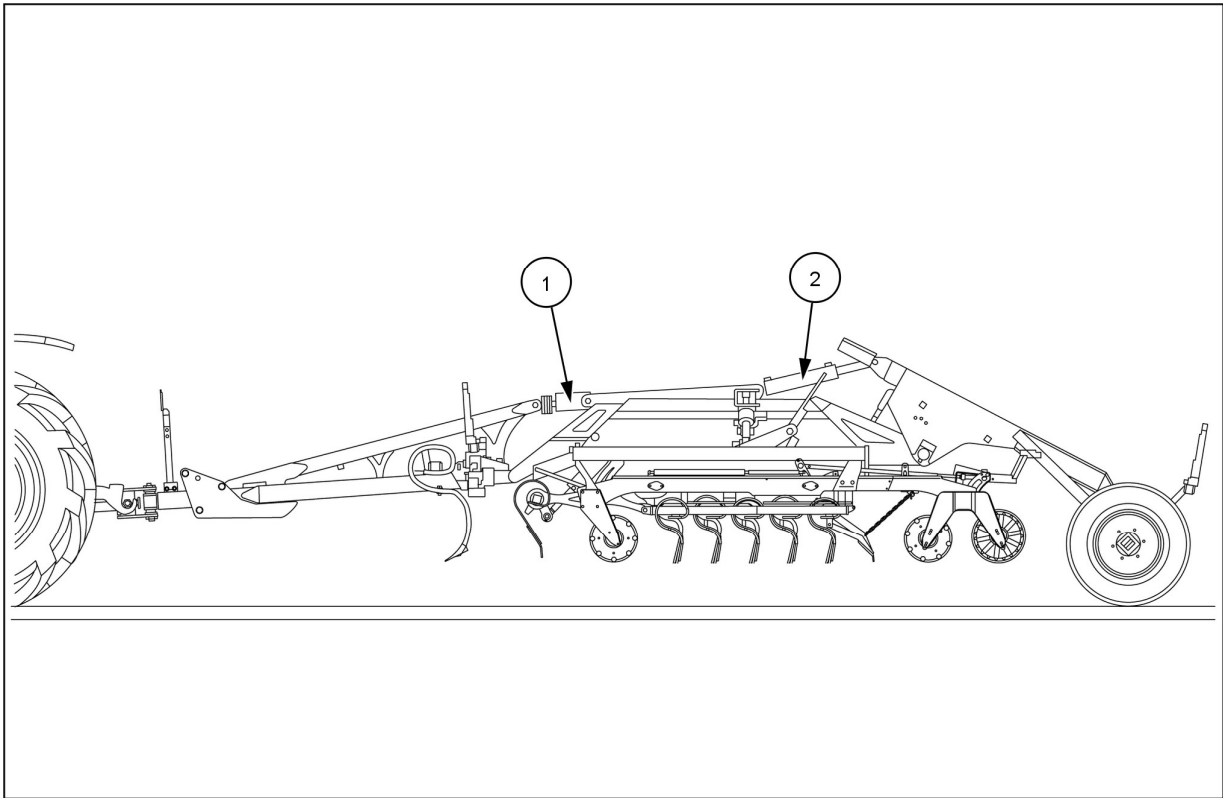
Basic adjustment

Adjustment of working depth

NOTICE: Any and all adjustments may be performed only with the implement unfolded and the tractor engine turned off. Remove the key out of the ignition and pull the parking brake.

The working depth is set depending on the seeding depth, so that the seeds are placed in between the loosened soil layer and the intact soil layer.

Before proceeding to regulate the working depth, lift the implement using cylinders **(1)** and **(2)**.

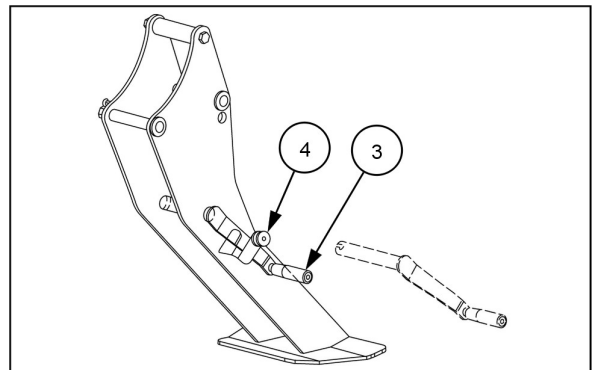


1

The working depth is regulated separately for each working section with the crank mechanism of that working section. Depth adjustment is based on changing the position of the tine section in relation to the position of the rollers. Adjustment is performed with a crank **(3)** located on the supporting leg.

In order to remove the crank:

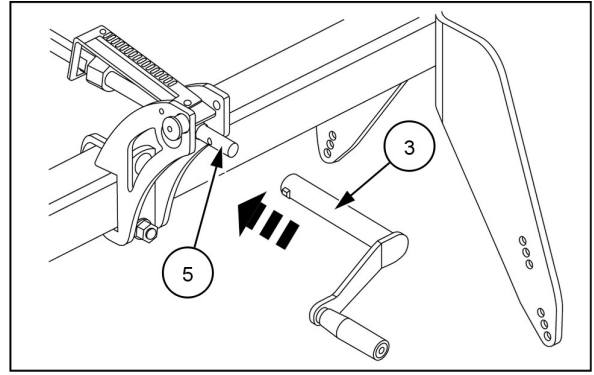
1. Pull the positioning pivot **(4)**.
2. Grab the crank **(3)** and remove it from the positioning slot.



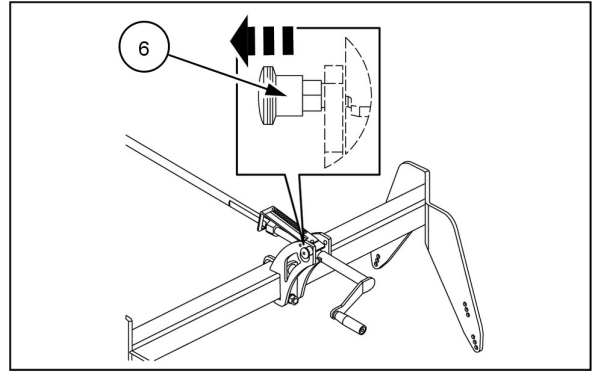
2

In order to change the working depth:

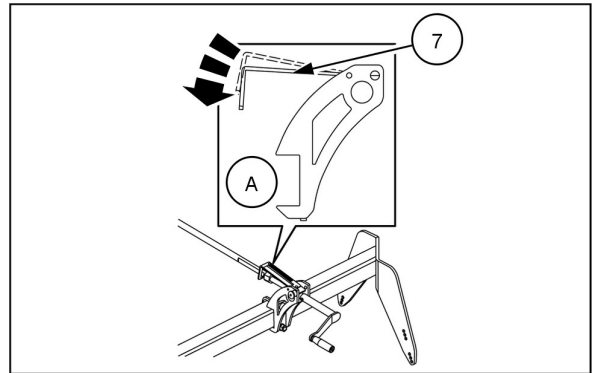
1. Place crank **(3)** on axle **(5)**.



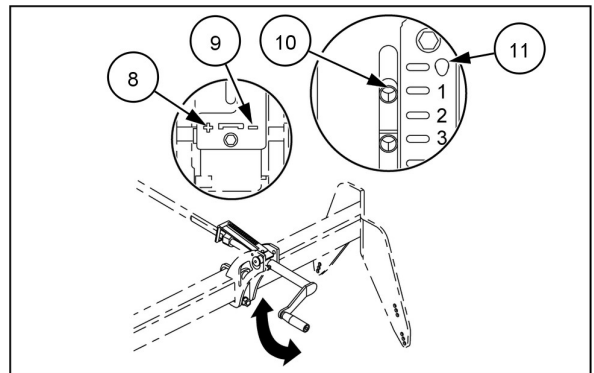
2. Unlock the positioning pin **(6)**.



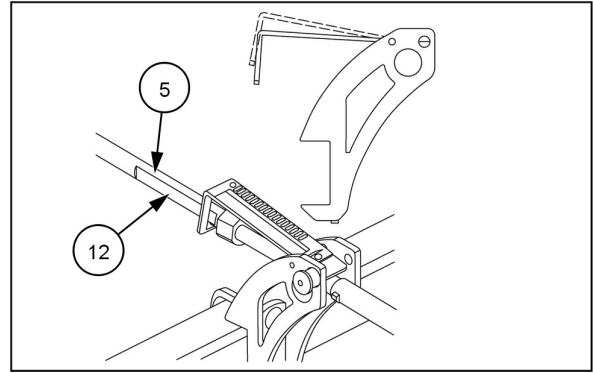
3. Lower scale **(7)** to position **(A)**.



4. Rotate the crank **(3)**. Turning clockwise in the direction of the "-" sign **(9)** will lower the working depth. Turning counterclockwise in the direction of the "+" sign **(8)** will raise the working depth. Changing the position of the marker **(10)** in relation to the scale **(11)** changes the working depth approximately in steps of **1 cm (0.4 in)**.

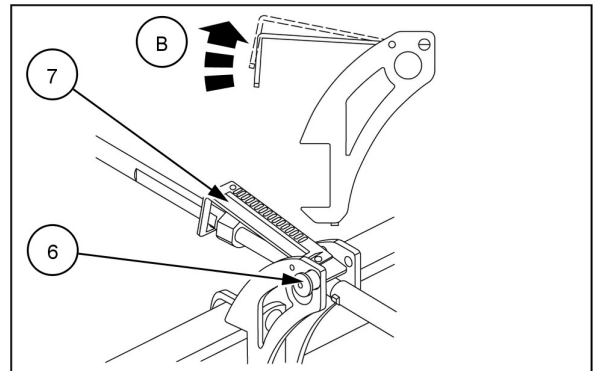


5. After finishing adjustment of the axle (5), surface (12) must be positioned vertically.



7

6. Unlock the positioning pin (6) and lift the scale (7) to position (B). The locking pin should lock in position automatically.
7. The operation may be repeated for each working section.
8. After finishing the adjustments, place the crank in its place on the implement.



8

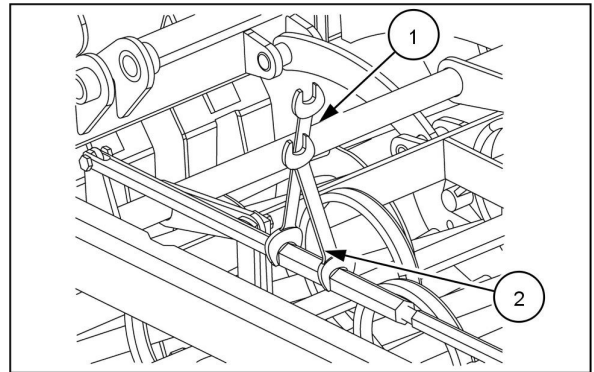
Adjustment of tine section location

NOTICE: Any and all adjustments may be performed only with the implement unfolded and the tractor engine turned off. Remove the key out of the ignition and pull the parking brake.

NOTICE: In order to adjust the tine section, you must step on the implement. Be very careful due to the hazard of slipping.

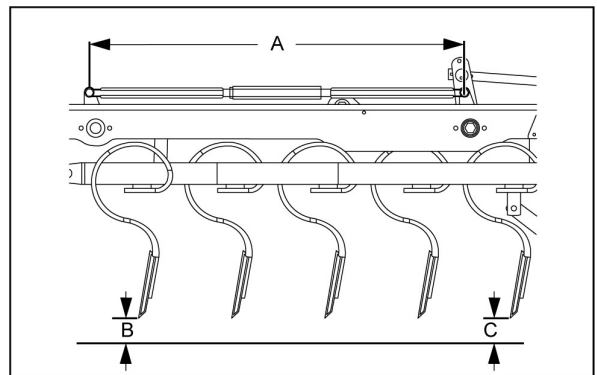
The front tine points wear faster than the rear ones, which may cause differences in depth between the front and back row of tines. If this difference becomes excessive, you should regulate the tine section using the regulating screw:

1. Unfold the implement on a level, hardened surface and lower the teeth so that they are not in contact with the surface.
2. Using a flat wrench (1) and wrench (2), loosen the counter-nut.



9

3. Use wrench (2) to adjust the position of the tine section by changing dimension (A) until dimension (B) and (C) are equal.
4. Perform adjustments for each section individually
5. After finishing all adjustments tighten the counter-nuts.



10

Adjustment of rear planning beam position

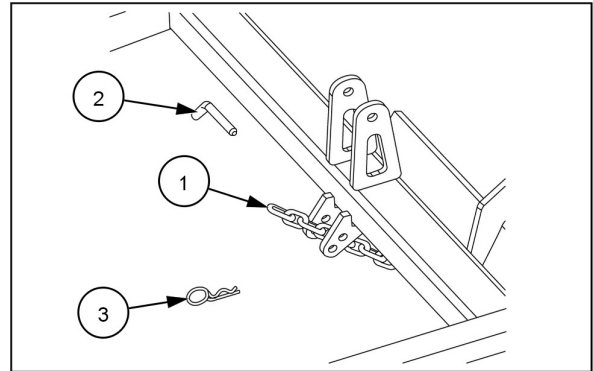
NOTICE: In order to adjust the rear planning beam, you must step on the implement. Be very careful due to the hazard of slipping.

The purpose of the rear planning beam is to eliminate surface unevenness after the working tines.

The beam is suspended on a chain **(1)**.

In order to change the position of the rear beam:

1. Pull out the cotter pin **(3)**.
2. Hold the chain **(1)** and pull out the pin **(2)**.
3. Adjust beam position.
4. Protect the chain with the pin and cotter mechanism.
5. If necessary, adjust each section.



11

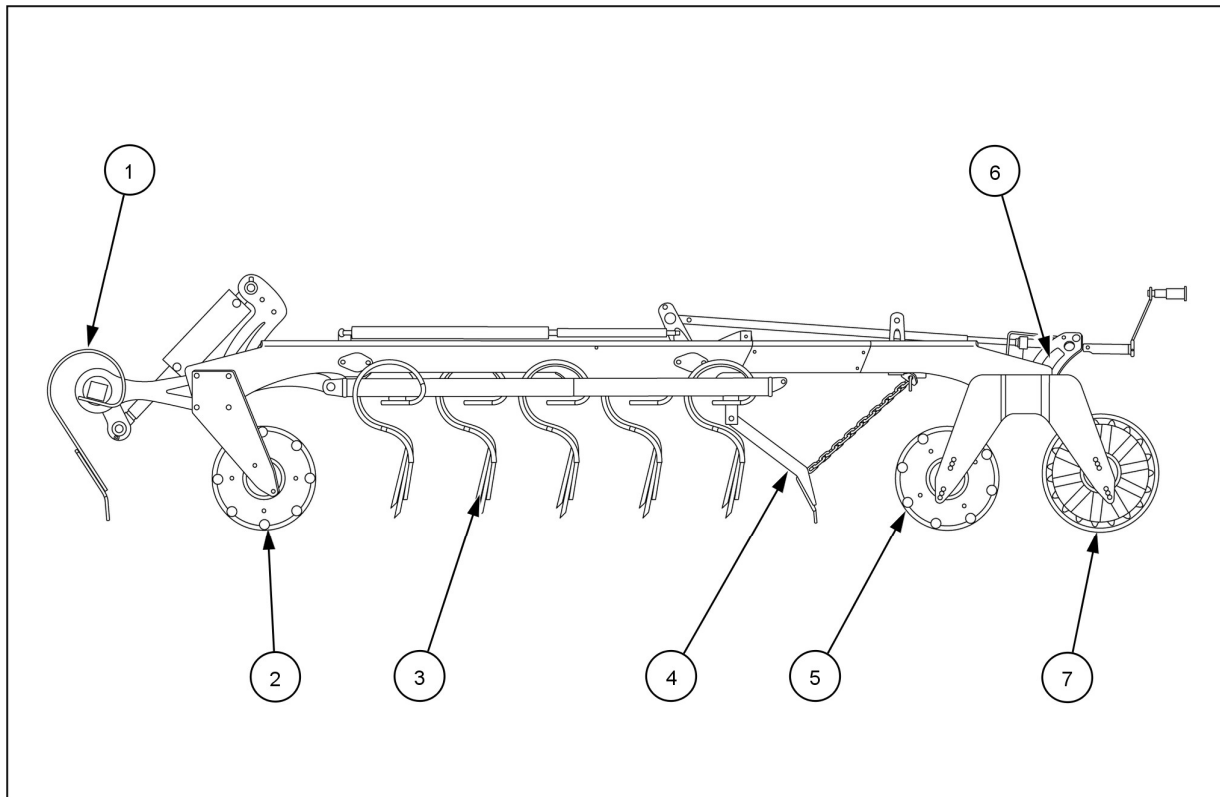
Working section

The working section of the implement is equipped with three rollers, one located in the front part of the section, and two located in the rear part of the section.

