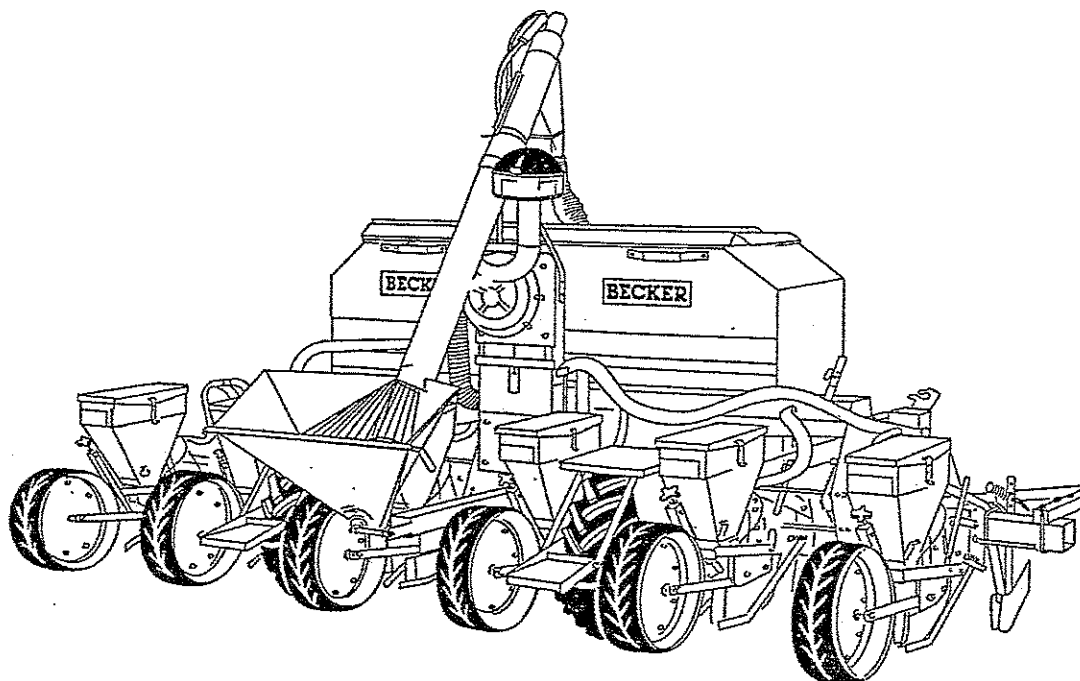


DEMETER AEROMAT



Directions for use

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Introduction



Before using the seed drill read these operating instructions carefully.

Make sure that all safety instructions are distributed to other users

Note that the terms left, right, forward and backward used in these instructions refer to the seed drill seen in the direction of travel. Proper operation without accidents and long seed drill life can only be guaranteed if all instructions and safety precautions are closely followed.

All other purposes lie outside the scope of the machine and the manufacturer cannot be held liable for damage resulting from incorrect use. In such cases the user is entirely responsible for damage. Intended use is to be understood as operation in accordance with the information the manufacturer stipulates in operating, service and maintenance instructions.

The Demeter Aeromat seed drill may only be operated, serviced and maintained by persons who are conversant with the instructions, who are familiar with the machine, and who are aware of the dangers that can arise in using it.

The following accident prevention stipulations, normal safety rules, and health and traffic safety regulations must be observed unconditionally.

Application

The Demeter Aeromat seed drill is designed exclusively for general agricultural applications.

Unauthorised changes to the machine and its construction exempt the manufacturer from any form of responsibility or consequential damage and injury!

General safety and accident prevention stipulations

Before operating the seed drill and tractor, all traffic and operating safety measures must always be observed!

- In addition to the rules stated in these operating instructions, general safety rules and stipulations must be observed!
- The warnings and information labels give important information about reliable operation. Do not ignore them - they are there for your safety!
- Always observe current traffic regulations when driving on public highways!
- Before starting to operate the machine, make yourself familiar with the equipment and the operating elements and their function. It might be too late to do so when running!
- The tractor driver's clothes must be tight fitting. Loose clothes are an invitation to accidents!
- Before starting up, check to make sure that no one is near to the machine (especially children). Make sure you have good visibility!
- No persons other than the driver may be carried during operation or transport!
- Implements must be coupled correctly at the stipulated points!
- Remember to place supports when coupling or decoupling implements so that they do not tip up.
- Permissible axle loads, total weights and transport dimensions must not be exceeded!

- Transport equipment such as lights, warning signs and any protection devices must be checked and in position!
- Cables for releasing the three-point linkage quick coupling must hang loose so that they cannot release the coupling when the seed drill is lowered with the tractor lift.
- Never leave the cab while the tractor is moving!
- Driving, steering and braking characteristics can be affected by implements and weight. Make sure there is sufficient steering and braking capacity!
- The total length/width of tractor and implement must be taken into consideration when turning!
- The implement must only be operated when all protective devices are in working order!
- No persons other than the operator may be allowed in the working area!
- No person may be allowed in the turn and swing area!
- Hydraulically extendible parts may only be activated when no person is in the swing area!
- Remote controlled parts (e.g. hydraulic parts) present crushing and cutting hazards at certain points!
- Before leaving the tractor, lower the implement onto the ground, switch off the engine and remove the ignition key!
- No person may be allowed to stand between tractor and implement without the tractor being secured with the parking brake and/or chocks!
- Markers in transport position must be locked!
- The three-point linkage area presents crushing and cutting hazards!
- Never stand between the three-point linkage and tractor or implement when operating the linkage!
- Check that the drawbars, etc. are secured against sideways movement when the implement is in its transport position!
- When driving on public highways with raised implement, the lift control lever must be secured against dropping!

The hydraulic system

- The hydraulic system is under high pressure!
- When connecting hydraulic cylinders the stipulations on connecting hoses must be observed!
- When hoses are connected to the tractor hydraulics, there must be no pressure on the tractor and implement hydraulics!
- When making hydraulic connections between tractor and implement the male and female couplings should be marked to prevent operating errors. If function connections are swapped (e.g. raise and lower functions are swapped over) the result could be dangerous!
- Hydraulic hoses should be regularly inspected and replaced if damaged, and before they become too old. New hoses must be of the same technical specification as stated by the original hose manufacturer.
- When looking for leaks, a suitable detection method is advisable to prevent damage!
- Escaping hydraulic fluid (oil) under pressure can penetrate the skin and cause severe injury! Such accidents can cause infection. Consult a doctor immediately!
- Before working on the hydraulics, lower the implement onto the ground. Release pressure from the system and stop the engine!

Built-on implements

- Before mounting or removing implements in the three-point linkage, control levers must be set so that unintentional raising or lowering cannot occur!
- When coupling to the three-point linkage, make sure that the coupling category of tractor and implement match each other!

Tyres

- When working on the tyres, lower the implement onto the ground and use chocks to prevent rolling!

- Fitting tyres requires adequate knowledge and the correct tools!
- Repairs to tyres and wheels must only be carried out by authorised personnel using prescribed tools!
- Check tyre pressures regularly and ensure they are inflated to the prescribed pressure!
- If maintenance work is carried out with the implement raised, it must be always be well supported!
- When replacing sharp components, use the correct tools and wear gloves!
- Waste oil and grease must be disposed of in accordance with regulations!

Maintenance

- Repair, maintenance, cleaning and inspection in relation to malfunction must only be carried out with the engine stopped!
 - Under all circumstances, remove the ignition key!
 - Nuts and screws must be inspected regularly and tightened if necessary!
 - Always switch off electrical systems before working on them!
 - When using electrical welding equipment on the tractor or implement, disconnect cables on generator and battery!
 - Spare parts must be of the same specification as those stated by the manufacturer! Original spare parts meet this requirement!
-

Notes:

Introduction to the AEROMAT

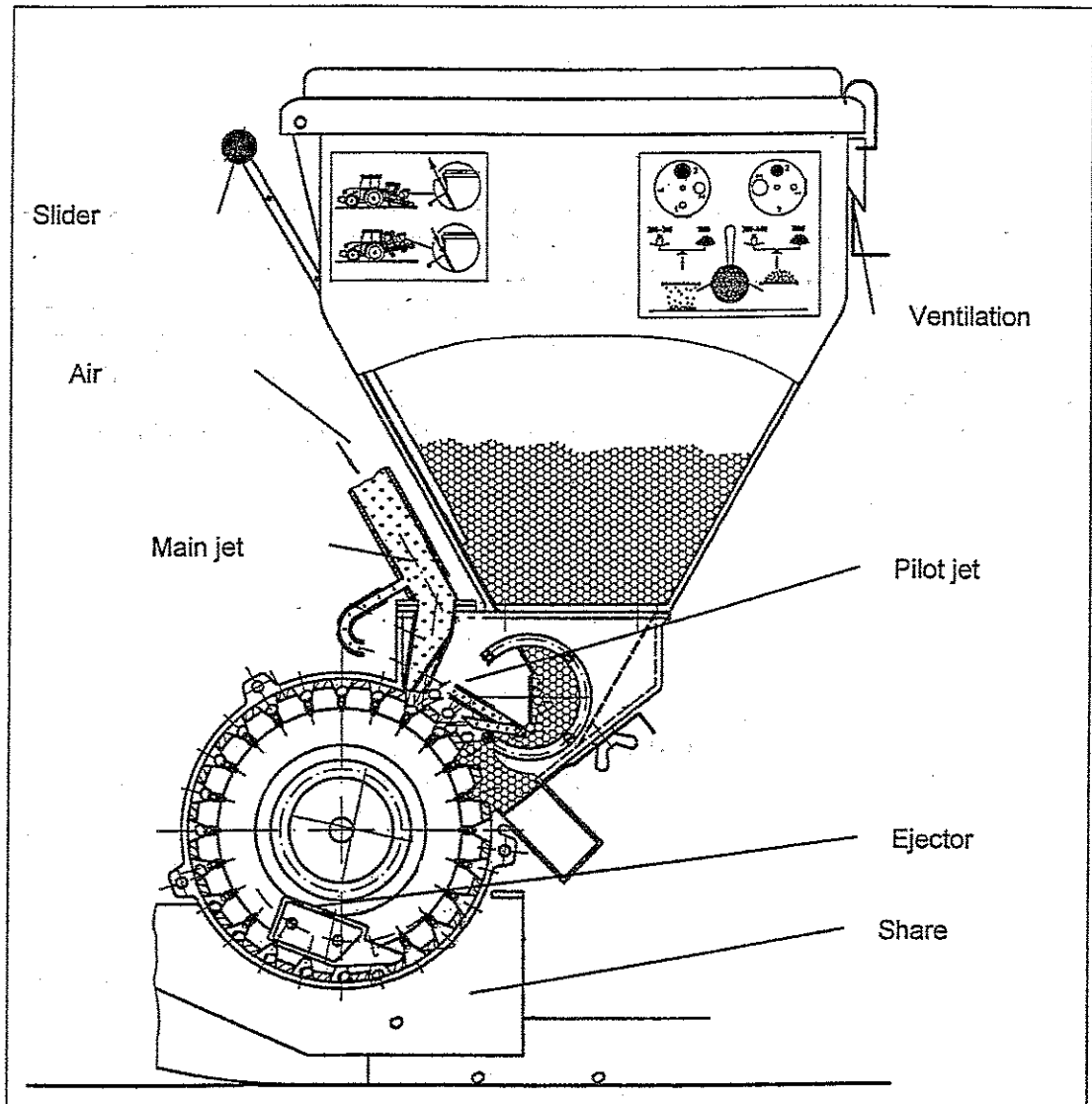


Fig.1

The Aeromat is a single seed precision drill, of unique design, used for sowing maize, beans, peas, beet, etc. A central drive powers a series of seedwheels, each with conical holes in its outer face. Each cone fills with several seeds. As soon as the filled cone emerges from the filling area, all excess seed is blown from the cone by jets of compressed air whilst the lowest seed is held in place by the same air flow.

A quiet, PTO driven fan with maintenance-free bearings provides the compressed air. Even when sowing seed of different size and shape, they are accurately "singled" without adjustment. An ejector, positioned in a slot in the seedwheel, ensures that every seed is gently removed from the cone and sown.

