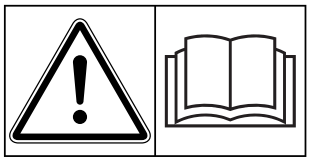
RAUCH

OPERATOR'S MANUAL



Please read carefully before using the machine.

Keep for future reference.

This instruction manual/assembly instruction is to be considered as part of the machine. Suppliers of new and second-hand machines are required to document in writing that the instruction manual/assembly instruction was delivered with the machine and handed over to the customer.

TAXON 25.1

Original manual

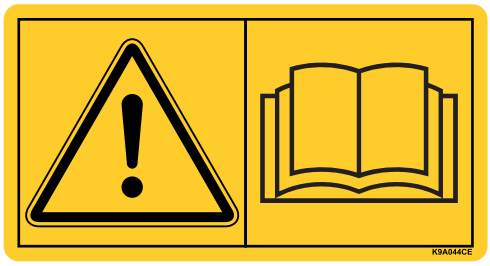
5903060-C-en-1120

Preface

Dear Customer

By purchasing the **winter service spreader** of the **TAXON** series you have shown confidence in our product. Thank you very much! We want to justify this confidence. You have purchased a powerful and reliable machine.

However, in case unexpected problems arise: Our customer service is always there for you.



Please read this operator's manual carefully before commissioning the winter service spreader and follow the advice given.

This operator's manual gives detailed instructions on the operation of the machine, as well as valuable information on assembly, maintenance, and care.

This manual may also describe equipment that is not included in your machine.

Please note that damage caused by incorrect operation or improper use is not covered by warranty claims.

HINWEIS

Please enter the type and serial number together with the year of manufacture of your winter service spreader here.

This information can be obtained from the nameplate and/or at the frame.

Please always state this information when ordering spare parts or accessories, and in case of complaints.

Type	Serial number	Year of construction

Technical improvements

We are continuously improving our products. Therefore, we reserve the right to make any improvements and changes to our machine that we consider necessary without notice. This constitutes no obligation to make such improvements or changes on machines that have already been sold.

We will be pleased to answer any other questions that you might have.

Yours sincerely

RAUCH

Landmaschinenfabrik GmbH

CONTENT

Technical changes and errors reserved!

1. Safety

1.1 Symbols for safety instructions

Safety instructions in this instruction are marked as follows:

Warning!

Indicates potentially dangerous situations.
If you do not avoid these, **death or serious injuries** could be the consequences.

Careful!/Attention!

Indicates potentially dangerous situations.
If you do not avoid these, **light or small injuries** could be the consequences.

Important!

Indicates **application tips** and other especially **useful information.**

1.2 Machine safety

The spreaders of the series "Tracon" are equipped with protective installations and subjected to a safety test. However, in case of careless or gross negligent behaviour dangers exist for body and life of the operator and other persons or dangers of damage to the machine or other assets.

This documentation contains information, which generally must be observed!

This must be read and understood before the first assembly and start-up by the assembler, workshop foreman and operator. This documentation must always accompany the carrier vehicle.

This is about your safety!

Also to be observed and maintained:

- The operating instruction of the carrier vehicle
- The operating instruction of the respective control unit
- Company safety directive
- StVO and StVZO
- Principles of prevention BGV A1
- BGI GUV-18569 "A day in winter service"
- Hazardous material regulation

1.3 Authorised users

The owner of the spreader must make the operating instruction available to the operator and ensure that he has read and understood it. Only then may he assemble and start-up the spreader.

The responsibility for the different activities at the spreader, like assembly and disassembly, maintenance and care, operation, etc, must be clearly determined and observed. There must not be any unclear competences, as this could endanger the safety of the users.

Also the owner must ensure that only authorised persons work with the spreader and operation by unauthorised persons is prevented!

1.4 Usage according to specification

The spreader is suitable for discharging thawing and/or blunting spreading material onto roads and traffic areas in winter road service.

The spreading material must only be discharged in dry and trickling state!

Observing the regulations and warning information in this operation instruction is also part of usage according to specification.

Unauthorised conversions and alterations to the spreader are prohibited for safety reasons!

The spreader must only be operated with all protective installations installed and in correct assembled or attached state at the carrier vehicle!
The spreader must not be put into operation in disassembled state!

1.5 Dimensions and axle loads

The vehicle dimensions as well as the axle loads of the carrier vehicles will be altered in case of assembled spreaders. This must be taken into account by the operating personnel, whereby especially the permissible axle loads in case of filled spreading container and brine tank must be considered.

The weights and dimensions must be taken into consideration in case of devices combinations with other add-on units (e.g. snowplough). It is recommended determining the actual axle loads by weighing.

The permissible axle and payloads of the carrier vehicles must not be exceeded; whereby all add-on units and assembly devices must be taken into account. Under certain circumstances must the spreading automaton and the brine tank not be completely filled or drained when spreading. The latter may be the case, if it is used at the same time as balancing weight for a front add-on unit or the axle load relation between front and rear axle stipulated by the vehicle manufacturer is not maintained.

1.6 Danger sources

1.6.1 General safety and accident prevention regulations

- Staying under a parked spreader is absolutely prohibited!
- Staying inside the spreading container and on the three-point hydraulic system of the carrier vehicle is absolutely prohibited!

- Removing faults in the spreader and maintenance and repair work must only be carried out with switched off drive and, if possible, in disassembled state. Possibly, additional protective measures must hereby be taken.
- The ignition key of the carrier vehicle must be removed and kept safe against unintentional or erroneous putting into operation.
- All protective installations must be correctly reinstalled after removing faults at the spreading automaton and after maintenance and repair work!
- The spreader must only be operated with all protective installations!
- The completeness of the protective installations must be checked by the operator with the aid of the checklist (2.2) before every spreading operation and after every maintenance and repair work.
- If the drive is switched on, never put hands or feet through the lattice bars of the device safety cover or handle items in the spreading container!
- The spreader must absolutely be disassembled for all maintenance, repair or assembly work on the carrier vehicle.
- Safety symbols or stickers with safety symbols must be clearly recognisable!
  Missing or partly not recognisable stickers must be renewed.
- The respective regulations must be observed when using public traffic routes!
- Check the vicinity before starting to drive and before taking into operation!
  Pay attention to sufficient view! Order all persons out of the working and danger area of the machine!
- Taking passengers on the spreading device during the work and transportation is strictly prohibited!
- Couple up the spreading device correctly and couple and secure only to the stipulated devices!
- Always use the series parking system for assembling and disassembling!
- Special attention must be paid, when coupling up or uncoupling the spreading device to or
- from the tractor!
- Attention must be paid to sufficient load on the front axle of the tractor! Always attach the ballast weights always correctly to the provided fastening points!
- Never leave the driver's place during the travel!

- Driving performance, steering and braking capability are influenced by mounted or attached ballast weights! Therefore, pay attention to sufficient steering and braking capability!
- Before leaving the tractor and before every setting, maintenance and repair work fully lower the spreading device! Switch off the motor, take out the ignition key and wait for complete standstill of all moving parts!
- Nobody must be between tractor and device, without the vehicle being secured against rolling away by the parking brake and/or wheel chocks!
- Make sure that the machine is never unintentionally switched on during setting, maintenance and repair work!

1.6.2 Assembly

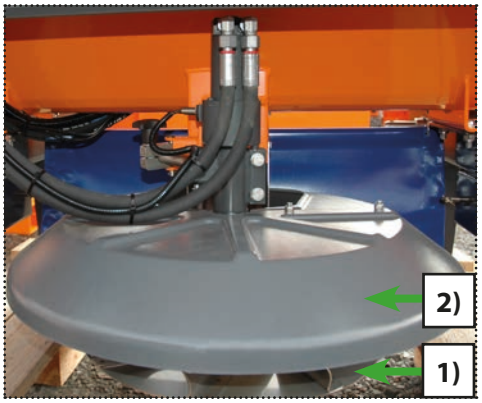
- Before disassembly and assembly of devices to the three-point suspension, the operating device must be put into a position, in which unintended lifting or lowering is impossible!
- For three-point attachment, the attachment categories of tractor and device must absolutely match or be adjusted!
- Danger of injury exists from crushing and shearing positions in the area of the three-point linkage!
- Do not step between tractor and device when operating the outside handling for the three-point attachment!
- Attach the spreader in such a way that a minimum distance of **200 mm** is not undercut between spreading container and carrier vehicle!
- Always pay attention to sufficient lateral locking of the three-point linkage in the transportation position of the device!
- When driving on roads with lifted device, the operating lever for the three-point hydraulic system must be locked against lowering!