During operation, the rollers maintain the implement in a fixed position, which allows for maintaining an even processing depth of up to **12 cm (4.72 in)**.

The purpose of the front planning beam is to pre-level the surface before the implement enters it.

The purpose of the planning beam mounted after the working tines is to perform a precise leveling of the soil.



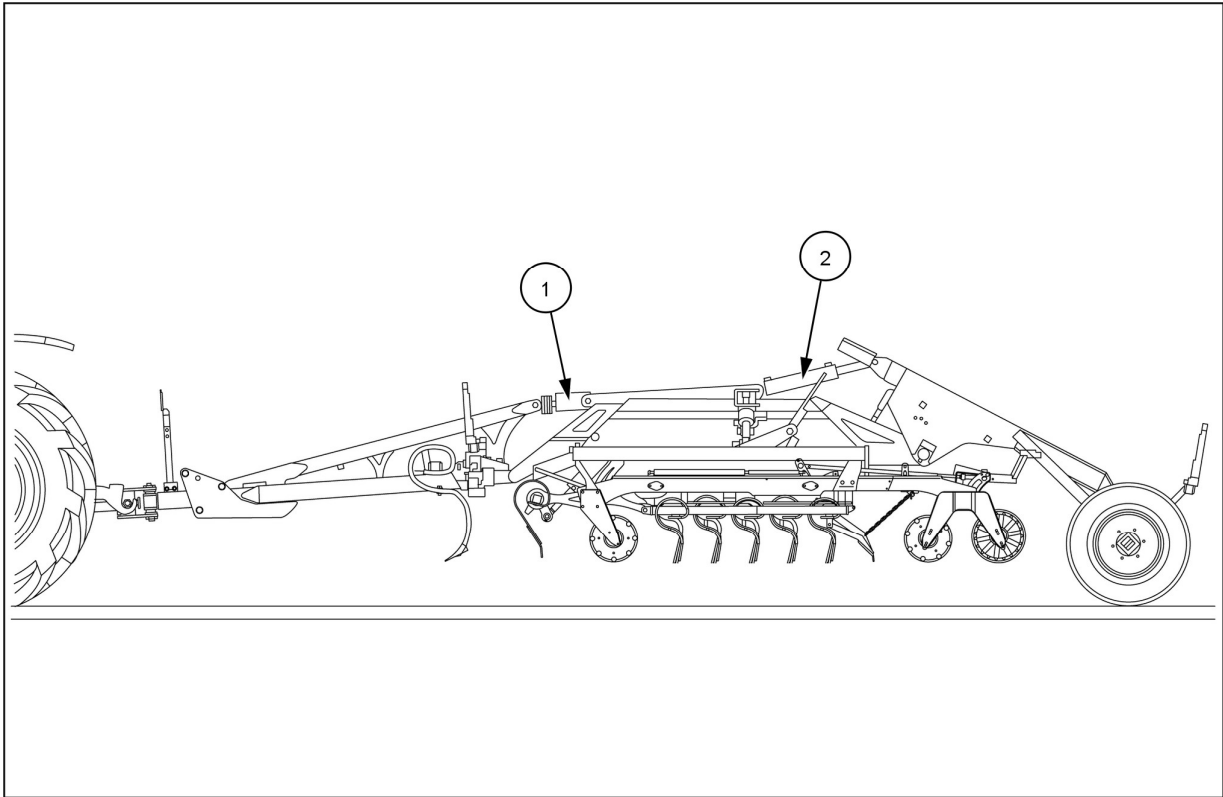
1

1. Front Flex Board
2. Front type B roller
3. Vibro Super G working tines
4. Rear levelling board
5. Rear roller
6. Depth adjustment mechanism
7. Rear roller

Headland position

NOTICE: Reversing the implement with the working tines in the ground is prohibited. Risk of implement damage.

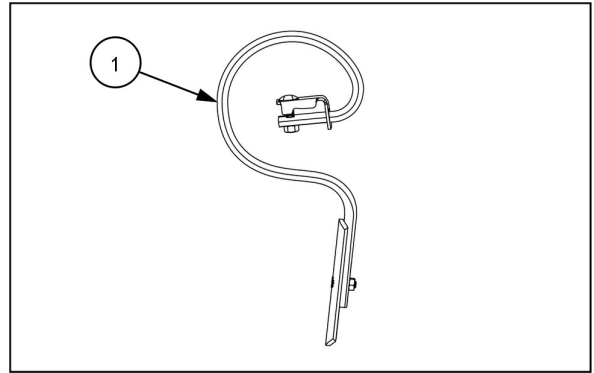
Once a proper working position is established for the implement, only use the hydraulic system to lift the implement on headlands. Change the position of cylinders **(1)** and **(2)** to lift and lower the implement.



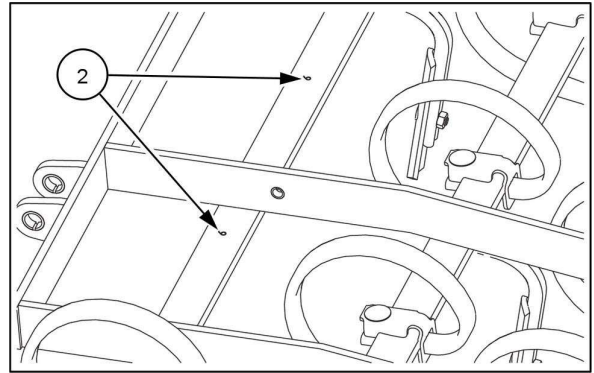
1

Tines

The sections are equipped with straight SG-tines (1) to reduce the risk of bringing clods of wet soil to the surface. There is always a horizontal mixing of the dry soil so the dry soil from the top stays on the top of the seedbed and the humid soil remains at the bottom. The tines have a very long durability, exact durability depends on the type of soil.



The position of the tines on the sections is identified by marks "6" (2) on the flat bars.



Working tine point replacement

NOTICE: When replacing used working elements always wear protective gloves. There is a risk of cutting your hands.

NOTICE: When performing maintenance, make sure that the implement is secured against unintentional rolling.

In operation, the points of cultivator tines wear down. These are two-side points, which may be turned by **180°** once.

In order to replace / turn tine points:

1. Connect the implement to the tractor.
2. Fold the implement to the transport position.
3. Lower the implement so that its weight rests on the drawbar's cylinder and the transport lock on the trailer.
4. Replace / turn the used points.
5. When replacing points with new ones use factory new screws and nuts only.

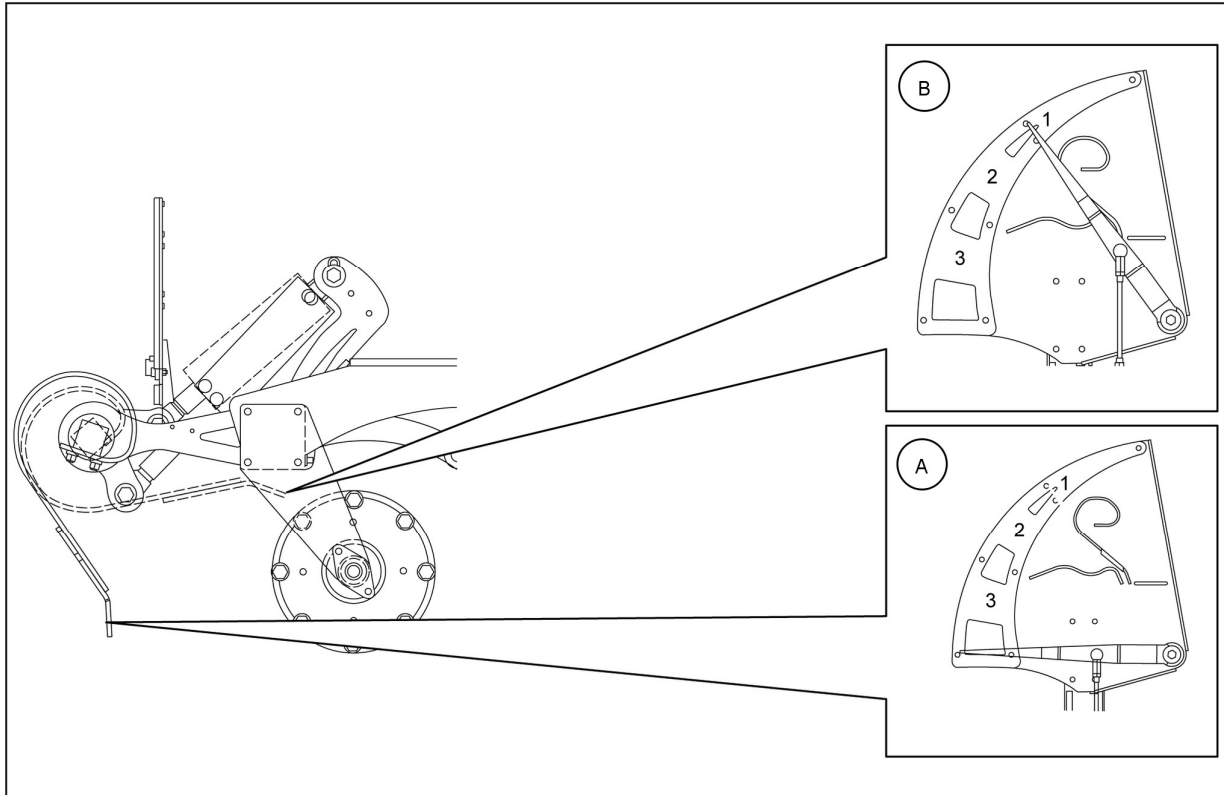
Front flex board position

The purpose of the front Flex board is to pre-level the surface of the soil.

The positioning is controlled from the operator's booth, using a blue double-action hydraulic line.

The implement is equipped with an indication of the front Flex board position.

- Position **(A)** = the beam is maximally extended.
- Position **(B)** = the beam is out of work.

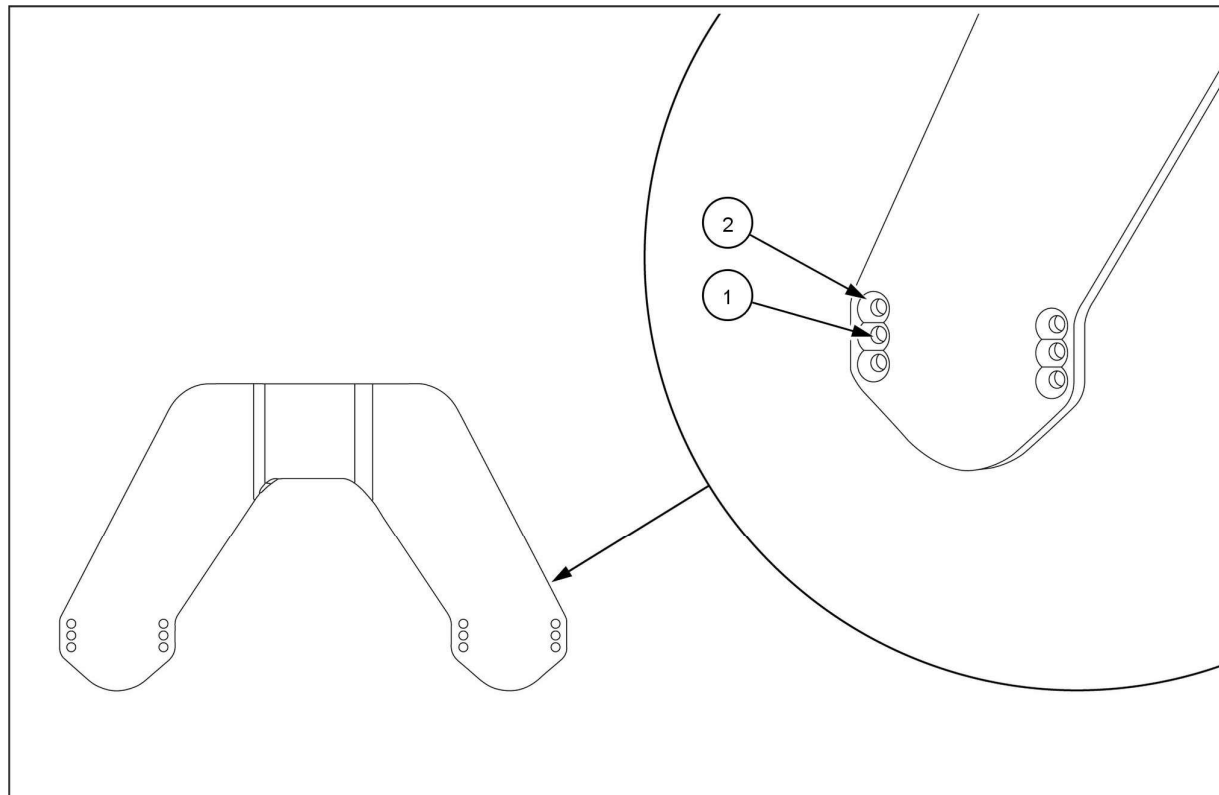


Roller assembly

Particular rollers used in the implement are mounted in the appropriate slots in the frame:

Type "B" and "C" rollers $\varnothing = 320 \text{ mm}$ (12.6 in) (1)

Type "K" rollers $\varnothing = 350 \text{ mm}$ (13.8 in) (2)



