



User Manual



**Rear-mounted spreader attachment
Combination rear-mounted spreader attachment**

CityTrac / CityMaster



Zertifikat

Certificate



Zertifikat Nr. Certificate No.
S 60033372

Blatt Page
0001

Ihr Zeichen Client Reference	Unser Zeichen Our Reference	Längstens gültig bis Latest expiration date (day/mo/yr)
	0001-- 21148596 001	23.08.2015

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 Kommunaltechnik Instandsetzung
 Fertigung GmbH
 Wölmsdorfer Weg 3
 14913 Niedergörsdorf
 Deutschland

Fertigungsstätte Manufacturing Plant
 Kommunaltechnik Instandsetzung
 Fertigung GmbH
 Wölmsdorfer Weg 3
 14913 Niedergörsdorf
 Deutschland

Prüfzeichen Test Mark



Gepprüft nach Tested acc. to
 EN 13021:2003+A1
 EN 982:1996+A1
 ZEK 01.2-08/12.08

Zertifiziertes Produkt (Geräteidentifikation)	Lib
Certified Product (Product Identification)	Lit

Streugerät Anbaustreuer für den Winterdienst

Bezeichnung:

Hockanbaustreuer
 Kombi-Hockanbaustreuer
 Teller-Hockanbaustreuer

Anschluss: Bordhydraulik zul. Höchstdruck 160 bar

Ersetzt bisheriges Zertifikat Nr.: S 60016831 Blatt 0001

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This certificate is based on our Testing and Certification Regulation.
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M. Nad

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EC Declaration of Conformity

Within the meaning of the Machinery Directive (2006/42/EC), Annex II C

We, the manufacturer **KOMMUNALTECHNIK
INSTANDSETZUNG
FERTIGUNGS – GmbH**

Of Wölmsdorfer Weg 3,
14913 Niedergörsdorf / Germany,

hereby declare on our own responsibility that the machine mentioned here below, viz.

Rear-mounted spreader attachment

Ser. no.:

Year of manufacture:

Combination

rear-mounted spreader attachment

Ser. no.:

Year of manufacture:

Disk-type rear-mounted spreader attachment

Ser. no.:

Year of manufacture:.....

is in compliance with the provisions of the Machinery Directive and derived national legislation respectively.

The machine conforms to the following harmonized codes or standards:

DIN EN ISO 14121-1	as of December, 2007
DIN EN ISO 11200	as of January, 2010
DIN EN ISO 12100-1/A1	as of October, 2009
DIN EN ISO 12100-2/A1	as of October, 2009
DIN EN 614-1	as of June, 2009
DIN EN 982	as of June, 2009
DIN EN 349	as of September, 2008
DIN EN 13021	as of April, 2009, and
DIN EN ISO 13857	as of June, 2008.

Niedergörsdorf, den


.....
Geschäftsführer



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of Wölmsdorfer Weg 3; 14913 Niedergörsdorf / Germany*

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It contains specifications, notices or information that may not be:

- reproduced or duplicated,
- disseminated, or
- disclosed otherwise.

Violations may be prosecuted.

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1. General

1.1 Status and importance of this user manual

According to safety requirements, the rear-mounted spreader attachment may exclusively be operated by duly trained persons only. Before you proceed to operating the rear-mounted spreader attachment, you are required to read and understand this user manual.

1.2 Intended use

The rear-mounted spreader attachment may exclusively be operated in line with its intended use only. Intended use includes the following operations:

→ exclusively to spread and distribute

sand, road sand, pure road salt, or a mixture of these materials.

Intended use also refers to and requires compliance with the conditions for installation, operation, start-up, inspection, maintenance or servicing as specified by the manufacturer. The requirements, threshold values as well as any safety instructions or notices specified in this user manual must absolutely be followed and complied with. Any use beyond the one outlined above will be deemed to be inappropriate and improper use.

Whenever special modes of operation or working conditions should be required, it will be necessary to consult with and obtain the written consent from the manufacturer.

Any local regulations issued by the municipality or municipal administration respectively regarding the gritting or salting of roads must be duly observed and followed.

1.3 Improper use

The following uses are not intended and are thus to be considered as inappropriate and improper use and are thus not permissible:



- **to spread or distribute any bulk materials with a grain size larger than 8 mm,**
- **to spread or distribute fertilizers or similar, and**
- **to spread or distribute any materials other than those mentioned in the Intended use section.**





1.4 Warranty

As a general rule, our General Terms and Conditions (GTC) will prevail in principle.

The manufacturer will guarantee failure-free operation subject to compliance with the specifications of this user manual and to the rear-mounted spreader attachment being used as intended only. The manufacturer will not assume liability for any damage caused by inappropriate or improper use of the rear-mounted spreader attachment, by non-compliance with the specifications or the dos and don'ts specified herein. Warranty claims towards the manufacturer will be excluded if this equipment is altered in its design or in terms of its functions without obtaining the prior written authorization from the manufacturer.



1.5 Explanation of symbols used herein

Safety instructions or notices (risk of personal injuries or damage to persons)			
Symbol	Signal word	Meaning	Possible damage
	Warning	Risk of imminent danger	Most severe injuries
	Caution!	Potentially hazardous situation	Minor injuries or damage
	Caution!	Potentially hazardous situation	Damage to the equipment or its environment
	Important:	Useful tips for optimal operation	Non-observance may result in malfunctions of the equipment.



1.6.0 Description of the spreader attachment

This spreader attachment has been designed to effectively spread and distribute road grit or salt in a simple operation. It has been designed as an attachment to be mounted on the platform of the carrier vehicle. This cost-effective spreader attachment can operate as a roller-feed distributor or a disk-feed distributor, or a combination of both respectively.

This spreader attachment is composed of a spreader body that accommodates the spreading systems such as the agitator shaft or the discharge shaft. The agitator shaft is designed to prevent the gritting material from piling up or bridging. In its standard version, the spreading unit is driven hydraulically, but an electric drive is available upon customer request (for the rear-mounted spreader attachment only). Power transmission from the hydraulic motor onto the discharge shaft or the agitator shaft respectively occurs via a chain drive arranged on the right hand side.

Standard agitator shaft for gritting material of a grain size of 2 to 4 mm.



The gritting material should always be dry and free-flowing; the ideal grain size is 2 to 4 mm.

A removable chain guard is provided to prevent the machine operator from reaching into the chain or the chain sprockets respectively.

A red-and-white warning marking and a label saying WINTERDIENST (SNOW AND ICE CONTROL) as required by the German road traffic registration ordinance (StVZO) is attached to the spreader on the left and right hand sides, and clearly visible for the traffic behind.

1.6.1 Rear-mounted spreader attachment

The rear-mounted spreader attachment is designed as a mere roller-feed distributor with a spreading pattern across the width of the vehicle. Lateral catapulting of the gritting material is thus excluded such that there will be no damage to other passing vehicles or vehicles parked by the roadside.

This equipment is composed of the following major components:

- salt or grit bin,
- discharge shaft for gritting material, and
- agitator shaft for gritting material.

The discharge shaft is designed to spread and distribute the material held in the bin. Metering of the material is facilitated through a dispensing lever that will change the contact pressure of the sealing rubber in relation to the discharge shaft via adjustment by wedge. The flow rate of the gritting material will be adjusted via the motor speed.



The dispensing lever is designed such that jamming or razor edges have been avoided.

