OPERATOR'S MANUAL

VMS25M

VMS29M

VMS37M

VMS43M

VMS49M

VMS53M

VMS59M

VMS63M

VMS67M

Vibro Master SGC/SQ 67 T

Seedbed cultivator

PIN KTNKA201A00001860 and above



Contents

1	GENERAL INFORMATION	
•	Note to the owner	. 1-1
	Intended use	
	Prohibited usage	
	Electro-Magnetic Compatibility (EMC)	
	Manual scope and required training level	
	Product Identification Number (PIN) - Only for lift mounted models	
	Product Identification Number (PIN) - Only for trailed models	
	Homologation plate	
	Product identification	
	Operator's manual storage on the machine	
	Implement orientation	1-14
2	SAFETY INFORMATION	
_	Safety rules and signal word definitions	2-1
	General recommendations	
	Illustrations	
	Local obligations	
	Fire or explosion prevention	. 2-3
	Hazardous chemicals	
	Starting up the implement safely	. 2-5
	Travelling on public roads	. 2-6
	Operating the implement safely	. 2-8
	Stopping the implement safely	2-10
	Maintenance	2-11
	Personal protective equipment (PPE)	
	Safety requirements for fluid power systems and components - hydraulic systems	
	Implement stability	
	Ecology and the environment	
	Safety signs	2-16
2	CONTROLS AND INSTRUMENTS	
J		
	Information	
	Operating principles	. 3-1
4	OPERATING INSTRUCTIONS	
_		
	Commissioning the unit	
	Check before use	. 4-1
	Starting the unit	
	Connection to the tractor	4₋2

	Parking the unit Disconnection and parking	4-4
5	TRANSPORT OPERATIONS	
	Road transport Transport position	5-1
	Preparing for road transport Folding and unfolding	5-2
6	WORKING OPERATIONS	
	Adjustments	
	Working adjustment Tines	
	Adjustment of the working depth	6-4
	Drawbar adjustment	
7	MAINTENANCE	
	General information	
	General Torque	7-1 7-3
	Grease fittings and intervals	7-6
	Pressure washing	
	Maintenance planning	
	Overview	7-9
	Every 8 hours 8 hours grease fittings	7-10
	After the first 10 hours Check bolted connections	7-10
	Every week Weekly grease fittings	7-10
	Every 100 hours	
	Check bolted connections	7-10

Every six years Hydraulic hoses	7-11
As required	
Tines Wheels and tires	
Storage End of season service Implement long-term storage and/or disposal Ordering parts and / or accessories	7-14
8 TROUBLESHOOTING	
Fault code resolution General Troubleshooting	
9 SPECIFICATIONS Technical data Dimensions Fluids, lubricants, and capacities	9-4
10 ACCESSORIES General information Levelling bar Tines Rollers Reversible share Signal plates	10-1 10-2 10-3 10-4
11 FORMS AND DECLARATIONS European Community (EC) Declaration of Conformity	11-1

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 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 and your KONGSKILDE 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 parts and accessories have been specifically designed for KONGSKILDE implements.

We would like to point out that "non-genuine" parts and accessories have not been examined and released by KONGSKILDE. 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 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 parts only. These parts are covered by our warranty and will give you the best performance.

See the parts catalog or browse the KONGSKILDE 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

Your implement is warranted according to legal rights in your country and the contractual agreement with the selling dealer. No warranty shall, however, apply if the implement has not been used, adjusted and maintained according to the instructions given in this operator's manual.

It is prohibited to carry out any modifications to the implement unless specifically authorized, in writing, by a KONGSKILDE representative.

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 decision 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 seedbed cultivator can only perform the usual work in agriculture. Only connect the seedbed cultivator to a tractor that corresponds with the specifications of the implement and is legal to use.

The implement may only be used for soil preparation in farming.

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.

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 damage 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. 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 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 warranty null and void.

Manual scope and required training level

Introduction to this manual

This manual gives information about the use of your KONGSKILDE machine as intended and under the conditions foreseen by KONGSKILDE 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 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 machine.

Normal operation

Normal operation consists of the use of this machine for the purpose KONGSKILDE 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 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 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 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 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 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 in this manual, assembly instructions, and/or other company literature

Repair activities restore proper function to a KONGSKILDE 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 in the service manual.

Before you operate

Read this manual before you start the engine or operate this KONGSKILDE machine. Contact your KONGSKILDE 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 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 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

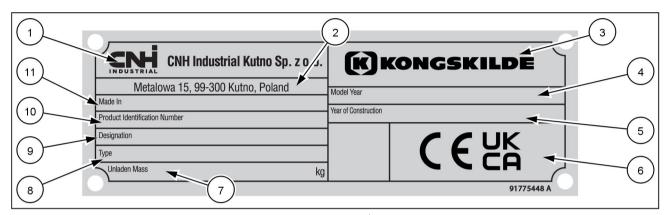
When required, the machine is delivered with an assembly instruction. The assembly instruction shows the pack-

Product Identification Number (PIN) - Only for lift mounted models

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

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

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



ZEIL22TIL0084E

- (1) Company name
- (2) Mailing address
- (3) Brand identification logo
- (4) Model year
- (5) Year of construction
- (6) Certification mark

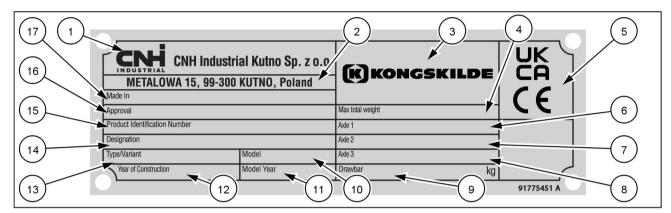
- (7) Unladen mass
- (8) Type / Variant
- (9) Designation
- (10) Product Identification Number (PIN)
- (11) Made in (country of origin)

Product Identification Number (PIN) - Only for trailed models

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

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

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



ZEIL22TIL0086EA

(1)	Company name
(2)	Mailing address
(3)	Brand identification logo
(4)	Maximum total weight
(5)	Certification mark
(6)	Permissible load axle 1
(7)	Permissible load axle 2
(8)	Permissible load axle 3

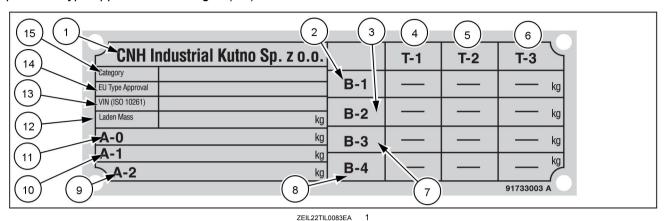
Maximum permissible load on the drawbar

(9)

- (10) Model(11) Model year
- (12) Year of construction
- (13) Type / Variant
- (14) Designation
- (15) Product Identification Number (PIN)
- (16) Approval
- (17) Made in (country of origin)

Homologation plate

NOTE: The homologation plate is used only for trailed implements type approved according to (EU) 167/2013.



- (1) Company name
- (2) Un-braked towable mass
- (3) Inertia-braked towable mass
- (4) Drawbar
- (5) Rigid drawbar
- (6) Centre-axle
- (7) Towable braked mass (pneumatic)
- (8) Towable braked mass (hydraulic)

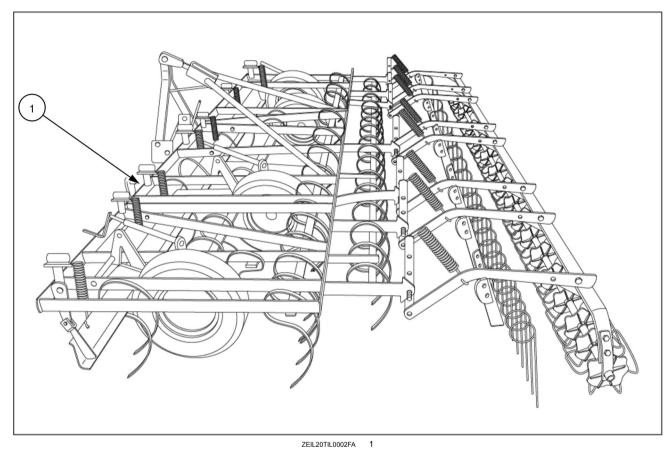
- (9) Permissible load axle 3
- (10) Permissible load axle 2
- (11) Permissible load axle 1
- (12) Maximum permissible laden mass
- (13) Vehicle Identification Number (VIN) (ISO 10261)
- (14) Type approval
- (15) Category

Product identification

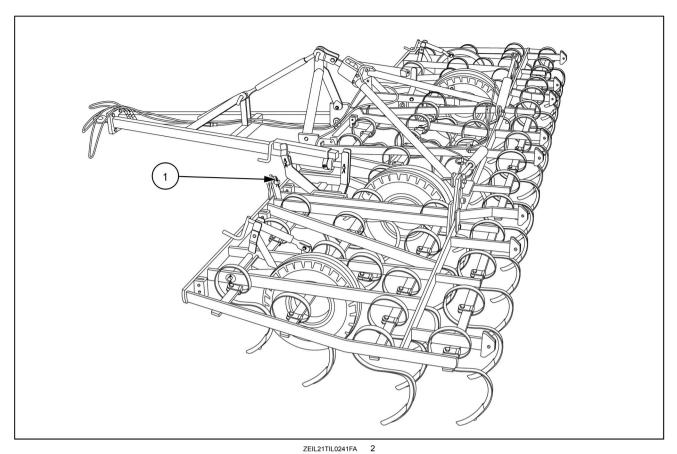
NOTE: Do not remove or change the Product Identification Number (PIN) plate (1) on the implement.