1

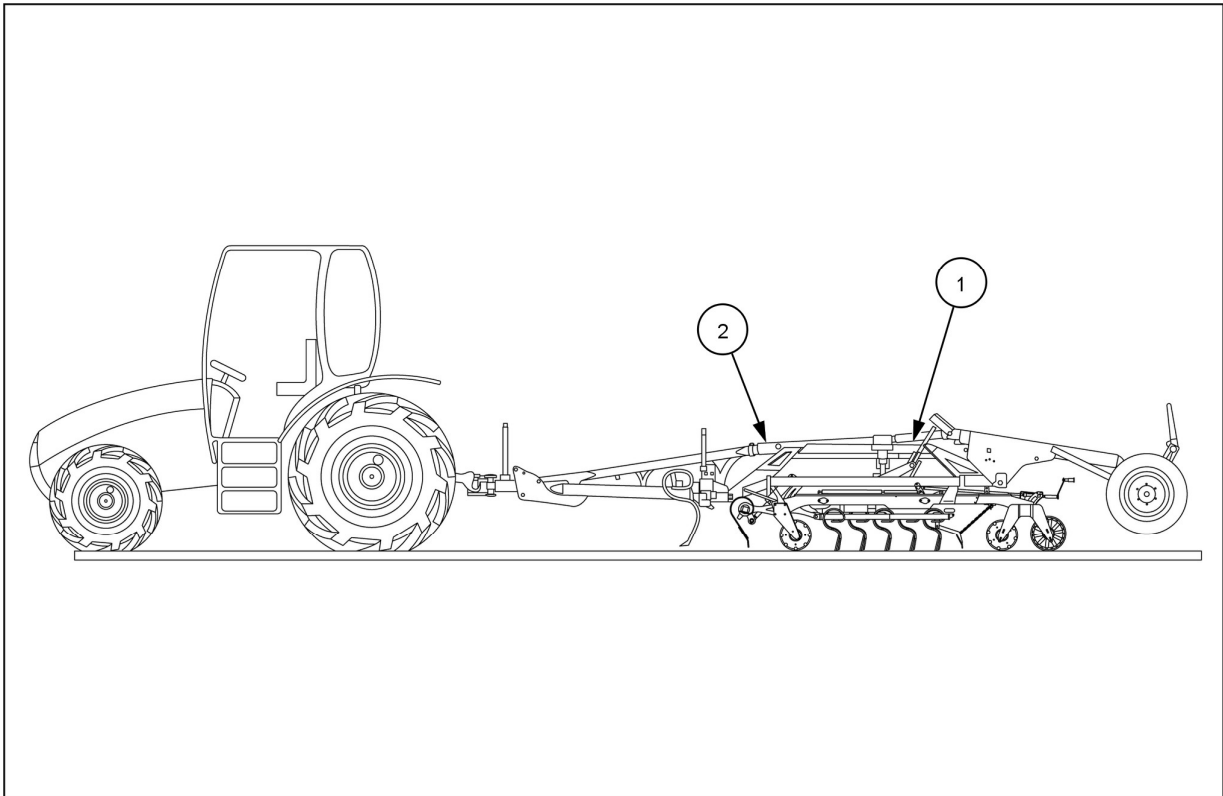
Track eradicators (optional equipment)

Track eradicator adjustment

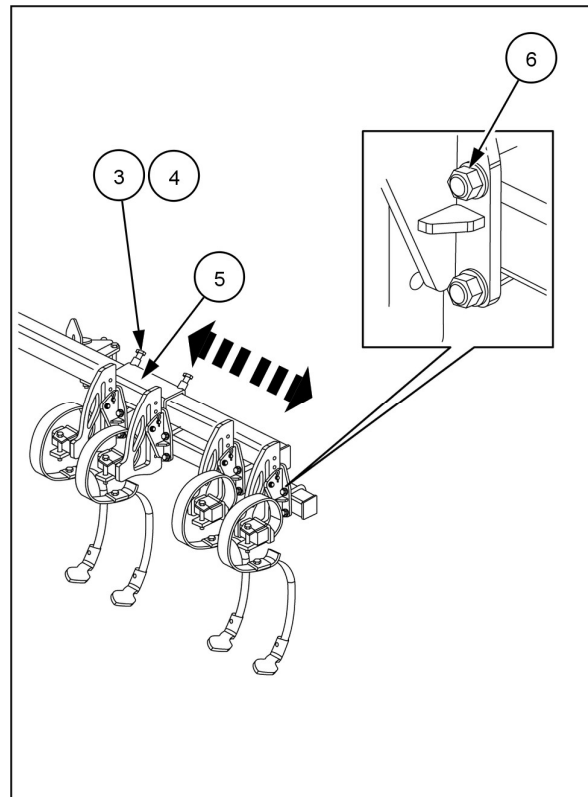
The working width of trace implements must be adjusted to the axle of the tractor's rear wheels.

In order to change the implement's span:

1. Lift the implement using the cylinder **(1)** and the cylinder **(2)**.

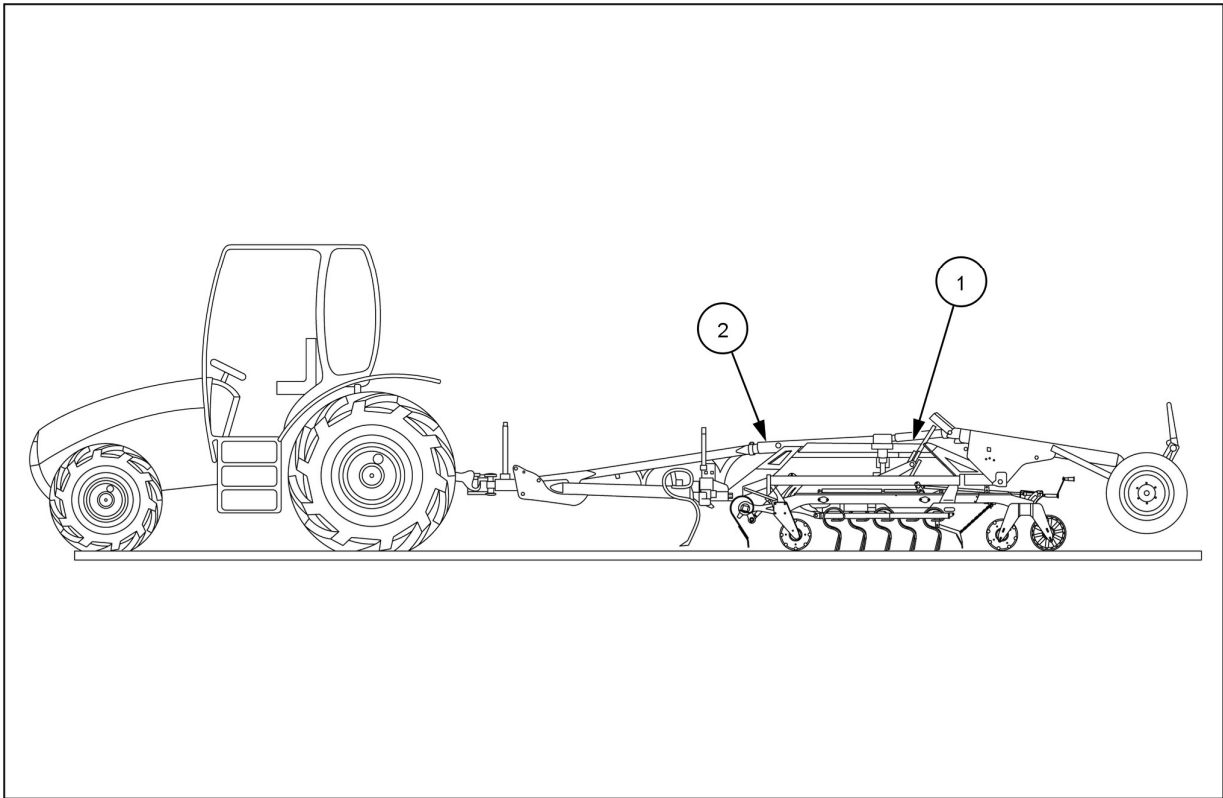


2. Loosen counter-nuts **(3)**, and screws **(4)**.
3. Unfasten nuts **(6)** on the yokes and adjust trace rippers.
4. Shift the holder **(5)** along the pipe to adjust the working width of implements.
5. Perform implement regulation on the left-hand side and right-hand side of the implement.
6. After finishing adjusting, tighten the screws **(4)**.



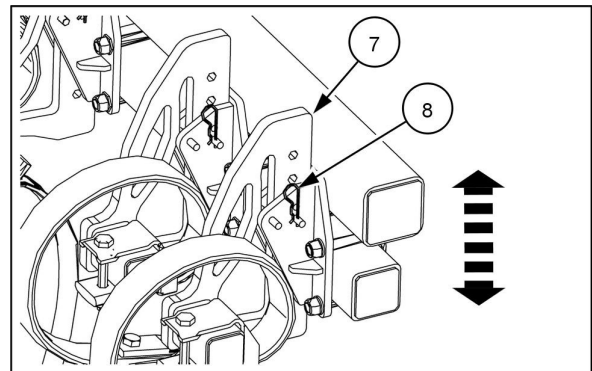
In order to adjust the working depth of the implements:

1. Lift the implement using the cylinder **(1)** and the cylinder **(2)**.



3

2. Hold tine **(7)** and remove pin **(8)**.
3. By shifting up and down, set the trace implement in the desired position.
4. Lock this position using a pivot and a pin.
5. Set each tine in the same slot.



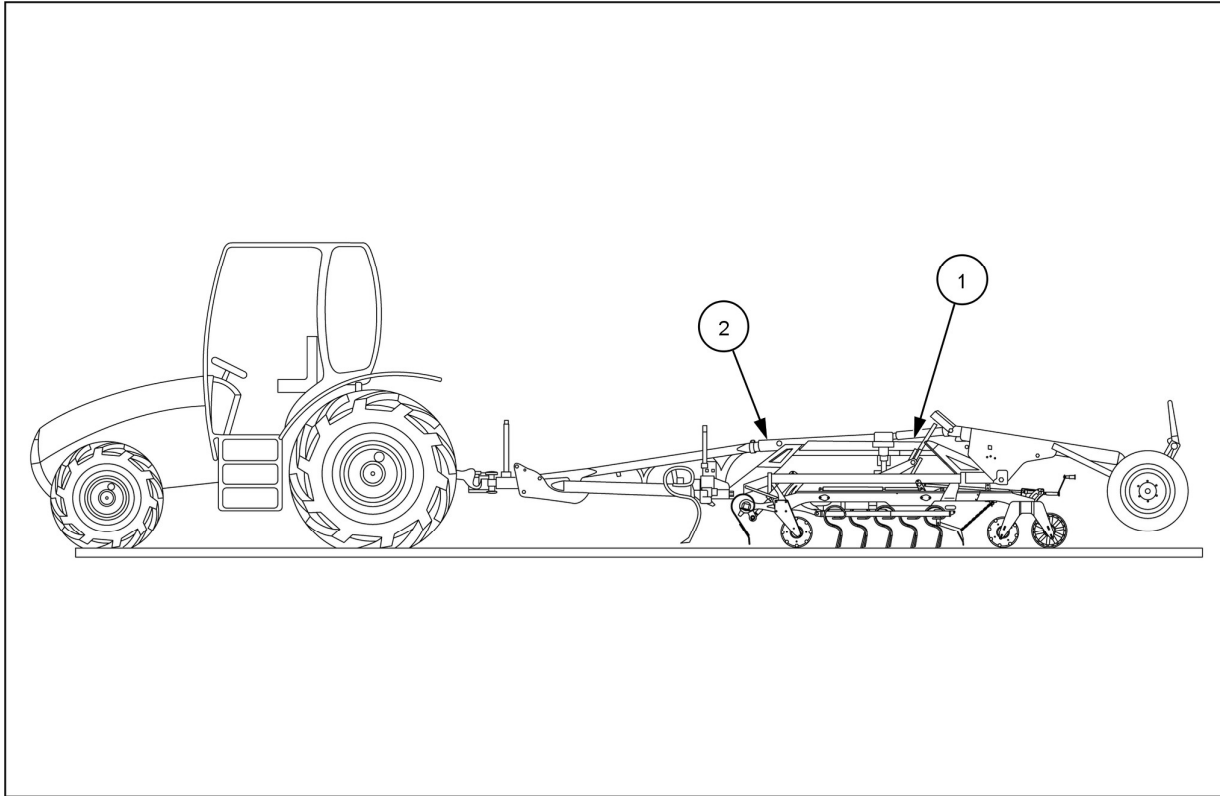
4

Used tine point replacement

NOTICE: When replacing used working elements always wear protective gloves. There is a risk of cutting your hands.

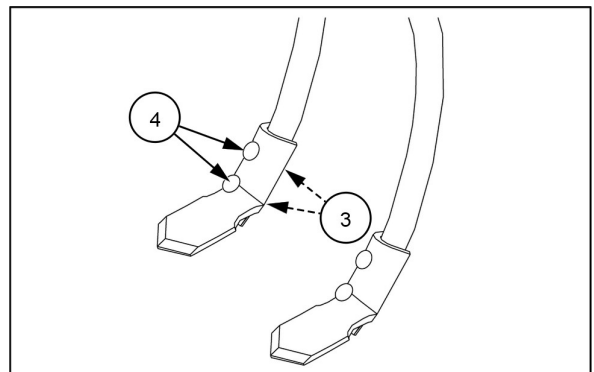
In order to replace used implement tine points:

1. Lift the implement using the cylinder **(1)** and the cylinder **(2)**.



5

2. Loosen and remove the screws that are holding the tine points in place.
3. Mount a new tine point using new screws **(4)** and nuts **(3)**.



6

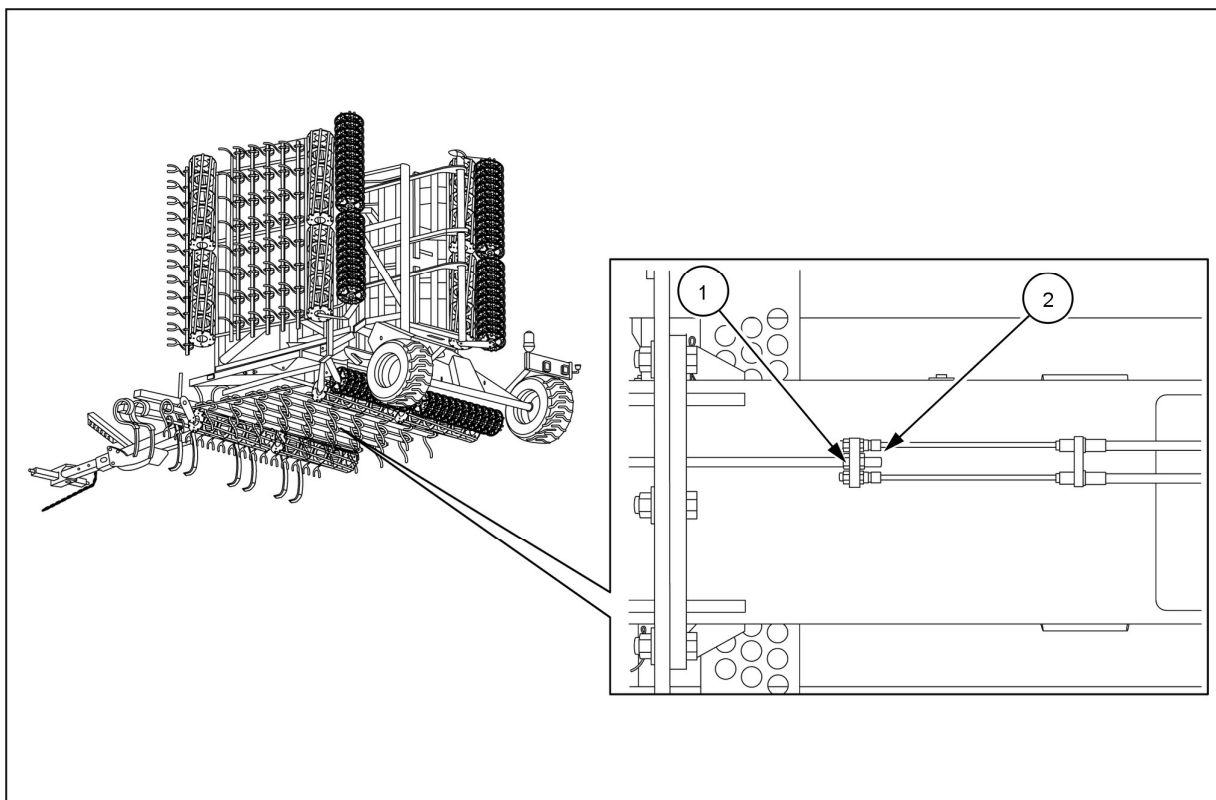
Axles and brakes

Adjustment of the emergency-parking brake

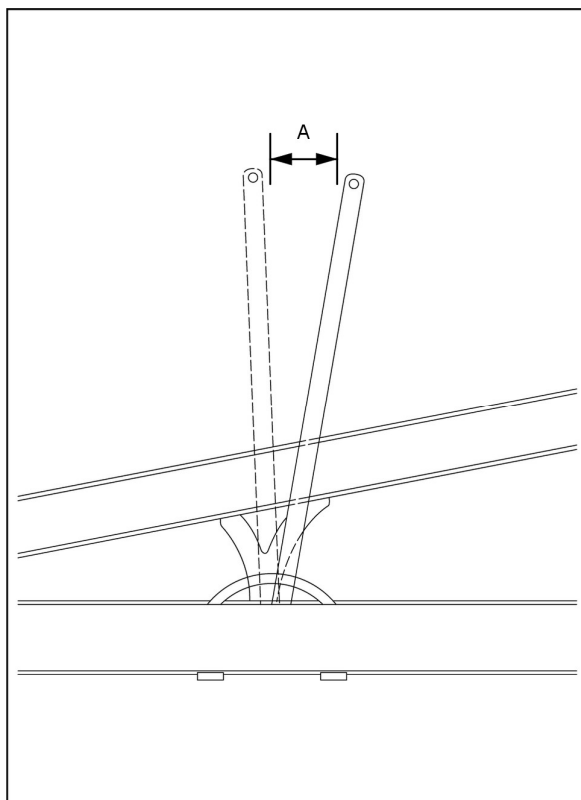
Verification of the proper operation of the brake should always be performed before connecting and disconnecting the tractor and the implement.