Proceed as follows to adjust the dispensing lever:

for fine gritting material: press on strongly, and

for coarse gritting material: press on slightly only.



Gritting material flow rate control via motor speed:
high speed: high flow rate, much material, and
low speed: low flow rate, little material.

1.6.3 Combination rear-mounted spreader attachment

The combination rear-mounted spreader attachment is designed for a combination of both methods of application.

It can be used as a roller-feed distributor or a disk-feed distributor.

The equipment is composed of the following major components:

- salt or grit bin,
- discharge shaft for gritting material, arranged for concentric handling,
- discharge shaft for roller-feed distributor,
- agitator shaft for gritting material, and
- disk-feed distributor unit.

The contact pressure of the sealing rubber onto the discharge shaft and thus the application flow rate can be adjusted by means of two adjusting screws.

The discharge shaft is designed to spread and distribute the material held in the bin.

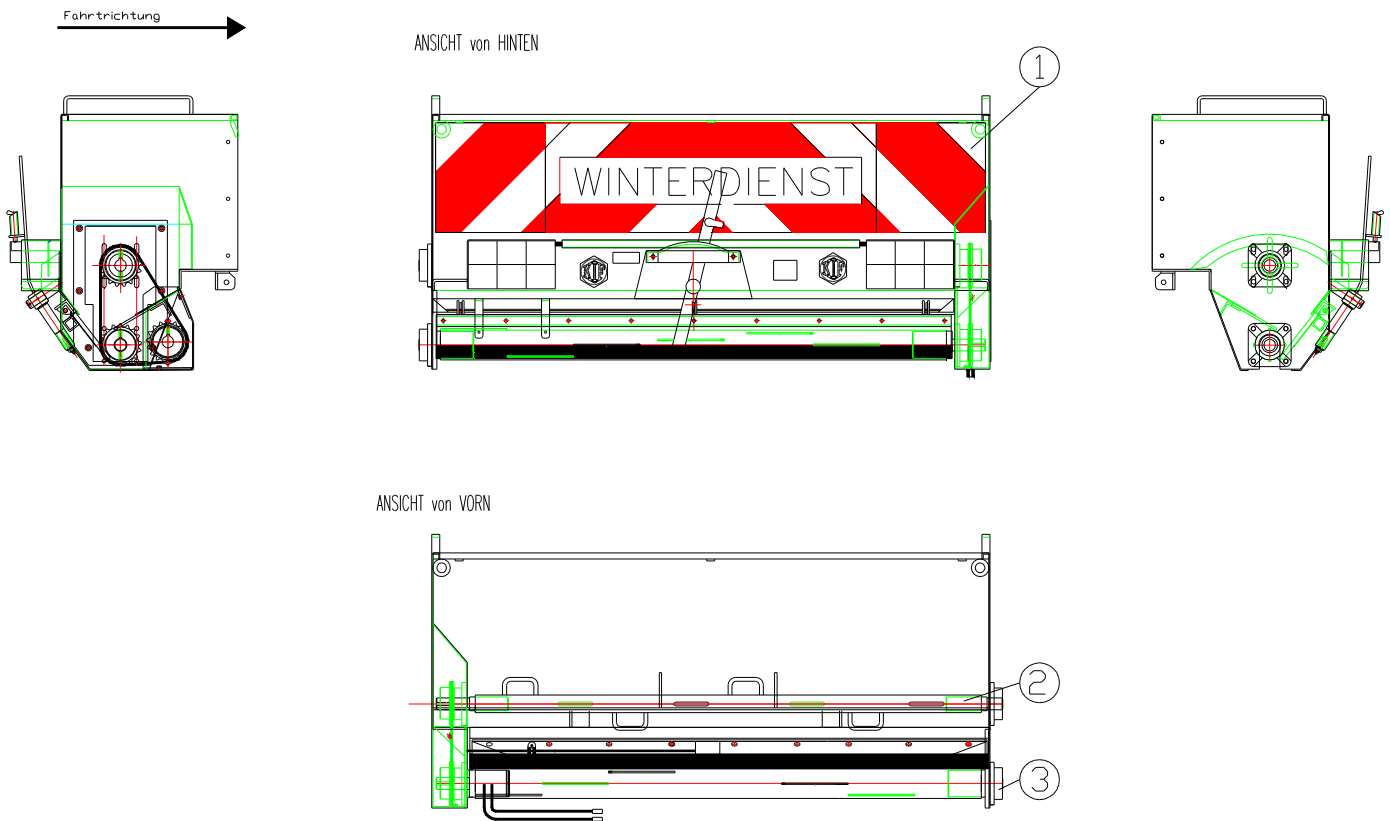
Proceed as follows to adjust the adjusting screws:
for fine gritting material: apply much pressure, and
for coarse gritting material: apply little pressure only.



Gritting material flow rate control via motor speed:
high speed: high flow rate, much material, and
low speed: low flow rate, little material.



1.6.4 Schematic diagram of rear-mounted spreader attachment



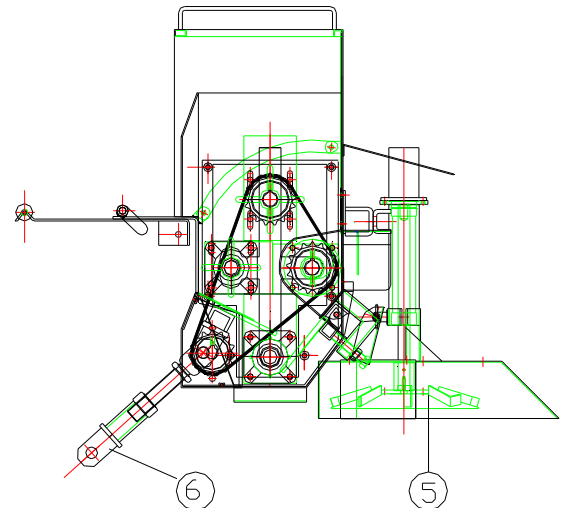
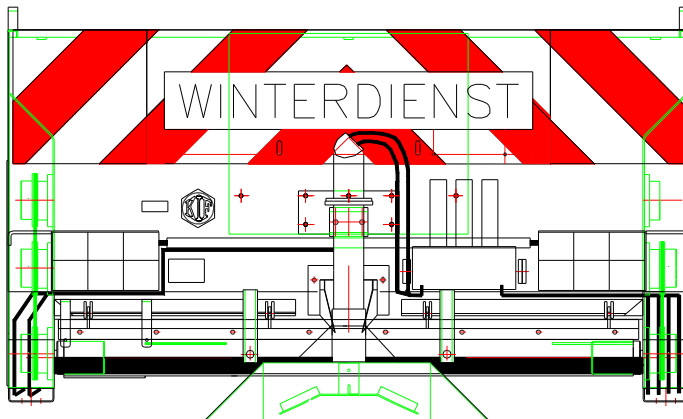
- direction of travel
- rear view
- front view

