

Instruction Manual and Seed Rate Setting Chart

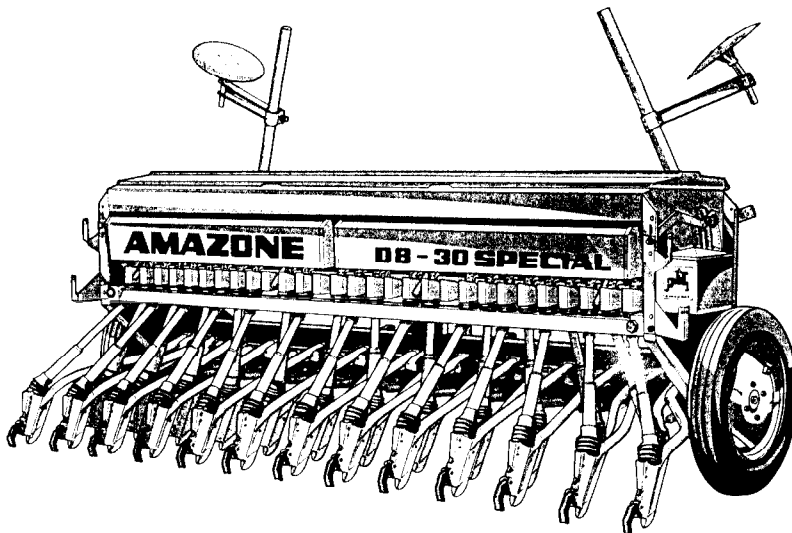
for Seed Drill

AMAZONE

D8-20 SPECIAL

D8-25 SPECIAL

D8-30 SPECIAL



AMAZONEN-WERKE **H. DREYER**
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Factories for: Fertilizer-spreaders, -storage halls, -handling systems. Seed drills. Soil cultivation machines. Field sprayers. Potato-graders, -sorters.

The AMAZONE tractor mounted seed drill of the type D8 SPECIAL is one machine from the AMAZONE-range of farm machinery.

The engineering technology in connection with the correct operation ensures optimum use and longevity.

To ensure that you will get the best possible results from your "AMAZONE" we would ask you to read and observe these instructions carefully. You will, of course, appreciate that we will not be able to accept claims under the guarantee if any damage is caused due to incorrect operation.

Please enter the serial number of your seed drill here. You will find this number in front of your seed drill at the left side of the central hopper supporting bracket. Additionally the serial number is painted to the front of the drill's seed box.

Please always quote the serial number when ordering spares or asking technical questions:

Seed drill D8-..... SPECIAL

Serial-No.

Your seed drill complies only with the regulations of the agricultural health and safety authorities if in case of repair original spareparts of the AMAZONEN-WORKS are being used for replacement.

CAUTION!

Whenever the machine is moved, the agitator shaft turns even if the gearbox is set at "0". Therefore, make sure that no parts are left inside the seed box before moving the drill. Otherwise damage could occur to the agitator shaft.

Never put your hands inside the seed box while the machine is moving as serious injury may be caused by the rotating agitator shaft (never try to level the seed inside the seed box while the machine is in drilling operation).

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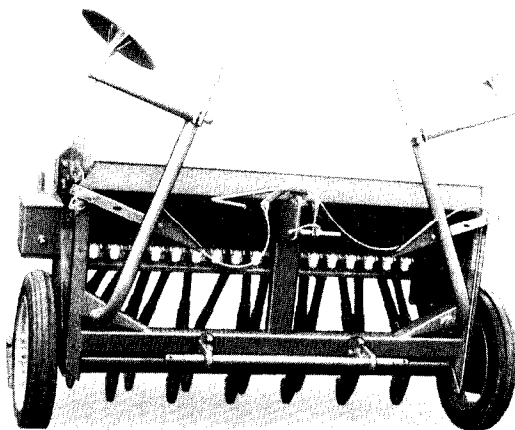


Fig. 1

D8-20 SPECIAL

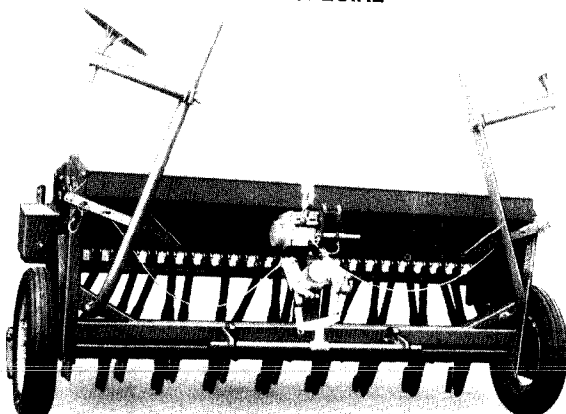


Fig. 2

D8-25 SPECIAL

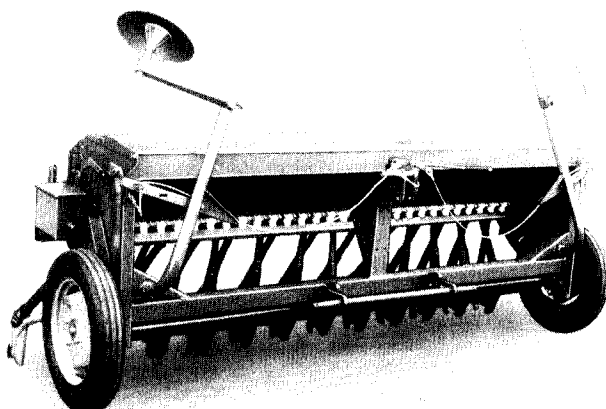


Fig. 3

D8-30 SPECIAL

1 Details about the machine

1.1 Manufacturer

AMAZONEN-WERKE H. Dreyer GmbH & Co. KG, P. O. Box 51, D-4507 Hasbergen-Gaste, F. R. Germany.

1.2 Technical data

Type	D8-20 SPECIAL	D8-25 SPECIAL	D8-30 SPECIAL
Working width	2.00 m	2.50 m	3.00 m
"K"-coulters	17	21	25
Closest row spacing	11.7 cm	11.9 cm	12.0 cm
Net weight without accessories and seed	247 kgs	330 kgs	372 kgs
Seed box capacity	240 l	320 l	400 l
Stepless free of maintenance oil bath metering transmission filling of	1.8 l	1.8 l	1.8 l
	hydraulic fluid type WTL 16.5 cSt/50°C		
Tyre size	5.00-16 (680 mm diam./150 mm width)	5.00-16	5.00-16
Tyre pressure	1.2 bar	1.2 bar	1.2 bar
Transporting width (total width)	1.97 m	2.47 m	2.97 m
Track width (rim crank turned inwards)	1.84 m	2.34 m	2.84 m
Transport width (rim crank turned outwards)	2.13 m	2.63 m	2.84 m
Track width	2.00 m	2.50 m	3.00 m
Total height	1.13 m	1.13 m	1.13 m

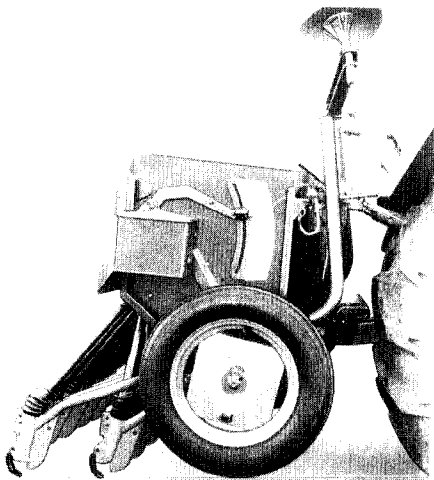


Fig. 4

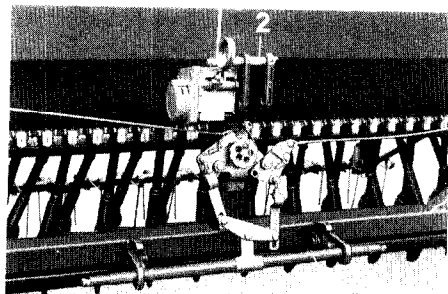


Fig. 5

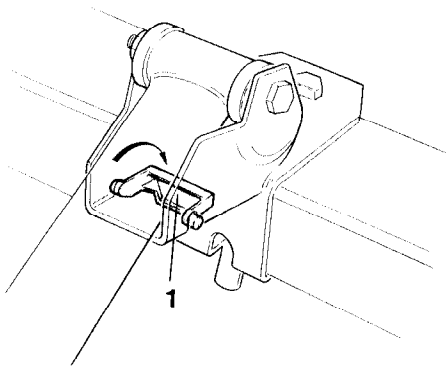


Fig. 6

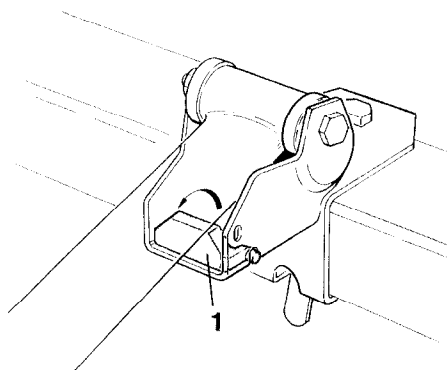


Fig. 7

2 On receipt of the machine

When receiving the machine please check immediately whether transport damage has occurred or whether parts are missing. Only an immediate claim with the transporters leads to compensation. Please check also whether all parts mentioned in the delivery note were supplied.

The coulters of the seed drill are fixed to the seed drill by the coulter bearing fixing. The coulter bearing fixing is equipped with a highlift bracket (Fig. 6/7) made from polyamide. For transporting some coulters are raised by the highlift support (Fig. 7/1) at the delivery. If you should notice this on your seed drill just lift the corresponding coulters briefly and flap the highlift bracket forward as shown in Fig. 6/1 so that when letting the coulter go it will rest on the ground.

CAUTION!

When moving the seed drill in the yard the agitator shaft still turns even with the gearbox setting on "0". For this reason never place any parts inside the seed box, as this could damage the agitator shaft and, of course, such parts.

DANGER:

Never reach with your hands inside the seedbox. Danger of injury by the rotating agitator shaft!

3 Before the first operation

3.1 Fitting of the seed drill to the rear three-point-linkage of the tractor

The seed drill D8 SPECIAL is mounted to the rear three-point-linkage of the tractor as shown in Fig. 4. For attaching the tractor's lower links are pushed over the ends of the seed drill's lower link rod (Fig. 5/1) and secured by clip pins.

The seed drill D8-20 SPECIAL is equipped with a lower link rod of the cat. I (Fig. 5/1). Upon special request also a lower link rod cat. II is available.

The seed drills D8-25 SPECIAL and D8-30 SPECIAL are equipped as standard with lower link rods of the cat. II.

In lifted position the lower links of the tractor should have only a slight side movement to ensure that the machine always runs centrally behind the tractor and that it does not swing from one side to the other when turning at the headlands with the lifted machine.

The top link is connected by the dual cat. I and II (Fig. 5/2) and secured by a clip pin. The length of the top link is adjusted until the seed drill has a vertical position.

Please remember that the seed drill should only be filled with seed after having been attached to the tractor and it should also only be disconnected from the tractor after it has been completely emptied as otherwise it may tip over to the rear.

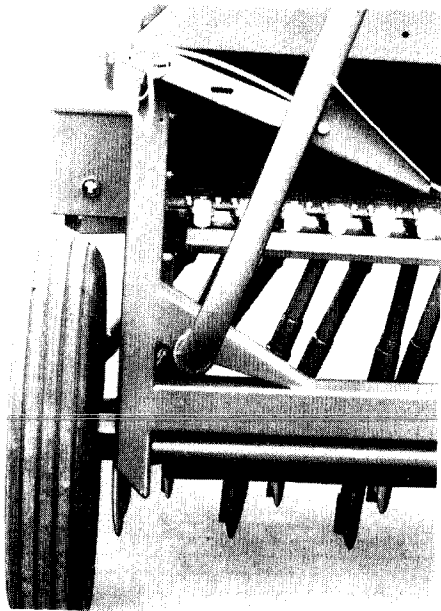


Fig. 8

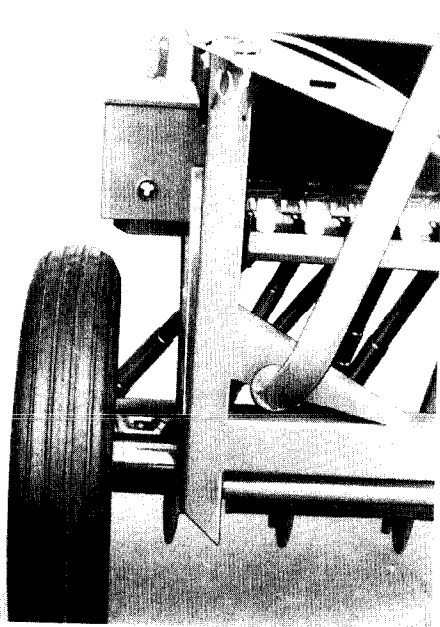


Fig. 9

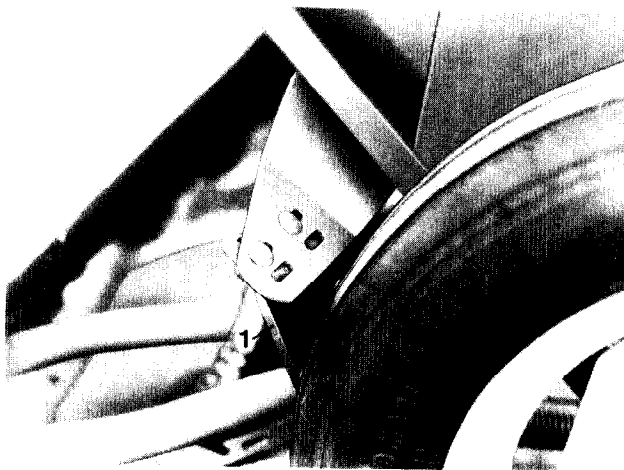


Fig. 10

3.2 Choice of the wheel positioning with regard to the following bouts

The seed drills are delivered with the rim crank turned inwards (Fig. 8). This results in the following transport- and trackwidths:

Seed drill	Transport width	Track width
D8-20 SPECIAL	1.97 m	1.84 m
D8-25 SPECIAL	2.47 m	2.34 m
D8-30 SPECIAL	2.97 m	2.84 m

Always two coulters run in the wheelmarks of the seed drill and when driving the adjacent bouts two wheelmarks are lying side by side.

By turning the wheels, so that the rim crank is turned outwards (Fig. 9) the following measurements result:

Seed drill	Transport width	Track width
D8-20 SPECIAL	2.13 m	2.00 m
D8-25 SPECIAL	2.63 m	2.50 m
D8-30 SPECIAL	3.13 m	3.00 m

At this way of fitting the wheels the gap between the tyres and the chain cover box of the seed drill is considerably increased and thus no congestion of soil will occur on heavy and sticky soils.

Now only the outer coulters are running in the seed drill's wheelmark. When driving the adjacent bouts on the field the seed drill wheels are running twice the same wheelmark. Therefore only half the number of drill wheelmarks are seen on the field.

When turning the wheels also the wheel scrapers (Fig. 10/1) (special accessory) must be repositioned. The distance between the scraper and the tyre must become wider from the inside (about 1 cm) to the outside (about 2 cm).

NOTE:

For the transport on public roads where a maximum transport width of 3.0 m may not be exceeded (please consult your local traffic authorities) the seed drill D8-30 SPECIAL may only be transported with inward cranked rims to bring the seed drill width within limits (please see above tables).

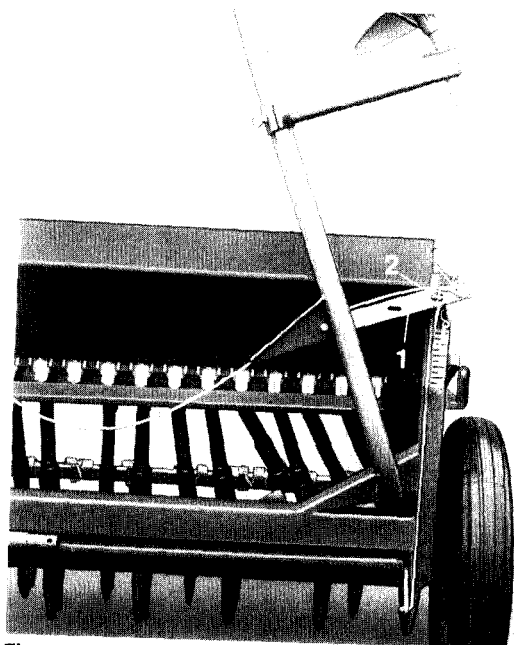


Fig. 11

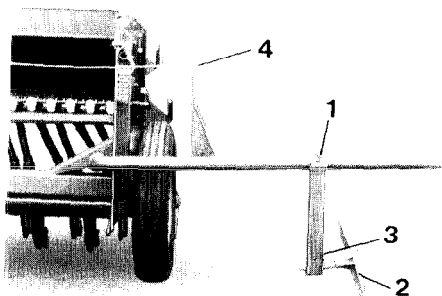


Fig. 12

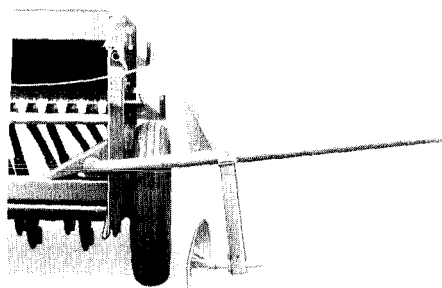


Fig. 13

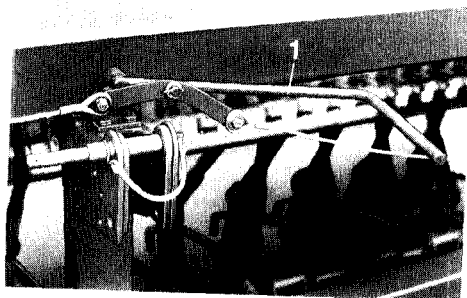


Fig. 14

3.3 Markers

The AMAZONE seed drill D8 SPECIAL comes as standard with disc-markers. During sowing on the field the markers create a mark which the tractor operator follows with the tractor's front wheel when sowing the adjacent bout.

For transport the markers should be lifted and as shown in Fig. 11 be secured by the securing bar (Fig. 11/1) at the points provided and also be secured by a clip pin (Fig. 11/2).

If the seed drill is lifted for transport it can happen with some tractor types, that the lifted markers damage the opened rear window of the tractor. In such cases it is possible to use the hole in the centre of the securing rod (Fig. 11/1) so that the markers are slightly angled sideways and don't endange the rear window of the tractor any longer.

CAUTION!

This position of the markers being slightly angled out sideways is only allowable on the field. When driving on public roads, the markers must be fixed according to Fig. 11.

3.3.1 Setting of the markers

For setting the markers both marker arms are folded down. For this after removal of the clip pin (Fig. 11/2) the securing bar (Fig. 11/1) is swung sideways and the marker is folded down (Fig. 12).

First set the **length of the marker arms**. Depending on the tractor's track, working width and number of rows of seed drill varying marker settings result, i. e. different distances from the centre of the seed drill to the marker disc.

At the end of this instruction book we explain by some examples how you can determine the distance between the marker disc and the seed drill's centre. The distance may now be set at the markers. For this loosen the clamping eye-bolt (Fig. 12/1) by inserting the handle of the calibration crank and thereafter the vertical marker arm may be slid on the horizontal marker tube.

If it should be necessary to place the mark closely to the seed drill wheel, exchange the righthand and the lefthand vertical marker arms (Fig. 13).

The **position of the marker discs** (Fig. 12/2) should be set simultaneously with the length adjustment. The position of the marker disc in relation to the seed drill wheel may be changed after loosening the flat round head bolt (Fig. 12/3).

On light soils the marker discs (Fig. 12/2) should be set in such a way, that they are standing nearly parallel with the driving direction. However, on heavy soils the marker discs are positioned "on grip" so that they are standing more at an angle to work more aggressively and thus create a better visible mark.

After the setting tighten the eye bolt (Fig. 12/1) and the flat round head bolt (Fig. 12/3) firmly. Swing the changeover lever (Fig. 14/1) to the lefthand. Now the end of the steel cable (Fig. 12/4) should be fixed to one of the five holes of the lefthand securing bracket in such a way that the cable sags slightly as soon as the marker discs are touching the ground in the wheel level. Hereby the working depth of the markers is limited from 60 to 80 mm. If the markers are set too deeply danger prevails on rough and stony seed beds. By swiveling the marker changeover lever (Fig. 14/1) to the righthand side the lefthand marker is raised and the righthand marker sinks downwards. Now the righthand end of the steel cable is fastened to the righthand marker as described above.

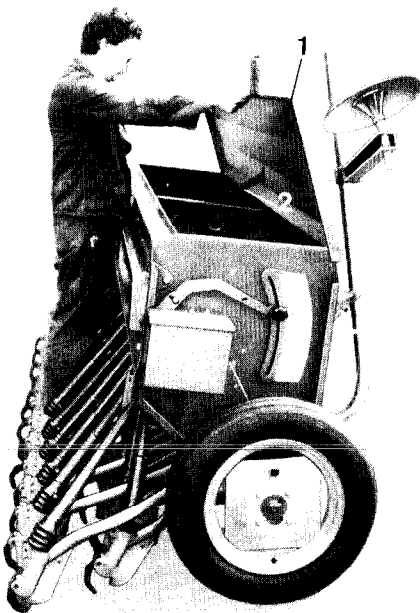


Fig. 15



Fig. 16

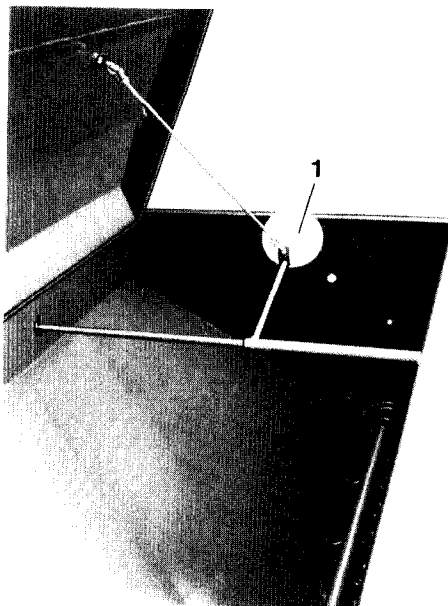


Fig. 17

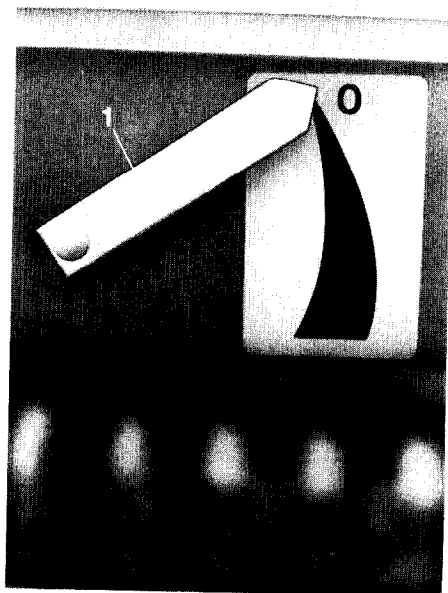


Fig. 18

3.4 Filling of the seed box

Before filling the seed box of the seed drill, the drill should be attached to the tractor and the seed box cover (Fig. 15/1) be opened. The seed box cover (Fig. 15/1) is held automatically in the opened position so that the seed cannot come down by wind or other influences. The seed box may now easily be filled from the rear of the machine (Fig. 16). For closing the seed box cover by one hand the lock (Fig. 15/2) is lifted and by the other hand the cover is closed. The cover closes the seed box rain-proof.

The ball end of the seed level indicator (Fig. 17/1) (option) is automatically lifted when opening the seed box cover. When filling the seed box it should be watched over that no heavy parts are placed on the ball of the seed level indicator.

The seed box should never be emptied completely during operation as this may result in a seed rate variation caused by the uneven distribution of seed inside the seed box. If the pointer (Fig. 18/1) at the front wall of the seed box is coming close the "0"-mark, the seed drill should be refilled.

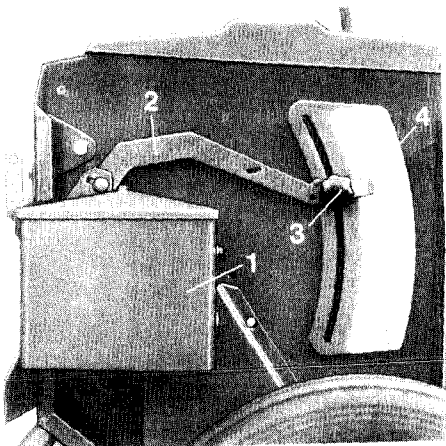


Fig. 19

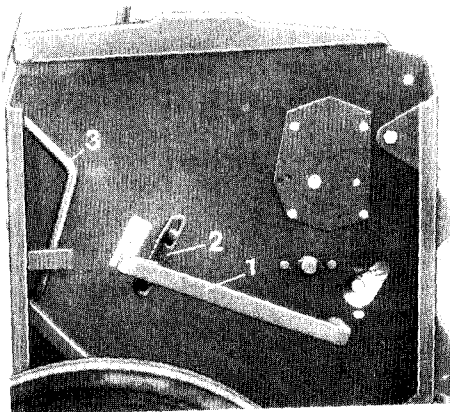


Fig. 21

geschlossen	$\frac{3}{4}$ offen	offen
closed	$\frac{3}{4}$ open	open
fermé	$\frac{3}{4}$ ouvert	ouvert

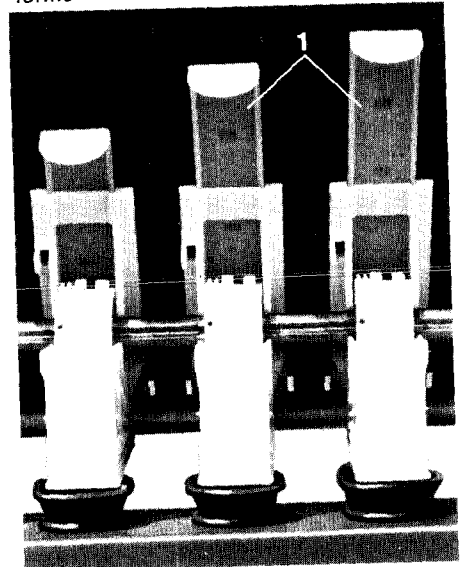


Fig. 20

3.5 Setting of the seed rate

For the setting of the seed rate three different operations should be conducted for every type of seed and for the desired seed rate according to the prescriptions in the setting chart:

- a) Gearbox lever position
- b) Shutter slide position
- c) Bottom flap position

The seed rate tables may be found at the end of this instruction manual.

3.5.1 Setting of the gearbox

For the setting of the gearbox (Fig. 19/1) undo the star knob (Fig. 19/3) of the gearbox setting lever (Fig. 19/2) by turning counter-clockwise. Thereafter move the pointer end of the setting lever to the position determined from the seed rate setting chart. The gearbox setting lever (Fig. 19/2) should always be pushed from below into the desired position. Thereafter tighten the star knob firmly by turning it clockwise.

The higher the chosen figure on the setting scale (Fig. 19/4), the higher the seed rate.

ATTENTION!

The figures in the setting chart can only be taken as guide. Deviations from these figures may occur by the size and the shape of the corn as well as of its bulk density and by seed dressings. Therefore in any case it is necessary to conduct the **calibration test**.

3.5.2 Setting of the shutter slide position

The shutter slide (Fig. 20/1) at the metering wheel housing can be set in three different positions: "closed", " $\frac{3}{4}$ open" and "open".

The necessary position for the corresponding type of seed is mentioned in every setting chart.

3.5.3 Setting of the bottom flaps

The control lever (Fig. 21/1) for the setting of the bottom flaps may be found on the left-hand side of the machine (as seen from behind looking into the driving direction). The control lever may be fixed in eight different positions at the rest plate (Fig. 21/2).

Also for the bottom flap control lever the required position for the relative type of seed may be found in the seed rate setting chart.

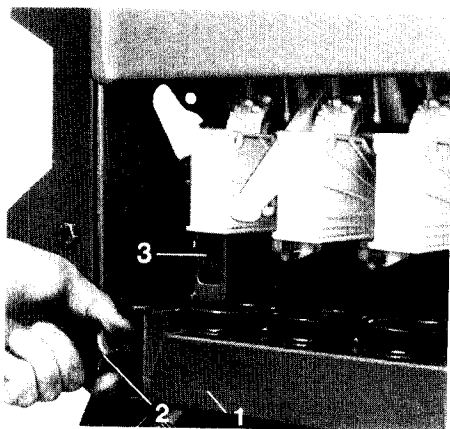


Fig. 22

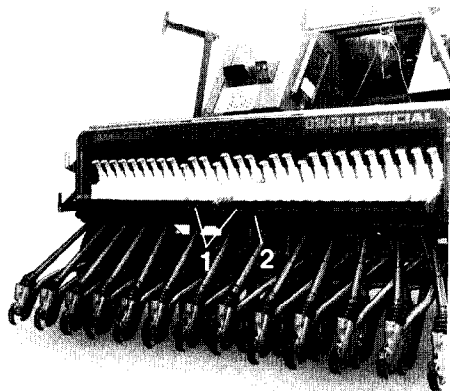


Fig. 23

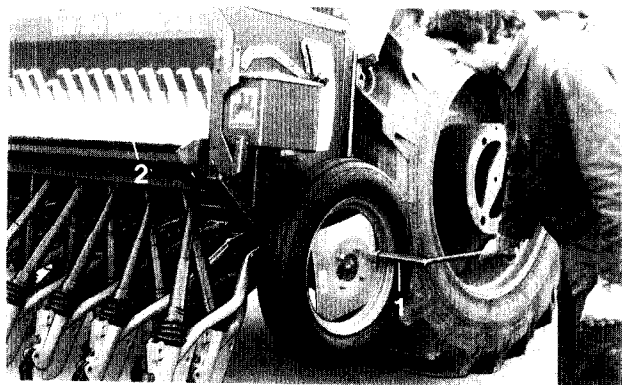


Fig. 24



Fig. 25

3.6 Calibration test

The calibration test should be done to ascertain whether the required seed rate is really achieved. First the three basic settings (see para. 3.5 "Setting of the seed rate") should be set according to the setting chart:

- a) **Gearbox setting lever position**
- b) **Shutter slide position**
- c) **Bottom flap position**

Always leave those shutter slides closed where the metering wheel housings are not equipped with a metering wheel.

The seed box should only be half-filled with seed as the calibration crank may then be turned easier as with a filled seed box.