Adjustments are performed by raising/lowering the tension of Bowden cables.

1. Loosen the nut **(1)**.
2. Tighten (in order to raise the tension) or loosen (in order to lower the tension) of the nut **(2)** according to the needs.
3. Check if the brake works correctly by pulling the parking brake.
4. If necessary, repeat Step 2 until you reach the desired setting.
5. Tighten the nut **(1)** to lock the system and secure it against an unintentional change in setting.



The system must be adjusted so that the parking brake clearance is between **5 – 10° (A)**.



2

Service brake adjustment

NOTICE: Remember that, if they are not properly adjusted, the condition of the brakes will deteriorate, braking will be weaker and the system will ultimately stop working.

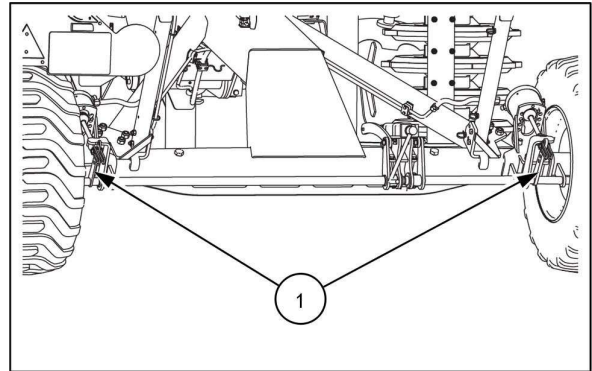
The aim of this adjustment is to ensure that the wheels can turn with a minimum of resistance, whilst you maintain maximum braking performance.

Brake adjustment should be checked frequently at the beginning and periodically thereafter as part of a regular maintenance schedule.

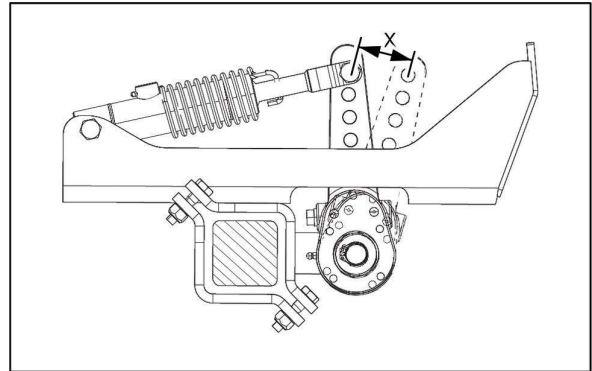
The brakes of the machine are adjusted ex-factory. After a short bedding-in period, readjust the brakes.

To adjust the brakes proceed as follows:

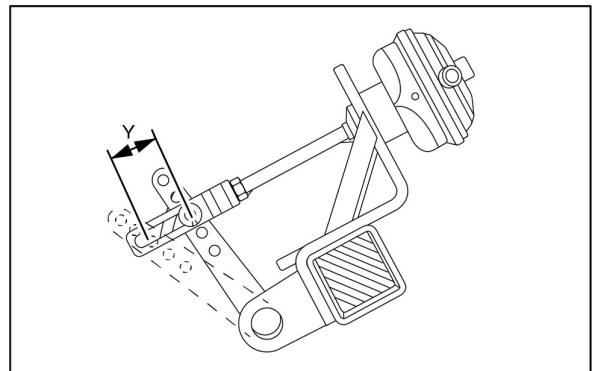
1. Connect the brake hoses to the tractor.
2. Depress the tractor brake pedals to activate the braking system.
3. While you keep the pedals depressed, measure the distance the brake cylinder(s) or the brake chamber(s) (if pneumatic brakes) is (are) extended. Then release the brake pedals.
If this distance is more than $X = 70 - 80 \text{ mm}$ (2.8 – 3.1 in) for the brake cylinder(s) or $Y = 45 \text{ mm}$ (1.8 in) for the brake chamber(s), adjust the lever (1).



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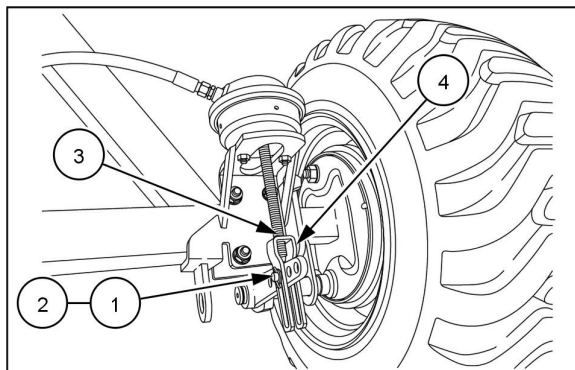


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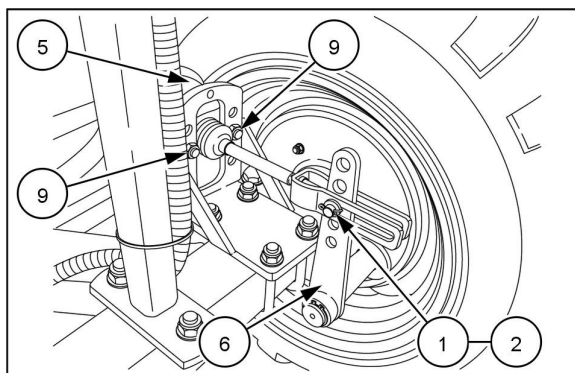
Air brake adjustment

The stroke can be adapted by adjusting the fork position. Proceed as follows:

1. Lift up the axle to allow manual rotating of the wheels.
2. Remove the linchpin (1) and the pin (2).
3. Loosen the nut (3) and turn the fork (4) to the needed position.
4. The angle between air brake cylinder (5) and the lever (6) must be **85 – 95°**. If not, modify the position of the lever. Proceed as follows:
 - Remove the nuts (9).
 - Remove the circlip and the lever (6) from the axle.
 - Position the lever (6) on the next spline.
 - Install the circlip.
 - Position the air brake cylinder (5) to the needed position using the holes of its support bracket.
 - Install the nuts (9).
5. Install the pin (2) and the linchpin (1).
6. Verify that the wheels rotate freely.



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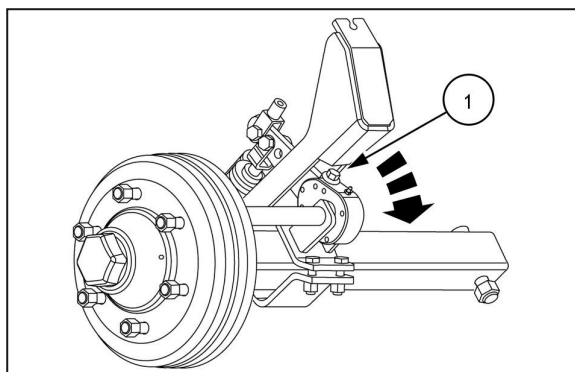


7

Hydraulic working brake adjustment

In the case of excessive strokes of the hydraulic cylinder, perform an adjustment of the brake lever. Proceed as follows:

1. Lift up the axle to allow manual rotating of the wheels to verify that they rotate freely.
2. Tighten the bolts (1) until the brake shoes begin to rub against the drum, then turn the bolts (1) in the opposite way about one eighth till the next position stop.



8

Checking the lining thickness

- In order to check the thickness of linings, disassemble the brake drum first. The thickness of linings should be verified every **500 h**. This period is a recommended period, whereas in the case of working on inclined terrain or with frequent use of the brakes, shorten the period accordingly.
- Replace the brake calipers after they reach the minimum thickness, which is **2 mm (0.1 in)**. Use original calipers only. If necessary, replace the caliper tension springs.

Disassembly of the brake drum

- Demount the wheel observing all applicable safety principles.
- Unscrew the hub cover, remove the pin and unscrew the cap.
- Detach the brake drum using a dedicated clip.
- Protect the linings against grease and other pollutions.

Assembly of the brake drum

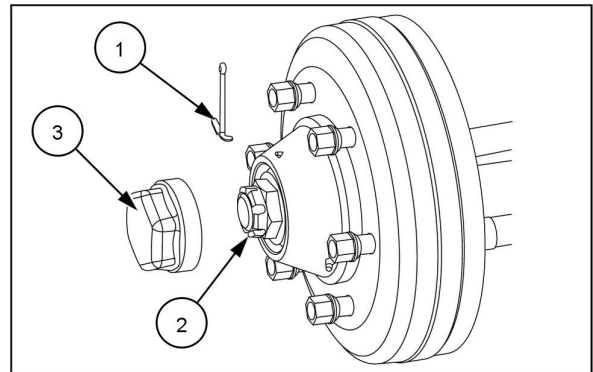
- Prior to assembling, clean all parts of the brake drum.
- Perform assembly by reversing the directions for the disassembly procedure.
- Be careful not to smear the brake linings with grease.
- After mounting the drum and tightening the castle nut, apply lubricant.

Inspecting for bearing play

- Lift the wheel from the ground to be able to turn the wheel freely.
- Move the wheel crosswise to the wheel axle to detect potential play.
- Upon sensing noticeable play, proceed to the play elimination procedure defined below.

Elimination of bearing play

- Demount the wheel.
- Unscrew hub cover **(3)** and remove pin **(1)**.
- Tighten castle nut **(2)** to allow the wheel to move freely and to allow for re-installing pin **(1)**.
- If necessary, apply lubricant.
- Mount and tighten the hub cover **(3)**.
- Mount the wheel.



9

Connecting and disconnecting hydraulic brakes

NOTICE: Do not release the emergency-parking brake when attaching the implement to the tractor. The emergency-parking brake is released by the operator directly before setting the tractor-implement into motion, as intended. Before starting off, always verify the operation of the braking system. Upon noticing any defects, proceed immediately to performing the necessary repair/adjustments of the system.

NOTE: Only tractors with proper connections equipped with one line in the ISO 5676 standard may be used to operate the working hydraulic brake of the implement.

NOTE: Before making any connections, verify the condition of all hydraulic hoses and connections, inspecting them for cracks or leaks.

Connecting

1. Always connect only clean hydraulic connections. If necessary, clean the hydraulic plug or socket.
2. Connect the hydraulics plug from the side of the implement to the hydraulics socket from the side of the tractor.
3. Make sure the connection is done correctly.
4. Make sure the connection is tight.

Disconnecting

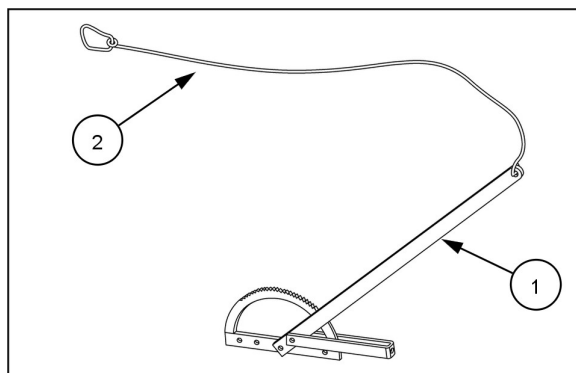
1. If the implement is equipped with a parking brake, engage it.
2. Loosen and disconnect the hydraulics plug from the tractor socket.
3. Lay the hydraulics pipe on the handle designed for hydraulics hoses.

Emergency-parking brake

In order to engage the parking brake:

1. Pull the brake lever (1) toward the tractor.
2. Disconnect the hydraulic working brake according to the instructions specified above.
3. Disconnect brake jack line (2) from the tractor
4. Disconnect the implement by following the instructions on disconnecting the implement.

NOTE: In order to ensure the proper operation of the emergency brake, the brake lever line (2) should be permanently fixed to the tractor. The emergency brake is engaged upon unexpected disconnection of the implement from the tractor.



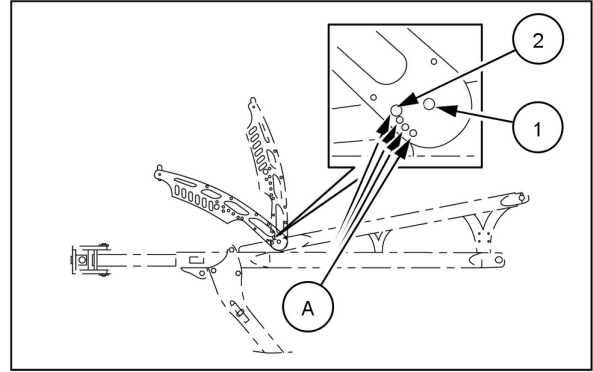
Hydraulic line - holder positioning

A hydraulic line holder, assembled on the machine's drawbar clamps all the hydraulic lines, attached to the tractor, protecting them against damage and enables their proper parking, when disconnected from the tractor.

Depending on drawbar position and the type of used tractor, it may become necessary to apply some tension to hydraulic lines.

The holder position **(A)** is adjustable. In order to reposition the holder:

1. Unfasten the fixing screw **(1)**.
2. Unfasten the screw **(2)** and unscrew.
3. Remove the screw **(2)** and, holding the holder at its upper part, reposition as required.
4. Relocate the screw **(2)** in the appropriate hole and fasten.
5. Fasten the fixing screw **(1)**.



Removing clogs and jams

When working with the implement, you may experience stoppages in soil transport between particular working elements or rollers.

In order to minimize the risk of clogs:

- Adjust the working speed to make sure that the soil processed is transported evenly between particular working elements.
- Adjust the processing depth to the type of work performed and the amount of post-cropping residue in the farmed soil.

In the event that the implement clogs:

- Stop the tractor engine immediately and lift the implement.
- When removing jams requiring you to step on the implement, maintain particular caution - there is a risk of slipping.
- When removing jams requiring you to step under the implement, maintain particular caution and always make sure the implement was secured against automatic lowering.