1. spreader body
2. agitator shaft
3. discharge shaft

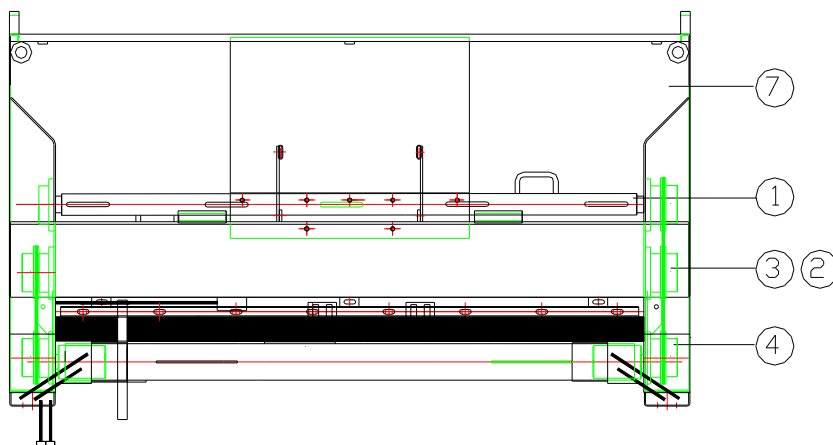


1.6.6 Schematic diagram of combination rear-mounted spreader attachment

Ansicht von hinten



Ansicht von vorn



Disk-feed spreader

- ① agitator shaft
- ② discharge shaft
for concentric handling

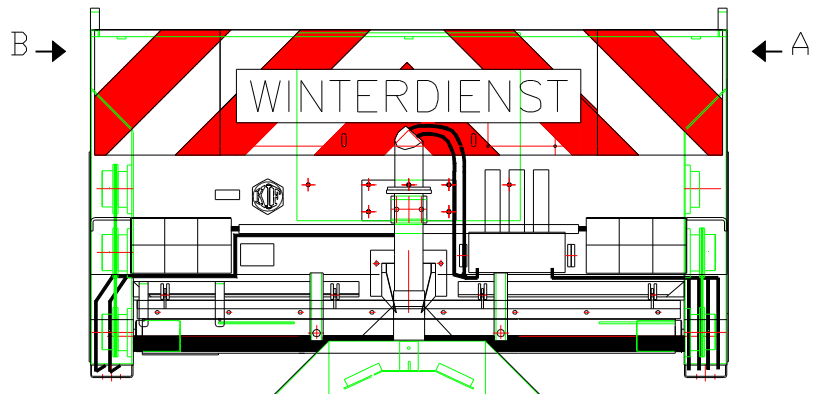
Roller-feed spreader

- ③ agitator shaft
- ④ discharge shaft
- ⑤ disk-feed spreader unit
- ⑥ threaded portion
- ⑦ spreader body

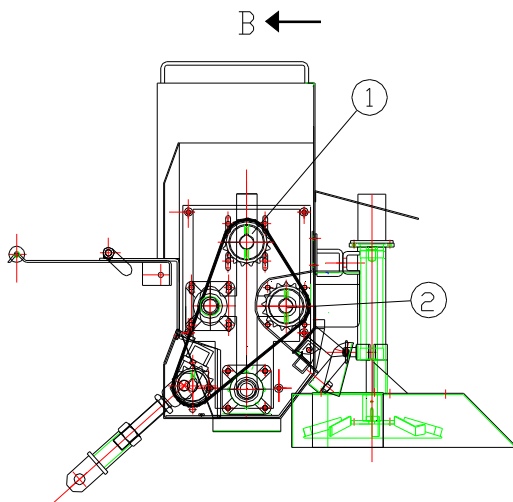


Chain drive for combination rear-mounted spreader attachment:

Ansicht von hinten



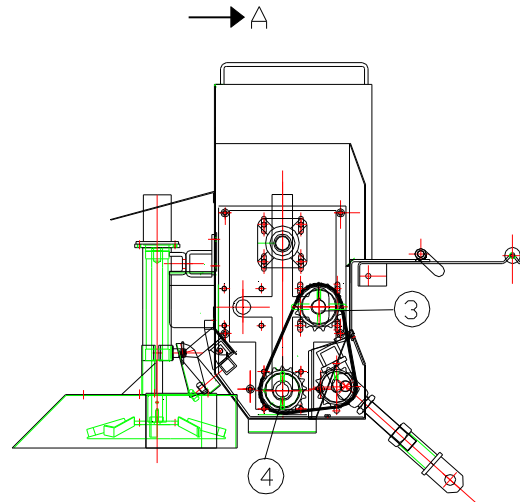
Kettengetriebe-Tellerstreuer



direction of travel

- ① agitator shaft
- ② discharge shaft
for concentric handling

Kettengetriebe-Walzenstreuer



direction of travel

- ③ agitator shaft
- ④ discharge shaft



1.7 Technical specifications

1.7.1 Rear-mounted spreader attachment

Nameplate:

 14913 Niedergörsdorf / Germany • Phone: +49 (0)3 37 41 – 8051 0	KOMMUNALTECHNIK INSTANDSETZUNG FERTIGUNGS-GMBH
	 
Type	
Dimension	
Serial no.	
Year of manufacture	
Weight	

- Drive:** hydraulic or electric
- Allowable ambient temperature:** -20°C to +20°C
- Max. gritting material grain size:** 2 to 4 mm
- Spreading width:** approx. 1.40 meter
- Amount of oil:** 3 to 10 liters
- Load-carrying capacity:** note the min. authorized payload of the carrier vehicle
- Minimum configuration of the carrier vehicle:** vehicle hydraulics / tail-end hydraulics, tipping cylinder module, three-way tipping body, priority vehicle warning light (beacon), and trailer plug socket, seven-pole (13-pole also feasible)
- Required oil pressure / oil flow rate:**
- Hydraulic system:** 160 bar / 10 liters/min.
- Design variants:** rear-mounted spreader / HS hydraulic drive, or rear-mounted spreader / HS-E electric drive

	Spreader body for platform gates 400 mm	
Width	mm	1,030
Depth	mm	450
Height	mm	750
Carrying capacity	liters	230
Weight, approx.	kg	125

Accessory equipment for the platform, available upon request: bulkhead sliding plate, metering sliding plate, tarpaulin bows and tarpaulin.



1.7.3 Combination rear-mounted spreader attachment

Nameplate:

	KOMMUNALTECHNIK INSTANDSETZUNG FERTIGUNGS-GMBH
	14913 Niedergörsdorf / Germany Phone: +49 (0) 03 37 41 - 8 51 0
Type	  
Dimension	
Serial no.	
Year of manufacture	
Weight	

- Drive:** hydraulic drive
- Allowable ambient temperature:** -20°C to +20°C
- Max. gritting material grain size:** 2 to 4 mm
- Spreading width:**
 - roller-feed distributor approx. 1.25 m, and
 - disk-feed distributor approx. 1.25 to 4.0 m
- Amount of oil:** 5 to 20 liters
- Load-carrying capacity:** note the min. authorized payload of the carrier vehicle
- Minimum configuration of the carrier vehicle:** vehicle hydraulics / tail-end hydraulics, tilting cylinder module, three-way tipping body, priority vehicle warning light (beacon), and trailer plug socket, seven-pole (13-pole also feasible)
- Required oil pressure / oil flow rate:**
- Hydraulic system:** 160 bar / 20 liters/min.
- Design variants:** combination rear-mounted spreader / KHS

	Spreader body for platform gates 400 mm	
Width	mm	1,030
Depth	mm	450
Height	mm	750
Carrying capacity	liters	220
Weight	kg	215

Accessory equipment for the platform, available upon request: bulkhead sliding plate, metering sliding plate, tarpaulin bows and tarpaulin.