For the calibration test the seed tube mounting rail (Fig. 22/1) must be brought to the middle or lower position. To do this the spring loaded locking pins (Fig. 22/2) to the left and to the right of the seed tube mounting rail must be retracted, the seed tube mounting rail be lowered and pushed into the required position. The locking pins (Fig. 22/2) automatically rest in the middle position and the seed tube mounting rail (Fig. 22/1) is fixed.

The seed tube mounting rail (Fig. 22/1) can be fixed in 3 positions at the side for height adjustment (Fig. 22/3):

- upper position of the seed tube mounting rail: for sowing
- middle position of the seed tube mounting rail: for calibration test
- lower position of the seed tube mounting rail: for emptying the seed box and for calibration test if in the middle position the calibration tray is filled so much with seed that the seed would come into contact with the metering wheel housing.

The calibration trays (Fig. 23/1) should be placed on the seed tube mounting rail (Fig. 23/2). The seed drill should be raised in the tractor's hydraulic until the drill wheels can be driven freely (Fig. 24).

The calibration crank (Fig. 24/1) should be inserted into the square hole of the righthand wheel. Besides for turning the wheel for the calibration this calibration crank can also be used for turning the spindle of the coulter pressure adjustment. For quicker access this crank is normally placed on the coulter pressure adjustment spindle at the lefthand side of the seed drill. For preparing the calibration test place the calibration crank (Fig. 24/1) into the righthand seed drill wheel and turn it a few times until the seed leaves all metering wheel housings equally (Fig. 24/2). Then all metering wheels have been filled with seed. Now empty the calibration trays (Fig. 23/1) into the seed box.

The seed drills D8 SPECIAL have especially short calibration trays. When filling the seed into another container (Fig. 25) short calibration trays may be emptied easier without spilling any seed. Now the **calibration test** can begin.

The number of wheel-turns to be performed is equivalent to an area of $\frac{1}{40}$ ha (250 sqm) and depends on the tyre size and width of the seed drill:

In the following table the number of wheel-turns are mentioned for the various available seed drill widths:

Working width	Wheel-turns for tyres 5.00 - 16	
	$\frac{1}{40}$ ha (250 sqm)	1 a (100 sqm)
2.00 m	58.4	23.4
2.50 m	46.7	18.7
3.00 m	38.9	15.5

The number of wheel-turns for all other working widths can be calculated for the tyre size 5.00-16 as follows:

Number of wheel turns on $\frac{1}{40}$ ha (250 sqm)	=	$\frac{116.7}{\text{working width (m)}}$
Number of wheel turns on 1 a (100 sqm)	=	$\frac{46.7}{\text{working width (m)}}$

For determination of the wheel turns a mean wheel slip of 7 % has been allowed.

The collected seed quantity must be weighed (Fig. 25) and the weight be multiplied by the factor 40 (at $\frac{1}{40}$ ha) or factor 100 (at 1 a) respectively. This calculated seed rate is equivalent to the actual seed rate in kgs/ha.

At $\frac{1}{40}$ ha (250 sqm) calibrated seed rate x 40 = actual seed rate in kgs/ha
At 1 a (100 sqm) calibrated seed rate x 100 = actual seed rate in kgs/ha

If a higher rate is desired a higher figure should be chosen at the scale of the gearbox lever and vice versa. The calibration test must be repeated until the exactly desired seed rate has been achieved.

3.6.1 Deviations between the calibration test and the actual seed rate

When turning the wheel crank for the calibration test, a drive on the field is simulated. As the seed drill wheel turns less on a prepared seed bed than on a firm road of the same distance, for determination of the number of wheel turns it was taken that the seed drill wheel has a wheel slip of 7 % on the field. This value has been determined by long year's experience and is found to be applicable in most of the cases.

On extremely light and loose soils, however, the wheel slip at the seed drill wheel may also become higher. On very firm, cloddy soils the wheel slip may become smaller than 7 %.

Therefore if larger deviations between the calibration test and the actual seed rate should be noticed it will be necessary to recalculate the number of wheel turns for the calibration test.

For this one measures on the field 250 sqm. This is equivalent at a seed drill with:

2.00 m working width ≈ 125.0 m driving distance
2.50 m working width ≈ 100.0 m driving distance
3.00 m working width ≈ 83.3 m driving distance

Now the number of wheel turns must be counted when driving the pre-determined distance. With this number of wheel turns the calibration test should be performed. The AMAZONE seed drill D8 SPECIAL has considerably larger tyres than presently common on this kind of tractor mounted seed drills. For this reason the influence of the soil condition is comparatively small, less than with drills with smaller tyres. The described deviations can only occur in especially unfavourable situations.

The seed rate can be influenced considerably not only by the wheel slip but also by residue of seed dressings in front of the outlets of the metering wheel housings and on the bottom flaps. If such residue should be noticed, the calibration test must be repeated after 2–3 sown seed box fillings. Thereafter a state of equilibrium has been reached and the seed rate does not drop any further irrespective of existing dressing residue.

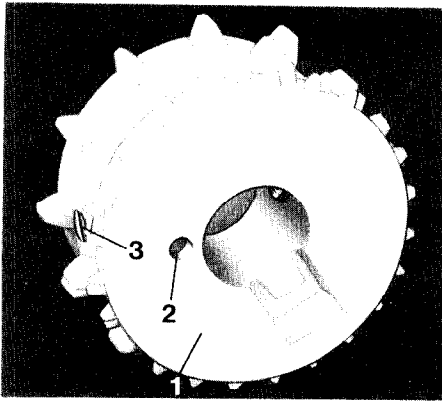


Fig. 26

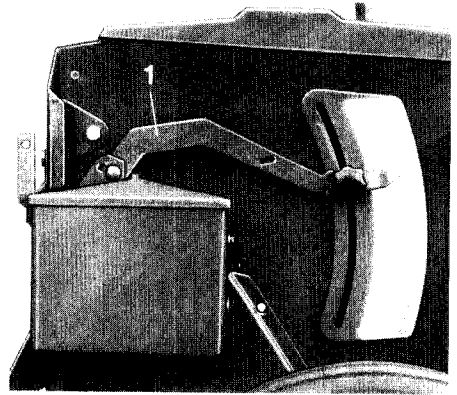


Fig. 27

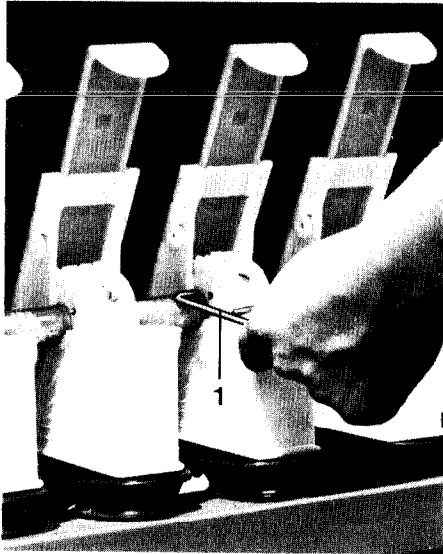


Fig. 28

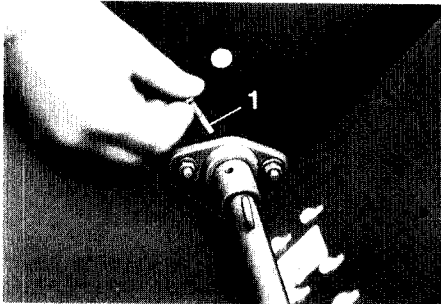


Fig. 29

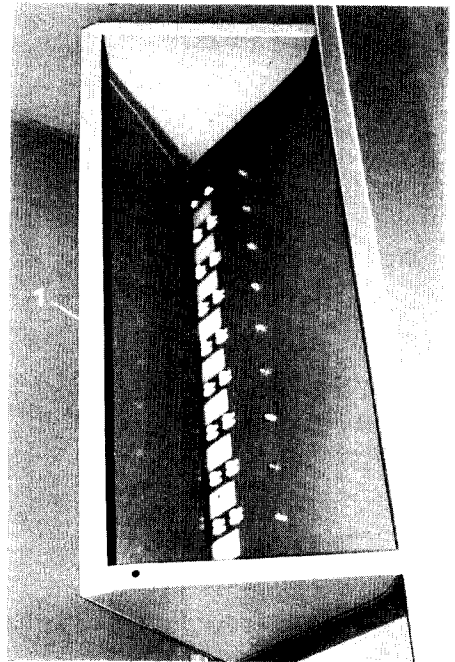


Fig. 30

4 Sowing of fine seeds

For sowing fine seeds each AMAZONE D8 SPECIAL is equipped as standard with the combined standard and fine seed metering wheel (Elite metering wheel, Fig. 26/1). During grain sowing standard and fine seed metering wheels are coupled and both rotate.

In order to convert the drill to fine seed move the gearbox setting lever (Fig. 27/1) up and down a few times until the pin holes (Fig. 26/2) of the metering shaft are visible. Push the pin of the pin hole with the supplied key (Fig. 28/1) until the normal metering wheel can be moved freely on the metering shaft. The brass screw (Fig. 26/3) should never be removed! Also shut off those shutter slides that will not be used for sowing fine seeds.

Those shutters should be closed which are not required for sowing of fine seeds. For re-engaging the normal metering wheels first bring the metering shaft into such a position, that the pin holes at the fine seed metering wheels are seen. Thereafter turn the normal seed metering wheels slightly by hand and press the locking pin back into the fine seed metering wheel.

4.1 Rape seed

The fine seed metering wheel used in the AMAZONE-seed drills is especially suited for rape seed. Due to the intensive agitating action of the agitator shaft it may be that during the sowing operation the rape seed sticks (glues) together and hence may cause irregular sowing. To avoid this we recommend to disengage the drive of the agitator shaft for rape sowing.

To achieve this, remove the connecting bolt (Fig. 29/1) on the right hand side inside the seed box which links the agitator shaft with the drive shaft sprocket.

Deviations between the calibrated and the actually sown seed rate can occur then when residue of the dressing agent sticks to the bottom flaps and thus slows the flow of the rape seed. To take this possibility immediately into account, we recommend to proceed as follows: Before beginning with the actual calibration test, fill the calibration tray by turning the crank at a high gearbox setting (approx. "80"). This will cause immediately the dressing agent to stick to the bottom flaps to its final amount. Now, return the contents of the calibration tray and start with the actual calibration test. Due to the residue on the bottom flaps this test will be performed under the same conditions as during later sowing. Deviations between the calibrated and the actual sown seed rate will then no longer occur.

To avoid weighing errors make the calibration test according to $\frac{1}{10}$ ha (1,000 sqm) or $\frac{1}{40}$ ha (250 sqm). Please use a suitable weighing scale (no spring scale please).

NOTE!

Please do not forget after sowing rape or green peas/bean seed to engage the agitator drive again by inserting the connecting bolt (Fig. 29/1). Otherwise problems would occur especially when sowing seeds with beards of ears in that the seed may cause bridging and thus a faulty seed rate results.

A special rape seed box insert (Fig. 30/1) is available for the AMAZONE seed drill D8 SPECIAL which may then only be fitted after having stopped the agitator drive. This rape seed insert reduces the seed box volume considerably so that this expensive rape seed can be sown out almost completely.

The rape seed box insert, of course, may also be used for other easy running seeds which are sown in small seed rates (at a stopped agitator shaft) i. e. for kale.

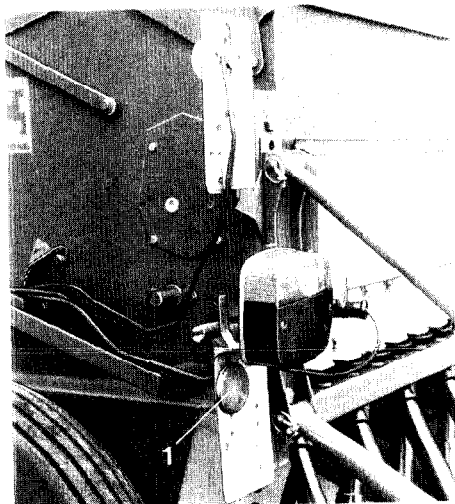


Fig. 31

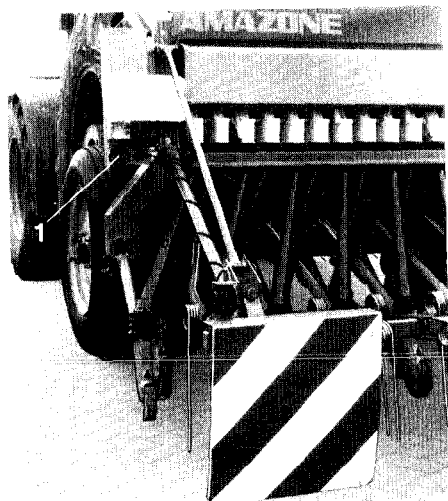


Fig. 32

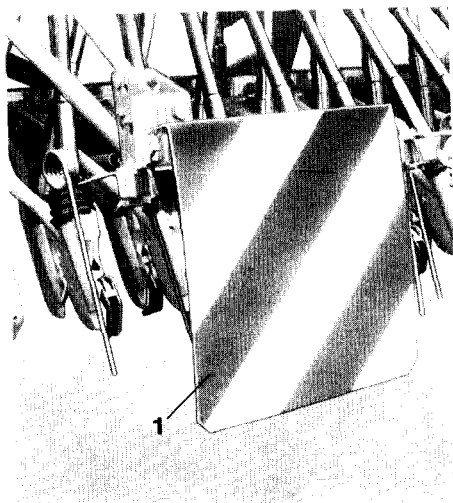


Fig. 33

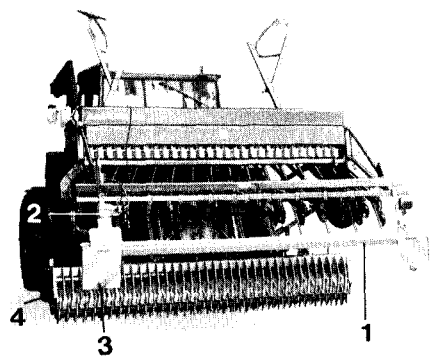


Fig. 34

5 En route to the field (transport on public roads)

If public roads are used en route to the field, ensure the tractor and drill conform to the traffic regulations. In particular this means:

- The maximum transport width of 3 m must not be exceeded. The wheels of the D8 SPECIAL must be mounted with the rim cranks turned inwards (Fig. 8).
- The markers should be brought into the transporting position according to Fig. 8.
- Place the legally permissible traffic lights on the light carriers mounted on the sides of the drill (Fig. 31) in such a way that the upper mounting is used for the front facing lights and the lower mounting for the light facing to the rear. Lift the seed drill only so high that the distance from the road to the rear reflectors (Fig. 31/1, Fig. 32/1) does not exceed 900 mm. Fig. 32 shows the firmly mounted traffic lights (order No. 30690), which may stay on during field operation.
- The marker carriers (Fig. 66/1) of the hydraulic pre-emergence markers should be removed from the carrying arm by removing the pin (Fig. 67/1).
- The following harrow with pendulum balance and single coulter stilt harrows must be marked by two red/white striped warning plates (Fig. 33/1) on their right and left hand ends.
- The outer harrow elements of the extra-coverage following harrow (Fig. 75/1) should be removed from the square tube. Use the calibration crank for loosening the ring nuts on the wedgebolt.
- The backward facing tines of the extra-coverage harrow must be equipped with the traffic security board (Fig. 34/1 = option). On this traffic security board also two light carriers are mounted to which the rear lights (Fig. 34/2) and the lower positioned reflectors (Fig. 34/3) are fixed. Also here the distance of the reflectors from the ground must not exceed 900 mm.
- The height of the upper edge of the rear lights (Fig. 34/2) to the road must not exceed 1,550 mm. The distance must also be maintained if the seed drill is used in combination with an AMAZONE System "Liftpack" (Fig. 34).

Also please do not forget to check the lights for proper function.

If the seed drill is operated in combination with an AMAZONE power harrow, the side dam levellers (Fig. 34/4) of the power harrow must be folded into transporting position (please refer to the instructions of the RE-power harrow).

Furthermore note that the tractor's allowable rear-axle load is not exceeded. If the tractor drives with an AMAZONE tilling and sowing combination consisting of an AMAZONE power harrow or rotary cultivator, packer roller and D8 SPECIAL with System "Liftpack" of a working width of 3 m the tractor rear axle receives an additional load of about 3,000 kgs.

By no means a drill, if it is operated in combination with a soil tilling implement, should be transported with a filled seed box since then the maximum axle load allowable for public traffic will be exceeded in nearly all cases. Additionally please mind the allowable total weight of the tractor.

Please pay attention to these hints especially on public roads. They will help to prevent accidents.

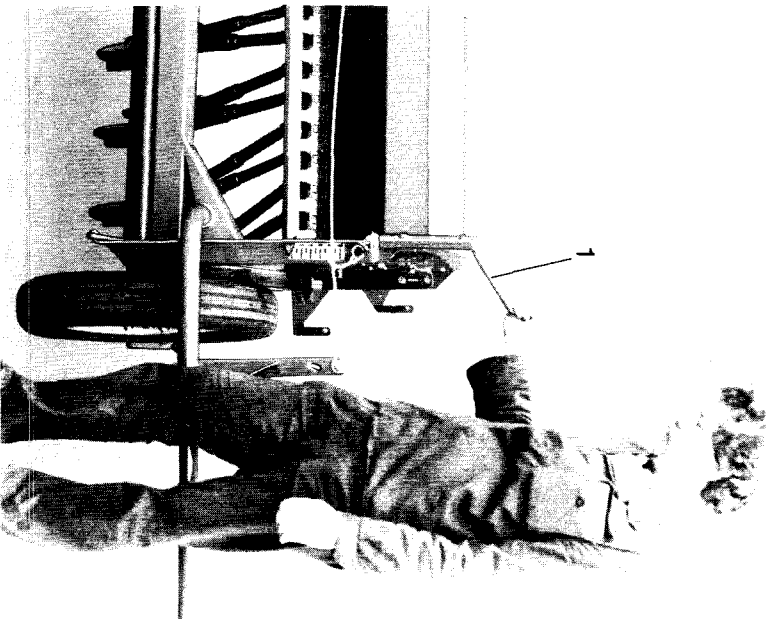


Fig. 35



Fig. 36

6 Setting of the seed drill on the field

On the field, remove the rear lights and lower the markers. Check whether the track marker steel cables have the correct length towards the marker arms. Swivel the marker changeover levers to that side on which it is to create its first mark at the first bout.

6.1 Central coulter pressure adjustment

The coulter pressure determines the planting depth of the seed. The accurate maintaining of the required planting depth is one of the most important pre-conditions for a higher yield. The seed drills D8 SPECIAL therefore are equipped **as standard** with a central coulter pressure adjustment.

6.1.1 Setting of the individual coulter pressure

For setting the accurate planting depth, it is necessary to drive with the seed drill a distance of 20 to 30 m on the field at that speed at which the seed drill is to be operated later on; thereafter the planting depth should be checked. With an increasing operating speed the planting depth becomes shallower, with a slower operating speed it becomes deeper. If the seed has been placed too deeply, the coulter pressure should be reduced or vice versa.

By the central coulter pressure adjustment the coulter pressure of all coulters may be set stepless at once. The adjustment is done by placing the calibration crank (Fig. 35/1) onto the spindle on the left hand side of the seed drill. The calibration crank may be found easily reachable for the tractor operator on the side of the spindle on the left side part of the seed drill. One clockwise turn increases the coulter pressure.

It is recommended to increase the coulter pressure of those coulters which are running in the tractor's wheel marks.

The coulter pressure of the individual coulters may be changed individually by hanging the spring (Fig. 36/1) into another hole of the fixing bracket (Fig. 36/2) below the coulter tubes. On very light soils a too great planting depth may be obtained only by the weight of the coulters without additional coulter pressure. In such a case it is highly recommended to equip the "K"-coulters with the clip-on band sowing shoes or the depth limiters (see optional accessories).

Furthermore a hydraulic coulter pressure adjustment is available as option.

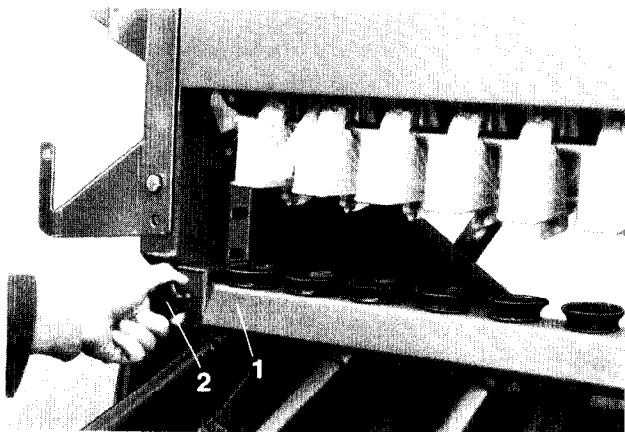


Fig. 37

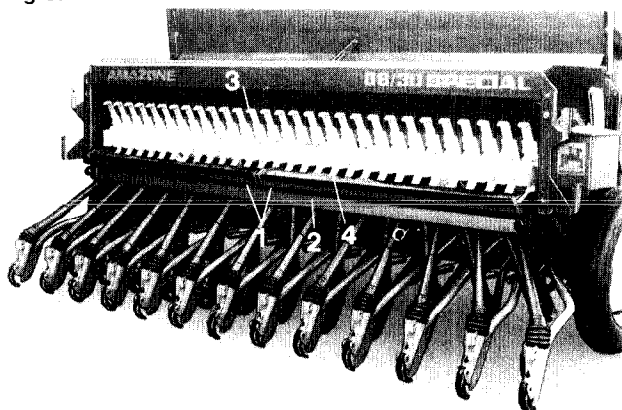


Fig. 38

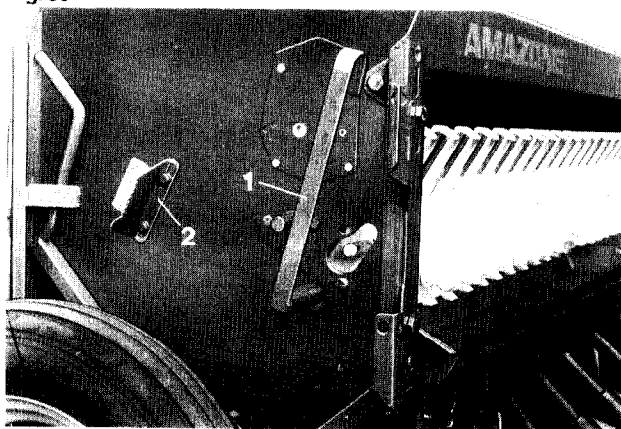


Fig. 39

7 After use care – emptying the seed box

For emptying the seed box lower the seed tube mounting rail (Fig. 37/1) and bring it into the lower resting position. For this the locking pins (Fig. 37/2) at the right and left side of the seed tube mounting rail have to be pushed to the sides. Now place the calibration trays (Fig. 38/1) onto the seed tube mounting rail (Fig. 38/2).

Open up all shutter slides (Fig. 38/3) and pull the bottom flap lever (Fig. 39/1) at the left hand side of the seed drill over the notched locking plate (Fig. 39/2) all the way to the rear. Now the remainder of the seed runs out of the seed box into the calibration trays. If the calibration trays are filled, close the bottom flaps (Fig. 38/4) in the same way with the bottom flap setting lever (Fig. 39/1) again and empty the calibration trays. This procedure should be repeated until the seed box is completely emptied and cleaned.

The machine can be cleaned with a jet of water or compressed air. If you intend to clean the seed box with compressed air please remember that the dust from the dressing agent is poisonous – do not inhale this dust!

When the machine is put away, leave the bottom flaps fully open. Where these are left closed, the danger exists that mice will try to enter the seed hopper since even when empty, the smell of grain persists. When the bottom flaps are closed, mice will gnaw at the bottom flaps and metering wheels. **Therefore – bottom flaps open!**

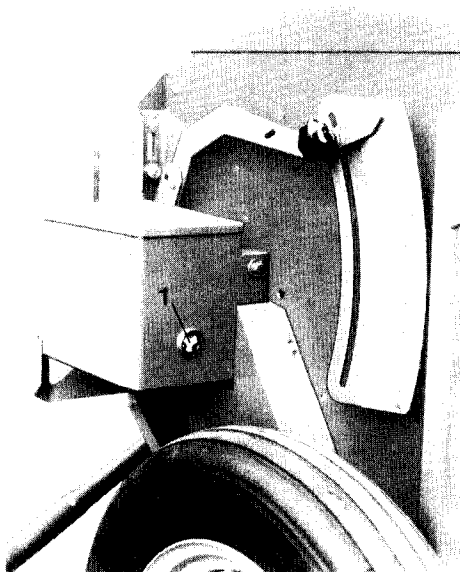


Fig. 40

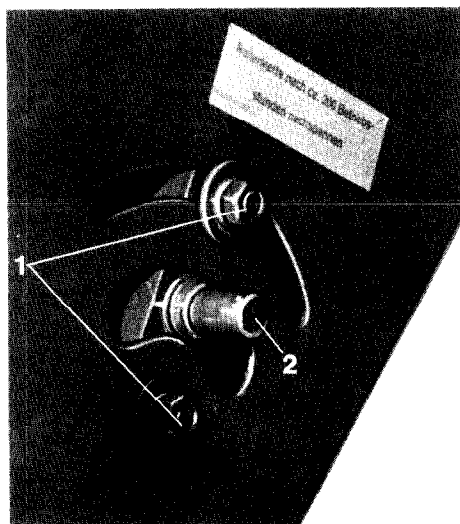


Fig. 41

8 Care and maintenance

The AMAZONE seed drill D8 SPECIAL is free of maintenance, however, the following points should be noted:

8.1 Oil level in the stepless variable metering transmission

Check the oil level on the gearbox using the sight glass. An oil change is not required. When it is necessary to top-up the oil, remove the cover and refill with hydraulic fluid WTL 16.5 cSt/50° C. The maximum fluid quantity is 1.8 litre.

8.2 Tyre air pressure

The air pressure in the tyres should be checked regularly. The seed drills D8 SPECIAL are equipped with tyres 5.00-16. The tyres 5.00-16 receive an air pressure of 1.2 bar by the factory.

8.3 Drive chain

The drive chain which drives the stepless variable oilbath transmission from the ground wheel should be re-tensioned at the chain tensioner (Fig. 41/1) after approx. the first twenty hours of operation. For this the two nuts (Fig. 41/1) should be loosened and the shaft of the chain sprocket (Fig. 41/2) be pressed to the rear. The next re-tensionings may then be done after every 200 hours of operation.

8.4 Coulters

All coulter bearings are free of maintenance.

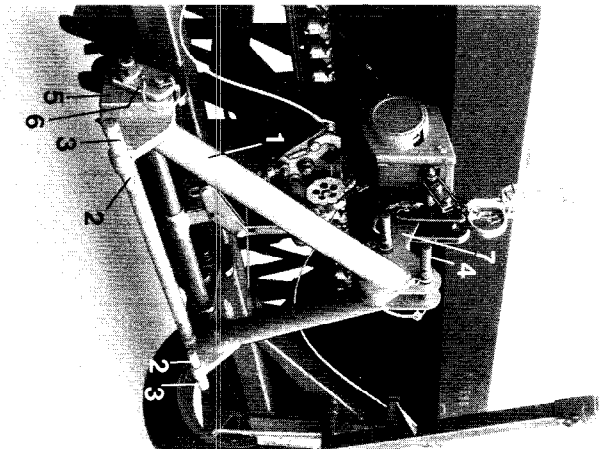


Fig. 42

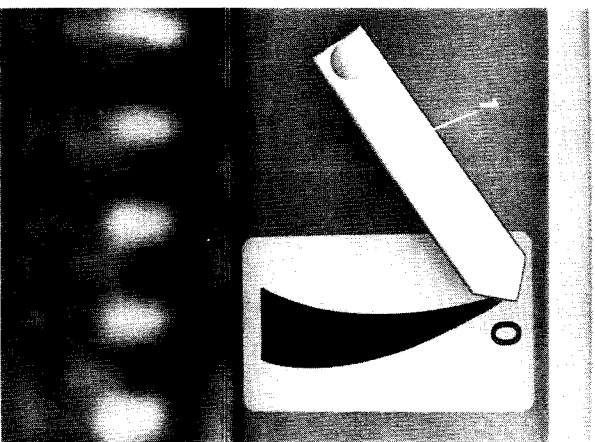


Fig. 43

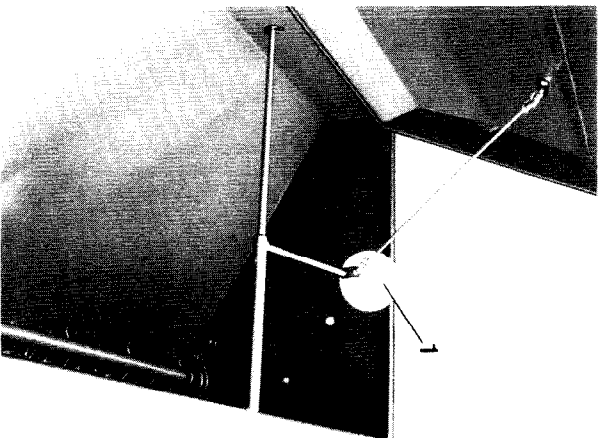


Fig. 44

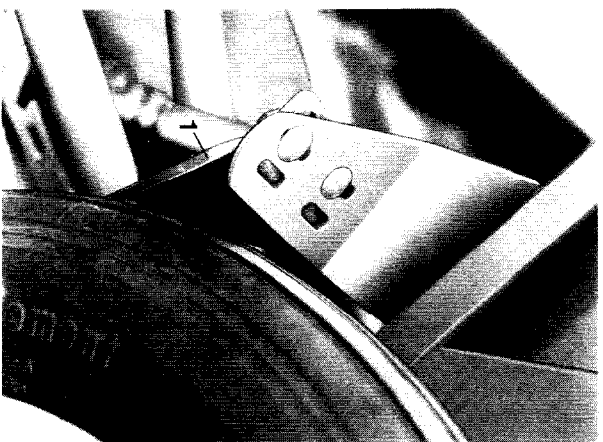


Fig. 45

9 Special accessories (options)

All components listed under this heading are extras which do not form part of the standard fitment and must be ordered separately. However, they all can be fitted retrospectively, *all mounting holes and fixtures being available on the standard production machine.*

10 Quick coupler

As the name says, the quick coupler was designed for a quick and easy coupling of the seed drill to the tractor. This quick coupler (Fig. 42/1) can also be used to increase the distance between the seed drill and the tractor if necessary.

