

**Before starting operation
carefully read and adhere
to this instruction manual and
the safety advice.**

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H. DREYER GmbH & Co. KG

D-49202 Hasbergen-Gaste /

F. R. Germany

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The large area seed drill **AMAZONE Airstar Primera** is yet another product from the large range of AMAZONE Farm machinery.

This technique in conjunction with correct operation allows an optimum use.

Therefore carefully read and observe this instruction manual, as claims due to operational faults have to be rejected.



Please enter the serial number of your seed drill here. You will find the serial number on the type plate on the right hand side of the frame - seen in the driven direction.

Seed drill AMAZONE Airstar Primera _____

Serial-No.: _____

When ordering components or filing claims, please always state the type of machine and its serial-No.

To ensure general safety and accident prevention advice is applicable - **original-AMAZONE-spare parts** must be used.

Before starting operation read the instruction manual and observe the safety advice.



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1.0 Details about the machine

1.1 Manufacturer

AMAZONEN-Werke H. Dreyer GmbH & CO.KG, P. O. Box 51, D-49202 Hasbergen-Gaste/F.R. Germany.

1.2 Technical data

Machine type	AirstarPrimera 3-1000, 3-1500, 3-1800	AirstarPrimera 6-1800, 6-2300, 6-3000
Working width [m]	3,00	6,00
Transport width [m]	3,00	3,00
Total weight (empty) [kg]	2800	5500
Hitching	trailed	
Row spacing [cm]	18,75	
Number of coulters	16	32
Number of rows	4	
Spacing between the coulters [cm]	84	
Spacing within the coulters within one row [cm]	75	
Ground clearance in the coulter area [cm]	50	
Coulter pressure [kg / coulter]	52	
Seedbox capacity [l]	1000 / 1500 / 1800	1800 / 2300 / 3000
Metering mechanical / pneumatical	pneumatical	
Operational speed [km/h]	up to 15	
Required tractor power [KW]	50	100

1.3 Details about noise level

The tractor operator seat related emission value is 74 dB(A), measured when operating with closed tractor cab at the ear of the tractor operator with the implement OPTAC SLM5.

2.0 Important Hints

- Please refer to the following pages for relevant explanations..

2.1 Safety-Warning symbol



In this operator instruction manual this symbol is used with all operator safety hints at which life or health of persons is in danger. Please adhere to these hints and be especially careful in such cases. Please pass on all operator safety hints to other users of this machine. In addition to the hints in this instruction manual, there are included general safety and accident preventive advice which should be adhered to.

2.2 Attention symbol



This symbol will always be found in such places of this instruction book which should especially be adhered to in order to comply with rules, advice, hints and the correct procedure of the machine's operation as well as to prevent damage to the implement.

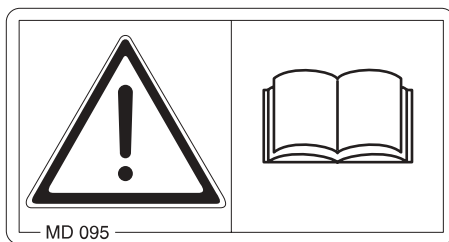
2.3 Hint symbol



This symbol marks machine's specific points which should be observed to ensure the correct operation.

2.4 Warning pictographs and hint symbols on the machine

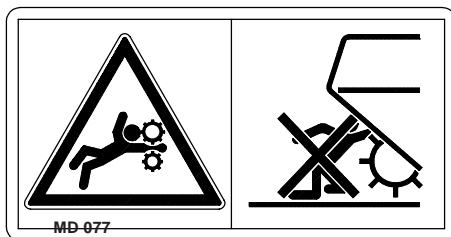
- The warning pictographs indicate dangerous points on the machine. Observing these pictographs means safety for all persons using this machine. The warning pictographs always come together with safety/warning symbols.
- The hint symbols mark machine's specific points which have to be observed to ensure a correct function of the machine.
- Strictly observe all warning pictographs and hint symbols!
- Please pass on all safety advice also to other users!
- Always keep all warning pictographs and hint signs clean and in a readable condition. Please ask for replacement of damaged or missing signs from your dealer and attach to relevant place (picture No. = Order-No.)!

Picture No: **MD 095****Explanation:**

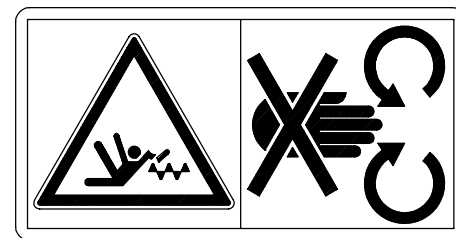
Before commencing operation read the operation manual thoroughly..

Picture No.: **MD 082****Explanation:**

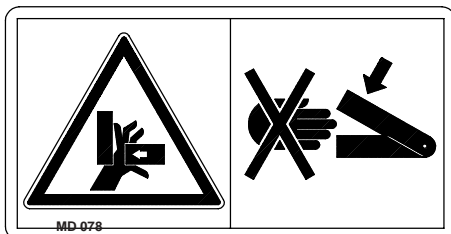
Sitting or standing on the implement during operation or during road transport is prohibited!

Picture No.: **MD 077****Explanation:**

Never reach into the danger area of the metering rollers when tractor engine is running.

Picture No.: **MD 083****Explanation:**

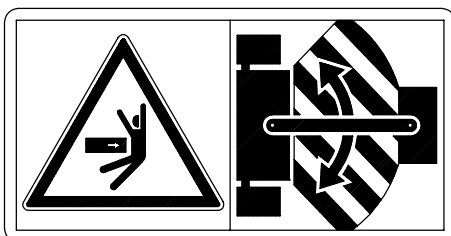
Never touch rotating implement parts.

Picture No.: **MD 078****Explanation:**

Never reach into the zone of danger of bruising as long as parts are still moving.

Picture No.: **MD 084****Explanation:**

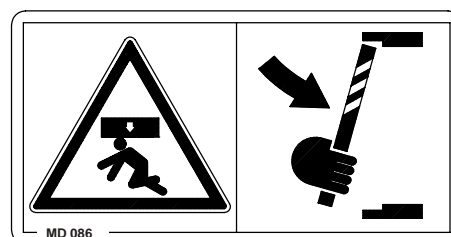
Never stay within the implement's swivel area! Advise people to leave the danger area!



MD 080

Picture No.: **MD 080****Explanation:**

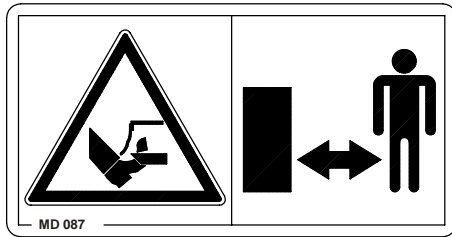
Do not stay within the articulation area when motor is running!



MD 086

Picture No.: **MD 086****Explanation:**

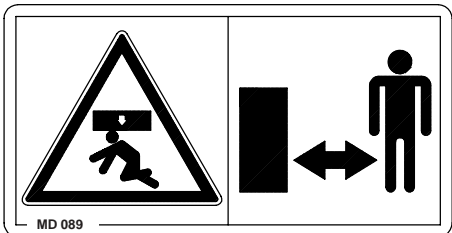
Staying within the danger zone is only permitted when in the locked transport position.



Picture No.: **MD 087**

Explanation

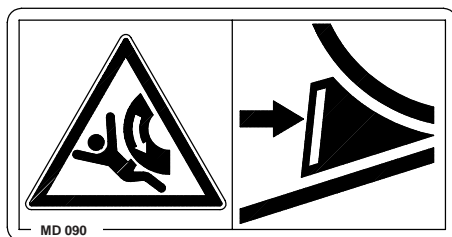
When rotor drive is engaged and tractor engine is running observe sufficient spacing towards the rotor harrow.



Picture No.: **MD 089**

Explanation:

Do not stay under a lifted, unsecured load.



Picture No.: **MD 090**

Explanation:

Use chock before uncoupling and parking the machine.