The implement data are on the Product Identification Number (PIN) plate (1).

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



Lift mounted seedbed cultivators



Trailed seedbed cultivators

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

Model	
Product Identification Number (PIN)	

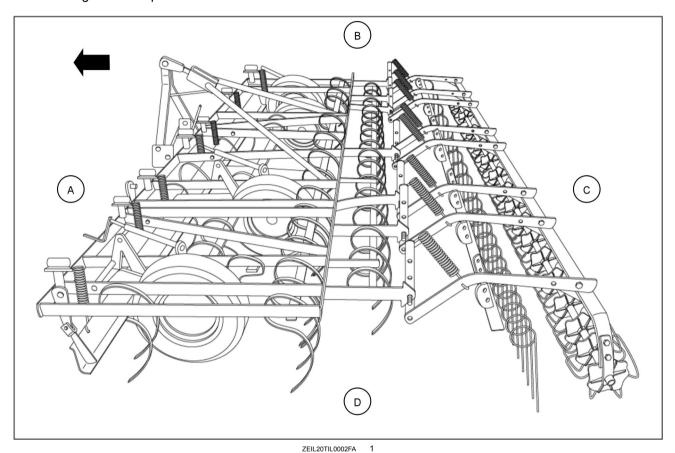
Operator's manual storage on the machine

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.

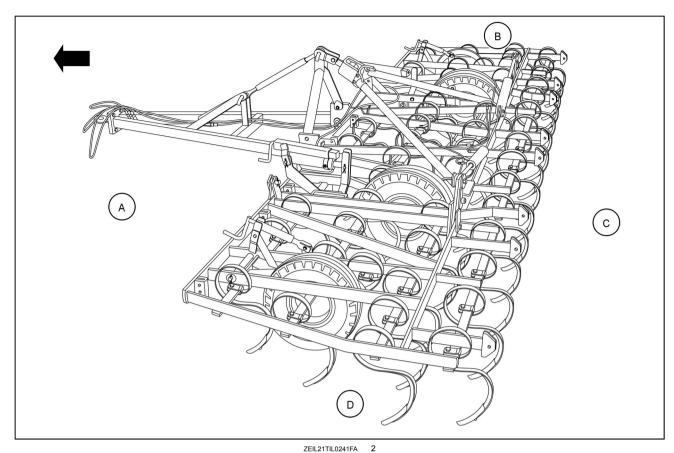
The following overhead view illustration is a general representation of the implement. The illustration indicates the sides, front, and rear orientations of the implement as referred to throughout this operator's manual.



Lift mounted seedbed cultivators

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



Trailed seedbed cultivators

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

1 - 0	GENERAL INFORMATION	

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.

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

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

A 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

Most farm machinery accidents can be avoided by 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 autho-

- rized 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.

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.

W0012A

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.
- 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

- 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 harmfull to domestic animals as well as humans.
- 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.
- 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.
- 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.
- 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.

Travelling on public roads

Comply with the relevant traffic regulations

A 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.

W0081A

A 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.

W0040A

A WARNING

Transport hazard!

Observe the local government regulations when driving on public roads.

Failure to comply could result in death or serious injury.

W1019A

▲ 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.

W0089A

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.

The implement and the ballast weight 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 place the implement in parking position, turn off the tractor engine, pull the parking brake, and remove the key from the ignition.

On good condition public roads, the maximum allowable road speed of the tractor with the trailed implement is **25 km/h**.

Overhead power lines

Make sure that the total height is as low as possible if you transport the implement near overhead power lines.

If you drive under overhead power lines, contact the owner of the overhead power lines to get information on the rated voltage and the minimum height of the overhead power lines.

Observe the safety distances in the table below.

Rated voltage	Safety distance from overhead power lines
Until 1 kV	1 m (39.37 in)
1 – 110 kV	2 m (78.74 in)
110 – 220 kV	3 m (118.11 in)
220 – 380 kV	4 m (157.48 in)

Operating the implement safely

▲ WARNING

Roll-over hazard!

Special care is required when operating the machine on slopes or in a tilted position. A wrong maneuver or unexpected event could create a dangerous situation.

Failure to comply could result in death or serious injury.

W0207A

A 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.

W0304A

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.

Before you operate the implement, familiarize yourself with all facilities and operating elements. Once an accident happens it is too late to think about what you did.

Examine the work surface for hidden obstacles. Obstacles pose a risk.

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.

Before you raise or lower the implement, 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.

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.

When you turn on hillsides always be careful. Adjust the speed to these conditions.

When you work in the soil, never turn the cultivator so sharply that the tines are forced sideways and backward. It may result in loads far in excess of what the tines are designed for.

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

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

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

Avoid changing direction abruptly, avoid dangerous pitching of the implement.

Never reverse with the tines in the soil. Raise the cultivator to avoid the tines being overloaded, as this can lead to breakage of the tines.

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 imple-

ment afterwards until power 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.

W0004

- 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.



NHIL13RB00001AA

Safety requirements for fluid power systems and components - hydraulic systems

A 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.

W0178A

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.

Implement stability

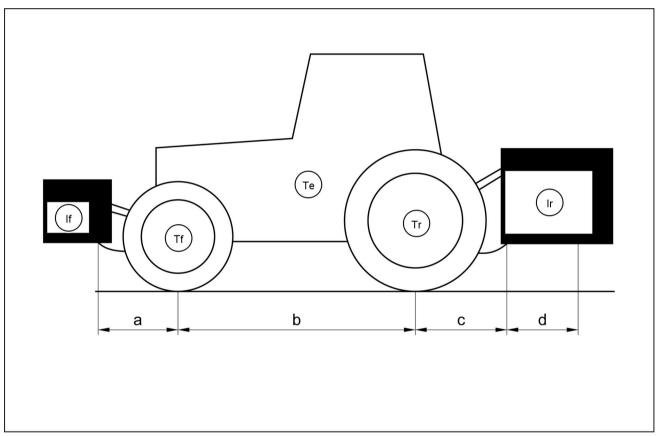
The combination of your tractor and implement can become unstable, due to the additional weight that the implement adds to the tractor.

In order to guarantee stable and safe transport, you must check if you need ballast weights for transport and field work.

You must also check and guarantee that you have at least 20% from the tractor weight on the front axle.

For rear mounted implements and front-rear combinations, the formula is:

If,min =
$$\frac{[Ir x (c + d)] - (Tf x b) + (0.2 x Te x b)}{a + b}$$



ZEIL18HT00277FA 1

Example of references to stability of the combination tractor - implement

List of signs

Te [kg]	The tractor own weight.
Tf [kg]	Front axle load with empty tractor.
Tr [kg]	Rear axle load with empty tractor.
Ir [kg]	Total weight of the rear-mounted implement/rear ballast.
If [kg]	Total weight of the front-mounted implement/front ballast.
a [m]	Distance between the center of gravity of the front-mounted implement/front ballast and the middle of the front axle.
b [m]	The tractor wheel distance.
c [m]	Distance between the middle of the rear axle and the middle of the link arm balls.
d [m]	Distance between the middle of the link arm balls and the center of gravity of the rear mounted implement/rear ballast.

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 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 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 strongly recommends that you return all used batteries to a KONGSKILDE dealer, who will dispose of the used batteries or recycle the used batteries properly. In some countries, this is a legal requirement.