First the quick coupler should be mounted to the tractor's three point linkage. If the tractor is equipped with a three point linkage cat. I, this linkage should be attached to the pins (Fig. 42/2) inside of the quick coupling frame and at tractors with cat. II with the pins (Fig. 42/3) located outside of the quick coupler frame and they should be secured by lynch pins.

The top link is connected with the special dual connecting pin for cat. I and cat. II (Fig. 42/4) and to be secured by lynch pins.

For coupling of the seed drill the lower link catch hooks (Fig. 42/5) have to catch the drill's lower link pins on both sides. Thereafter push the securing plates (Fig. 42/6) over the pin ends and secure with lynch pins.

The top link pin of the seed drill should be connected with the connecting bracket (Fig. 42/7) at the quick coupling frame. The upper link length should be adjusted until the seed drill's rear wall is positioned vertically.

11 Seed level indicator

The seed level indicator (Fig. 43/1) shows the tractor driver during the operation how much seed is left in the seed box.

Whenever the pointer (Fig. 43/1) reaches the "0"-mark the seed drill should be refilled. Never drive until the seed box is completely empty as this may cause deviations in the seed rates by the uneven distribution of the seed inside the seed box.

The ball of the seed level indicator (Fig. 44/1) is automatically lifted when lifting the seed box cover. When filling the seed box care should be taken that no heavy parts are placed on the ball of the seed level indicator.

12 Wheel scrapers

The wheel scrapers (Fig. 45/1) clean the seed drill's wheels from sticking soil. The wheel scrapers have to be fixed to the mounting bracket in such a way that the gap between the scrapers and the tyres increases from the inside (about 1 cm) to the outside (about 2 cm).

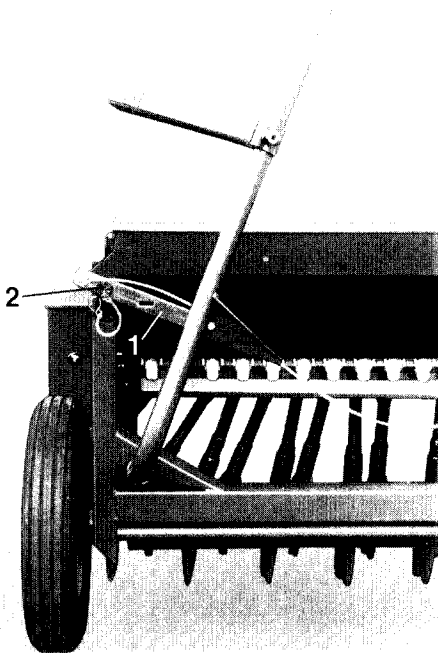


Fig. 46

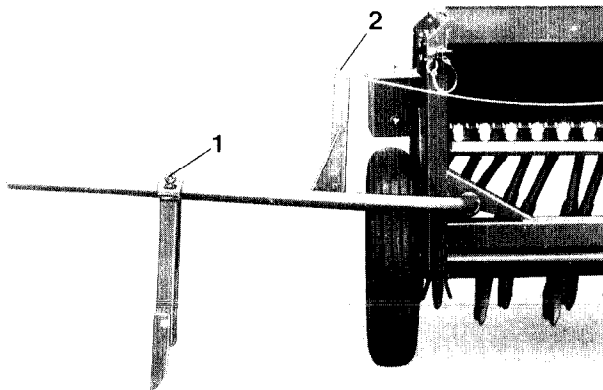


Fig. 47

13 Hook markers

The AMAZONE seed drill D8 SPECIAL can also be equipped with hook markers (Fig. 47).

The hook markers have the same function as the disc markers, however they are only suitable for light and medium heavy soils.

13.1 Setting of the hook markers

For setting of the hook markers both marker arms have to be folded down. The securing bracket (Fig. 46/1) should be swivelled outwards after removal of the clip pin (Fig. 46/2) and the marker arm be folded downwards (Fig. 47).

First adjust the **length of the marker arm**. Depending on the tractor track, working width and number of rows of the seed drill, different marker arm lengths result, i. e. distances from the seed drill's centre to the hook markers.

At the end of this instruction book we explain by some examples how you may determine the distance of the hook markers to the centre of the seed drill. The distance has now to be set at the markers. For this undo the ring bolt (Fig. 47/1) by the calibration crank handle and slide the marker chisel on the marker arm.

The marking depth of the hook marker should be limited to between 60 and 80 mm. To achieve this the end of the steel cable (Fig. 47/2) should be fixed to one of the five holes of the securing rods (Fig. 46/1).

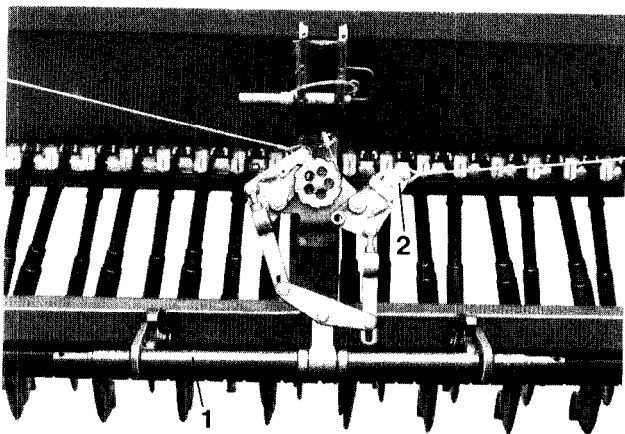


Fig. 48

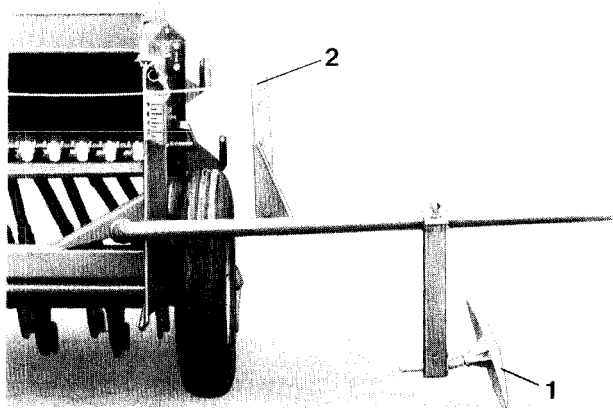


Fig. 49

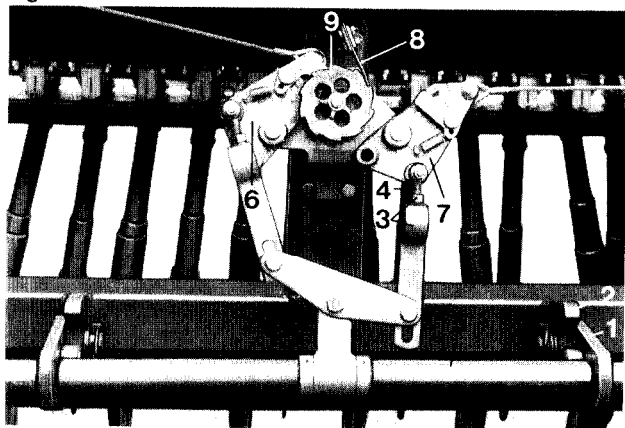


Fig. 50

14 Automatic marker changeover

The automatic marker changeover (Fig. 48) automatically changes the seed drill's markers at the headlands. When lifting the machine before turning on the headlands the swivelling lower link bar (Fig. 48/1) is raised. Hereby the switching mechanism is actuated. In the lifted position of the seed drill both markers are lifted off the ground. After the lowering of the machine and before the beginning of the new bout that marker will be automatically lowered which was not in action during the previous bout.

14.1 Mechanical automatic marker changeover

The mechanical automatic marker changeover is connected with the swivelling lower link bar (Fig. 48/1). When lifting the seed drill this hinged lower link bar is lifted and the switching mechanism is actuated.

14.2 Setting of the markers of the marker changeover

The seed drill should be mounted to the tractor. For example when the machine is lowered to the ground the left trip plate (Fig. 48/2) with the left marker (Fig. 49/1) is lowered. The end of the steel cable (Fig. 49/2) should be fixed to one of the five holes of the securing bar in such a way that the rope slackens slightly as soon as the marker discs are lying in the level of the wheels. This limits the working depth of the markers to 60 to 80 mm.

The seed drill is lifted and lowered by the tractor hydraulics. The left trip plate (Fig. 48/2) swivels inwards and the right trip plate swivels outwards. Now the right hand end of the steel cable is fixed to the track markers in the same manner as described above.

In the raised position of the seed drill please check whether both markers are sufficiently raised. If not, the steel cables should be adjusted in the holes of the securing rods.

CAUTION!

If the marker discs operate too low the markers are susceptible of damage.

14.3 Setting of the automatic trip for the marker changeover

In case the automatic marker changeover does not change properly, please check the following points:

Can the two swivelling lower link mounting arms (Fig. 50/1) move freely to the upper stop (Fig. 50/2) or is this movement limited by soil sticking in between? If this is the case, the function of the marker changeover can be regained by cleaning the lower link mounting arms.

If the automatic marker changeover still does not change over regularly after this inspection its adjustment should be checked. The nut and the lock nut on the ring bolt (Fig. 50/3) should be loosened. The upper nut should be turned upwards, the lock nut on the ring held downwards. Push the lower link rod (Fig. 50/5) by a winch or a car-jack upwards against the two stops (Fig. 50/2). Now the right hand trip plate (Fig. 50/6) is locked and the left hand trip plate (Fig. 50/7) is swivelled outwards. If now the nut on the ring bolt (Fig. 50/4) is driven downwards, the left hand trip plate (Fig. 50/9) swivels upwards until the leafspring (Fig. 50/8) can be heard locating into a groove of the trip wheel (Fig. 50/9). Now the changeover procedure is terminated. The upper nut should now be rotated one complete turn further downwards and the counter nut be tightened.

Now mount the seed drill to the tractor and check the function of the automatic marker changeover.

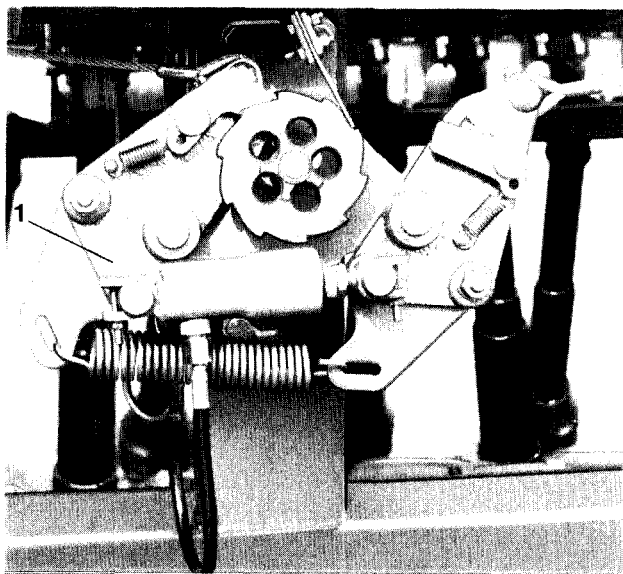


Fig. 51

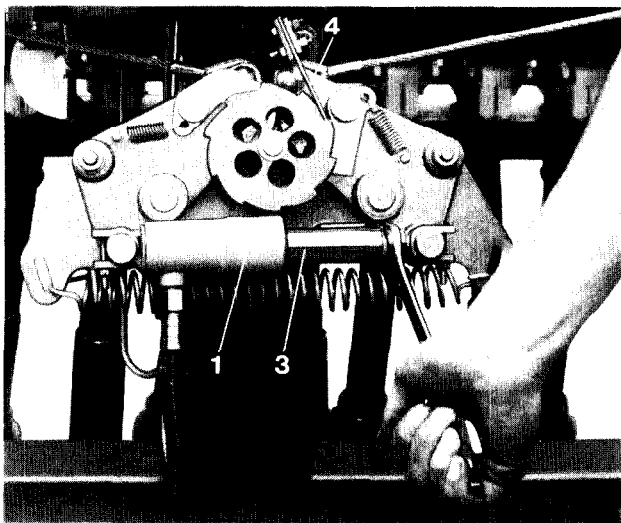


Fig. 52

14.4 Hydraulic marker changeover

The automatic marker changeover (Fig. 51/1) may also be actuated hydraulically. The hydraulic ram of the automatic marker changeover is connected with a single acting control valve of the tractor.

For changing over the markers at the headlands, the control valve of the tractor is set to "lifting position". Then both markers are lifted off the ground at the turning operation. After turning at the headlands the control valve is pushed to "lowering" so that thereafter the correct marker disc is automatically lowered. With the hydraulic automatic marker changeover it is possible to combine in automatic function the tramlining control and the hydraulic pre-emergence marker control.

14.5 Setting of the marker's automatic system

On delivery the automatic marker is adjusted for correct tripping. After the run-in period of the new machine it may become necessary to re-adjust the automatic marker slightly if the tripping is not regular and proper. Therefore the hydraulic ram (Fig. 52/1) is put under pressure. Loosen the lock-nut (Fig. 52/2) of the yoke bolt and turn the piston (Fig. 52/3) of the hydraulic ram by a fork spanner until the leaf spring (Fig. 52/4) rests onto the sprocket of the automatic marker and until a play of 1–2 mm between the leaf-spring and the tooth is set.

Now check by trial lifting whether the automatic marker changeover is correctly set. If everything functions alright, please do not forget to tighten the counter-nut on the yoke bolt of the hydraulic ram again firmly.

3

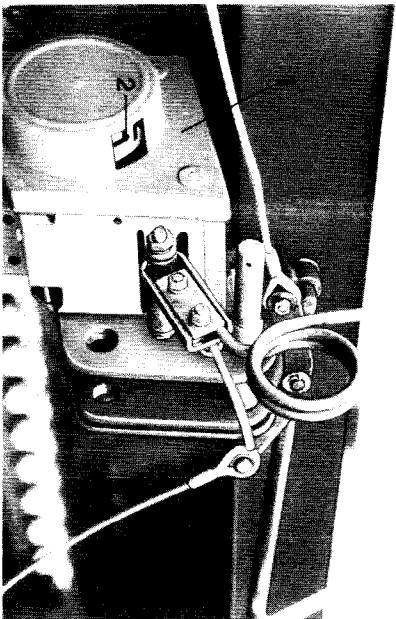


Fig. 53

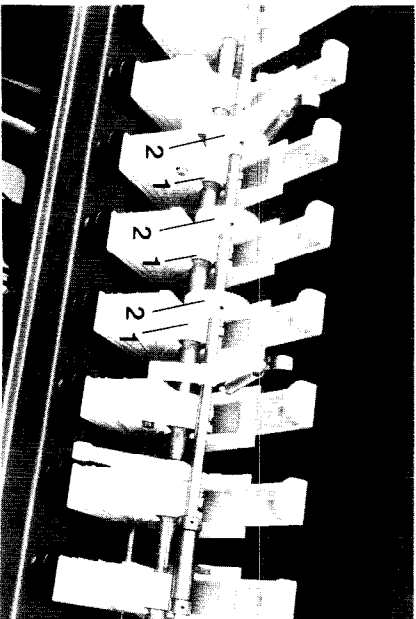


Fig. 54

15 Metering wheel tramlining control wrap spring coupling

With the aid of the tramlining unit on the seed drill it is possible to create at certain distances so-called "tramlines" by which some rows behind the tractor's wheel marks are not sown. The spacings depend on the working width of the following operations (fertilizer spreader, sprayer etc.). In para 16 you may find some examples.

For creating tramlines it is possible to close down simultaneously up to three, in exceptional cases up to four or five metering wheels (Fig. 54/1) in the desired switching rhythm.

A tramline indicator wheel (Fig. 53/2) at the switch box (Fig. 53/1) is visible from the tractor seat to show which position of the automatic tramlining kit is actually on. As soon as the indicator number "0" can be seen, the drive sprockets and the metering wheels (Fig. 54/1) come to a standstill. Due to this interrupted flow of seed a tramline is created.

When beginning the operation, the tramline unit has to be shifted by pulling by hand the overriding lever (Fig. 53/3) until the correct number (Fig. 53/2) can be seen in the switch box. Further details you may see in para. 16 explaining some examples of the creation of tramlines. When beginning also note that the marker changeover has been set correctly and that the track markers are lowered on the correct side.

A divisor wheel (Fig. 63/1) inside the switch box controls the rows, in which the tramlines are created. For the 2-, 3-, 4-, and 6-fold switching the divisor wheel is the same. For conversion of the switch box to another switching rhythm simply place the trip rollers (Fig. 63/2) as described at the end of this para. into other holes and add, if necessary. For all further switching rhythms corresponding divisor wheels can be supplied. The following table indicates which divisor wheel corresponds to which seed drill bout width and to which tramline spacing:

Divisor wheel for	Bout width	Spacing of the tramlines
2-fold-rhythm	2.50 m	10 m
	3.00 m	12 m
3-fold-rhythm	3.00 m	9 m
4-fold-rhythm	2.50 m	10 m
	3.00 m	12 m
5-fold-rhythm	3.00 m	15 m
6-fold-rhythm	2.50 m	15 m
	3.00 m	18 m

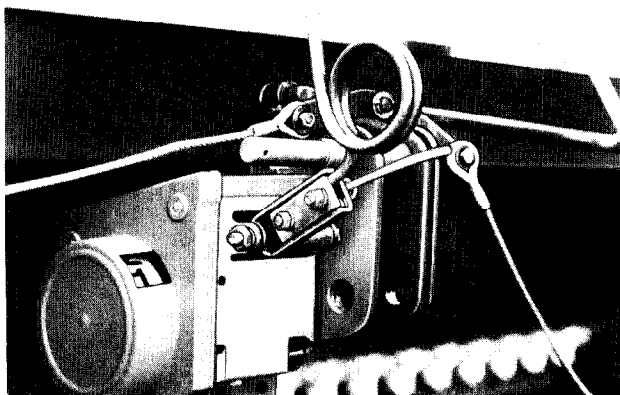
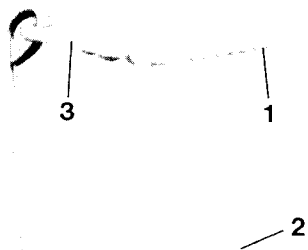


Fig. 55

15.1 Semi-automatic control

The semi-automatic metering wheel tramlining control is actuated by a rope (Fig. 55/1). This rope can be pulled at each turn from the tractor seat to trigger off the tramlining switching.

15.2 Fully automatic control

The fully automatic tramlining control can be achieved if the free end of the rope (Fig. 55/2) is fixed beneath the tractor to a suitable place at a firm point.

When the machine is now lifted by the tractor's three point linkage the rope is automatically tensioned so that the tramlining changeover is triggered off. The free end of the rope (Fig. 55/1) is brought to the tractor seat and can be used for correcting whenever it is necessary to override any tramline switchings.

For automatic operation the length of the rope should be adjusted in such a way that, whenever the machine is fully lifted, the rope is tensioned so far at the setting bracket (Fig. 55/3) that it triggers off the switching action.

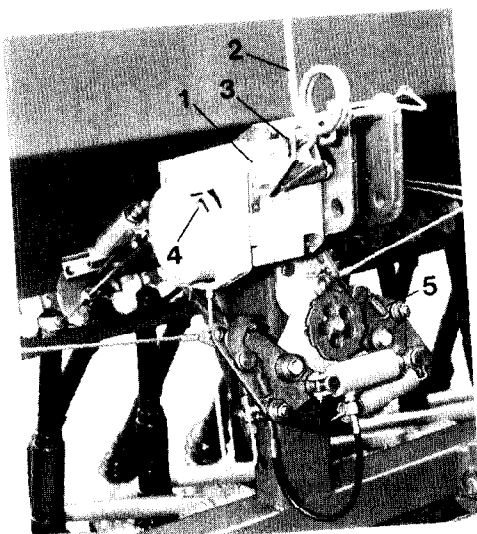


Fig. 56



Fig. 57

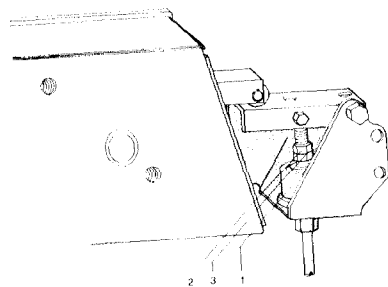


Fig. 58

15.3 Hydraulic metering wheel tramlining control with wrap spring coupling

The hydraulic operated tramlining unit (Fig. 56/1) of the AMAZONE seed drill D8 SPECIAL is coupled to the hydraulic marker changeover (Fig. 56/5) (if already existing) so that, when changing the boutmarks with a single acting control valve also the tramlining unit is switched one section on.

A tramline indicator wheel (Fig. 56/4) is visible from the tractor seat to show which position of the automatic tramlining kit is actually on. As soon as the indicator number "0" can be seen, the drive sprockets (Fig. 57/1) come to a standstill and the metering wheels discontinue to run so that they cannot deliver any further seed, in order to create tramlines. A shifting sprocket inside the switch box (Fig. 56/1) controls the bout in which the tramlines are created.

When beginning with the operation the tramline unit has to be shifted by pulling by hand the overriding lever (Fig. 56/2) until the correct number (Fig. 56/4) can be seen in the switch box. Further details you may see in para. 16 explaining some examples of the creating of tramlines. When beginning also note, that the hydraulic marker changeover (Fig. 56/5) has been set correctly and that the wheel markers are lowered on the correct side.

If it is desired to discontinue the tramlines but still create bout marks, the tramlining unit has to be overridden by moving the clamping bolt (Fig. 56/3) so far downwards until any movement of the shifting lever becomes impossible.

NOTE!

Now the figure (Fig. 56/4) in the switch box **must not show "0"**, as otherwise continuously tramlines would be created.

The hydraulic metering wheel tramlining control only requires a single acting control valve at the tractor. Please check the hydraulic circuit for any leaks.

If the hydraulic ram (Fig. 58/1) of the switch box fails to trip over, the following adjustment should be performed on the expanded ram:

- Loosen lock nut (Fig. 58/2).
- Turn nut (Fig. 58/3) so far to the left until it can be heard that the trip inside the switch box has changed over, thereafter turn the nut two further turns and fix it to that position by tightening the lock nut against it.
- Tighten lock nut (Fig. 58/2) firmly.

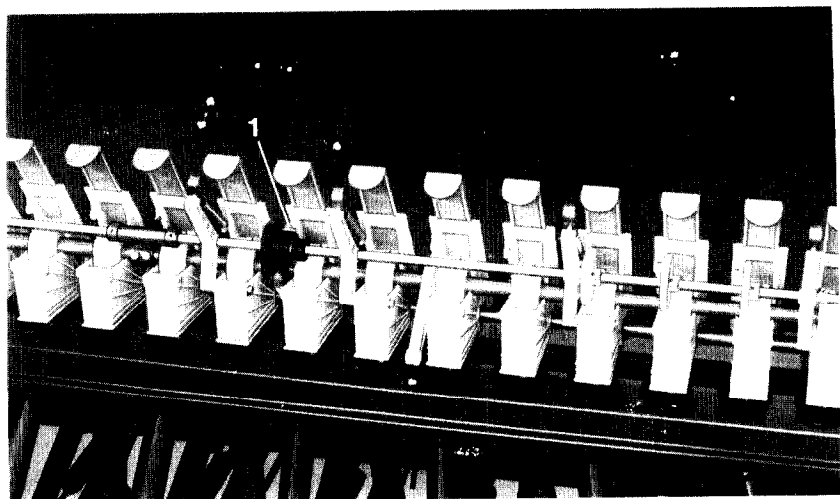


Fig. 59

15.4 Checking the function of the metering wheel tramlining control

Actuate the tramlining control several times to check whether in position "0" the coupling lever (Fig. 59/1) holds back the wrap spring coupling so that the drive of the tramlining metering wheels is interrupted. After switching from "0" to "1" the coupling lever of the wrap spring coupling is withdrawn so that the tramline metering wheels are driven by the drive sprockets on the counter shaft.

If your seed drill has not been used for a longer period, please check, whether the tramline metering wheels can be moved freely on the shaft. Some residue of seed dressings may cause a firm seating of the tramline metering wheels on the metering shaft. In such a case the tramlining unit is no longer functioning properly.

Disengageable tramline metering wheels which have, due to seed dressing residue, got stuck on the metering shaft can be freed by turning these metering wheels by hand.

Never use oil as this would very quickly soak up the seed dressing powder and cause a very quick blockage of the metering wheels.

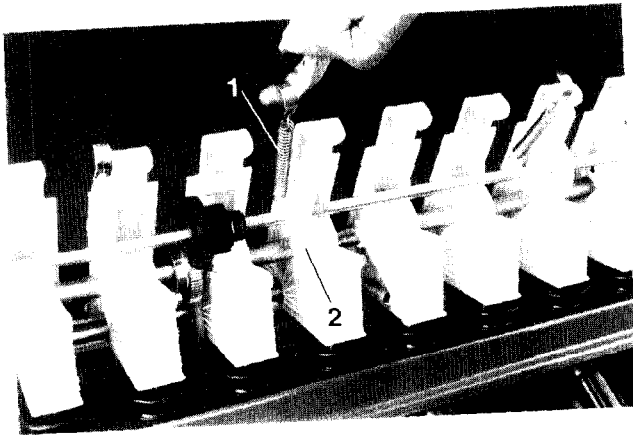


Fig. 60

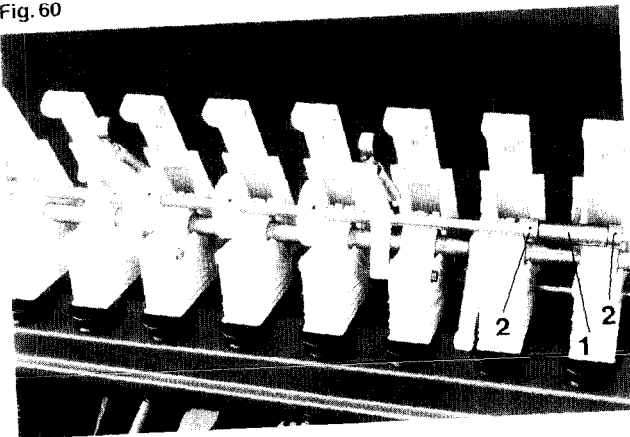


Fig. 61

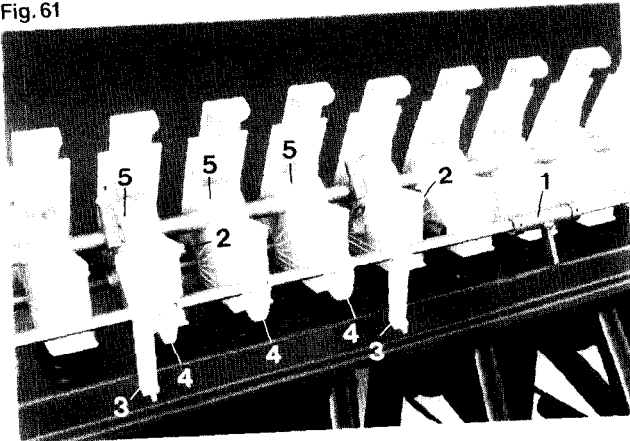


Fig. 62

15.5 Matching of the tramline width to another tractor track width

If the purchase of a new tractor makes it necessary to change the tractor track width in the tramline system, proceed as follows:

- Loosen pulling springs (Fig. 60/1) between the metering wheel housings and the swivel bearings (Fig. 60/2) and fold backwards the counter shaft (Fig. 62).
- One mounting (Fig. 60/3), which secures the counter shaft from axial movement, hooks into a hole at the metering wheel housing. This fixing has to be pulled out of the mounting hole at the metering wheel housing for folding the counter shaft backwards and must be fixed in the same way again after re-fitting in the same or in the hole of an adjacent metering wheel housing. The fixing (Fig. 61/1) is secured from axial movement on the counter shaft by set rings (Fig. 61/2).
- Loosen the hexagon bolts (Fig. 62/2), with which the swivel bearings to the right and to the left next to the tramlining metering wheel housings are fixed.
- Slide the swivel bearings (Fig. 62/3) and the PVC-drive sprocket (Fig. 62/4) to the desired position on the counter shaft.
- Loosen the fixing bolts (Fig. 62/5) of the new tramlining metering wheels until these can be turned freely.
- Now affix the swivel bearings (Fig. 62/3) to the right and the left next to the tramlining metering wheel housings and hang in the pulling springs between the swivel bearings and the metering wheel housings.
- Let the keys of the PVC-drive sprocket and those of the fine seed metering wheel mesh and fix the drive sprocket onto the counter shaft.
- Now connect the formerly used tramlining fine seed metering wheels with the metering wheel shaft again. The threaded pin should be driven into the fine seed metering wheel until it is engaged with a little play. Never tighten the threaded pins too much as this will cause a buckling of the metering wheels.

15.6 Sowing with the two-fold tramlining control

If started on the righthand side of the field:

The fitting of the PVC-drive sprocket (Fig. 62/4) is done as described under para. 15.5. Now the counter shaft should be equipped with PVC-drive sprockets only on the right side of the machine. The drive sprockets are to be mounted to the counter shaft in such a way, that the distance of the tramlining metering wheels is equivalent to half a tractor's track width when measured from the righthand outer edge of the machine. If also a pre-emergence marker is used, the left hand marker disc should be removed.

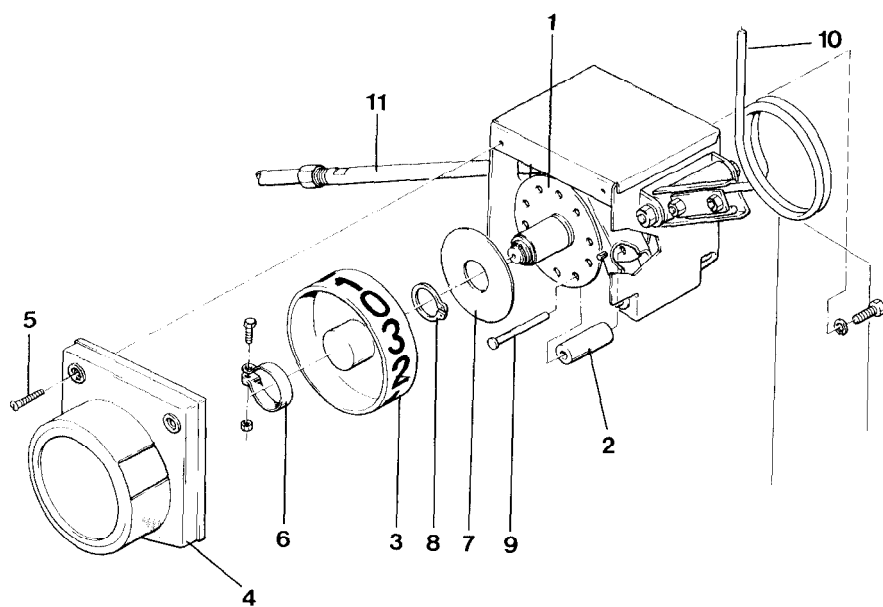


Fig. 63

15.7 Converting of the control box to another tramline frequency

The divisor wheel (Fig. 63/1) is the same for the 2-, 3-, 4-, and 6-fold sequence. If the order of the sequences should be changed, only the shift rollers (Fig. 63/2) at the divisor wheel (Fig. 63/1) need to be re-positioned or added.