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7 - MAINTENANCE

General information

General

⚠ WARNING

Improper operation or service of this machine can result in an accident.

If you do not understand a maintenance procedure, or doubt your ability to perform a maintenance procedure correctly, see your authorized dealer.

Failure to comply could result in death or serious injury.

⚠ WARNING

Avoid injury!

Follow ALL of the precautions listed below.

Failure to comply could result in death or serious injury.

⚠ WARNING

Crushing hazard!

Before performing service under the machine, park the machine on a level surface, engage the parking brake, and stop the engine. Put blocks at the front and rear of the tires.

Failure to comply could result in death or serious injury.

⚠ WARNING

Escaping fluid!

Do not connect or disconnect hydraulic quick coupler under pressurized conditions. Make sure all hydraulic pressure is removed from the system before connecting or disconnecting hydraulic quick coupler.

Failure to comply could result in death or serious injury.

NOTICE: Before you attempt any repairs, disconnect the wires from the alternator and the battery.

NOTICE: *Be sure that all the service operations in this chapter are carried out punctually at the intervals given, in order to ensure optimum performance levels and maximum safety when using the implement.*

Adequate lubrication and maintenance on a regular schedule is vital to maintain your implement. To ensure long service and efficient operation, follow the lubrication and maintenance schedules outlined in this operator's manual. The use of proper, oils, grease, and filters, as well as keeping the systems clean, will also extend the implement and components life.

NOTICE: *Failure to complete the required maintenance at the recommended intervals can cause unnecessary downtime.*

Use the intervals listed in the maintenance planning as guidelines when you operate in normal conditions. Adjust the intervals when you operate in adverse environmental and working conditions. Shorten the intervals for sandy, dusty, and extremely hot operating conditions.

NOTICE: *While any company can perform necessary maintenance or repairs on your implement, KONGSKILDE - SEKO SRL strongly recommends that you use only authorized KONGSKILDE - SEKO SRL dealers and products that meet given specifications. Improperly or incorrectly performed maintenance and repair voids the equipment warranty and may affect service intervals.*

When you repair or maintain the implement it is especially important to ensure the correct personal safety. Therefore, always park the tractor (if mounted) and the implement safely.

Always activate the parking brake and stop the tractor engine before you:

- Lubricate the implement.
- Clean the implement.
- Disassemble any part of the implement.
- Adjust the implement.

Observe the recommended greasing, replacement and inspection intervals to prevent secondary damages.

Only use original KONGSKILDE - SEKO SRL spare parts to avoid un- intentional risks and damages.

Install the used spare parts correctly and torque all the bolts and nuts to the correct tightening torque.

Always make sure that all the safety guards of the implement are in place and functional. Immediately replace the safety guards worn or damaged. Do not operate the implement until you replace all the worn or damaged safety guards.

Hydraulic system

Remember to relieve the oil pressure before you work with the hydraulic system.

Hydraulic hoses must be checked before each use, and minimum once a year. If necessary, replace the hydraulic hoses. All hoses are marked with date of production. The working life of hydraulic hoses should not exceed 6 years, including maximum 2 years of storage.

When you replace hoses, always use hoses which comply with the requirements stated by the manufacturer.

Torque

Minimum hardware tightening torques (in N m or lb in /lb ft) for normal assembly applications unless otherwise stated

The minimum hardware tightening torque on drawings, in specifications, etcetera have priority.

In the following tables, torque specifications are shown following the standard **ENS7001**, applicable for material class 8.8 and material class 10.9.

Hex head bolts

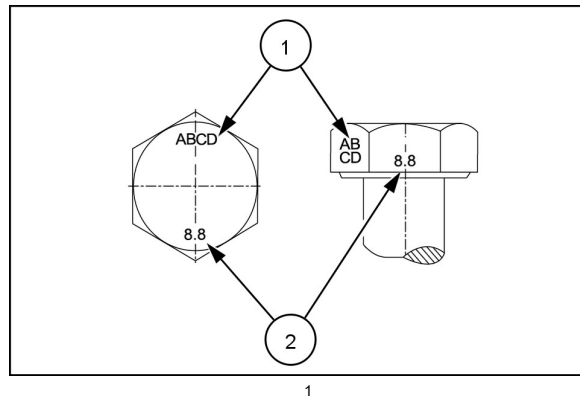
Nominal Size	Class 8.8 in N m (lb in or lb ft)			Class 10.9 in N m (lb in or lb ft)		
	Plated nut	Lock nut	Hardened nut/Oiled plated nut	Plated nut	Lock nut	Hardened nut/Oiled plated nut
M3	1.3 N·m (11.5 lb in)	0.7 N·m (6.2 lb in)	1.2 N·m (10.6 lb in)	1.8 N·m (15.9 lb in)	0.9 N·m (8.0 lb in)	1.6 N·m (14.2 lb in)
M4	2.9 N·m (25.7 lb in)	1.6 N·m (14.2 lb in)	2.6 N·m (23.0 lb in)	4.2 N·m (37.2 lb in)	2.3 N·m (20.4 lb in)	3.7 N·m (32.7 lb in)
M5	5.9 N·m (52.2 lb in)	3.2 N·m (28.3 lb in)	5.3 N·m (46.9 lb in)	8.5 N·m (75.2 lb in)	4.6 N·m (40.7 lb in)	7.6 N·m (67.3 lb in)
M6	10.1 N·m (89.4 lb in)	5.5 N·m (48.7 lb in)	9.1 N·m (80.5 lb in)	14.5 N·m (10.7 lb ft)	7.9 N·m (69.9 lb in)	13 N·m (9.6 lb ft)
M8	24.5 N·m (18.1 lb ft)	13.5 N·m (10.0 lb ft)	22 N·m (16.2 lb ft)	35.1 N·m (25.9 lb ft)	19.3 N·m (14.2 lb ft)	31.5 N·m (23.2 lb ft)
M10	48.7 N·m (35.9 lb ft)	26.8 N·m (19.8 lb ft)	43.8 N·m (32.3 lb ft)	69.5 N·m (51.3 lb ft)	38.2 N·m (28.2 lb ft)	62.5 N·m (46.1 lb ft)
M12	85 N·m (62.7 lb ft)	46.7 N·m (34.4 lb ft)	76.5 N·m (56.4 lb ft)	121 N·m (89.2 lb ft)	66.5 N·m (49.0 lb ft)	108.9 N·m (80.3 lb ft)
M14	135 N·m (99.6 lb ft)	74.2 N·m (54.7 lb ft)	121.5 N·m (89.6 lb ft)	193 N·m (142.3 lb ft)	106.1 N·m (78.3 lb ft)	173.7 N·m (128.1 lb ft)
M16	210 N·m (154.9 lb ft)	115.5 N·m (85.2 lb ft)	189 N·m (139.4 lb ft)	301 N·m (222 lb ft)	165.5 N·m (122.1 lb ft)	270.9 N·m (199.8 lb ft)
M18	299 N·m (220.5 lb ft)	164.4 N·m (121.3 lb ft)	269.1 N·m (198.5 lb ft)	414 N·m (305.4 lb ft)	227.7 N·m (167.9 lb ft)	372.6 N·m (274.8 lb ft)
M20	425 N·m (313.5 lb ft)	233.72 N·m (172.4 lb ft)	382.5 N·m (282.1 lb ft)	587 N·m (432.9 lb ft)	322.8 N·m (238.1 lb ft)	528.3 N·m (389.7 lb ft)
M22	579 N·m (427 lb ft)	318.4 N·m (234.8 lb ft)	521.1 N·m (384.3 lb ft)	801 N·m (590.8 lb ft)	440.5 N·m (324.9 lb ft)	720.9 N·m (531.7 lb ft)
M24	735 N·m (542.1 lb ft)	404.2 N·m (298.1 lb ft)	661.5 N·m (487.9 lb ft)	1016 N·m (749.4 lb ft)	558.8 N·m (412.1 lb ft)	914.4 N·m (674.4 lb ft)
M27	1073 N·m (791.4 lb ft)	590.1 N·m (435.2 lb ft)	967.5 N·m (713.6 lb ft)	1486 N·m (1096 lb ft)	817.3 N·m (602.8 lb ft)	1337 N·m (986.1 lb ft)
M30	1461 N·m (1077.6 lb ft)	803.5 N·m (592.6 lb ft)	1315 N·m (969.9 lb ft)	2020 N·m (1489.9 lb ft)	1111 N·m (819.4 lb ft)	1818 N·m (1340.9 lb ft)

Flange head bolt/Flange nut

Nominal Size	Class 10.9 in N m (lb ft)
M3	2.0 N·m (1.5 lb ft)
M4	4.6 N·m (3.4 lb ft)
M5	9.4 N·m (6.9 lb ft)
M6	15.9 N·m (11.7 lb ft)
M8	38.7 N·m (28.5 lb ft)
M10	76.5 N·m (56.4 lb ft)
M12	134 N·m (98 lb ft)
M14	213 N·m (157 lb ft)
M16	331 N·m (244 lb ft)
M18	455 N·m (336 lb ft)
M20	645 N·m (476 lb ft)
M22	881 N·m (650 lb ft)
M24	1118 N·m (824 lb ft)
M27	1635 N·m (1206 lb ft)
M30	2222 N·m (1639 lb ft)
M36	3880 N·m (2862 lb ft)

Identification markings

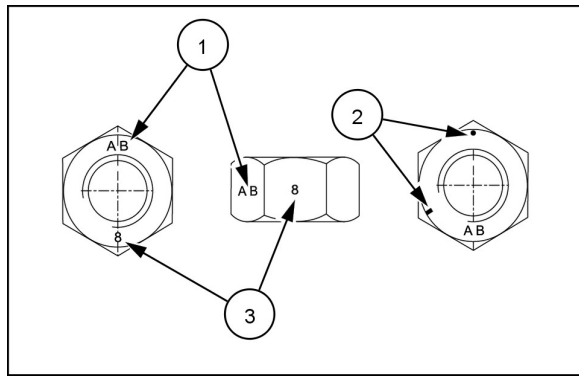
Metric hex head, flange hex head and carriage bolts,
Classes (CL) 5.6 and upward



1
Metric bolt identification markings

1. Manufacturer's identification
2. Property class

Metric hex nuts and locknuts, Classes (CL) 05 and upward

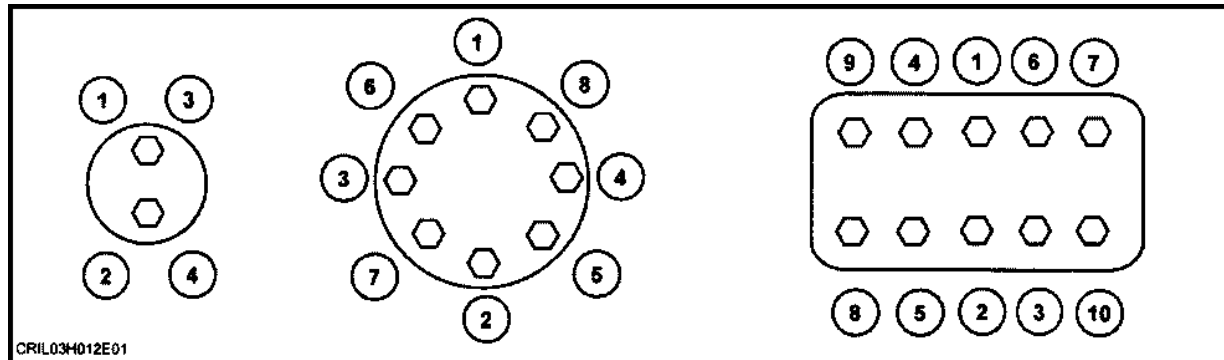


2
Metric hex nut identification markings

- (1) – Manufacturer's identification
- (3) – Property class
- (2) – Clockwise type markings indicate property class and may include manufacturer identification (if applied), Example: property marks **240°** apart (shown) at the eight o'clock position indicate a Class 8 property, and marks **300°** apart at the ten o'clock position indicate a Class 10 property.

Torque tightening sequence

NOTICE: Shown below is the suggested initial torque tightening sequences for general applications, tighten in sequence from item 1 through to the last item of the hardware.



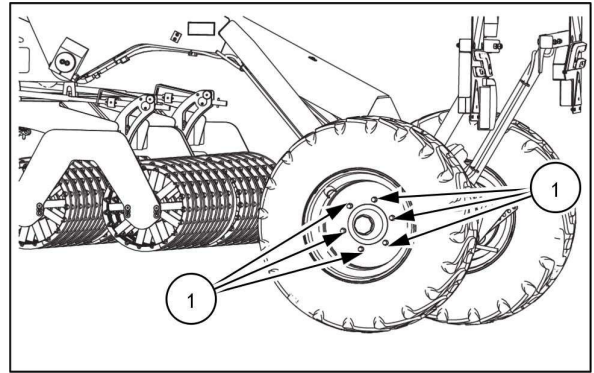
CRIL03H012E01

Special torques

Wheel nuts

(1) 270.0 N·m (199.1 lb ft)

NOTE: The special torque is applicable to both sides of the implement.

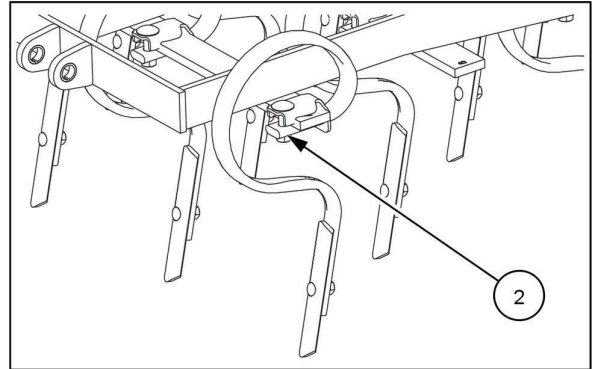


1

Tines nuts

(2) 60.0 – 65.0 N·m (531.0 – 575.3 lb in)

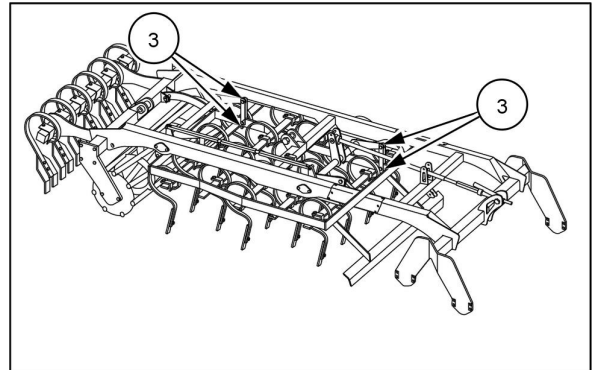
NOTE: The special torque is applicable for all the tines of the implement.



2

Tine frame suspension on the section area (8x section)

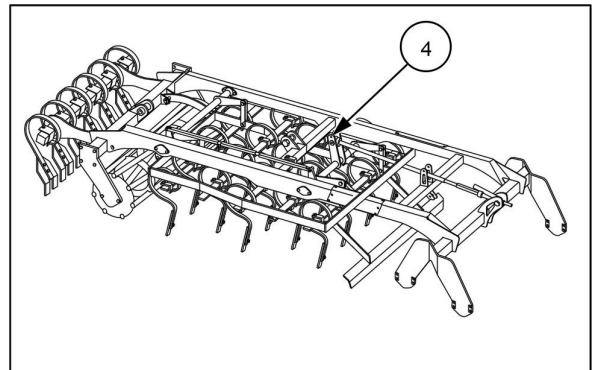
(3) Torque not specified. The tightening torque must allow the parts to rotate freely.