NHII 14GEN0038AA

Mandatory battery recycling

NOTE: The following requirements are mandatory in Brazil.

Batteries are made of lead plates and a sulfuric acid solution. Because batteries contain heavy metals such as lead, CONAMA Resolution 401/2008 as amended by CONAMA Resolution 424/2010 requires you to return all used batteries to the battery dealer when you replace any batteries. Do not dispose of batteries in your household garbage.

Points of sale are obliged to:

- · Accept the return of your used batteries
- Store the returned batteries in a suitable location
- Send the returned batteries to the battery manufacturer for recycling

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.

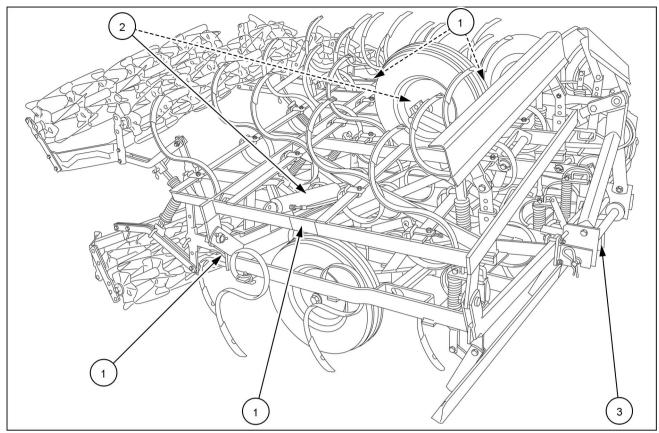
Replace all safety signs that are damaged, missing, painted over, or illegible. If a safety sign is on a part that you or your dealer replaces, make sure that you or your dealer install the safety sign on the new part. Contact your dealer for the replacement of the safety signs.

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.





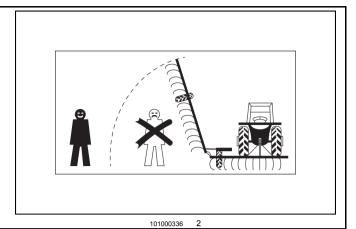
ZEIL18TIL0187FA

Safety sign (1)

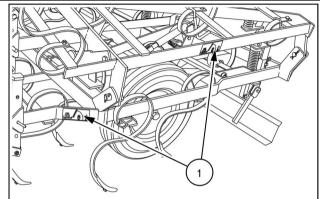
Do not stand near the implement during lowering or leveling the implement.

Do not stand between the tractor and the implement or underneath the implement when operating the equipment. It may course serious injuries.

Part number: 101000336



Located on both side arms.

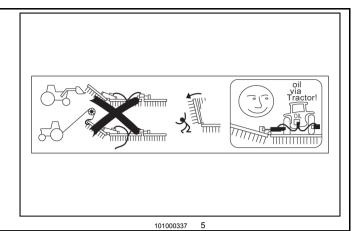


ZEIL22TIL0176AA 3

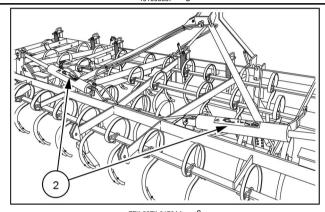
Safety sign (2)

Do not raise the side arms in any other way than through the hydraulic system of the tractor. Failure to comply can result in damage to the implement.

Part number: 101000337



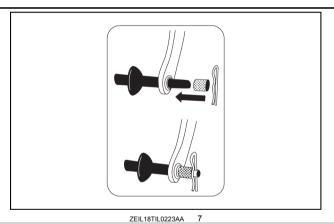
Located on both cylinders.



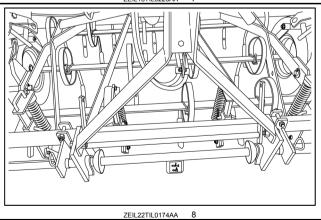
Safety sign (3)

Safety sign explaining how to secure the quick coupler.

Part number: 101000620



Located on the central front frame, under the drawbar..



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.

3 - CONTROLS AND INSTRUMENTS				

4 - OPERATING INSTRUCTIONS

Commissioning the unit

Check before use

Before you operate the implement, perform the following operations:

- Read this operator's manual carefully, especially the chapter headed "Safety information".
- Check the correct assembly of the implement. Also check that the implement is undamaged.
- Check that no parts have been tied up inside the implement in connection with the delivery of the implement.
- Check the correct installation of the tines and rollers.
- Check the implement visually to find possible errors.
 Always replace all parts that are damaged or wear.
- Check the correct installation of the safety devices.
 Also check if the safety devices are intact.
- · Remove all the tools from the implement.
- Check the correct connection and tightening of the hydraulic components.
- Check that the hydraulic hoses are long enough for the movements of the implement in relation to the tractor.
- Check the length of the hydraulic hoses when the implement is in working position. Check that the hydraulic hoses are not too tense.
- · Check the proper tightness of all the nuts and bolts.
- Grease the implement before you start the operations.
 This is also necessary before you use the implement for the first time.
- · Check the tire pressure.

NOTE: If there is any doubt, stop the tractor and the implement immediately. If necessary, seek authorized assistance.

Starting the unit

Connection to the tractor

A WARNING

Avoid injury!

Always stay clear of the implement operating area. In particular, DO NOT stand between the tractor and the trailed vehicle or either three-point linkage when operating lift controls. Make sure no bystanders are within or near these operating areas.

Failure to comply could result in death or serious injury.

W1087

A WARNING

Overturning hazard!

Always try to park the machine on firm level ground. Avoid parking on slopes. Block the wheels in both directions.

Failure to comply could result in death or serious injury.

W0051A

A WARNING

Rear upset hazard!

Use the correct location on the tractor when attaching equipment. Always use the drawbar for trailed equipment. Always use the three-point hitch for mounted or semi-mounted equipment. Do not use the hitch as a drawbar.

Failure to comply could result in death or serious injury.

W0331B

A WARNING

Driving hazard!

Before operating the machine, slightly lower the three point hitch and visually inspect the connection to be sure the locking latches fully support the pick-up hitch.

Failure to comply could result in death or serious injury.

W0418A

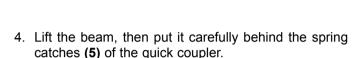
NOTICE: The cultivator needs to be coupled with a tractor having a pulling force of **30 kN** (**6744 lb**), equipped with fully operable external hydraulics system and with a three-point suspension system.

NOTICE: In order to couple the cultivator with a tractor, it is necessary to use pivots and factory-made pins.

Lift mounted seedbed cultivators

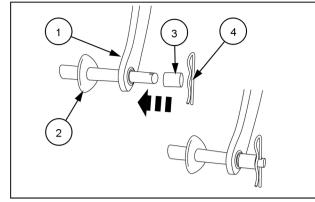
To connect the seedbed cultivator with a tractor it is necessary:

- Install the quick coupler beam (1) to the jack (2) of the tractor.
- 2. Install the two bushing (3) and the safety pin (4).
- 3. Drive the tractor back, towards the cultivator, in order to put the quick coupler beam directly under the lower spring catches (5) of the cultivator frame.

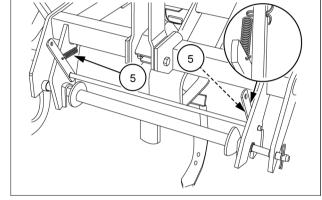


NOTE: The beam is connected with the seedbed cultivator when the two spring catches **(5)** are blocked.

- 5. After the connection of the lower couplers, lower the jack (2) and put the upper coupling.
- 6. Connect the hydraulic hoses of the cultivator to the hydraulic system of the tractor.



ZEIL18TIL0088AA



ZEIL18TIL0089AA

NOTE: To disconnect the seedbed cultivator, perform the procedure in reverse order. Release the quick coupler beam after the removal of the left-hand side and right-hand side arms from the spring catches.

Trailed seedbed cultivators

To connect the seedbed cultivator proceed as follows:

Verify that the connection matches between the implement and the tractor.

NOTE: The Vibro Master SGC/SQ 67 T is equipped with a **50 mm** (**1.97 in**) coupling.

- 2. Adjust the drawbar in order to have the coupling at the proper height (see Page **6-5**).
- 3. Drive the tractor back, towards the cultivator.
- 4. Join the implement to the tractor.
- Connect the hydraulic hoses of the cultivator to the hydraulic system of the tractor.