2.5 On receipt of the machine

When receiving the machine check that no damage has been caused in transit and all parts are present. Only the immediate claim will lead to compensation. Please check whether all parts mentioned in the delivery note are present.

Before commencing work, remove all packing material, wire etc. and check that all lubrication points are well supplied with grease, oil, etc. before use (e. g. universal joints)!

2.6 Declined use of the machine

The large area seed drill **Amazon Airstar Primera** has exclusively been designed for the usual operation in agriculture. The large area seed drill **Airstar Primera** is suited for sowing all common seeds.

Any use beyond the one stipulated above is no longer considered as designed use. The manufacturer does not accept any responsibility for damage resulting from this; therefore the operator himself carries the full risk.

Under "designed use" the adherence to the manufacturer's prescribed operation maintenance and repair conditions as well as the exclusive use of **original-AMAZONE-spare parts** is required.

The large area seed drill **Airstar Primera** may only be operated, maintained and repaired by such persons who have been made acquainted with it and who have been advised about the dangers.

All applicable accident preventive advice as well as any further generally accepted safety-, working-, medical- and road-traffic rules and any safety advice on the machines' labels should be adhered to.

Any damages resulting from arbitrary changes on the machine rule out the responsibility of the manufacturer.

Though machines having been manufactured with great care by us, certain deviations in the seed rate or even a total failure cannot be excepted. These deviations may be caused e. g. by:

- Varying composition of the seeds (e. g. distribution of grain size, bulk density, geometrical shape, dressing, sealing).
- Drifting.
- Blockages or bridgings (e. g. by strange particles, residue of bags etc.).

- Undulated terrain.
- Wear of wearing parts (e. g. seed wheels, V-belts etc.).
- Damage by external influence.
- Wrong drive-R.P.M. and travelling speed.
- Wrong setting of the machine (incorrect mounting).

Therefore, check and ensure that your machine is functioning correctly before and during use and observe sufficient sowing accuracy.

Claims regarding damage not having occurred on the large area seed drill itself will be rejected. This also applies to damages due to sowing errors. Arbitrary changes on the large area seed drill may cause damages and rule out the responsibility of the supplier for these damages.



3.0 General safety and accident prevention advice

In general:

Always check traffic and operation safety before putting the machine into operation!

1. Adhere to the general rules of health- and safety precautions besides the advice in this instruction manual!
2. The fitted warning- and advice labels and plates give important hints for safe operation; adhering to them protects your own safety!
3. When making use of public roads adhere to applicable traffic rules!
4. Become acquainted with all installation and controlling devices as well as with their function before beginning with the operation. Doing this during operation would be too late!
5. The clothing of the operator should fit well. Avoid wearing any loose clothing!
6. To avoid danger of fire keep your machine clean!
7. Before beginning to drive, check surrounding area (children etc.). Ensure sufficient visibility!
8. Sitting or standing on the implement during operation or during transport is not permissible!
9. Attach implements as advised and only to the attachment points provided!
10. Special care should be taken when the implement is coupled to or off the tractor!
11. When attaching or removing the machine bring the supporting devices into the corresponding position (standing safety)!
12. Fit counter-weights always as advised to the fixing points provided for that purpose on the tractor!
13. Adhere to the maximum permissible axle loads, total weights and transport measurements!
14. Fit and check transport gear, traffic lights, warning plates and guards!
15. The release ropes for quick coupler should hang freely and in the lowered position they must not release by themselves!
16. During driving never leave the operator's seat.
17. Stability and braking are influenced by mounted implements, trailers and ballast weights. Check sufficient steering and braking!
18. When lifting a three-point-implement the front axle load of the tractor is reduced depending on its size. The sufficient front axle load (20 % of the tractor net weight) has to be maintained!
19. When driving around bends note the width of the machine and/or the changing centre of gravity of the implement!
20. Start operating implements only when all guards have been fitted in guarding position.!
21. Remaining within the operating area is prohibited!
22. Never stay within the turning- or swivelling area of the machine!
23. Hydraulic folding frames may only be actuated if no persons are staying in the slewing area!
24. In the area of actuated parts (e.g. hydraulic) there is danger of injury by its squeezing and shearing places!
25. Before leaving the tractor seat lower the machine to the ground. Actuate the parking brake, stop the engine and remove ignition key!
26. Do not allow anyone to stand between tractor and implement, if the tractor is not secured against rolling away by the parking brake and/or by the supplied chocks!
27. Secure marker arms in transport position!
28. When filling the seed box do not exceed the nominal weight!
29. Use steps only for filling. Staying on the steps during operation is prohibited!



3.1 Tractor mounted/trailed implements

1. When hitching the machine to the three-point linkage bring system levers into such a position that unintended lifting or lowering is impossible!
2. When fitting to the three-point linkage the mounting categories at the tractor and the implement must be comparable or must be made comparable!
3. There is danger of injury when mounting implements to the tractor!
4. Secure trailers against rolling away (use parking brakes, chocks).
5. In the area of the three point linkage there is danger of injury by its squeezing and shearing places!
6. Never allow anyone to stay between tractor and implement without having secured by chocks against rolling away!
7. Implements and trailers should only be fitted to the provided attachment points! In other words: use the correct method of mounting the machine. The three point linkage.
8. Consider the max. permissible supporting load of trailer draw bars, hitches or tool bars!
9. When fitting drawbars sufficient manoeuvrability on the hitching point should be provided!
10. Hitch up trailers according to law. Check the function of the brakes of the trailed implement. Adhere to the manufacturer's advice!
11. When travelling with trailers, the tractor's independent brakes must be linked.
12. When travelling on public roads lock all devices in transport position!
13. When driving on the road and around bends with trailed or mounted implements mind the wide protrusions and the dynamic forces of the implement!
14. Before travelling on public roads secure all loose components against swinging out of their stowed position.
15. When operating the supporting devices danger by squeezing or shearing may occur!
16. The adjustment of loaded drawbars must always be conducted in a suitable workshop.

17. With single-axle trailers mind the load transfer of the tractor front axle and the influence to the stability of the tractor by the rear load!
18. Care must be taken, when parking mounted implements or trailers!
19. Repair, maintenance- and cleaning operations as well as remedy of function faults should be conducted with a stopped engine. Remove ignition key!
20. Never remove safety guards !

3.2 Hydraulic system

1. The hydraulic system is under high pressure!
2. Connect hydraulic hoses to the hydraulic rams and motors according to the advice in the instructions!
3. When fitting the hydraulic hoses to the tractor hydraulic sockets always ensure that the hydraulic system at the tractor's as well as at the implement side is without pressure!
4. To avoid wrong hydraulic connection, sockets and plugs should be marked (e. g. colour coded). This helps to prevent contrary function, e. g. lifting instead of lowering. Danger of accident!
5. Regularly check hydraulic hoses and pipe lines and exchange if found defective. The replacement hoses and pipe lines must meet with the implement manufacturer's technical standards!
6. When searching for leaks appropriate aids should be used because of the danger of injury.!
7. Liquids leaking under high pressure (hydraulic oil) can penetrate the skin and cause severe injury. When injured see a doctor immediately! Danger of infection!
8. Before starting repair work to the hydraulic system relieve it from pressure by actuating the control lever accordingly, lower the machine to the ground and stop tractor engine!
9. The period of use of any hose circuit should not exceed six years including a possible storing period of two years maximum. Also when stored and used properly hoses and hose circuits do age. Therefore, their longevity and period of use is limited. Deviations from the above may be accepted depending on the experience they have had and the danger potential. For hoses and hose circuits made of thermoplasts other guide lines may prevail.

3.3 Brakes

1. Check functions of brake before travelling on public roads!
2. Brake systems should be regularly checked!
3. Setting up and repair work of the braking system must only be conducted by specialists, workshops with approved services!
4. When travelling on public roads independent braking on the tractor must be excluded (lock both pedals).