2. Basic safety instructions or notices

2.1 Duty of the facility Operator

This spreader attachment may only be operated single-handedly:

- by persons who are able-bodied and of sound mind,
- by persons who can be expected to perform the work tasks they are entrusted with in a reliable manner,
- by persons who have been duly trained in terms of the operation and control of the spreader attachment or its component parts respectively, and
- by persons who have read and understood this user manual and who are in possession of a written work order regarding the operation of this equipment issued by the facility Operator.



Warnung

- This user manual shall be maintained on or near the spreader for future reference at all times.
- In addition to this user manual, applicable local rules or accident prevention regulations of the facility Operator, if any, should be made available, observed and followed.
- All safety instructions or hazard warnings on the spreader attachment must be maintained in a legible and clearly visible condition.

2.2 Hazards from the use of the spreader attachment

This spreader attachment has been designed and manufactured according to latest engineering standards and recognized rules of engineering.

However, dangers to life and limb of the machine operator or third parties or damage to the machine or other property may still entail when this machine is operated.

This spreader attachment may only be used:

- for its intended use, and
- if in good working order, and
- if the spreader attachment is well lighted.



Achtung

Whenever its operational safety or reliability is affected by defects or deficiencies on the spreader attachment, the equipment must be put out of operation with immediate effect, and may only be put back in once all safety hazards have been duly eliminated.



2.3 Hazards through hydraulic energy



Warnung

- This spreader attachment may only be used via appropriate hydraulic couplings approved for the respective operating pressure.
- Work on the hydraulic system of the spreader attachment or its component parts may only be performed by duly qualified personnel.
- To this end, the hydraulic system must be put out of operation, and protected against unauthorized operation.
- The system must be depressurized before commencing any work on the same.

2.4 Danger zones



Warnung

- Do not reach into the spreader attachment, or climb over the same or clamber through the same.
- Do not handle any objects inside the spreader body while the same is in an operating condition.
- Protective covers must not be removed while the equipment is in an operating condition.

2.5 Emissions

2.5.1 Noise

Noise will emanate from the power units of the single shafts of this spreader attachment. The continuous sound pressure level of the rear-mounted spreader attachment is 70 dB(A).

2.6 Information or notices regarding maintenance, servicing or repair



Achtung

- Prescribed maintenance, servicing or inspection activities must be performed within the prescribed time limits.
- For all maintenance, servicing, inspection or repair activities, the hydraulic system must be depressurized.
- Upon completion of the work, a trial run must be performed with all due care and attentiveness.

2.7 Physical alterations on the rear-mounted spreader attachment



Warnung

- Modifications, conversions or retrofits of or on this spreader attachment will be allowed subject to the permission granted by the manufacturer only.
- Conversions or retrofitting will require the written consent of

Kommunaltechnik, Instandsetzung, Fertigungs- GmbH.



- Component parts of the machine that are not in good working order, if any, must be replaced with immediate effect.



→ Exclusively OEM spares or wearing parts as specified in the technical documentation may be used only.

3. Installation and start-up



3.1 Spreader attachment installation



Achtung

This spreader attachment is mounted on the vehicle platform. A bulkhead sliding plate may be installed for equilibration between the spreader attachment and the platform, if required. Installation of a metering sliding plate will prevent excessive gritting material slides when the platform is tipped. The three-way tipper must not be tipped while the vehicle is moving.

Fore more detailed assembly instructions, refer to Section 10.

3.2 Hook-up to the onboard hydraulic system



The spreader attachment will be supplied with oil via a separately actuated circuit of the onboard hydraulic system (tail-end hydraulic system). If there is no tail-end hydraulic system on the carrier vehicle, the spreader attachment can still be hooked up in the same way using the hydraulic retrofit kit supplied by us.

Proceed as follows to connect the hydraulic lines:

- 1. connect hydraulic line T for return, and**
- 2. connect hydraulic line for delivery.**



Achtung

The marking and the order of hook-up must not be confused to avoid damage to the spreader attachment or malfunctions that may entail failing this.

3.3 Hook-up to the electrical system

The spreader attachment comes with 2 nos. tail lamp units that provide all the lighting functions such as tail lights, flasher signal, brake lights or fog light respectively.

For hook-up to the electrical installation, the lighting system of the spreader attachment will require a 7-pole or 13-pole connector respectively such that the backup lamps will also be operational.



3.5 Filling

The gritting material is fed backwards into the gritting material bin by tipping the three-way tipping body.



Achtung

For the first filling operation, the three-way tipping body should merely be slightly tipped only.

After several filling operations, the three-way tipping body can then be tipped steeper gradually and carefully.

The three-way tipper must not be tipped while the vehicle is moving.

3.5.1 Filling using the bulkhead or metering sliding plates

The gritting material is fed backwards into the gritting material bin by tipping the three-way tipping body. Upon completion of the filling operation, the tipping body will return to its home position.

A bulkhead sliding plate installed at a distance of 340 mm from the front bulkhead will cause the tipping body to return to its home position once the filling operation is completed (equilibration). The metering sliding plate is designed to divide the platform loading area in two sections thus preventing the whole bulk of gritting material from spilling into and over the grit distributor body.



Achtung

The space between the front platform gate and the bulkhead sliding plate must absolutely be filled with gritting material as there will be no equilibration failing this.

3.5.2 Tipping to the right (optional)

An adapter and elbow lever are provided such that the machine operator will be able to tip to the right from the platform loading area even though the spreader attachment is mounted. To this end, the bolt locking mechanism on the platform gate in the front and on the spreader attachment in the rear must be opened. In this case, the bulkhead sliding plate and the metering sliding plate and the spreader attachment are fixed in place such that they will not slip out of position. With the right-hand platform gate closed, the spreading operation can be continued (applicable to the rear-mounted spreader attachment only).

3.6 Start-up

Once installation has been completed, the spreader attachment can be started up. To this end, actuate the respective lever for the engine-dependent power take-off and the rocker switch (main switch for the hydraulic / electric systems). The agitator shaft and the discharge shaft will now rotate.

Visually inspect all hydraulic lines and hydraulic power units respectively, including for leakage or good working order. If there are any malfunctions, refer to the Section titled "Fault clearance".

Mind the correct direction of rotation, viz. opposite to the direction of travel! (See the respective schematic diagrams.)



Achtung

Do not reach into the running spreader shaft!



3.6.1 Spreading pattern - roller-feed distributor

The gritting material is evenly spread and distributed downwards across the full spreading width of the spreader attachment. The drivers on the spreader shaft thrust aside the rubber sealing such that some of the gritting material falls out.

3.6.2 Spreading flow rate - roller-feed distributor

The oil flow rate is adjusted using the gritting flow rate selector switch on the control panel in the vehicle.

(See the functional description for the control panel in Section 9.4.)