Description of the Drill

- 1 Toolbar
- 2 Lower link connection
- 3 Upper link connection
- 4 Cyclone filter
- 5 Land wheel drive
- 6 Marker arm
- 7 Marker disc
- 8 Drive wheel
- 9 Power take-off connection

- 10 Pressure gauge
- 11 Fan
- 12 Seed hopper
- 13 Rubber pressure wheel
- 14 Seed casing
- 15 Seed coulter
- 16 Fertilizer coulter
- 17 Fertilizer hopper
- 18 Air valve

Model	Number of rows	Fertilizer applicator	KW HP	Row width [cm]	Frame type	A Transport height [cm]	B Transport width [cm]	C Transport length [cm]	Number of gear boxes	Number of wheels	Size of wheels	Fan	rpm	Weight **
M	4		37/50	45-80	rigid	220	300	170	1	2	5.00-15	small	540(450)	580
M	4	R	37/50	45-80	rigid	220	300	170	1	2	5.00-15	small	540(450)	870
MK	4 HK	R	37/50	45-80	rigid	220	300	180	1	2	5.00-15	small	540(450)	700
MK	4 HKP	Z	52/70	60-80	rigid	220	300	180	1	2	7.50-15	small	540(450)	950
S	4 HK	Z	59/80	60-80	rigid	220	300	180	1	2	7.50-15	small	540(450)	1000
M	6		44/60	45-80	rigid *	320	300	180	1	2	5.00-15	small	1000(650)	800
M	6	Z	55/75	60-80	rigid *	320	300	180	1	2	7.50-15	small	1000(650)	1050
M	6 T		55/75	75	telescope	320	300	180	1	2	5.00-15	small	1000(650)	850
M	6 T	Z	55/75	75	telescope	320	300	180	1	2	7.50-15	small	1000(650)	1050
S	6 T		48/65	75	telescope	320	300	190	1	2	7.50-15	small	1000(650)	950
S	6 T	Z	59/80	75	telescope	320	300	190	1	2	7.50-15	small	1000(650)	1200
M	8		52/70	45-80	rigid *	300	300	180	1	2	5.00-15	small	1000(750)	1300
M	8	Z	59/80	60-80	rigid *	300	300	180	1	2	7.50-15	large	1000(750)	1600
M	8 HKP		66/90	45-80	hydr.flap	350	300	190	3	4	5.00-15	large	1000(750)	1600
M	8 HKP	Z	88/120	75-80	hydr.flap	350	300	190	3	4	7.50-15	large	1000(750)	2000
S	8 HKP	Z	95/130	75-80	hydr.flap	350	300	200	3	4	7.50-15	large	1000(750)	2200
S	8 T	Z	74/100	75	telescope	300	300	190	2	2	7.50-15	large	1000(750)	1600
M	12		66/90	45-80	rigid *	300	300	180	2	4	5.00-15	large	1000(750)	1350
M	12 HKP		74/100	45-75	hydr.flap	400	300	180	3	4	7.50-15	large	1000(750)	1850
M	12	Z	88/120	45-80	rigid *	300	300	180	2	4	5.00-15	large	1000(750)	1900
M	4/6 V	Z	59/80	45-80	rigid	320	300	2300	1	2	26x12	small	540(450)	1200
M	6/8 VT	Z	59/80	45-80	telescope	320	300	2300	1	2	26x12	small	1000(650)	1350
DTE	6 VT	Z	66/90	45-80	telescope	320	300	2600	1	2	26x12	small	1000(650)	1600
M	8/12 VHK	Z	88/120	45-80	hydr.flap	350	300	2300	1	2	26x12	large	1000(750)	1950

Tab.1

* incl. end-tow attachment

** plus seed : Approx. 20 kg per row - only fill in the field !
 plus fertilizer : Approx. 700-1000 kg
 For direct drilling equipment, the weight is increased by 40 kg per row .



Machines with a transport width of over 3 meters may not be driven on public roads. Suitable transport equipment for lengthwise transport is available!

Aeromat Multi-Hooper Fertilizer Applicator

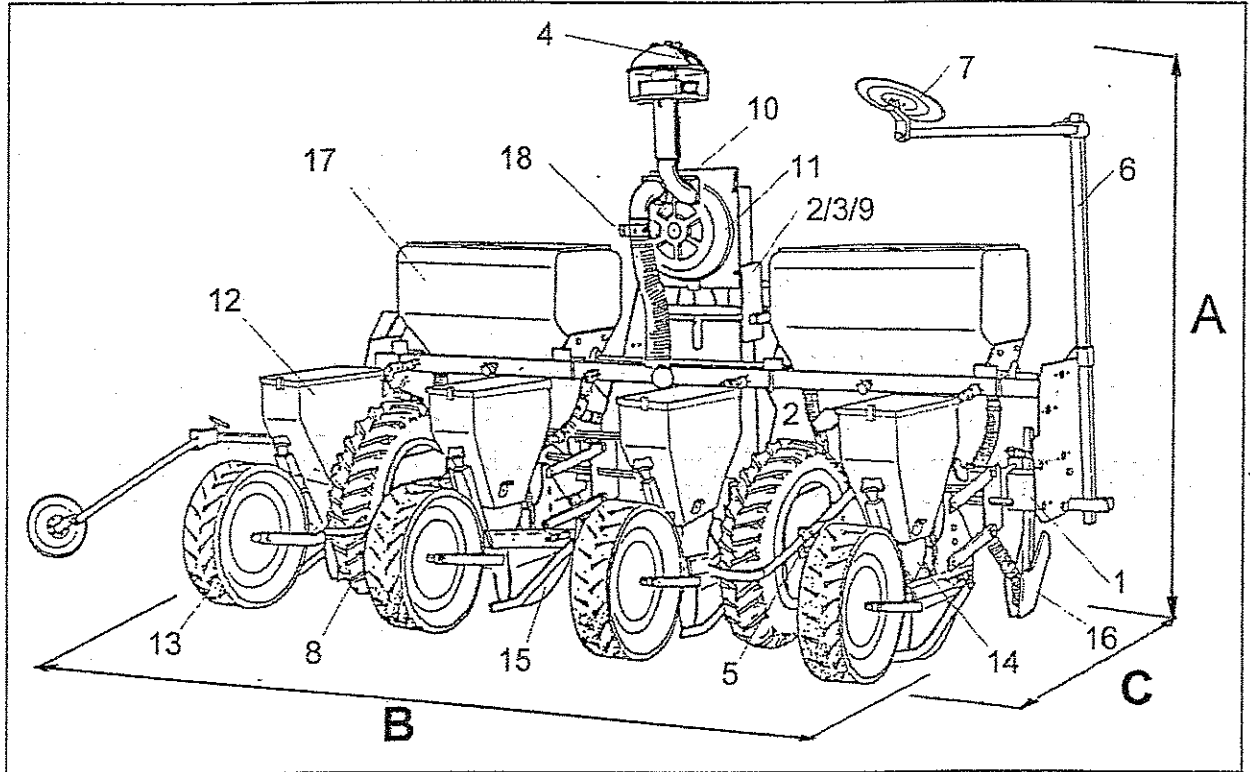


Fig.2

Aeromat Central Hopper Fertilizer Applicator

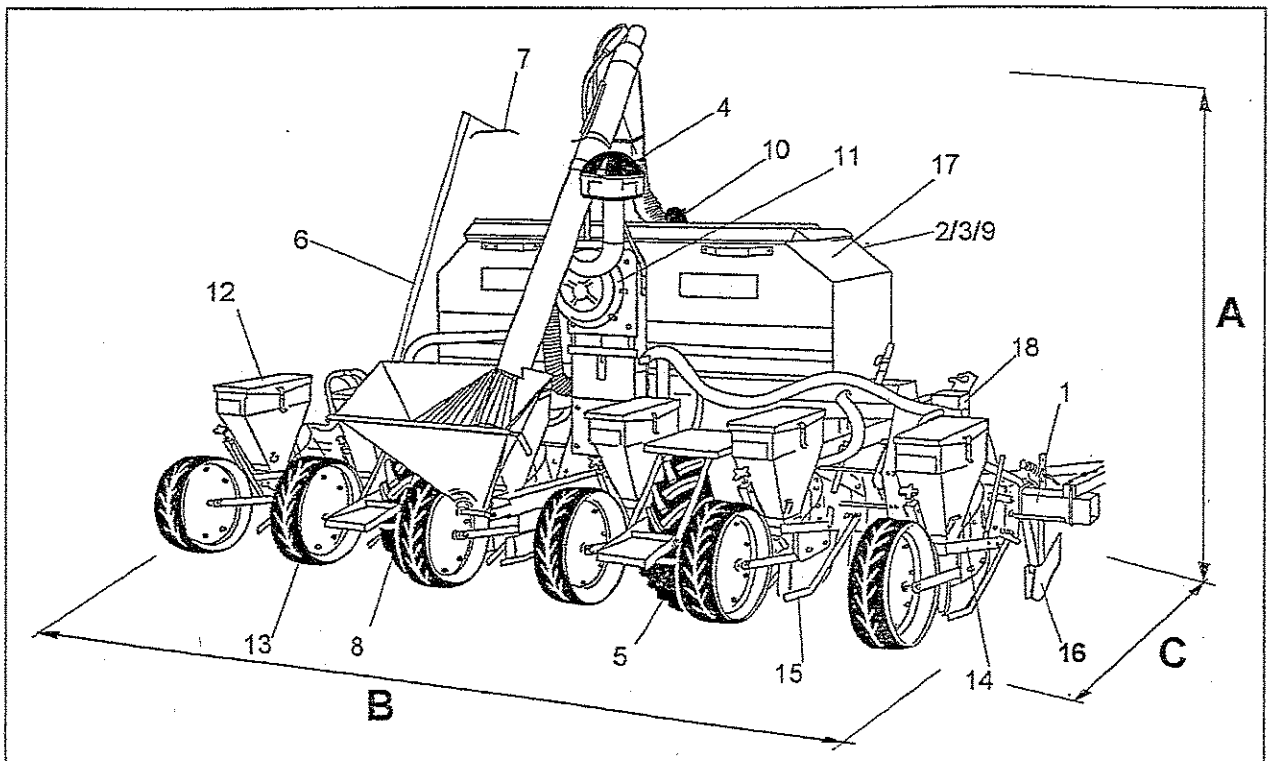


Fig.3

Mounting on the tractor

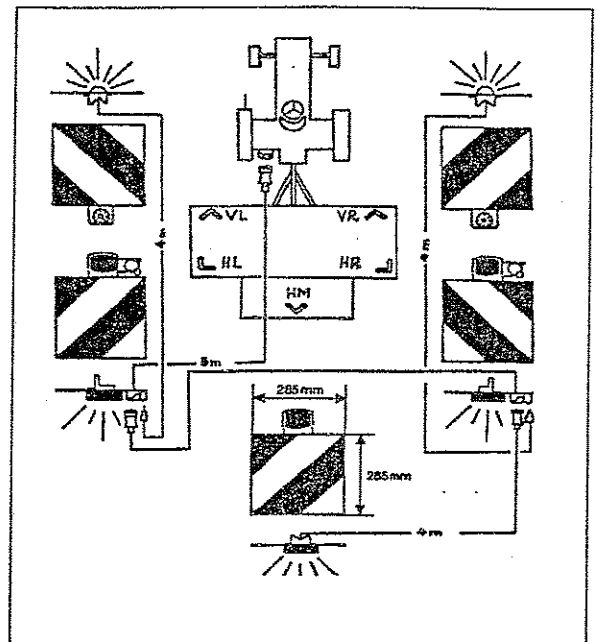
Important. When it lifts the seed drill, the steering on the tractor may be adversely affected as a result of the weight being taken off the front axle – see page 8 for weights. If necessary attach weights to the front.

To mount the seed drill, reverse the tractor towards it. Connect the top and bottom links. Since the manufacture and type of PTO shaft may differ, refer to the instructions on the shaft and mount the machine accordingly. The top link must be positioned so that it rises slightly towards the machine and holds the machine horizontal. The tractor's hydraulic system must always be set to the float position during seed drilling since otherwise drive wheels may slip. When transporting the seed drill on public roads and paths, you must comply with the regulations of the Road Traffic Act. If the rear tractor lights and registration plate are covered, or if the machine extends 1 metre above the rear lights on the tractor, a complete set of lights, rear working lights and registration plate must be fitted. Clearance lights on both sides at the front are also required at night.

Pursuant to the Road Traffic Act, it must be ensured that the lights are perpendicular, and the rear working light is not raised above 90 cm and the lights above 1.50 m. All parts which pose a potential risk to other traffic must be marked with warning boards pursuant to DIN 11030 or parking warnings at the front and rear, which do not extend more than 40 cm over the tractor's clearance lights. The warning boards must be fitted in such a way that the strips on the boards run downwards and to the outside. The longer side may either be horizontal or vertical.

Machines with excess width (transport width over 3 m) may only be transported on public roads and paths with a special licence or using suitable transport equipment.

Before taking it off the tractor, the parking supports are to be lowered and locked. Always place the machine on a firm surface and check that it is stable before disconnect the bottom and top links.



When the machine is mounted, the steering on the tractor may be adversely affected as a result of the weight being taken off the front axle. If necessary attach weights to the front. Follow the regulations of the Road Traffic Act when transporting the machine on public roads and paths.

Hydraulically folding machines

Machines with a large working width can be adjusted to a transport width of 3 metres by folding the wings. The wings and outer units can be swung in using two folding cylinders. The track markers can also be switched using two hydraulic cylinders.

