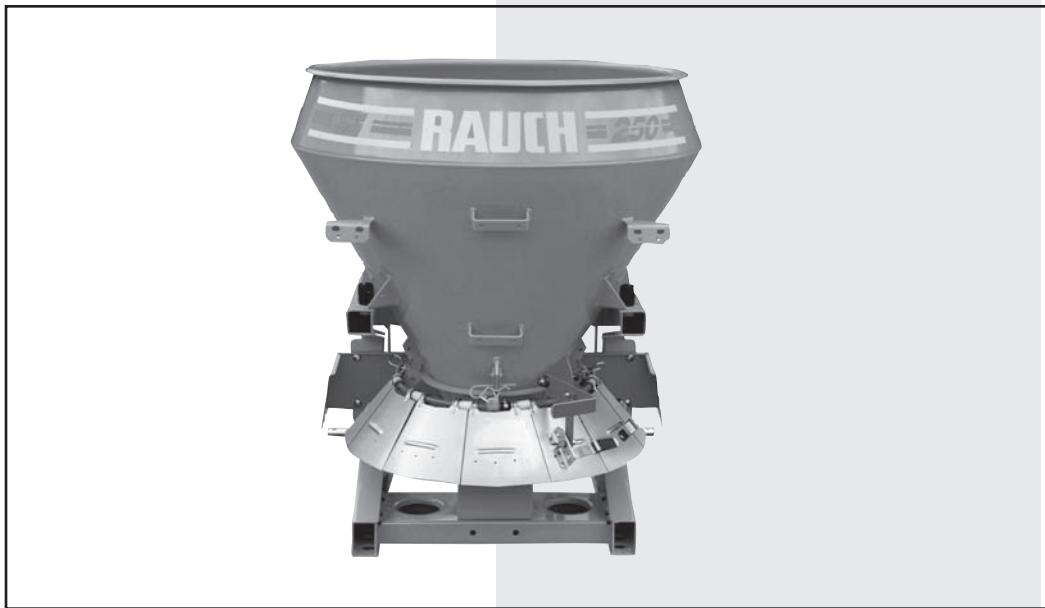




Operator Manual



**Please read carefully
before using the machine!**

Store carefully for future
use!

This Operator Manual should be considered as part of the machine. Suppliers of new and second-hand machines are obliged to indicate in writing that the Operator Manual has been delivered with the machine.

SA 250/360/601/WB 250

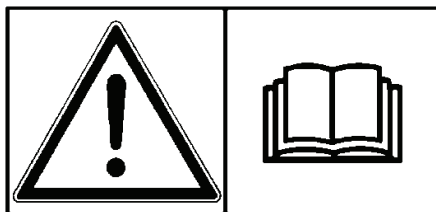
Translation of the original
operating manual

5900666-**C**-en-0606

Preface

Dear customer

We hope that the good properties of this spreader will repay the trust that you have shown in us by your purchase. We have done our best to supply you with a powerful and reliable precision spreader.



Please read this operator's manual carefully before operating the spreader and follow all instructions. The operator's manual explains in detail how to operate the spreader and contains valuable information on spreading work, care and maintenance.

You should be aware that damage caused by incorrect operation or improper use may not be covered by warranty claims.

Note: Please record the type of machine, the serial number and the year of manufacture of your spreader here. You can find this information on the identification plate or on the frame. Please provide this information whenever you order spare parts and accessories or if you have any complaints or comments.

Model:

Serial no.:

Year of manufacture:

Technical improvements

We are continuously improving RAUCH products. For this reason we reserve the right to make any improvements and changes to our machine without notice that we consider necessary. We do not accept any 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

Table of contents

Declaration of conformity	4
Layout of safety instructions	4
Designated use	5
Regulations for use in traffic	5
Safety and accident prevention regulations	6
General safety instructions for the hydraulic system	8
Warning symbols	8
1. Machine information	10
1.1 Specifications	10
1.2 Delivery of the spreader	10
1.3 Accessories	11
2. Before operation	11
2.1 Mounting on the tractor	11
2.2 Adjustment of the universal drive shaft	12
2.3 PTO speed	13
2.4 Hydraulic drive	13
3. Practical operation	15
3.1 Spreading gravel or granular fertiliser	15
3.2 Spreading sand or salt	16
3.3 Adjustment of the spreading quantity	17
3.4 Limiting the spreading width	17
3.5 Setting a symmetrical scatter pattern / adjustment of the vanes	18
3.6 Spreading to one side	19
3.7 Broadcast test	20
3.8 Spreader table - gravel, sand, salt	22
3.9 Remote controls for metering slide / limiting the spreading width	24
4. Maintenance and lubrication	25
4.1 Cleaning	25
4.2 Maintenance	25
4.3 Gearbox	25
5. Warranty conditions	26
6. Spreader table (fertiliser) for SA spreader model	27
7. Spreader table (fertiliser) for WB vineyard spreader	30

Declaration of conformity

We **RAUCH-Landmaschinenfabrik GmbH, D 76547 Sinzheim, Landstraße 14**
declare under our sole responsibility that the machine :

Single disc spreader: SA 250 / 360 / 601 / WB 250

meets the following requirements as delivered:

EC Machinery Directive 2006/42/EC, appendix I

Compilation of the technical documents by:

RAUCH - Design Management

Norbert Rauch

(Norbert Rauch – Managing Director)

Layout of safety instructions

The following overview lists the symbols and the hazard classification in detail.

A safety instruction is always used in this operator's manual if your safety, the safety of another person or the correct functioning of the machine is in danger. Therefore, observe all safety instructions and safety and accident prevention regulations.

Ensure that all other users are aware of all safety instructions and safety and accident prevention regulations.

Symbol	Classification of hazard
 WARNING	WARNING! Ignoring this warning can result in death or serious injury.
 CAUTION	CAUTION! Ignoring this can result in minor injury or damage to the product.
 IMPORTANT	IMPORTANT! Ignoring this can result in damage to the product or the general area.
NOTE	NOTE! Tips for users for optimum use of the machine and other useful information.