3.4 Bolted connections, tyres

1. Repair work to the tyres may only be conducted by trained personnel who have special equipment!
2. When working on the wheels make sure that the machine is safely parked and secured against rolling away (chocks)!
3. Excessive air pressure may cause the tyre to explode! Observe recommendations.
4. Check air pressure regularly.!
5. All fixing bolts and nuts should be retightened frequently!
6. This retightening should be conducted after every change of the wheels!

3.5 General safety and accident prevention advice for maintenance, repair and cleaning

1. Repair, maintenance- and cleaning operations as well as remedy of function faults should principally be conducted with a stopped drive and engine. Remove ignition key!
2. Frequently check nuts and bolts for tightness and retighten as necessary!
3. All fixing bolts and nuts should be retightened as advised by the manufacturer!
4. Before conducting electric welding operations on tractor or on the mounted implement, remove leads from generator and battery!
5. Any spare parts fitted must, in minimum, meet with the implement manufacturers' fixed technical standards. This is, for example, ensured by using original-**AMAZONE**-spare parts!
6. When carrying out repair work on a raised implement secure the implement by proper supporting axle stands!
7. For changing operation tillage tools with cutting edges use proper tools and wear gloves!



4.0 Product description

This machine is especially suited for

- **direct sowing, also**
- **for sowing after minimum soil tillage and**
- **for conventional tillage sowing.**

The staggered chisel openers are arranged in 4 rows, resulting in a coulter spacing of 75 cm. The row spacing is 18.75 cm.

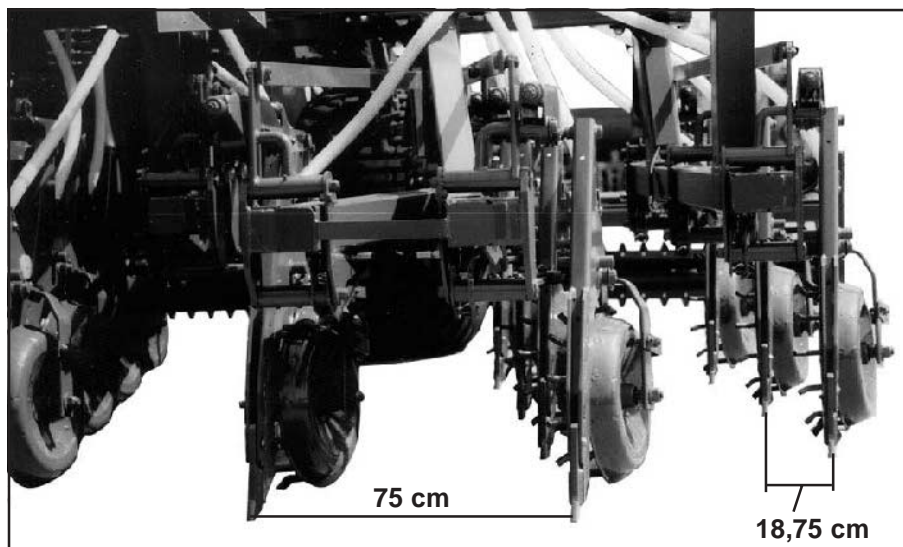


Fig. 4.1

The chisel openers are individually suspended on **parallelogram shaped** carriers (4.2/1). Each carrier has an upper- and lower link which is designed as a **stone safety tripp**. If the chisel opener hits an obstacle in the soil, there is

- **horizontal movement** by the spring steel lower link (4.2/2).
- **vertical movement** by the spring resistance on the floating upper link (4.2/3).

Thus the chisel opener can give way and is protected from damage. **Immediately** after having passed the obstacle the chisel opener is guided back into its working position.

As an **option** a **hydraulic coulter quick lifting device (Order-No.917378)** is available. By lifting the sowing coulter, blockages can be avoided or removed. Thus maintaining uninterrupted sowing so that in the area where the coulters are lifted seed is applied which will then be incorporated by the rotor harrow. For this, an additional single acting control valve on the tractor is required.

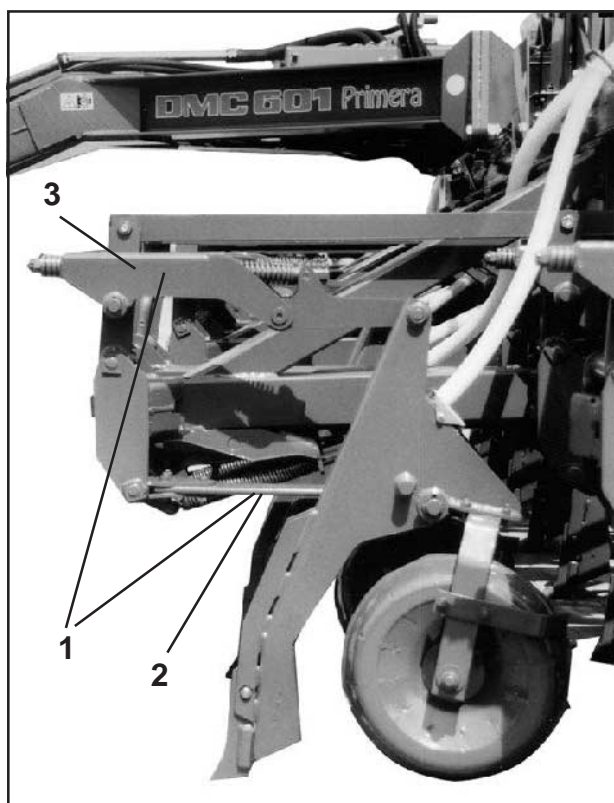


Fig. 4.2

The **depth placement** of the **seed** is determined by the **depth guidance** of the **chisel openers (4.3/1)**. This depth guidance is taken over by **support rollers (4.3/2)**, termed as **tine gauge wheels**, behind the coulter openers.

The **tine gauge wheel** also **closes the sowing slits**.

From the **metering unit** the **seed** is **centrally metered** into the air flow and transported to the distributor head (4.4/1) where it is distributed to the individual flexible hoses which lead to the sowing coulters.

As **special option** a **hydraulic quick lifting device (Order-No.917378)** is available. With this device the sowing coulters can be lifted and thus a blockage can be avoided or remedied. The seeding procedure is not interrupted so that also within the lifting area seed is sown which and incorporated by the rotor harrow. An additional single acting control valve on the tractor is required.

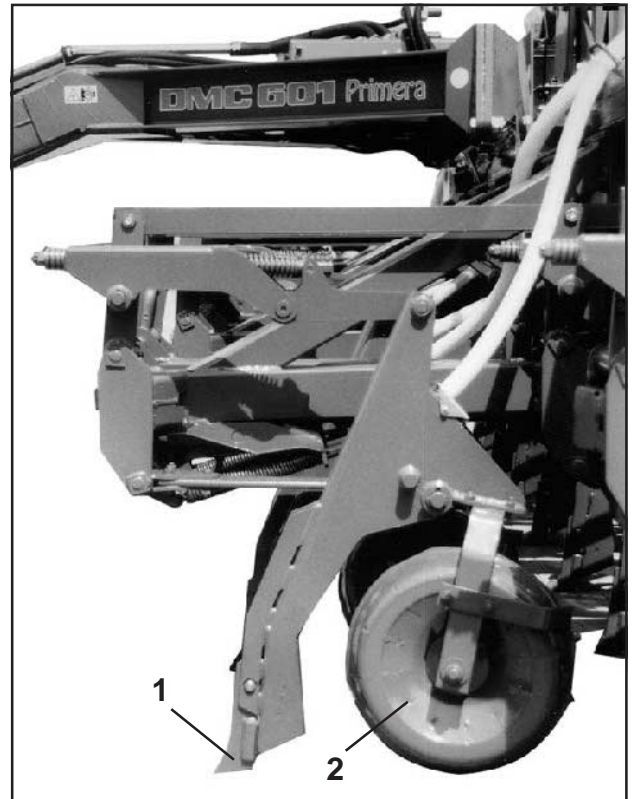


Fig. 4.3

The metering unit consists of 1 white and 1 orange coloured **main seed metering wheel (4.4/3 and 4.4/4)** which can be engaged or disengaged. There is also 1 red and 1 black metering wheel for fine seeds (4.4/5 and 4.4/6). These are mounted on the same **shaft**.