1.6.3 Spreading disk and discharge chute

The spreader is fitted with a rotating spreading disk (1), largely covered with a protective installation (2, cover umbrella).

Only in the area of the material feed and the flinging out area can the spreading disk not be fully covered.

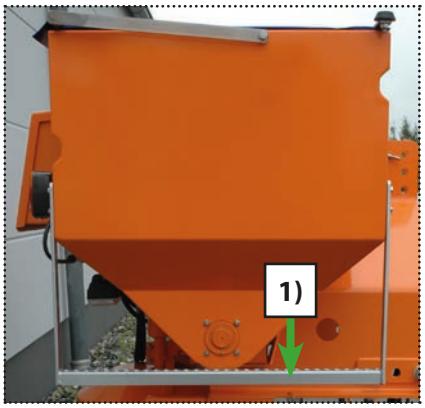
- **Should hands, feet or clothing get into the rotating spreading disk, this could lead to severe injuries!**
- Staring up without the cover umbrella is strictly prohibited!
- Staying in the spraying and flinging out area is prohibited, if the spreading disk is rotating; also when the material feed is switched off – Danger of injury by the spreading disk itself or flung out residual material!
- Possibly jammed stones or frozen material chunks on the spreading disk or the discharge chute of the spreading container must only be removed, when the drive is switched off!
- Never reach onto the blocked spreading disk or into the discharge chute, when the drive is switched on!



1.6.4 Maintenance

- Repair, maintenance and cleaning work and removal of malfunction must in principle only be carried out when the drive is switched off and motor is at standstill! Take out the ignition key!
- Check the nuts and screws regularly for tight fit and, if necessary, retighten!
- Never carry out maintenance work when the spreading device is lifted up!
- Use suitable tools and gloves when replacing working tools!
- Dispose grease and filter correctly!
- Always separate the power supply for work on the electric system!
- If protective installations are subject to wear, they must be checked regularly and replaced in time.
- Spare parts must comply at least with the technical requirements specified by the device manufacturer! This is the case e.g. with original spare parts.
- When carrying out electric welding at the tractor or the attached device, the cable at the generator and the battery must be taken off!

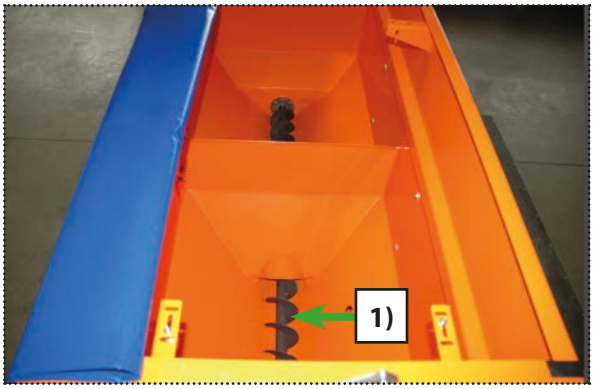
1.6.5 Tread



If the spreader has a tread at the container (1) as special equipment, the following must be observed:

- One person may at maximum step onto the tread!
- Step on the tread only with safety shoes!
- Stepping on the tread is prohibited in case of iced or snow-covered access – Danger of slipping!

1.6.6 Auger



The spreader operates with one auger (One-chamber spreader) or two augers (Double-chamber spreader). The auger (1) can seriously injure a person, caught by it, and under the circumstances even kill him.

Therefore, never remove the device safety cover in assembled state!

The above general safety and accident prevention regulations must absolutely be observed:

The spreader must never be operated without the device safety cover! ***(see page15, p. 1)***

1.6.7 Electrical system

In case of incorrect, careless or gross negligent handling of the system, especially if using it in connection with damaged cables and plug-in connections, scorching or even scorching fires may occur under the circumstances.

- Maintenance and repair work of electrical systems should only be carried out by a specialist!
- Have loose or damaged cables replaced immediately!
- Use only original cables and fuses!

Always disconnect the spreader from the current source (e. g. battery) before maintenance and repair work!

1.6.8 Lacquer repair:

- Possibly harmful materials could be generated during the lacquer repair work by lacquer, cleaning agents, etc. Pay attention to good ventilation.
- Take appropriate measures against inhaling grinding dust during grinding. Grinding dust is injurious to health.
- Vapours and gases may be explosive! **Hazard of injury and burns!**

Pay attention to health information of the manufacturer of lacquers, cleaning agents, etc. and observe them. Residual lacquers are special wastes and must be deposed accordingly by the user!

1.6.9 Protective clothing for personnel

Skin contact with hydraulic oil, grease, lacquer, etc. is possible during operation or maintenance of the spreader.

Wear protective clothing for respective work at the spreader!
Observe the respective safety regulations for the products to be touched!

The owner has to take care of the protective clothing for the operating personnel.
The owner has the duty supervising the protective clothing for the protective installations at the spreader!

1.6.10 Storage location:

- Place the carrier vehicle only on an even, solid ground!
  The inclination of the area must not be more than 7% or 4° to prevent slipping and sinking in of the vehicle.
- Best is keeping the spreading unit in a dry hall on its own parking system.
- The spreader must be thoroughly cleaned from spreading salt after the end of the winter season (see chapter: Maintenance and cleaning).

1.7 Transportation and packing during first delivery

The spreader may slip during transportation!

The spreader must be secured against slipping during transportation with suitable means!
Observe regulations for load securing!

- The spreader stands for transportation mostly on a wood pallet.
- This pallet is intended for lifting with forklift.
- When using a forklift, pay attention to sufficiently long fork arms and load capacity!

The spreader must not be lifted with a suspension at the device safety cover or at not intended other points at the spreader!

2. Protective installations and safety stickers

The protective installations and safety stickers of the spreader are depicted on the following pages.
In addition, you will find a check list for their checking.

Check the protective installations:

- Before every spreading application
- After every maintenance and repair

Check hereby:

- The specified state
- The specified position
- The safe fastening
- The specified function

Use the check list on page 16 for checking!

Remove all possible deficiencies, before you start-up the spreader!
Should grave deficiencies occur during operation, switch off the spreader immediately and remove the deficiencies or take it to a suitable repair shop!

Do not alter or remove any protective installations!

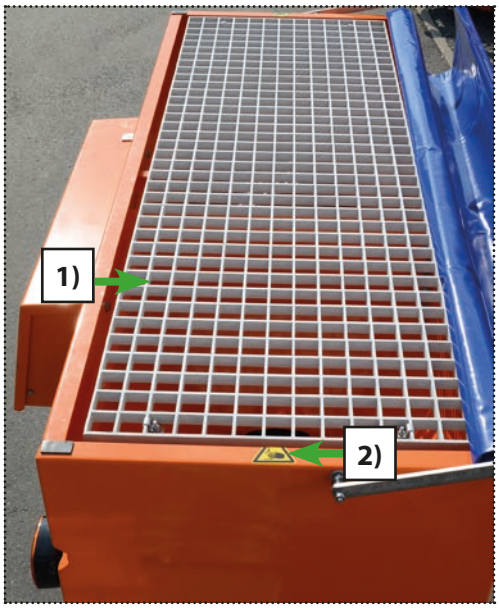
Do not switch off any protective installations by alterations at the spreader!

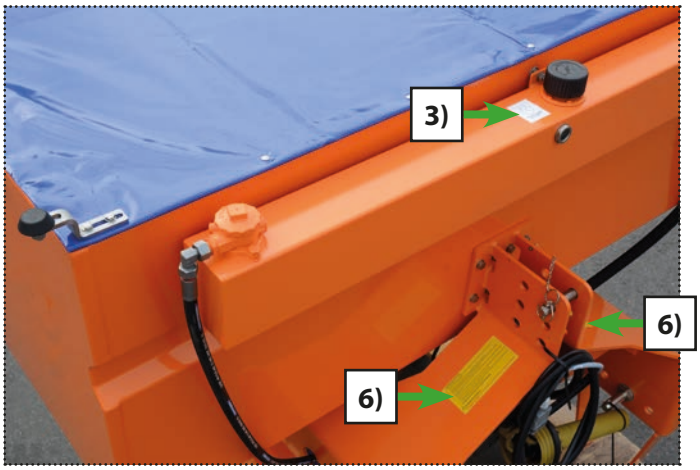
Check the safety stickers:

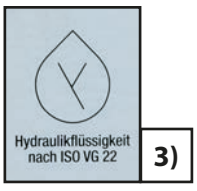
- Within short time intervals for cleanness and legibility

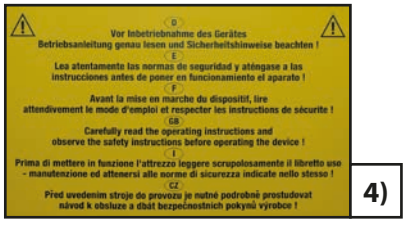
The safety stickers must be replaced immediately if damaged!