Designated use

This spreader is designed for distribution of loose material such as gravel (3/5), sand, salt, and for spreading fertiliser. Various stirring equipment is used depending on the material. Any other use is not designated use. Reading and closely following the manufacturer's directions for operation, maintenance and repair are also components of the designated use.

This spreader must be operated, maintained and repaired only by persons who are familiar with its specific properties and are familiar with the appropriate safety measures.

Accident prevention regulations and all other generally accepted regulations respecting safety and occupational health and all traffic regulations must always be observed.

Any unauthorised change made to this machine may release the manufacturer from any liability for resulting damage or injury.

Regulations for use in traffic

Attachments operated on public roads must comply with the regulations governing road traffic and vehicle approval (such as lighting and warning sign). Tractors with attachments that do not travel on public roads must also comply with the road traffic regulations governing weights and axle loads.



Important

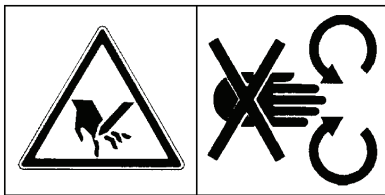
Beware of front axle lifting!

Driving behaviour, steering and braking capacity and tipping behaviour are influenced by mounted fertiliser spreaders and loads. Make sure that there is sufficient steering and braking capacity and match the speed to the conditions.

Safety and accident prevention regulations

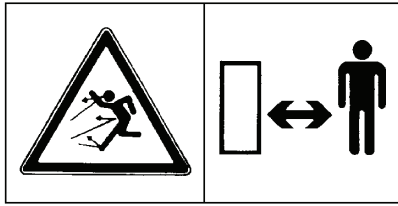
Most accidents that occur during work, maintenance or transport are the result of ignoring the most basic safety rules. Therefore, it is important that every person who is involved with this machine, whether it is the purchaser, a family member or an employee, must observe the following important safety regulations and the safety instructions on the stickers attached to the machine exactly.

- Observe the current regulations regarding safety and accident prevention as well as the information in the operator's manual.
- Always check that fastening components are correctly seated before operation, particularly those of the broadcast discs and vanes.
- Make yourself familiar with all equipment and controls and their functions before starting work as it will be too late once you have set off.
- Always switch off the tractor engine, remove the ignition key and close the metering slides before filling the spreader.
- Disengage the PTO shaft, switch off the engine and remove the ignition key before carrying out any adjustments or other work, such as lubrication or cleaning the spreader. Wait until all rotating parts have come to a complete stop.



Never reach into the vicinity of rotating parts with hands, feet or clothing. Do not reach into the spreader hopper - rotating components! Do not wear loose clothing!

- Do not place foreign bodies in the spreader hopper.
- Before switching on the spreader and while operating it the user must always make sure that there are no persons in the danger area of the spreader. Make sure that you have sufficient vision! (Children!).
- Operate the spreader only when all safety devices are fitted and in the correct position. (Additional protection for universal drive shaft, spreading width limit, spreader disc shield, safety screen in hopper).

**Caution**

Danger from flying material!
Direct all persons away from the discharge zone before starting spreading.

- Never leave the spreader to operate without supervision.
- Passengers are prohibited on the spreader during work and during transport.
- Make sure that no one can switch on the spreader accidentally when carrying out inspections or repairs.
- Before leaving the tractor lower the spreader to the ground, switch off the engine and remove the ignition key. Stopping spreader without tractor: this must be done with an empty hopper on a firm, level surface.
- Make sure no one is between the tractor and the spreader unless the tractor is secured to prevent it from rolling away with the parking brake and/or wheel chocks.
- Note the reduction of weight on the front wheels of the tractor. Driving behaviour, steering and braking capacity are influenced by mounted or attached equipment and ballast weights. Make sure that there is sufficient steering and braking capacity. Observe the approved axle loads and approved total weight of the tractor.
- We recommend having your dealer check the condition of the spreader after every season.
- If the spreader is damaged, stop it immediately. Remove the ignition key from the tractor and repair the damage.
- Damage to the universal drive shaft must be repaired immediately before working with the spreader.
- Improper selection or use of material may cause serious damage to persons, animals, plants and the environment. Select the correct spreader material for your application. Handle it with care. Follow the directions of the manufacturer of the material exactly.



General safety instructions for the hydraulic system

- The hydraulic system is under high pressure.
- When connecting hydraulic cylinders and hydraulic motors make sure that the hydraulic hoses are correctly connected.
- When connecting the hydraulic hoses to the tractor hydraulics, make sure that the hydraulic systems on the tractor and on the spreader are unpressurised.
- The female and male couplings between the tractor and the spreader should be labelled to prevent incorrect connections.
- Check hydraulic lines at regular intervals, and replace them in the case of damage or ageing. Replacement hydraulic lines must meet the technical requirements of the equipment manufacturer.
- Checking for leaks is hazardous. Use suitable aids to check for leaks.
- Fluid escaping under high pressure (hydraulic oil) can penetrate the skin and cause serious injuries. Seek medical attention immediately for injuries. Danger of infection!
- Lower spreader, switch engine off and depressurise the system before starting work on the hydraulic system.
- The service life of the hydraulic hoses is six years from the date of manufacture. The month and year of manufacture of the hydraulic hoses is stamped on the hose fitting.
- Even when stored correctly and subject to approved loads hoses and hose connections are subject to a natural ageing process. This limits their storage life and service life.

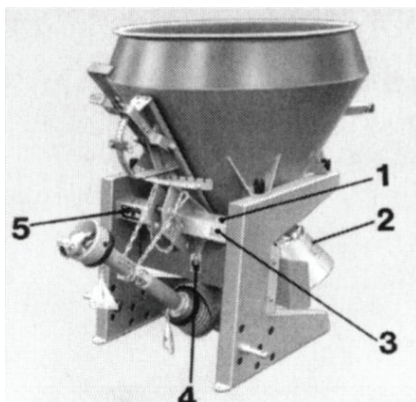
Warning symbols

Warning symbols have important information for operating the spreader without danger.