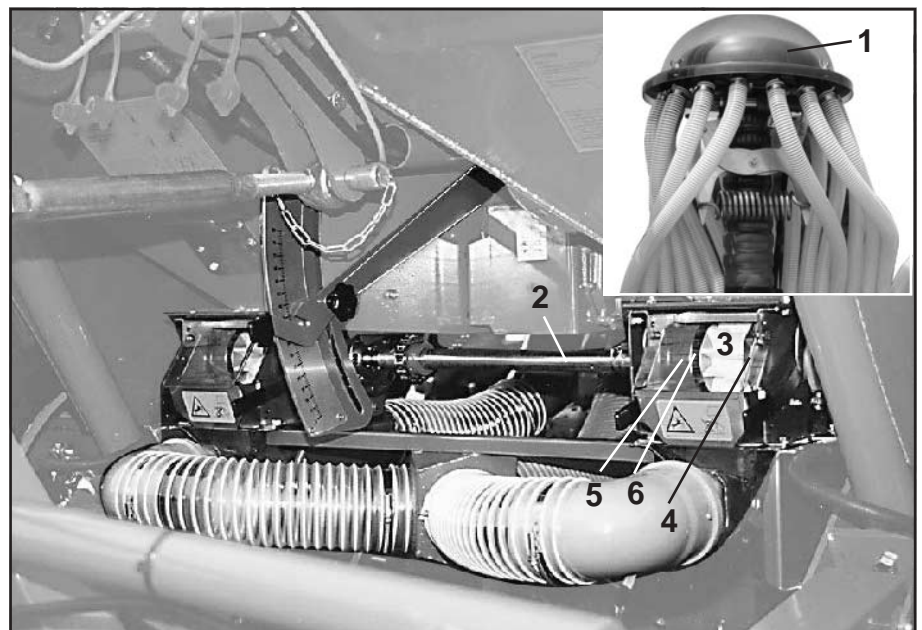


Fig. 4.4



The seed rate is changed by the speed of the metering shaft (4.5/1). For this, the metering shaft is connected to a stepless free wheel gearbox (4.5/2) .

By removing the lynch pin (4.5/3) the drive of the individual metering unit can be interrupted. By this means, the **working width can be reduced to 3 m**.

The shear bolt (4.5/4) serves as **overload safety of the metering unit** and thus prevents damages on the metering wheels.

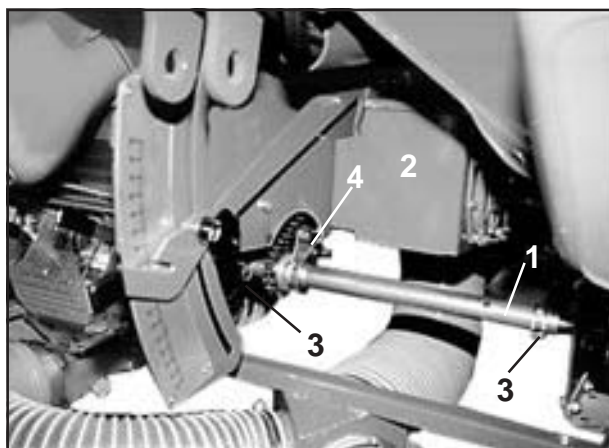


Fig. 4.5

The freewheel gearbox is driven via the friction wheel situated on the left hand side ground wheel, making contact with the machine's land wheel, when **the transport safety device on the friction wheel is released and the sowing coulters have been lowered into working position**.

For setting a wide variety of seed rates the free wheel gearbox is designed as a two-range gearbox. The metering shaft can be driven at two speeds. A "fast" or a "slow" speed can be chosen. The machine is supplied with "fast speed" already **set by the manufacturer** (please refer to para.6.5).



Fig. 4.6

The **electronic seed level indicator** (4.7/1) monitors the seed box contents. If the seed level reaches the seed level indicator this is displayed on the **AMADOS** computer.

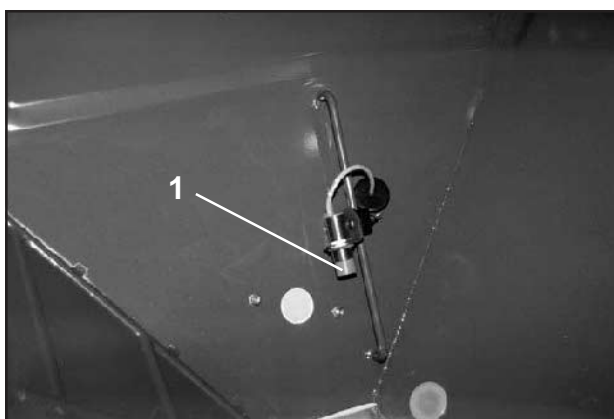


Fig. 4.7

For creating tramlines the seed delivery to the tramlining coulters **is interrupted** by the hydraulic control **on the distributor head in pre-selected intervals between the tramlines** (the tramline rhythm) (please also refer to para. 9.3).

If the **spring is tensioned**, **no tramline is created** (Fig. 4.8).



Sensors on the switching tongs (4.8/1) inform AMADOS whether tramlines are created or not. When the tramline counter shows [0] **and no** tramline is created, the AMADOS display shows "Error 3".



Fig. 4.8

If the spring tension is released and the hydraulic ram retracted a tramline is created (Fig. 4.9).



Fig. 4.9



The hydraulically actuated **track markers** (special option < 3 m > Order-No.917485 , < 6 m > Order No. 917072) with vertical fold carve a mark into the soil alternately on the right and left hand side of the machine., thus creating **trace** lines in the **tractor track centre**.

The **track markers** are **coupled with the hydraulic system** for **lifting** the sowing coulters and the spring tine cultivator. During the lifting process the switching over procedure for the track markers is automatically actuated.

Should the marker arm hit a firm obstacle the shear bolt (4.10/1) shears off and thus protects the marker from damage.

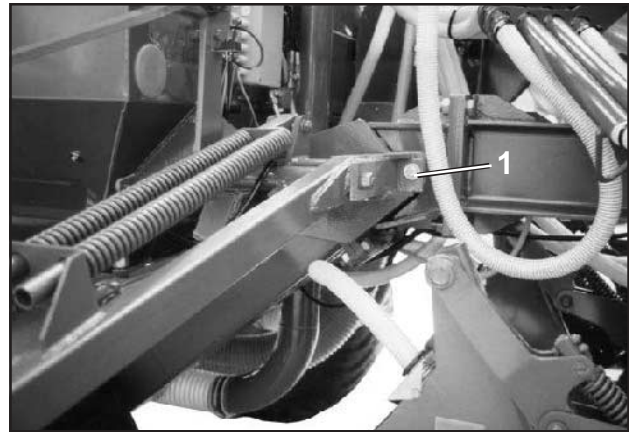


Fig. 4.10



When replacing the shearbolt only use bolts with a strength rating of 8.8.

For lifting the **track marker** in front of an obstacle a **"give way control"** (Order-No. 916142) is available **as option**. This allows hydraulic lifting of the track marker without interrupting the sowing procedure. **AMADOS in Mode 11** (see para.9.2). An additional single acting control valve on the tractor is required.

The **length** and the **operating intensity** of the marker arm can be **adjusted** at the outer marker arm end.