2.1 Depiction of protective installations and safety stickers









2.2 Check list for checking the protective installations

Use the available list for checking:

- The device safety cover (1) must be tightly screwed on the spreading container!
- The sticker "Crushing danger" (2) must be placed good visible near the device safety cover!
- The sticker "Hydraulic liquid" (3) must be placed good visible!
- The sticker "Before start-up" (4) must be placed at the marked place!
- The cover (5) must be tightly screwed to the cover tube of the spreader disk shaft as cover of the spreading disk. The spreading disk must be fixed with the two screws!
  Between the spreading disk (Upper edge disk ribs) and the lower edge of the cover umbrella should be a clearance of about 1 cm.
- The sticker "Instructions before coupling" (6) must be good visible at the attachment horse!

Should one or several signs not exist anymore or are not legible any more, order new signs from the manufacturer and place them!

Checking date: _____ Checker (Signature): _____

3. Assembly and disassembly of the spreader

3.1 Preparation for first assembly at the carrier vehicle

If the spreader is delivered by a haulage company, diverse small parts are packed protected into the spreading container. The spreading container must be completely emptied during the first assembly. For this, loosen the lashing belts fixing the spreader tight to the wood pallet. Then remove the device safety cover (see page 17, point 1) and completely empty the spreading container!

After this reassemble the device safety cover correctly!

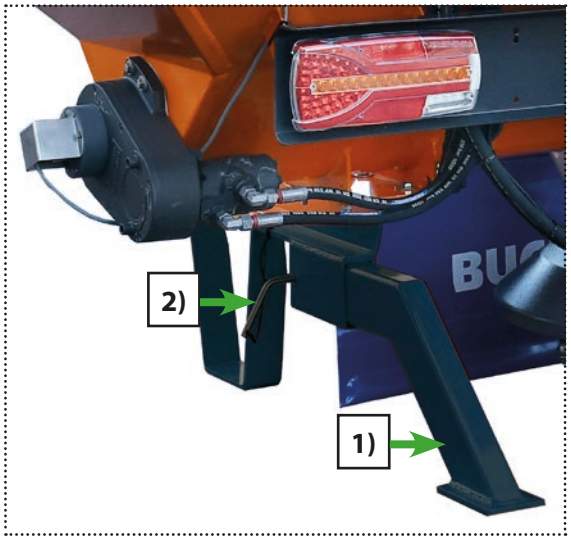
3.2 Parking system

The spreader is delivered ex works with a parking system in series (two parking legs), taking the weight of the unloaded spreader.

The parking legs (1) are not adjustable in height.
A locking bolt (2) is mounted at the parking leg.
This fixes the parking leg with the guide tube of the attachment horse.

The parking legs are designed for the empty weight of the spreader.

The two legs together can take the empty weight of the spreader.



Warning!

- The spreader must be placed only unloaded on the parking legs delivered ex works!
- Never step under the parked spreader!
- Park the spreader only on solid and even ground!
- Store parking legs only lying down – Danger of falling over!
- Unauthorised alterations of the parking legs are prohibited!

3.3 Installation of the electronic control panel with cable set

3.3.1 Control panel

The control panel must be installed in the driver's cabin in such a way that the operator can also during driving travel easily reach and read the control panel.

The control panel can be connected to a 12 volts or 24 volts on-board voltage. But the respective magnets (12 V or 24 V) must always be installed on the hydraulic valves. The voltage is given on the tape plate.

See also the separate operating instructions for the respective control panel (EcoTron or EcoSat).

Bedienpult EcoTron

3.3.2 Connection cable

See separate operating instructions for the respective control panel.

3.3.3 Battery connection cable

See separate operating instructions for the respective control panel.

3.3.4 Drive command connection cable

See separate operating instructions for the respective control panel.

3.3.5 Connection cable to the spreader

See separate operating instructions for the respective control panel.

3.4 Attaching to the rear three-point attaching device

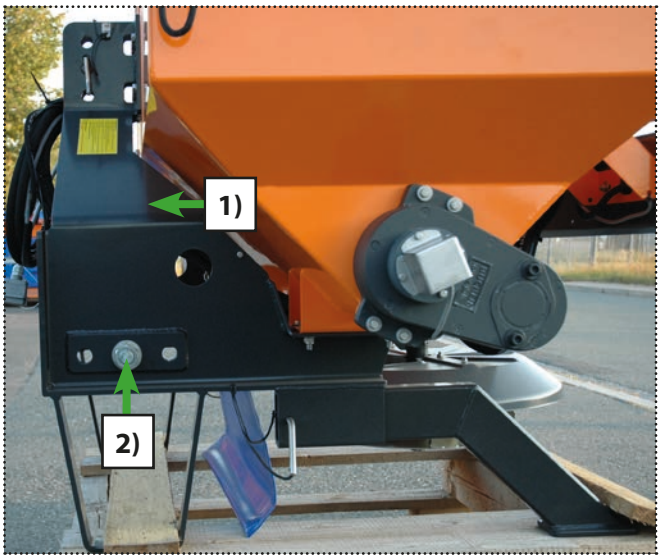
The spreaders of the series "Tracon" fit all tractors equipped with a standard three-point attachment possibility.

The two lower attaching bolts have a diameter of 28 mm and are therefore equipped for tractors of category 2. The bolt for the upper control arm has a diameter of 22 mm.

3.4.1 Procedure during attaching

3.4.1.1 Attaching horse with attaching bolt

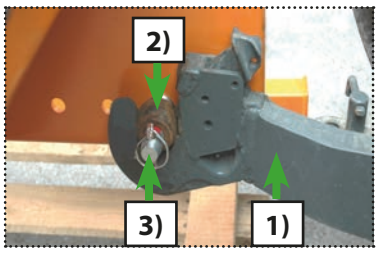
- Reverse slowly with the tractor in direction of attaching horse (1) of the spreader until the distance to the lower control arm is about 30 - 50 cm.
- Connect the two hydraulic connecting hoses (Pressure line, return line). These two hydraulic lines must be connected to the hydraulic connections of the tractor provided for this!
  For this, see also the operating instruction of your tractor!
- Connect the connection plug for the lighting system and the connection plug for the spreading automaton with the respective sockets.
- Reverse your tractor slowly, until the lower control arms are at the height of the two lower attaching bolts (2).
- The attachment horse (1) has at the bottom on both the left and right four holes.
- On delivery, the two attaching bolts (2) for the lower control arms are put into the second hole each from the outside and secured with a locking ring M20 and nut M20.



The nuts M20 on both sides must be checked for tight fit before every spreading application!
A clearance of 20 cm must be kept between attaching horse and tractor at the tightest position!
If necessary, place the attaching bolts further forward!

The operating permit becomes invalid, if this safety clearance is not observed!

3.4.1.2 Fastening of lower control arms



Fasten the two lower control arms (1) of the tractor to the attaching bolts of the spreader and secure with a hinged cotter.

If the tractor has quick change equipment, the two lower control arms caching balls (2) on the tractor side must be pushed onto the attaching bolts (3) and secured with a hinged cotter!