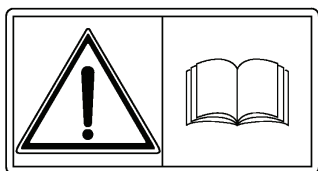
- Replace warning symbols if they are missing or illegible.
- Replacement warning symbols can be obtained from the spare-parts service.
- Clean dust, dirt and grease from the surface and dry it before attaching replacement stickers.
- When installing new components after repairs, the specified warning symbols must be used and attached to the new part.

Warning symbols on the spreader

Warning symbols that indicate dangers are attached to various parts of the spreader. The warning symbols, the specified position and a short explanatory text are listed below.

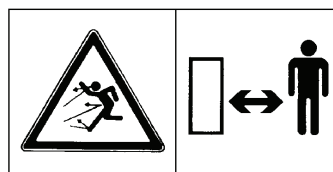


(1)



Read and follow the operator's manual and the safety instructions before putting the machine into operation

(2)



Danger from rotating broadcast discs and flying particles.

Direct all persons away from the spread zone before engaging the PTO shaft and broadcast discs.

(3)

Max. Nutzlast:
Charge utile max.:
Max. payload:
Max. inhoud:
Max. nyttelast:


500 kg

Maximum permissible load capacity
SA 250/360, WB 250

Max. Nutzlast:
Charge utile max.:
Max. payload:
Max. inhoud:
Max. nyttelast:


1000 kg

0992

Maximum permissible
load capacity SA 601

(4)



PTO speed

(5)



Identification plate

1. Machine information

Manufacturer

RAUCH Landmaschinenfabrik GmbH

Landstrasse 14

Postfach 1162

D-76547 Sinzheim

D-76545 Sinzheim

Telephone: 07221 / 985-0

Fax: 07221 / 985-200

Service Centre

Telephone: 07221 / 985-250 Fax: 07221 / 985-203

1.1 Specifications

		SA 250/ WB 250	SA 360	SA 601	SA 601 with attachment
Capacity	approx. litres	250	360	600	1000
Max. useful load	kg	500	500	1000	1000
Unladen weight	approx. kg	105	110	160	185
Fill height	approx. cm	107	118	113	139
Fill width	approx. cm	77	83	114x114	114x114
Overall width	approx. cm	88	100	125	125
Three-point linkage		Cat.I	Cat.I	Cat.II	Cat.II
Hydraulic pressure	bar	max. 200 bar			
PTO speed		540 rpm			
Noise level		70 dB (A)			

1.2 Delivery of the spreader

Please check that all parts are included when the spreader is delivered.

The standard equipment includes:

- Operator's Manual
- Universal drive shaft, incl. operator's manual for the universal drive shaft (not included with drive by hydraulic motor)
- Upper link connector with linch pin and safety chain
- Lower link pin
- Adjustable spreading width limiter
- Safety screen (fill sieve)

Please check any accessories that you ordered.



Caution

Make sure that all nuts and bolts are tight, particularly those fastening the broadcast disc, vane, lower link pin and hopper

Please check for shipping damage or missing parts. We will only accept immediate claims. Have shipping damage confirmed by the railway or transport company. In case of doubt please contact your dealer or the factory.

1.3 Accessories

- Stirrer cover for gravel or granular fertiliser
- Hook stirrer for sand or salt
- Hopper extension for greater capacity (400 litres for SA 601 only)
- Filling screen
- Hopper cover (PVC)
- Hydr. drive instead of PTO shaft
- Remote controls for opening and closing the metering slide (hydraulic, electric or mechanical)
- Remote controls for adjusting the spreading width limiter (electric or mechanical)

2. Before operation

2.1 Mounting on the tractor



Caution

The attachment types on the tractor and spreader must match or be adjusted to match at the three-point linkage.

Attach spreader as specified and fasten it to the specified attachments only.

SA 250 + 360 / WB 250 = Cat. 1, SA 601 = Cat 2

When the spreader is in transport and spreading position always make sure that the side-to-side movement of the tractor three-point linkage is limited to prevent the spreader from swinging from side to side during travel.



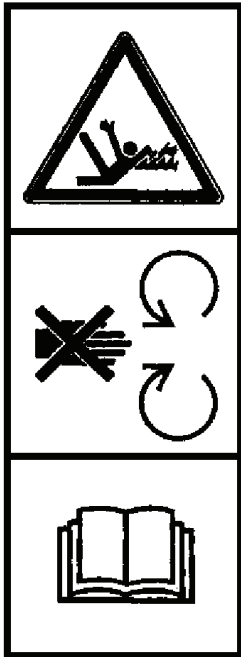
Caution

On the SA 250 / 360 spreader types and the WB vineyard spreader the lower link pins can be fixed at various positions. Note the following:
For attachment of the spreader to the tractor the lower link pins must be screwed in a position at which the space between the tractor and spreader allows the universal drive shaft to be coupled without danger to the operator.

NOTE

The hopper height for maximum spreading width is approx. 70 cm (**distance:** broadcast disc / ground).

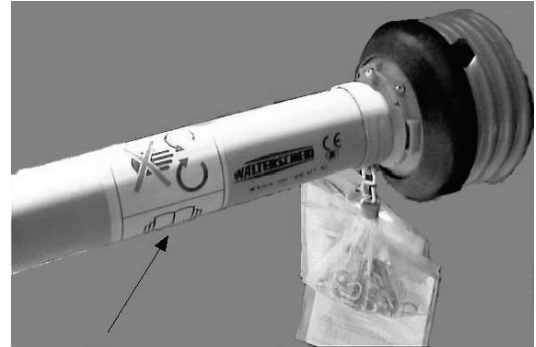
2.2 Adjustment of the universal drive shaft



The universal drive shaft must be adjusted when first mounted on the tractor. If the shaft is too long, the universal drive shaft and the spreader may be damaged when the spreader is lifted.

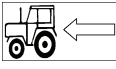
Do not approach the universal drive shaft when it is rotating.
Risk of injury!

Follow the directions in the shaft manufacturer's manual!