Parking the unit

Disconnection and parking

A WARNING

Overturning hazard!

Always try to park the machine on firm level ground. Avoid parking on slopes. Block the wheels in both directions.

Failure to comply could result in death or serious injury.

W0051A

Always park the implement on a firm and even ground to prevent damage.

Before you disconnect the implement from the three-point hitch, put the operating mechanism into a position that will prevent any accidental lifting or lowering.

Lift mounted seedbed cultivators

To park the implement proceed as follows:

- Place the seedbed cultivator on a firm and level ground.
- 2. Unfold the seedbed cultivator.
- Release the pressure in the hydraulic system and from the hydraulic connections. Make sure that the hydraulic oil pressure is at zero.
- 4. Uncouple the hydraulic hoses from the tractor.
- 5. Remove the top link from the seedbed cultivator.
- 6. Release the lower linkage hooks.
- Lower the lower links until they are free of the ball bushes.

NOTICE: Make sure that all components are properly disconnected in order to prevent the risk of damage the implement.

8. Drive the tractor slowly forward to release the implement from the tractor.

Trailed seedbed cultivator

To park the implement proceed as follows:

- 1. Place the seedbed cultivator on a firm and level ground.
- 2. Unfold the seedbed cultivator.
- 3. Release the pressure in the hydraulic system and from the hydraulic connections. Make sure that the hydraulic oil pressure is at zero.
- 4. Uncouple the hydraulic hoses from the tractor.
- 5. Uncouple the seedbed cultivator from the tractor.

NOTICE: Make sure that all components are properly disconnected in order to prevent the risk of damage the implement.

Drive the tractor slowly forward to release the implement from the tractor.

4 - OPERATING INSTRUCTIONS					

5 - TRANSPORT OPERATIONS

Road transport

Transport position

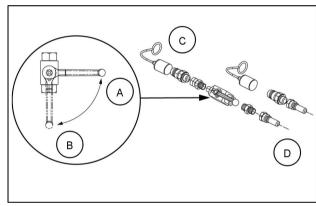
To set the implement for road transport, proceed as follows:

- Lift and fold the implement. See Page Folding and unfolding.
- To give a lower center of gravity, and thereby a more stabile transport, lower the implement to a lower level, and keep sufficient distance to the road during transport.
- 3. Make sure that the implement is secure, that nothing can fall off, including big lumps of soil, during transport.

NOTE: Ensure sufficient locking at the side of the three-point linkage.

- 4. Lock the control valves of the tractor.
- 7. 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. However, the security locking device may not prevent unintentional unfolding or lowering if the control device is operated by mistake and the valve preventing from accidental unfolding is not closed.



ZEIL19TIL0393AA

Preparing for road transport

Folding and unfolding

A DANGER

Crushing hazard!

Stay clear of the implement when the wings are folded or unfolded. Hydraulic or mechanical failure may cause rapid uncontrolled falling of the wings.

Failure to comply will result in death or serious injury.

D0108A

A CAUTION

Unexpected machine movement!

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.

Failure to comply could result in minor or moderate injury.

C0055A

Make sure that no one is in the implement working area when you fold or unfold the implement.

Lift the implement high enough off the ground to make sure that the implement does not hit the ground during folding or unfolding.

Double-acting hydraulic cylinders

Due to considerable width of the seedbed cultivator, the frame is divided in sections. The side sections of the working units can be folded by means of two double-acting hydraulic cylinders (1) located crosswise on the cultivator frame.

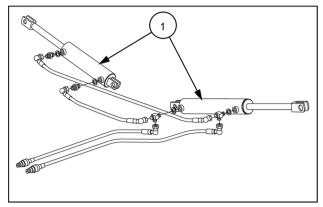
The hydraulic system of the seedbed cultivators is connected to the tractor by means of two quick couplers sockets. The double-acting hydraulic cylinders are controlled from the cabin of the tractor.

The double-acting hydraulic cylinders easily fold and unfold the wings. Except for the VMS37M model, the side wings can move independently up and down from the main frame. This movement together with the wheels give an improved following of the soil contours.

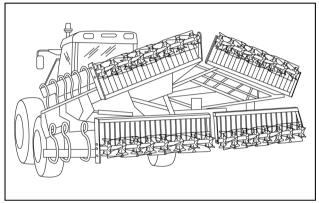
All connection points for options have already been welded on to the frame to facilitate mounting them.

To fold the implement use the hydraulic system to fold the seedbed cultivator.

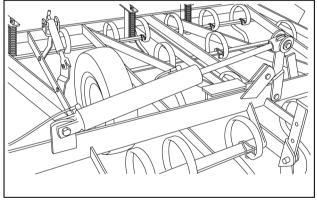
NOTICE: Close the valve to prevent accidental unfolding.



ZEIL18TIL0087AA



ZEIL18TIL0165AA



ZEIL18TIL0166AA

 5 - TRANSPORT OPERATIONS

6 - WORKING OPERATIONS

Adjustments

Working adjustment

▲ WARNING

Avoid injury!

Always stay clear of the implement operating area. In particular, DO NOT stand between the tractor and the trailed vehicle or either three-point linkage when operating lift controls. Make sure no bystanders are within or near these operating areas.

Failure to comply could result in death or serious injury.

W1087A

A WARNING

Roll-over hazard!

Special care is required when operating the machine on slopes or in a tilted position. A wrong maneuver or unexpected event could create a dangerous situation.

Failure to comply could result in death or serious injury.

W0207A

WARNING

Pressurized system!

Never disconnect or tighten a hose or tube that is under pressure. If in doubt, engage the controls several times with the engine switched off prior to disconnecting or tightening the hose or tube.

Failure to comply could result in death or serious injury.

W0998A

The seedbed cultivator must be adjusted to achieve the best possible result.

Perform the adjustment only after shifting the seedbed cultivator from transport to working position.

Shifting of the seedbed cultivator into working position

Use the control lever of the hydraulic separator, placed into the cabin of the tractor, to shift the seedbed cultivator from the transport position to the working position.

NOTICE: Before unfolding the side sections, stop the tractor, release the gear and pull the hand brake.

NOTICE: Always lower the seedbed cultivator before folding or unfolding the side sections.

NOTICE: Before unfolding the side sections, make sure that the surface of the field is even.

NOTE: Before unfolding the side sections, make sure that there are no people and/or animals.

NOTICE: Before connecting and disconnecting the hydraulic connection from the tractor, make sure that the control levers of the tractor are in neutral position.

NOTE: Verify that the connection are properly tightened.

NOTICE: Before making any connection, verify the condition of all hydraulic hoses and connections. Check for cracks or leaks and repair or replace all the components.

Setting of the levelling and crumbling slat

1. Adjust the protrusion of the slats. Use both the openings on the plow beam and the handle (1).

NOTE: Protrusion of the levelling and crumbling slats depends on the working depth of the tines.

2. Adjust the crumbling work of the slat. Use the two openings on the support (2) to change its angle of inclination.

NOTE: To fasten the plow beams on the handles, use only factory-made pivots and pins.

3. Set all the segments of the slats.

NOTICE: Make sure that all the slats along the width of the cultivator are identically set.

Preparation of the seedbed cultivator for work

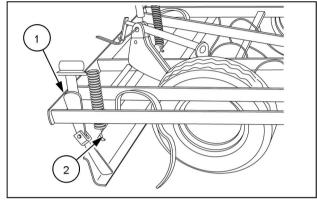
NOTE: Make sure that all the bolted connection are properly tightened and that all the parts are in working order.

- 1. Immediately replace any parts that are damaged or worn.
- Check that all safety devices are in place and undamaged. Do not use the seedbed cultivator when any of the safety devices is not in working order.

Check before work

- Check if the adjustment spindles of the scarifying sections turn without interruptions.
- Check the condition of the hydraulic installation of the seedbed cultivator. In case of leakage, it is necessary to locate the leakage, determine the reason and repair the failure.

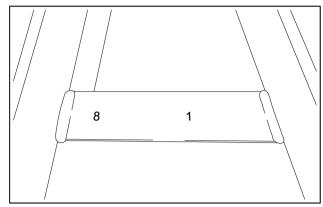
NOTICE: Do not use the seedbed cultivator unless the hydraulic system is in working order.



ZEIL18TIL0090AA

Tines

The seedbed cultivator can be equipped with two different types of tines. On support bars on wings and central frame there is a stamped mark to indicate where tines are bolted.