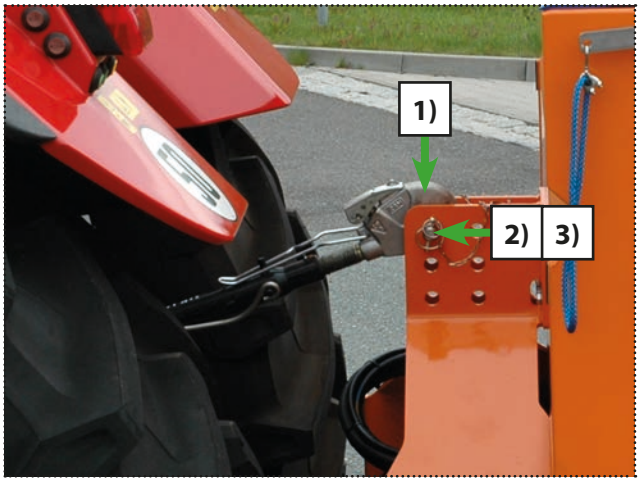
After fastening the lower control arms secure the attaching bolts with hinged cotter! The respective securing system of the lower control arm must be locked in position! (See operating instruction of the tractor)

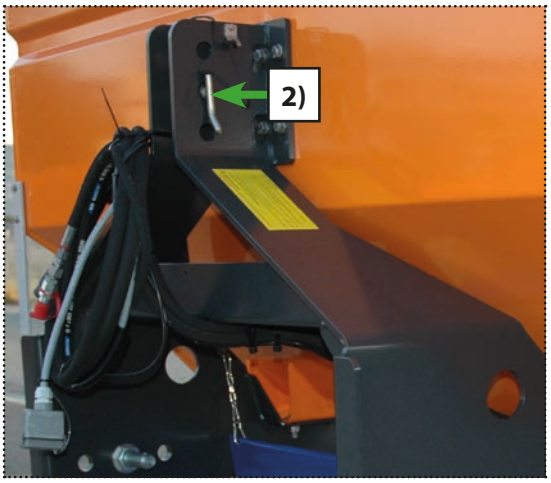
3.4.1.3 Fastening of the upper control arm

Fasten the upper control arm (1) of the tractor to the upper attaching bolt (2) of the spreader provided for and secure with a hinged cotter (3).

Please pay attention that the securing chain connects the bolt with the hinged cotter and the attaching horse!

If the tractor has quick-change equipment, the upper control arm catching ball on the tractor side must be pushed onto the upper attaching bolt and secured with a hinged cotter!





After fastening the lower control arms secure the attaching bolts with hinged cotter! The respective securing system of the lower control arm must be locked in position! (see operating instruction of the tractor)

The spreader must in spreading operation (Spreading disk about 40 cm above ground) be absolutely straight. The attaching horse has six different located holes for taking the upper control arm.

The spreader can be brought into a straight position due to the additional possibility adjusting the upper control arm in its length.

The spreding container is correct positioned.
The upper control arm is set correct

3.4.1.4 Connection to the vehicle hydraulic system

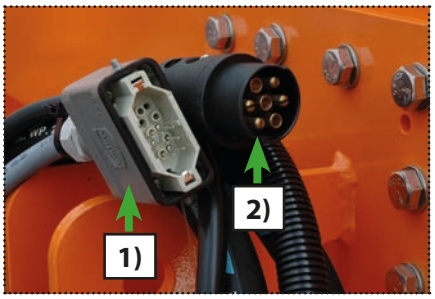
If the tractor has an adequate hydraulic supply for the spreader (40 litres/min. at 190 bars pressure), an own hydraulic system, like described under point 3.4.1.4, is not necessary.

Instead of the articulated shaft, two hydraulic hose lines will then be connected to the spreader – one pressure line and one return line. These two hydraulic lines must be connected to the hydraulic connections of the tractor provided for!
For this, pay attention to the operating instruction of your tractor!

Couple or uncouple only in cold and pressure-less state!

- Pay attention to clean plug-in couplings!
- Close the hydraulic connections at the tractor and the two lines with protective caps!
- When connecting, connect the return line first!

3.4.1.5 Connection lighting plug and spreader connection cable



Connect the connection plug for the lighting system (2)and the connection plug for the spreader (1) to the respective sockets.

Attention must be paid during disassembly that the plugs and sockets are closed clean with the cover lids!

3.5 Safety distance to be kept

The container must be attached in such a way that the dimension from the middle of the lower control arm to the outer contour of the container is at least 200 mm!

**Safety-relevant distances are undercut, if the container is attached any closer.
Due to this, severe injuries can occur e.g. by crushing the body during assembly and disassembly!**

The operating permit becomes invalid, if this safety clearance is not observed!

Sticker „Crushing danger“

3.6 Disassembly of the serial parking legs and the wood transportation pallet

After attaching, lift the spreader lightly with the three-point attachment of the tractor.

Safety distance:
Minimum 200 mm

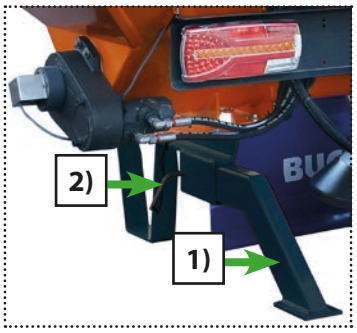
Then pull out the delivered wood pallet from under the spreader.

Never reach under the lifted spreader!

The spreader is delivered ex work with a series parking system (two parking legs, 1) taking the weight of the unloaded spreader.

The parking legs cannot be adjusted in height.
A locking bolt is fitted to the parking leg (2). This fixes the parking leg to the guide block of the attachment horse.

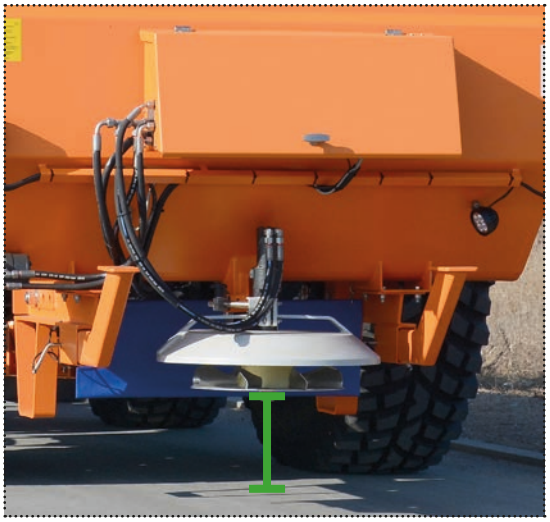
Keep hold of the parking leg with one hand, pull the locking bolt with the other hand and take the parking leg downward.



- The spreader must be placed unloaded on the parking legs delivered ex works only! Pay attention to the carrying load of the parking legs!
- **Never step under the parked spreader!**
- Place the spreader only on solid and even ground!
- Store parking legs only lying! **Danger of falling over!**
- Unauthorised alterations to the parking legs are prohibited!
- **Never step or reach under the lifted spreader!**

3.7 Correct working height

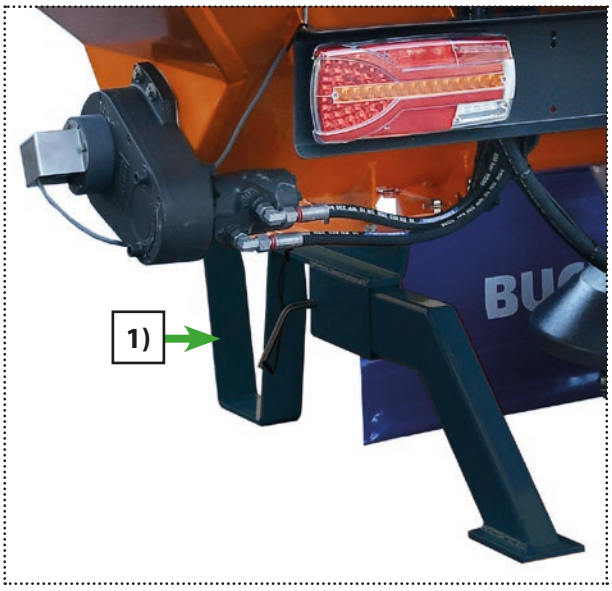
The working height is adjusted correct, if the spreading disk is about 35 to 45 cm above ground.
In this position, the spreading container should be attached absolutely straight to the tractor.



Working height:
Spreading disk 35 to 45 cm above ground

3.8 Safety loop

The spreader is in series equipped with two safety loops (1).
Should the spreader be placed on the ground in the attached state (without the parking legs) either unintended or for technical reasons, these loops prevent damage to the spreading disk, cover umbrella or other attachment parts.



Always use the series parking legs for parking the spreader!

3.9 Disassembly of the spreader

The disassembly is carried out in reverse order:

- Attach the parking legs on the left and right to the spreader and let the locking bolt lock in
- Lower the spreader to the ground by operating the tractor hydraulic system
  Pay attention that no persons stand near the spreader!
- Switch off the power take off shaft. Stop the vehicle and remove the ignition key!
- Take off connection cable spreader and lighting plug
- Take off the articulated shaft from the tractor power take off shaft and remove the hydraulic system connection hoses
- Take off the upper control arm
- Take of the two lower control arms
- Drive away the tractor forward

- **The spreader must only be placed unloaded on the parking legs delivered ex works. Pay attention to the carrying load of the parking legs!**
- **Never step under the parked spreader!**
- **Park spreader only on solid and even ground!**
- **Connect or disconnect hydraulic hoses only in cold and pressure-less state!**

4. Start-up of the spreader

4.1 Starting vehicle and taking spreader into operation

- Check the spreader with the check list (2.2) for safety.
- Start vehicle and take hydraulic system into operation. For spreaders with own hydraulic system supply, switch on power take off shaft according to the operating instruction of the tractor.
  Max. 540 rpm!
- Switch on control unit in driver's cabin.
  The last set spreading values (Quantity and width) will be displayed on the display screen.
- Set spreading quantity and spreading width according to requirement.
  When starting to drive a diving speed will be displayed - spreading will start.