Install and remove the universal drive shaft only when the PTO shaft is disengaged, the engine is stopped and the ignition key removed.

Always ensure that the universal drive shaft is correctly installed and securely fastened!

The end of the shaft with the  symbol must be at the tractor end of the shaft.

The protective tube and universal drive shaft guard with the additional guards on the spreader must be installed and must be in good condition.

Before engaging the PTO shaft make sure that the selected PTO speed of the tractor matches the allowed speed of the spreader.

Store uncoupled universal drive shaft on the bracket.



Important

Engage the PTO shaft slowly with the tractor engine running at low speed only to prevent damage to the PTO shaft and the stirrer drive.

Information on filling the spreader

1. Note the max. permissible load capacity. (See specifications)
2. If the permissible load capacity is exceeded warranty claims will not be accepted.
3. There will be different specific weights depending on the state of the material (wet or dry).
4. Check the specific weight of your material before filling the hopper.
5. Weigh exactly 1 litre of material; the weight will be the specific weight in kg/l.

2.3 PTO speed

The SA spreaders are fitted with a reduction gearbox ($i = 2.31:1$) as standard equipment. With this gearbox the broadcast disc speed is approx. 234 rpm at a PTO speed of 540 rpm (**WB** spreader model with a gearbox $i = 1.25:1$).

For the maximum spreading width a PTO speed of 540 rpm must be maintained (broadcast disc speed = approx. 234 rpm with **SA** spreader models or 432 rpm with the WB spreader model).

The broadcast disc is fitted with vanes for rotating to the right as standard equipment.



Important

PTO speeds over 540 rpm (broadcast disc speed: approx. 234 rpm) must be avoided, particularly when spreading gravel. This will increase the wear on the stirrer cover and hopper floor.

2.4 Hydraulic drive (optional accessory)

The hydraulic drive (instead of PTO drive) requires a single-acting control valve and an oil return line to the tractor.

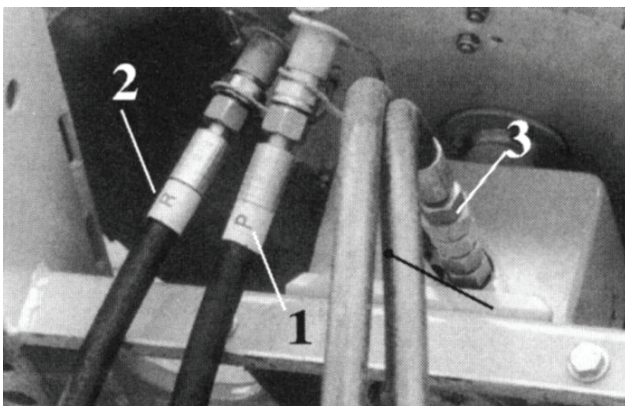


Caution

The hydraulic system is under high pressure!

When connecting the hydraulic system make sure that the hydraulic hoses are correctly connected. (Hydraulic hose with non-return valve = return line).

When connecting the hydraulic hoses to the tractor hydraulics, make sure that the hydraulic systems on the tractor and on the spreader are unpressurised.



1 = (P) pressure connection

2 = (R) return line

3 = non-return valve

The SA spreader models may be fitted with two different hydraulic motor models.
(Please contact the factory for the WB 250).

1. Hydraulic motor with 100 cm³ displacement volume. This requires a litre output of the tractor of min. 20 litres to max. 40 litres. This yields a broadcast disc speed of min. 230 rpm to max. 430 rpm. If the litre output is in the upper range we recommend working with a reduced tractor rated speed and a reduced litre output, particularly when spreading gravel. (The reduced drive shaft speed reduces wear on the stirrer system and hopper floor.)
2. Hydraulic motor with 200 cm³ displacement volume. Required litre output of tractor of min. 40 litres to max. 60 litres. If the litre output is in the upper range the tractor can be operated at a slightly reduced speed in this case also.

**Caution**

Check hydraulic hoses regularly, every season at least. Check the hose surface for mechanical defects, e.g. cuts and rubbing, crushing, kinks, cracking, porous spots etc. and replace a defective line immediately.

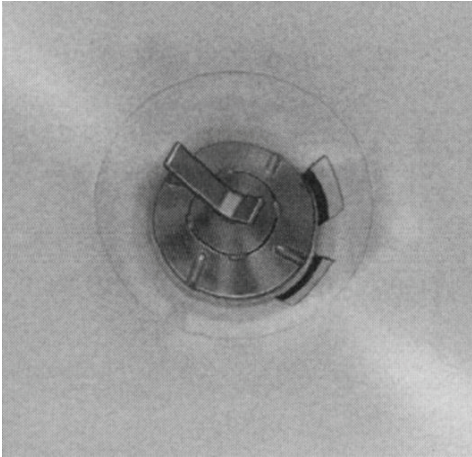
The service life of the hydraulic hoses is six years from the date of manufacture. The month and year of manufacture of the hydraulic hoses is stamped on the hose fitting.

Checking for leaks is hazardous. Use suitable aids to check for leaks. (safety glasses, gloves etc.). Fluid escaping under high pressure (hydraulic oil) can penetrate the skin and cause serious injuries. Seek medical attention immediately for injuries. Danger of infection!

3. Practical operation

3.1 Spreading gravel or granular fertiliser

The **stirrer cover** must be used when spreading gravel or granular fertiliser. (Bbayonet clip, to remove rotate stirrer cover in the direction of rotation of the broadcast disc to the stop and lift).



Stirrer cover for gravel or granular fertiliser

Spreading gravel increases the wear on the stirrer cover, hopper floor and vanes.

The wear can be greatly reduced by the following measures:

- Do not exceed the specified max. PTO speed of the spreader.
- Disengage the tractor PTO when the metering slides are closed (even for a short period).
- Open the metering slide at least wide enough to allow the stirrer cover to discharge the gravel without grinding it.
- If material freezes overnight in the hopper, the stirrer shaft may be damaged when the PTO shaft is engaged.

NOTE

When spreading **gravel-salt mixture**, bridging over the stirrer cover may occur depending on the proportion of salt in the mixture or the moisture of the material. This can be remedied by reducing the salt proportion or material with less moisture.