On machines with electromagnetic hydraulic control valves, the valves on the quadruple control block are actuated by the relevant switches. The corresponding valve is open when the switch is set to "On". The maximum working pressure of the hydraulic system is 175 bar.

Mounted control box for electromagnetic hydraulic valves

The control box should be installed using the eyelet on the casing, where it can be seen by the driver. It should be at least one metre away from radio equipment and aerials. The voltage supply (12 V) is connected using a single pole standard socket. This must be connected in such a way that it is permanently live. When the tractor is shut down, the plug must be disconnected from the standard socket. If the machine is fitted with a 1502 monitor, the machine is controlled using the monitor (see manual for the 1502 monitor).

Emergency control

If any electronic parts are defective and the valves cannot be controlled normally using the controller, it is possible to open the appropriate valve using the screws on the bottom end of the magnet coils. Turn the screws approx. 10 mm deeper into the casing and thus press open the valve.

To fold the HKP parallel frame in and out

Both folding wings (1) are folded parallel for transport. It is possible to complete field work with one or both wings folded.

The centre section and wings are fitted with separate drive wheels.

Important for folding in the wings:

1. The complete machine must be raised off the ground using the three-point hydraulic system.
2. Both marker arms (2) must be in their working positions (lowered) before being folded. Only the outer arms on the folding marker must be folded on to the inner arms by hand and locked with pins. When the tractor hydraulic system is activated for folding, the track marker automatically folds to the permitted transport width of 3 metres.

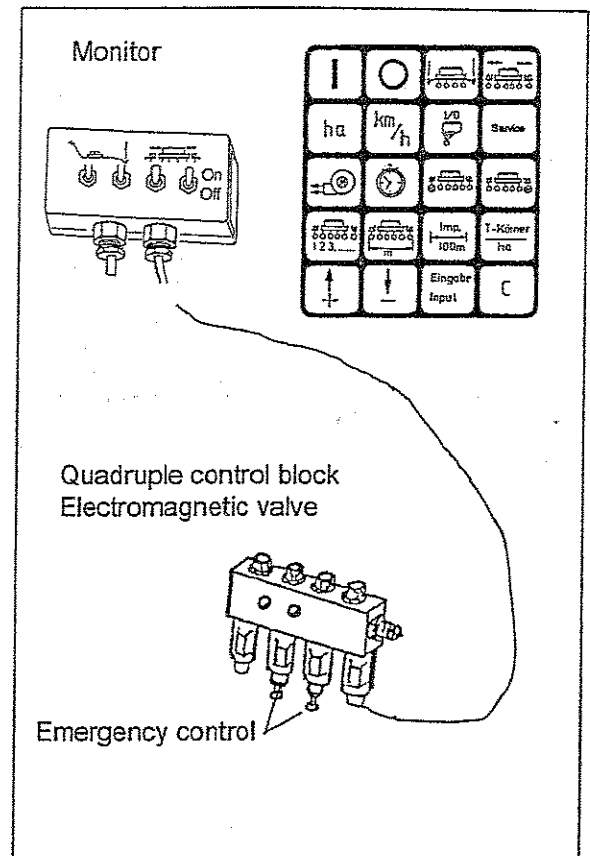


Fig. 4

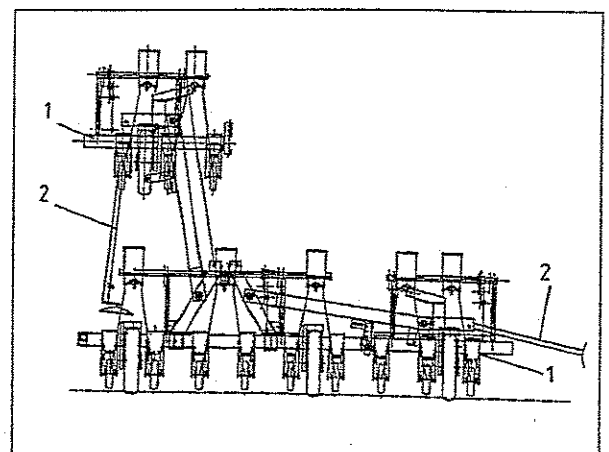
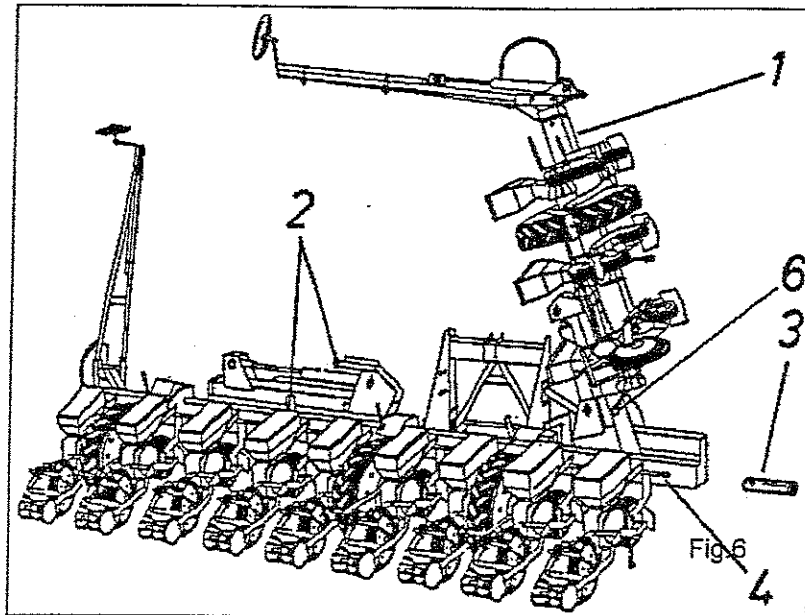


Fig. 5

Proceed in reverse order for unfolding.



Folding in and out with the HK folding frame

Depending on the requirements, the machine can be used in a rigid or floating configuration. If the machine is rigid, the wings (1), must be locked with locking pins (2). Then connect the hexagonal shafts to the coupling bushes (3) and insert the pins. If you wish to adjust the wings (1) to follow the ground, the support sections (6) below the wings must be removed and the locking bolts not locked. In addition the hexagonal shafts (4) are not to be connected to the coupling bushes (3).

3. The coupling bushes (3) may then only be moved when the machine is locked and pinned so that the hexagonal shafts (4) are separated. Only then may the locking bolts (2) be removed. Set the solenoid valves for folding in and out to "ON" and fold the machine into its transport position.
4. Close the hydraulic valves and secure the wings with the locking bolts (2). Proceed in reverse order to unfold the arms.

Important for swinging in the wings

1. The complete machine must be raised off the ground on the three-point linkage.
2. Both track markers (5) must be folded up into their transport position.
Shut off the hydraulic marker system ("OFF" position).
 - a. On the 8 – 12 row machines with rigid track markers, they are to be placed perpendicular to the frame and locked in this position for transport.
 - b. On the 18 row machines with folding markers the outer track marker parts must be folded out in their working position, pushed together and swung in parallel to the frame.



When transporting on public roads, the folded frame must be locked with the locking bolts.

When folding and unfolding the arms, there must be nobody in the swinging area. The maximum working pressure of the hydraulic system is 175 bar.

Longitudinal transport device (End-tow)

Seed drills with larger working widths can also be transported longitudinally to save on expensive hydraulic systems and folding wings. For this machine, Kongskilde can supply a longitudinal transport device (Fig.7), which can be adjusted from its transport to its working position as follows.

To convert from transport to working mode

1. Lower the parking support (1).
2. Uncouple the tractor from the headstock (6), by releasing the pin and removing the draw bar (2).
3. Connect the tractor with the draw bar (2) to the three-point mounting.
Caution: This will engage automatically.
4. Raise the machine a little and swing in the front wheel (4).
5. Carefully lower the machine and connect the top link (5).
6. Raise the machine again, swing in the headstock (6), raise the rear wheel (7) and lock them both.
Raise the parking support.
7. Release the track marker.

To convert from working to transport mode

1. Lock the track marker.
2. Raise the machine, lower the rear wheel (7) and swing out the headstock (6).
3. Carefully lower the machine until the top link pin (5) can be released.
4. Raise the machine again and pull down the front wheel (4). Extend the parking support (1) on the draw bar.
5. Lower the machine and release the draw bar (2).
6. Connect the tractor to the headstock (6), raise the parking support (1).



Important: Whilst connecting and disconnecting the tractor, ensure that nobody is between the tractor and the machine.

Tyre pressures for transport wheels:

7.00-12 8 PR = 3.50 bar.

Tighten the wheel nuts after two hours of use.

Tightening torque 220 Nm

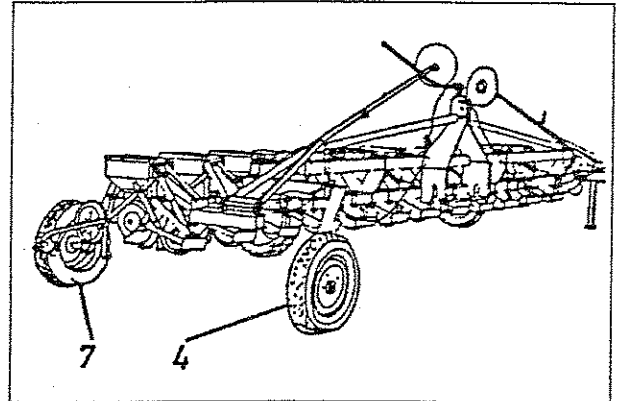


Fig. 7

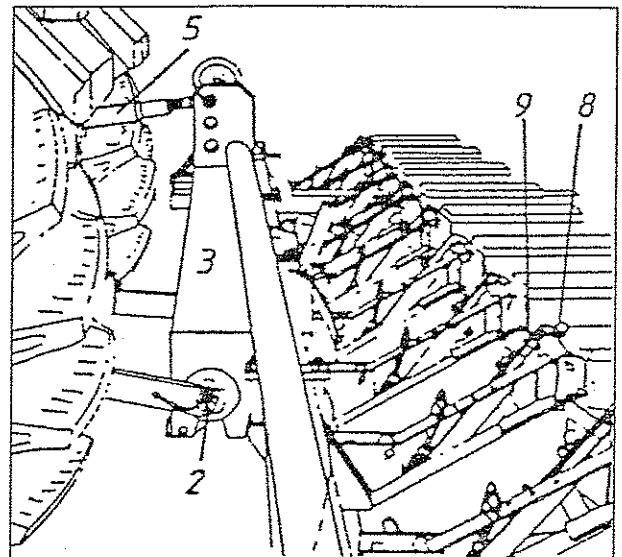


Fig. 8

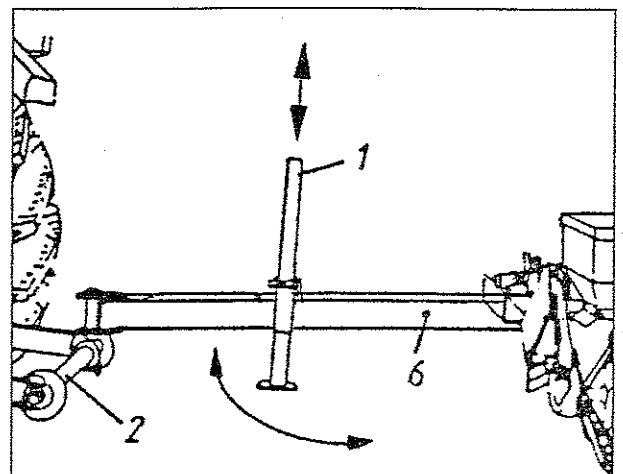


Fig. 9

To adjust the track marker

To do this you require the following information:

- The track width of the front wheels of the tractor
- The row width
- The working width of the seed drill

The length of the track marker is calculated as follows (see Fig. 10).

To adjust the track marker, raise the catch mechanism or pull out the locking bolt and move the track marker into its working position. Then slacken the bolts on the slide. Set it to the calculated dimension by sliding it along the square tube. Check the setting with the track marker lowered whilst the tractor is moving forwards. Re-tighten the bolts on the slide.

An adequate mark can be achieved, even in difficult soil, by setting the track marker discs at more or less of an angle and by using additional weights.

For centre marking, extend the length of the track marker (M) by a further half of the tractor track width.