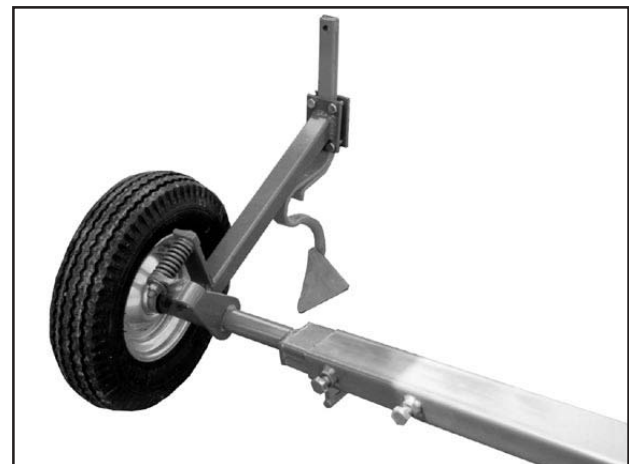


Fig. 4.11

The **hydraulically driven rotor harrow** (special option , < 3m > Order No.915674, < 6m > Order-No. 913970)

- separates the soil from organic residue.
- scatters small heaps of harvest trash evenly on the soil surface.



The rotor harrow is not a soil tillage implement.

The **rotor harrow is driven in reverse of the driven direction** by the on-board hydraulics .



Carry out mounting and dismounting the rotor harrow with a front loader.



When working with dismounted rotor harrow a l w a y s entirely turn out the setting wheel (4.13/1) as otherwise an unacceptable oil heating would be the result (please also refer to para. 6.7).

The **hydraulic rotor harrow control** (special option, Order-No.: 916420) prevents **blockages of the rotor harrow** by organic residue. For this the rotor harrow **automatically lifts for a short period** by two hydraulic rams on the upper link retainer.

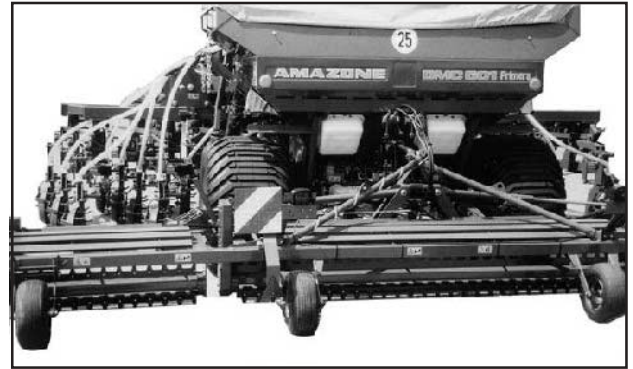


Fig. 4.12

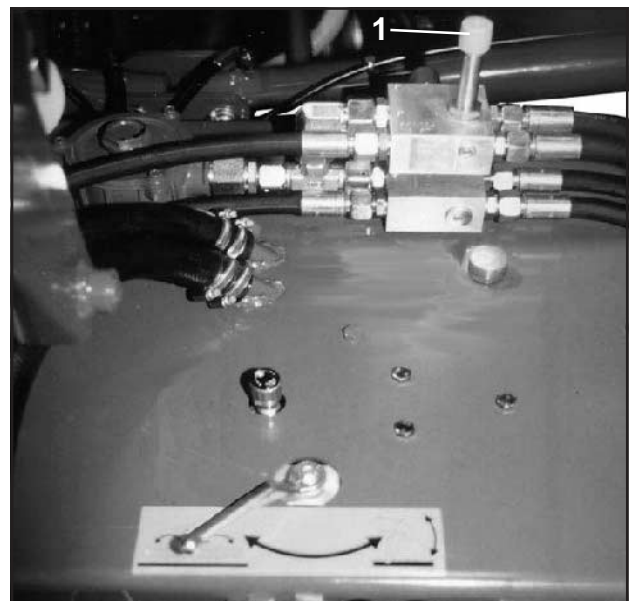


Fig. 4.13

Alternatively to the rotor harrow an **extra coverage harrow** (option, < 3m > Order-No. 916424, < 6m > Order-No. 916022) for distribution organic mass or for even seed coverage with soil is available.



Fig. 4.15



5.0 Coupling to and uncoupling from the tractor



When coupling and uncoupling observe the safety advice (especially para. 3.2)!

5.1 Drawbar



Consider maximum permissible supporting load of the draw bar.



The lower links of the tractor's three-point hydraulics have to be equipped with stabiliser bars or chains. Lower links of the tractor should be braced to prevent a sway movement of the seed drill.

- Hang pulling bar (5.1/1) into the lower links of the three-point hydraulics of the tractor and secure.
- Raise the machine until its frame is level to the ground.



Observe the correct catching of the draw bar safety!

- Fold drawbar jack (5.2/1) upwards, lock with locking pin and secure with R-clip.

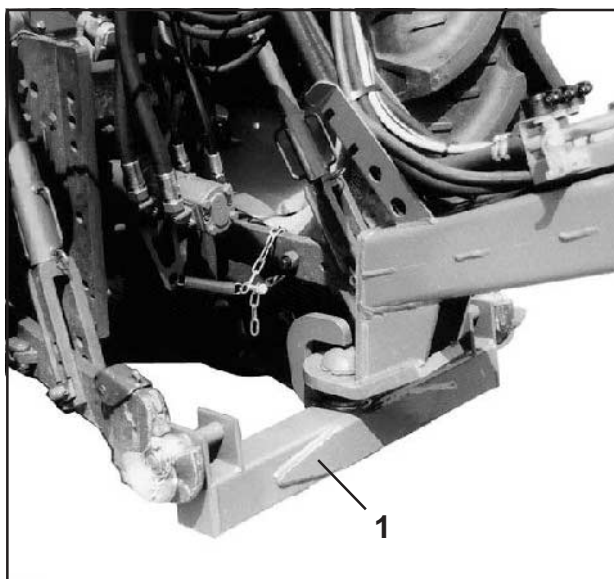


Fig. 5.1



Fig. 5.2

5.2 Hydraulic slide-on pump

The **Airstar Primera** is equipped with its own on-board hydraulic system. This hydraulic system is driven by the hydraulic slip-on pump (5.3/1) and drives the blower fan.

- Clean and apply grease to the pto shaft stub .
- Slide-on the hydraulic pump onto the pto shaft stub and secure it by pin or bolt depending on design.
- Secure hydraulic slide-on pump against rotation by hooking-up the chain (5.3/2)!
- Check guidance of the hydraulic hoses!
Ensure that the hydraulic hoses are long enough in all operational positions, so that they do not rub on other parts, so that they do not foul or break.



Do not exceed max. pto shaft speed of 1000 R.P.M.!



To avoid damage slowly engage pto shaft at low tractor engine speed!



Before switching on the pto shaft read the safety advice according to para. 3.3.

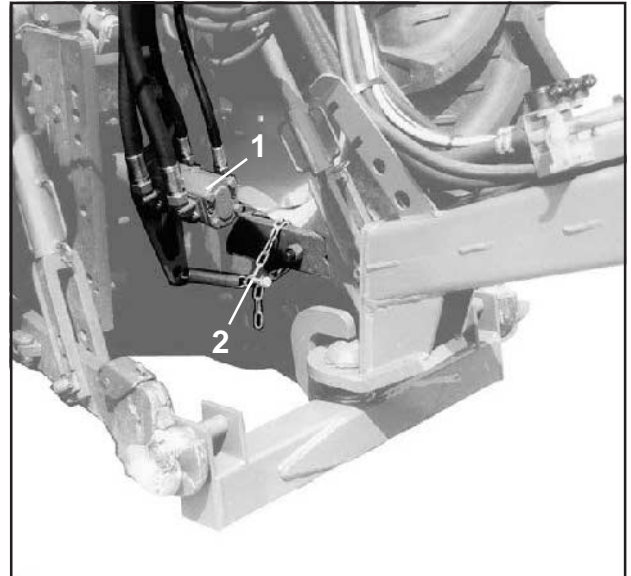


Fig. 5.3

5.3 Hydraulic connections

- Connect the two hydraulic hoses(5.4/1) for sowing coulter-/rotor harrow lifting as well as friction wheel drive, tramlining control, track marker and the folding in- and out of the marker arms to a double acting spool control valve on the tractor.



In order to avoid damage on the seed drill the pressure of the tractor hydraulic system must not exceed 230 bar.