3.2 Spreading sand or salt

The hook stirrer **must** be used when spreading sand, salt or mixed sand-salt. (See the section on using the hook stirrer).

Information on using the hook stirrer



The hook stirrer is used for spreading sand, salt, mixed sand-salt or floury fertiliser.

The hook stirrer must not be used for gravel and granular fertiliser.

We recommend placing the hook stirrer in a vertical position when filling the hopper with the material when spreading wet sticky sand.

Even though high-quality material is used parts of the stirrer (e.g. rubber feed disc, cast joint) are subject to increased wear when discharging this type of material.

Maintenance

The hook stirrer can be removed from the drive shaft without tools.

(Turn hook stirrer 1/4 revolution in the direction of rotation of the broadcast disc and pull up.)

To prevent the hook stirrer from sticking to the drive shaft, it should be removed and the drive shaft greased, at least before extended downtime.

Cast joint

The cast joint of the hook stirrer should also be greased before extended downtime.

Replace worn joints.

Rubber feed disc

Replace rubber feed disc if it is worn. Otherwise the metal disc will damage the hopper.

The wear on the hook stirrer can be greatly reduced by the following measures:

- Do not exceed the specified PTO speed.
- Disengage the hook stirrer in case of interruptions in spreading and/or closed metering slides.
- Disengage the hook stirrer when the hopper is empty.
- **Recommendation:** If the hopper is not completely empty or if it is empty, continue running at a reduced PTO speed to prevent the stirrer from rattling loudly and to prevent increased wear on the hopper and hook stirrer.



Never reach into the hopper with the tractor engine running and the stirrer engaged.

Risk of injury by rotating stirrer.



Always leave the safety screen in the hopper or in the safety position when the spreader is in operation.

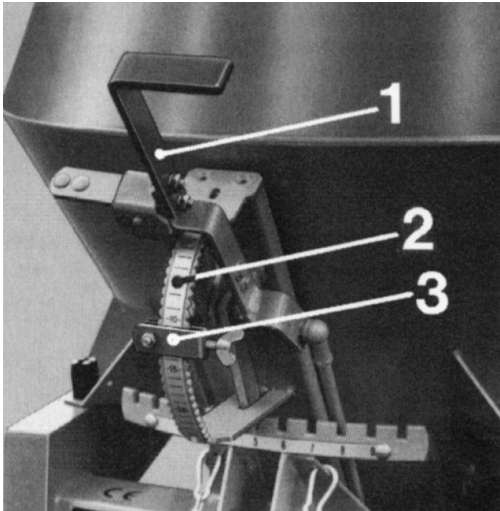
Note the following when correcting faults, during cleaning, maintenance, repairs and testing:

- Switch off the PTO shaft.
- Switch off the tractor engine.
- Remove the ignition key.

3.3 Adjustment of the spreading quantity

The spreading quantity is set by opening the metering slide (with the quantity selection lever).

For example: lever towards the higher numbers on the scale means: metering slide is opened wider for greater spreading quantity.



1 = Quantity selection lever

2 = Scale

3 = Adjustable quantity stop



Important

Avoiding excessively small slide openings

Small slide openings may cause the

- material to be ground or damaged,
- block the slide opening
- and increase the wear on the stirrer mechanism.

Always select a sufficiently large slide opening to allow the material to be discharged easily.

3.4 Limiting the spreading width

The spreading width can be limited by various settings of spreading widths between approx. 0.8 m - 6 m, (approx. 9 m with the WB 250, depending on the material), at a hopper height (distance between broadcast disc and ground) of approx. 70 cm.

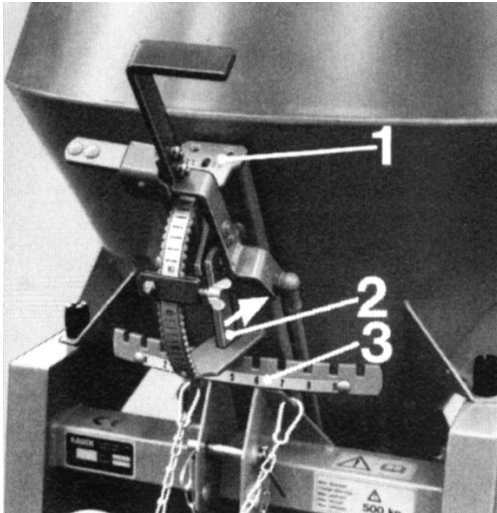
Intermediate spreading widths can be set by raising or lowering the spreader.

NOTE

Damaged or bent spreading width limiters will yield an inexact scatter pattern (e.g. different spreading widths to right and left).

3.5 Setting a symmetrical scatter pattern / adjustment of the vanes

Depending on the type (granular, coarse, fine) or state of the material (wet, dry), the spreading range may not be even (left and right spreading quantity different). This can be compensated by the standard adjustable discharge funnels on the spreader (adjustable segment).



1 = Adjustment segment

2 = Unlocked

3 = Scale

Unlock the discharge funnel (adjustable segment) and rotate in the relevant direction.

For example: Spreading quantity too high on the left side (viewed in the direction of travel): Move discharge funnel to the left towards the higher numbers on the scale. **Or:** Spreading quantity too high on the left side (viewed in the direction of travel): Move discharge funnel to the right towards the lower numbers on the scale.

If rotating the discharge funnel is not sufficient for setting a symmetrical scatter pattern, the vanes on the broadcast disc can also be adjusted.

Set back: (move against broadcast disc direction of rotation) means material is discharged earlier. This increases the spreading density on the **right** side viewed in the direction of travel. (With clockwise rotating broadcast disc).

Set forward: (move with broadcast disc direction of rotation) means material is discharged later. This increases the spreading density on the **left** side viewed in the direction of travel. (With clockwise rotating broadcast disc).