For the 5-, 7-, 8- and 9-fold sequence it is necessary to exchange the existing divisor wheel (Fig. 63/1) against a corresponding divisor wheel.

When changing the control box to another sequence, it is necessary to put on also the correct self-adhesive number strip on the counter wheel (Fig. 63/3).

Changing from a 2-, 3-, 4- or 6-fold sequence to another sequence within this group:

It is only necessary to change the position of the switch rollers (Fig. 63/2) or to add them. This change is also possible if the switch box still is mounted to the seed drill:

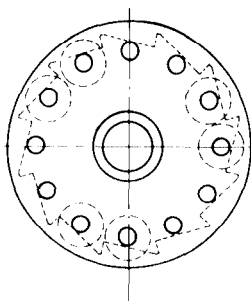
- Remove protective cover (Fig. 63/4) after taking off two of the screws (Fig. 63/5).
- Remove clamp (Fig. 63/6) and pull off together with the counter wheel.
- Remove the securing disc (Fig. 63/7) after removing the circlip 24x1.2 (Fig. 63/8).
- Now the position of the free accessible shifting rollers (Fig. 63/2) may be changed according to Fig. 64 after having pulled out the pins (Fig. 63/9).

The assembly of the switch-box is done in the opposite order:

- Mount the securing disc (Fig. 63/7) and circlip (Fig. 63/8).
- Apply new number tape (Fig. 65) to the counter wheel (Fig. 63/3) and mount it with the aid of the clamp (Fig. 63/6) onto the divisor wheel.
- Now shift a few times the operating lever (Fig. 63/10) at the switch box until the clamping tube (Fig. 63/11) is pulled by a switch roller (Fig. 63/2) and held in that position. The protective cover (Fig. 63/4) is held to the switch box and the number wheel (Fig. 63/3) is turned until the number "0" shows up in the window of the protective cover.

At the two-fold sequence again a "0" must show up due to the two consecutive following switch rollers, and the clamping tube (Fig. 63/11) must stay in the pulled position due to the second switching roller:

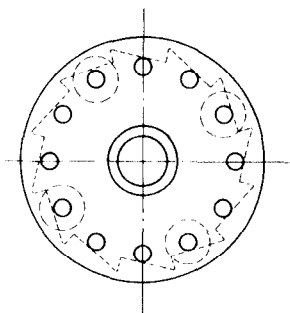
- Fit the counter wheel (Fig. 63/3) with the clamp (Fig. 63/6) and the protective cover (Fig. 63/4).
- Switch the divisor wheel by the pulling lever (Fig. 63/10) a few times until the counter wheel (Fig. 63/3) has made three complete turns at least and check whether the switch box operates properly, i. e. whether in every "0"-position the clamping tube (Fig. 63/11) is being pulled properly.



Dividor wheel for 2-fold sequence:

Division 12, 6 switching rollers

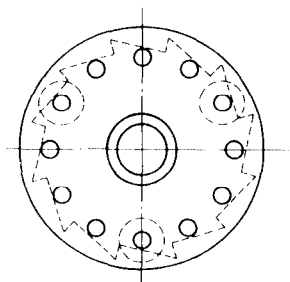
Dividor wheel cpl.	Order-No. 30574
Dividor wheel	Order-No. 30734
Switching roller	Order-No. 30794
Pin	Order-No. 30804
Collar bush	Order-No. 34931



Dividor wheel for 3-fold sequence:

Division 12, 4 switching rollers

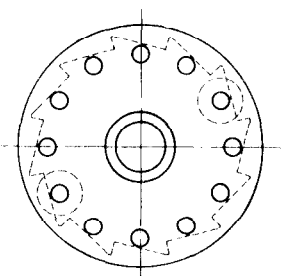
Dividor wheel cpl.	Order-No. 30584
Dividor wheel	Order-No. 30734



Dividor wheel for 4-fold sequence:

Division 12, 3 switching rollers

Dividor wheel cpl.	Order-No. 30594
Dividor wheel	Order-No. 30734



Dividor wheel for 6-fold sequence:

Division 12, 2 switching rollers

Dividor wheel cpl.	Order-No. 30614
Dividor wheel	Order-No. 30734

Fig. 64

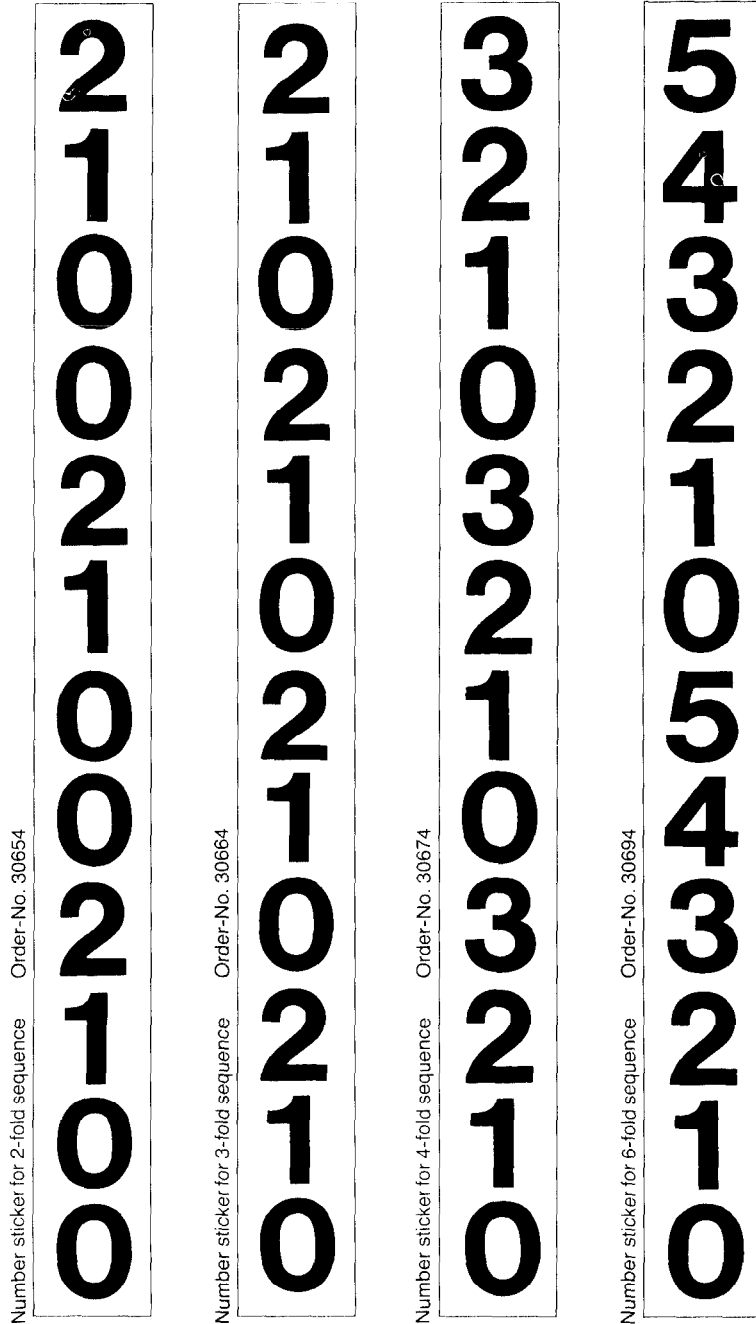


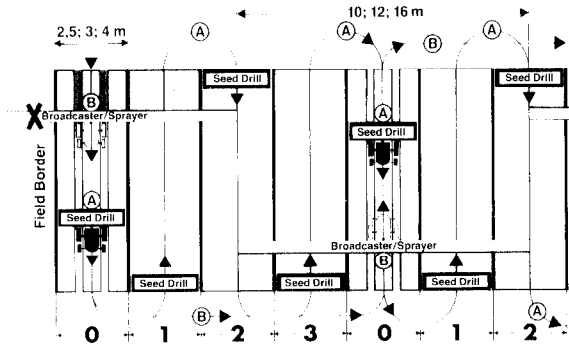
Fig. 65

16 Examples for tramline bout widths

4-sectioned shifting, i.e. 1 time with tramliner, checking No. ①

3 times without tramline, checking No. ①, ②, ③

Seed Drill:	2.5 m	3 m	4 m	Bout width
Fertilizer spreader and sprayer:	10 m	12 m	16 m	Bout width



At the boundary/hedge: **Seed drill sows with full bout width**

Seed drill AMAZONE D8

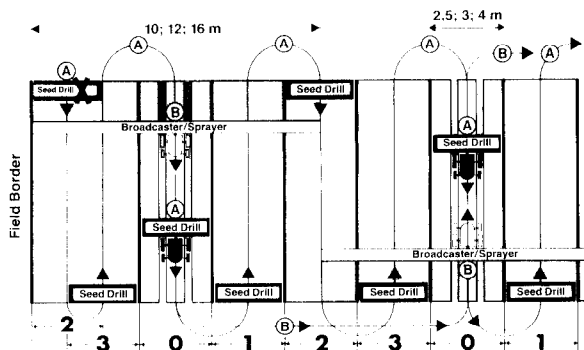
Fertilizer broadcaster spreads to one side only

Fertilizer broadcaster AMAZONE ZA-F with boundary spread device

Fertilizer broadcaster AMAZONE ZA-U with boundary spread device

Sprayer (one boom half folded and stopped)

Field sprayers AMAZONE S and US



At the boundary/hedge: **Half of bout width with closed shutter slides**

Seed drill AMAZONE D8

Fertilizer broadcaster spreads with full working width

Fertilizer broadcaster AMAZONE ZA-F

Fertilizer broadcaster AMAZONE ZA-U with border spread disc

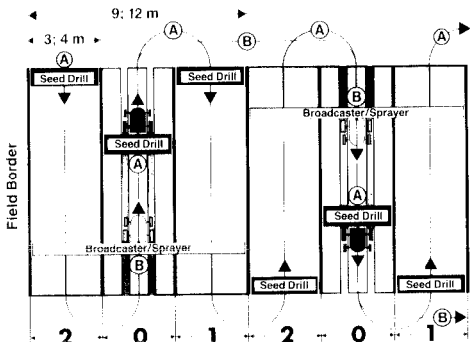
Pneumatic fertilizer broadcaster AMAZONE JET

Sprayer works with full boom width

Fieldsprayers AMAZONE S and US

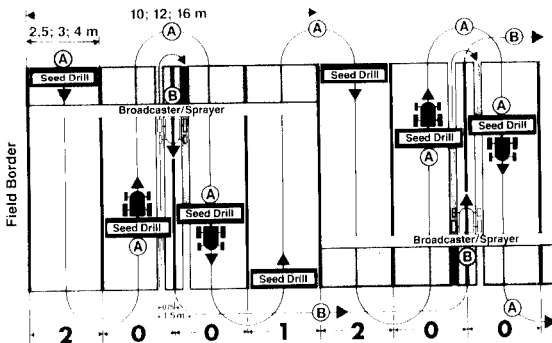
3-sectioned shifting, i.e. 1 time with tramline, checking No. ①
 2 times without tramlines, checking No. ①, ②

Seed Drill:	3 m	4 m	Bout width
Fertilizer spreader and sprayer:	9 m	12 m	Bout width



2-sectioned shifting, i.e. 2 times with tramline, checking No. ①, ①
 2 times without tramline, checking No ①, ②

Seed Drill:	2,5 m	3 m	4 m	Bout width
Fertilizer spreader and sprayer:	10 m	12 m	16 m	Bout width



Shift-sprockets for other shifting sequences (5-, 6-, 7-, 8-, 9 sectioned) are also available.

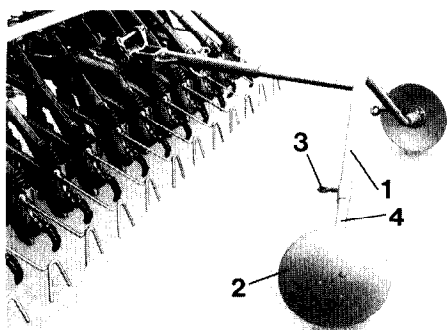


Fig. 66

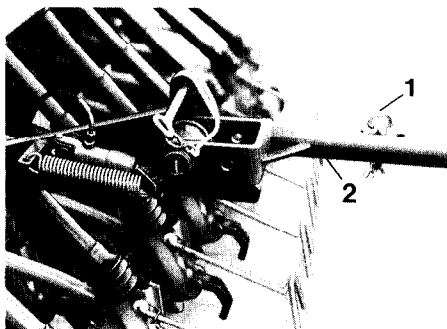


Fig. 67

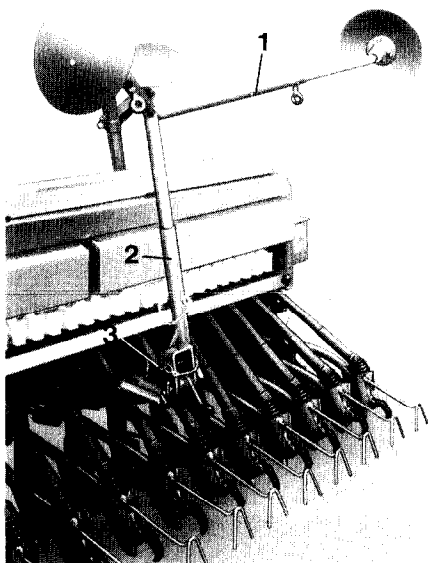


Fig. 68

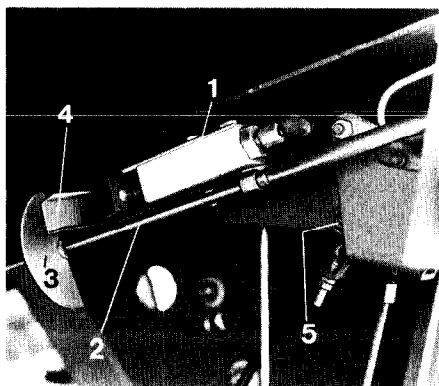


Fig. 69

17 Hydraulic remote controlled pre-emergence marker

A hydraulic pre-emergence marker (Fig. 66/1) can be combined with the automatic tramlining system. If the drive of the metering wheels is cut off for laying out tramlines, the two large pre-emergence marking discs (Fig. 66/2) are lowered, marking the wheel marks of the tractor so that they are visible before the appearance of the crop.

Following sowing it is possible to drive along the not yet visible tramlines to pre-emergence spray. The discs are raised when all metering wheels are in operation, that is to say, when no tramline is created.

The marker discs can be set to the tractor wheel base with the aid of the ring bolts (Fig. 66/3).

On lighter soils the marker discs can be set by turning the disc axle (Fig. 66/4) so that the marker disc runs approx. parallel to the seed drill wheel.

On heavy soils, however, the marker discs are turned to stand on "grip" so that they work more aggressively and a clearly visible trace is left behind.

If a tramlining unit with a 2-bout ratchet is used only one marker disc has to be used. This marker disc has to be set in such a way that a tramline is created in a to and fro bout of the field (see para. 16).

After removing the securing pin (Fig. 67/1) the marker disc carrier (Fig. 66/1) should be angled to that side on which the marker disc is mounted. Thereafter the marker carrier (Fig. 66/1) and the carrier arm (Fig. 67/2) should be mounted in the hole plate with the fixing pin (Fig. 67/1) and secured by the lynch pin.

In transport position the marker carriers (Fig. 68/1) and carrying arms (Fig. 68/2) should be mounted with the pin (Fig. 68/3) and secured.

When travelling on **public roads** the marker carriers (Fig. 68/1) with the marker discs should be taken off.

The pre-emergence markers are controlled by a one-way control valve (Fig. 69/1) which on the other hand is controlled by the tramlining ratchet kit. A steering disc (Fig. 69/3) on the pulling rod (Fig. 69/2) of the switch box presses in position "0" against the control valve lever (Fig. 69/4) and the marker discs are lowered. After the further shifting of the tramlining kit into position "1", the steering disc (Fig. 69/3) returns and thus the pre-emergence marker discs are lifted again.

The steering disc (Fig. 69/3) is set on position "0".

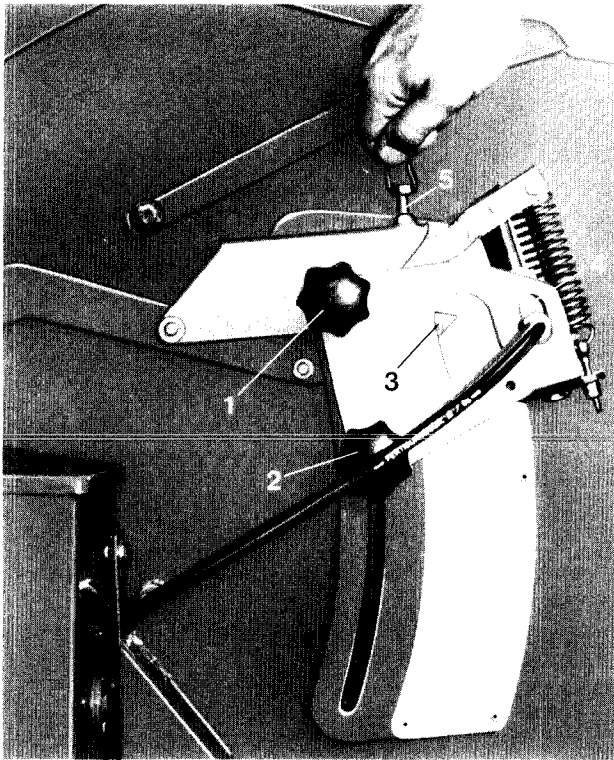


Fig. 70

18 Hydraulic remote controlled adjustment of seed rate

This can become of interest when wanting to sow in soils with frequently changing soil conditions on the same field whereby one wants to set a higher seed rate on patches of heavier soil or when wanting to sow on hill tops with a minimum of top soil, etc. With the aid of the hydraulic remote controlled adjustment of seed rate (Fig. 70) it is possible to change the seed rate within a pre-selected range from the tractor seat.

The hydraulic remote controlled adjustment of the seed rate is coupled with the coulter pressure setting. If the coulter pressure is increased, the seed rate will also be increased automatically.

After having passed the patch with heavy soil on which the higher seed rate was sown, the pressure to the hydraulic ram is taken back so that the machine returns to sowing a smaller seed rate again.

18.1 Setting of the seed rate

For setting the normal seed rate both star knobs (Fig. 70/1 and Fig. 70/2) should be loosened and the pointer (Fig. 70/3) be moved to the desired gearbox setting. Hereafter tighten the star knob nuts again and perform a calibration test, as described in para. 3.6.

If simultaneously with the increase of the coulter pressure also the seed rate is to be increased, the higher seed rate should be set as follows:

Pressurize the hydraulic ram (Fig. 70/4). Screw the adjuster bolt (Fig. 70/5) into the welded-on nut. This will push the gearbox setting lever down via the lever mechanism. The adjuster screw is turned until the pointer position for the desired increased seed rate is reached on the scale. By means of a calibration test in this position – i. e. with pressurized hydraulic ram – a calibration test is carried out to see if the desired higher seed rate has been attained.

If on places with heavy soil, the coulter pressure is increased but no increase in the sowing quantity is desired, the adjusting screw (Fig. 70/5) must be turned fully out. Then an increase of the coulter pressure will not be accompanied by an increase of seed rate.

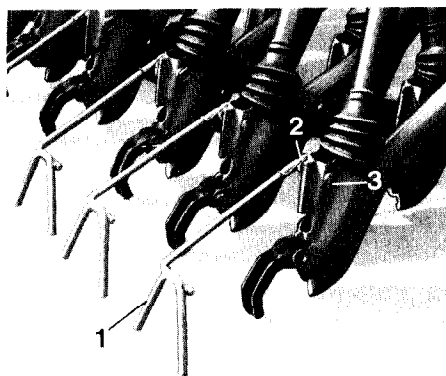


Fig. 71

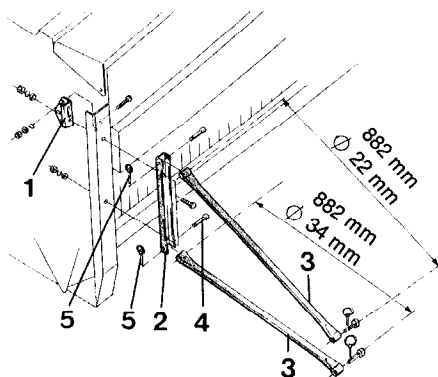


Fig. 73

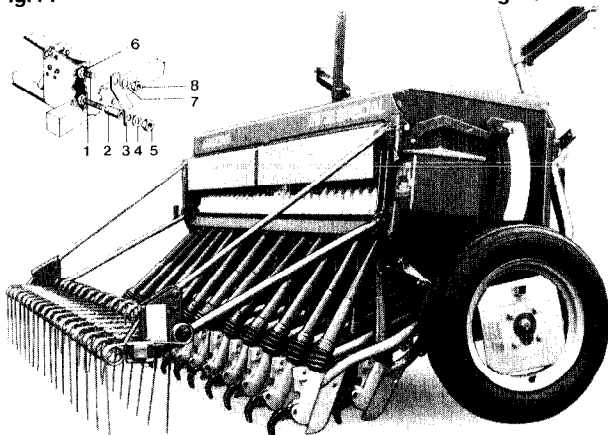


Fig. 72

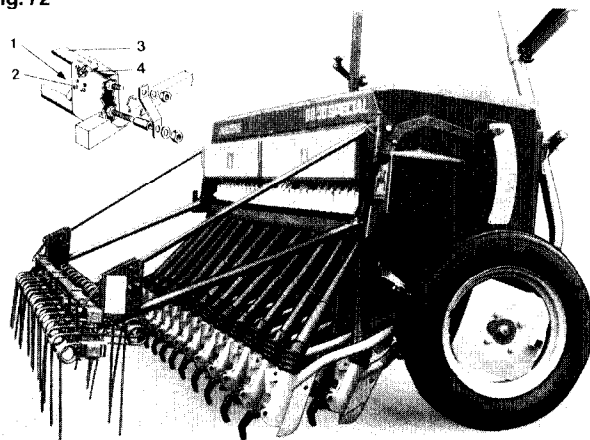


Fig. 74

19 Following harrow

After sowing the seed is evenly covered with soil by the following harrow. On heavy soils the following harrow with pendulum compensation or a two-sectioned with pendulum compensation should be used.

19.1 Single coulter stilt following harrow

The spring loaded single coulter stilt following harrows (Fig. 71/1) are mounted to the "K"-coulter and are secured with the washer (Fig. 71/2) and the final securing clip (Fig. 71/3).

19.2 Following harrow, one-section with pendulum compensation

The following harrow is mounted to the seed drill with the aid of a parallelogram frame. The bolts (Fig. 72/1) are put on the distance tube (Fig. 72/2). The cranked bar (Fig. 72/3) should be mounted on both sides with the bolt (Fig. 72/1), the spring washer (Fig. 72/4), the nut (Fig. 72/5) as well as the bolt (Fig. 72/6), the spring washer (Fig. 72/2) and the nut (Fig. 72/8).

19.3 Following harrow, two-section with pendulum compensation

The two-section following harrow is mounted to the seed drill in the same way as the one section following harrow. The rubber buffer (Fig. 74/1) is mounted to the lower hole (Fig. 74/2) and the connecting rod (Fig. 74/3) is fixed to the second hole (Fig. 74/4).

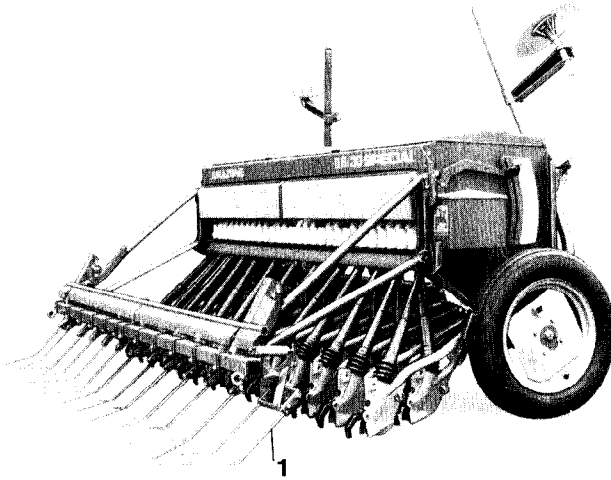


Fig. 75

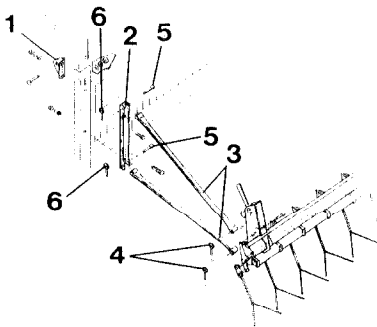


Fig. 76

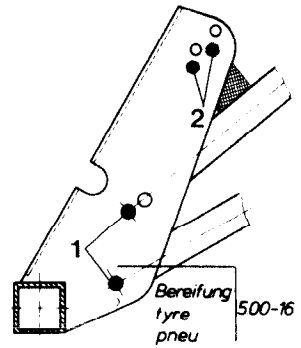


Fig. 77

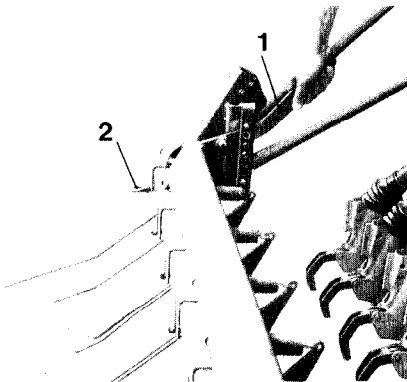


Fig. 78

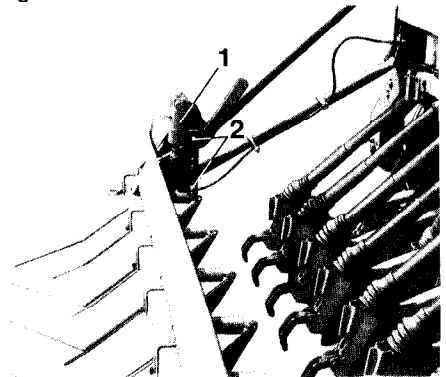


Fig. 79

20 Extra coverage following harrow

20.1 Fitting and setting of the extra coverage following harrow

After sowing, the seed is evenly covered with soil by the extra coverage harrow (Fig. 75/1). Like the roll coulters, the extra coverage following harrow (Fig. 75/1) operates totally without blocking, even where there are large amounts of organic material (trash) on the field.

Fitting of the extra coverage harrow:

- The reinforcement angle (Fig. 76/1) is already fixed to your seed drill.
- Attach the upper mounting brackets (Fig. 76/2) to the seed box.
- The extra coverage harrow has to be bolted with two bolts according to Fig. 77/1 to the carrying tubes (Fig. 76/3) and to be secured by lynch-pins (Fig. 76/4).
- The swing metal buffer has to be fitted according to Fig. 77/2.
- Now the carrying tubes (Fig. 76/3) should be fitted with pins (Fig. 76/6) to the upper channel iron (Fig. 76/2) and secured with lynch pins.

In the operating position, the V-shaped ends of the harrow tine elements (Fig. 75/1) should lay approximately horizontally on the soil. They should possess some 5–8 cm freedom of movement downwards so that they can also function where the ground level on the field is somewhat lower. This working position must be set up on the field by either lengthening or shortening the top link.

There will not be any disadvantageous consequences, if it should be necessary in this regard to tilt the drill slightly forwards or backwards. Tilting the drill forwards or backwards has no effect on the coulter pressure because on the AMAZONE-drills the coulter pressure is independent of the coulter position.

The operating intensity of the harrow tine elements or the pressure which they exert on the soil, must be set according to the soil conditions by means of the central coulter pressure adjustment (Fig. 78/1). The setting must be done in such a way that no ridges are to be found behind the harrow.

For transport on public roads it is necessary to slacken off the outer harrow elements and to push them inwards towards the square profile tube so that the maximum permissible transport width is not exceeded. The crank handle can be used for slackening the ring bolt (Fig. 78/2).

20.2 Hydraulic pressure control of the extra coverage following harrow

With very changeable soil conditions it is practical to change – together with the coulter pressure – the pressure of the extra coverage following harrow, too (see para. 22).

With the same hydraulic control valve simultaneously with the hydraulic coulter pressure adjustment also the following harrow tine pressure can be adjusted. For this purpose a hydraulic ram (Fig. 79/1) is mounted to the extra coverage following harrow. Then the pressure will be increased on the harrow at the same time as on the coulters.

For the pressure control one single acting control valve is necessary at the tractor. By inserting two pins (Fig. 79/2) into the pre-selection hole plate a maximum and a minimum harrow pressure is pre-selected.

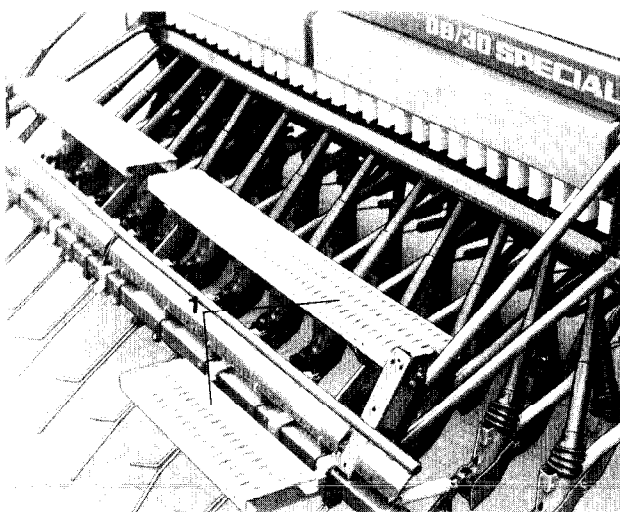


Fig. 80

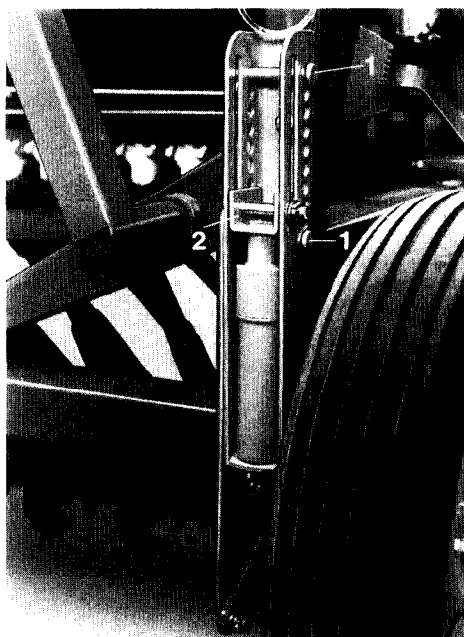


Fig. 81

21 Loading step

For easier access to the seed box for filling this loading step (Fig. 80/1) may be attached to an existing extra coverage following harrow.