3

Tine frame suspension on the section area (1x section)

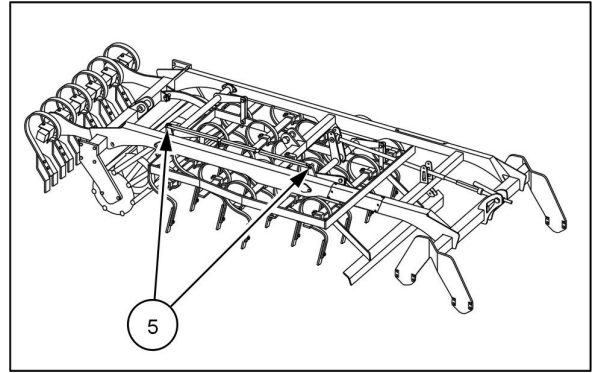
(4) Torque not specified. The tightening torque must allow the parts to rotate freely.



ZEIL22TIL0205AA 4

Tine frame suspension on the section area (2x section)

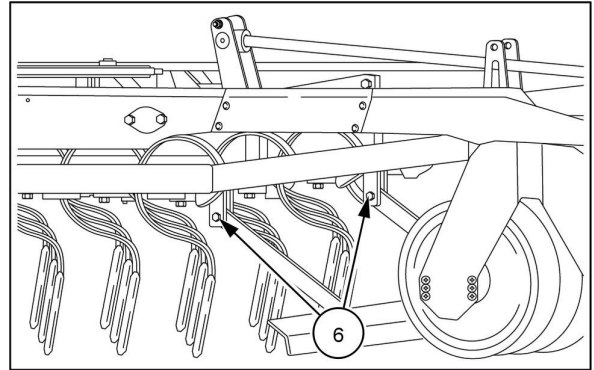
(5) Torque not specified. The tightening torque must allow the parts to rotate freely.



5

Rear levelling board connection on the section area (2x section)

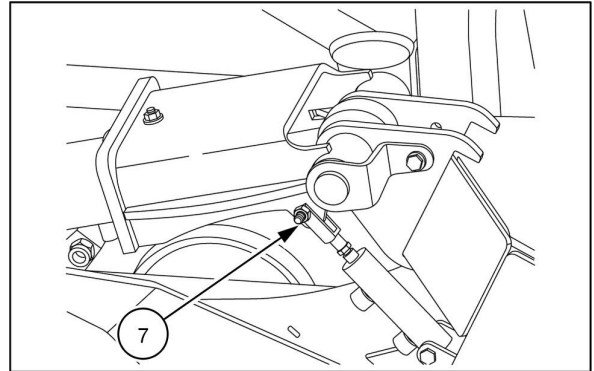
(6) Torque not specified. The tightening torque must allow the parts to rotate freely.



6

Transport lock (1x)

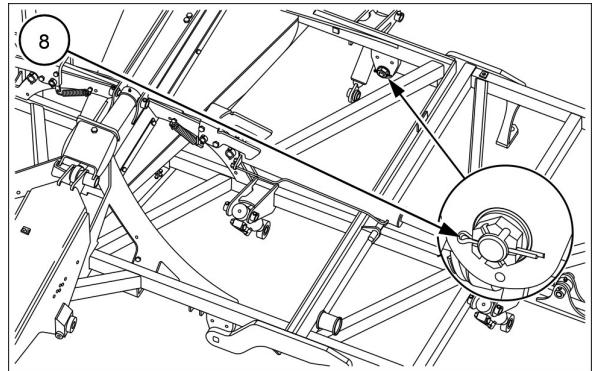
(7) Torque not specified. The tightening torque must allow the parts to rotate freely.



7

Wing pins (4x)

(8) Torque not specified. The connection is tight as much as possible to have a gap between wing hinge and central frame. The gap should be minimum to achieve freely movement between central frame and wing.



8

Grease fittings and intervals

Regular lubrication is the best insurance against delays and repairs. Proper lubrication will extend the life of the implement.

Grease fittings

On new implements, the grease fitting may be covered with paint. Remove the paint to ensure the grease fitting can accept grease.

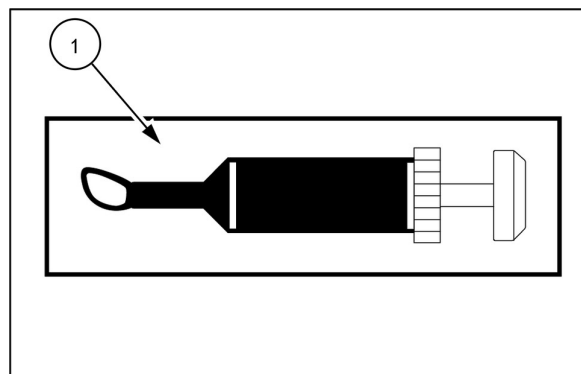
Wipe the dirt from all of the fittings and from the grease gun nozzle before you grease the implement to minimize the chance of contamination.

Pump fresh grease into the fitting to adequately lubricate the component and force out any contamination from the grease passage. Wipe off any excess grease.

Follow the lubrication schedule outlined in this operator's manual. Refer to the illustrations to identify each grease fitting on this implement.

All grease fittings are labeled with the sticker **(1)**.

Not all grease fittings are readily visible. Various grease fittings can only be accessed through the removal of shields or guards. Always install the shields or guards before you operate the implement.



1

Grease guns

Different types of grease guns provide a different amount of grease per pump of the handle.

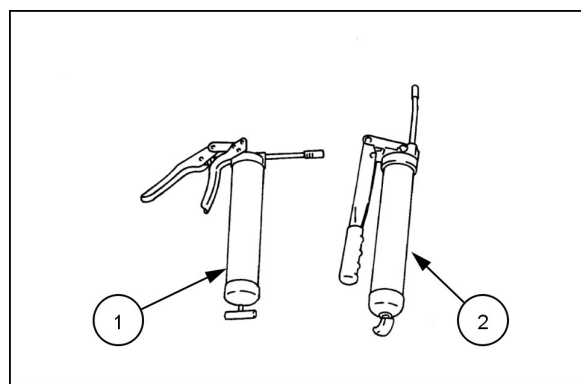
Two commonly used grease gun types are as follows:

- (1)** Pistol grip-style grease gun
- (2)** Lever-style grease gun

In general, a pistol grip-style grease gun injects half of the amount of grease per pump as a lever-style grease gun.

For listed components to grease on this implement, the number of pumps of grease for each grease location are based on the use of a pistol grip-style grease gun **(1)**.

If you use a lever-style grease gun, use only half of the indicated number of pumps of grease.



2

Grease specification

See Page 7-11 for the correct grease specification.

Pressure washing

WARNING

Flying debris!

Always wear protective clothing and safety glasses or a face shield when using a steam cleaner or power washer.

Failure to comply could result in death or serious injury.

NOTE: Legislation in certain countries and good practice requires special treatment of waste water through sedimentation and oil separation and controlled removal of residues.

Before you use pressure washing, clean the implement with compressed air.

Avoid pressure washing at ambient temperatures below **10 °C (50 °F)** or when the implement is wet. Place the implement in a heated workshop or dry barn for at least **24 h**. Clean the implement only when fully dry.

Be careful when you clean the implement with a high pressure washing. Avoid to direct water jets on electric equipment, bearings, seals, gearboxes, etcetera.

Grease all grease fittings carefully after you clean the implement to press possible water outside bearings.

When you use a high pressure washer:

- Keep a minimum distance of **30 cm (12 in)** between the spray gun and the surface to be cleaned.
- Spray under an angle of minimum **25°** (do not spray straight at the implement).
- Maximum water temperature: **60 °C (140 °F)**.
- Maximum water pressure: **60 bar (870 psi)**.
- Do not use chemicals.

NOTICE: On the cylinders, do NOT direct the stream of a high pressure washer at the wiper seal. Water could come through the rod guide and create corrosion. This corrosion could generate pollution and seizing of the cylinder rod and the rod guide.

Fluids, lubricants, and capacities

Application	Capacity	Product name	Specification(s)
Grease fittings	-	TUTELA MULTI-PURPOSE GR-9 GREASE or TUTELA 75 MD GREASE	NLGI 2 M1C 137-A or M1C 75-B

Maintenance planning

Overview

Maintenance action	Drain fluid			Cleaning			Page no.
	Grease			Replace			
	Check						
After the first 10 hours							
Nuts and bolts	x					7-13	
Every 20 hours							
20 hours grease fittings		x				7-13	
Every 50 hours							
Drain air reservoir on pneumatic brake (if equipped)			x			7-17	
Every 100 hours							
Nuts and bolts	x					7-18	
100 hours grease fittings		x				7-19	
Every year							
Pneumatic brake system – Air filters – Cleaning (if equipped)				x		7-20	
Every six years							
Hydraulic hoses					x	7-20	
As required							
Hydraulic system - pipes, hoses and connections	x					7-21	
Pneumatic brake system - Air filters - Replace (if equipped)					x	7-22	

After the first 10 hours

Nuts and bolts

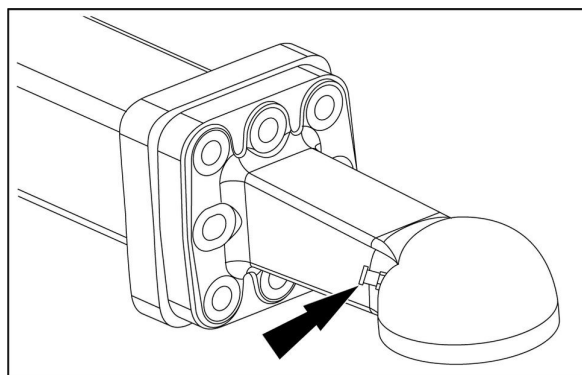
Check all bolts and nuts after the first **10 h** of work.
Retighten the bolts and the nuts if necessary.

Every 20 hours

20 hours grease fittings

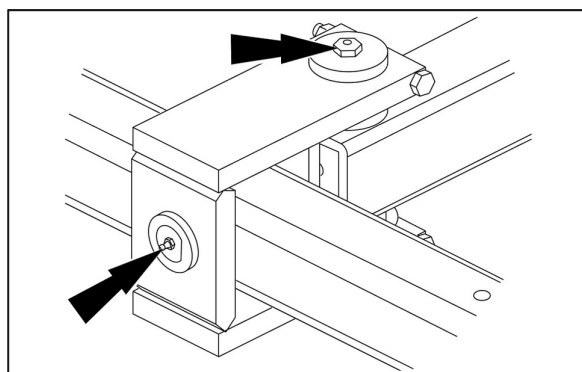
Front

1. K80 ball coupling (1x).



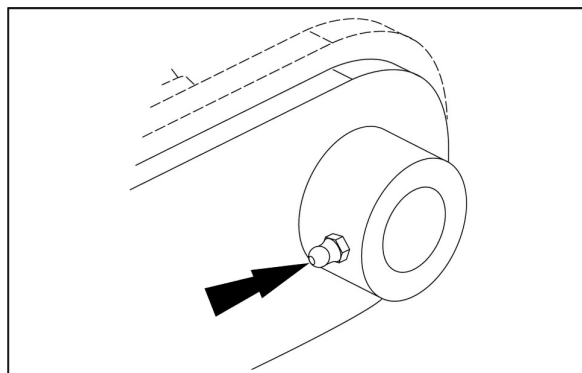
1

2. Drawbar (2x).



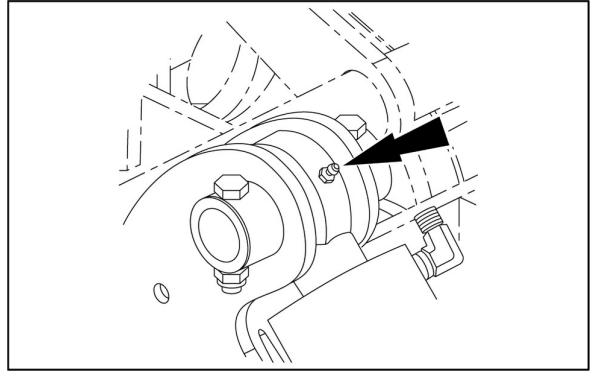
2

3. Drawbar hinge (2x).



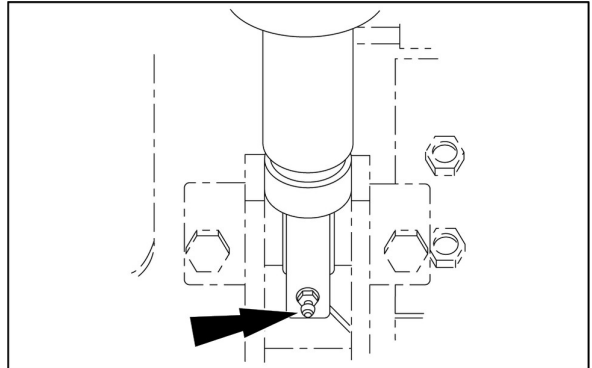
3

4. Top of hydraulic cylinder for front flex board (for each working section) (1x).



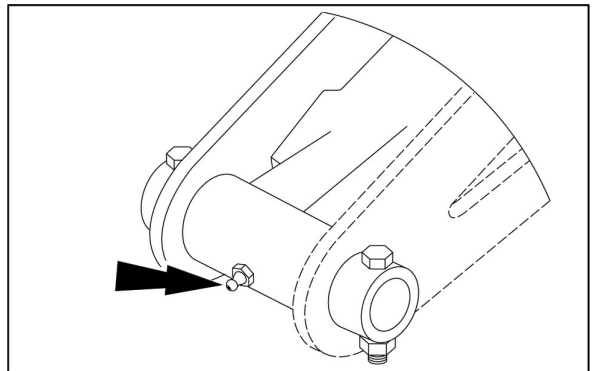
4

5. Bottom of hydraulic cylinder for front flex board (for each working section) (1x).



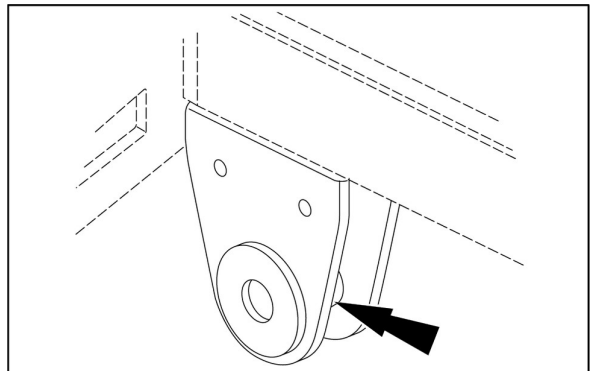
5

6. Section arm (for each working section) (1x).



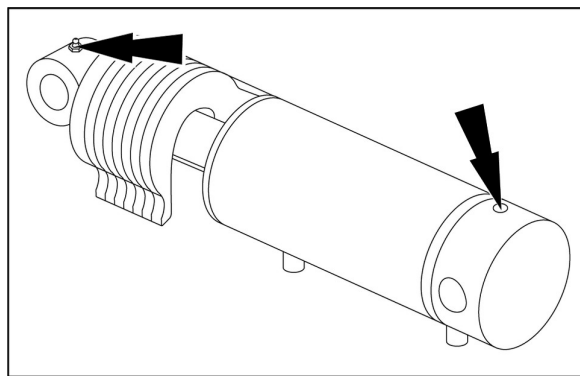
6

7. Wing hinge (4x).



7

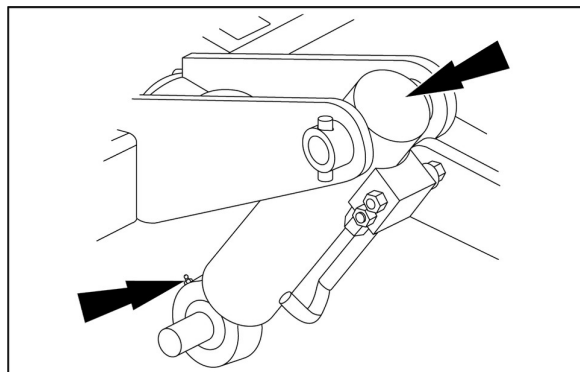
8. Drawbar cylinder (2x).