Important

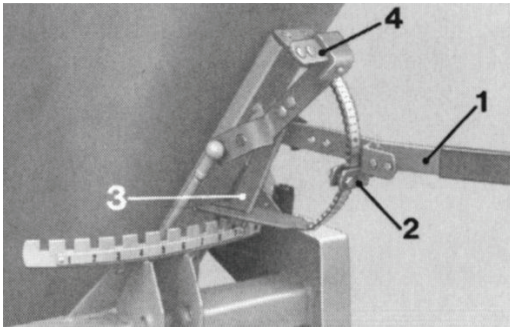
After adjusting the vane always:

- Rotate broadcast disc manually. Check that it moves freely.
- Check that all screws in the vane (including on the broadcast disc) are tightly seated. Defective nuts and bolts must be replaced.

3.6 Spreading to one side

Spreading to the right only (viewed in the direction of travel)

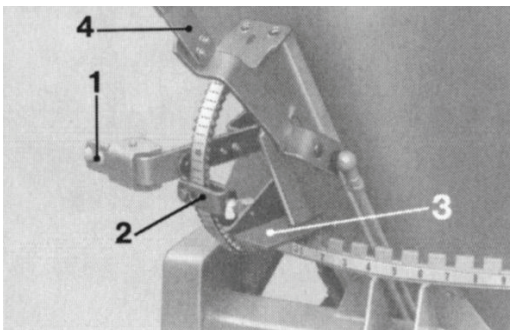
Disengage both quantity adjustment levers



- 1 = Left quantity adjustment lever open
- 2 = Adjustable quantity stop
- 3 = Discharge funnel (adjustment segment)
locked in position 9
- 4 = Right quantity adjustment lever closed

Spreading to the left only (viewed in the direction of travel)

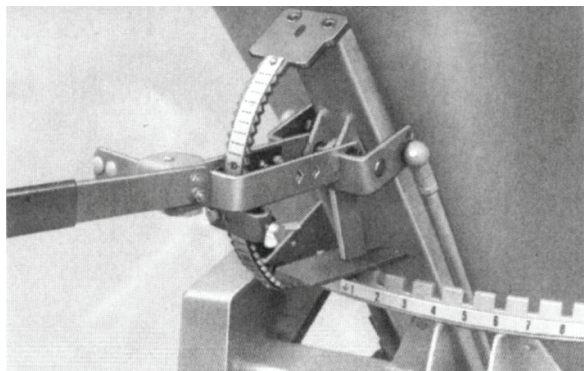
Disengage both quantity adjustment levers



- 1 = Right quantity adjustment lever open
- 2 = Adjustable quantity stop
- 3 = Discharge funnel (adjustment segment)
locked in position 1
- 4 = Left quantity adjustment lever closed

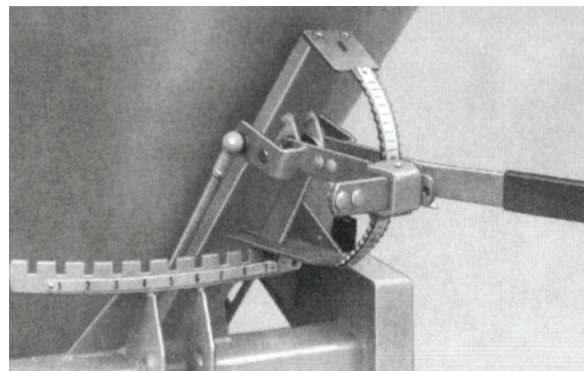
One-sided spreading without disengaging the quantity adjustment lever

Correct the opening position of the metering slide (quantity stop), otherwise carry out adjustment as described above but without disengaging the quantity adjustment lever.



One-sided spreading to the **left**:

Both quantity adjustment levers open



One-sided spreading to the **right**:

Both quantity adjustment levers open

3.7 Broadcast test

The application rate (g/m²) depends on:

- The opening position of the metering slide
- The ground speed
- The PTO speed
- The state of the material (wet, dry, granular, coarse/fine)

For control of the spread amount we recommend running a broadcast test. The calibration test can be conducted (with engaged PTO shaft) at a standstill or during travel over a test section. To calculate the exact ground speed do a timed run over a distance of 100 m.

Ground speeds can be calculated with the following formula:

$$\text{Ground speed} = \frac{360}{\text{time over 100 m}} \quad \text{Example: } \frac{360}{120 \text{ s}} = 3 \text{ km/h}$$

Calculating nominal discharge amount per minute:

Ground speed: 3 km/h
 Working width: 4 m
 Desired application rate: 50 g/m²
 Required discharge quantity (g/min): ?

Formula:

For example: $\frac{\text{m/h}}{60} ; \frac{3000 \text{ m/h}}{60} = 50 \text{ m/min}$

Formula:

For example: **m/min x working width;** 50 m/min x 4 m = 200 m²/min

Formula:

For example: **g/m² x m²/min;** 50 g/m² x 200 m²/min = 10000 g/min

Therefore, 10 kg/min of material must be discharged.

Conduct calibration test in the following steps:

1. Place foil under spreader
2. Lower hydraulics, place spreader at lowest setting
3. Bring spreading width limiter to bottom position
4. Set quantity stop as per spreader table or by experience
5. Start tractor engine and engage PTO shaft (note PTO speed).
6. Open both metering slides with quantity adjustment lever to the specified quantity stop.
7. Run calibration test for exactly 60 seconds.
8. Close metering slide, disengage PTO shaft, stop engine and remove ignition key.
9. Compare spread quantity with specified quantity. If the quantity is too much or too little select a different metering slide position and repeat calibration test.

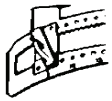
**Warning**

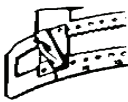
Beware of rotating machine components during the calibration test (broadcast disc, stirrer, universal drive shaft). Conduct tests and make adjustments only when the PTO shaft is disengaged, the engine is stopped and the ignition key removed.

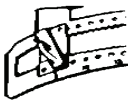
3.8 Spreader table

NOTE

The specified quantities in the spreader table are general values, which may vary to a greater or lesser degree depending on the properties of the material. To calculate the exact amount we recommend running a broadcast test.