NOTE!

The loading step may only be used for the re-filling of the machine. Never allow any persons to stay on it during the sowing operation.

22 Hydraulic central coulter pressure adjustment

The seed drill AMAZONE D8 SPECIAL may be retrofitted with the hydraulic central coulter pressure adjustment. For operating it, a single acting control valve at the tractor is necessary.

By placing two pins (Fig. 81/1) into the ram guide brackets, a maximum and minimum coulter pressure may be pre-selected. When the hydraulic ram is not put under pressure it rests on the stop (Fig. 81/2) at the lower pin. When sowing on the field at patches with heavier soils the hydraulic ram will be put under pressure and thus the coulter pressure is increased. The stop then rests at the upper pin. After the heavy soil patch has been passed, the pressure at the hydraulic ram is reduced and it returns automatically to the lower pre-selected coulter pressure. The minimum coulter pressure is achieved by placing the lower pin into the lower most hole.

For checking the planting depth it is required to drive about 30 metres on the field at that speed which will be used for sowing later on. Thereafter check the planting depth. If the seed has been placed too deeply, the coulter pressure should be reduced or vice versa. Without additional coulter pressure a too deep planting depth may occur on extremely light soils already by the own weight of the coulters. In such a case, the "K" -coulters should by all means be equipped with the band-sowing shoe in combination with the extra coverage following harrow or with the depth limiters (see options). With the hydraulic central coulter pressure adjustment it is also possible to operate simultaneously on the same circuit the hydraulic remote seed rate adjustment and the hydraulic extra coverage following harrow pressure adjustment.

The result of this hydraulic control circuit is, that whenever on heavier soils the coulter pressure is increased more seed is being sown and the extra coverage following harrow covers those patches with heavier soil more evenly with soil by increased following harrow pressure.

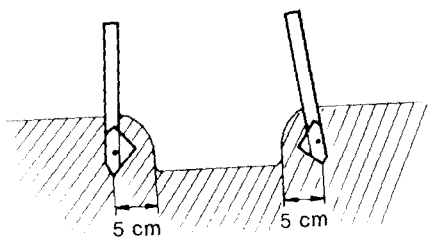


Fig. 82

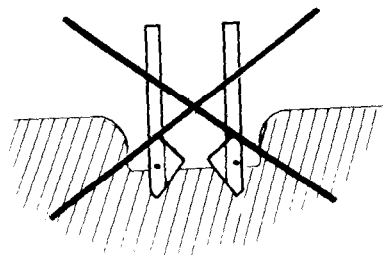


Fig. 83

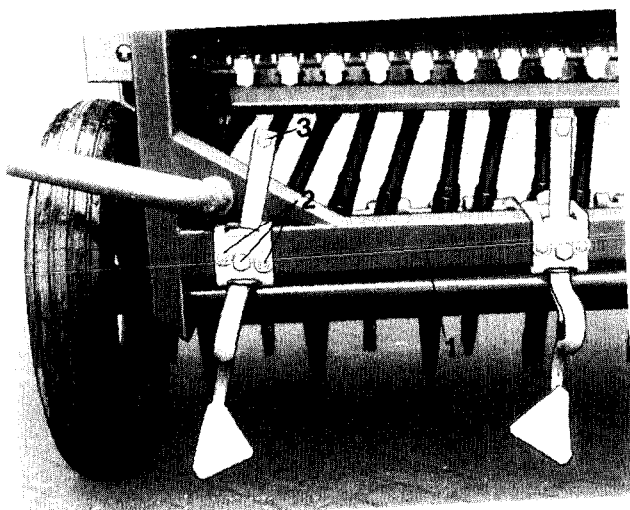


Fig. 84

23 Tractor wheelmark eradicators

The purpose of the AMAZONE wheelmark eradicators is less for loosening the tractor wheelmarks but mainly for covering and levelling the tractor wheelmarks.

As shown in Fig. 82 the wheelmark eradicators are to be mounted so that they work in the loose soil approx. 5 cm right and left of the tractor wheelmark. This provides for the most effective levelling of wheelmarks obtaining adequate loose soil for covering the seed and reducing the risk of damage to the track looseners due to stones being present in the compacted wheelmark.

Never mount the wheelmark eradicators as shown in Fig. 83.

The tractor wheelmark eradicators are to be fixed to the main square tubular frame section (Fig. 84/1) of the seed drill. The tractor wheelmark eradicator tines may be mounted all across the main frame member. Additionally, the swivelable mounting enables any desired point and setting to be reached even right next to the seed drill wheels.

After setting, the prismatic clamping piece of the marker mounting should be fixed with the three hexagon bolts (Fig. 84/2). The securing bolt (Fig. 84/3) prevents the possible loss of the wheelmark eradicator tines if the fixing bolt (Fig. 84/2) becomes loose, as due to the securing bolt (Fig. 84/3) these cannot fall through the fixing bracket.

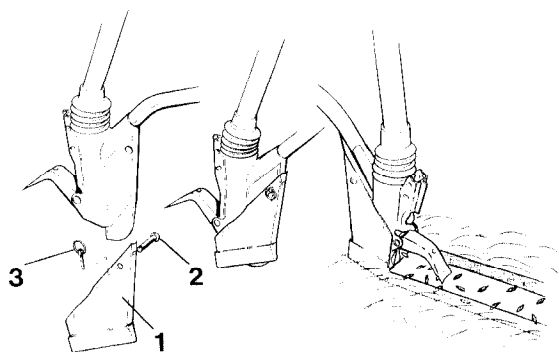


Fig. 85

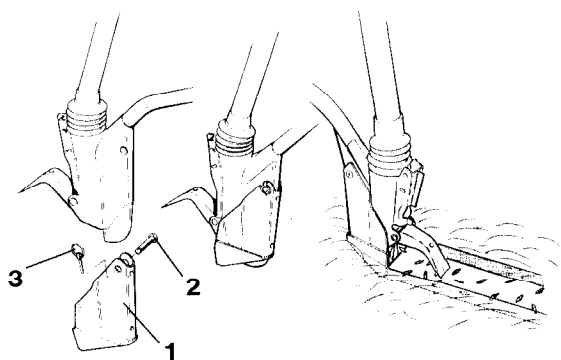


Fig. 86

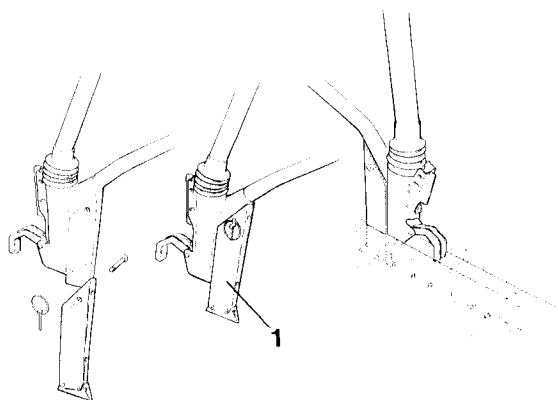


Fig. 87

24 Band-sowing shoes for “K”-coulters

Band-sowing improves the individual growing area of the grain plant compared with the ordinary row sowing. Therefore, yield increases result as against row placement of grain. Comparison tests over many years with various Chambers of Agriculture, Agricultural Institutes and Consultancy Groups have shown that yield increases of between 4 and 8% may result as against the row placement at the same coulters spacing.

Precondition for the usability of the band-sowing shoe is a seed bed with fine tilth and a clean surface. In such cases, the band-sowing shoe (Fig. 85, Fig. 86/1) can be clipped on the “K”-coulters and fixed with the pin (Fig. 85, Fig. 86/2) and secured with lynch pins (Fig. 85, Fig. 86/3).

If these preconditions should not be available, i. e. on heavy, sticky soils in winter corn, the band-sowing shoes can be quickly removed again.

For the proper covering of the band-sown seed bed, the use of the extra coverage harrow (see para. 20) is imperative. Under all conditions the extra coverage harrow works absolutely free of plugging up and, of course, also behind the normal “K”-coulters without band-sowing shoe.

24.1 Band-sowing shoe I

The band-sowing shoe I (Fig. 85/1) is used preferably on heavy soils. The wedge clears the band furrow of clods.

24.2 Band-sowing shoe II

The band-sowing shoe II (Fig. 86/1) works especially well on light and medium heavy soils. The tapered skid shoe compacts the sowing surface and reduces the planting depth.

25 Deep sowing shoe for “K”-coulters

For sowing beans extreme sowing depths of between 6–8 cm are necessary. The deep sowing shoe (Fig. 87/1) is clipped on to the “K”-coulters in the same manner as the band-sowing shoe (Fig. 85, Fig. 86/1) and is fixed with a pin and secured by a lynch pin.

The deep sowing shoe has been used successfully on specially hard and cloddy soils. On moist soils with much straw and root trash it is recommended to sow only with the front row of the coulters to achieve better penetration, i. e. for bean sowing. This way, with the rear row of coulters soil is being thrown onto the slits created by the front row of deep sowing shoes as a coverage. In such a case the following harrow should not be used.

When sowing especially large beans the additional use of special metering wheels and a bean agitator shaft is recommended as these two components secure a very even and gentle sowing of the large beans.

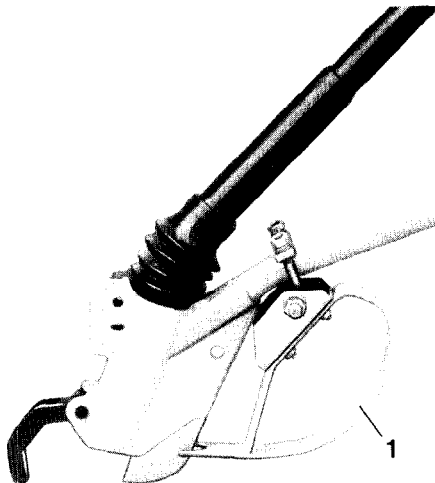


Fig. 88

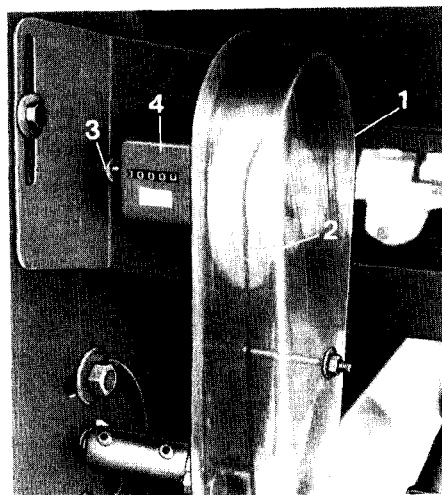


Fig. 89

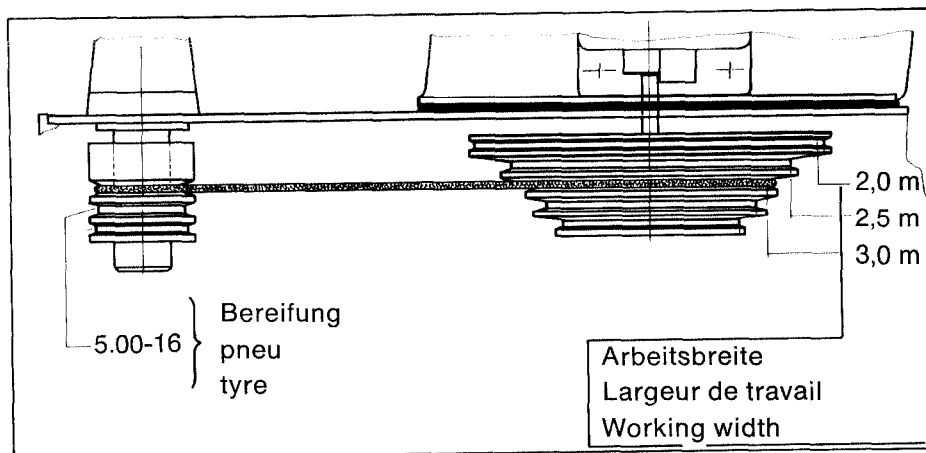


Fig. 90

26 Sowing depth limiter for “K”-coulters

On very light soils it is possible, that the “K”-coulters even without the use of any coulter pressure, will be running too deep through the soil. This can be avoided by the use of depth limiters (Fig. 88/1).

Also with frequently changing soil conditions, the use of depth limiters in connection with the central coulter pressure adjustment is practical.

On heavy soils the necessary sowing depth can be attained by an increased coulter pressure, whereas the coulter pressure on lighter soils will have to be reduced.

27 Hectare meter

The hectare meter (Fig. 89/4) is mounted on the inside of the right side panel below the drill's seed box. For its function it is important that the chain from the drill wheel to the gearbox is correctly tensioned by the tensioning plate as this chain provides for the drive to the counter.

When retrospectively fitting the hectare meter, ensure that the ground section belt (Fig. 89/2) is fitted according to the sticker (Fig. 90) which is fixed to the transparent cover (Fig. 89/1).

By turning the knob (Fig. 89/3) at the left side of the counter (Fig. 89/4) the hectare meter is set on “0”.

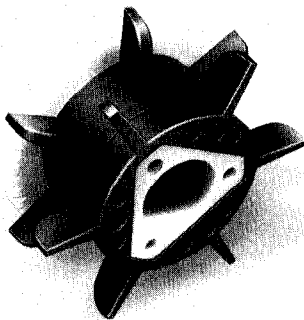


Fig. 91



Fig. 92

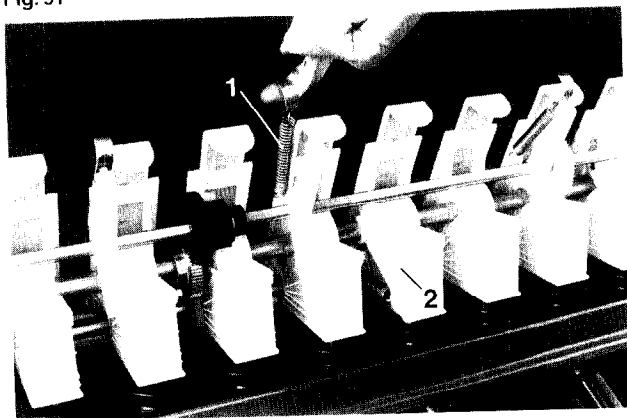


Fig. 93

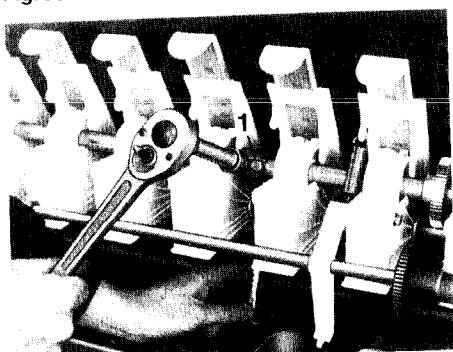


Fig. 94

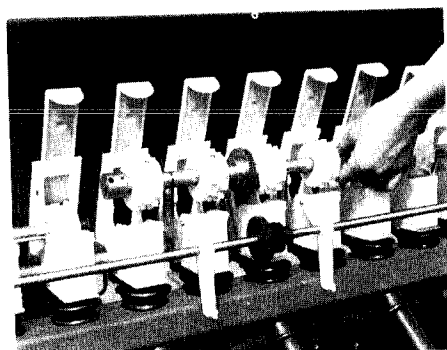


Fig. 95

28 Bean metering wheel – Bean agitator shaft

The sowing of extreme large seeds such as thick beans may cause some trouble to the standard metering wheel as the studs of the metering wheel do not reach down to the bottom flap in its position “8”. As a consequence this would result in an uneven flow of seed.

Instead of the standard metering wheels with fine seed metering wheels then the special bean metering wheels (Fig. 91) with elastic studs are used. These elastic studs are long enough to reach down to the bottom flap position “8” and thus guarantee an even flow of seed. As the studs are elastic it is ensured that the seed is not damaged (planting depth of the bean seed, please refer to para. 25).

For sowing especially large beans it is recommended to use a special bean agitator shaft (Fig. 92). This bean agitator shaft is equipped with elastic vans, so that even at the necessary intensive agitating the beans are not damaged.

For fitting the bean agitator shaft the standardly supplied agitator shaft should be detached. For this remove the hexagon bolt nut on the right hand side of the seed drill. On the left hand side of the seed drill the expansion pin should be punched out of the agitator shaft and the complete bearing should be dismantled. The agitator shaft bearing in the seed box centre should be dismantled too, and the standard agitator shaft can, after removing the seed level indicator, be taken out of the right hand side of the seed drill's seed box.

The fitting of the bean agitator is done in the vice versa order.

28.1 Exchanging of the complete sowing shaft

For a quicker and easier exchange of the bean seed metering wheels it is recommended to use a second metering shaft onto which the bean metering wheels are mounted in their required spacings. The divided metering shaft enables a quick exchange:

- The counter shaft of the metering wheel tramlining kit (if existing) is folded downwards after removal of the pulling springs (Fig. 93/1).
- The fixing (Fig. 61/1) which secures the coulters against axial movement locks in a hole of the metering housing. This fixing is pulled out of its hole when folding downwards the counter shaft and after the metering wheel shafts have been exchanged it is returned and fixed in its original position. The fixing (Fig. 61/1) is secured against axial movement by the set rings (Fig. 61/2) on the counter shaft.
- The pressure bearing (Fig. 93/2) is removed after detensioning the pulling springs.
- Slide the connecting bushings (Fig. 94/1) after removal of the hexagon bolts on the metering shaft and withdraw the metering shaft with metering wheels to the rear and exchange (Fig. 95).

The fitting is done in the vice versa order.

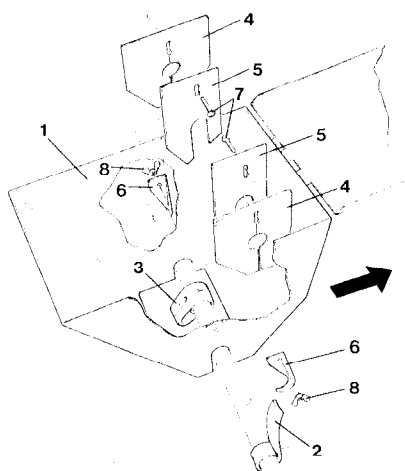


Fig. 96

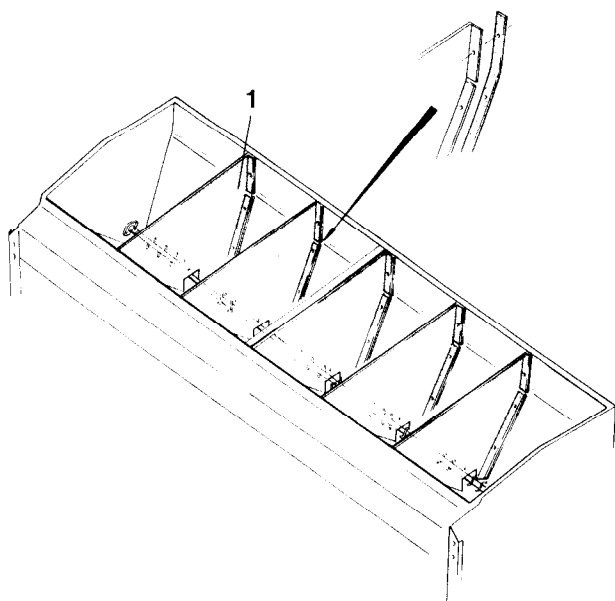


Fig. 97

29 Hopper insert boxes

The hopper insert boxes (Fig. 96/1) are designed to save costly seed in those cases where a smaller seed rate should be brought out at larger row spacings. Hereby also the remaining amount of seed which is left over after sowing can be reduced to a minimum.

The hopper insert boxes are always installed in front of those metering wheel housings which are used for sowing of fine seeds. As it is impossible to fit the hopper insert boxes to the two extreme outer metering wheel housings, it is recommended to connect the seed tubes of the outer coulters to the second inner metering wheel housing. This requires to dismantle the telescopic tubes from the mounting rail. This can be eased when the upper bellows are heated up by either hot water or hot air (i. e. a hair-dryer).

When sowing badly flowing seed it is necessary the hopper insert boxes to fit an agitator rubber according to Fig. 96/2 or Fig. 96/3 before fitting so that also the last remainders of seed are sown out of the hopper insert boxes.

Position the hopper insert boxes (Fig. 96/1) inside the seed box. Fix the rubber covering tongue (Fig. 96/4) to the cover plate (Fig. 96/5) within and the fixing plate (Fig. 96/6) outside of the hopper insert boxes by flat head bolts M 6 (Fig. 96/7) and wing nuts (Fig. 96/8). The fixing plate hooks under the agitator shaft.

30 Seed box divisor plate

In slopy terrain the seed can slide to the hill-down side of the seed box, so that the seed box is not filled evenly. This can be prevented by the insertion of seed divisor plates (Fig. 97/1).

Thus also on slopes sowing of the correct seed rate is secured on all coulters.

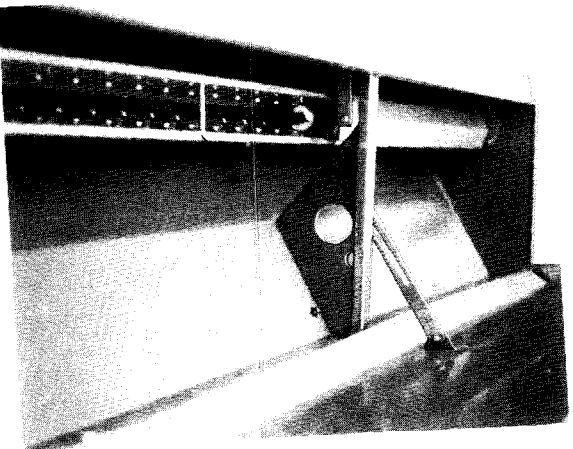


Fig. 98

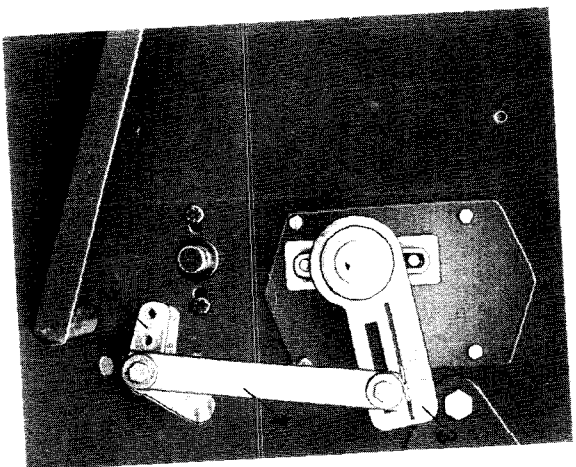


Fig. 99

geschlossen	$\frac{3}{4}$ offen	often
closed	$\frac{3}{4}$ open	open
fermé	$\frac{3}{4}$ ouvert	ouvert

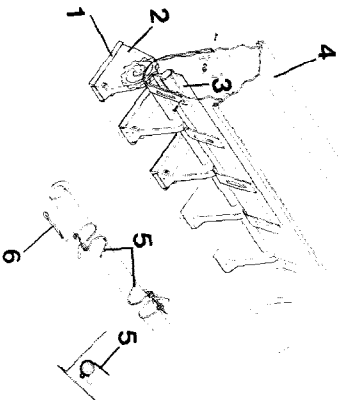


Fig. 100

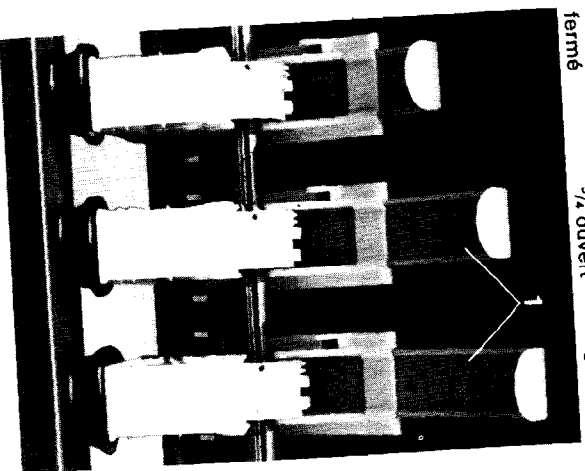


Fig. 101

31 Seed dressing attachment II

The AMAZONE seed dressing unit II (Fig. 98/1) can be used for corn dressing using non mercury and mercury containing agents. Also powder can be applied with the dressing unit II.

The unit applies exactly the required amount at a continuous even flow into the stream of corn passing to the metering wheels.

The agitation action of the fast running agitator shaft is intensified by additional stirrer clips (Fig. 100/5). Hereby the dressing agent is "rubbed on" the corn. Each agitating clip (Fig. 100/5) is secured by a split pin (Fig. 100/6).

31.1 Setting of the seed dresser

a) Removal of the shutter plates

Remove the shutters (Fig. 100/1) below the metering housings (Fig. 100/2). Shutters should not be removed from the metering housings which are not to be engaged.

b) Filling of the seed dressing unit

Here one must take care that the rubber agitator shaft (Fig. 100/3) is left in an upright or vertical position in the dressing hopper for filling. After filling close the seed dresser with the lid (Fig. 100/4).

c) Filling of seed box until upper edge of seed dresser

Fill the seed hopper with corn approximately up to the upper edge of the dresser. Filling to a higher level will make it harder to crank the agitator shaft and may hamper the calibration test.

d) Rough setting of the seed dresser

For setting the dressing rate the push rod (Fig. 99/1) at the crank (Fig. 99/2) should be set according to the seed dresser setting chart into the positions "0", "A", "B" or "C". In position "0" the seed dresser is out of operation. Positions "A" and "B" are medium positions whereas in position "C" the maximum possible dressing rate is applied.

e) Fine adjustment of the seed dresser

The further fine adjustment is done at the swing arm (Fig. 99/3) as follows: Adjust the seed dresser 5 markings higher than shown on the chart.

Example: Table A 3 Setting A 8
 or Table A 8 Setting B 5

This overdosing is only necessary in the beginning to achieve a faster dressing.

f) Setting the shutter slides onto position " $\frac{3}{4}$ "

Bring the shutter slides (Fig. 101/1) into position " $\frac{3}{4}$ " even if in the setting chart the position "open" is stated. Through the intensive agitating action of the agitator clips (Fig. 100/5) some corn may get discharged over the metering wheels without being checked.

g) Calibration test

Place the calibration tray below the metering wheels and turn the seed drill wheels to deliver seed. Hereby it can be clearly noticed how the seed becomes more intensively dressed. After dressed seed has left all metering wheels the setting of the seed dresser should be performed as recommended in the setting chart. Empty the calibration tray into the seed box and now the actual calibration test can be performed as described above.

h) Filling of the seed box

Table for Dressing unit II

Setting at crank (on metering-shaft) indicated by A–B–C.

Setting at the swingarm (on dressing-device) indicated by 1, 2, 3, 4, 5, 6, 7 and 8.

Mercury-containing dressing agents and powder	Wheat			Barley			Rye			Oats			Bulk weight
	–	–	gr/kg	–	–	gr/kg	–	–	gr/kg	–	–	gr/kg	kg/litres
Aagrano	B	1	2	B	1	2	A	8	2	B	2	3	
Aagrano Kráhex	B	1	2	B	1	2	A	8	2	B	2	3	
Abavit	A	3	2	A	4	2	A	4	2	A	6	3	
Aagrano Plus K	A	8	2	A	8	2	B	1	2	B	3	3	
Ceresan Gamma M	A	6	2	A	7	2	A	7	2	B	1	3	
Ceresan Special	A	2	2	A	3	2	A	3	2	A	5	3	
Fusariol	A	8	2	A	8	2	B	1	2	B	2	3	
Germisan	A	8	2	B	1	2	B	1	2	B	3	3	
Vitavax Combi	A	8	3	A	8	2,5	–	–	–	–	–	–	
Nexion Seed-powder	B	6	2,5	B	5	2,5	B	6	2,5	B	4	2,5	0,350
Mercury-free dressing agent													
Aarbosan UT	B	4	2	B	2	2	B	3	2	A	4	2	0,520
Drawigan plus	C	3	3	C	1	3	B	8	2,5	A	5	1	0,490
Baytan Spezial	A	6	1,5	–	–	–	A	6	1,5	A	4	1,5	0,530
Baytan Universal	A	6	1,5	A	5	1,5	A	6	1,5	A	4	1,5	0,530
Aagrano 2000 UT	B	5	2	B	3	2	A	7	1	A	6	1	0,460
Panoctin TB	C	1	3	B	7	3	B	8	3	B	3	3	0,620
Derosal	B	2	1	A	6	1	A	7	1	A	6	1	0,390
Voronit Special	A	6	2	–	–	–	A	7	2	–	–	–	0,900
Sibutol	A	2	2	–	–	–	–	–	–	–	–	–	0,550

These setting rates refer to rates prescribed by the manufacturers

31.2 Emptying of the seed dresser

For emptying the seed dresser the rubber agitator shaft (Fig. 100/3) should be placed in a vertical position. Undo the eye-bolt and turn the unit upside down on its own bearings. Thereby remaining dressing material will be collected in the hopper cover (Fig. 82/4) and then can be easily taken away by removing the hopper cover.

31.3 Checking possibilities of the seed dresser

In order to operate the seed dresser correctly the following points should be checked:

a) Checking of the bulk weight

The volume density of non-mercury dressing can distinctly vary from the average rate shown on the chart of page 76. Therefore it is advisable to check the bulk weight of the material. If it is found that there is a variation between the stated weight and the weight given on the chart, then it will be necessary to correct the setting.

Weigh one litre of dressing agent. If you state for example, that the weight is 10% lower than shown on the chart (page 76) then you must increase the amount of dressing agent by re-adjusting the setting by 10% for example from "A2" to "A3".

A changing of the seed dresser's setting at the swing arm (Fig. 99/3) for one number, for example from "A2" to "A3" or from "A8" to "B1" results in an increase or decrease of the dressing rate by 10%.