ZEIL20TIL0008AA

The table below shows the recommended settings and use of each tine.

Mark	Type of tine	Working depth	Working speed	Tine distance	Conditions
1	S-tine (32x10.5 mm)	3 – 9 cm (1.18 – 3.54 in)	8 – 12 km/h (5 – 7.5 mph)	10 cm (3.9 in)	Seedbed
8	SQ-tine (32x12.4 mm)	4 – 10 cm (1.18 – 3.54 in)	8 – 12 km/h (5 – 7.5 mph)	8 cm (3.1 in)	Seedbed

Adjustment of the working depth

To adjust the working depth, proceed as follows:

- 1. Place the implement on a level ground.
- 2. To adjust the depth of work of the tines in particular sections, change the position of the support wheels.
- 3. Turn the adjustment spindle (1) to lift or lower the support wheel and respectively increase or decrease the depth of work of the tines.

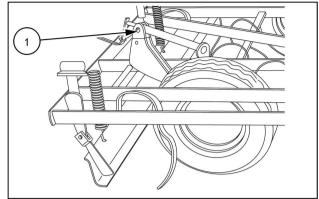
NOTE: Make sure that all the support wheels are set to the same position.

NOTE: Inclination of the frame to the front or back may lead to different depth of work of the tines.

NOTE: Levelling of the frame needs to be carried out by lengthening or shortening the upper coupling.

Gauge of the tines

In the standard setup, the gauge of the tines measures **67 mm** (**2.6 in**). The tines should be placed at specific points, marked with '1' or "0", on the cultivator frame. When replacing tines, always make sure to install them at these marked points. Tighten the fastening screws to **90 N·m** (**797 lb in**).



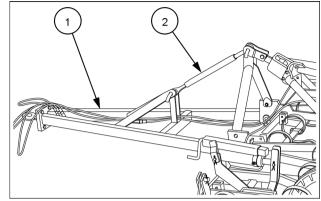
ZFII 18TII 0090AA

Drawbar adjustment

NOTE: Only for trailed implement.

To adjust the drawbar (1), proceed as follows:

- 1. Place the implement on a level ground.
- 2. Adjust the drawbar (1). Use the turnbuckle (2).
 - Shorten the turnbuckle (2) to lower the front section of the implement.
 - Lengthen the turnbuckle (2) to rise the front section of the implement.



7FII 22TII 0079ΔΔ

Work condition

NOTICE: Certain parts of the cultivator can be dangerous, but due to their function they can not be covered. Always make sure that there are no people or animals near the implement during operation. The minimum safe distance from the seedbed cultivator is **5 m** (**16 ft**).

In order to correctly perform work with the cultivator it is necessary to comply with the following rules:

- Make sure that all the parts of the seedbed cultivator are in working order, the rollers rotate without interruptions, the tines are not bent and their coulters are properly sharp
- Check that the hydraulic system of the cultivator is properly connected to the hydraulic system of the tractor, and that it works as intended.

Working speed

During work, the cultivator should move in a straight line, at a speed between 8 – 12 km/h (5 – 7 mph).

Working at a lower speed considerably decreases the vibration of the tines, which will prevent the tines from properly crumbling the soil.

Direction of work

NOTICE: It is not allowed to move the seedbed cultivator in reverse in working position (lowered).

To drive the tractor with the cultivator attached in reverse, first lift the cultivator of the ground using the hydraulic controls of the tractor.

In case of slight changes in direction of movement of the cultivator (for example while going round obstacles, unevenness of sides of field, etc.) the turning process cannot be too rapid, because as a result of influence of side forces there is a risk of damaging the certain parts on the implement.

Blocking up of the working unit

If a blockage happens in any of the parts of the cultivator (because of stones, accumulation of crops or other foreign objects), immediately stop moving the cultivator. Lift the cultivator from the ground and lower it again to get rid of the blockage.

If the blockage persists, repeat the procedure several times. If it still persists, lower the cultivator onto the ground, turn of the tractor's engine, pull the handbrake and remove the key from the ignition before you remove the blockage by hand.

7 - MAINTENANCE

General information

General

A 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.

W0157A

A WARNING

Avoid injury! Always do the following before lubricating, maintaining, or servicing the machine.

- 1. Disengage all drives.
- 2. Engage parking brake.
- 3. Lower all attachments to the ground, or raise and engage all safety locks.
- 4. Shut off engine.
- 5. Remove key from key switch.
- 6. Switch off battery key, if installed.
- 7. Wait for all machine movement to stop. Failure to comply could result in death or serious injury.

W0047A

A WARNING

Knife hazard!

Use care handling sharp components. Always wear appropriate Personal Protective Equipment (PPE), including heavy gloves.

Failure to comply could result in death or serious injury.

W0274

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 chart 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 strongly recommends that you use only authorized KONGSKILDE 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.

NOTE: 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.

Only use original KONGSKILDE spare parts to avoid unintentional risks and damages.

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

NOTICE: Worn and damaged parts must be changed at the earliest possible moment in order to secure correct and safe function.

Hydraulic system

When you replace parts of the hydraulic system, always make sure that the implement rests on the ground.

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.

Before every use of the seedbed cultivator, check the hydraulic pipes, hoses and connections. If there is any sign of breakage emerging, make sure to change the parts in question.

To perform the maintenance and the repair work on the foldable frame parts, lower the foldable frame parts and release the pressure of the hydraulic system (only for hydraulic foldable version).

NOTICE: When the hydraulic system fails during folding or unfolding, then the wings may immediately unfold (for foldable version).

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

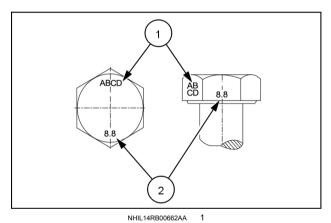
	Class 8.8 in N m (lb in or lb ft)			Class 10.9 in N	Class 10.9 in N m (lb in or lb ft)			
Nominal Size	Plated nut	Lock nut	Hardened nut/Oiled plated nut	Plated nut	Lock nut	Hardened nut/Oiled plated nut		
M3	1.3 N·m	0.7 N·m	1.2 N·m	1.8 N·m	0.9 N·m	1.6 N·m		
	(11.5 lb in)	(6.2 lb in)	(10.6 lb in)	(15.9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

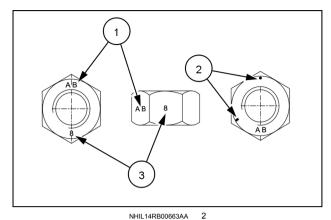
Metric hex head, flange hex head and carriage bolts, Classes (CL) 5.6 and upward



Metric bolt identification markings

- 1. Manufacturer's identification
- 2. Property class

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

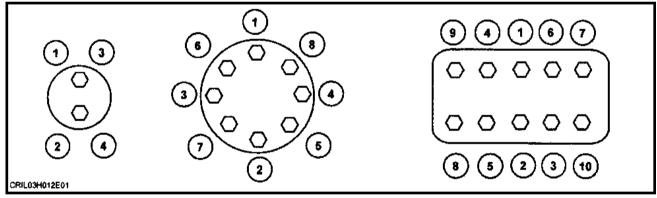


Metric hex nut identification markings

- (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.



DF5019-1 3

Grease fittings and intervals

Before greasing the implement always wipe any dirt from the grease fittings.

All points and rear roller bearings (if equipped), except those with special notations, should be lubricated until the grease is forced out around the bearings and then the excess grease should be wiped off.

Grease specification

See Page 7-8 for the correct grease specification.

Pressure washing

A 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.

W0314A

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	As required	TUTELA 75 MD GREASE	M1C 137-A

Maintenance planning

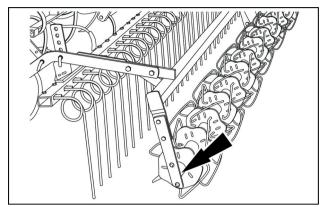
Overview

	Check			F	Replace
	Grease				
Maintenance action					Page no.
Every	8 hours				
8 hours grease fittings	X				7-10
After the fi	rst 10 hours				
Check bolted connections		Х			7-10
Every	week				
Weekly grease fittings	х				7-10
Every 1	00 hours				
Check bolted connections		Х			7-10
Every s	six years				
Hydraulic hoses			Х		7-11
As re	quired				
Tines			Х		7-12
Wheels and tires		Х			7-12

Every 8 hours

8 hours grease fittings

1. Bearings of the rod rollers.



ZEIL21TIL0240AA

After the first 10 hours

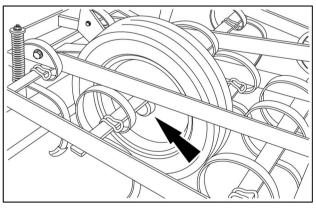
Check bolted connections

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

Every week

Weekly grease fittings

1. Bearings of the road wheels



ZEIL21TIL0242AA

Every 100 hours

Check bolted connections

Check all bolts and nuts every ${\bf 100}~{\bf h}$ of work. Retighten the bolts and the nuts if necessary.