The track marker on the folding machines can be hydraulically controlled alternately using the monitor (see the operating manual for the 1502 monitor)

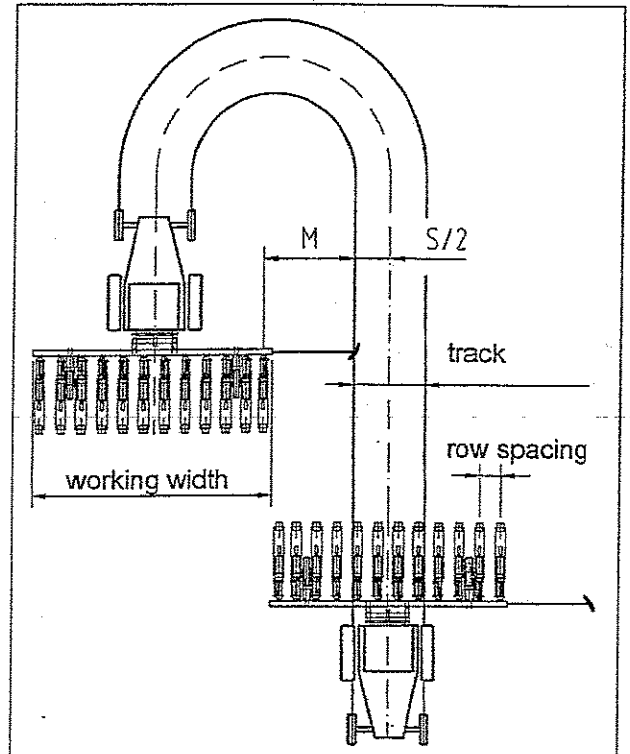


Fig.10



Caution – the track marker swings out well beyond the width of the machine. The cutting discs are sharp.

For road transport the track markers must be secured with the locking elements to prevent their swinging out unintentionally.

Example:

Aeromat R – 12-row
 Row spacing 45 cm
 Track 180 cm

$$M = \frac{\text{Working width} - \text{track}}{2} + \text{row spacing}$$

$$M = \frac{540 - 180}{2} + 45 = 225 \text{ cm}$$

Adjusting height of the fan assembly. (Fig.11)

The fan assembly is mounted as standard in the central position. For tractors with a low P.T.O. shaft it is advisable to re-position the assembly in the lower position to prevent too sharp a drive angle. When doing this, shorten the hose from the fan to the manifold accordingly.

Adjusting and testing fan belt tension. (Fig.12)

- 1 - Cyclone filter.
- 2 - Inlet pipe.
- 3 - Pressure pipe.
- 4 - Fan.
- 5 - Poly V Belt.
- 6 - Securing nuts.
- 7 - Adjusting screw.

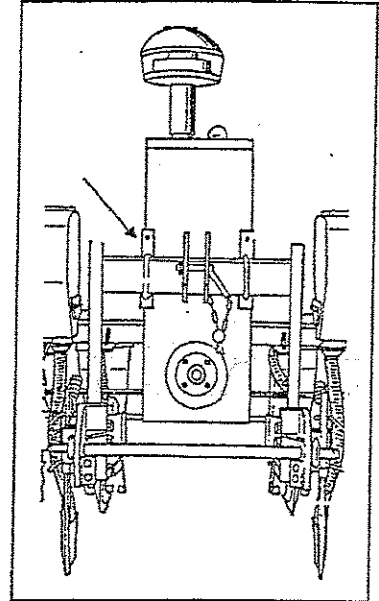


Fig.11

Belt life is dependent upon correct tension. Only check belt tension when the tractor engine is stopped.

Note!:

After adjustment, securely tighten Securing nuts (6) and adjusting screw's locknut (7). Check the belt tension at the following intervals: After the 1st. hour's work, then after 6 hours and 24 hours. Subsequently at longer intervals. The cyclone filter (1) and sieve in the inlet pipe should be cleaned regularly and as required. To clean the sieve, remove the rain cap and cyclone filter.

After disconnecting the machine, support the P.T.O. shaft with the chain provided (Fig. 13).

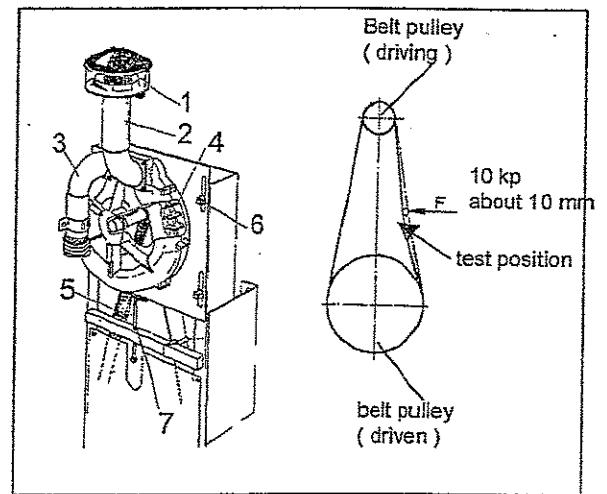


Fig.12



Use ear defenders! During operation, the machine can produce noise levels above 70 dBA! Eg. A 4 row Aeromat on 150 mbar pressure can produce up to 83 dBA.

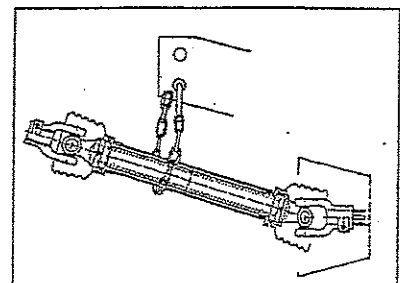


Fig.13

Setting the air pressure

The air pressure generated by the blower is dependent on the rotational speed of the tractor power take-off shaft. It is recommended to avoid operation using excessive blower-speed or high air pressure values. Unnecessary force, temperature and noise are to be avoided. The air pressure shown by the pressure gauge should not exceed a maximum of 150 mbars. In order to be able to optimally deliver the different seed-types and sizes, operation must be carried out at the air pressure values (in mbars) shown in the table (Tab. 2).

The air pressure values are to be read from and adjusted at the pressure gauge installed on the machine.

For fieldwork with the Aeromat, full tractor engine speed is not necessary. The blower-drive is so arranged that blower-pressure is achieved at half engine speed. It is recommended to drive using a constant hand-throttle speed setting. Jerky speed alteration due to foot-pedal speed control is to be avoided since it leads to rapid belt wear.

Where, due to the engine speed required to pull the machine, the blower rate and air pressure are too high, surplus air can be released through the regulator assembly located on the left side of the air-pipe, if necessary.

Heed the air pressure shown on the pressure gauge!

Corn
140 mbars

Turnip
40 mbars

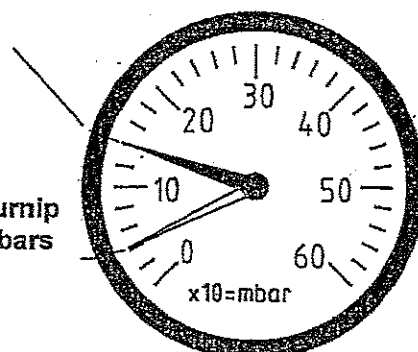


Fig.14

Necessary power take-off shaft rotational speed:

- approximately 450 rpm. by Aeromat 4-rows
- approximately 650 rpm. by Aeromat 6-rows
- approximately 750 rpm. by Aeromat 8-12rows
- For a speed of 450 rpm. select a power take-off shaft rotational speed of 540 rpm.
- For a speed of 650 rpm. select a power take-off shaft rotational speed of 1000 rpm.
- For a speed of 750 rpm. select a power take-off shaft rotational speed of 1000 rpm.

Seed	Pack 45,000 K weight	Pack 50,000 K weight	TKG in gram	Air pressure in mbars	Aeration 1/2/3/4	Slider Setting M/R	Cell wheel	Ejector
Corn small	8.1 kg to 13,5kg	9,0 kg to 15 kg	180g to 300g	130-140	2	(R30)	M9 Order - number 200071175	M4 Order - number 200055936
Corn large	13,5kg to 18.9kg	15kg to 21.0kg	300g to 420g	130-140	4	M(45)		
Turnip, piled				40-50	4	R(30)	R2	R
Turnip, calibrated				30-40	4		Order number 200055894	Order number 200055890

Tab.2

Practical values

Seed			Setting	
Name	TKG	Form	Slider	Aeration

Knowledge gained from experience. Seed container slider settings!

Locking the slider: OPEN – CLOSED

Before the seed container is filled with seed, the slider should be set to position R for turnip or M for corn.

Position: OPEN – R (30) turnip and small corn to TKG 300

For the sowing of turnip, put the spring cotter (1) into the upper hole (R) within the seed container (see fig. 15) and on the outside of the seed container, pull the slider completely up and secure with the spring cotter (2).

Position: OPEN – M (45) corn over TKG 300

For the sowing of corn, put the spring cotter (1) into the lower hole (M) within the seed container (see fig. 15), and on the outside of the seed container, pull the slider completely up and secure with the spring cotter (2).

Position: CLOSED – T - transporting

Put the spring cotter (2) into the upper hole (T) and push the slider completely down.

The locking slider is to be closed during transport from field to field. If the slider is not closed during transport, then the empty space of the casing fills with seed and upon re-usage of the machine, this leads to damage to the main nozzle and problems with sowing.

With combination machines, the slider, corn - turnip, is always factory set at position M for corn.

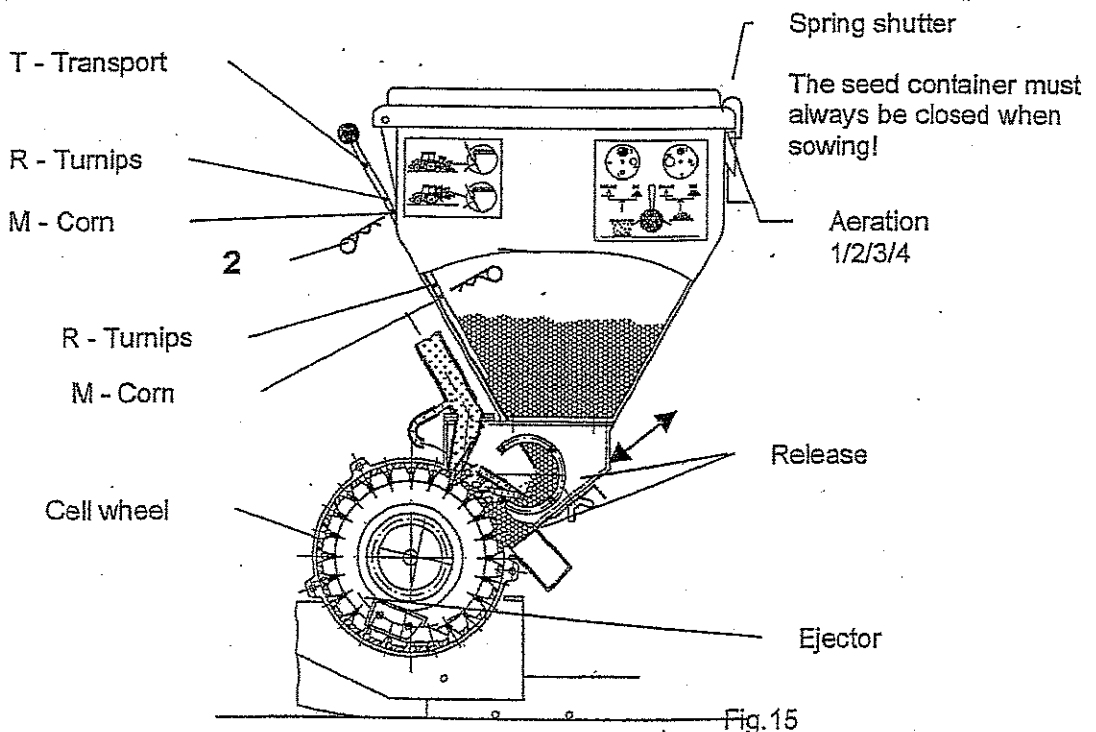
This position is suitable for all corn seed to TKG 300. Corn seed with a TKG over 300g., must be drilled using position M (45)

To change over from M to R, the spring cotter (1) is placed in the higher hole within the seed container, so that upon opening, it is arrested in the correct position.

The corresponding slider position is also shown in table 2 / page 16.

Release of remaining seed

In order to remove remaining seed from the seed container, the wing nut on the release slider (see Fig. 15) must be loosened and the slider pulled upwards to its limit. The remaining seed then empties into an appropriate receptacle, the release slider is then immediately closed – pushed down completely – and the wing nut is tightened securely.



Adjustment of equipment ventilation

Ventilation (Stellung 1/2/3/4)

In order to optimally dispense the different types and sizes of seeds it is imperative to adjust the ventilation accordingly. The ventilation is located at the top of the seed tank between the toggle type fastener (fig. 15, page 20). Provided the TKG (*thousand grain weight*) of the seed is known, the ventilation has to be adjusted according to table (fig. 16)!

TKG 200 - 300 setting on "2"

TKG 300 - 420 setting on "4" - closed

TKG = thousand grain weight

This weight specification is in most cases printed on the seed packs.

This table provides only a reference for the basic setting of the ventilation since the grain shape (round-angular-square) is significant as well. For this reason the setting might need some readjustment for borderline cases of seed types.

Once the machine is set for the proper spacing (e.g. 14cm) the respective number of grains per hectare (e.g. 95240 cf. table 6, page 29) appears on the display.