At the two examples mentioned above the dressing rate setting is increased by 10%. If, on the other hand, the setting at the swing arm is set by one smaller number, the dressing rate is reduced by 10%.

b) Calibration test of the dressing agent

The highest security for obtaining the accurate dressing rate can only be attained by a calibration test. For this the seed box should be completely emptied. By turning the calibration crank one can state whether the dressing agent is being discharged correctly through all metering housings. After this trial, one must close all shutter plates (Fig. 100/1) of the dresser's **metering housings**.

The same number of crank turns must be applied as when performing the corn calibration test. The dressing material will be controlled on the closed shutter plates (Fig. 100/1) beneath the metering housings (Fig. 100/2).

Remove carefully each shutter plate (Fig. 100/1). Care must be taken not to spill any of the dressing material. Collect the material on a sheet of paper and weigh it on a letter scale.

The corn calibration test has already given us the calibrated seed rate of corn. The required amount of dressing material resulting from the calibration test at correct settings can now easily be calculated:

150 g of dressing agent on 100 kgs of corn equals for example: 1.5 g dressing agent on 1 kg of corn.

If, for example, the result of the calibration test shows 5 kgs of corn, then the calibration result of dressing should show $5 \times 1.5 \text{ g} = 7.5 \text{ g}$ dressing agent.

Correction of settings can easily be made at the setting of the push rod (Fig. 99/1) and the calibration test be repeated.

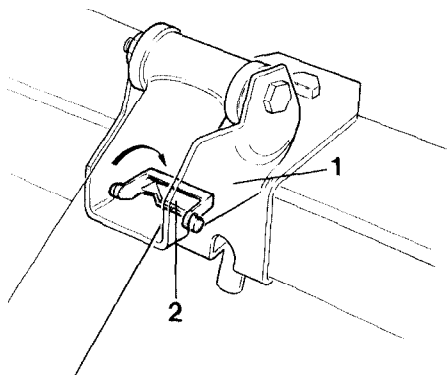


Fig. 102

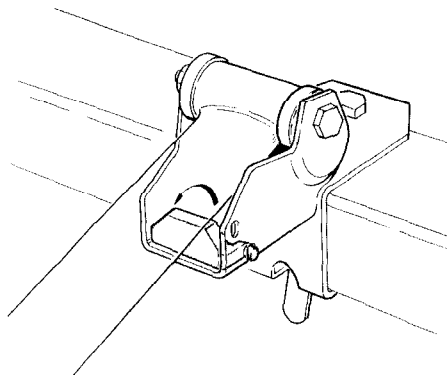


Fig. 103

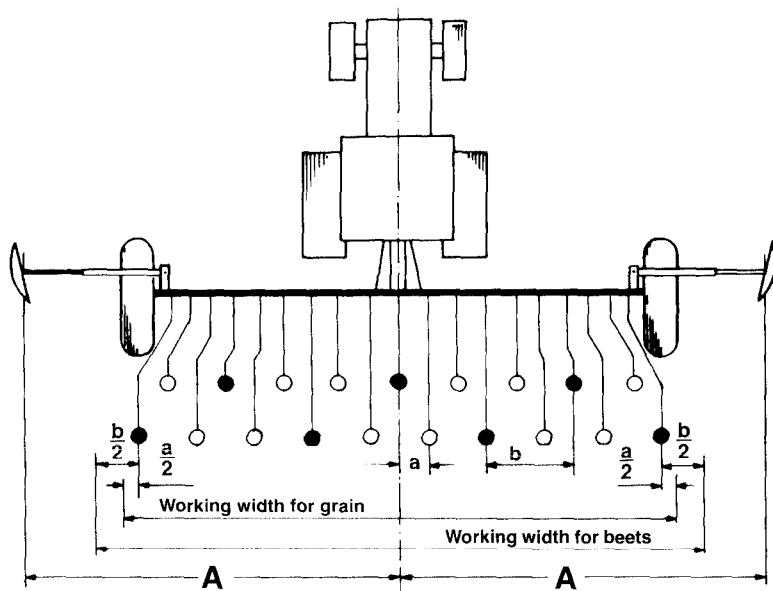


Fig. 104

32 Individual coulter lift support

If crops with larger row spacings are to be sown, i. e. with less coulters than they exist on your seed drill, those coulters which are not needed for sowing may be lifted off the ground and held in that position by the coulter lift support (Fig. 103). This coulter lift support (Fig. 102/2) may be found by the coulter stilt bearing (Fig. 102/1). It is made of polyamide. To raise the coulter off the ground it has to be lifted to turn the coulter support to the rear (Fig. 103) so that the coulter rests in the lifted position on it.

In order to bring back the coulter into working position (Fig. 102) again lift the coulter briefly and fold the lift support forward; thereafter the coulter may be lowered fully to the ground.

33 Setting of the marker arm length with examples

Carving of a mark in the tractor track

Depending on the tractor track, working width and number of coulters of the seed drill, different marker setting measurements result, i. e. distances of the marker disc contacting edge on the ground to the centre of the drill.

The following formulas may be used for calculating the correct marker setting measurements from the centre of the seed drill at symmetrical placement of the coulters:

$$\text{Working width} = \text{number of rows} \times \text{row spacing}$$

$$\text{Marker setting measure A} = \text{working width} - \frac{\text{Traktor track}}{2}$$

Example 1:

If all coulters as shown in Fig. 104 are sowing, the working width with grain is:

Working width: 3.0 m Row spacing a = 12.0 cm
Number of rows: 25 Tractor track width: 1.5 m

$$\text{Marker setting measurement A} = 300 \text{ cm} - \frac{150 \text{ cm}}{2} = 225 \text{ cm}$$

Example 2:

If only the coulters marked in black on Fig. 104 are used for sowing, working width for beets:

Working width: 3.36 m Row spacing b = 48.0 cm
Number of rows: 7 Tractor track width: 1.5 m

$$\text{Marker setting measurement A} = 336 \text{ cm} - \frac{150 \text{ cm}}{2} = 261 \text{ cm}$$

SEED DRILL **AMAZONE**

D8-20 SPECIAL

Setting combinations
of the marker arm lengths
by marking within the tractor's wheel mark
for obtaining
bout widths from 1.77 m to 2.31 m

AMAZONE
Engineering advanced farming

Fig. 1

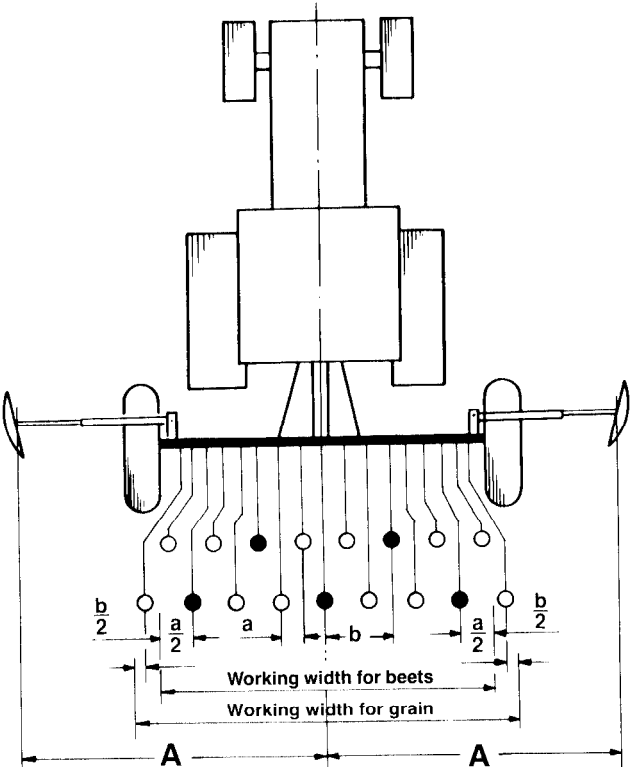


Fig. 2

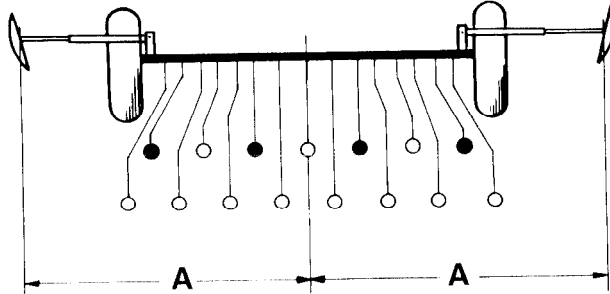
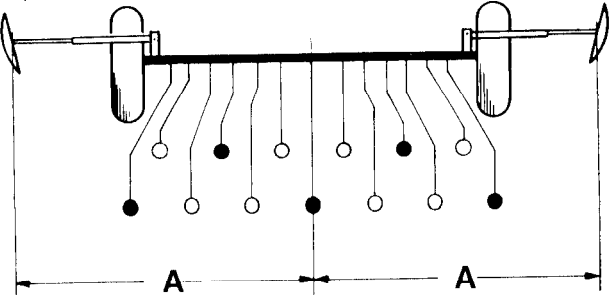


Fig. 3

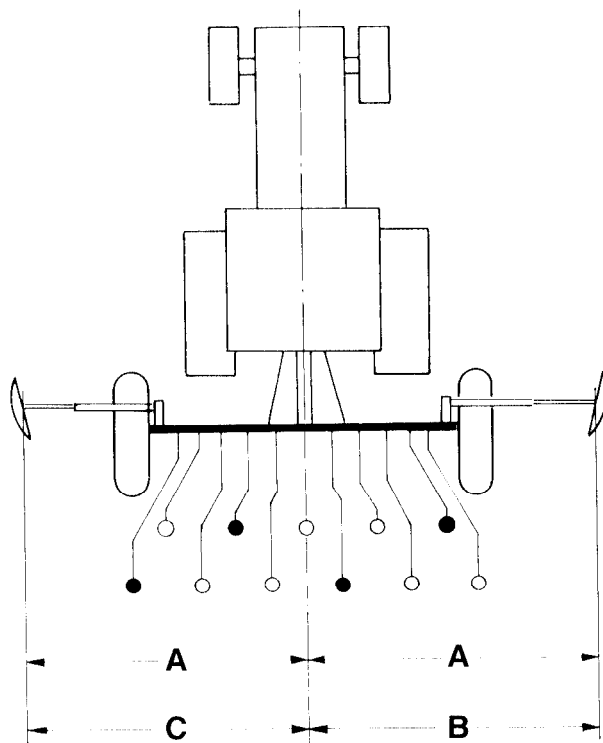


Ref. fig. 1	Tractor trac width	Marker setting length of A
Grain  Working width: 2.00 m No. of rows: 17 Row spacing: a = 11.8 cm	1.25 m	137.5 cm
	1.36 m	132.0 cm
	1.50 m	125.0 cm
Beets  Working width: 1.77 m No. of rows: 5 Row spacing: b = 35.4 cm	1.25 m	114.5 cm
	1.36 m	109.0 cm
	1.50 m	102.0 cm

Ref. fig. 2	Tractor trac width	Marker setting length of A
Grain  Working width: 2.00 m No. of rows: 15 Row spacing: a = 13.3 cm	1.25 m	137.5 cm
	1.36 m	132.0 cm
	1.50 m	125.0 cm
Beets  Working width: 2.13 m No. of rows: 4 Row spacing: b = 53.3 cm	1.25 m	150.5 cm
	1.36 m	145.0 cm
	1.50 m	138.0 cm

Ref. fig. 3	Tractor trac width	Marker setting length of A
Grain  Working width: 2.00 m No. of rows: 13 Row spacing: a = 15.4 cm	1.25 m	137.5 cm
	1.36 m	132.0 cm
	1.50 m	125.0 cm
Beets  Working width: 2.31 m No. of rows: 5 Row spacing: b = 46.2 cm	1.25 m	168.5 cm
	1.36 m	163.0 cm
	1.50 m	156.0 cm

Fig. 4



Ref. fig. 4	Tractor trac width	Marker setting length of A	
Grain ○ ● Working width: 2.00 m No. of rows: 11 Row spacing: a = 18.2 cm	1.25 m	137.5 cm	
	1.36 m	132.0 cm	
	1.50 m	125.0 cm	
Special case	Tractor trac width	Marker setting length	
		left C	right B
Beets ● Working width: 2.18 m No. of rows: 4 Row spacing: b = 54.5 cm	1.25 m	173.8 cm	137.4 cm
	1.36 m	168.3 cm	131.9 cm
	1.50 m	161.3 cm	124.9 cm

SEED DRILL **AMAZONE**

D8-25 SPECIAL

Setting combinations
of the marker arm lengths
by marking within the tractor's wheel mark
for obtaining
bout widths from 2.20 m to 2.85 m

AMAZONE
Engineering advanced farming

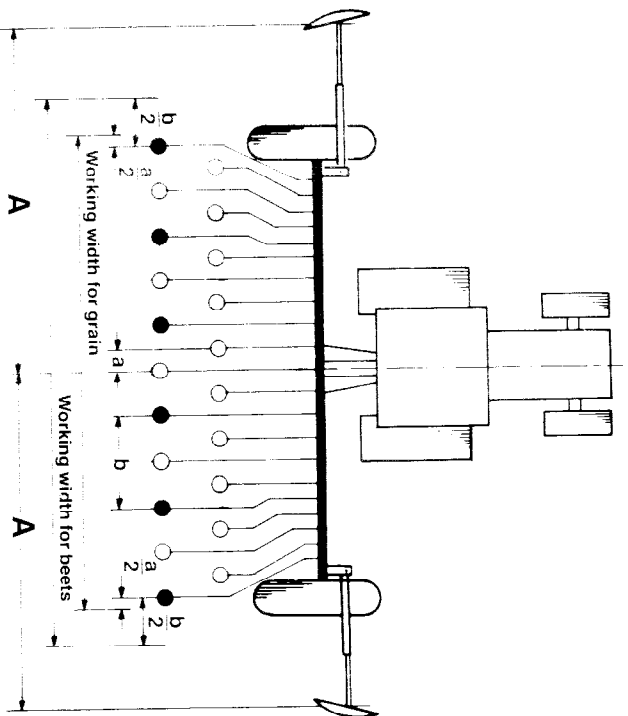


Fig. 1

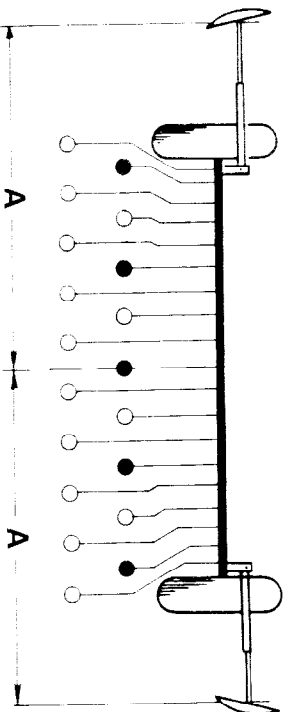


Fig. 2

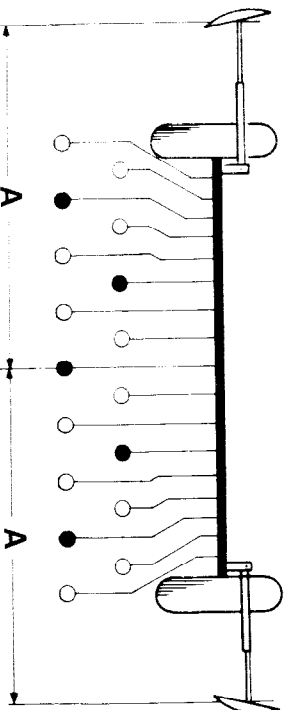


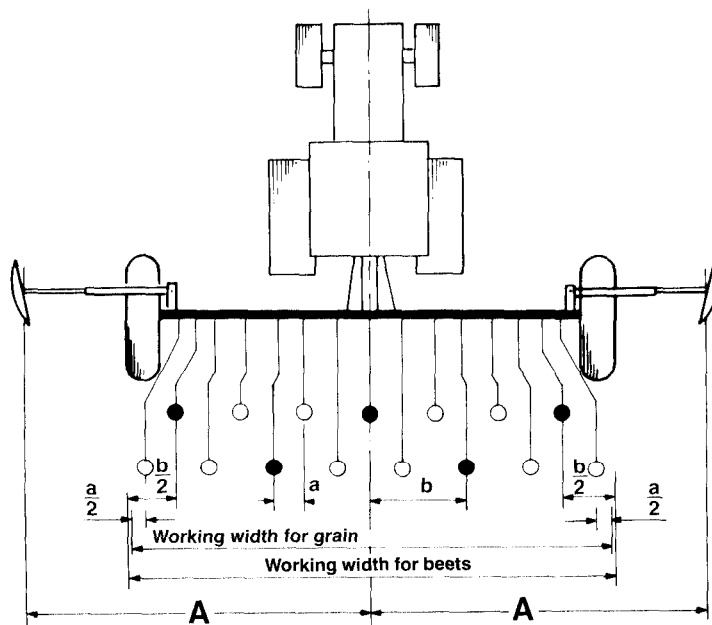
Fig. 3

Ref. fig. 1	Tractor trac width	Marker setting length of A
Grain ○ ● Working width: 2.50 m No. of rows: 21 Row spacing: a = 11.9 cm	1.25 m	187.5 cm
	1.36 m	182.0 cm
	1.50 m	175.0 cm
Beets ● Working width: 2.85 m No. of rows: 6 Row spacing: b = 47.6 cm	1.25 m	222.5 cm
	1.36 m	217.0 cm
	1.50 m	210.0 cm

Ref. fig. 2	Tractor trac width	Marker setting length of A
Grain ○ ● Working width: 2.50 m No. of rows: 19 Row spacing: a = 13.2 cm	1.25 m	187.5 cm
	1.36 m	182.0 cm
	1.50 m	175.0 cm
Beets ● Working width: 2.65 m No. of rows: 5 Row spacing: b = 53.0 cm	1.25 m	202.5 cm
	1.36 m	197.0 cm
	1.50 m	190.0 cm

Ref. fig. 3	Tractor trac width	Marker setting length of A
Grain ○ ● Working width: 2.50 m No. of rows: 17 Row spacing: a = 14.7 cm	1.25 m	187.5 cm
	1.36 m	182.0 cm
	1.50 m	175.0 cm
Beets ● Working width: 2.20 m No. of rows: 5 Row spacing: b = 44.0 cm	1.25 m	157.5 cm
	1.36 m	152.0 cm
	1.50 m	145.0 cm

Fig. 4



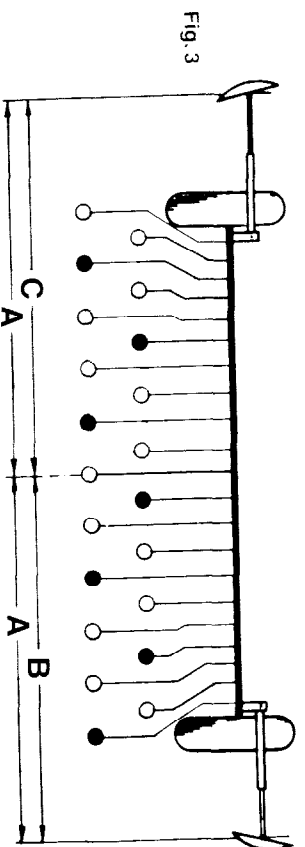
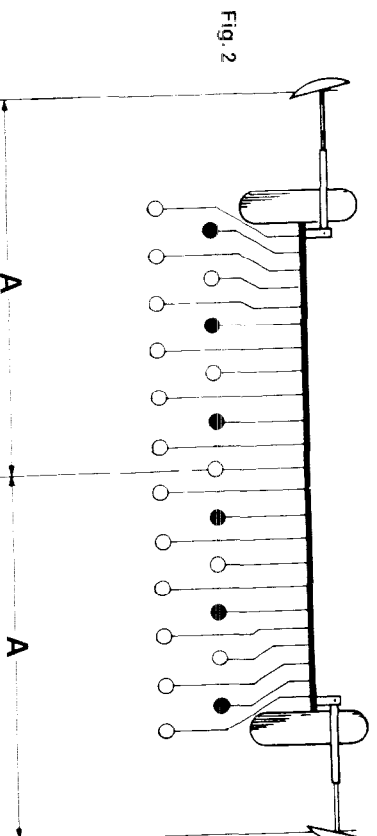
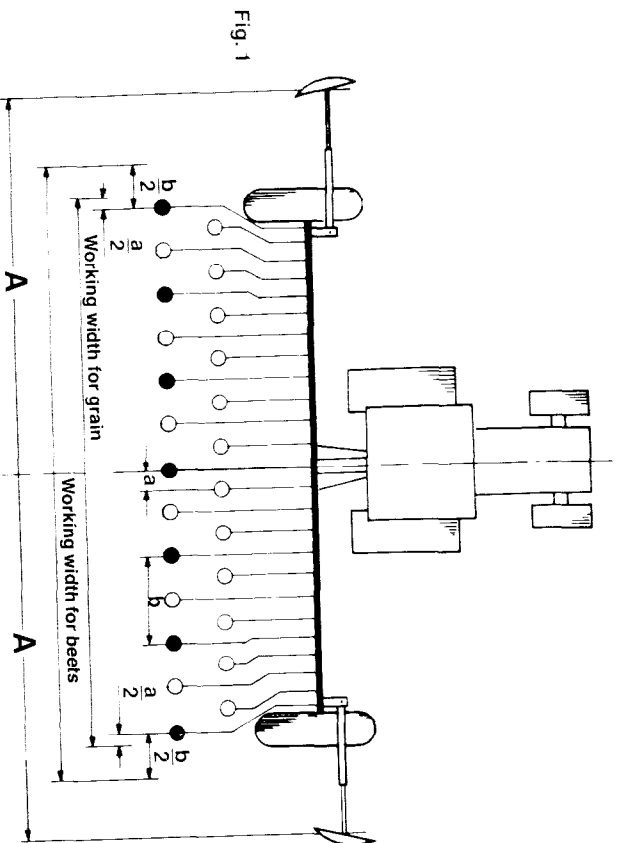
Ref. fig. 4	Tractor trac width	Marker setting length of A
Grain ○ ● Working width: 2.50 m No. of rows: 15 Row spacing: a = 16.7 cm	1.25 m	187.5 cm
	1.36 m	182.0 cm
	1.50 m	175.0 cm
Beets ● Working width: 2.50 m No. of rows: 5 Row spacing: b = 50.0 cm	1.25 m	187.5 cm
	1.36 m	182.0 cm
	1.50 m	175.0 cm

SEED DRILL **AMAZONE**

D8-30 SPECIAL

Setting combinations
of the marker arm lengths
by marking within the tractor's wheel mark
for obtaining
bout widths from 2.65 m to 3.36 m

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Ref. fig. 1	Tractor trac width	Marker setting length of A
Grain ○ ● Working width: 3.00 m No. of rows: 25 Row spacing: a = 12.0 cm	1.25 m	237.5 cm
	1.36 m	232.0 cm
	1.50 m	225.0 cm
Beets ● Working width: 3.36 m No. of rows: 7 Row spacing: b = 48.0 cm	1.25 m	273.5 cm
	1.36 m	268.0 cm
	1.50 m	261.0 cm

Ref. fig. 2	Tractor trac width	Marker setting length of A
Grain ○ ● Working width: 3.00 m No. of rows: 23 Row spacing: a = 13.0 cm	1.25 m	237.5 cm
	1.36 m	232.0 cm
	1.50 m	225.0 cm
Beets ● Working width: 3.12 m No. of rows: 6 Row spacing: b = 52.0 cm	1.25 m	249.5 cm
	1.36 m	244.0 cm
	1.50 m	237.0 cm

Ref. fig. 3	Tractor trac width	Marker setting length of A	
Grain ○ ● Working width: 3.00 m No. of rows: 21 Row spacing: a = 14.3 cm	1.25 m	237.5 cm	
	1.36 m	232.0 cm	
	1.50 m	225.0 cm	
Special case Beets ● Working width: 3.00 m No. of rows: 7 Row spacing: b = 43.0 cm	Tractor trac width	Marker setting length	
		left C	right B
	1.25 m	209.0 cm	266.5 cm
	1.36 m	204.0 cm	171.0 cm
	1.50 m	197.0 cm	254.0 cm

Fig. 4

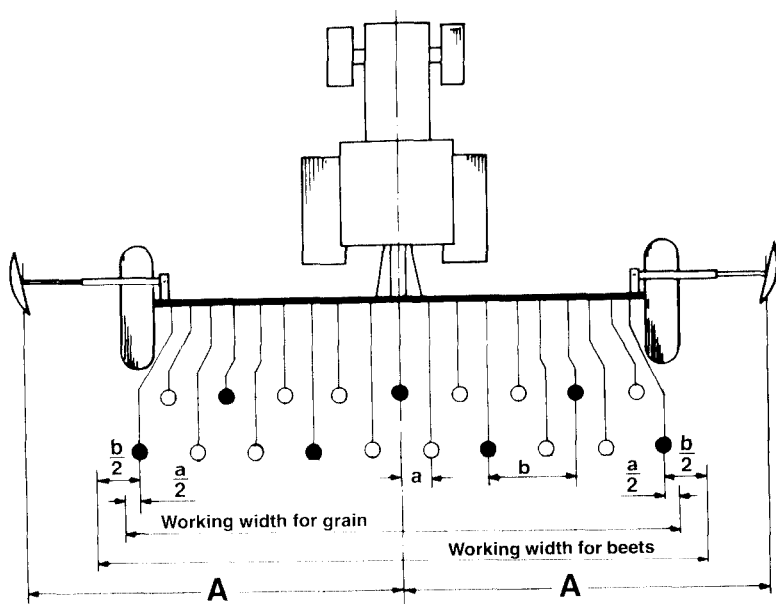


Fig. 5

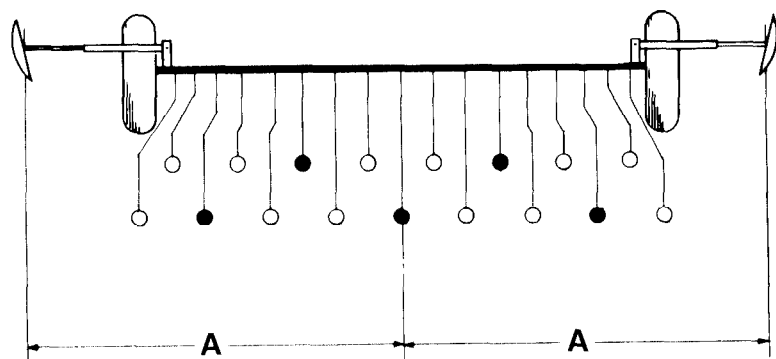
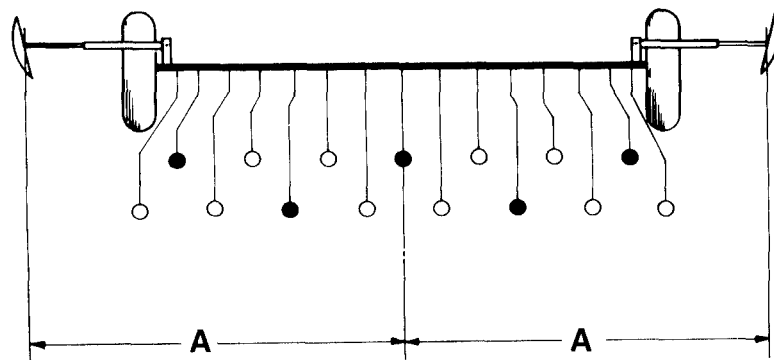


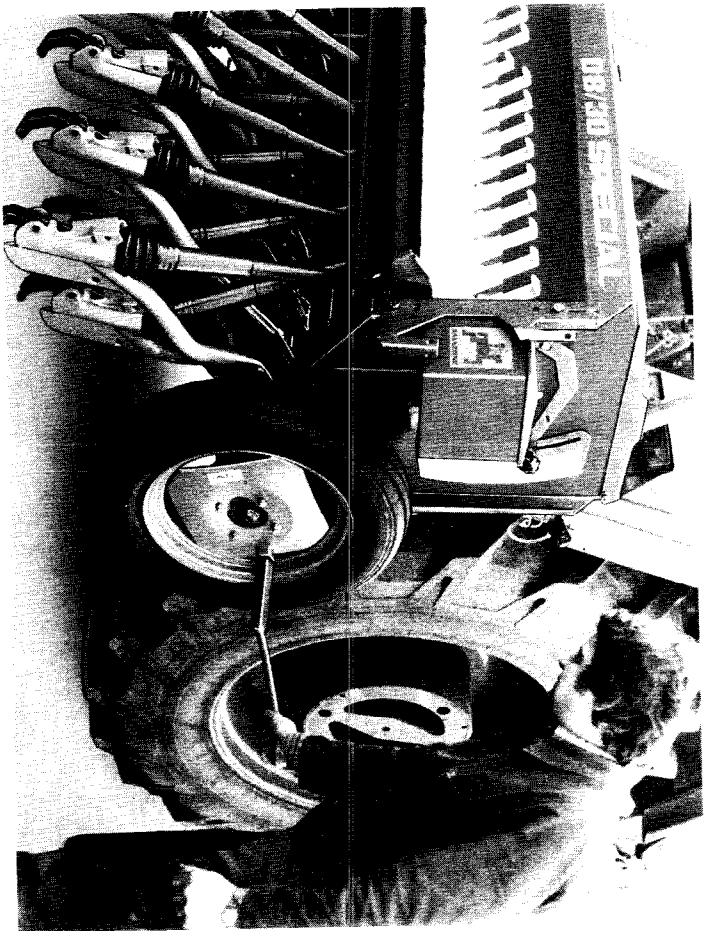
Fig. 6



Ref. fig. 4	Tractor trac width	Marker setting length of A
Grain ○ ● Working width: 3.00 m No. of rows: 19 Row spacing: a = 15.8 cm	1.25 m	237.5 cm
	1.36 m	232.0 cm
	1.50 m	225.0 cm
Beets ● Working width: 3.32 m No. of rows: 7 Row spacing: b = 47.4 cm	1.25 m	269.5 cm
	1.36 m	264.0 cm
	1.50 m	257.0 cm

Ref. fig. 5	Tractor trac width	Marker setting length of A
Grain ○ ● Working width: 3.00 m No. of rows: 17 Row spacing: a = 17.6 cm	1.25 m	237.5 cm
	1.36 m	232.0 cm
	1.50 m	225.0 cm
Beets ● Working width: 2.65 m No. of rows: 5 Row spacing: b = 53.0 cm	1.25 m	202.5 cm
	1.36 m	197.0 cm
	1.50 m	190.0 cm

Ref. fig. 6	Tractor trac width	Marker setting length of A
Grain ○ ● Working width: 3.00 m No. of rows: 15 Row spacing: a = 20.0 cm	1.25 m	237.5 cm
	1.36 m	232.0 cm
	1.50 m	225.0 cm
Beets ● Working width: 3.00 m No. of rows: 5 Row spacing: b = 60.0 cm	1.25 m	237.5 cm
	1.36 m	232.0 cm
	1.50 m	225.0 cm



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Wheel turns (by crank) for self-calibration procedure

Machine type and tyres	1/40 ha (250 sqm)	1/100 ha = 1 a (100 sqm)
D8 - 20 SPECIAL	58.4	23.4
D8 - 25 SPECIAL	46.7	18.7
D8 - 30 SPECIAL	38.9	15.5

For tyres 5.00-16

For further details please refer to para 3.6, page 17.