Every six years

Hydraulic hoses

A 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.

W0095A

A 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.

W0178A

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

Tines

- 1. Lower the seedbed cultivator to rest position and turn off the engine of the tractor.
- 2. Flip the coulters on the tines of the scarifying sections upside down.
- 3. Replace the damaged or deformed tines.

NOTE: Replacement of the tines may be easier by slightly (approximately **5 cm** (**2 in**)) lifting the cultivator above the ground with suitable supports protecting against any possible lowering.

4. Tighten the screws of the tines to 90 N·m (797 lb in).

Wheels and tires

Check the wheels and tires regularly during the season.

1. Check the tire pressure regularly. If necessary, inflate the tires to the recommended pressure. Make sure that both tires are set to the same tire pressure.

NOTICE: Inflate the tires correctly. If the pressure is too high the tires may crack. If the pressure is too low the tires may be damaged due to deformation of the tire wall.

2. Check the torque of the wheel hardware regularly. Make sure to torque the wheel hardware any time that you remove and install a wheel.

NOTICE: Do not install a tire of a different size. Use only original KONGSKILDE spare parts.

Storage

End of season service

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

To prepare the implement for winter storage, proceed as follows:

- 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.
- The piston rod of the hydraulic cylinders may get rusty. Clean with brush and grease the components in order to protect them against wind and weather.
- 6. Dismount the hydraulics and electronic cables and wires, keep the ends dry.
- Support the implement to relieve the weight from the tires. Leave tires inflated. Tire and rubber components life will be extended if protected from sunlight during storage.

NOTE: Periodic checks will help to keep your implement maintenance and repairs to a minimum and avoid costly breakdowns during the season. Therefore, it is good practice to have the implement inspected at the end of the season.

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 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:

- 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.
- 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 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 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 "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 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 dealer.

Troubleshooting

Problem	Possible Cause	Correction
Too shallow / deep work.	Incorrect adjustment of the working sec-	Turn the depth wheel crank to set the de-
_	tion.	sired working depth.
Uneven soil cultivation.	Worn elements in the working sections.	Replace worn elements in working sec-
		tions.
	Incorrect tine positions in the working sec-	Set the tines correctly in the working sec-
	tion.	tions.
	The implement is not leveled.	Level the implement.
The cultivation roller does	The bearing is damaged.	Replace the bearing.
not move.		
Too much soil	Incorrect leveling device position.	Adjust leveling device.
accumulates in front of		
the flex board or the soil		
is not properly cultivated.		
	Worn elements in the working sections.	Replace worn elements in working sec-
		tions.
The implement does not	Hydraulic valve closed.	Check the valve setting.
fold.		
The implement does not	Hydraulic valve closed.	Check the valve setting.
unfold.		_

9 - SPECIFICATIONS

Technical data

Lift mounted seedbed cultivators - technical data

Ту	ре	VMS25M	VMS29M	VMS37M	VMS43M	
	Length		2.8 m	(9.2 ft)		
Dimension in transport position	Width	2.6 m (8.5 ft)	3.0 m (9.8 ft)	2.6 m (8.5 ft)	2.6 m (8.5 ft)	
	Maximum height		2.4 m	(7.9 ft)		
	Length		2.85 m	(9.35 ft)		
Dimension in working position	Width	2.6 m (8.5 ft)	3.0 m (9.8 ft)	2.6 m (8.5 ft)	4.1 m (13.5 ft)	
	Maximum height	1.11 m (3.64 ft)				
Working width		2.5 m (8.2 ft)	2.9 m (9.5 ft)	3.7 m (12.1 ft)	4.3 m (14.1 ft)	
Moight	S	382 kg (842 lb)	419 kg (924 lb)	532 kg (1173 lb)	676 kg (1490 lb)	
Weight	SQ	426 kg (939 lb)	445 kg (981 lb)	604 kg (1332 lb)	730 kg (1609 lb)	
Power demand of	S	18.4 kW (25.0 hp)	22.1 kW (30.0 hp)	29.4 kW (40.0 hp)	33.1 kW (45.0 hp)	
the tractor – Light soil	SQ	22.1 kW (30.0 hp)	25.7 kW (35.0 hp)	33.1 kW (45.0 hp)	40.5 kW (55.0 hp)	
Power demand of the tractor – Heavy soil	S	29.4 kW (40.0 hp)	33.1 kW (45.0 hp)	40.5 kW (55.0 hp)	33.1 kW (65.0 hp)	
	SQ	33.1 kW (45.0 hp)	22.1 kW (50.0 hp)	33.1 kW (70 hp)	40.5 kW (80 hp)	
Oil pressure and flow		150 – 200 bar	(2175 – 2900 psi),	20 - 60 L/min (0.0	- 16 US gpm)	

Ту	ре	VMS49M	VMS53M	VMS59M	VMS63M	VMS67M
	Length	2.8 m (9.2 ft)				
Dimension in transport position	Width	2.6 m (8.5 ft)	3.0 m (9.8 ft)	3.0 m (9.8 ft)	3.4 m (11.2 ft)	3.4 m (11.2 ft)
	Maximum height			2.4 m (7.9 ft)		
	Length			2.85 m (9.35 ft)		
Dimension in working position	Width	4.3 m (14.1 ft)	5.1 m (16.7 ft)	5.7 m (18.7 ft)	6.1 m (20.0 ft)	6.7 m (22.0 ft)
	Maximum height			1.11 m (3.64 ft)		
Working width		4.9 m (16.1 ft)	5.3 m (17.4 ft)	5.9 m (19.4 ft)	6.3 m (20.7 ft)	6.9 m (22.6 ft)
NA/a i mla t	S	730 kg (1609 lb)	765 kg (1687 lb)	817 kg (1801 lb)	913 kg (2013 lb)	927 kg (2044 lb)
Weight	SQ	790 kg (1742 lb)	827 kg (1823 lb)	887 kg (1956 lb)	990 kg (2183 lb)	1030 kg (2271 lb)
Power demand of	S	36.8 kW (50.0 hp)	40.5 kW (55.0 hp)	44.1 kW (60.0 hp)	33.1 kW (65.0 hp)	33.1 kW (70 hp)
the tractor – Light soil	SQ	44.1 kW (60.0 hp)	33.1 kW (65.0 hp)	55.2 kW (75.0 hp)	40.5 kW (80 hp)	62.5 kW (85.0 hp)
Power demand of the tractor – Heavy soil	S	55.2 kW (75.0 hp)	40.5 kW (80 hp)	66.2 kW (90.0 hp)	69.9 kW (95.0 hp)	73.5 kW (100.0 hp)
	SQ	66.2 kW (90.0 hp)	73.5 kW (100.0 hp)	80.9 kW (110.0 hp)	88.3 kW (120.0 hp)	95.6 kW (130.0 hp)
Oil pressure and flow		150 – 200	bar (2175 – 29	00 psi), 20 – 60	L/min (0.0 – 10	6 US gpm)

NOTE: Power requirements increases by 10% when levelling bar and rotacraft are used

Trailed seedbed cultivator - technical data

Ту	ре	Vibro Master SGC/SQ 67 T
Dimension in	Length	2.8 m (9.2 ft)
Dimension in	Width	3.4 m (11.2 ft)
transport position	Maximum height	2.4 m (7.9 ft)
Diamenta in	Length	2.85 m (9.35 ft)
Dimension in	Width	6.7 m (22.0 ft)
working position	Maximum height	1.11 m (3.64 ft)
Working width		6.7 m (22.0 ft)
Maiabt	S	927 kg (2044 lb)
Weight	SQ	1030 kg (2271 lb)
Power demand of	S	33.1 kW (70 hp)
the tractor – Light soil	SQ	62.5 kW (85.0 hp)
Power demand	S	73.5 kW (100.0 hp)
of the tractor – Heavy soil	SQ	95.6 kW (130.0 hp)
Oil pressure and fl	ow	150 – 200 bar (2175 – 2900 psi), 20 – 60 L/min (0.0 – 16 US gpm)