**The speed of the spreader shaft is controlled by the oil flow rate.
This will result in a higher or lower gritting material flow rate respectively.**

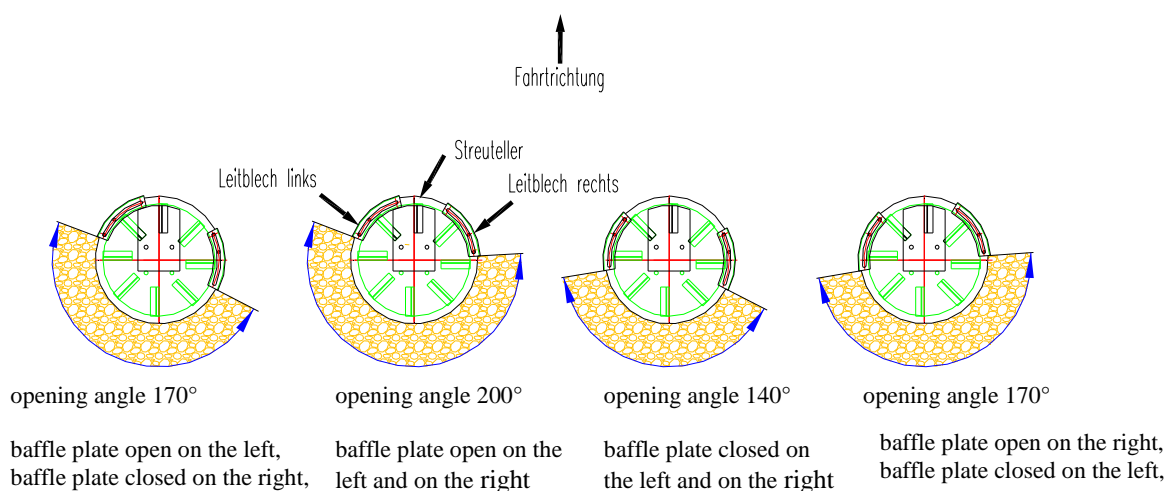
Note the throttling valve settings on the carrier vehicle.

3.6.3 Spreading pattern - disk-feed distributor

The desired spreading width is adjusted on the spreading width selector switch on the control panel in the vehicle. (See the functional description for the control panel in Section 9.4.)

- | | | |
|----------------|-------------------|---------------------------|
| → upon opening | → speed increases | → wider spread pattern |
| → upon closing | → speed decreases | → narrower spread pattern |

The spread pattern can be modified as follows through mechanical adjustment of the baffle plate:





3.6.4 Spreading flow rate - disk-feed distributor

The desired flow rate is adjusted on the spreading flow rate selector switch for the disk-feed distributor on the control panel in the vehicle. (See the functional description of the control panel in Section 9.4.)

- | | | |
|----------------|-------------------|--------------------------|
| → upon opening | → speed increases | → more gritting material |
| → upon closing | → speed decreases | → less gritting material |

The gritting material must be dry and free-flowing at all times.

3.6.5 Stroke-dependent flow rate control

This type of spreading flow rate control from the driver's cab facilitates continuous and steady application and distribution of the gritting material. Such metering will guarantee that the same amount of gritting material per square meter of road surface to be gritted will be applied and distributed as a function of the running speed of the carrier vehicle.

(See the functional description in Section 9.4.)

Installation or wiring diagrams will be made available to the maintenance workshop.

3.7 Emergency shutdown

In an emergency, the rocker switch (main switch for the hydraulic system) must be turned off.



Following an Emergency Stop actuation, the rear-mounted spreader attachment may only be started up again once the machine operator has made sure the cause of the Emergency Stop has been positively eliminated or corrected.

3.8 Decommissioning

Disassembly



Achtung

The spreader attachment may only be disassembled or removed with the gritting material bin having been emptied. For disassembly, proceed in the reverse order as that described for installation. Disconnect the hydraulic lines in the reverse order as that described for hook-up. (See 3.2.)

The mobile parking device, which is adjustable in height, facilitates easy disassembly of the spreader attachment.



Achtung

Absolutely make sure both guide pieces of the mounting bracket mesh with the lateral lugs on the rear-mounted spreader attachment, and that the snap pins are locked in place. The maximum load of the parking device is 200 kg.



4. Malfunctions

Should any malfunctions occur on the rear-mounted spreader attachment the latter must be put out of service without any undue delay. The fault clearance exercise must be conducted according to the manufacturer's specifications. For help in clearing any faults, refer to the Section titled "*Fault clearance*":

4.1 Fault clearance

Fault	Cause	Fault clearance
The machine does not start running.	- The control is not activated.	- Switch the switch for engine-dependent power take-off on. - Switch the rocker switch (main switch for hydraulic System) on.
	- The chain is ruptured.	- Replace and retension the chain; chain is not adequately tensioned, is slack.
	- A foreign body has jammed.	Remove the foreign body.
	- The switch for engine-dependent power take-off has been actuated. - The rocker switch (main switch for the hydraulic system) has been actuated.	Check both switches, and eliminate the cause of the Emergency Stop.
	- The machine is not started up.	Actuate the "ON" button (on the control panel).
The spread pattern is not uniform.	- There are foreign bodies in the gritting material bin.	Remove the foreign bodies.



Repairs or maintenance or servicing activities may be performed when the hydraulic system is deactivated and the ignition key has been removed only.



5. Maintenance and inspection of the spreader attachment



The rear-mounted spreader attachment must be cleaned from residues every day upon completion of the spreading operation. This should be done by hosing the equipment down with a light water jet.

Here, be sure to



Warnung

deactivate the machine before proceeding to such cleaning.

The rear-mounted spreader attachment should be inspected and specified inspection activities should be performed at regular intervals according to the inspection schedule provided by the manufacturer. In the event of normative deviations, the facility Operator should contact the manufacturer, and initiate repair, if required.

Inspection plan	
Daily inspection	Visually inspect the whole system for damage each time before starting work.
Monthly inspection	Visually inspect the whole system for damage. Apply some grease to all lubricating points. Check screw connections for interference fit.
At the end of the season	Visually inspect the whole system for damage or normative deviations. Apply some grease to all lubricating points and drive chains. Check screw connections for interference fit. Subject all bearing positions or points of support of the shafts to visual inspection or functional checks.

Use grease approved by the manufacturer for lubrication only (see Section 7 Approved materials or consumables).



6. Maintenance, servicing or repair

Should you require any information regarding maintenance, servicing or repair, please do not hesitate to contact our **Service Team** who will be happy to assist you. (For contact details please refer to page 3). We will also be happy to assist you in finding a close-by maintenance workshop.

6.1 Mechanical maintenance

The lubrication chart is attached hereto. (See pages 52 to 54.)

Defective components of the spreader attachment, if any, should be repaired or replaced by new components without any undue delay.

Use exclusively OEM parts to replace defective components only. No liability or warranty whatsoever will be assumed for any damage caused through the use of other than OEM spares or accessories.



Warnung

- **Mechanical repairs of the spreader attachment may exclusively be performed by duly qualified, trained and authorized technical personnel only.**
- **Stop the engine of the basic vehicle.**
- **Upon completion of the repair, properly replace all guards or safety devices.**

Special precautions must be taken whenever welding work must be performed on the spreader attachment as the components of spherical plain bearings might be damaged in the process.

Specifically, *co. Kommunaltechnik, Instandsetzung, Fertigungs- GmbH* should be consulted before proceeding to any welding work.

Locally applicable regulations governing maintenance or servicing activities or welding work respectively must be observed and complied with.

6.1.1 Adjusting the chain tension

The chain tension should be checked at regular intervals, and readjusted, if required. The chain sprockets must be inspected for damage or excessive wear. Check the chain for free movement. Should any chain link be jammed or buckled, that chain link should be removed unless it can be made to move again through lubrication. (See the Section titled Lubrication chart.)



6.2 Hydraulic maintenance

Defective hydraulic components of the spreader attachment, if any, should be repaired or replaced by new components without any undue delay.