Seed Type	Oats, dressed							0,56 kg/litre
Bottom flap position: 2				Shutter slide: open				
Gearbox setting No.	Row spacing (cm)							
	10,3	10,8	11,8	12,9	13,8	15,4	16,7	
		to	to	to	to	to	to	
		11,4	12,1	13,3	14,8	15,8	17,6	
	Normal metering wheel							
33	94	87	81	75	66	62	56	
36	106	98	91	84	75	69	63	
38	115	107	99	91	81	75	69	
41	126	118	109	100	90	83	76	
42	132	123	114	105	94	86	79	
43	137	127	118	109	97	90	82	
44	140	131	121	111	100	92	85	
45	146	136	126	116	104	95	88	
47	155	145	134	123	110	102	93	
48	161	150	139	128	114	105	97	
49	165	153	142	131	117	107	99	
50	171	159	147	135	121	112	102	
52	180	167	155	143	127	118	109	
53	186	173	160	147	131	121	112	
54	190	177	164	151	135	124	114	
55	195	181	168	155	138	128	117	
57	206	192	178	164	146	135	125	
58	211	197	182	167	150	138	128	
59	217	202	187	172	154	142	130	
60	223	207	192	177	157	145	133	
62	234	218	202	186	166	153	140	
63	240	224	207	190	170	157	144	
64	246	229	212	195	174	161	147	
66	258	240	222	204	182	168	154	
67	263	245	227	209	186	172	158	
68	269	251	232	213	191	176	161	
70	280	260	241	222	197	183	168	
72	293	273	253	233	208	192	176	
75	312	291	269	247	221	204	187	
77	325	302	280	258	230	213	195	
80	341	318	294	270	242	223	205	
83	357	333	308	283	253	234	214	
87	376	350	324	298	267	247	226	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Rye, dressed							0,76 kg/litre
Bottom flap position: 2				Shutter slide: ¾ open				
Gearbox setting No.	Row spacing (cm)							
	10,3	10,8 to 11,4	11,8 to 12,1	12,9 to 13,3	13,8 to 14,8	15,4 to 15,8	16,7 to 17,6	
	Normal metering wheel							
21	85	79	73	67	60	56	51	
23	96	90	83	76	68	62	58	
25	107	99	92	85	75	70	64	
27	117	109	101	93	83	77	71	
28	124	116	107	98	88	81	75	
29	130	121	112	103	92	85	78	
30	135	125	116	107	95	88	81	
31	142	132	122	112	100	92	85	
32	146	136	126	116	104	96	88	
33	154	144	133	122	110	101	93	
34	161	150	139	128	114	105	97	
35	167	156	144	132	118	109	100	
36	173	161	149	137	122	113	104	
37	181	168	156	144	128	118	109	
38	189	176	163	150	134	123	113	
39	194	180	167	154	137	127	117	
41	210	195	181	167	149	137	126	
42	217	202	187	172	153	142	130	
43	224	208	193	178	159	147	134	
44	233	217	201	185	165	153	140	
45	240	224	207	190	170	157	144	
46	249	232	215	198	177	163	150	
47	256	239	221	203	182	168	154	
48	266	247	229	211	188	175	159	
50	280	260	241	222	196	183	168	
51	289	269	249	229	204	189	173	
53	306	285	264	243	217	200	183	
56	329	307	284	261	234	216	198	
57	347	323	299	275	245	227	208	
60	365	340	315	290	259	239	218	
63	393	366	339	312	278	258	236	
65	409	381	353	325	290	268	246	
67	430	401	371	341	305	281	258	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Spring Barley, dressed							0,76 kg/litre
Bottom flap position: 2				Shutter slide: open				
Gearbox setting No.	Row spacing (cm)							
	10,3	10,8	11,8	12,9	13,8	15,4	16,7	
		to 11,4	to 12,1	to 13,3	to 14,8	to 15,8	to 17,6	
	Normal metering wheel							
19	84	78	72	66	59	54	50	
21	94	87	81	75	67	61	56	
23	104	97	90	83	74	68	63	
24	111	104	96	88	79	73	67	
26	124	116	107	98	88	81	75	
27	129	120	111	102	91	84	78	
28	136	126	117	108	96	88	81	
29	142	132	122	112	100	92	85	
30	147	137	127	117	104	96	88	
31	154	144	133	122	110	101	93	
32	161	150	139	128	114	105	97	
33	167	156	144	132	118	109	100	
34	173	161	149	137	122	113	104	
35	182	170	157	144	128	118	108	
36	187	174	161	148	132	122	113	
37	195	181	168	155	138	127	117	
38	201	187	173	159	142	131	121	
40	215	200	185	170	152	140	129	
41	223	207	192	177	157	146	133	
42	230	214	198	182	162	150	137	
43	237	220	204	188	168	155	142	
44	245	228	211	194	173	160	147	
45	253	235	218	201	179	165	151	
46	261	243	225	207	185	171	157	
48	276	257	238	219	195	181	166	
51	299	279	258	237	212	196	180	
53	316	294	272	250	223	207	189	
55	334	311	288	265	236	219	200	
58	360	335	310	285	254	235	215	
60	371	346	320	294	263	243	222	
63	399	372	344	316	282	261	239	
65	418	389	360	331	295	274	251	
68	444	414	383	352	314	291	266	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Wheat, dressed							0,83 kg/litre
Bottom flap position: 2				Shutter slide: 3/4 open				
Gearbox setting No.	Row spacing (cm)							
	10,3	10,8 to 11,4	11,8 to 12,1	12,9 to 13,3	13,8 to 14,8	15,4 to 15,8	16,7 to 17,6	
	Normal metering wheel							
20	81	76	70	64	58	54	49	
22	92	85	79	73	65	60	55	
24	102	95	88	81	72	67	61	
26	114	106	98	90	81	75	69	
27	118	110	102	94	84	77	72	
28	124	116	107	98	88	81	75	
29	129	120	111	102	91	85	78	
30	135	125	116	107	96	89	81	
31	142	132	122	112	100	92	85	
32	147	137	127	117	105	96	89	
33	153	143	132	121	109	100	92	
34	159	148	137	126	113	104	96	
35	166	154	143	132	118	108	99	
36	173	161	149	137	122	113	103	
37	180	167	155	143	127	117	108	
38	186	173	160	147	131	121	112	
39	193	179	166	153	136	126	116	
40	201	187	173	159	142	131	120	
42	213	199	184	169	151	140	128	
43	220	205	190	175	156	144	132	
44	227	212	196	180	161	149	137	
45	234	218	202	186	166	153	141	
46	244	227	210	193	172	159	145	
47	251	233	216	199	177	164	150	
48	258	240	222	204	182	168	154	
50	271	253	234	215	192	178	163	
52	287	267	247	227	203	188	172	
54	300	280	259	238	213	197	180	
56	317	295	273	251	224	207	190	
59	339	315	292	269	239	222	203	
61	356	332	307	282	252	233	213	
63	372	347	321	295	264	242	223	
66	397	369	342	315	281	260	237	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Winter Barley, dressed							0,60 kg/litre
Bottom flap position: 2				Shutter slide: open				
Gearbox setting No.	Row spacing (cm)							
	10,3	10,8 to 11,4	11,8 to 12,1	12,9 to 13,3	13,8 to 14,8	15,4 to 15,8	16,7 to 17,6	
	Normal metering wheel							
21	81	76	70	64	58	53	49	
24	94	87	81	75	67	62	57	
26	104	97	90	83	74	68	63	
28	115	107	99	91	81	76	69	
30	125	117	108	99	89	82	75	
31	132	123	114	105	94	86	79	
32	138	129	119	109	98	90	83	
33	144	134	124	114	102	94	86	
34	150	139	129	119	106	98	89	
35	155	145	134	123	110	102	93	
36	168	157	145	133	119	110	101	
38	174	162	150	138	123	114	105	
39	180	167	155	143	127	118	108	
40	188	175	162	149	133	123	113	
41	195	181	168	155	138	127	117	
42	203	189	175	161	144	133	122	
43	210	195	181	167	149	137	126	
44	217	202	187	172	153	142	130	
45	223	207	192	177	157	146	134	
47	235	219	203	187	167	154	141	
48	242	226	209	192	172	159	145	
49	248	231	214	197	176	163	149	
50	255	238	220	202	181	167	153	
52	268	249	231	213	190	175	161	
53	275	256	237	218	195	180	165	
54	283	264	244	224	200	185	170	
55	291	271	251	231	206	190	175	
57	305	284	263	242	216	199	183	
58	312	291	269	247	221	204	187	
61	338	314	291	268	239	221	202	
63	353	328	304	280	249	231	212	
66	375	349	323	297	265	246	225	
68	390	363	336	309	276	255	234	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	(Horse) Beans, large						0,78 kg/litre
Bottom flap position: 8				Shutter slide: ¾ open			
Gearbox setting No.	Row spacing (cm)						
	27,6 to 28,7	29,4 to 31,0	31,6 to 33,3	34,3 to 36,4	38,7 to 40,0	41,4 to 42,9	
33 37 42	Normal metering wheel						
	77	70	65	59	54	51	
	87	79	73	67	60	57	
	97	88	82	75	68	64	
46 49 52	106	96	89	81	74	69	
	113	102	95	87	79	74	
	121	109	101	93	85	79	
54 57 59	125	113	105	96	87	82	
	133	121	112	102	92	87	
	138	125	116	106	96	91	
63 65 68	148	134	124	114	103	97	
	153	138	128	117	106	100	
	160	144	134	122	111	105	
72 75 78	169	153	142	130	118	111	
	176	159	148	135	123	119	
	185	167	155	142	129	122	
83 87	196	177	164	150	136	129	
	205	185	171	157	142	135	
	Bean-metering wheel						
	164	148	137	126	114	108	
45 48	175	159	147	134	122	115	
	183	166	154	140	128	121	
52 53 55	191	173	160	146	133	126	
	196	177	164	150	136	129	
	203	183	170	155	141	133	
57 60 63	211	190	176	161	146	139	
	223	201	187	171	154	147	
	236	213	198	181	164	156	
65 67 70	245	221	205	187	170	160	
	255	230	213	195	177	167	
	267	241	223	204	185	175	
72 75 80	276	249	231	211	192	181	
	286	259	240	219	199	188	
	298	270	250	228	207	196	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	(Horse) Beans, large						0,78 kg/litre
Bottom flap position: 8				Shutter slide: 3/4 open			
Gearbox setting No.	Row spacing (cm)						
	43,2 to 44,4	45,7 to 46,2	47,1 to 48,5	50,0 to 52,9	53,3 to 55,6	57,1 to 60,0	
Normal metering wheel							
33	48	46	44	41	38	35	
37	54	52	49	46	42	39	
42	60	58	55	51	48	44	
46	65	62	59	56	52	49	
49	70	67	64	60	55	51	
52	75	72	68	64	59	55	
54	77	74	70	66	61	57	
57	82	78	74	69	65	60	
59	85	81	77	72	68	63	
63	91	87	83	78	72	67	
65	94	90	85	80	74	69	
68	98	94	89	84	78	73	
72	104	100	95	89	83	77	
75	109	104	99	93	86	80	
78	114	109	104	97	91	84	
83	121	116	110	103	96	89	
87	126	121	115	108	100	93	
Bean-metering wheel							
45	101	97	92	86	81	75	
48	108	103	98	92	86	80	
50	113	108	103	96	90	83	
52	118	113	107	100	94	87	
53	121	116	110	103	96	89	
55	125	119	113	106	99	92	
57	130	124	118	110	103	95	
60	137	131	125	117	109	101	
63	146	140	133	124	116	107	
65	151	144	137	128	120	111	
67	157	150	143	134	125	116	
70	164	157	150	140	131	121	
72	170	163	155	145	135	125	
75	176	168	160	150	140	130	
80	184	176	167	157	146	136	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Peas							0,90 kg/litre
Bottom flap position: 6				Shutter slide: ¾ open				
Gearbox setting No.	Row spacing (cm)							
	10,3	10,8	11,8	12,9	13,8	15,4	16,7	
		to	to	to	to	to	to	
		11,4	12,1	13,3	14,8	15,8	17,6	
	Normal metering wheel							
10	166	154	143	132	118	109	100	
11	175	163	151	139	124	115	106	
12	196	183	169	155	139	128	118	
13	211	197	182	167	150	139	127	
14	226	211	195	179	161	149	136	
15	240	224	207	190	170	158	144	
16	261	243	225	207	185	171	157	
17	283	264	244	224	201	186	171	
18	298	278	257	236	212	196	180	
19	317	295	273	251	224	208	190	
20	339	315	292	269	240	222	204	
21	349	325	301	277	248	229	210	
22	367	341	316	291	260	241	221	
23	393	366	339	312	279	258	237	
24	418	389	360	331	296	274	251	
25	433	403	373	343	307	284	261	
26	455	423	392	361	322	299	274	
27	479	446	413	380	340	315	288	
28	501	467	432	397	355	329	302	
29	523	487	451	415	371	344	315	
30	546	509	471	433	388	359	329	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Grass-seed							0.43 kg/litre
Bottom flap position: 2				Shutter slide: open				
Gearbox setting No.	Row spacing (cm)							
	10,3	10,8 to 11,4	11,8 to 12,1	12,9 to 13,3	13,8 to 14,8	15,4 to 15,8	16,7 to 17,6	
8 10 11	Normal metering wheel							
	15	14	13	12	11	10	9	
	19	17	16	15	13	12	11	
	21	19	18	17	15	14	13	
12	23	22	20	18	17	15	14	
13	24	23	21	19	18	16	15	
15	28	26	24	22	20	18	17	
16	30	28	26	24	22	20	18	
17	32	30	28	26	23	21	20	
18	35	32	30	28	25	23	21	
19	37	35	32	29	27	24	23	
20	39	37	34	31	28	26	24	
21	42	39	36	33	30	27	25	
22	44	41	38	35	31	29	27	
23	46	43	40	37	33	30	28	
24	49	45	42	39	35	32	30	
25	51	48	44	40	36	33	31	
26	55	51	47	43	39	35	33	
27	58	54	50	46	41	38	35	
28	60	56	52	48	43	39	36	
29	64	59	55	51	45	41	38	
30	66	62	57	52	47	43	40	
32	72	67	62	57	51	47	43	
33	75	70	65	60	54	49	45	
34	79	73	68	63	56	51	47	
35	82	77	71	65	59	54	49	
36	86	80	74	68	61	56	52	
37	90	84	78	72	64	59	54	
38	94	87	81	75	67	61	57	
39	97	91	84	77	69	64	59	
40	102	95	88	81	72	67	61	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type		Sorghum					0,83 kg/litre
Bottom flap position: 1				Shutter slide: $\frac{3}{4}$ open			
Gearbox setting No.	Row spacing (cm)						
	43,2 to 44,4	45,7 to 46,2	47,1 to 48,5	50,0 to 52,9	53,3 to 55,6	57,1 to 60,0	
1	Normal metering wheel						
	3,2	3,0	2,9	2,7	2,6	2,4	
	5,2	4,9	4,7	4,4	4,2	3,9	
	7,6	7,3	7,0	6,5	6,1	5,7	
4	10,0	9,5	9,2	8,5	8,0	7,5	
5	11,0	10,5	10,1	9,4	8,9	8,3	
6	13,5	12,9	12,4	11,5	10,9	10,1	
7	15,5	14,8	14,2	13,2	12,5	11,6	
8	17,5	16,7	16,0	14,9	14,1	13,1	
9	18,9	18,0	17,3	16,1	15,2	14,2	
10	21,1	20,2	19,4	18,0	17,0	15,8	
11	23,0	22,0	21,1	19,6	18,5	17,2	
12	24,8	23,6	22,7	21,1	19,9	18,5	
13	26,7	25,4	24,4	22,7	21,5	20,0	
14	28,4	27,1	26,1	24,2	22,9	21,3	
15	30,2	28,8	27,7	25,7	24,3	22,6	
16	32,0	30,5	29,3	27,2	25,7	23,9	
17	33,5	31,9	30,7	28,5	26,9	25,0	
18	34,9	33,3	32,0	29,7	28,1	26,1	
19	36,9	35,2	33,8	31,4	29,7	27,6	
20	38,8	37,0	35,5	33,0	31,2	29,0	
21	40,1	38,2	36,7	34,1	32,2	29,2	
22	41,3	39,4	37,9	35,2	33,2	30,0	
23	43,1	41,1	39,5	36,7	34,7	32,3	
24	44,8	42,7	41,0	38,1	36,0	33,5	
25	46,3	44,1	42,4	39,4	37,2	34,6	
26	47,7	45,5	43,7	40,6	38,4	35,7	
27	49,2	46,9	45,1	41,9	39,6	36,8	
28	50,7	48,4	46,5	43,2	40,8	38,0	
29	52,2	49,7	47,8	44,4	42,0	39,0	
30	53,4	51,0	49,0	45,5	43,0	40,0	
31	55,1	52,5	50,5	46,9	44,3	41,2	
32	56,7	54,1	52,0	48,3	45,6	42,4	
33	58,4	55,7	53,5	49,7	47,0	43,7	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Sorghum						0,83 kg/litre
Bottom flap position: 1				Shutter slide: $\frac{3}{4}$ open			
Gearbox setting No.	Row spacing (cm)						
	63,2 to 64,9	65,2 to 66,7	68,6 to 71,4	72,0 to 74,1	75,7 to 77,8	78,9 to 80,0	
	Normal metering wheel						
1	2,2	2,1	2,0	1,9	1,8	1,7	
2	3,5	3,4	3,2	3,1	2,9	2,8	
3	5,2	5,1	4,8	4,6	4,4	4,2	
4	6,8	6,6	6,2	6,0	5,7	5,5	
5	7,6	7,3	6,9	6,6	6,3	6,1	
6	9,2	9,0	8,5	8,1	7,7	7,4	
7	10,6	10,3	9,7	9,3	8,8	8,5	
8	12,0	11,6	11,0	10,5	10,0	9,6	
9	12,9	12,6	11,8	11,3	10,8	10,4	
10	14,5	14,0	13,2	12,7	12,1	11,7	
11	15,7	15,3	14,4	13,8	13,1	12,7	
12	16,9	16,5	15,5	14,9	14,1	13,7	
13	18,2	17,7	16,7	16,0	15,2	14,7	
14	19,4	18,9	17,8	17,0	16,2	15,7	
15	20,6	20,0	18,9	18,1	17,2	16,6	
16	21,8	21,2	20,0	19,2	18,2	17,6	
17	22,9	22,2	20,9	20,1	19,1	18,5	
18	23,9	23,2	21,8	20,9	19,9	19,2	
19	25,2	24,5	23,1	22,1	21,0	20,3	
20	26,5	25,7	24,3	23,2	22,1	21,4	
21	27,4	26,6	25,1	24,0	22,9	22,0	
22	28,3	27,5	25,9	24,8	23,6	22,8	
23	29,5	28,6	27,0	25,8	24,6	23,8	
24	30,6	29,7	28,0	26,8	25,5	24,7	
25	31,6	30,7	29,0	27,7	26,4	25,5	
26	32,6	31,7	29,8	28,6	27,2	26,3	
27	33,7	32,7	30,8	29,5	28,1	27,1	
28	34,7	33,7	31,8	30,4	29,0	28,0	
29	35,7	34,6	32,6	31,3	29,8	28,8	
30	36,5	35,5	33,4	32,0	30,5	29,5	
31	37,7	36,6	34,5	33,0	31,4	30,4	
32	38,8	37,7	35,5	34,0	32,4	31,3	
33	39,9	38,8	36,5	35,0	33,3	32,2	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Lupines							0,85 kg/litre
Bottom flap position: 4				Shutter slide: open				
Gearbox setting No.	Row spacing (cm)							
	10,3	10,8	11,8	12,9	13,8	15,4	16,7	
		to	to	to	to	to	to	
		11,4	12,1	13,3	14,8	15,8	17,6	
	Normal metering wheel							
13	151	140	130	120	107	99	90	
14	162	151	140	129	115	107	98	
15	176	164	152	140	125	116	106	
16	190	177	164	151	135	125	114	
17	204	190	176	162	145	134	123	
18	218	203	188	173	155	144	131	
19	230	214	198	182	163	151	139	
20	244	227	210	193	172	160	147	
21	258	240	222	204	182	170	155	
22	271	253	234	215	193	178	163	
23	288	268	248	228	204	189	173	
24	299	279	258	237	213	197	180	
25	313	292	270	248	223	206	188	
26	329	307	284	261	234	217	198	
27	348	324	300	276	247	229	210	
28	362	337	312	287	256	237	218	
29	378	352	326	300	268	249	227	
30	394	367	340	313	280	259	237	
31	413	384	356	328	293	271	249	
32	429	400	370	340	305	282	259	
33	448	417	386	355	317	294	270	
34	464	432	400	368	329	305	280	
35	480	447	414	381	340	316	290	
36	496	462	428	394	352	326	299	
37	515	480	444	408	365	338	310	
38	529	492	456	420	375	348	319	
39	545	508	470	432	387	358	329	
40	564	525	486	447	399	371	339	
41	580	540	500	460	411	381	349	
42	601	559	518	477	426	395	362	
43	617	575	532	489	438	405	372	
44	633	590	546	502	449	417	382	
45	652	607	562	517	462	429	392	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Lupines						0,85 kg/litre
Bottom flap position: 4				Shutter slide: open			
Gearbox setting No.	Row spacing (cm)						
	27,6	29,4	31,6	34,3	38,7	41,4	
	to	to	to	to	to	to	
	28,7	31,0	33,3	36,4	40,0	42,9	
13	Normal metering wheel						
	57	52	48	44	39	38	
	61	56	51	47	42	41	
	67	60	56	51	46	44	
16	72	65	60	55	50	47	
17	77	70	65	59	54	50	
18	82	75	69	63	57	54	
19	87	79	73	67	60	57	
20	92	83	77	71	64	60	
21	97	88	82	75	68	64	
22	103	93	86	79	72	67	
23	109	98	91	83	76	71	
24	113	102	95	87	79	74	
25	118	107	99	91	82	78	
26	124	113	104	95	86	82	
27	131	119	110	101	91	86	
28	137	124	115	105	95	90	
29	143	129	120	110	99	94	
30	149	135	125	114	103	98	
31	156	141	131	120	108	103	
32	162	147	136	124	113	107	
33	169	153	142	130	118	111	
34	175	159	147	134	122	115	
35	181	164	152	139	126	119	
36	188	170	157	144	131	124	
37	195	176	163	149	135	128	
38	200	181	168	153	138	132	
39	206	186	173	158	143	136	
40	213	193	179	163	148	140	
41	219	198	184	168	152	145	
42	227	205	190	174	158	149	
43	233	211	196	179	162	157	
44	239	216	201	183	170	162	
45	246	223	207	189	171	167	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Lupines						0,85 kg/litre
Bottom flap position: 4				Shutter slide: open			
Gearbox setting No.	Row spacing (cm)						
	43,2 to 44,4	45,7 to 46,2	47,1 to 48,5	50,0 to 52,9	53,3 to 55,6	57,1 to 60,0	
13	Normal metering wheel						
	35	34	32	30	28	26	
	39	38	36	32	29	27	
	41	39	37	35	32	30	
16	44	42	40	38	35	32	
17	48	46	44	41	38	35	
18	51	49	47	44	40	37	
19	54	52	49	45	42	39	
20	57	55	52	48	44	41	
21	60	58	55	51	47	44	
22	63	61	58	54	50	46	
23	67	64	61	57	53	49	
24	70	67	64	59	54	50	
25	73	70	67	62	57	53	
26	77	74	70	66	60	56	
27	81	78	74	69	63	59	
28	84	81	77	72	66	61	
29	88	84	80	76	69	64	
30	92	88	84	79	72	67	
31	96	92	88	82	75	70	
32	100	96	91	85	78	72	
33	104	100	95	89	82	76	
34	108	104	99	92	84	78	
35	112	107	102	96	88	82	
36	116	111	106	99	90	84	
37	120	115	110	103	94	87	
38	123	118	112	106	97	90	
39	127	122	116	109	99	92	
40	131	126	120	113	103	96	
41	135	129	123	116	106	98	
42	140	134	128	119	109	102	
43	144	138	132	123	113	105	
44	148	142	135	126	115	107	
45	152	146	139	130	119	111	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Alfalfa (Lucerne)							0,90 kg/litre
Bottom flap position: 1				Shutter slide: ¾ open				
Gearbox setting No.	Row spacing (cm)							
	10,3	10,8 to 11,4	11,8 to 12,1	12,9 to 13,3	13,8 to 14,8	15,4 to 15,8	16,7 to 17,6	
	Fine seed metering wheel							
13	4,6	4,3	4,0	3,7	3,3	3,0	2,8	
16	6,0	5,6	5,2	4,8	4,3	3,9	3,6	
19	7,0	6,5	6,0	5,5	4,9	4,5	4,2	
25	9,7	9,1	8,4	7,7	6,9	6,4	5,9	
30	12,1	11,2	10,4	9,6	8,5	7,9	7,3	
33	13,9	13,0	12,0	11,0	9,9	9,1	8,4	
35	15,3	14,3	13,2	12,1	10,9	10,0	9,2	
38	16,7	15,6	14,4	13,3	11,8	10,9	10,0	
40	18,1	16,9	15,6	14,4	12,8	11,8	10,9	
43	19,5	18,1	16,8	15,5	13,8	12,7	11,7	
45	21,6	20,1	18,6	17,1	15,3	14,1	12,7	
48	23,2	21,6	20,0	18,4	16,4	15,2	13,9	
50	24,1	22,5	20,8	19,1	17,1	15,8	14,5	
53	26,0	24,2	22,4	20,6	18,4	17,0	15,6	
55	28,3	26,4	24,4	22,5	20,0	18,5	17,0	
58	30,2	28,1	26,0	23,9	21,3	19,7	18,1	
60	32,0	29,8	27,6	25,4	22,7	21,0	19,2	
63	34,1	31,8	29,4	27,1	24,1	22,3	20,5	
65	36,4	33,9	31,4	28,9	25,8	23,9	21,9	
68	38,5	35,9	33,2	30,5	27,3	25,2	23,1	
70	40,1	37,4	34,6	31,8	28,4	26,3	24,1	
	Normal metering wheel							
6	28,5	26,6	24,6	22,6	20,2	18,7	17,1	
7	35,0	32,6	30,2	27,8	24,8	23,0	21,0	
9	39,9	37,2	34,4	31,7	28,2	26,1	23,9	
10	45,9	42,8	39,6	36,4	32,5	30,1	27,5	
11	50,6	47,1	43,6	40,1	35,8	33,1	30,3	
13	55,7	51,8	48,0	44,2	39,4	36,5	33,4	
14	60,3	56,2	52,0	47,8	42,7	39,5	36,2	
15	66,8	62,2	57,6	53,0	47,2	43,8	40,1	
16	73,8	68,7	63,6	58,5	52,2	48,3	44,2	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Oil-Radish							0,75 kg/litre
Bottom flap position: 1				Shutter slide: ¾ open				
Gearbox setting No.	Row spacing (cm)							
	10,3	10,8 to 11,4	11,8 to 12,1	12,9 to 13,3	13,8 to 14,8	15,4 to 15,8	16,7 to 17,6	
	Fine seed metering wheel							
5	2,1	1,9	1,8	1,7	1,5	1,4	1,2	
7	3,0	2,8	2,6	2,4	2,1	2,0	1,8	
9	3,7	3,5	3,2	2,9	2,7	2,4	2,2	
11	4,6	4,3	4,0	3,7	3,3	3,0	2,8	
13	5,6	5,2	4,8	4,4	3,9	3,7	3,3	
15	6,3	5,8	5,4	5,0	4,5	4,1	3,7	
18	7,9	7,3	6,8	6,3	5,6	5,2	4,7	
20	8,6	8,0	7,4	6,8	6,1	5,7	5,1	
23	10,2	9,5	8,8	8,1	7,2	6,7	6,1	
25	11,1	10,4	9,6	8,8	8,0	7,3	6,7	
28	12,8	11,9	11,0	10,1	9,0	8,3	7,7	
31	14,2	13,2	12,2	11,2	10,1	9,3	8,5	
35	16,2	15,1	14,0	12,9	11,5	10,7	9,8	
38	17,9	16,6	15,4	14,2	12,7	11,7	10,8	
40	19,0	17,7	16,4	15,1	13,5	12,5	11,4	
43	21,1	19,7	18,2	16,7	15,0	13,9	12,7	
47	23,7	22,0	20,4	18,8	16,8	15,6	14,3	
	Normal metering wheel							
3	14,9	13,8	12,8	11,8	10,5	9,7	9,0	
4	19,0	17,7	16,4	15,1	13,5	12,5	11,4	
5	23,9	22,3	20,6	19,0	17,0	15,8	14,3	
6	29,0	27,0	25,0	23,0	20,6	19,1	17,5	
7	33,9	31,5	29,2	26,9	24,0	22,3	20,4	
8	38,7	36,1	33,4	30,7	27,5	25,5	23,3	
9	42,7	39,7	36,8	33,9	30,3	28,1	25,7	
10	48,7	45,4	42,0	38,6	34,6	32,0	29,4	
11	53,4	49,7	46,0	42,3	37,8	35,1	32,1	
12	58,0	54,0	50,0	46,0	41,1	38,1	34,9	
13	62,4	58,3	54,0	49,7	44,4	41,1	37,8	
14	66,8	62,6	58,0	53,4	47,7	44,1	40,7	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Oil-Radish						0,75 kg/litre
Bottom flap position: 1				Shutter slide: 3/4 open			
Gearbox setting No.	Row spacing (cm)						
	27,6 to 28,7	29,4 to 31,0	31,6 to 33,3	34,3 to 36,4	38,7 to 40,0	41,4 to 42,9	
5 7 9	Fine seed metering wheel						
	0,8	0,7	0,7	0,6	0,6	0,5	
	1,1	1,0	1,0	0,9	0,8	0,8	
	1,4	1,3	1,2	1,1	1,0	0,9	
11 13 15	1,7 2,1 2,3	1,6 1,9 2,1	1,5 1,8 2,0	1,3 1,6 1,8	1,2 1,5 1,7	1,2 1,4 1,6	
18 20 23	2,9 3,2 3,8	2,7 2,9 3,5	2,5 2,7 3,2	2,3 2,5 3,0	2,0 2,2 2,6	2,0 2,2 2,6	
25 28 31	4,2 4,8 5,4	3,8 4,4 4,8	3,5 4,0 4,5	3,2 3,7 4,1	2,9 3,3 3,7	2,8 3,2 3,5	
35 38 40	6,1 6,7 7,2	5,6 6,1 6,5	5,1 5,7 6,0	4,7 5,2 5,5	4,2 4,7 5,0	4,0 4,4 4,7	
43 47	7,9 8,9	7,2 8,1	6,7 7,5	6,1 6,9	5,5 6,2	5,2 5,8	
3 4 5	Normal metering wheel						
	5,6	5,1	4,7	4,3	3,9	3,6	
	7,2	6,5	6,0	5,5	5,0	4,7	
6 7 8	9,0 11,0 12,8	8,2 9,9 11,6	7,6 9,2 10,7	6,9 8,4 9,8	6,2 7,6 8,9	5,9 7,2 8,4	
9 10 11	14,6 16,2 18,4	13,2 14,6 16,7	12,3 13,5 15,4	11,2 12,4 14,1	10,2 11,2 12,7	9,6 10,5 12,0	
12 13 14	20,2 22,0 23,7	18,2 19,8 21,4	16,9 18,4 19,8	15,5 16,8 18,1	14,0 15,2 16,4	13,2 14,4 15,5	
	25,4	23,0	21,2	19,4	17,6	16,6	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Oil-Radish						0.75 kg/litre
Bottom flap position: 1				Shutter slide: ¾ open			
Gearbox setting No.	Row spacing (cm)						
	43,2 to 44,4	45,7 to 46,2	47,1 to 48,5	50,0 to 52,9	53,3 to 55,6	57,1 to 60,0	
	Fine seed metering wheel						
5	0.5	0.5	0.5	0.4	0.4	0.3	
7	0.7	0.7	0.7	0.6	0.6	0.5	
9	0.9	0.9	0.8	0.8	0.7	0.7	
11	1.1	1.1	1.0	1.0	0.9	0.9	
13	1.3	1.3	1.2	1.1	1.1	1.0	
15	1.5	1.5	1.4	1.3	1.2	1.1	
18	1.8	1.8	1.7	1.6	1.5	1.4	
20	2.0	2.0	1.9	1.8	1.7	1.6	
23	2.4	2.3	2.2	2.1	2.0	1.8	
25	2.6	2.5	2.4	2.3	2.2	2.0	
28	3.0	2.9	2.8	2.6	2.5	2.3	
31	3.3	3.2	3.0	2.8	2.7	2.5	
35	3.8	3.7	3.5	3.3	3.1	2.9	
38	4.2	4.1	3.9	3.6	3.4	3.2	
40	4.4	4.3	4.1	3.8	3.6	3.3	
43	4.9	4.8	4.6	4.3	4.0	3.7	
47	5.5	5.3	5.1	4.8	4.6	4.3	
	Normal metering wheel						
3	3.5	3.4	3.3	3.0	2.7	2.4	
4	4.4	4.3	4.1	3.8	3.6	3.3	
5	5.6	5.4	5.2	4.8	4.5	4.1	
6	6.8	6.6	6.3	5.9	5.4	5.0	
7	7.9	7.7	7.4	6.8	6.3	5.7	
8	9.0	8.7	8.4	7.8	7.2	6.6	
9	10.0	9.7	9.3	8.6	8.0	7.3	
10	11.4	11.0	10.6	10.2	8.5	8.3	
11	12.4	12.0	11.6	10.8	9.9	9.1	
12	13.5	13.1	12.6	11.7	10.8	9.9	
13	14.6	14.2	13.6	12.6	11.7	10.7	
14	15.7	15.3	14.6	13.5	12.6	11.5	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Phacelia							0.64 kg/litre
Bottom flap position: 1				Shutter slide: 3/4 open				
Gearbox setting No.	Row spacing (cm)							
	10,3	10,8 to 11,4	11,8 to 12,1	12,9 to 13,3	13,8 to 14,8	15,4 to 15,8	16,7 to 17,6	
Fine seed metering wheel								
30	6,5	6,1	5,7	5,4	4,8	4,4	4,0	
31	6,8	6,4	6,0	5,7	5,1	4,6	4,2	
32	7,2	6,8	6,4	6,0	5,4	4,9	4,5	
33	7,9	7,4	6,9	6,5	5,8	5,2	4,8	
34	8,3	7,8	7,3	6,9	6,2	5,6	5,1	
35	8,7	8,2	7,7	7,2	6,4	5,8	5,3	
36	8,9	8,4	7,9	7,4	6,6	6,0	5,5	
37	9,2	8,7	8,2	7,6	6,8	6,2	5,7	
38	9,7	9,1	8,5	8,0	7,1	6,5	5,9	
39	10,1	9,5	8,9	8,4	7,5	6,8	6,2	
40	10,7	10,1	9,5	8,9	7,9	7,2	6,6	
41	11,1	10,5	9,9	9,2	8,3	7,5	6,8	
42	11,6	10,9	10,2	9,6	8,6	7,8	7,1	
43	12,1	11,4	10,7	10,0	8,9	8,1	7,4	
44	12,5	11,8	11,1	10,4	9,3	8,4	7,7	
45	12,8	12,1	11,4	10,6	9,5	8,6	7,8	
46	13,2	12,4	11,6	10,9	9,7	8,8	8,0	
47	13,4	12,6	11,8	11,1	9,9	9,0	8,2	
48	13,7	12,9	12,1	11,3	10,1	9,2	8,4	
49	14,1	13,3	12,5	11,7	10,4	9,5	8,7	
50	14,5	13,7	12,9	12,0	10,8	9,8	8,9	
51	15,0	14,1	13,2	12,4	11,1	10,1	9,2	
52	15,4	14,5	13,6	12,7	11,4	10,4	9,5	
53	15,8	14,9	14,0	13,1	11,7	10,6	9,7	
54	16,3	15,4	14,5	13,5	12,1	11,0	10,0	
55	16,9	15,9	14,9	13,9	12,4	11,3	10,3	
56	17,3	16,3	15,3	14,3	12,8	11,7	10,7	
57	17,9	16,9	15,9	14,8	13,3	12,1	11,0	
58	18,5	17,4	16,3	15,3	13,7	12,5	11,4	
59	19,1	18,0	16,9	15,8	14,1	12,8	11,7	
Recommendation: Seed rates above 12 kg/ha should be sown by the normal metering wheels.								