After you have started the vehicle hydraulic system and the power take off shaft (540 rpm) and have set a spreading width, the spreading disk starts rotating; also if the carrier vehicle is still standing.

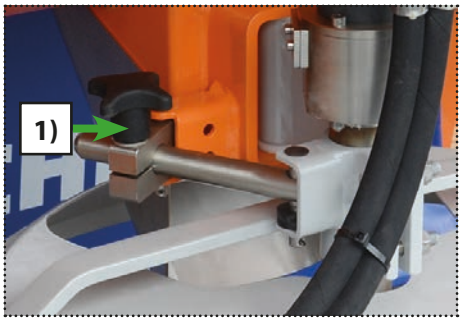
The auger only starts running, if the carrier vehicle starts moving and a driving speed is displayed or the standing spreading is activated.

4.2 Setting the spreading pattern

The spreading part is fastened to the clamping bracket of the cover umbrella with two screws.
The spreader is equipped in series with a manual spreading pattern adjustment.
On request, also an electronic spreading pattern adjustment (ESBV) can be supplied, due to which the spreading pattern can comfortably be adjusted via the operating panel.

4.2.1 Manuelle Streubildverstellung

The locking screw (1) at the spreading part must be loosened for adjusting the spreading pattern.
The spreading part can be swivelled to the left or right.
The spreading pattern follows automatically in the direction into which the spreading part is swivelled.



Manual spreading pattern adjustment

4.2.2 Electronic spreading pattern adjustment

See separate operating instruction for the respective control panel.


Electronic spreading pattern adjustment

4.2.3 Graphic depiction of the spreading pattern

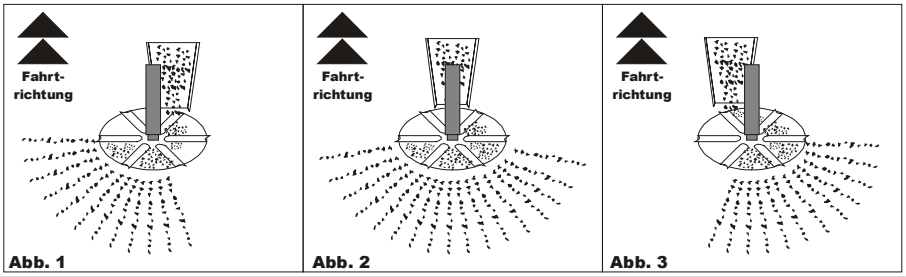


Fig.: 1 If the material impact point on the spreading disk is to the right of the spreading disk shaft, the spreading material will be discharged to the left in driving direction.

Fig.: 2 If the impact point is in front of the spreading disk shaft, the spreading material will be evenly discharged to the left and right.

Fig.: 3 If the material impact point on the spreading disk is to the left of the spreading disk shaft, the spreading material is discharged to the right in driving direction.

The material feed must be switched off before manually adjusting the spreading pattern! Danger of injury by discharged spreading material!

4.3 Operation of the manual control

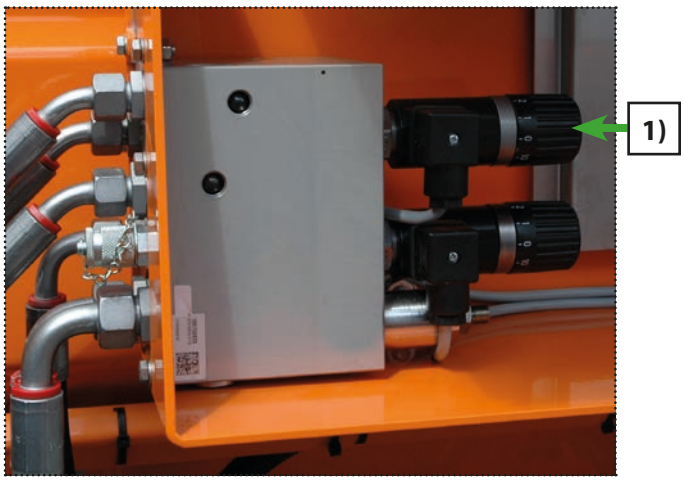


Figure.: Hydraulic block SRCA 2-times

In case the electronic control panel should fail, the spreader can also be operated with the manual control (Manual emergency operation of the hydraulic valves, 1).

Set the required spreading quantity (in case of double-chamber construction, 2 spreading quantity valves) and the spreading width with the black rotary buttons of the manual emergency operation in such a way that sufficient spreading material is thrown sufficiently wide.
The spreading widths and the spreading material valves are marked with the respective stickers.

Switching on and off the consumers is then carried out via switching on and off the hydraulic system or the power take off shaft of the carrier vehicle. The black rotary buttons must in normal operation absolutely be in position "0", as the auger shaft and the spreading disk cannot be controlled from the electronic control panel!

4.4 Information for the hydraulic system

The hydraulic control block is equipped with an overpressure relief valve.

The pressure setting ex work is 190 bars. **This value must not be altered!**
The operating pressure of the spreader is significantly lower for normal trickling spreading material.

The hydraulic system is designed for a capacity of 50l/min. However, the maximum capacity must not exceed 60 l/min!

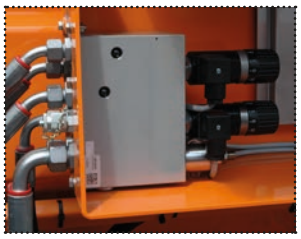
For spreaders with connection to the vehicle hydraulic system check absolutely according to the operating instructions of the carrier vehicle, if sufficient hydraulic oil is in the hydraulic tank!

Hot hydraulic oil can lead to serious burns or severe injuries!

4.5 Stand emptying

To empty the container when standing, proceed as follows:

- Pay attention to all warning information like the ones described in chapter 4.
- Place the carrier vehicle on an even, solid ground.
  Ensure that the handbrake is put on.
- The emptying when standing should be carried out, as a rule, at a salt loading station, where the spreading material will be reused.
- Switch on the vehicle hydraulic system.
- Switch off the control panel.
- Go to the rear of the spreader and open the lid of the device box.
  Here, the hydraulic block with the respective manual emergency valves is installed on the side. .



Hydraulic block SRCA

- **Stand on the side with a distance to the spreading disk before you operate the hydraulic control unit!**
  - Danger of injury from the rotating spreading disk
  - Danger of dirtying the clothing from thrown off spreading material
- Slowly open the manual valve of " Manual emergency operation Salt".
  Now, the auger starts rotating and salt flows onto the spreading disk.
- Then open the manual operation valve of "Manual emergency operation Disk" (About stage 3). Due to the very slow disk rotation, the spreading material will be discharged only on a very narrow area.
- After emptying the spreading container reset all manual operation valves to "Null" (ZERO).
- Close the lid of the device box.

5. Maintenance, greasing and cleaning

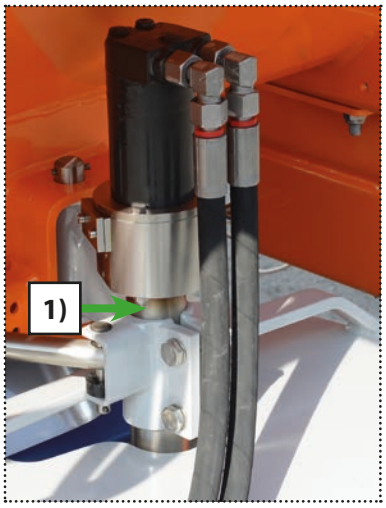
The drive of the carrier vehicle must be switched off for all maintenance, greasing and cleaning work!
Observe safety information or take suitable measures for accident prevention!

The spreader is largely maintenance-free during the winter service use.

Still, regular checks and a certain basic care are the basic precondition for maintenance-of value!

5.1 Greasing spreading disk shaft

The spreading disk shaft (1) has been designed in such a way that it must not be greased, i. e. it is absolutely maintenance-free.