Use exclusively OEM spares to replace defective components only. No liability or warranty whatsoever will be assumed for any damage caused through the use of other than OEM spares or accessories.



Warnung

- **Hydraulic repairs of the spreader attachment may exclusively be performed by duly qualified, trained and authorized technical personnel.**
- **Stop the engine of the basic vehicle.**
- **Prior to repairs, the hydraulic system must be depressurized.**

Locally applicable regulations governing hydraulic maintenance or servicing activities must be observed and complied with.



Warnung

Hydraulic oils are dangerous to the environment and must not be allowed to enter the soil. Spillages of hydraulic oil, if any, must be collected or absorbed or neutralized respectively using granulate material. If oil has entered the soil, the affected soil must be removed, filled into an oil-proof container, and disposed in an ecologically responsible way. Competent authorities (such as the fire brigade or police) must be advised accordingly, if appropriate.

7. Approved materials or consumables



Exclusively duly approved materials or consumables should be used on the rear-mounted spreader attachment only such as to guarantee optimal functioning of the equipment.

Should other than duly approved materials or consumables be used and should damage be caused to the equipment as a result of this, the manufacturer will not provide any warranty.

Approved hydraulic oils: hydraulic oil HPL-46

Approved lubricants: lubricant EP-Mehrzweckfett MZP 2 multi-purpose grease

Solvents: Anti-Stone calcification inhibitor; Auto-shamTWO

Do not use any inflammable, corrosive or toxic solvents. Use exclusively ecologically friendly solvents that are not harmful to health only. The choice of solvent will be determined by the object to be cleaned and the level of contamination.

8. Disposal of the spreader attachment

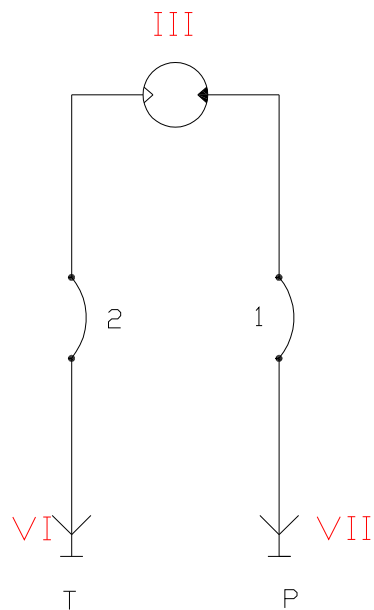
Upon reaching the end of its useful life, the equipment shall be disposed of in line with recognized engineering standards. A specialist firm shall be charged with this assignment, if appropriate.



9. Technical documents

9.1 Hydraulic circuit diagram

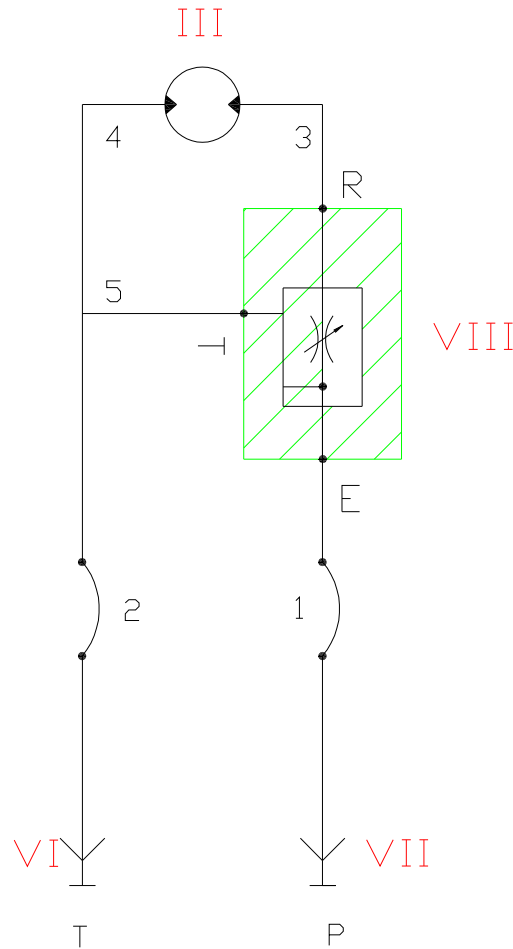
9.1.1 Rear-mounted spreader attachment



No.	Designation	Permissible pressure	Description
01	HP hose CM 05	350 bar	carrier vehicle - hydraulic motor
02	HP hose CM 06	350 bar	



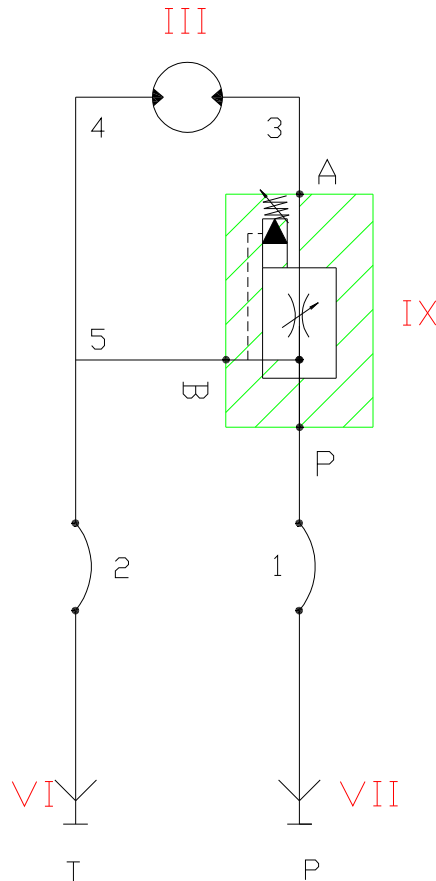
9.1.1.1 Rear-mounted spreader attachment with three-way flow control valve, manual control



No.	Designation	Permissible pressure	Description
01	HP hose CM 05	350 bar	carrier vehicle – T-piece flow control valve
02	HP hose CM 06	350 bar	
03	HP pipe 10 x 1.5 galvanized	350 bar	flow control valve – motor
04	HP pipe 10 x 1.5 galvanized	350 bar	
05	HP pipe 10 x 1.5 galvanized	350 bar	flow control valve – T-piece