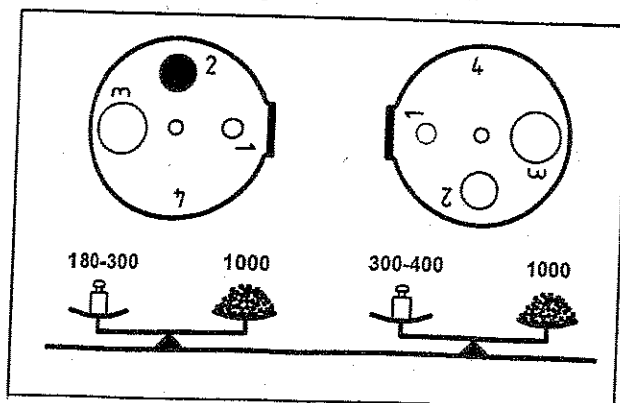
If the grain quantity misses that figure, the ventilation needs to be readjusted to a smaller bore (e.g. down from 2 to 3) for cases with low grain count.

For cases where an excessive grain count per hectare is indicated, readjustment to a bigger ventilation bore is required (e.g. from 2 to 3).

double seed drops: open ventilation
bigger bore
missed seed drops: tighten ventilation
smaller bore

ventilation setting:

corn



If the total weight of the pack is known, the TKG can be calculated for a grain count of 50,000 by dividing by 50 and for a grain count of 45,000 by dividing by 45.

For example:

$$\text{Pack} = \frac{15 \text{ kg} \cdot 1000}{50 (45)} \quad \text{TKG} = 300 \text{ GRAMS}$$

When converting to a new sort of corn it is advisable to set a shallow drill depth and to check the planting by uncovering the individual rows.

The operator needs to make absolutely sure that the top cover of the seed tank is closed and secured when sowing. Both toggle type fasteners have to be shut!

Setting for beet root field operation

When sowing pilled or unpilled beet roots, the ventilation needs to be shut (setting 4). Beet roots can only be dispensed with special beet feeders and ejectors (cf. tab.2, page 18).

beet roots

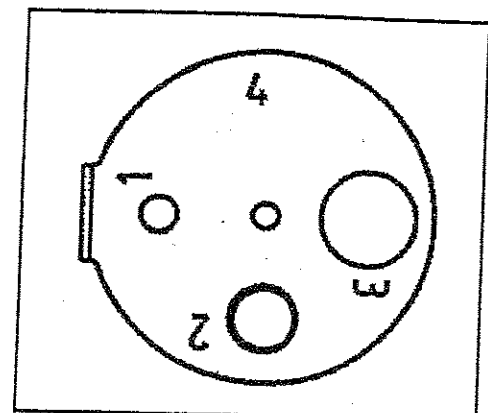


Fig.16

Filling with seed

Do not sow using damp or sticky seed

When filling with seed, ensure that no foreign objects are in the seed (wire, stones, wood, etc.).

It is not recommended to transport seed over long distances or to leave it in the seed hoppers overnight. For beet seed, the seed hopper should only be filled to a max. of 2/3rds.

DURING DRILLING, THE COVERS OF THE SEED HOPPERS MUST ALWAYS BE CLOSED AIRTIGHT.

Experience has shown that dressing the seed must be performed with the greatest care. To avoid bridging, check that the seed will "flow" easily. Dressing should be carried out at least day before sowing and that it is dry.

The fluidity of the dressed seed may be improved by mixing in about 200 grams of talcum powder with each 100 kg of seed.

The mixture proportions stated in the manuals of the manufacturers must always be observed.

Calibrating

Perform the turning and sowing test before using the drill.

If spacing is OK, then note the speed (engine or power take-off) and air pressure (for instance: engine speed: 1500 [rpm], air pressure: 140 [mbar]).

In case of variable air pressure at the same speed, spacing must in any case be checked. When changing the seed type or size (TKG), repeat the turning test.

Checking the jets

The jet is above the seed wheel and has the job of blowing excess seeds from the cones. If it should have been forgotten to switch on the power take-off before starting, and therefore the jet is not blowing air, then seeds projecting above the cone in the seedwheel will be sheared off at the jet edge. Of these broken seeds, individual pieces may lodge in the protective grid of the jet. These pieces must be removed immediately by loosening the quick-action clips and taking the jet out of the casing. After thoroughly cleaning the jets, these must be carefully reinserted and tightened using the quick-action clips.

Gaskets must be positioned between the jet plate and the jet as well as between the jet and the casing.

Check and clean all jets before the start of the season and replace any damaged ones with new.

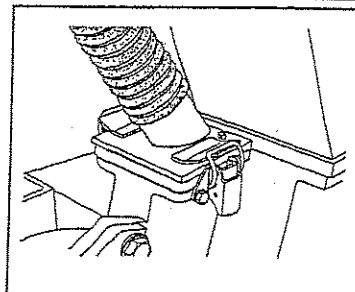


Fig.20

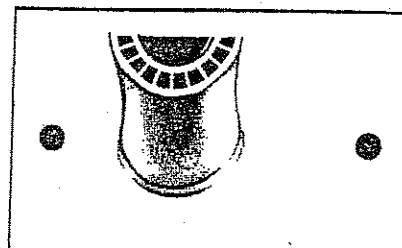


Fig.21

Fitting seed wheels

For different seed types, different seed wheels and ejectors are required. Seed wheels and ejectors are marked with ID letters (see table 3).

1. lift machine using the hydraulics
2. remove seed
3. unscrew and unhinge coulters
4. take off cover after loosening the three fastening screws
5. take out seed wheel after loosening the three fixing screws.

For installation, it is essential to first clean the seed wheel and the casing wall behind. Upon fitting the seed wheels, ensure that all three fixing screws (short) are tightened equally. Then, the ejector must be installed so that the narrow side points in driving direction and the marking letters are to the front (cover). When installing the cover, the ejector must be fitted on the pins bolted in the cover through the two openings. Upon fastening the cover using the bolts (long), ensure that the ejector is in the groove of the seed wheel loosely and is not jammed. Then, the two dust caps must be pressed into the cover holes!

Because, for some seed types, there are variations in size and weight from year to year, calibration is recommended or if necessary, install a more suitable seed wheel.

To determine the correct seed wheels (vegetables), seed samples are required. Different seed types may be sown using the same seed wheel.

Seed	Seedwheel model	Ejector model
maize	24 cones M 10	M 10
Field beans	36 cones B6	B6
Beet	36 cones R2	R2
Sunflowers	24 cones SB10	SB2
Bush beans	36 Buckets BS	M4

Tabel.3

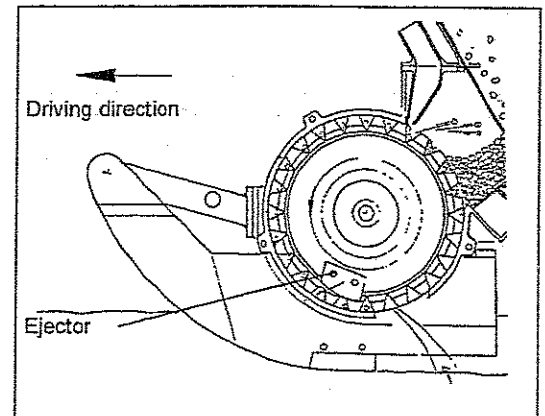


Fig.22

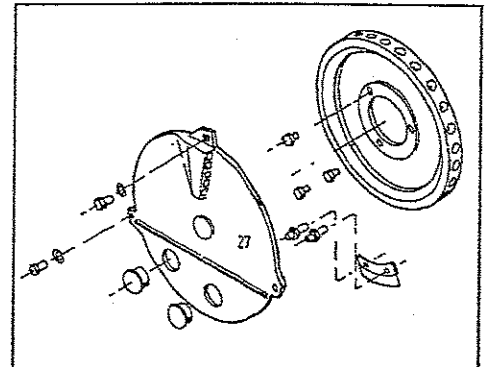


Fig.23

Setting the sowing depth

- | | |
|------------------------|--------------------|
| 1. Rear press wheel | 9. Quirl roller |
| 2. Adjusting spindle | 10. Air bleed |
| 3. Locking mechanism | 11. Seed slide |
| 4. Depth scale | 12. Spring loading |
| 5. Tandem rocker arm | 13. Disc opener |
| 6. Tandem roller front | 14. Seed tube |
| 7. Tandem roller rear | 15. Depth roller |
| 8. covering tine | 16. Spindle |
| | 17. Clod plate |

AEROMAT M/S

Depth control is via the rear press wheel(1). Using the spindle (2), the sowing depth is set. A scale (4) helps to uniformly set the units.

The covering tines (8) should work flat in the ground and cover the seed groove with loose earth. The effect of the covering tines (8) may be adjusted using springs.

AEROMAT R

For Aeromat with Tandem depth control wheels, the sowing depth is also adjusted by the spindle setting (2), the leading and trailing Tandem rollers (6+7) carry the unit and thereby the depth of the shoe.

For the Tandem version, the covering tines(8) are adjustable for depth and angle.

Using the depth limiter, it is possible to prevent the covering tines working too deeply in uneven or light soils.

The quirl roller (9) also provide uniform seed coverage in differing soil types.

Clod plates (17) may be adjusted in depth to suit differing conditions by setting and spring load (set to about 1 cm above ground).

AEROMAT DTE

Using the direct depth rollers (15) and the two disc openers (13) between the rollers, work on uneven ground is possible. Smaller humps and hollows have no effect on sowing depth, because the unit exactly follows the ground. Depth control adjusts to the ground conditions and may be set via a spindle (2). To increase the sowing depth, turn to the right. To reduce the sowing depth, turn to the left. The machine including the units will only enter the soil when the tractor is driven forward. The setting for sowing depth of all rows must be checked. To set the pressure rollers (1), turn the spindle (16) in the desired direction.

Turn to the right to increase the pressure and to the left to reduce the pressure. The pressure rollers must not work too low, sowing could be changed by that, especially if sowing is performed flat.

Bubble-Coulter disk and loosening share are accessories for direct sowing!

AEROMAT M

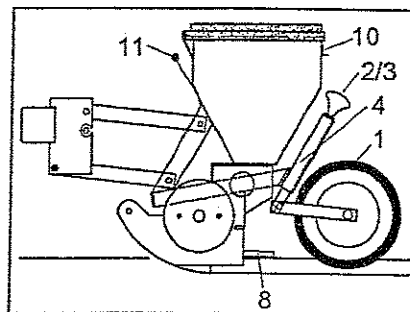


Fig.24

AEROMAT S

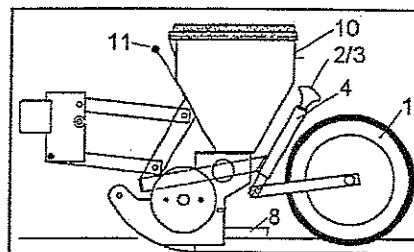


Fig.25

AEROMAT R

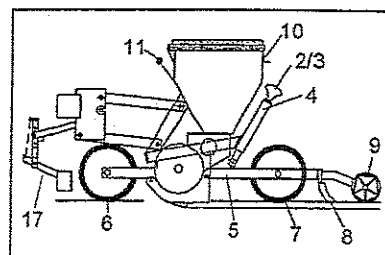


Fig.26

AEROMAT DTE

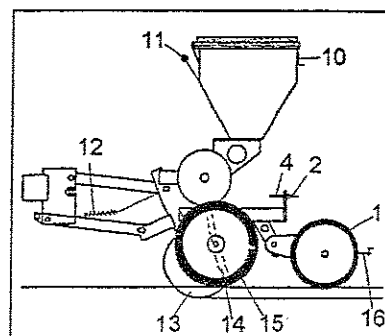


Fig.27

Setting transport and working position

To transport the machine, the units must be raised. To achieve this, the spring is engaged in the lug rearwards and the unit lifted. The catch automatically engages and holds the unit in transport position (Fig.28).

If the unit is to be lowered into working position, the spring is set to the front position and the unit is lifted slightly, so that the catch can be unlocked (Fig.29). By means of an adjustable stop on the upper part of the catch, the depth setting for the unit may be achieved.

1. catch
2. Stop
3. Spring

The air pressure in the antechamber above the seed wheel only allows so much seed to be refilled as the seed wheel takes it. If the machine is transported with filled seed chambers, e.g. : from the farmyard to the field, then too much seed would fall, which could then lead to doubles and blocked jets. For this purpose, the slide at the front of the seed container must be closed for journeys (Fig.30).

Note:

During road journeys, the slide must always be closed, otherwise the separating chamber will completely fill up with seed. This may lead to problems when sowing the next field!

Repair of the overload device

The overload device (Fig. 32) prevents damage to chains and drives. These faults may be caused by foreign objects in the seed, for instance nails or stones, which are trapped between seed wheel and casing. If such a fault occurs, then the two bolts shear. In this case, the fault must be removed and the two bolts in the overload must be replaced.