Gravel (3/5 mm)			g/m ²								
Spreading width	2 m			4 m			6 m				
	 km/h →			 km/h →			 km/h →				
Scale no.	3	6	10	3	6	10	3	6	10		
-											
-											
10	65	32	20	32	16	10	21	10	-		
-											
-											
-											
-											
15	250	125	75	125	62	37	83	41	25		
-											
-											
-											
20	490	245	147	245	122	73	163	81	49		
-											
-											
-											
24	820	410	246	410	205	123	273	136	82		

Sand (0.3)							g/m ²		
Spreading width	2 m			4 m			5 m		
	 km/h →			 km/h →			 km/h →		
Scale no.	3	6	10	3	6	10	3	6	10
-									
-									
10	95	47	29	47	24	14	38	19	11
-									
-									
-									
15	465	232	140	232	116	70	186	93	56
-									
-									
-									
20	580	290	174	290	145	87	232	116	70
-									
-									
-									
24	750	375	225	375	187	113	300	150	90

Salt				g/m ²					
Spreading width	2 m			4 m			5 m		
	 km/h →			 km/h →			 km/h →		
Scale no.	3	6	10	3	6	10	3	6	10
-									
-									
10	32	16	10	16	8	5	13	6	-
-									
-									
-									
-									
15	43	21	13	21	11	6	17	8	-
-									
-									
-									
-									
20	58	29	18	29	14	9	23	12	7
-									
-									
-									
24	105	52	31	52	26	16	42	21	12

3.9 Remote controls for metering slide / limiting the spreading width

Hydraulic remote control (metering slide).

The hydraulic hose must be connected to a quick release coupling (e.g. rocker connection). This hydraulic remote control operates with a single-acting control valve.

When the control valve is actuated under pressure the metering slides are closed. If the control valve is set to floating position, the tension spring moves the quantity control lever to the previously set quantity stop on the adjustment segment.

Oil pressure closes - spring tension opens



Caution

After using the spreader open the metering slides fully to relieve the tension on the spring.

A shield between the hydraulic cylinder and hose connection ($\varnothing$ 0.5 mm) reduces the speed of movement of the hydraulic cylinder. If any faults are encountered during opening or closing remove the shield and clean it. Do not actuate the hydraulic cylinder unless the shield is in place.

Electric remote control (metering slide / spreading width limiter)

A tractor with a 2-pin socket is required for the electric remote control (12 V).

The metering slide is opened and closed and the spreading width limiter is adjusted with a rocker switch. The driver can also adjust the application rate and spreading width while spreading with the rocker switch.

Mechanical remote control (metering slide / spreading width limiter)

The sensor socket (actuation lever for opening and closing the metering slides and adjusting the spreading width limiter is stored in the retainer in the driver's cab.

The driver can also adjust the application rate and spreading width while spreading with the sensor socket.

Do not bend the tension-compression cable too much (max 60°)!

Spreading to one side is possible with all remote controls. (See "**Spreading to one side**")



Important

We recommend keeping levers and joints well lubricated to keep all remote controls operating correctly.

The extension of the left quantity adjustment lever must be unscrewed with all remote controls. (Otherwise it may be crushed when closing.)

4. Maintenance and lubrication

- Always switch off the drive and the engine before carrying out troubleshooting, and for repair, maintenance and cleaning work. Remove the ignition key!
- Always ensure that the raised spreader is safely supported before working on it.
- Spare parts must at least comply with the technical standards required by the manufacturer of the implement! This is only possible with original spare parts.
- Regularly check nuts and screws for tight fit and tighten them, if necessary!
- If safety equipment is removed for repairs, maintenance and cleaning, it must be replaced and in correct safety position before operating the spreader again.
- Dispose of oil and grease according to regulations!

4.1 Cleaning

The spreader should be cleaned after every spreading to ensure that it will continue to operate correctly when used next.

Main cleaning points are:

- Stirring equipment
- Hopper floor/metering slide
- Broadcast disc/vane
- Spreading width limiter

NOTE	Cleaning with the high-pressure cleaner When cleaning with high pressure never direct the water jet directly on to electrical equipment, stickers, hydraulic components and bearings.
-------------	---

4.2 Maintenance

The spreader should be lubricated during the working season depending on the operating conditions.

The grease points are:

1. Universal drive shaft (see included operator's manual for universal drive shaft)
2. Quantity adjustment lever (leaf springs)
3. Metering slide
4. Hole and drive shaft of stirrer chain drive/stirrer cover
5. Adjustable discharge funnel

4.3 Gearbox

The gearbox is lubricated for life and is maintenance-free under normal operating conditions. The gearbox is filled with gear oil at the factory (SAE 140/0.4 litres).

5. Warranty conditions

RAUCH fertiliser spreaders 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:

1. The warranty begins on the date of purchase.
2. 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.
3. The following are excluded from coverage by the warranty: natural wear, dirt, corrosion and all faults caused by improper handling and external causes. The warranty is rendered void if the owner carries out repairs or modifications to the original state of the object of supply. Warranty claims are rendered void if RAUCH original spare parts were not used.
Please follow the directions in the operator's manual closely. In all cases of doubt contact our factory 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 are required. 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.
4. No claims for compensation for damages that are not part of the fertiliser spreader itself will be accepted. This also means that no liability will be accepted for damages resulting from spreading errors. Modifications made to the fertiliser spreader may result in consequential damages and the supplier will not accept any liability for such damages.
In the event of intent or gross negligence of the owner or a senior employee and in cases faults in the object of supply cause personal injury or damage to private property the supplier's limit to liability will not apply. It will also not apply in the case of faults in properties that are explicitly assured, if the assurance had the purpose of protecting the purchaser against damage that does not arise from the object of supply itself.