5.2 Chain gear unit of the auger

The chain gear unit of the auger (for double-chamber construction, 2 chain gear units) is filled with common grease and therefore largely maintenance-free.

Filling quantity: 0.5 litres gear unit grease
Grease change: Every 5 years

The used grease must be caught with suitable means and correct disposed (Waste law)!
Environment protection!

Chain gear

5.3 Check of the hydraulic hose lines

Check the following:

- Are there any damages recognisable to the outer sleeve of the hose lines like tears, kinks, cuts, rubbing locations, brittleness, etc.?
- Are there any deformations at the hose in pressure-less or pressurised state?
- Are there any leakages between hose and fitting? Moves the hose out from the fitting?

If damages have been detected, replace the respective hose lines immediately!
Serious injuries to persons or severe damage to the machine and environment can be caused by bursting hydraulic hoses!

- Observe the safety regulations for hydraulic hose lines of the Health and Safety Executive!
- Hydraulic hoses should not be in operation for longer than six years!
- Hydraulic hoses must be checked at least once a year by trained specialists!

5.4 Cleaning of the spreader

It makes sense cleaning the spreader after every usage with clean water (without pressure) from salt residues and brine splashes.

You should refrain from use of chemical cleaning agents!

- Do not use high-pressure cleaners for cleaning the spreader, as the lacquer or cable penetrations of the electronic components can be damaged!
- The manufacturer refuses any responsibility for damages resulting from not observing the above instructions!
- Pay attention during cleaning that no warning or other stickers get damaged!
  Should warning or other stickers are lost, these must be replaced immediately!
- Clean the spreader only at a suitable wash location equipped with an oil separator!

5.5 Cleaning and care of stainless steel

Primarily, the corrosion resistance of these materials is guaranteed by the addition of the alloy elements chromium. chromium/nickel, etc. A protective treatment in the form of painting or special surface treatment is not needed. In addition, metallic clean parts of stainless steel form a wafer-thin oxide layer (Passivation), which protects it from corrosion.

To avoid damaged mechanisms, a periodic care of parts from stainless steel is advisable.

The following table gives an overview over the most frequent soiling causes and gives information for cleaning:

Type of soiling	Cleaning	Special agents	Information
Dust, soot	Wiping off with soft dry cloth, rinsing with water Possibly repeated drying) (1)		To avoid water marks
Finger prints, Slight grease and oil marks Dry flue dust Spreading salt crust	Washing off with household cleaner (without scouring additive). Rinsing with water (Drying) (1)	Ambra, Lux Flüssig, Vif, Flupp, Inox Clean, Inox Protect	Hard water may leave lime traces, little addition of vinegar in the rinsing water remedies
Residues from coating foils Marker pen markings Pencil markings Company imprints Paint splashes Soldering fluxing agent (Without discolouring)	Washing of with organic solvents, like toluol, xylol,-carbon tetrachloride or mineral oil distilling like petrol (Lead-free), nitro thinner, acetone, methyl-ethyl-acetone, per-chloride-ethylene, alcohol etc.	Inox Clean, Inox Protect	These materials cause flammable vapours. **ATTENTION: Use only in well ventilated rooms!**
	Cleaning like above. Coating with light oil or wax containing preservatives	Chromking, Dag, Chromol-Chromstahl-pfleger, Inox Clean,Inox Protect	Surface becomes more insensitive to renewed soiling. Must be renewed periodically.
Adhering dirt Concrete splashes, plaster Welding discolouring (partially)	Washing with cleaning agents with scouring salt, then washing with water (1), repeated drying	Ajax, Vim etc.	These procedures are not suitable for 2D-, 2B- or BA-surfaces, as scouring traces remain
	Cleaning with nylon fabric (possibly with aluminium oxide coating, with addition of water, organic or mineral solvents	Scotch-Brite	Polished or brushed surfaces must absolutely be retreated in processing direction
	Cleaning with polishing cloth and brushes. Thorough cleaning with water (1) (possibly under pressure) necessary (for avoiding foreign rust)		**ATTENTION: Use only brushes with stainless steel bristles (Foreign rust)**
Welding discolouring Soldering fluxing agent (already with discolouring) Flash rust Strong rust Foreign rust Scratches	Electrolytic cleaning: Treating with corrosive agent Antox 71E	Antox 71E ARMCO Durco	
	Possibly combination (Cleaning with nylon fabric/polishing cloth and brushes) is successful. Improvement of surface visually: Pickling with 20% nitric acid or phosphoric acid, rinsing (1)	Antox 71E	Neutralising with water is obligatory

* As a rule containing sulphur and phosphor; therefore acting very corrosive. Leads to pitting corrosion (Type 304)

** Contains chlorine, very corrosive in wet state (Type 304 - Pitting corrosion)

(1) Rinsing with hot water possibly under pressure gives, as a rule, a better cleaning effect

- Attention must be paid when working on the stainless steel spreader that no steel tools or steel screw connections are used (Use stainless steel screws!).
- Also, no steel parts must be welded or screwed on.
- In addition, there must be no direct contact with steel parts, e.g. loading bridge.
- Plastic or rubber plates must always be used as intermediate layer.
- If work with an angle grinder is necessary, use a new disk, as the steel particles could possibly cause corrosion.

The cleaning and care agents listed in the table must be used absolutely separately!

You can obtain these cleaning agents from specialist dealers.

- **Observing this care instruction is the precondition for possible guarantee or warranty claims against corrosion and rusting through!**
- Therefore, a visual inspection must be carried out rather often!
- Flash rust deposits must be removed immediately.
- **Thorough cleaning and care must be carried out once a year after the spreading season.**
- **In case of infringements no guarantee or warranty claims will be accepted!**
  No guarantee claim is accepted in case of damage or injury to the surface from external influence!

5.6 Electrical system

The electrical system of the spreader is largely free from maintenance.

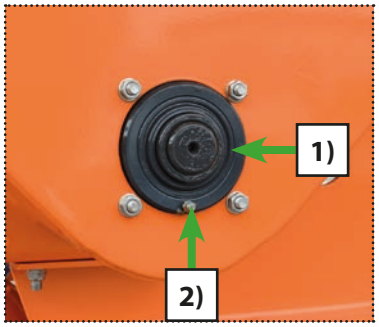
If not used for a longer period of time, the plug-in connections in the cable harness separation should be lightly greased with acid-free grease (Vaseline).

- Do not use contact spray or similar lubricating agents!
- Pay attention, in case of disassembled spreader, that the plug and the socket of the cable harness are closed clean with the respective seal caps!
- Check the cable harness separation and the distribution box at regular intervals for moisture!
- Take the control panel out of the driver's cabin after the spreading season and store it in a dry place protected from sun irradiation!
- Install the connection cables in the driver's cabin in such a way that they cannot be crushed or damaged in some other way!

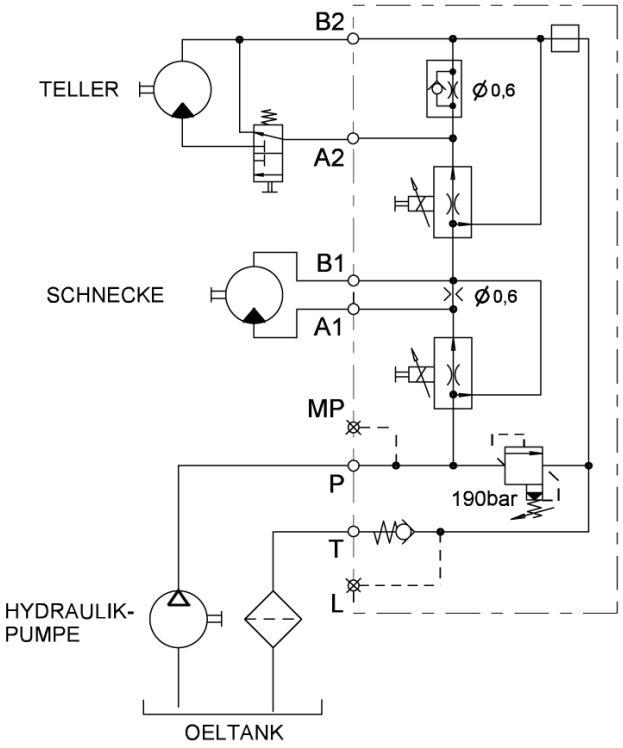
5.7 Flange bearing

The auger is supported by a flange gearing (1) on the side opposite from the chain gear unit (2).
This flange bearing is fitted with a grease nipple.