Only original spare parts should be used, as only the correct tensile strength of the bolts ensures that the device will operate correctly.

Transport setting:

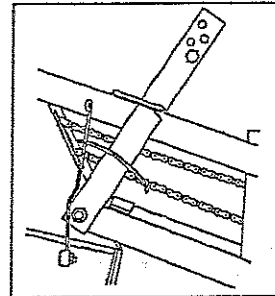


Fig.28

Working setting:

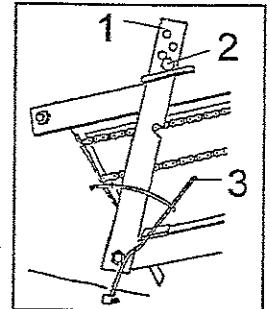


Fig.29

Transport setting:
Slide closed

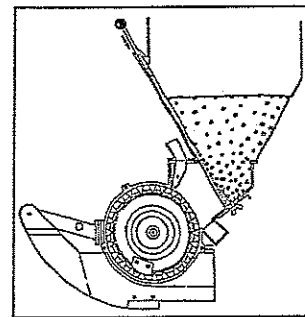


Fig.30

Working setting:
Slide open

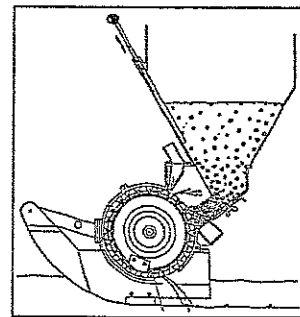


Fig.31

Overload device:

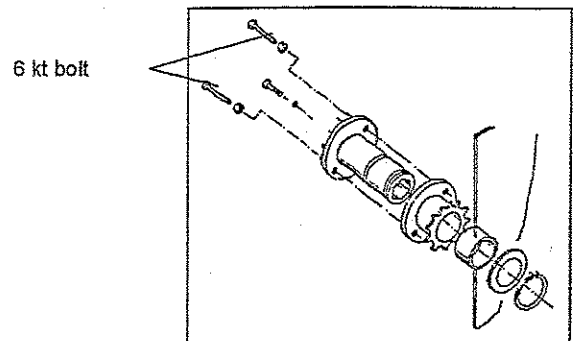


Fig.32

Determining the sowing area

On the wheel arm of the drive wheel, a meter is installed to count the revolutions of the drive wheel. From the meter reading and the working width of the drill, the drilled area may be determined

$$\text{Area} = \frac{Z \times U \times A}{10000} \quad [\text{Hectare}]$$

Z = meter reading

U = circumference drive wheel [m]

A = working width of the machine [m]

Circumference of drive wheel (5.00 – 15) = 2 m

Circumference of drive wheel (7.50 – 15) = 2.25 m

To make the calculation easier, factors are listed alongside for some row widths.

$$\text{Area} = \frac{\text{meter reading} \times \text{factor}}{10000}$$

Example – drive wheel (5.00 – 15)

drill with = 6 rows

row width = 50 cm

meter reading = 1450

$$\text{Area} = \frac{\text{meter reading} \times \text{factor}}{10000}$$

$$\text{Area} = \frac{1450 \times 6.00}{10000} = 0.87 \text{ hectare}$$

Example – drive wheel (7.5 – 15)

drill with = 6 rows

row width = 75 cm

meter reading = 750

$$\text{Area} = \frac{\text{meter reading} \times \text{factor}}{10000}$$

$$\text{Area} = \frac{750 \times 10.26}{10000} = 0.769 \text{ hectare}$$

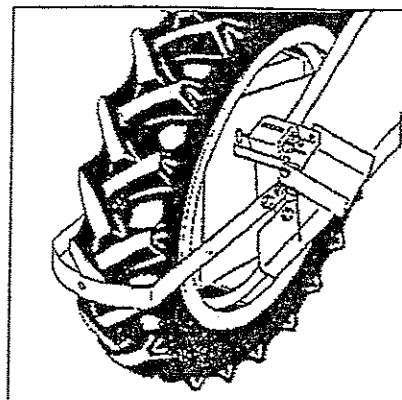
Note:

These are only guide values, because the slip of the drive wheels is affected by ground conditions.

Check tyre pressure pre - season !

5.00 – 15 = 2 bar

7.50 – 15 = 2 bar



Row width	Number of rows				
	4 row	6 row	8 row	12 row	18 row
45	3,6 10000	5,4 10000	7,2 10000	10,8 10000	16,2 10000
50	4,0 10000	6,0 10000	8,0 10000	12,0 10000	18,0 10000
70	5,6 10000	8,4 10000	11,2 10000	16,8 10000	25,2 10000
75	6 10000	9 10000	12,0 10000	18,0 10000	27,0 10000
80	6,4 10000	9,6 10000	12,8 10000	19,2 10000	28,8 10000
5.00 – 15					

Table 4

Row width	Number of rows		
	4 row	6 row	8 row
62,5	5,64 10000	8,55 10000	11,40 10000
70	6,31 10000	9,57 10000	12,76 10000
75	6,77 10000	10,26 10000	13,68 10000
70	7,22 10000	10,94 10000	14,5 10000
7.50 -15			

Table 5

Determining the seed spacing

In the table alongside (table 6), the seed spacing in the row may be determined from the listed "seeds per hectare". Translation factor for "seeds per sqm is 10000. (cut 4 decimal places !)

Example:

Known are: 9 plants / sqm or
90,000 plants / ha

and: 75 cm row width

from table : 8.89 plants / sqm or
88900 plants / ha

Answer: for a row width of 75 cm, a seed
spacing of 15 cm and 66.6 seeds for a
row distance of 10 m (6.66 seeds for 1
m row distance) result

Sowing table

Row spacing						Seeds per 10 m	Seed spacing [cm]
45 cm	50 cm	62,5 cm	70 cm	75 cm	80 cm		
61730	55580	44450	39680	37040	34720	27,78	36
65360	58800	47050	42010	39220	36770	28,41	34
69443	62500	50000	44640	41670	39770	31,25	32
74080	66600	53330	47620	44440	41670	33,33	30
79370	71400	57140	51020	47620	44620	35,71	28
85460	76900	61540	54960	51280	48080	38,45	26
92590	83000	66670	59520	55560	52090	41,66	24
100990	91000	72730	64930	60500	56820	45,45	22
105810	95000	76200	68030	63500	59530	47,62	21
111100	100000	80000	71430	66670	62500	50,00	20
116940	105000	84210	75200	70200	65900	52,63	19
123465	111000	88900	79370	74080	69450	55,56	18
130710	118000	94120	84030	78430	73530	58,82	17
138670	125000	100000	89290	83330	78130	62,50	16
148150	133000	106680	95240	88900	83340	66,66	15
158720	143000	114300	102040	95240	89300	71,43	14
170840	154000	123080	109900	102560	96150	76,92	13
185160	167000	133340	119000	111040	104130	83,33	12
202000	182000	145460	129870	121210	113640	90,91	11
222200	200000	160000	142850	133330	125000	100,00	10
246885	222000	177760	158700	148130	138880	111,11	9
277750	250000	200000	178570	166570	156250	125,00	8
Seeds per hectare							

Table 6

Determination of the driving speed

The driving speed during drilling is largely determined by the seed spacing in the row.

large seed spacing – high driving speed

small seed spacing – low driving speed

The speed for individual seed spacings may be seen from the table alongside (table 7).

Example: seed spacing = 16 cm
seed wheel with 24 holes
driving speed = 8 km/h

A driving speed of 8 to 10 km/h should not be exceeded, otherwise there will be too much rolling in the seed groove. Rolling of the seed may be caused by different soil types as well as wear of the shoes, the precision of sowing must be checked by uncovering sown seeds.

Seed spacing [cm]	seed wheel maize	seed wheel field beans	seed wheel sunflowers	seed wheel beet
5		4		
6		4-5		
7		5-6		
8	5	6		5
9	5	7		5-6
10	6	8		6
12	7	8		7
14	8	8		7
16	8	8		8
18	9	8	5	8
20	10	8	6	8
22	10	8	7	8
24	10	8	7-8	8
26	10	8	8	8
28	10	8	9	8
30	10	8	9	8
drilling speed in km/h				

Table 7

Setting the seed spacing

To set the desired drive line, the overcentre mechanism for lifting the drive chain is pulled in the direction of the drive wheel (see Fig. 33). Using the gear lever, the complete drive unit may now be slid across. Re-tension chain and check for correct alignment

The hexagonal shafts and guide rails within the drive unit should always be well greased for this reason.

On the left side of the wheel arm, the sprockets usually do not have to be exchanged. Should this be necessary, then these must be exchanged on all drive wheels of the drill.

On the right side of the wheel arm, further seed spacings are possible by exchanging sprockets (see gear unit table – table 8).

The guard may be pulled off rearwards without the need for tools.

After adjustment, check chain alignment and tension.

Check seed spacing!

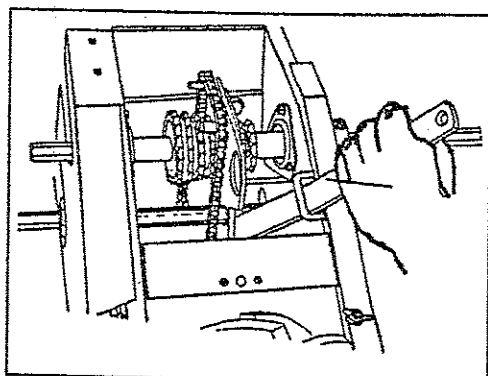


Fig.33

Gear unit table – tyre size 7.50 - 15

Zellenrad mit Seedwheel with Roue avec Distributore	24	Zellen holes alveole alveoli	7.50-15								
Ablageabstand / Distancias de siembra Sowing distances / Distances de semis											
13.5	12.5	11.8	11.0	10.5	10.0	9.5	8.8	8.5	8.0	23	18
17.5	16.0	15.0	14.0	13.5	12.5	12.0	11.5	10.8	10.0	18	18
22.0	20.5	19.0	18.0	17.0	16.0	15.0	14.5	13.8	13.0	18	23
28.5	26.5	24.5	23.0	21.5	20.5	19.5	18.5	17.5	16.5	14	23

Zellenrad mit Seedwheel with Roue avec Distributore	36	Zellen holes alveole alveoli	7.50-15								
Ablageabstand / Distancias de siembra Sowing distances / Distances de semis											
6.9	6.4	6.0	5.6	5.3	5.0	4.7	4.5	4.3	4.1	30	18
9.0	8.4	7.8	7.3	7.0	6.5	6.2	5.8	5.7	5.5	23	18
14.8	13.7	12.8	12.0	11.3	10.6	10.0	9.6	9.2	8.7	18	23
19.0	17.5	16.5	15.5	14.5	13.5	13.0	12.4	11.7	11.0	14	23

Zellenrad mit Seedwheel with Roue avec Distributore	48	Zellen holes alveole alveoli	7.50-15								
Ablageabstand / Distancias de siembra Sowing distances / Distances de semis											
5.2	4.8	4.5	4.2	4.0	3.8	3.6	3.4	3.2	3.0	30	18
6.8	6.4	6.0	5.5	5.0	4.8	4.6	4.4	4.2	4.0	23	18
11.0	10.3	9.6	9.0	8.5	8.0	7.6	7.3	7.0	6.6	18	23
18.5	17.3	16.1	15.0	14.2	13.4	12.7	12.0	11.5	10.8	14	30

Gear unit table – tyre size 5.00-15

Zellenrad mit Seedwheel with Roue avec Distributore	24	Zellen holes alveole alveoli	5.00-15					
Abtägeabstand / Distancias de siembra Sowing distances / Distancias de semis								
	14.5	13.7	13.0	12.2	11.5	11.0	23	18
	18.5	17.5	16.5	15.5	14.8	14.0	18	18
	24.0	22.5	21.0	20.0	19.0	18.0	18	23
	33.0	31.0	29.0	27.5	26.0	24.5	13	23

Zellenrad mit Seedwheel with Roue avec Distributore	36	Zellen holes alveole alveoli	5.00-15					
Abtägeabstand / Distancias de siembra Sowing distances / Distancias de semis								
	7.5	7.0	6.6	6.3	6.0	5.5	30	18
	9.5	9.0	8.5	8.0	7.6	7.2	30	23
	12.5	11.7	11.0	10.5	10.0	9.3	18	18
	16.0	15.0	14.1	13.3	12.6	12.0	18	23
	22.0	20.6	19.5	18.5	17.5	16.5	13	23

Zellenrad mit Seedwheel with Roue avec Distributore	96	Zellen holes alveole alveoli	5.00-15					
Abtägeabstand / Distancias de siembra Sowing distances / Distancias de semis								
	3.7	3.5	3.2	3.0	2.9	2.7	23	18
	5.1	4.8	4.5	4.2	4.0	3.8	17	18
	7.5	7.2	6.8	6.4	6.0	5.7	14	23

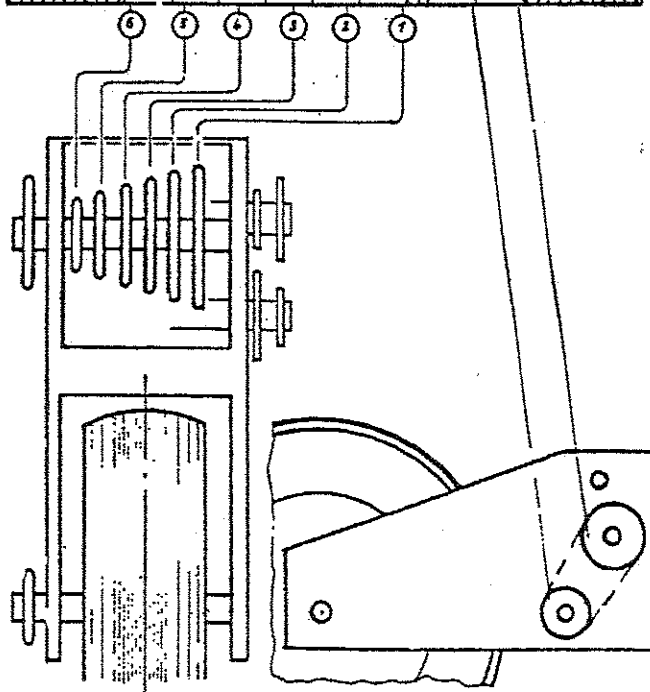


Table 9

Description of the multi – hopper fertilizer applicator.