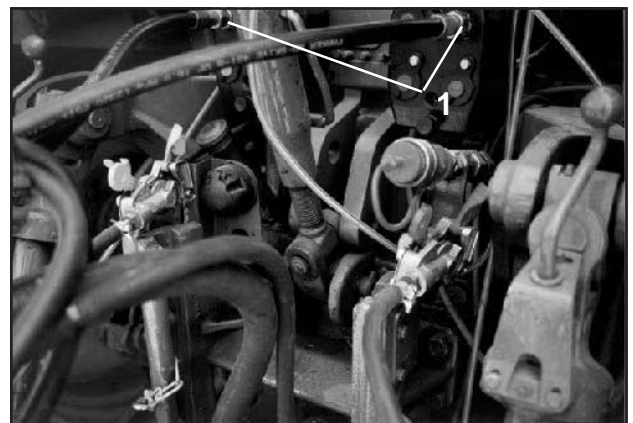


Fig. 5.4



5.4 Two circuit airbrake and parking brake



Allowable forward speed: 25 k.p.h.

5.4.1 Coupling

- Couple two-circuit airbrake to tractor.
 - Coupling claw - yellow - to brake hose.
 - Coupling claw - red - to supply hose.



Before coupling check cleanness of coupling claws and ensure correct engagement!



Check guidance of hoses! Hoses must never rub on other parts

- Before starting to travel the brake pressure regulator (5.6/1) on the hand lever (5.6/2) has to be adjusted manually.

Full load

- Release parking brake.
 - Turn hand crank (5.7/1) counterclockwise until it stops.



To ensure correct function of the parking brake check, whether the brake cable is tightly tensioned when the parking brake has been applied. If this is not the case, readjust the brake cable.



After any adjustment of the brakes conduct a brake test.

- Remove chocks, affix them in the pockets on the frame and secure.

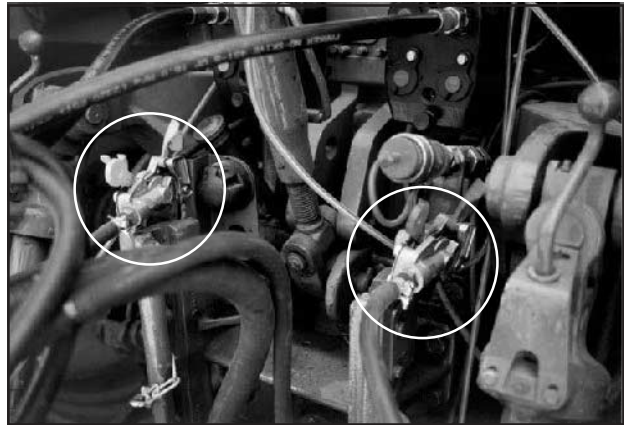


Fig. 5.5

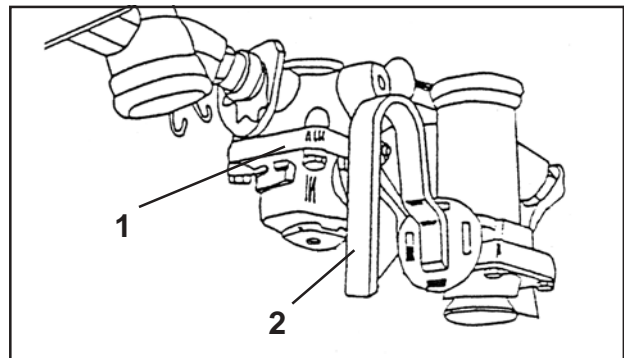


Fig. 5.6

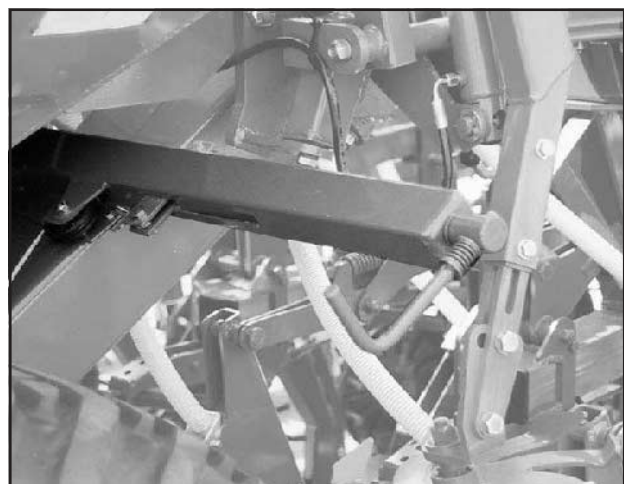


Fig. 5.7

5.4.2 Uncoupling

- Before uncoupling your Airstar Primera secure with the two chocks (5.8/ 1) against unintended rolling.
- Apply parking brake (5.8/ 2) .
 - Turn hand crank on the side of the chassis clockwise until stop.
- After uncoupling shut coupling claws and hook them into the dummy coupling.

Manoeuvring the uncoupled seed drill

- For manoeuvring the uncoupled drill you must move the crank lever (5.9/ 1) of the brake pressure regulator to position "Lösen" (release).



After manoeuvring reset lever into initial position.

5.5 Hydraulic brake and parking brake

5.5.1 Coupling

- Connect the coupling claw of the hydraulic brake to the tractor brake system.



Before coupling check cleanness of coupling claws and ensure correct engagement.



Check guidance of hoses. Hoses must never rub on other parts.

- Release parking brake.
 - Turn hand crank (5.8/2) counterclockwise until it stops.



To ensure the correct function of the parking brake check whether the brake cable is tightly tensioned when the parking brake has been applied. If this is not the case, readjust the brake cable.



After any adjustment of the brakes conduct a brake test.

- Remove chocks, affix them in the pockets on the frame and secure.

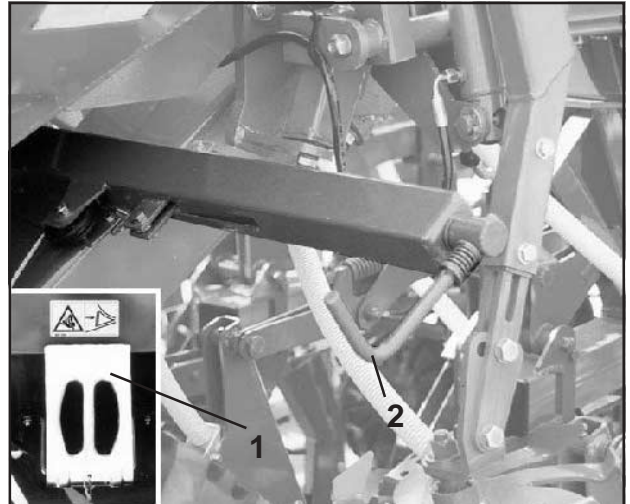


Fig. 5.8

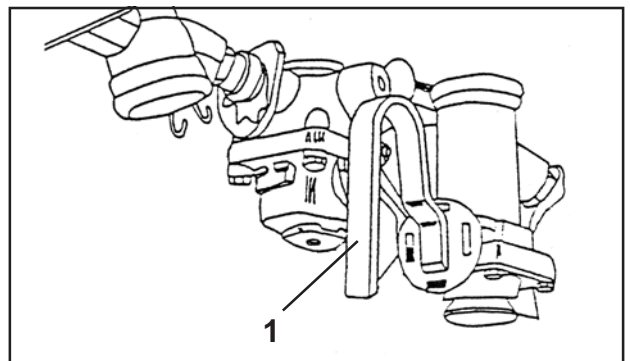


Fig. 5.9



5.5.2 Uncoupling

- Before uncoupling, secure the Airstar Primera with the two chocks (5.10/1) against unintended rolling.
- Apply parking brake (5.10/2).
 - Turn hand crank on the side of the frame clockwise until stop.
- Remove hydraulic brake connection from the tractor and hook into the dummy coupling.

5.6 Traffic light

- Connect power cable of electric traffic lights on tractor and check all functions (turn signal, lights, stop light) before every use.