NOTE: Power requirements increases by 10% when levelling bar and rotacraft are used

Lift mounted seedbed cultivators - working units

Туре		VMS25M	VMS29M	VMS37M	VMS43M	
Number of tines	S	25	29	37	43	
Number of tines	SQ	31	35	47	53	
Type of tines			Spr	ing		
End of tine			Two-side	s coulter		
Number of rows o	f working tines		۷	1		
Cools of times	S	100 mm (4 in)				
Scale of tines	SQ	80 mm (3 in)				
Maximum depth of work		80 mm (3 in)				
Diameter of levelling cage-mounted rollers		0.28 m (11.02 in)				
Number of hydraulic cylinders		0 0 Rigid frame Manual folding 2				
Tire		165–15 4PR				
Tire pressure		0.35 MPa (50.77 psi)				

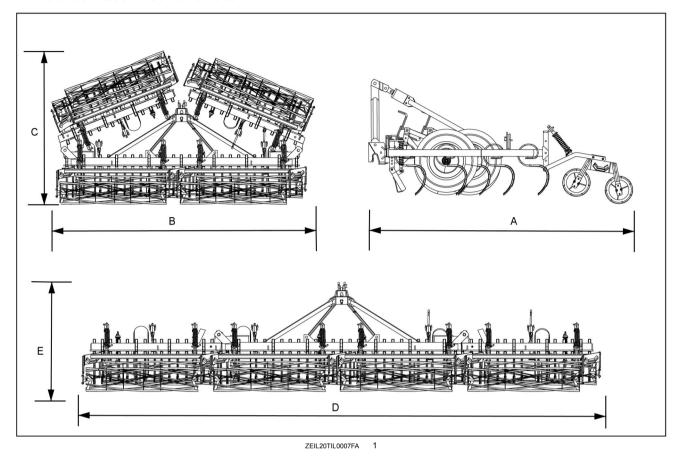
Ty	ype	VMS49M	VMS53M	VMS59M	VMS63M	VMS67M		
Number of tipes	S	49	53	59	61	67		
Number of tines	SQ	61	65	73	79	85		
Type of tines	-		-	Spring		-		
End of tine			Т	wo-sides coulte	er			
Number of rows o	f working tines	4						
Cools of times	S IS		100 mm (4 in)					
Scale of tines	SQ	80 mm (3 in)						
Maximum depth of	Maximum depth of work		80 mm (3 in)					
Diameter of levell rollers	ing cage-mounted	0.28 m (11.02 in)						
Number of hydraulic cylinders		2						
Tire		165–15 4PR						
Tire pressure		0.35 MPa (50.77 psi)		·				

Trailed seedbed cultivator - working units

	Гуре	Vibro Master SGC/SQ 67 T
Number of tines	S	67
number of times	SQ	83
Type of tines		Spring
End of tine		Two-sides coulter
Number of rows	of working tines	4
Cools of times	S	100 mm (4 in)
Scale of tines	SQ	80 mm (3 in)
Maximum depth	of work	80 mm (3 in)
Diameter of level	lling cage-mounted	0.28 m (11.02 in)
rollers		0.28 III (11.02 III)
Number of hydra	ulic cylinders	4
Tire		165–15 4PR
Tire pressure		0.35 MPa (50.77 psi)

Dimensions

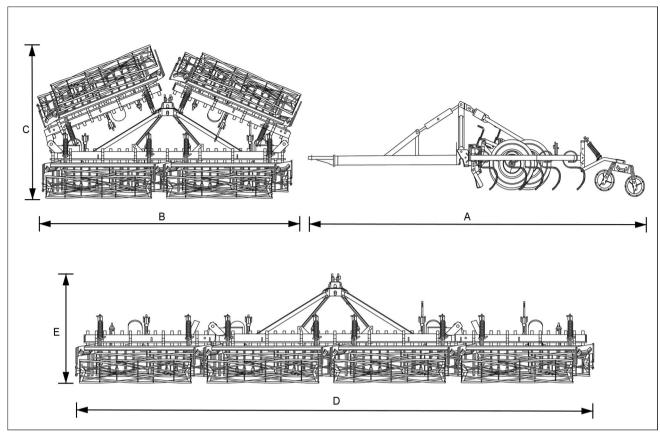
Lift mounted seedbed cultivators



VMS25M VMS29M VMS37M VMS43M Type 2800 mm (110.2 in) Α В 2600 mm (102.4 in) 3000 mm (118.1 in) 2600 mm (102.4 in) 2400 mm (94.5 in) С 2900 mm (114.2 in) 3700 mm (145.7 in) 4300 mm (169.3 in) D 2500 mm (98.4 in) Ε 1110 mm (43.7 in)

Туре	VMS49M	VMS53M	VMS59M	VMS63M	VMS67M	
Α		2800 mm (110.2 in)				
В	2600 mm (102.4 in)	, , , , , , , , , , , , , , , , , , , ,			(133.9 in)	
С			2400 mm (94.5 in)			
D	4900 mm (192.9 in)	5300 mm (208.7 in)	5900 mm (232.3 in)	6300 mm (248.0 in)	6700 mm (263.8 in)	
Е		•	110.0 mm (43.7 in)		

Trailed seedbed cultivator



ZEIL22TIL0081FA

Type	Vibro Master SGC/SQ 67 T
Α	5200 mm (204.7 in)
В	3400 mm (133.9 in)
С	2400 mm (94.5 in)
D	6900 mm (271.7 in)
E	1110 mm (43.7 in)

Fluids, lubricants, and capacities

Application	Capacity	Product name	Specification(s)
Grease fittings	As required	TUTELA 75 MD GREASE	M1C 137-A

10 - ACCESSORIES

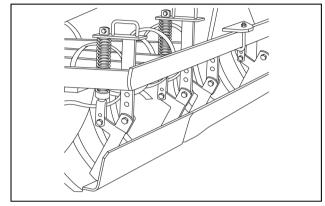
General information

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.

Levelling bar

The levelling bar is suitable for all types of soil.

The leveling bar levels and crumbles the soil in front of the implement.



ZEIL18TIL0172AA

Tines

Two different types of tines are available for the seedbed cultivators:

- S-tine
- SQ-tine

The S-tines and SQ-tines are different in terms of overall geometry. The SQ-tine is more aggressive in terms of mixing due to the angle of the share. The SQ-tine is less curved, hence not as intensive mixing and less risk of bringing up wet soil and big clods.

The main specifications of the two different tines are listed below.

Type of tine	S-tine	SQ-tine	
Cultivation angle	44°	60°	
Frame height	39 cm 40 cm (15.35 in) (15.75 in)		
Dimensions	32 mm (1.26 in) x 10.5 mm (0.41 in)	32 mm (1.26 in) x 12.5 mm (0.49 in)	
Tine spacing	10 cm (3.94 in)	8 cm (3.15 in)	
Working depth	3 – 9 cm (1.18 – 3.54 in)		
Dimension of share	35 mm (1.38 in) x 6 mm (0.24 in)		
Where to use			
Light soil	X	X	
Medium soil	_	X	
Heavy soil	_	_	

S-tine

A = 554 mm (21.81 in)

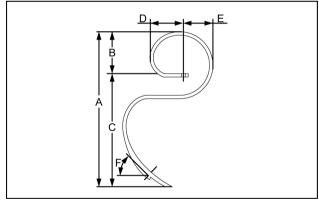
B = 160 mm (6.30 in)

C = 394 mm (15.51 in)

D = 115 mm (4.53 in)

E = 105 mm (4.13 in)

F = **44°**



ZEIL18TIL0274AA

SQ-tine

A = 534 mm (21.02 in)

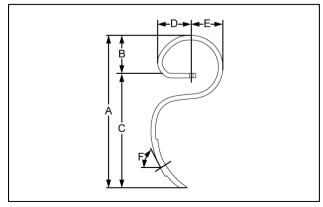
B = 133 mm (5.24 in)

C = 401 mm (15.79 in)

D = 117 mm (4.61 in)

E = 109 mm (4.29 in)

F = 60°



ZEIL18TIL0275AA

Rollers

In terms of rollers and rear harrows, the cultivators comes with three choices.