(Fig.34, Fig.35)

- 1 Cover
- 2 Fertilizer hopper
- 3 Discharge door
- 4 Adjustable drive
- 5 Fertilizer hose
- 6 Spring-loaded fertilizer coulter
- 7 Fertilizer coulter bracket
- 8 Exchangeable sprockets
- 9 Chain tension rollers
- 10 Clips
- 11 Drive chain

10 m row length correspond to:

- 33 shaft revolutions at the fertilizer gear unit
- 4 1/3 revolutions at the drive wheel 7.5-15
- 5 revolutions at the drive wheel 5.00-15
- 5 revolutions at the Terra 26-12 tire

The distributed fertilizer quantity of a drilling row compare with the table and the setting possibly corrected.

Do not work using damp fertilizer!
Calibrate each row!

Setting the fertilizer coulter- Fig.34

The depth and the distance to the coulter must each be checked and individually set. The coulter must be mounted in such a manner that in case of deflection, the distance to the seed row is increased.

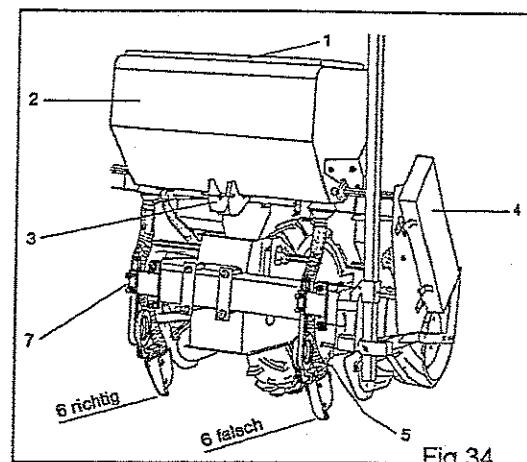


Fig.34

Setting the fertilizer output

Only granulated fertilizer in dry state without lumps enables exact and unobstructed application. In the drive of the fertilizer applicator, on the left side of the machine, the desired fertilizer quantity is set by exchanging the sprockets.

Remove the clips, the corresponding chains and insert the sprockets, lay on the chains, check chain tensioners for function, secure sprockets, fit chain guard.

To determine the required setting, the fertilizer quantity in g/10 m is determined from the table (page 29) for the desired fertilizer quantity in kg/ha and for the row width. In tables 2 and 3 (page 29), for this fertilizer quantity [g/10m], the number of teeth of the sprocket for the chain drive may be found. Check by calibration.

Calibration

The fertilizer quantities may vary from the table for different fertilizer types. The true applicator rate may be determined by calibration.

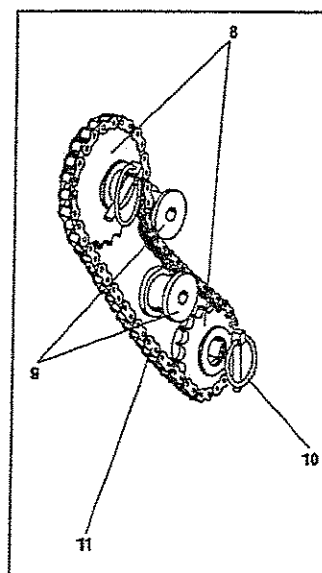


Fig.35

Einstellung der Düngermenge

Adjusting the fertilizer quantity

Regolazione della quantità di concime

Réglage de la quantité de fertilisant

Tab 1

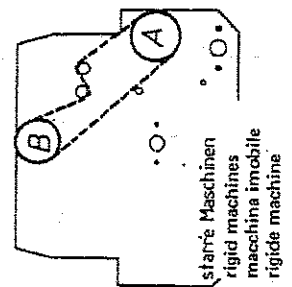
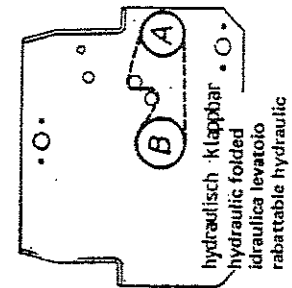
Quantität de fertilisant	Quantität di concime per ettaro	fertilizer- quantity	Dünger- menge kg / ha
600	600	600	600
550	550	550	550
500	500	500	500
450	450	450	450
400	400	400	400
350	350	350	350
300	300	300	300
250	250	250	250
200	200	200	200
150	150	150	150
100	100	100	100
90	90	90	90
80	80	80	80

Espacement en cm Distanza tra le file row spacings in cm Reihenabstand in cm			
50	60	70	80
300	360	420	480
275	330	385	440
250	300	350	400
225	270	315	360
200	240	280	320
175	210	245	280
150	180	210	240
125	150	175	200
100	120	140	160
75	90	105	120
50	60	70	80
45	54	63	72
40	48	56	64
Düngermenge in gramm/10 Meter fertilizer quantity in grams per 10 meters			
Quantità di concime per file gr./10m Fertilisant en grammes/10 m			

no. de dents no. di denti No. of teeth Zähnezahlen		no. de dents no. di denti No. of teeth Zähnezahlen	
A	B	A	B
35	13	35	13
30	13	30	13
35	17	35	17
30	17	30	17
30	20	30	20
30	23	30	23
23	20	23	20
20	23	20	23
23	30	23	30
20	30	20	30
17	30	17	30
17	35	17	35
13	30	13	30
13	35	13	35
7.50 - 15		7.50 - 15	
A		A	
B		B	

no. de dents no. di denti No. of teeth Zähnezahlen		no. de dents no. di denti No. of teeth Zähnezahlen	
A	B	A	B
35	13	35	13
30	13	30	13
35	17	35	17
30	17	30	17
30	20	30	20
30	23	30	23
23	20	23	20
20	23	20	23
23	30	23	30
20	30	20	30
17	30	17	30
17	35	17	35
13	30	13	30
13	35	13	35
6.50 - 15		6.50 - 15	
A		A	
B		B	

no. de dents no. di denti No. of teeth Zähnezahlen		no. de dents no. di denti No. of teeth Zähnezahlen	
A	B	A	B
35	13	35	13
30	13	30	13
35	17	35	17
30	17	30	17
30	20	30	20
30	23	30	23
23	20	23	20
20	23	20	23
23	30	23	30
20	30	20	30
17	30	17	30
17	35	17	35
13	30	13	30
13	35	13	35
6.50 - 15		6.50 - 15	
A		A	
B		B	



Exemple
Qualité
Espacement
dimension des pneus

Esempio
Quantità di concime
Distanza tra le file
Misura di pneumatico

Example
fertilizer quantity
row spacing
wheel-size

Beispiel
Düngermenge
Reihenabstand
Reifengröße

guarda tabella 1
guarda tabella 3
selezione
rotazione

look table 1
look table 3
choiced

siehe Tab. 1
siehe Tab. 3
gewählt

starre Maschinen
rigid machines
macchina immobile
rigide machine

hydraulic folded
idraulica levatoio
rabattable hydraulic

Central hopper fertilizer applicator

1. **Base shutter (Fig.36):** These can not be used to adjust output.
 - setting 0 means base shutter closed
 - setting 2 is the normal setting for fertilizer application.
 - setting 8 and higher is for emptying and cleaning
2. **Slide (Fig.37):**
 - 1 = Fully open
 - 2 = semi open
 - 3 = closed

Setting 1 = totally open is the normal setting for application fertilizer.

3. **Fertilizer quantity (Fig.38):**
Using the gear change unit, the fertilizer quantity is set. The chart (Fig. 38) shows the setting range from 0-80, whereby the application rate increases with increasing figures.

Setting the base shutter

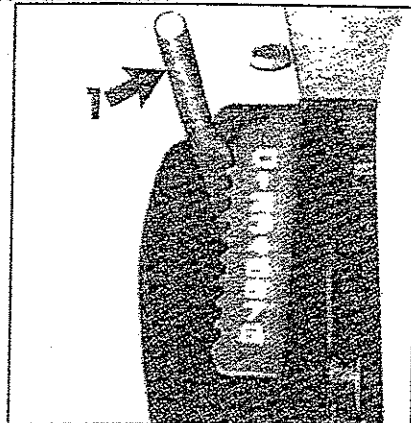


Fig.36

Setting the slide

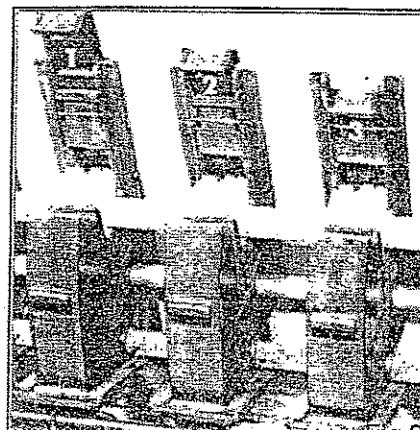


Fig.37

Oil filled gear unit (Fig.39)
HLP 46 - NUTO H 68 from Esso

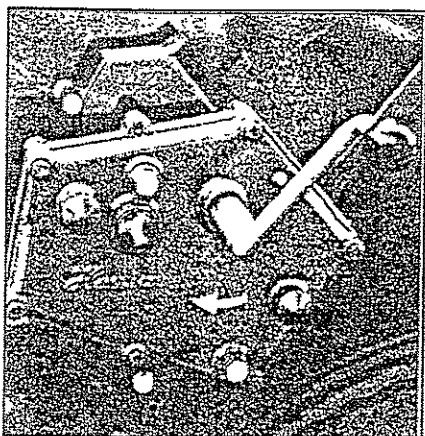


Fig.39

Setting gear unit

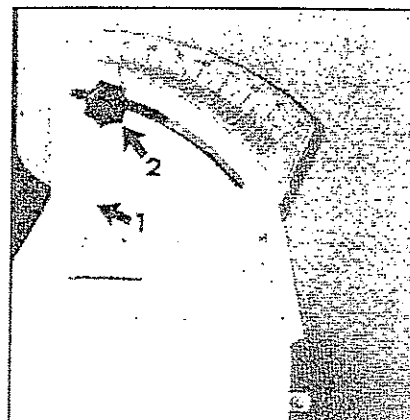


Fig.38

Example:

75 cm row width, 150 kg/ha fertilizer, 112g/10m per drilled row, gear unit setting 18 should be selected!

Calibration

The fertilizer quantities may vary from the table for different fertilizer types. The true application rate may be determined by calibration.

10 m row length correspond to:

- 33 shaft revolutions on the fertilizer gear unit
- 4 1/3 revolutions on the drive wheel 7.5-15
- 5 revolutions on the drive wheel 5.00-15
- 5 revolutions on the Terra 26-12 tires

Compare the fertilizer quantity distributed for a drilling row to the table and the setting possibly corrected.