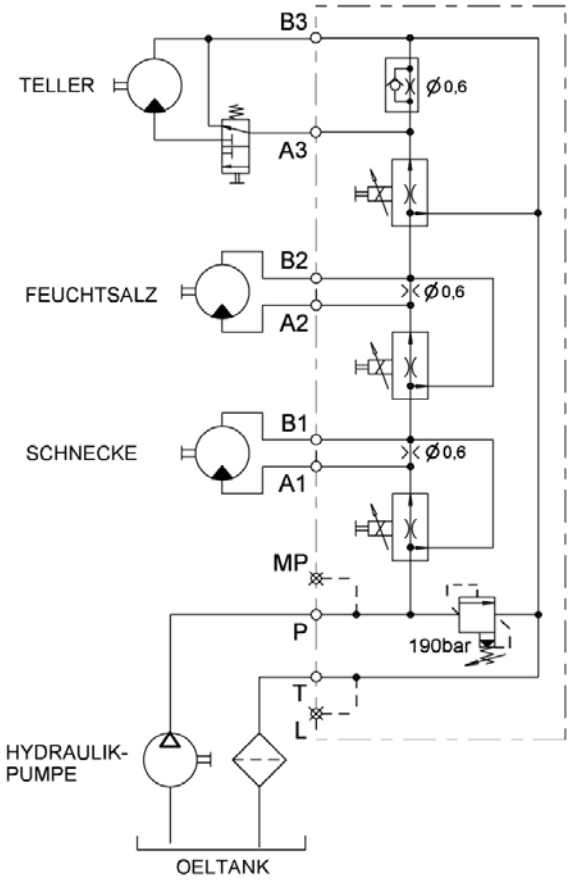
Greasing interval: Weekly
Grease: Acid-free grease



5.8 Hydraulic plan



Hydraulic block „SRCA" 8m 2-times



Hydraulic block „SRCA" 8m 3-times, DK

6. Possible fault indications – Troubleshooting

Should faults occur on the spreader, this could have, of course, various causes.
The basic condition is always that sufficient voltage and sufficient hydraulic power is available.

- **Remove the fault after having found the cause only, when the drive is switched off.**
- **Observe the point 2 "Safety"**
- **Reinstall possibly disassembled protective installations and check these according to the check list 2.1**

6.1 Faults, which can be corrected by oneself:

Operating panel		
Fault/Signal:	**Possible cause:**	**Remedy:**
Operating panel cannot be switched on	Plug-in connections are not connected	Connect
	Power supply not connected	Connect
	Fuse at the control panel defect	Replace 20 A-fuse
	Fuse at the battery cable defect	Replace 15 A-fuse
	Cable damaged (e.g. rubbing location)	Renew
	Control panel defect	Return to manufacturer
When in use, the spreader can be operated with the emergency programme (hydraulic valves).		
No speed indication at the control panel	Driving pulse cable damaged	Renew
	Cable not connected to C3-signal	Connect to plan
	Hall transmitter (if existing) not or wrongly	Check, possibly renew
	Triplex (if exists) defect	Replace
When in use, operate the automatic spreader with the „stationary spreading" function (30 km/h)!		

Spreading disk (Signal in display:"Check disk")		
Fault/Signal:	**Possible cause:**	**Remedy:**
Spreading disk does not rotate at all	Spreading disk has been lifted up	Fold down
	LED of the electronic disk stop does not light up	Check setting position or replace sensor
	No hydraulic pressure	Check hydraulic system
	Overpressure cartridge triggered (Blocked spreading disk)	Remove fault Free disk
	Hydraulic valve defect	Replace
	Magnet of hydraulic valve without power	Check or replace
Spreading disk always runs with the same speed	Pressure balance in hydraulic valve blocked	Clean valve
	Disk sensor for feedback signal defect	Replace sensor
When in use, the spreader can be operated with the emergency programme (hydraulic valves). If the magnet is without power it can be continued via the manual emergency operation!		

Auger (Signal in the display:"Check auger)		
Fault/Signal:	**Possible cause:**	**Remedy:**
Augers do not run	No hydraulic pressure	Check hydraulic system
	Magnet of hydraulic valve without power	Check electric power
	Hydraulic valve defect	Replace valve
	Overpressure cartridge has triggered – Blocked auger	Check pressure Remove foreign body
	Blocked discharge chute	Clean chute
	No drive pulse on the control panel	Check drive pulse connection – Switch on standing spreading
Augers run always at the same speed	Pressure balance in the hydraulic valve jammed	Clean valve
	Auger sensor defect	Replace Auger sensor
Auger can not be stopped	Manual emergency operation at the hydraulic valves open	Close manual emergency (valves)
	Button "Standing spreading" or button "Draining" switched on at the control panel	Switch off function at control panel
	Pressure balance in hydraulic valve jammed	Clean hydraulic valve
When in use, the spreader can be operated with the emergency programme (hydraulic valves).		
Indication "Level" in display	Respective LED flashes simultaneously of the buttons "Salt" or "Wet salt" – this means, the spreading material in this area gets empty	Reload
Indication level "Salt" does not go out	Measuring probe in the spreading container defect or must be readjusted. Measuring sensor covered up	Replace (see point no. 7.2.1.) Clean ceramic head

Hydraulic system		
Fault/Signal:	**Possible cause:**	**Remedy:**
Overpressure cartridge in control block triggers	Auger blocked by stones, frozen material parts, etc.	Remove foreign body
	Chain in drive gear unit torn	Replace chain
	Bearing of the auger defect	Replace bearing
	Spreading disk blocked	Remove blockage
	Brine pump blocked	Remove blocking

Electronic spreading control (Infrared - ESK)		
Fault/Signal:	**Possible cause:**	**Remedy:**
The electronic spreading control (ESK) signals "No spreading"	Dirty lens	Clean the lens
	Sensor distance does not match	Calibrate the sensor distance
	LED does not light up	Replace sensor

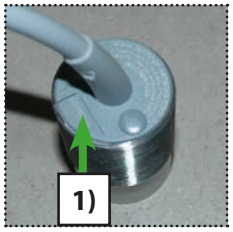
6.2 Graphic display of components

6.2.1 Measuring probe

The measuring probe is located on the back of the spreader to the left of the spreading part.
In the double chamber version (special equipment) 2 measuring probes are installed (grit and salt area).
If the spreader is empty, the measuring probe reports this to the control panel in the driver's cab.
The message „FILL LEVEL" appears in the display of the control panel.

The measuring probe is set ready for operation at the factory. However, due to different or changing litter materials, it can happen that the probe has to be readjusted because it does not reports or reports although the spreader is fully loaded.

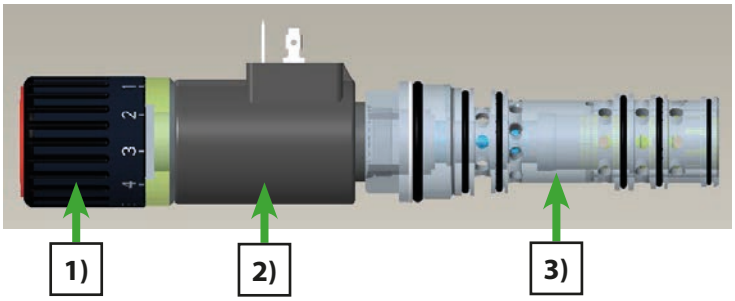
To adjust the measuring probe, first open the cover (1) of the adjustment screw, then use a small screwdriver to adjust the sensitivity on the adjustment screw.



Turned clockwise to the right, the sensitivity is increased, to the left turning it will reduce the sensitivity.

The green light emitting diode on the sensor must light up when empty and go out when filled.

6.2.2 Hydraulic valve with pressure balance



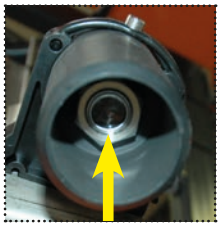
1) Emergency manual operation
2) Magnet
3) Male cartridge

Taking apart the hydraulic valve requires extreme care, so that no small components like pins, O-rings, etc. get lost or damaged. Pay attention to extreme cleanness!

Take apart only in cold and de-pressurised state.
Observe warning information Chapter "Hydraulic system"!

6.2.3 Electonic spreading control (Infrared - ESK)

Infrared - ESK



Sensor

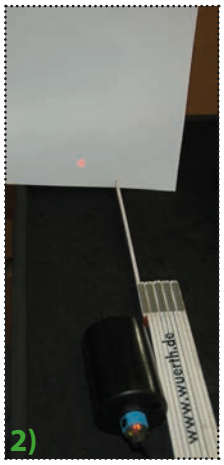
The sensor should be cleaned with a damp cloth before each use.