8

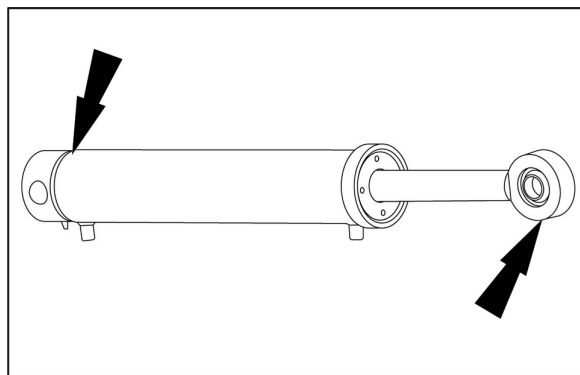
Center

9. Hydraulic cylinder for section (for each working section) (2x).



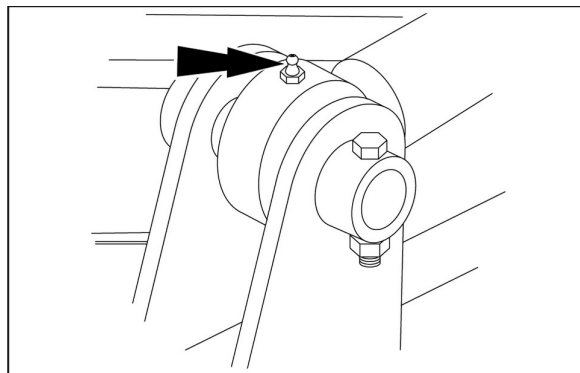
9

10. Hydraulic cylinder for chassis (2x).



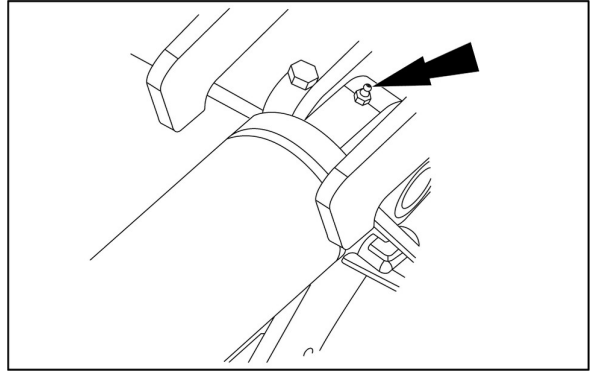
10

11. Wing cylinder (2x).



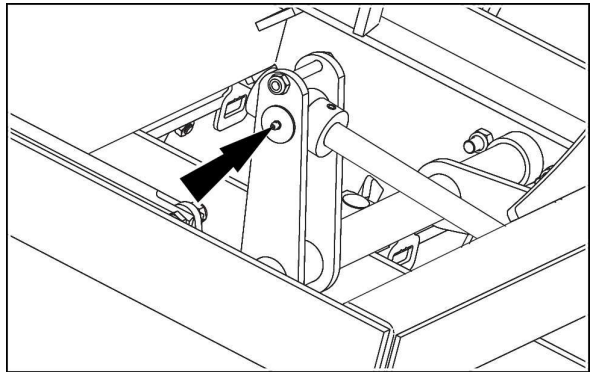
11

12. Wing cylinder (2x).



12

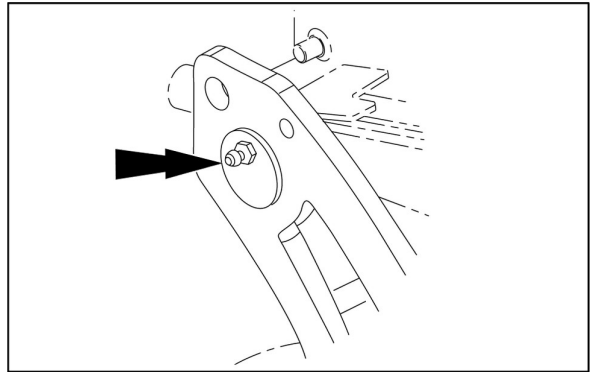
13. Screw of working depth control (for each working section) (1x).



13

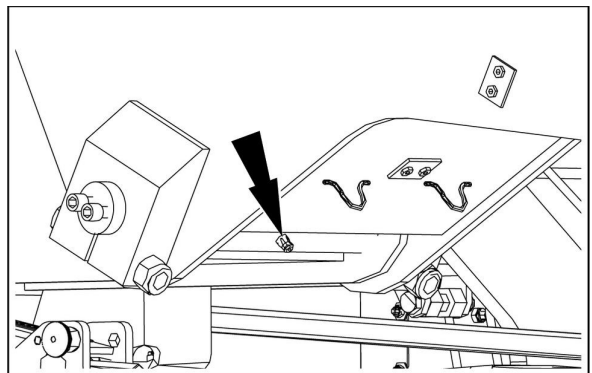
Rear

14. Depth control holder (for each working section) (1x).



14

15. Chassis (1x).

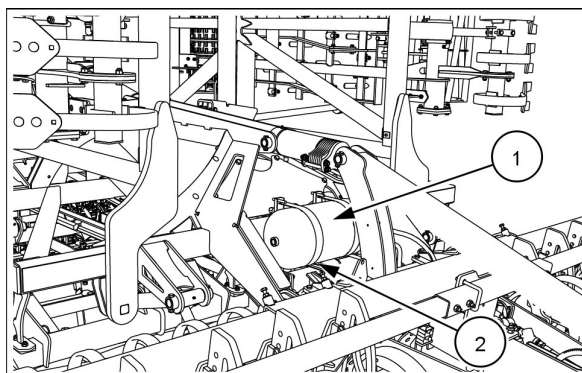


15

Every 50 hours

Drain air reservoir on pneumatic brake (if equipped)

1. Drain condensate out of air reservoir **(1)**. Use a suitable container and activate the drain valve **(2)**.



1

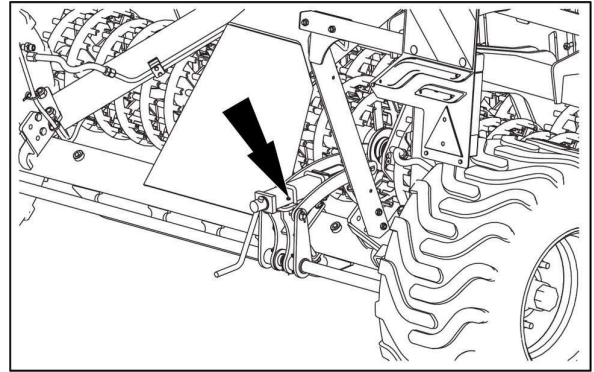
Every 100 hours

Nuts and bolts

Check all bolts and nuts every **100 h** of work. Retighten the bolts and the nuts if necessary.

100 hours grease fittings

1. Parking brake.



1

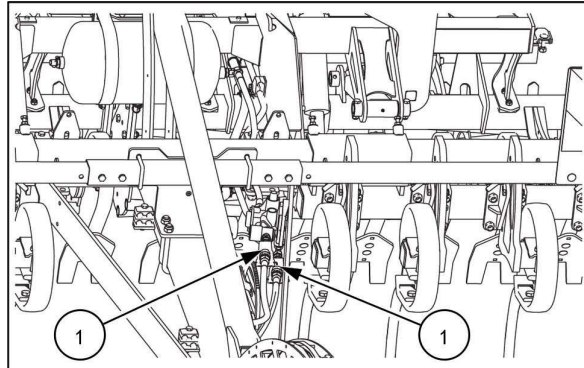
Every year

Pneumatic brake system – Air filters – Cleaning (if equipped)

Two air filters are installed in the pneumatic air brake system. They need to be cleaned every year. To clean the air filters proceed as follows:

1. Disconnect the air lines.
2. Use a screw driver to open the air filter housings (1).
3. Use compressed air to clean dust and debris from the air filters.
4. Close the air filter housings (1).

NOTE: Make sure the rubber seals are in place.



Every six years

Hydraulic hoses

⚠ WARNING

Escaping fluid!

Do not disconnect hydraulic quick coupler under pressurized conditions. Make sure all hydraulic pressure is removed from the system before disconnecting hydraulic quick coupler. Failure to comply could result in death or serious injury.

⚠ WARNING

Escaping fluid!

Hydraulic fluid or diesel fuel leaking under pressure can penetrate the skin and cause infection or other injury. To prevent personal injury: Relieve all pressure before disconnecting fluid lines or performing work on the hydraulic system. Before applying pressure, make sure all connections are tight and all components are in good condition. Never use your hand to check for suspected leaks under pressure. Use a piece of cardboard or wood for this purpose. If injured by leaking fluid, see your doctor immediately.

Failure to comply could result in death or serious injury.

Hydraulic hoses are important safety elements in modern machinery. However, over the years, hose characteristics alter under pressure, thermal load and UV light. Therefore, most hoses now have a production date printed on the metal clamp bushing which allows to determine the age.

Legislation in certain countries and good practice require that hydraulic hoses are replaced when they become 6 years old.

As required

Hydraulic system - pipes, hoses and connections

- With every use of the implement, make sure to check the entire hydraulic system - all pipes, hoses and connections. Immediately replace any worn or damaged parts.
- Inspect the entire hydraulic installation at least once a year.
- Hydraulic hoses undergo natural wear and therefore their usability period is limited.
- Hydraulic hoses must be replaced every 6 years.
- Dispose of used oil according to effective regulations in this matter.
- Upon the occurrence of leaks, make sure oil does not penetrate the soil or water, and remove the source of the leak as fast as possible.
- After replacing hydraulic hoses, clean up any spilled oil.
- Hydraulic hoses must be mounted in dedicated places.

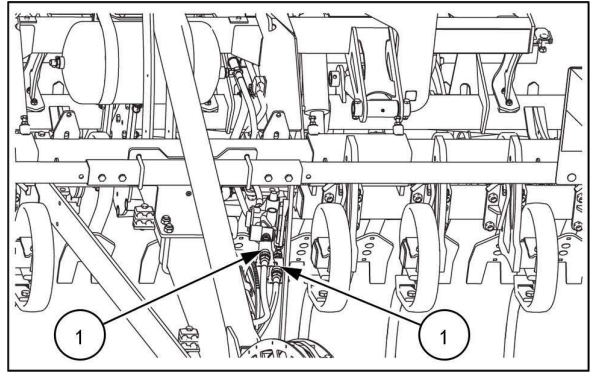
Pneumatic brake system - Air filters - Replace (if equipped)

Two air filters are installed in the pneumatic air brake system.

To replace the air filters proceed as follows:

1. Disconnect the air lines.
2. Use a screw driver to open the air filter housings (1).
3. Remove the air filters.
4. Install the new air filters.
5. Close the air filter housings (1).

NOTE: Make sure the rubber seals are in place.



Storage

End of season service

When the season is over, prepare the implement for the storage immediately.

To prepare the implement for winter storage:

1. Clean the implement thoroughly. Dust and dirt absorb moisture and moisture increases the formation of rust.
2. Store the implement in a dry place, protected against wind and weather in the best possible way.
3. Grease all grease fittings after you clean the implement, according to the "Maintenance chart".
4. Check the implement for damaged parts, loose screw-joints, leakage, wear and other defects carefully before the storage. If there is any damage, it may be forgotten during the storage and result in problems the following season. Note down the necessary parts you will need before the next season and order the spare parts.
5. Lubricate the shaft bearing housings.
6. Preserve all pivots and adjusting elements by applying solid grease.

Implement long-term storage and/or disposal

When the implement reaches the end of its useful life, observe the following recommendations for disposal:

- See your KONGSKILDE - SEKO SRL dealer to make an agreement for your dealer to properly dispose of the implement, or
- Sell the implement to a company that specializes in the proper disposal of industrial machinery.

If you want to keep the implement on your premises (for spare parts or other reusable components, etc.) you must observe the following instructions:

1. Park the implement on hard and level ground. Bring all moveable components to the lowest position and/or safest position.
2. Store the implement with the axles on wooden blocks in order to keep the implement upright, as the tires will deflate over time.
3. Drain the oil from gearbox, and hydraulic systems into appropriate containers. Take the oil to your local waste recycling facility. Pay attention to local rules that may require you to store the different types of oils separately. Remove the filters (if available).

NOTE: *The implement is now ready for a long-term storage and/or for scrapping after the removal of reusable components.*

Long-term storage

The assigned storage life for the implement is minimum seven years, during this time the implement must be packed in a dry and clean place without condensation.

NOTE: *All the requirements for the storage of the implement must be met.*

Scrapping

When you scrap the vehicle, you must keep materials apart. Separate the following:

- Plastics
- Rubber hoses
- Belts
- Electric and electronic components
- Tires
- Wiring harnesses
- Sheet metal
- Castings
- Weld assemblies
- Aluminium
- Any other additional category

NOTE: *See your local waste recycling facility for specific rules on how to deliver the scrapped materials.*

When you dismount mechanical systems, make sure that there is no risk of residual energy (such as compressed springs in belt variators). If you do not have the proper tools or instructions to disassemble a system or component, contact your KONGSKILDE - SEKO SRL dealer to perform this service.

NOTE: *Make sure that the implement maintains stability during the dismantling process.*

Ordering parts and / or accessories

When you prepare the implement for storage, check thoroughly for any parts that may have become worn and need replacing.

Order and install the spare parts and/or accessories at once before the next season.

When you order spare parts, always make sure to give your KONGSKILDE - SEKO SRL dealer the model number and the Product Identification Number (PIN) of your implement. See "Product identification" in Chapter 1 of this operator's manual.

Insist on genuine KONGSKILDE - SEKO SRL "quality" spare parts as they will give the best performance and are covered by our warranty.

For best performance, have your implement serviced by an authorized KONGSKILDE - SEKO SRL dealer.

8 - TROUBLESHOOTING

Fault code resolution

General

This chapter describes the easy diagnostic methods for generic problems and the related remedies for them. If you cannot find the cause of a problem or solve a problem, consult the KONGSKILDE - SEKO SRL dealer.

Troubleshooting

Problem	Possible Cause	Correction
Too shallow / deep work.	Incorrect adjustment of the working section.	Turn the depth wheel crank to set the desired working depth (see Page 6-7).
Uneven soil cultivation.	Worn elements in the working sections.	Replace worn elements in working sections.
	Incorrect tine positions in the working section.	Set the tines correctly in the working sections (see Page 6-14).
	The machine is not leveled.	Level the machine by the number of plates that are mounted on the cylinder piston (see Page 6-2).
The cultivation roller does not move.	Damaged bearing.	Replace the bearing.
	Stone stuck between the roller and the roller frame.	Remove the stone.
Too much soil accumulates in front of the flex board or the soil is not properly cultivated.	Incorrect front flex board position.	Use the hydraulic cylinder to adjust the position (see Page 6-15).
	Worn elements in the working sections.	Replace worn elements in working sections.
On the cultivated soil you can see traces of the tractor or the soil is not properly cultivated behind the traces of the tractor.	Incorrect setting of track eradicators.	Set the track eradicators (see Page 6-17).
	Worn elements in the working sections.	Replace worn elements in working sections.
	Worn tine points on the track eradicators.	Replace worn tine points (see Page 6-20 Sub title Used tine point replacement).
The implement does not fold.	The trailer cylinder is not fully extended (implement not fully lifted).	Lift the implement through the black hydraulic line in order to extend the trailer cylinder and then fold the wings (see Page 5-2). Lift the implement using red hydraulic line (trailer cylinder will extending slowly). When trailer cylinder fully extended release pressure in red hydraulic line and then pressurize it again to fold the wings (see Page 5-2).
	The trailed cylinder is fully extended but the end stroke valves is not activated (no possibilities to pressurize the red hydraulic line).	Adjust the length of the bolt or use the additional holes in order to get proper preload on the spring (see Page 5-2).