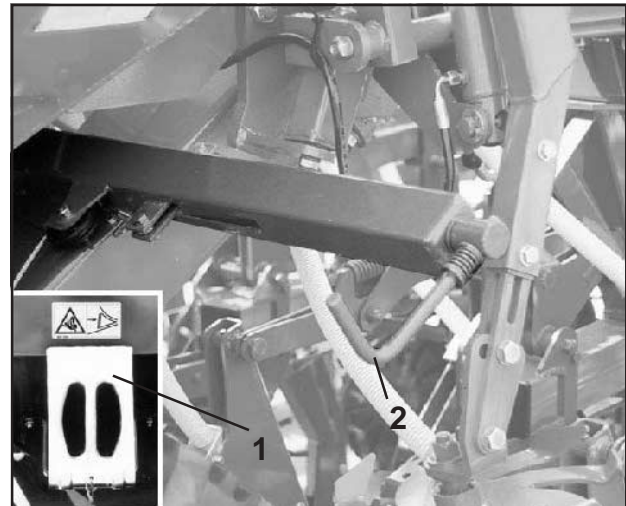


Fig. 5.10

5.7 AMADOS

- Connect implement plug of the machine cable with AMADOS .



When connecting the implement plug to AMADOS the power supply of AMADOS remains switched off.



Enter the machinery data before AMADOS is put to use.



Please also see the detailed AMADOS instruction book.

6.0 Filling the machine



Before filling the seed box check, whether

- no residues or foreign parts are left in the seed box.
- the sieve has been properly inserted.
- the outlets of the metering units are shut.



When filling the seed box make sure that no foreign objects are in the seed.



Do not sow moist or sticky seeds.



Observe maximum payload!



Standing on steps or platforms during transport and operation is prohibited!

- Unlock maintenance platform by pressing bracing plate (6.1/1) of the platform to the right hand side.
- Lower the folded maintenance platform (6.1/1) .
- Step onto the platform.

- Open the canvass and fold back.
- Fill the seed box.
- To cover the seed box fold down the canvass.

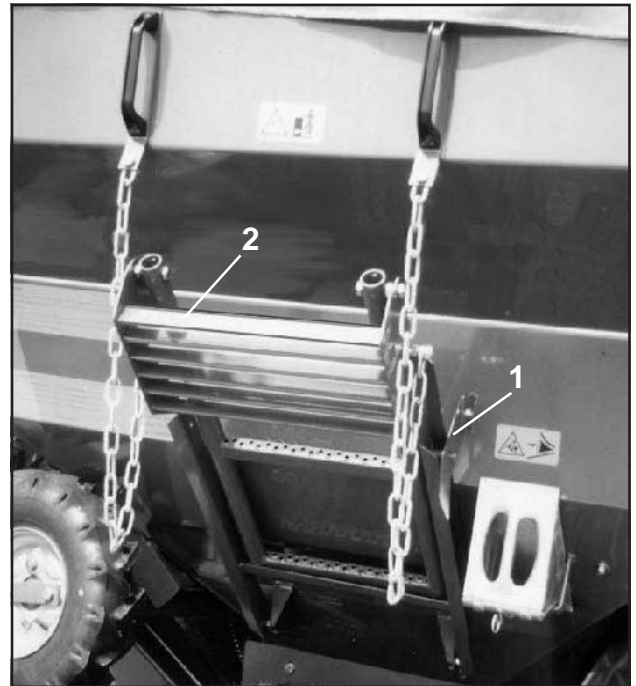


Fig. 6.1



Fig. 6.2



7.0 Basic settings of the machine

7.1 Setting the seed rate

The seed is metered:

- when **sowing grain** by the **main metering wheels**.
- when sowing **fine seeds** by the **fine seed metering wheels**.



During sowing operation always use either the two main metering wheels (white and orange) or the fine seed metering wheels (red and black).

The seed rate depends on:

- speed of the metering shaft.
- choice of metering wheel (main- or fine seed metering wheels)
- choice of the relevant revolution range ("fast" or "slow" speed). Ex works the gearbox is set to the "slow speed".

The higher the setting figure on the scale (7.1/3), the larger the relevant seed rate.

Setting procedure:

- Depending on the kind of seed choose the seed metering wheel type (main- or fine seed metering wheels) (please refer to para. 7.2).
- Slacken star knob (7.1/1) by turning to the left.
- **First swivel entirely upwards the gearbox setting lever (7.1/2) (in direction of the largest scale figure). Then swivel lever downwards and set the value of the determined gearbox setting figure** (please refer to para. 7.3).

Read off the chosen **gearbox setting figure on the scale (7.1/3) on the pointer (7.1/4).**



When setting small seed rated and it becomes necessary to choose a gearbox setting below "5", set the two-range gearbox on the "slow speed" (please refer to para. 7.4).

- Retighten star knob.
- Conduct calibration test (please refer to para. 7.4).

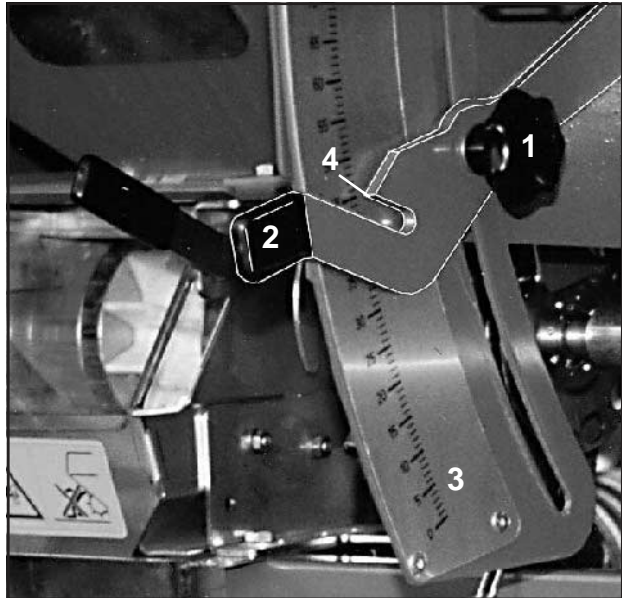


Fig. 7.1

7.2 Switching on and off the main- and fine seed metering wheels

Switching on and off the metering wheels is done by the coupling screws (7.2/1 bzw. 7.2/2). For this

- move the gearbox setting lever up and down to turn the seed shaft (7.2/3) until the relevant knurled nut of the coupling screws can be turned by hand.

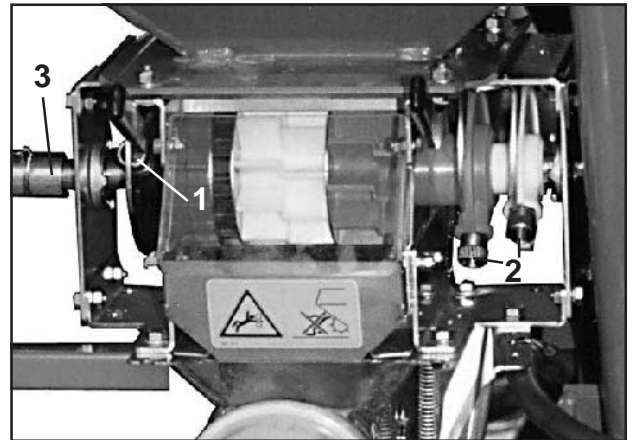


Fig. 7.2

Switching on

- Drive in **both** coupling screws (main seed metering wheels) (7.3/1) entirely (until stop). The wedge connection automatically catches when the metering unit is in operation.

Switching off

- Drive out **both** coupling screws (main seed metering wheels) (7.3/1) until they reach into the relevant gap of the stop plate (7.3/2) (see Fig. 7.4).

Thus it is ensured that one of the metering wheels sections will align exactly on the sealing lip and good sealing is achieved.



Always switch on and off seed metering wheels in pairs.

Switching on and off the **fine seed metering wheels** is done the same way. Here, however, only turn the coupling screw (7.4/1) .