Do not work with damp fertilizer!
Calibrate for each row!

gear unit setting	Application rate in [grms] per 10 m per drilling row
80	450
70	425
65	417
60	405
55	375
50	335
45	307
40	270
35	250
30	220
25	170
20	135
15	85
10	45
5	17

Table 11

Einstellung der Düngermenge
Adjusting the fertilizer quantity
Regolazione della quantità di concime
Réglage de la quantité de fertilisant Tab1

Quantité de fertilisant	Quantità di concime per ettaro	fertilizer-quantity	Dünger-menge kg/ha	Espacement en cm Distanza tra le file row spacings in cm Reihenabstand in cm				
				30	60	70	75	80
600	600	600	600	300	360	420	450	480
550	550	550	550	275	330	385	412	440
500	500	500	500	250	300	350	375	400
450	450	450	450	225	270	315	337	360
400	400	400	400	200	240	280	300	320
350	350	350	350	175	210	245	262	280
300	300	300	300	150	180	210	225	240
250	250	250	250	125	150	175	187	200
200	200	200	200	100	120	140	150	160
150	150	150	150	75	90	105	112	120
100	100	100	100	50	60	70	75	80
90	90	90	90	45	54	63	67	72
80	80	80	80	40	48	56	60	64

Düngermenge in gramm/10 Meter
fertilizer quantity in grams per 10 meters
Quantità di concime per file gr./10 m
Fertilisant en grammes/10 m

Table12

Fertilizer loading auger (Fig.40)

For quick filling of the central hopper fertilizer applicator, the Aeromat can be fitted with an auger!. The auger is powered by the tractor hydraulics and may be switched on/off using the additional spool valve (1)! The auger is a valuable and work saving aid for loading bulk fertilizer.

Designed to be of low weight and long life. It is powered by an hydraulic motor driven by the hydraulic system of the tractor.

- Auger length : 2200 [mm]
- Total length: 2700 [mm]
- Diameter: 150 [mm] PVC pipe
- Drive: Hydro motor
- Weight: 53 [kg]
- Return: HD hose, length 3700 mm
- Feed: HD hose, length 3500 mm
- Connections: SVK – plug with cap

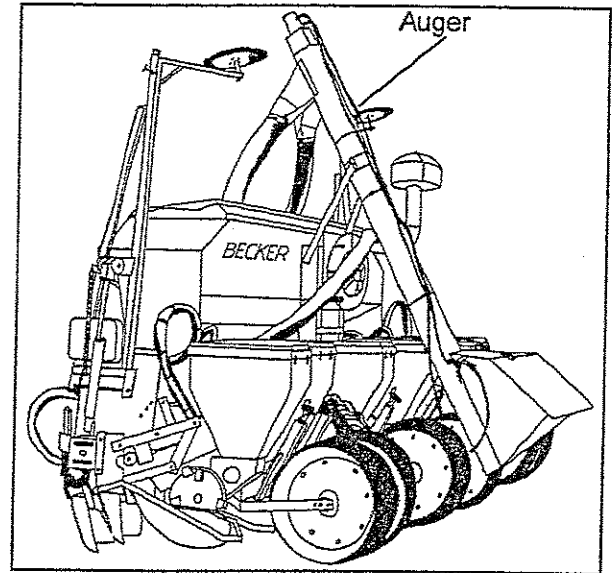


Fig.40

The upper part and the base of the auger may be opened using a simple handle, so that it may be quickly disassembled for cleaning.

Feed performance see table13

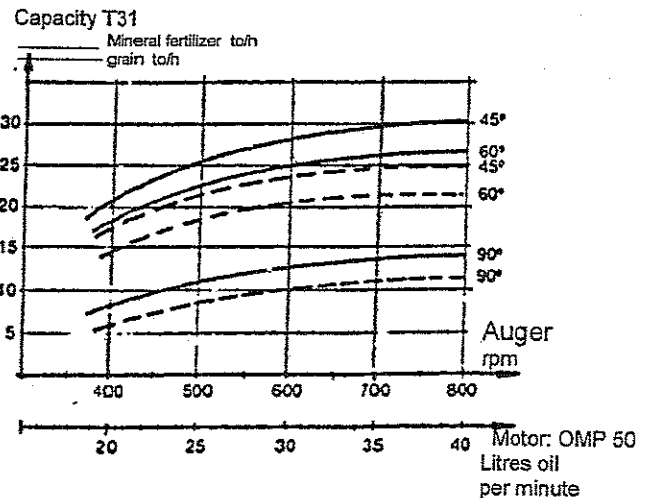


Table13



Disconnect the hydraulics system before performing maintenance work! If guards must be removed for service and repair work, then these must be reinstalled before commissioning! Max. pressure of the hydraulics system 175 bar.

Maintenance (Fig.41)

Before the start of the season, the machine must be completely greased !

All Tandem wheels are fitted with a grease nipple (1 + 2), and must be greased daily depending on the number of hectares worked.

For the pivot joints (3) of the machine, greasing before start of the season is sufficient!

By turning the drive wheels – ground drive, it is possible to check the ease of motion and correct function of the machine (without seed). The tyre pressure in the drive wheels must be checked and be corrected if necessary.

Air pressure – drive wheel 7.50-15 2 – 2.5 bar

Air pressure –drive wheel 5.00 – 15 2 bar

Air pressure – transport wheel see transport facility page 13

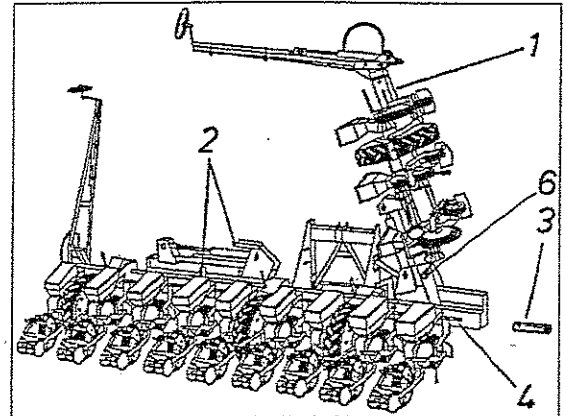


Fig.41

At the end of the season, the machine should be completely cleaned, all seed containers emptied and by turning the drive wheel the residual seed removed from the seed wheels!

The fertilizer hopper and auger must also be emptied and cleaned. All bearings – friction bearings – must be lubricated using grease.

Repair any paint damage and completely conserve the machine.

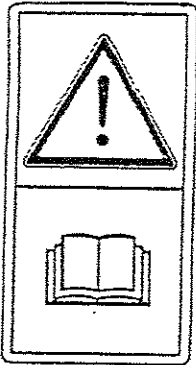


Abide by the accident prevention rules!

Only set the machine down on solid ground, open it out and lower it before performing maintenance work! If protective devices are to be removed for repair and service work, then these must be reinstalled before recommissioning. Chains and belts may only be installed when the machine is at a standstill.

Fault finding chart

Fault	Problem	Remedy
A Air pressure is not achieved	<ol style="list-style-type: none"> 1. Cyclone filter full of dust 2. Sieve in the inlet manifold dirty 3. Drive belt is slipping 4. Pressure gauge broken 5. Loss of air 	<ol style="list-style-type: none"> 1. Remove, clean cyclone filter 2. Take out sieve and clean it 3. Tighten belt according to instructions 4. fit new pressure gauge 5. Possibly: hose pulled off regulating screw set incorrectly
B Misses (Monitor)	<ol style="list-style-type: none"> 1. Sticky seed, seed wheel cones dirty 2. Cover of the seed container leaks 3. Jet blocked 4. Optical sensor dirty 5. Ventilation set wrongly 6. Driving speed too slow 	<ol style="list-style-type: none"> 1. Clean cones of the seed wheels and use correctly coated seed 2. Align cover and thoroughly check the seal 3. Clean jets and carefully mount on casing including seal 4. Clean optical sensor 5. Close ventilation further (smaller ventilation bore) Check table for driving speed
C Doubles	<ol style="list-style-type: none"> 1. Insufficient air pressure 2. Driving speed too high 3. Jet blocked 4. Ventilation set incorrectly 	<ol style="list-style-type: none"> 1. Set air pressure 2. Check table for driving speed 3. Clean jet and carefully mount on casing including seal 4. Open ventilation (larger ventilation bore)
D Irregular seed spacing	<ol style="list-style-type: none"> 1. Driving speed too high 2. Slip of the drive wheels, because the fertilizer share is set deeper than ground has been prepared. 3. Drive wheel slippage -only one wheel is under load 4. Coulter worn or blocked 	<ol style="list-style-type: none"> 1. Check table for driving speed 2. Set fertilizer share shallower or cultivate soil deeper 3. Lower lift roads of tractor hydraulics of unequal length 4. Replace or clean coulter
E Seed spacing greater than in the table	Slip of the drive wheels due to ground conditions	It is possible to correct this by using the close – ratio gearbox to give a closer seed spacing

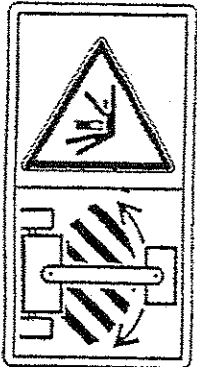


Catalogue No. 1
ISO 11684 No. (-)

Becker
Order No. 043774

Kongskilde decals

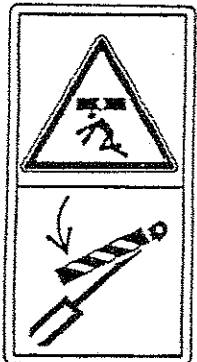
Before starting work with the machine, read and follow the operating manual and safety instructions.



Catalogue No. 6
ISO 11684- No. (C.2.10.)

Becker
Order No. 062365

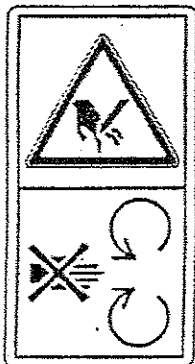
Do not stand in the breakaway area whilst the machine is operating



Catalogue – No. 11
ISO 11684 – No. (C.2.2.)

Becker
Order No. 062363

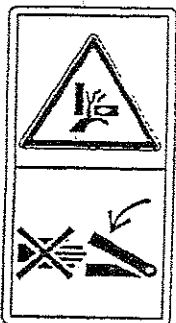
Standing in the danger area is only permitted if the lifting cylinder lock is engaged



Catalogue – No. 14
ISO 11684 – No. (C.2.21)

Becker
Order No. 083978

Do not open or remove the guards whilst the machine is operational

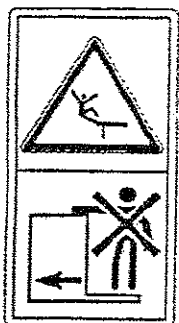


Catalogue – No.20
ISO 11684 – No. (C.2.35)

Becker
Order – No. 083979

Kongskilde decals

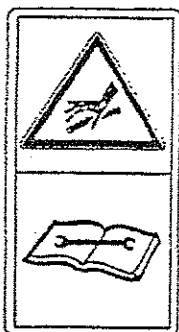
Never reach into the crushing
risk area if parts can move
inside it



Catalogue – No. 37
ISO 11684 – No. (C.2.27)

Becker
Order – No. 083976

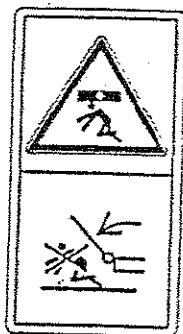
Do not ride on the steps or
platforms



Catalogue – No. 40
ISO 11684 – No. (C.2.44)

Becker
Order – No. 083988

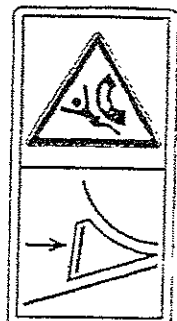
Beware of escaping high
pressure fluid. See
instructions in manual



Catalogue – No. 50
ISO 11684 – No. (-)

Becker
Order – No. 083977

Do not stand in the swinging
area of equipment



Catalogue – No. 52
ISO 11684 – No. (-)

Becker
Order – No. 062366

Prevent machine from rolling
away accidentally before
detaching it from the tractor
use chocks

Maintenance intervals

After the first operating hours

Maintenance	Person executing	Description see page
Check and tighten all bolts	Operator	—
Before use		
Lubricate machine	Operator	33
Oil chain and check chain tension	Operator	33
Check coulters and tips	Operator	—
Check casing and sprockets	Operator	—
Check ventilation for correct setting	Operator	19
Check tyre pressure Tires 5.00 – 15 = 2 Bar / 29 PSI Tires 7.50 – 15 = 2.5 Bar / 36 PSI	Operator	33
After use		
Empty seed and fertilizer completely, also remove residue in the chambers	Operator	21
Protect electrical parts against moisture (store in a dry room)	Operator	—
Clean and then conserve machine	Operator	33
Check machine for damage and possibly order spare parts	Operator	—
After working of 800 to 1000 ha		
Have single seed sowing machine checked	Workshop	—
After 3 to at max. 5 years		
Replace hydraulics hoses Operating pressure at max. 175 bar	Workshop	—



Abide by the accident prevention rules!

Only set the machine down on solid ground, open it out and lower it before carrying out maintenance work! If protective devices are to be removed for repair and service work, then these must be reinstalled before recommissioning. Chains and belts may only be installed when the machine is at a standstill.