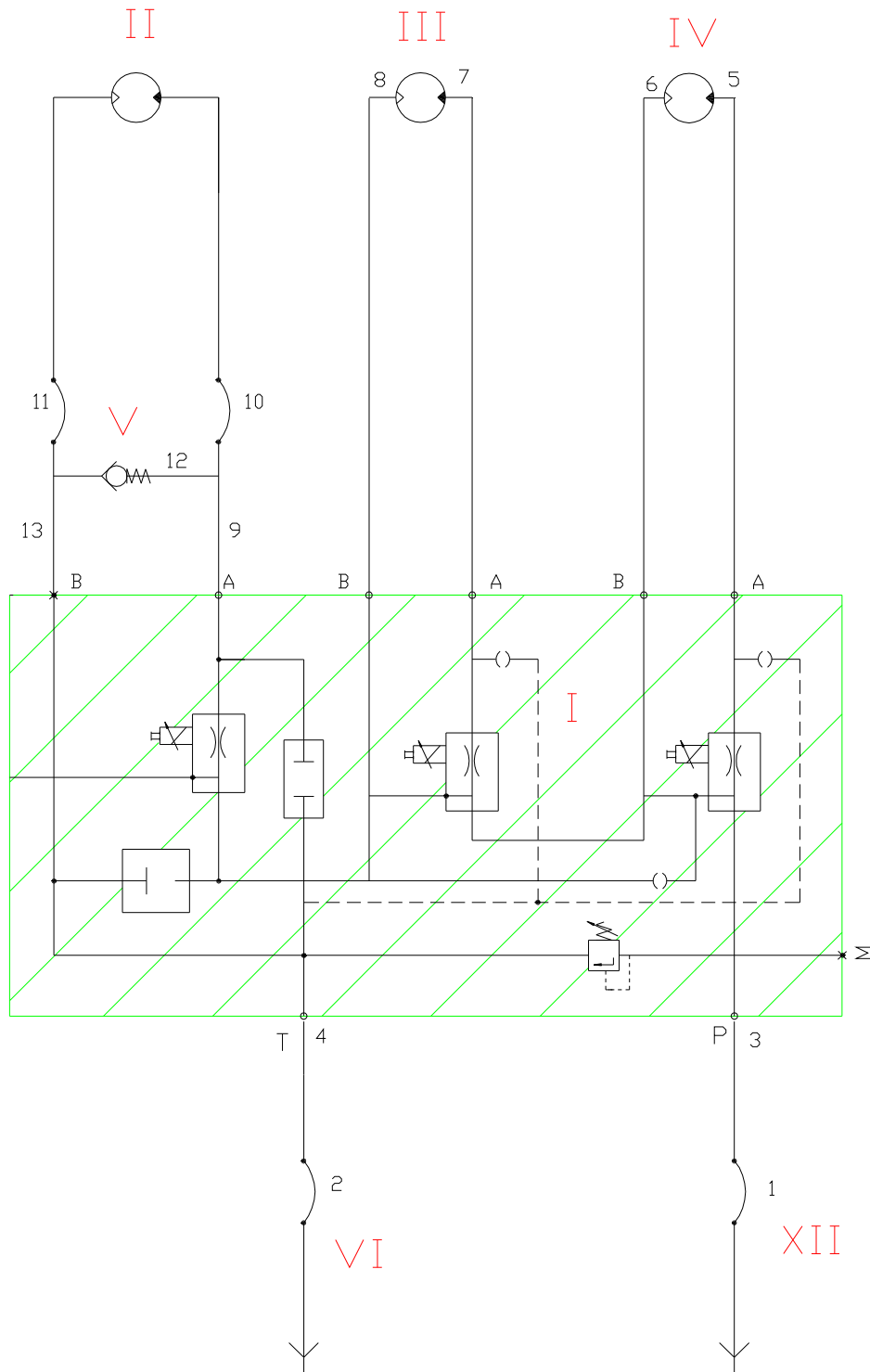
9.1.1.2 Rear-mounted spreader attachment with three-way flow control valve, stroke-dependent adjustment



No.	Designation	Permissible pressure	Description
01	HP hose CM 05	350 bar	carrier vehicle – T-piece flow control valve
02	HP hose CM 06	350 bar	
03	HP pipe 10 x 1.5 galvanized	350 bar	flow control valve – motor
04	HP pipe 10 x 1.5 galvanized	350 bar	
05	HP pipe 10 x 1.5 galvanized	350 bar	flow control valve – T-piece

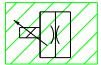
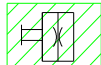
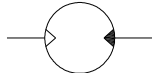

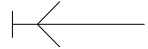
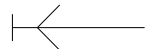


9.1.4 Combination rear-mounted spreader attachment with stroke-dependent flow rate control

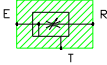





**9.2 Equipment list, rear-mounted spreader attachment, combination rear-mounted spreader attachment
Manual control / stroke-dependent flow rate control**

No.	Qty.	Designation	Description	Permissible pressure	Symbol	Comment
I	1	Control block	StB SRC double-acting	250 bar	 Stroke-dependent  Manual control	
	1	Control block	StB SRC triple-acting	250 bar		
	1	Control block	Triple-acting flow-rate controller	250 bar		
	1	Control block	Double-acting flow-rate controller	250 bar		
II	1	Motor, disk-type unit	OMM 12.5	225 bar		
III	1	Motor, chain drive	OMP 315	225 bar		
IV	1		OMP 315	225 bar		
V	1	Check valve	VRU 400	350 bar		
VI	1	Hydraulic coupling Pressure	Sleeve BG3/SKM08HL3 Connector BG3/SKS08HL3 Sleeve BG3/SKM13IR3FS Connector BG3/SKS13IR3FS	All 250 bar		
VII	1	Hydraulic coupling Tank	Sleeve BG3/SKM08HL3 Connector BG3/SKS08HL3 Sleeve BG3/SKM13IR3FS Connector BG3/SKS13IR3FS	All 250 bar		



VIII	1	3-way flow control valve Manual control	VRFC3-M-12-A	210 bar		
IX	1	3-way flow control valve Stroke-dependent	SRRBO25A3M	190 bar		
X	1	Digital controller	ELM150-20 2,3-acting control	N/A		In the vehicle
	1	Digital controller	ELM150-40 2,3-acting control	N/A		In the vehicle
	1	Digital controller	2,3-acting control	N/A		In the vehicle
	1	Digital controller	2,3-acting control	N/A		In the vehicle



9.3 Hydraulic hose list, manual adjustment / stroke-dependent adjustment

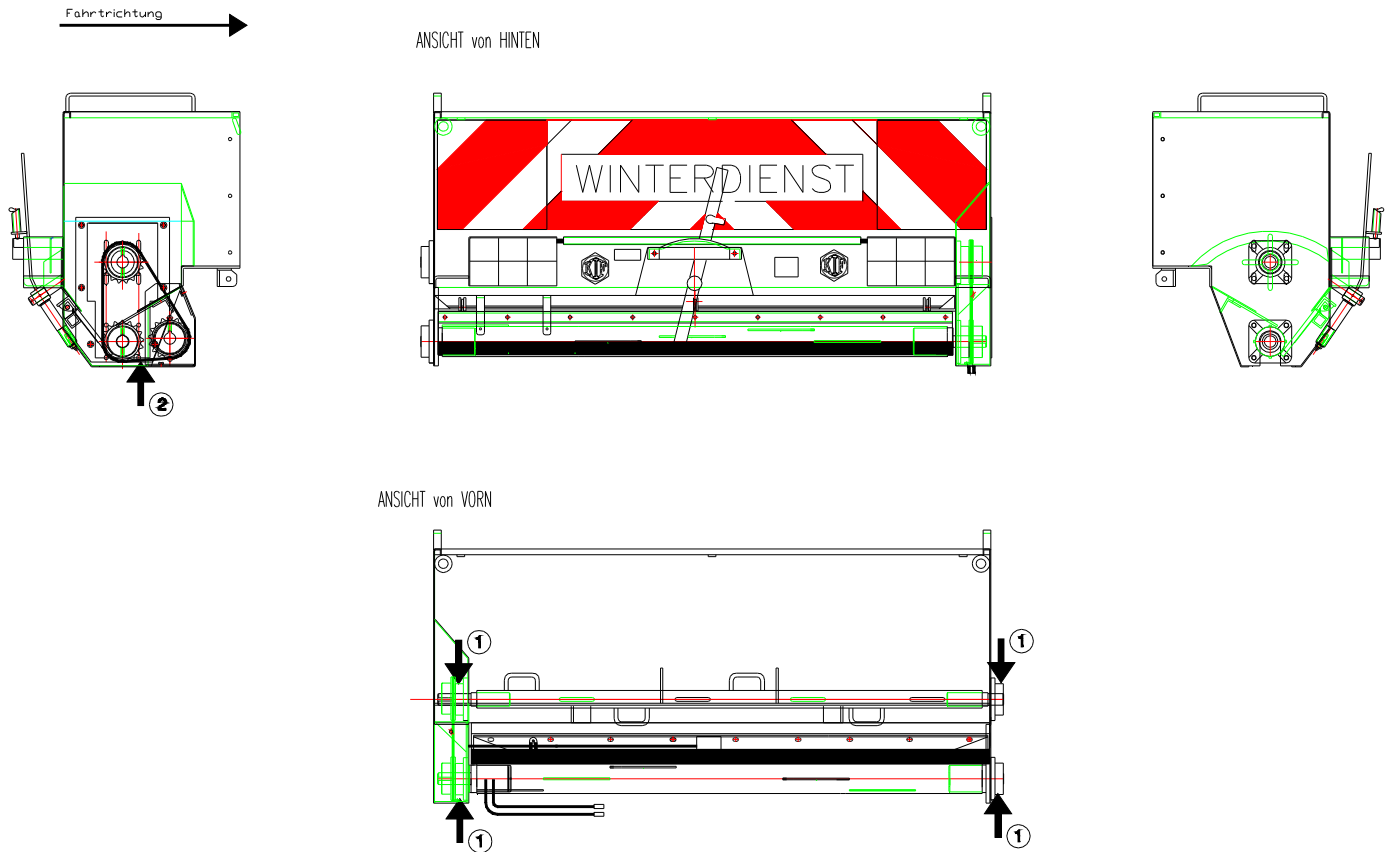
9.3.2 Combination rear-mounted spreader attachment