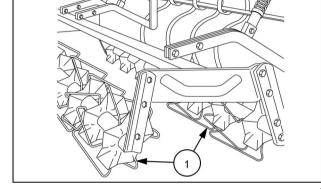
The FL spring tine rear harrow is the best option in most cases. The other seven roller combinations exist for when a more thorough cultivation is required.

If the soil is characterized by large amount of clay, a combination of two rollers (RD/ CD) can be used for the best possible end result.

• Double rotacrat RD (1).

The double rotacrat is suitable for medium heavy soil types.

The double rotacrat first crumbles the soil, then compacts the top layer of the soil. The double rotacrat achieves a more thorough crumbling than the single rotacrat.

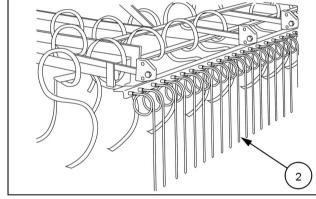


ZEIL18TIL0176AA

· Long-finger harrow FL (2).

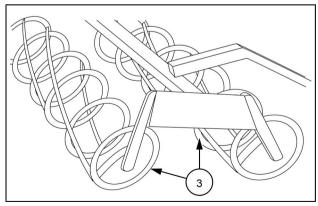
The long-finger harrow is suitable for soil types with or without stones and straw.

The long-finger harrow mixes the top layer of the soil and creates a levelled field.



ZEIL18TIL0174AA

• Double rotacrat CD (3).

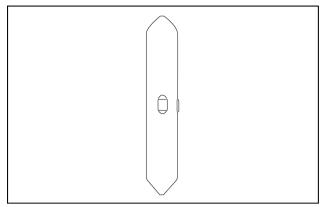


ZEIL18TIL0283A

Reversible share

Working width: 3.5 cm (1.4 in)

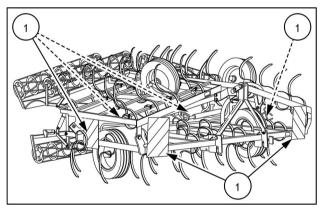
NOTE: Valid for S and SQ tines.



ZEIL18TIL0178AA

Signal plates

The implement can be equipped with signal plates (1) .



ZEIL22TIL0080AA

11 - FORMS AND DECLARATIONS

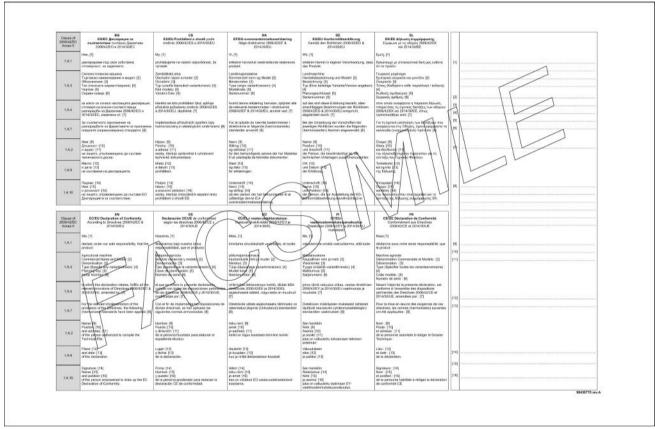
European Community (EC) Declaration of Conformity

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

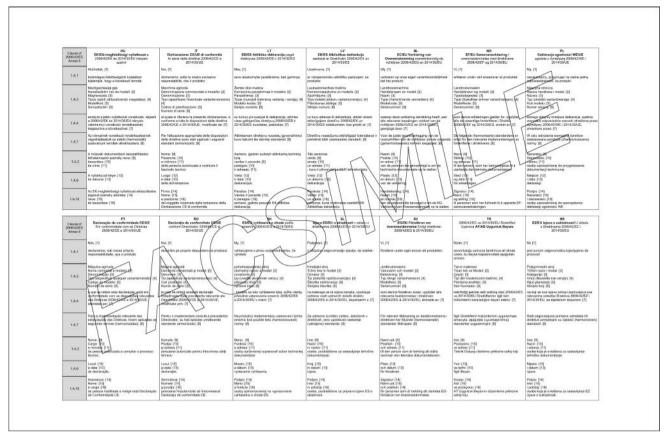
Inside the European Community and for some specific countries, an EC Declaration of Conformity is separately delivered with your implement. The EC Declaration of Conformity is the manufacturer's declaration about equipment compliance to relevant European Union (EU) provisions.

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.



ZEIL22TIL0018FA



ZEIL22TIL0019FA

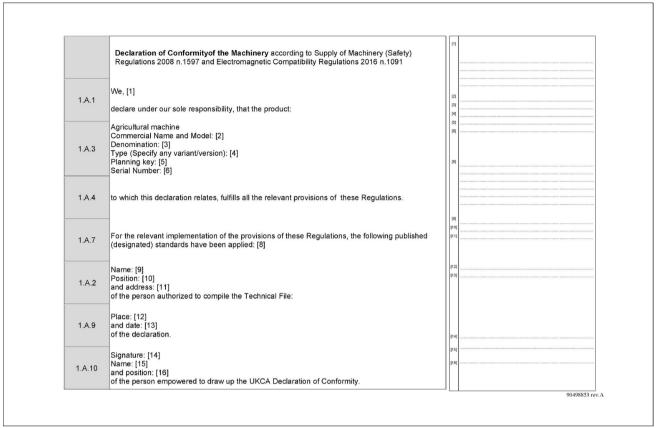
For your better and easier understanding of the document, you will find the text reproduced hereafter.

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

According to Directives 2006/42/EC & 2014/30/EU
We,
declare under our sole responsibility, that the product:
Agricultural machine
Commercial Name KONGSKILDE and Model:
Denomination: Tillage
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 4254-1: 2015
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:

NOTE: Only for United Kingdom.



ZEIL22TIL0020FA

Index

8 hours grease fittings	8																7 10
o nours grease mangs			•	٠	 •	•	•	•	•	•	 •	٠	•	•	 •	•	7-10
	Α																
Adjustment of the working depth															 		6-4
	_																
Check before use	С																1 1
Check bolted connections																	
Connection to the tractor.																	
	•		-	•	 -		-		•		 -	•	•	•	 		• -
	D																
Dimensions																	
Disconnection and parking																	
Drawbar adjustment			•		 •	٠	-		•		 •	٠	•		 	•	6-5
	Е																
Ecology and the environment					 										 		2-15
Electro-Magnetic Compatibility (EMC)																	
End of season service																	
European Community (EC) Declaration of Conformity							-								 		11-1
	F																
Fire or explosion prevention	•																2-3
Fluids, lubricants, and capacities																	_
Folding and unfolding																	
3. 3																	
	G																
General																	
General information																	
General recommendations																	
Grease littings and intervals			•	•	 •	•	•		•		 •	•	•	•	 •	•	7-0
	Н																
Hazardous chemicals																	
Homologation plate																	
Hydraulic hoses							-			-					 		7-11
Illustrations	•																2-3
Implement long-term storage and/or disposal												Ċ					7-14
Implement orientation															 		1-14
Implement stability															 		2-14
Intended use							-								 		1-4
Levelling bar	_	•															10-1
Local obligations																	
Local obligations			•	•		•	•		•		 •	•	•	•	 •	•	
	M																
Maintenance																	2-11
Manual scope and required training level															 		1-6
	N	l															
Note to the owner																	1-1
140to to the owner			•	•	 •	•	•	•	•	•	 •	•	•	•	 •	•	1-1
	0																
Operating principles															 		3-1

Operating the implement safely	
Ordering parts and / or accessories	7-16
OVERVIEW	
P	
Personal protective equipment (PPE)	
Pressure washing.....................................	
Product Identification Number (PIN) - Only for lift mounted models	
Product Identification Number (PIN) - Only for trailed models	
Prohibited usage	1-4
R	
Reversible share	10-4
Rollers	
S	
Safety requirements for fluid power systems and components - hydraulic systems	2-13
Safety rules and signal word definitions	
Safety signs	
Signal plates	
Stopping the implement safely	
	,
T	
Technical data	
Torque	
Transport position.	
Travelling on public roads	
Troubleshooting	8-1
W	
Weekly grease fittings	7-10
Wheels and tires	7-12
Work condition	



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 dealer.



 $\ensuremath{\texttt{©}}$ 2022 CNH Industrial Belgium N.V. All Rights Reserved.

Kongskilde is a trademark registered in the United States and many other countries, owned by or licensed to CNH Industrial N.V., its subsidiaries or affiliates.