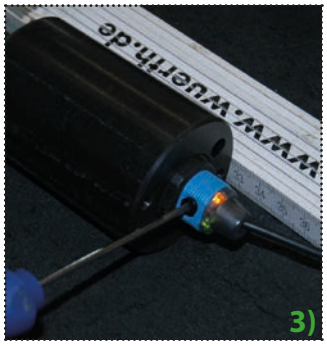
Setting the measuring field of the infrared spreading control:

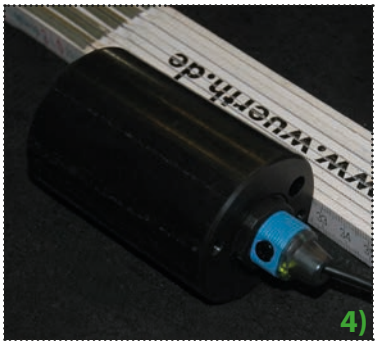
The setting must be made with the hydraulics switched off!

Type A:

1. Switch on the EcoSat or EcoTron control.
2. Place a white sheet of paper about 25 cm away from the spreading control.
3. The distance is set with a screw.
4. Turn the screw so that the orange LED just lights up. As soon as the orange LED goes out, the ESK is switched off.
5. Remove the sheet from the spread control.



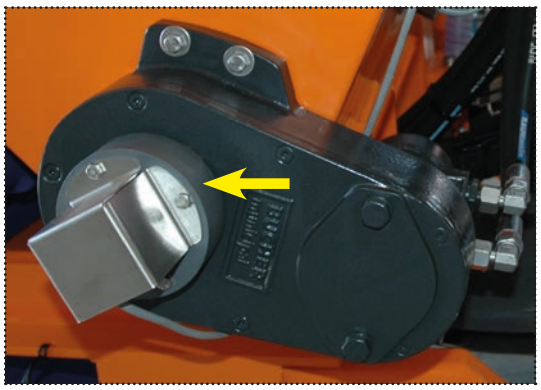




Type B:

1. Switch on the EcoSat or EcoTron control.
2. With the rotary potentiometer on the infrared sensor, the switching distance is set in such a way that the material can be detected up to approx.

6.2.4 Auger monitoring

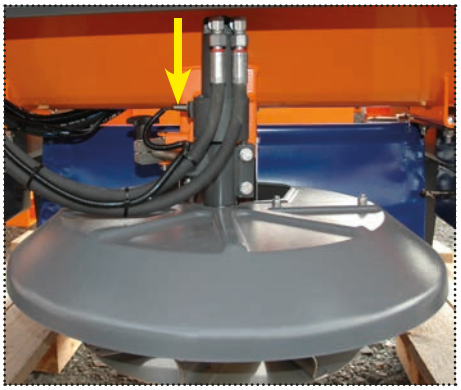


For spreaders completely position-dependent (Control panel EcoSat), the speed of the hydraulic motor shaft at the chain gear unit is monitored with a auger monitoring and reported to the control panel in the driver's cabin.

The control panel balances these actual data with the nominal data and corrects these, to guarantee a very accurate spreading quantity. This auger monitoring isabsolutely maintenance-free.

Do not clean electrical components at the spreader with high water pressure!
Do not use steam cleaners!

6.2.5 Disk sensor



For spreaders completely position-dependent (control panel EcoSat), the shaft speed of the spreading part is picked up by a disk sensor and reported to the control panel in the driver's cabin.

The control panel balances these actual data with the nominal data and corrects these to guarantee a very exact spreading width.

The diode of the disk sensor must flash 6 times per disk turn.

Do not clean electrical components at the spreader with high water pressure!
Do not use steam cleaners!

7. Technical Data - Series TAXON

Spreading width:	2 - 8 metres (in 0.5 metres steps)
Spreading quantity dry material:	Grit: 10,0 g/m² - 250 g/m² Salt: 5,0 g/m² - 40 g/m²
Drive:	Fully hydraulic drive of the auger and the spreading disk via the vehicle hydraulic system
Oil consumption:	60 l/min must not be exceeded!
Pressure protection:	190 bars
Control unit:	Positon-dependent digital control unit EcoTron
Noise information:	The sound pressure level at the driver's work space, measured in dB (A), depends on the model and type of the carrier vehicle The noise of the spreader does not increase the location-related noise judging level at the work place of the driver
Vibration information:	Limit values: 2.5 m/s2 for the upper links 0.5 m/s2 for the lower links The effective values are below the limit values

Technical Data

TAXON		25.1
Dry material volume:	m^3	1,5
Wet salt volume (FS):	l	---
Container depth:	mm	807
Total width:	mm	2.000
Gravity centre without FS: *	mm	748
Gravity centre with FS: *	mm	---
Side wall height:	mm	1.130
Empty weight without FS:	kg	463
Empty weight with FS:	kg	---
Empty weight double chamber:	kg	503
Empty weight double chamber wet salt:	kg	---
Spreading quantity salt:	g/m^2	5 - 40
Spreading quantity grit:	g/m^2	10 - 250
Spreading quantity brine:	%	---
Spreading widths:	m	2 - 8

8. Important information

This machine complies with the safety requirements of the European machine guideline.

CE

The manufacturer refuses any responsibility, if the spreader is not used according to the instructions given in the operating instruction!

The user must observe exactly the general safety regulations as well as the regulations of the Health and Safety Executive!

Our recommendations and safety instructions make no claim to completeness!

EG-Conformity declaration
according to the machine directive 2006/42/EG

Manufacturer:

Bucher Municipal Wernberg GmbH
Daimlerstraße 18
D - 92533 Wernberg-Köblitz
Documentation responsible person: C. Tretter

Description of the machine (replaceable facility):

Single chamber spreader or double chamber spreader (For design DK!) for winter service

Type:

These are the spreaders of the **series TAXON 25.1.**

Applied harmonised standards:

EN 12100, Safety of machines, basic terms, general design guidelines
Part 1: Basic terminology, methodology

EN 13021, Safety of machines, basic terms, general design guidelines
Part 2: Technical guiding principles and specifications

Declaration:

The start-up of the spreader is prohibited until it has been established that the carrier vehicle on which the spreader is to be mounted meets the regulations of all relevant applicable EG-guidelines!

Wernberg-Köblitz, the 01.09.2019
Place and date of the issue


_____ (Victoria Rasoulkhani)
Name and signature

Terms/conditions of warranty

RAUCH units are manufactured with modern production methods and with the greatest care and are subject to numerous inspections.

Therefore RAUCH offers a 12-month warranty subject to the following conditions:

- The warranty begins on the date of purchase.
- The warranty covers material and manufacturing faults. Our liability for third-party products (hydraulic system, electronics) is limited to the warranty of the manufacturer of the equipment. During the warranty period, manufacturing and material faults are corrected free of charge by replacement or repair of the affected parts. Other rights extending beyond the above, such as claims for conversion, reduction or replacement for damages that did not occur in the object of supply are explicitly excluded. Warranty services are provided by authorised workshops, by RAUCH factory representatives or the factory.
- The following are excluded from coverage by the warranty: natural wear, dirt, corrosion and all faults caused by improper handing and external causes. The warranty is rendered void if the owner carries out repairs or modifications to the original state of the supplied product. Warranty claims are rendered void if RAUCH original spare parts were not used. Therefore, the directions in the operating manual must be observed. In all cases of doubt contact our sales representatives or the factory directly. Warranty claims must be submitted to the factory by 30 days at the latest after occurrence of the problem. The date of purchase and the serial number must be indicated. If repairs under the warranty are required, they must be carried out by the authorised workshop only after consultation with RAUCH or the company's appointed representatives. The warranty period is not extended by work carried out under warranty. Shipping faults are not factory faults and therefore are not part of the warranty obligation of the manufacturer.
- No claims for compensation for damages that are not part of RAUCH machines themselves will be accepted. This also means that no liability will be accepted for damage resulting from spreading errors. Unauthorised modifications of RAUCH machines may result in consequential damage, for which the manufacturer will not accept any liability. The manufacturer's liability exclusion will not apply in case of wilful intent or gross negligence by the owner or a senior employee, and in cases where – according to the product liability law – there is liability for personal injury or material damage to privately used objects in the event of defects in the supplied product. It will also not apply in the event that assured properties are absent, if the purpose of the assured properties was to protect the purchaser against damage that does not involve the supplied product itself.

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http://www.rauch-community.de/streutabelle/

RAUCH

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