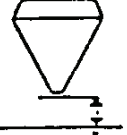
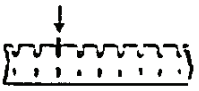
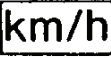
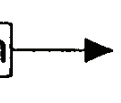
6. Spreader tables (fertiliser) for SA spreader model

NPK EG WARE

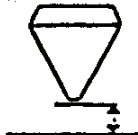
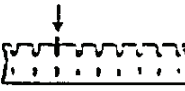
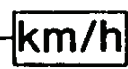
13+13+21, 1.2 kg/l

SA

kg/ha

		5 m									
		70 cm									
		540									
		5									
	 kg/min.	  km/h 					  km/h 				
		6	8	10	12	14	6	8	10	12	14
8	4.6	92	69	55	46	39					
9	8.1	162	121	97	81	69					
10	11.6	232	174	139	116	99					
11	16.9	339	254	203	169	145					
12	22.3	445	334	267	223	191					
13	27.6	552	414	331	276	237					
14	32.4	648	486	389	324	278					
15	37.2	744	558	446	372	319					
16	42.0	840	630	504	420	360					
17	48.0	960	720	576	480	411					
18	54.0	1080	810	648	540	463					
19	60.0	1200	900	720	600	514					
20	65.9	1317	988	790	659	565					

AMMONIUM NITRATE LIME EC WARE**SA****kg/ha****27% N, 1.05 kg/l**

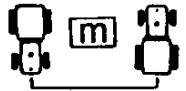
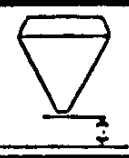
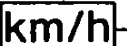
		5 m									
		70 cm									
		540									
		5									
		 					 				
	kg/min.	6	8	10	12	14	6	8	10	12	14
8	5.2	104	78	62	52	45					
9	9.1	182	136	109	91	78					
10	13.0	260	195	156	130	111					
11	18.4	368	276	221	184	158					
12	23.8	476	357	286	238	204					
13	29.2	584	438	350	292	250					
14	34.1	681	511	409	341	292					
15	38.9	779	584	467	389	334					
16	43.8	876	657	526	438	375					
17	49.9	998	748	599	499	428					
18	56.0	1120	840	672	560	480					
19	62.1	1242	931	745	621	532					
20	67.8	1356	1017	814	678	581					

GRANULAR POTASH WITH MgO Kali & Salz GmbH

SA

kg/ha

40/6, 1.15 kg/l

		4 m									
		70 cm									
 U/min.		540									
		6									
	 kg/min.	 					 				
		6	8	10	12	14	6	8	10	12	14
8	5.8	145	109	87	72	62					
9	9.7	242	182	145	121	104					
10	13.6	340	255	204	170	146					
11	19.3	482	362	289	241	207					
12	25.0	625	469	375	313	268					
13	30.7	767	576	460	384	329					
14	35.1	877	657	526	438	376					
15	39.4	986	739	591	493	422					
16	43.8	1095	821	657	547	469					
17	49.8	1245	934	747	622	534					
18	55.8	1395	1046	837	697	598					
19	61.8	1545	1159	927	772	662					
20	65.2	1630	1222	978	815	699					

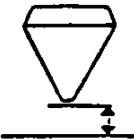
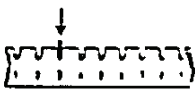
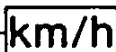
7. Spreader tables (fertiliser) for WB vineyard spreader

NPK EC WARE

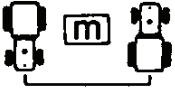
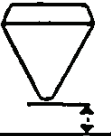
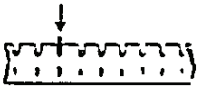
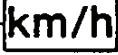
WB

kg/ha

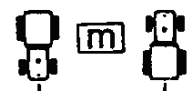
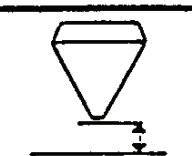
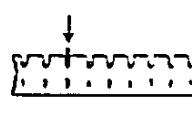
13+13+21, 1.2 kg/l

		9 m									
		70 cm									
		540									
		3									
		 					 				
	kg/min.	6	8	10	12	14	6	8	10	12	14
7	7.5	83	63	50	42	36					
8	14.6	162	122	97	81	70					
9	21.7	241	181	145	121	103					
10	28.8	320	240	192	160	137					
11	35.8	398	298	239	199	170					
12	42.8	476	357	285	238	204					
13	49.8	553	415	332	277	237					
14	57.8	642	482	385	321	275					
15	65.8	731	548	439	366	313					
16	73.8	820	615	492	410	351					
17	81.9	910	682	546	455	390					
18	89.9	999	749	600	500	428					
19	98.0	1089	817	653	544	467					
20	106.3	1181	886	709	591	506					

AMMONIUM NITRATE LIME EC WARE**WB****kg/ha****27% N, 1.05 kg/l**

		9 m									
		70 cm									
		540									
		3									
		  					  				
	kg/min.	6	8	10	12	14	6	8	10	12	14
7	6.6	74	55	44	37	32					
8	13.3	148	111	89	74	63					
9	19.9	222	166	133	111	95					
10	26.6	296	222	177	148	127					
11	33.1	367	276	220	184	157					
12	39.5	439	329	264	220	188					
13	46.0	511	383	307	256	219					
14	53.3	592	444	355	296	254					
15	60.5	673	504	404	336	288					
16	67.8	753	565	452	377	323					
17	75.3	837	628	502	419	359					
18	82.9	921	691	552	460	395					
19	90.4	1004	753	603	502	430					
20	98.3	1092	819	655	546	468					

GRANULAR POTASH WITH MgO**Kali & Salz GmbH****WB****kg/ha****40/6, 1.15 kg/l**

		8 m									
		70 cm									
		540									
		4									
											
		kg/min.	6	8	10	12	14	6	8	10	12
7	9.8	122	92	73	61	52					
8	16.7	209	157	125	104	89					
9	23.6	295	221	177	147	126					
10	30.5	381	286	229	191	163					
11	38.1	476	357	285	238	204					
12	45.6	570	428	342	285	244					
13	53.2	665	499	399	332	285					
14	61.4	767	575	460	384	329					
15	69.5	869	652	521	435	372					
16	77.7	971	728	583	486	416					
17	86.3	1079	809	647	540	462					
18	95.0	1187	890	712	594	509					
19	103.6	1295	971	777	647	555					
20	111.1	1388	1041	833	694	595					