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Rape						0,76 kg/litre
Bottom flap position: 1				Shutter slide: ¾ open			
Gearbox setting No.	Row spacing (cm)						
	10,3	10,8 to 11,4	11,8 to 12,1	12,9 to 13,3	13,8 to 14,8	15,4 to 15,8	
	Fine seed metering wheel (disengage agitator shaft)						
3	1,9	1,7	1,6	1,5	1,4	1,4	
4	2,6	2,3	2,1	1,9	1,8	1,6	
5	3,1	2,9	2,6	2,3	2,2	2,0	
6	3,5	3,4	3,0	2,7	2,5	2,2	
7	4,1	4,0	3,6	3,2	3,0	2,7	
8	4,7	4,4	4,1	3,7	3,4	3,2	
9	5,4	4,9	4,7	4,3	3,9	3,6	
10	6,1	5,5	5,3	4,8	4,4	4,0	
11	6,8	6,1	5,9	5,3	4,9	4,4	
12	7,4	6,7	6,4	5,7	5,3	4,8	
13	8,1	7,4	7,1	6,3	5,9	5,3	
14	8,8	8,0	7,7	6,9	6,4	5,8	
15	9,4	8,7	8,3	7,4	6,9	6,3	
16	10,0	9,3	8,8	7,9	7,3	6,7	
17	10,6	9,9	9,3	8,4	7,7	7,1	
18	11,1	10,5	9,8	8,8	8,1	7,4	
19	12,0	11,2	10,3	9,3	8,6	7,8	
20	13,0	11,9	10,9	9,7	9,0	8,2	
21	13,9	12,6	11,4	10,2	9,5	8,7	
22	14,4	13,3	11,9	10,6	9,9	9,1	
23	14,9	14,0	12,4	11,1	10,3	9,4	
24	15,5	14,7	12,8	11,5	10,6	9,8	
25	16,0	15,4	13,3	12,0	11,0	10,1	
26	16,5	16,1	13,8	12,4	11,4	10,5	
27	17,3	16,9	14,4	12,9	11,6	10,9	
28	18,0	17,6	14,9	13,4	11,8	11,3	
29	18,8	18,3	15,5	13,9	12,0	11,7	
30	19,6	19,1	16,0	14,4	12,2	12,1	
31	20,3	19,8	16,5	14,9	12,6	12,5	
32	21,2	20,7	17,0	15,3	13,0	12,9	
33	22,1	21,6	17,6	15,8	13,5	13,3	
34	23,1	22,6	18,1	16,2	13,9	13,7	
35	23,9	23,4	18,6	16,7	14,3	14,1	
36	24,7	24,2	19,2	17,2	15,0	14,5	
37	25,5	25,0	19,7	17,7	15,8	15,0	
38	26,3	25,8	20,3	18,2	16,5	15,4	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Rape						0,76 kg/litre
Bottom flap position: 1				Shutter slide: ¾ open			
Gearbox setting No.	Row spacing (cm)						
	16,7 to 17,6	18,2 to 19,0	20,0 to 21,7	22,2 to 22,9	23,5 to 24,2	25,8 to 26,7	
3 4 5	Fine seed metering wheel (disengage agitator shaft)						
	1,4						
	1,5	1,4					
	1,8	1,7	1,5	1,4			
6 7 8	2,0 2,4 2,8	1,9 2,3 2,6	1,7 2,1 2,4	1,6 1,9 2,2	1,5 1,8 2,1	1,4 1,6 1,8	
9 10 11	3,2 3,6 4,0	3,0 3,4 3,8	2,8 3,1 3,4	2,6 2,9 3,2	2,4 2,7 3,0	2,1 2,4 2,7	
12 13 14	4,4 4,9 5,3	4,1 4,5 4,9	3,7 4,1 4,5	3,4 3,8 4,1	3,2 3,5 3,9	2,9 3,2 3,5	
15 16 17	5,7 6,0 6,4	5,3 5,6 5,9	4,8 5,1 5,4	4,4 4,7 5,0	4,2 4,4 4,7	3,8 4,0 4,2	
18 19 20	6,7 7,1 7,4	6,2 6,6 6,9	5,7 6,0 6,3	5,3 5,6 5,8	4,9 5,2 5,4	4,4 4,6 4,9	
21 22 23	7,8 8,1 8,4	7,3 7,5 7,7	6,6 6,9 7,2	6,1 6,4 6,6	5,7 5,9 6,2	5,1 5,3 5,5	
24 25 26	8,8 9,1 9,4	8,0 8,2 8,4	7,4 7,7 8,0	6,9 7,1 7,4	6,4 6,7 6,9	5,8 6,0 6,2	
30 35 39	10,9 12,7 14,2	10,2 11,8 13,2	9,3 10,8 12,1	8,6 10,0 11,2	8,0 9,3 10,4	7,2 8,3 9,3	
45 50 55	16,5 18,7 21,0	15,4 17,4 19,6	14,0 15,9 17,8	13,0 14,8 16,6	12,1 13,7 15,4	10,9 12,3 13,8	
59 64 67	22,9 25,3 26,6	21,4 23,5 24,8	19,5 21,4 22,6	18,1 19,9 21,0	16,8 18,5 19,5	15,1 16,6 17,5	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type		Rape					0,76 kg/litre
Bottom flap position: 1				Shutter slide: $\frac{3}{4}$ open			
Gearbox setting No.	Row spacing (cm)						
	27,6	29,4	31,6	34,3	38,7	41,4	
	to	to	to	to	to	to	
	28,7	31,0	33,3	36,4	40,0	42,9	
Fine seed metering wheel (disengage agitator shaft)							
6	1,4	1,4					
8	1,7	1,6	1,5	1,4			
10	2,2	2,1	2,0	1,8	1,6	1,5	
12	2,7	2,5	2,4	2,1	2,0	1,9	
14	3,2	3,0	2,8	2,6	2,3	2,2	
16	3,6	3,5	3,2	2,9	2,6	2,5	
18	4,1	3,9	3,6	3,3	2,9	2,8	
21	4,8	4,5	4,2	3,8	3,4	3,3	
26	5,8	5,5	5,1	4,6	4,2	4,0	
30	6,7	6,3	5,9	5,4	4,8	4,6	
35	7,8	7,3	6,8	6,2	5,6	5,4	
39	8,7	8,2	7,7	7,0	6,2	6,0	
45	10,2	9,6	8,9	8,1	7,3	7,0	
50	11,5	10,8	10,1	9,2	8,2	7,9	
55	13,0	12,2	11,3	10,3	9,2	8,9	
59	14,1	13,3	12,4	11,2	10,1	9,7	
64	15,5	14,6	13,6	12,4	11,1	10,7	
67	16,4	15,4	14,4	13,1	11,7	11,3	
69	17,0	16,0	14,9	13,5	12,1	11,7	
72	17,9	16,8	15,6	14,2	12,7	12,3	
75	18,8	17,6	16,4	14,9	13,4	12,9	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Rape						0,76 kg/litre
Bottom flap position: 1				Shutter slide: 3/4 open			
Gearbox setting No.	Row spacing (cm)						
	43,5 to 44,4	45,7 to 46,2	47,4 to 48,5	50,0 to 52,9	53,3 to 55,2	57,1 to 59,3	
	Fine seed metering wheel (disengage agitator shaft)						
6	1,3						
8	1,4	1,3					
10	1,5	1,4	1,3				
12	1,7	1,6	1,6	1,5	1,4		
14	2,1	2,0	1,9	1,8	1,5		
16	2,4	2,3	2,2	2,1	1,7	1,5	
18	2,6	2,5	2,4	2,3	2,0	1,6	
21	3,1	3,0	2,8	2,7	2,3	1,9	
26	3,7	3,6	3,4	3,3	2,5	2,4	
30	4,3	4,1	3,9	3,8	3,4	2,9	
35	5,0	4,8	4,6	4,4	3,9	3,4	
39	5,6	5,4	5,1	4,9	4,4	3,8	
45	6,5	6,2	5,9	5,7	5,1	4,5	
50	7,4	7,1	6,8	6,5	5,8	5,1	
55	8,3	8,0	7,6	7,3	6,6	5,8	
59	9,0	8,7	8,3	8,0	7,2	6,4	
64	10,0	9,6	9,2	8,8	8,0	7,1	
67	10,5	10,1	9,6	9,2	8,3	7,5	
69	10,9	10,5	10,0	9,6	8,7	7,8	
72	11,4	11,0	10,5	10,1	9,2	8,2	
75	12,0	11,6	11,0	10,6	9,6	8,6	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Red Clover							0.91 kg/litre
Bottom flap position: 1				Shutter slide: ¾ open				
Gearbox setting No.	Row spacing (cm)							
	10,3	10,8	11,8	12,9	13,8	15,4	16,7	
		to 11,4	to 12,1	to 13,3	to 14,8	to 15,8	to 17,6	
	Fine seed metering wheel							
15	4,6	4,3	4,0	3,7	3,3	3,0	2,8	
17	5,8	5,4	5,0	4,6	4,1	3,8	3,5	
23	7,9	7,3	6,8	6,3	5,6	5,1	4,7	
25	9,6	9,0	8,3	7,6	6,8	6,3	5,8	
28	11,6	10,8	10,0	9,2	8,2	7,6	7,0	
33	14,5	13,5	12,5	11,5	10,3	9,5	8,7	
36	16,2	15,1	14,0	12,9	11,5	10,6	9,7	
40	18,9	17,6	16,3	15,0	13,4	12,4	11,3	
42	20,0	18,6	17,2	15,8	14,2	13,0	12,0	
44	21,3	19,9	18,4	16,9	15,1	14,0	12,8	
46	22,6	21,1	19,5	17,9	16,0	14,8	13,6	
48	24,4	22,7	21,0	19,3	17,2	16,0	14,6	
51	26,2	24,4	22,6	20,8	18,5	17,2	15,7	
53	27,7	25,8	23,9	22,0	19,6	18,1	16,7	
55	29,0	27,0	25,0	23,0	20,5	19,0	17,4	
58	31,3	29,2	27,0	24,8	22,2	20,5	18,8	
61	33,6	31,3	29,0	26,7	23,8	22,0	20,2	
65	36,7	34,1	31,6	29,1	25,9	24,0	22,0	
67	38,3	35,6	33,0	30,4	27,1	25,1	22,9	
72	42,3	39,4	36,5	33,6	30,0	27,7	25,4	
	Normal metering wheel							
5	20,9	19,4	18,0	16,6	14,6	14,0	13,0	
8	31,3	29,1	27,0	24,8	22,4	20,0	19,0	
10	39,4	36,7	34,0	31,3	27,8	26,0	24,0	
12	47,6	44,3	41,0	37,7	33,7	31,0	29,0	
13	52,2	48,6	45,0	41,4	36,9	34,0	32,0	
14	56,8	52,9	49,0	45,1	40,1	37,0	34,0	
15	61,5	57,2	53,0	48,8	43,3	40,0	37,0	
16	65,0	60,5	56,0	51,5	46,0	42,0	39,0	
18	73,1	68,0	63,0	58,0	51,5	48,0	44,0	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Mustard							0,77 kg/litre
Bottom flap position: 1				Shutter slide: 3/4 open				
Gearbox setting No.	Row spacing (cm)							
	10,3	10,8 to 11,4	11,8 to 12,1	12,9 to 13,3	13,8 to 14,8	15,4 to 15,8	16,7 to 17,6	
	Fine seed metering wheel							
23	11,1	10,4	9,6	8,8	7,9	7,3	6,7	
25	13,5	12,5	11,6	10,7	9,5	8,8	8,1	
28	14,9	13,8	12,8	11,8	10,5	9,7	8,9	
30	16,0	14,9	13,8	12,7	11,3	10,5	9,6	
33	17,6	16,4	15,2	14,0	12,5	11,5	10,3	
35	19,7	18,4	17,0	15,6	14,0	12,9	11,9	
38	21,1	19,7	18,2	16,7	15,0	13,8	12,7	
40	23,2	21,6	20,0	18,4	16,4	15,2	13,9	
43	26,0	24,2	22,4	20,6	18,4	17,0	15,6	
45	27,4	25,5	23,6	21,7	19,4	17,9	16,4	
48	29,5	27,4	25,4	23,4	20,8	19,3	17,4	
50	31,3	29,2	27,0	24,8	22,2	20,5	18,8	
53	33,9	31,5	29,2	26,9	24,0	22,2	20,3	
55	35,7	33,3	30,8	28,3	25,3	23,4	21,4	
58	38,1	35,4	32,8	30,2	26,9	24,9	22,8	
60	40,6	37,8	35,0	32,2	28,7	26,6	24,4	
63	42,7	39,7	36,8	33,9	30,2	27,9	25,6	
	Normal metering wheel							
6	32,9	30,7	28,4	26,1	23,4	21,6	19,8	
8	39,0	36,3	33,6	30,9	27,6	25,6	23,4	
9	46,4	43,2	40,0	36,8	32,9	30,5	27,9	
10	52,2	48,6	45,0	41,4	37,0	34,3	31,4	
11	59,2	55,1	51,0	46,9	41,9	38,9	35,6	
12	63,8	59,4	55,0	50,6	45,2	41,9	38,4	
13	69,6	64,8	60,0	55,2	49,3	45,7	41,9	
15	78,9	73,4	68,0	62,6	55,9	51,8	47,4	
16	88,2	82,1	76,0	69,9	62,5	57,9	53,0	
17	95,1	88,6	82,0	75,4	67,4	62,5	57,2	
19	106,7	99,4	92,0	84,6	75,7	70,1	64,2	
20	112,5	104,8	97,0	89,2	79,8	73,9	67,2	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Soybeans						0,81 kg/litre
Bottom flap position: 2				Shutter slide: 3/4 open			
Gearbox setting No.	Row spacing (cm)						
	27,6 to 28,7	29,4 to 31,0	31,6 to 33,3	34,3 to 36,4	38,7 to 40,0	41,4 to 42,9	
Normal metering wheel							
8	35,2	32,8	30,5	28,0	25,1	23,5	
10	42,4	39,6	36,8	33,8	30,4	28,3	
12	51,4	47,9	44,6	40,9	36,8	34,3	
14	58,2	54,3	50,5	46,4	41,7	38,9	
15	62,0	57,8	53,8	49,4	44,3	41,4	
16	65,7	61,3	57,0	52,3	47,0	43,9	
17	68,2	63,6	59,2	54,3	48,8	45,6	
18	70,7	65,9	61,3	56,3	50,6	47,2	
19	74,5	69,4	64,6	59,3	53,3	49,7	
20	78,2	72,9	67,8	62,3	55,9	52,2	
21	80,3	74,8	69,6	63,9	57,4	53,6	
22	82,2	76,6	71,3	65,4	58,8	54,9	
23	85,3	79,5	74,0	67,9	61,0	57,0	
24	88,2	82,2	76,5	70,2	63,1	58,9	
25	91,7	85,5	79,6	73,0	65,6	61,3	
26	95,1	88,6	82,5	75,7	68,0	63,5	
28	103,2	96,2	89,5	82,2	73,8	68,9	
30	106,9	99,7	92,7	85,1	76,5	71,4	
32	111,5	103,9	96,7	88,8	79,8	74,5	
34	117,5	109,5	101,9	93,6	84,1	78,5	
36	125,0	116,5	108,4	99,5	89,4	83,5	
38	130,8	121,9	113,5	104,2	93,6	87,4	
40	136,4	127,2	118,4	108,7	97,6	91,1	
42	141,0	131,4	122,3	112,3	100,9	94,2	
44	148,1	138,0	128,5	117,9	105,9	98,9	
46	153,3	142,9	133,0	122,1	109,7	102,4	
48	162,7	151,6	141,1	129,5	116,4	108,6	
50	168,9	157,4	146,5	134,5	120,8	112,8	
52	173,3	161,5	150,3	138,0	123,9	115,7	
54	182,6	170,2	158,4	145,4	130,6	122,0	
56	189,5	176,6	164,4	150,9	135,6	126,5	
58	198,4	185,0	172,1	158,0	141,9	132,5	
60	207,6	193,5	180,1	165,3	148,5	138,6	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Soybeans						0.81 kg/litre
Bottom flap position: 2				Shutter slide: ¾ open			
Gearbox setting No.	Row spacing (cm)						
	43,2 to 44,4	45,7 to 46,2	47,1 to 48,5	50,0 to 52,9	53,3 to 55,6	57,1 to 60,0	
	Normal metering wheel						
8	22,6	21,5	20,7	19,2	18,2	16,9	
10	27,3	26,0	25,0	23,2	21,9	20,4	
12	33,0	31,5	30,3	28,1	26,6	24,7	
14	37,4	35,7	34,3	31,9	30,1	28,0	
15	39,8	38,0	36,5	33,9	32,0	29,8	
16	42,2	40,3	38,7	36,0	34,0	31,6	
17	43,8	41,8	40,2	37,3	35,3	32,8	
18	45,4	43,3	41,6	38,7	36,6	34,0	
19	47,9	45,6	43,9	40,7	38,5	35,8	
20	50,3	47,9	46,1	42,8	40,4	37,6	
21	51,6	49,2	47,3	43,9	41,5	38,6	
22	52,8	50,3	48,4	45,0	42,5	39,5	
23	54,8	52,2	50,2	46,7	44,1	41,0	
24	56,7	54,0	51,9	48,3	45,6	42,4	
25	59,0	56,2	54,0	50,2	47,4	44,1	
26	61,1	58,2	56,0	52,0	49,1	45,7	
28	66,3	63,2	60,8	56,4	53,3	49,6	
30	68,7	65,5	63,0	58,5	55,3	51,4	
32	71,7	68,3	65,7	61,0	57,6	53,6	
34	75,5	72,0	69,2	64,3	60,8	56,5	
36	80,3	76,6	73,6	68,4	64,8	60,1	
38	84,1	80,1	77,0	71,6	67,6	62,9	
40	87,7	83,6	80,4	74,7	70,5	65,6	
42	90,6	86,4	83,0	77,2	72,9	67,8	
44	95,2	90,7	87,2	81,0	76,6	71,2	
46	98,5	93,9	90,3	83,9	79,2	73,7	
48	104,5	99,6	95,8	89,0	84,1	78,2	
50	108,5	103,5	99,5	92,4	87,3	81,2	
52	111,4	106,1	102,0	94,8	89,6	83,3	
54	117,4	111,9	107,5	99,9	94,4	87,8	
56	121,8	116,1	111,6	103,7	98,0	91,1	
58	127,5	121,6	116,9	108,6	102,6	95,4	
60	133,4	127,2	122,2	113,6	107,3	99,8	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Sunflowers						0,49 kg/litre
Bottom flap position: 2				Shutter slide: 3/4 open			
Gearbox setting No.	Row spacing (cm)						
	43,2 to 44,4	45,7 to 46,2	47,1 to 48,5	50,0 to 52,9	53,3 to 55,6	57,1 to 60,0	
1	Normal metering wheel						
	1,9	1,8	1,7	1,6	1,5	1,4	
2	1,9	1,8	1,7	1,6	1,5	1,4	
3	2,8	2,7	2,6	2,4	2,3	2,1	
4	4,0	3,8	3,7	3,4	3,2	3,0	
5	5,1	4,8	4,6	4,3	4,1	3,8	
6	6,1	5,8	5,6	5,2	4,9	4,6	
7	6,8	6,5	6,2	5,8	5,5	5,1	
8	8,2	7,8	7,5	7,0	6,6	6,2	
9	8,9	8,5	8,2	7,6	7,2	6,7	
10	11,7	11,2	10,8	10,0	9,4	8,8	
11	12,1	11,5	11,1	10,3	9,7	9,1	
12	12,5	11,9	11,4	10,6	10,0	9,3	
13	13,3	12,7	12,2	11,3	10,7	9,9	
14	14,1	13,4	12,9	12,0	11,3	10,5	
15	14,9	14,2	13,7	12,7	12,0	11,2	
16	15,7	15,0	14,4	13,4	12,7	11,8	
17	16,8	16,0	15,4	14,3	13,5	12,6	
18	17,9	17,0	16,4	15,2	14,4	13,4	
19	18,7	17,8	17,1	15,9	15,0	14,0	
20	19,5	18,6	17,9	16,6	15,7	14,6	
21	19,9	18,9	18,2	16,9	16,0	14,9	
22	20,1	19,1	18,4	17,1	16,2	15,0	
23	21,1	20,2	19,4	18,0	17,0	15,8	
24	22,1	21,1	20,2	18,8	17,8	16,5	
25	22,9	21,8	21,0	19,5	18,4	17,1	
26	23,7	22,6	21,7	20,2	19,1	17,8	
27	24,6	23,4	22,5	20,9	19,7	18,4	
28	25,3	24,1	23,1	21,5	20,3	18,9	
29	26,0	24,7	23,8	22,1	20,9	19,4	
30	26,7	25,4	24,4	22,7	21,4	19,9	
31	27,7	26,4	25,4	23,6	22,3	20,7	
32	28,8	27,4	26,4	24,5	23,2	21,5	
33	29,5	28,1	27,0	25,1	23,7	22,1	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type	Late Turnip						0,76 kg/litre
Bottom flap position: 1				Shutter slide: 3/4 open			
Gearbox setting No.	Row spacing (cm)						
	27,6 to 28,7	29,4 to 31,0	31,6 to 33,3	34,3 to 36,4	38,7 to 40,0	41,4 to 42,9	
5 8 11	Fine seed metering wheel						
	0,70	0,63	0,59	0,54	0,49	0,46	
	1,14	1,03	0,96	0,87	0,79	0,75	
	1,59	1,44	1,33	1,22	1,10	1,04	
13 17 19	2,21 2,51 2,83	2,00 2,27 2,56	1,85 2,10 2,37	1,69 1,92 2,17	1,54 1,74 1,97	1,45 1,64 1,85	
22 24 27	3,35 3,69 4,28	3,03 3,33 3,86	2,81 3,09 3,58	2,57 2,82 3,27	2,33 2,56 2,97	2,19 2,41 2,79	
29 31 33	4,68 5,16 5,68	4,23 4,66 5,13	3,92 4,32 4,76	3,58 3,95 4,35	3,25 3,59 3,94	3,06 3,37 3,72	
34 36 38	5,97 6,52 7,01	5,39 5,89 6,33	5,00 5,46 5,87	4,57 4,99 5,36	4,14 4,53 4,87	3,90 4,26 4,58	
39 40 41	7,31 7,56 7,81	6,60 6,83 7,06	6,12 6,33 6,54	5,59 5,79 5,91	5,07 5,25 5,43	4,77 4,94 5,11	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

Seed Type		Vetches						0,89 kg/litre
Bottom flap position: 2				Shutter slide: 3/4 open				
Gearbox setting No.	Row spacing (cm)							
	10,3	10,8 to 11,4	11,8 to 12,1	12,9 to 13,3	13,8 to 14,8	15,4 to 15,8	16,7 to 17,6	
Normal metering wheel								
7	51	48	44	40	36	33	31	
8	58	54	50	46	41	38	35	
9	67	63	58	53	48	44	40	
10	75	70	65	60	54	49	45	
11	85	79	73	67	60	55	51	
12	93	86	80	74	66	61	56	
13	102	95	88	81	72	67	61	
14	110	103	95	87	78	72	66	
15	119	111	103	95	85	78	72	
16	130	121	112	103	92	85	78	
17	139	130	120	110	99	91	84	
18	148	138	128	118	105	97	89	
19	157	146	135	124	111	102	94	
20	166	154	143	132	117	108	100	
21	175	163	151	139	124	114	105	
22	186	173	160	147	131	121	112	
23	197	184	170	156	140	129	119	
24	204	190	176	162	145	134	123	
25	215	200	185	170	152	140	129	
26	225	210	194	178	159	147	135	
27	235	219	203	187	167	154	141	
28	246	229	212	195	174	161	148	
29	255	238	220	202	181	167	153	
30	267	248	230	212	189	175	160	
31	275	256	237	218	195	180	165	
32	285	266	246	226	202	187	171	
33	296	275	255	235	209	193	177	
34	305	284	263	242	216	200	183	
35	317	295	273	251	224	207	190	
36	329	306	283	260	232	214	196	

Seed rate in kg per ha

The seed rates shown in the setting table (kg/ha) can only serve as reference values.
Perform calibration trials to accurately determine seed rates.