No.	Designation	Permissible pressure	Description
01	HD hose CM 05	350 bar	carrier vehicle - spreader attachment
02	HD hose CM 06	350 bar	
03	HP pipe 10 x 1.5 galvanized	350 bar	spreader attachment – control block
04	HP pipe 10 x 1.5 galvanized	350 bar	
05	HP pipe 10 x 1.5 galvanized	350 bar	motor – control block
06	HP pipe 10 x 1.5 galvanized	350 bar	
07	HP pipe 10 x 1.5 galvanized	350 bar	
08	HP pipe 10 x 1.5 galvanized	350 bar	
09	HP pipe 10 x 1.5 galvanized	350 bar	T-piece - control block
10	HD hose CM 05	350 bar	disk drive – T-piece control block
11	HD hose CM 05	350 bar	
12	HP pipe 10 x 1.5 galvanized	350 bar	T-piece – check valve
13	HP pipe 10 x 1.5 galvanized	350 bar	T-piece - control block



9.6 Lubrication chart

9.6.1 Rear-mounted spreader attachment

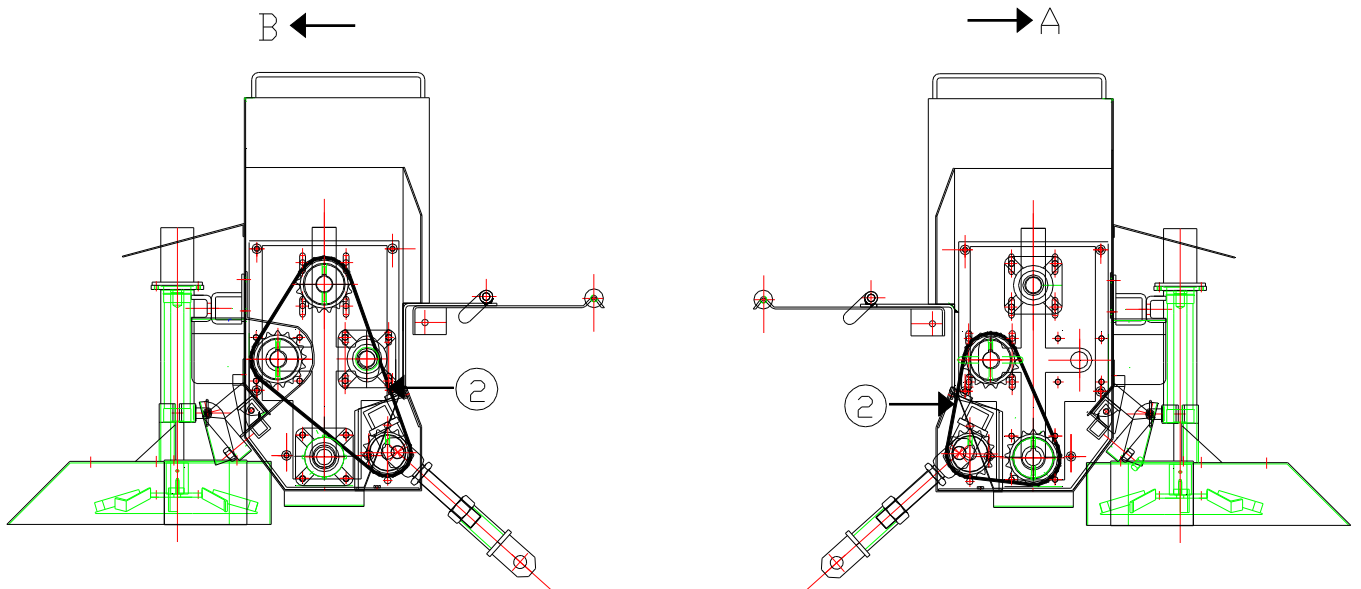
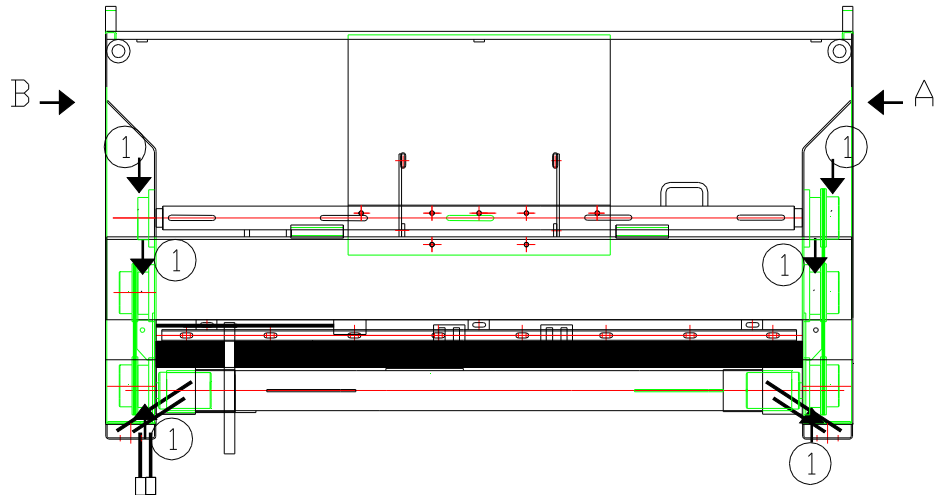


- 1 **lubricator bearing**
- 2 **chain**



9.6.3 Combination rear-mounted spreader attachment

Ansicht von vorn



- 1 lubricator bearing
- 2 chain



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