Problem	Possible Cause	Correction
The section cylinders is extended more than 150mm or fully extended during the work.	Used the red hydraulic line on the headland instead of black line to lift machine.	Lift the implement through the black hydraulic line (trailed cylinder fully extended) and then use the red hydraulic line in order to lift the working section (to fully retract the working section cylinder). Wings probably will move up a little bit, so use again the red line in order to unfold the wings. After this process the machine is reset and ready to work.
The implement is tilting during the work (implement is not parallel to the ground).	One side of track eradicators is not adjusted symmetrically to the other side.	Adjust the position of track eradicators (see Page 6-17).
	Working depth is not on the same level on all the working sections.	Set the same working depth on all working sections (see Page 6-7 Sub title Adjustment of working depth).
	Rear leveling board is not adjusted on the same level on all working sections.	Adjust the rear leveling board on all the working sections to the same level (see Page 6-11 Sub title Adjustment of rear planning beam position).

9 - SPECIFICATIONS

Technical data

Technical data	Germinator Pro 5400	Germinator Pro 6200	Germinator Pro 7900
Working depth	4 – 12 cm (1.57 – 4.72 in)		
Working speed	up to 12 km/h (7 mph)		
Transport speed	25 – 40 km/h (16 – 25 mph)		
Number of tine rows	5		
List of working sections	2x 1.4 m (4.59 ft) + 2x 1.2 m (3.94 ft)	2x 1.4 m (4.59 ft) + 2x 1.6 m (5.25 ft)	2x 1.4 m (4.59 ft) + 4x 1.2 m (3.94 ft)
Number of tines	90	106	130
Coupling category	2-point drawbar, Category 3 2-point drawbar, Category 4 2-point drawbar, Category 4 narrow coupling Hook 40 mm (1.6 in) Hook 50 mm (2.0 in) Towing eye K80		
Hydraulic installation requirements	3 pairs of hydraulic connections		
Maximum pressure of the hydraulic system	200 bar (2900.00 psi)		
Minimum pressure of the hydraulic system	180 bar (2610.00 psi)		
Electrical installation requirements	12 V		
Number of wheels	2		
Wheel span	2.50 m (8.20 ft)		
Power consumption	140 – 180 kW (190.35 – 244.73 Hp)	180 – 220 kW (244.73 – 299.12 Hp)	> 220.00 kW (299.12 Hp)
Total Weight (*)	5010 kg (11045 lb)	5290 kg (11662 lb)	6410 kg (14132 lb)
Working width	5.4 m (17.72 ft)	6.2 m (20.34 ft)	7.9 m (25.92 ft)
Transport width	3 m (9.84 ft)		
Transport height	2.74 m (8.99 ft)	3.14 m (10.30 ft)	3.99 m (13.09 ft)
Transport length	7.64 m (25.07 ft)		

NOTE: For the implement equipped with BKK sections, three point drawbar and track eradicator (*).

Fluids, lubricants, and capacities

Application	Capacity	Product name	Specification(s)
Grease fittings	-	TUTELA MULTI-PURPOSE GR-9 GREASE or TUTELA 75 MD GREASE	NLGI 2 M1C 137-A or M1C 75-B

Tire pressure

	Germinator Pro 5400	Germinator Pro 6200	Germinator Pro 7900
Tires	380/55-17 480/45-17		480/45-17
Recommended pressure	2.8 – 3.2 bar (40.60 – 46.4 psi)		3.2 bar (46.4 psi)

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10 - ACCESSORIES

General information

Accessories or optional equipment listed hereafter may be part of the standard equipment for certain countries. Some of these accessories or options may not be available in certain markets.

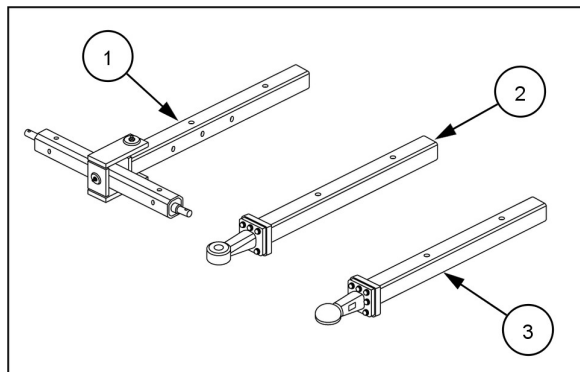
Drawbar

The implement can be connected to the tractor either by linkage or drawbar.

Standard equipment is a 2-point drawbar category 3 **(1)**. The optional equipment is:

- Towing eye coupling **(2)**.
- K80 ball coupling **(3)**.
- 2-point drawbar category 4 narrow coupling.

NOTE: Category 4 narrow coupling has the same width as category 3 but with category 4 pins.



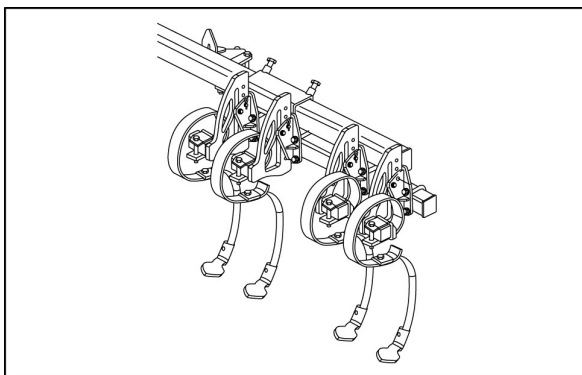
1

Track eradicators

In order to reduce compaction damage and improve germination, the implements can be specified with track eradicators (VTH tines).

Either two or four strong spring tines are mounted in each side of the implement, following the rear wheels of the tractor.

If the tractor is equipped with wide floatation tires or twin tires, it is recommended to order kit including four tines. If not needed, only two tines can be supplied.



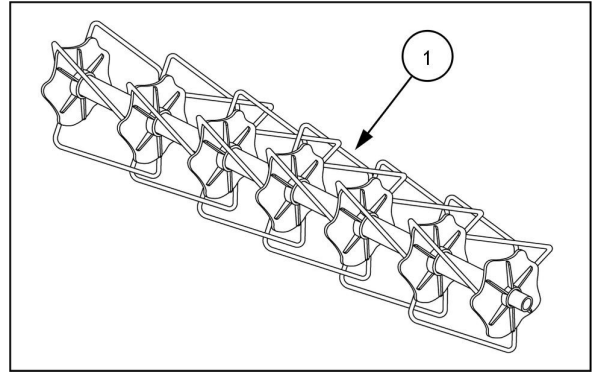
1

Rollers

The implement may be equipped with four types of rollers.

- R-roller, diameter **290 mm (11.4 in) (1)**.

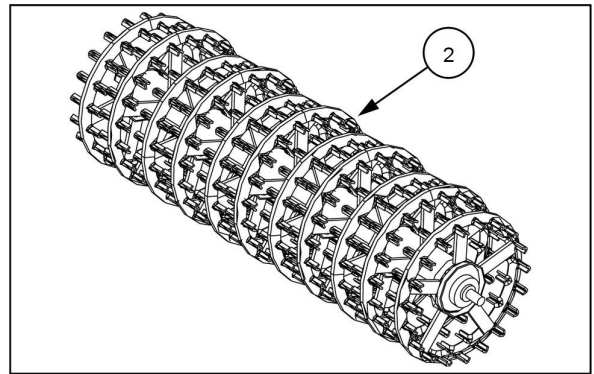
The R-roller works very well in light soils, the open design ensure good cleaning effect and crumbling.



1

- K-roller, diameter **350 mm (13.8 in) (2)**.

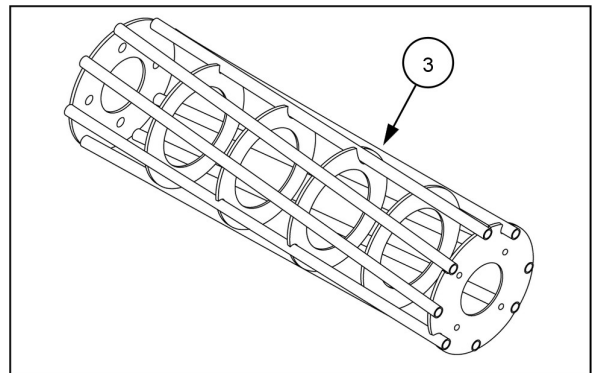
The K-roller, characterized by good carrying effect, ensure re-consolidation and levelling to improve germination, especially in dry conditions.



2

- B-roller, diameter **320 mm (12.6 in) (3)**.

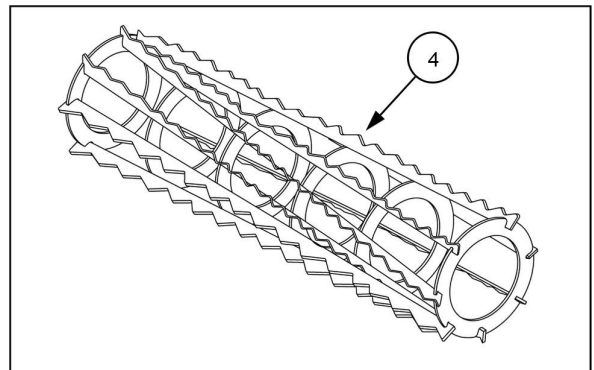
The B-roller is characterized by the high degree of versatility and perform well in all soil types.



3

- C-roller, diameter **320 mm (12.6 in) (4)**.

The C-roller is effective in terms of cutting and crumbling, especially sought after if cultivating clay and hard soils.



4

In order to suit the local soil conditions, the implement comes with seven different roller configurations. The rear rollers are always mounted in a tandem formation to ensure best possible depth control and performance.

A combination of rollers	Crumbling	Re-consolidation
BBR	+++	++
BBK	++	+++
BCK	++	++
BBC	+++	++
BCC	+++	+
BKK	+	+++(+)
BCR	+++	+

Effect of roller combination.

- +++ Excellent performance
- ++ Good performance
- + Average performance

Rear wheels and axles

There are two sizes of rear wheels with three different axle types:

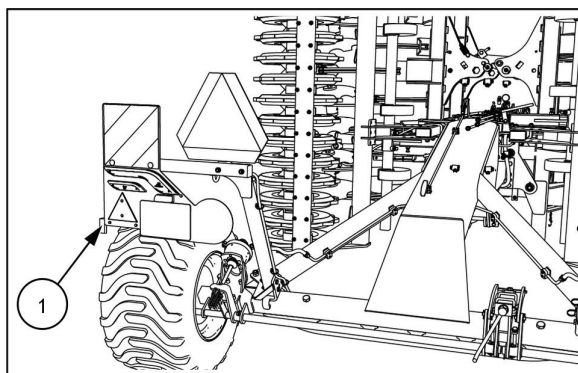
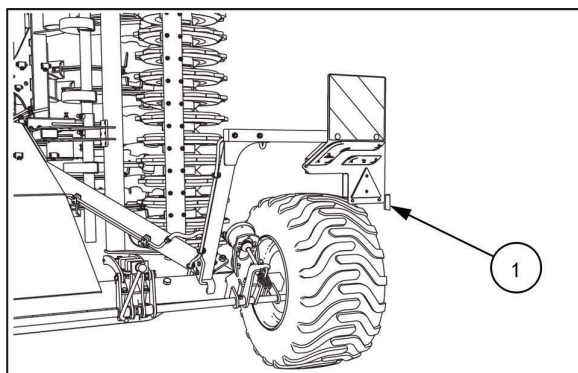
- 380/55-17 for Germinator Pro 5400 and Germinator Pro6200 implements.
- 480/45-17 for Germinator Pro 7900 implement.

Wheel type	No brakes	Hydraulic brakes	Pneumatic brakes
380/55-17	X	X	X
480/45-17	X	X	X

NOTE: The larger wheels 480/45-17 are recommended on all models to reduce compaction.

End outline marker

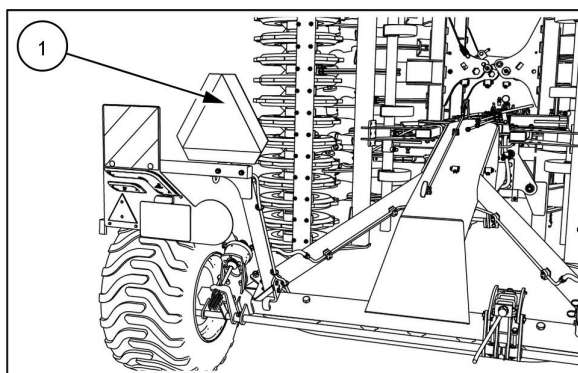
The end outline markers (1) are present at the rear of the implement.



2

Slow-Moving Vehicle (SMV) sign

The implement can optionally be equipped with the Slow Moving Vehicle (SMV) sign (1).



1

Safety chain

The safety chain is offered and it is mandatory for all units without brakes. The chain hooks from the drawbar of the cultivator and to the tractor.

Kit for container shipment

If necessary, it is available a kit for container shipment.

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11 - FORMS AND DECLARATIONS

European Community (EC) Declaration of Conformity

ACCORDING TO DIRECTIVES 2006/42/EC & 2014/30/EU

Inside the European Community and for some specific countries, an EC Declaration of Conformity is separately delivered with your implement. The EC Declaration of Conformity is the manufacturer's declaration about equipment compliance to relevant European Union (EU) provisions.

Store the EC Declaration into a safe place like the storage box for your operator's manual. Local authorities may require you to show this document in order to assure compliance of your equipment.

Translation of this declaration in your own country language is provided on the original document.

For your better and easier understanding of the document, you will find the text reproduced hereafter.

EC/EU Declaration of Conformity
According to Directives 2006/42/EC & 2014/30/EU

We,

declare under our sole responsibility, that the product:

Agricultural machine

Commercial Name KONGSKILDE - SEKO SRL.... and Model:

... Denomination: Germinator Pro

Type (Specify any variant/version): ...

Planning key: ...

Serial Number: ...

to which this declaration relates, fulfills all the relevant provisions of
Directives 2006/42/EC & 2014/30/EU, amended by: -

For the relevant implementation of the provisions of the Directives, the
following (harmonized) standards have been applied:

- EN ISO 12100:2010

Name, position, and address of the authorized person to compile the
Technical Construction File:...

Place and date of the declaration:

Signature, name and position of person empowered to draw up the EC
Declaration of Conformity:

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Dealer's stamp



The manufacturer and its authorized representative reserves the right to make improvements in design and changes in specifications at any time without notice and without incurring any obligation to install them on units previously sold. Specifications, descriptions, and illustrative material herein are as accurate as known at the time of publication, but are subject to change without notice.

Availability of some models and equipment builds varies according to the country in which the equipment is being used. For exact information about any particular product, please consult your Kongskilde - Seko Srl dealer.



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