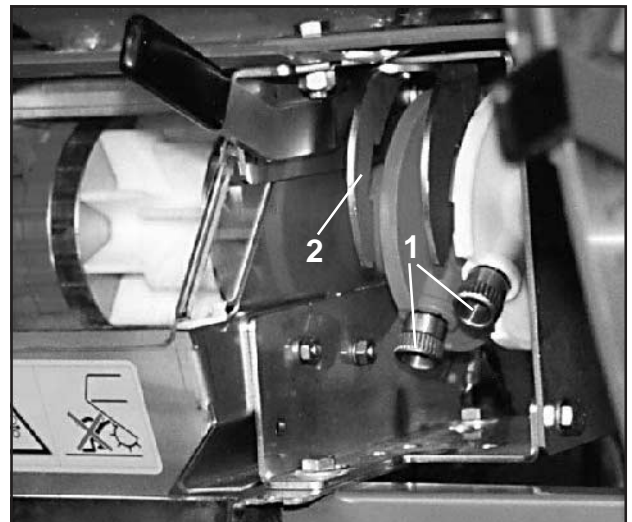


Fig. 7.3

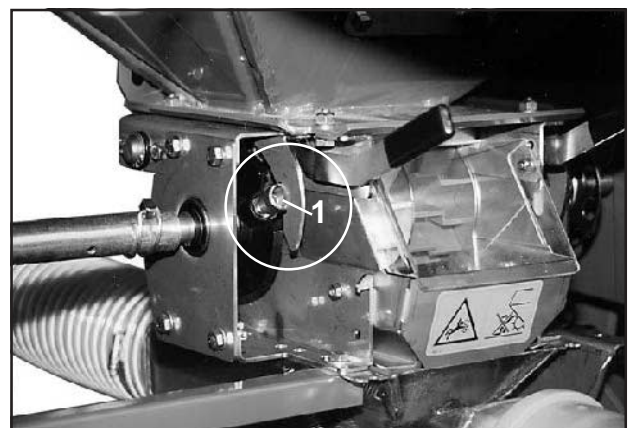


Fig. 7.4



7.3 Determining the gearbox setting with the aid of the disc rule

Determine the required gearbox setting figure for the desired seed rate with the aid of the disc rule.

The disc rule consists of 3 scales:

1. one outer white scale (7.5/1) for all seed rates above 30 kg/ha.
2. one inner white scale (7.5/2) for all seed rates below 30 kg/ha.
3. one central coloured scale (7.5/3) with the gearbox setting numbers from "1" until "100".

Example:

Wanted seed rate: 125 kg/ha

- Set **gearbox setting lever** (7.1/2) as desired, e. g. to setting position "70" (also all other settings can be chosen, **preferably** for **grain** "50" and for **rape** "10").
- Conduct the first calibration test (see para. 7.4).
- Weigh the collected seed and convert. The converted seed rate is for example 175 kg/ha (see para. 7.4.2).
- Take the disc rule and align the seed rate 175 kg/ha (7.5/A) and the gearbox setting figure "70" (7.5/B).
- Now read off scale "3" of the disc rule the required gearbox setting figure, e.g. "50" (7.5/D) for the wanted seed rate (e.g. 125 kg) (7.5/C).
- Check the determined gearbox setting figure "50" by a fresh calibration test.

The determination of the gearbox setting figure with the aid of the disc rule allows the setting of the desired seed rate without setting chart. Hereby the different flowing properties of the seed are already taken into account when determining the gearbox setting figure.

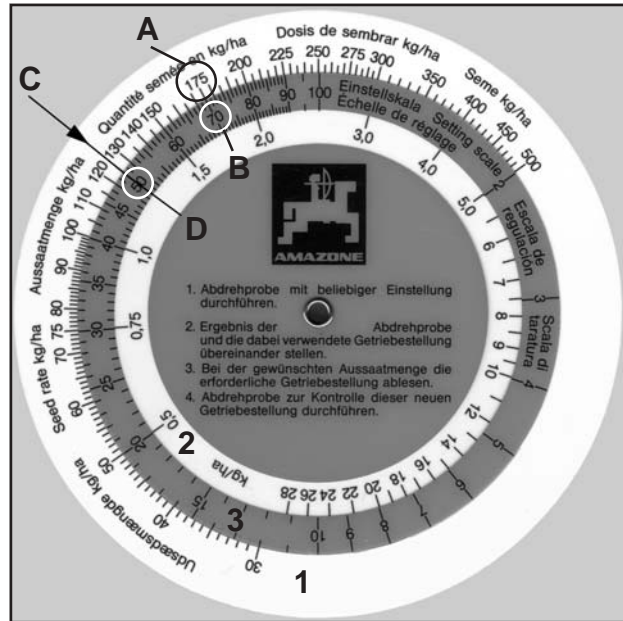


Fig. 7.5

7.4 Calibration test for checking the set seed rate

The calibration test checks whether the set seed rate corresponds to the desired seed rate.



The calibration test is carried out statically.

Please follow these hints.

Deviations of the flowing properties of the seeds influence the seed rates. Seeds with various surface treatment may have to be sown. These may be:

- untreated seed.
- dry dressed seed.
- moist dressed seed.

The seed may have different flowing properties. The flowing properties can change by reactions of the dressing agent due to environmental influences, such as temperature and air moisture.



In principle: before sowing a new batch of seed conduct a calibration test.

7.4.1 Conducting the calibration test

Usually the calibration test is related to 1/40 ha. You will need to turn the metering shaft on the Airstar Primera with

- 3 m working widthby 68 - crank turns
- 6 m working widthby 34 - crank turns

in clockwise direction on the drive wheel (Fig. 7.6) .



On the Primera < 6m > carry out the calibration test on both metering units.



Never climb between machine and coulters bed before the block tap (7.7/1) has been shut off. Danger of squeezing! With the block tap shut off the hydraulics for lifting and lowering the coulters bed are locked.

- Shut off block tap (Position 7.7/2).
- Swivel the flap downwards (7.7/3) underneath the injector.
- Locate collecting trays (7.7/4) under the outlet openings.



Fig. 7.6

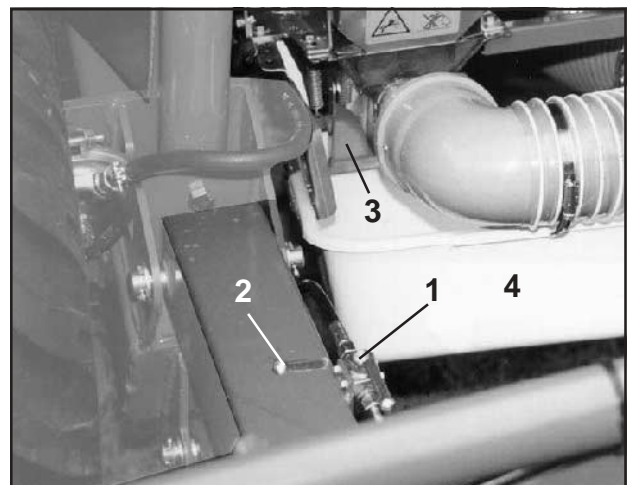


Fig. 7.7



- Turn the crank on the drive wheel for the prescribed number of turns.
- Weigh the seed collected in the tray(s).
- Convert the collected seed rate [kg] into the seed rate [kg/ha] (please refer to para. 7.4.2).

7.4.2 Conversion of the collected seed [kg] into the seed rate [kg/ha]

- To convert the seed rate from [kg] into [kg/ha] weight the collected seed from both trays and multiply by factor "40" (for 1/40 ha).

Example:

The collected seed rate is, for example, **3,2 kg**

seed rate [kg/ha]	=	$\frac{\text{collected seed rate [kg]} \times \text{factor}}{\text{ha}}$
-------------------	---	--

$$\text{Seed rate [kg/ha]} = \frac{3,2 \text{ kg} \times 40}{\text{ha}} = 125$$

7.5 Hints for sowing in "slow" or "fast speed" range

The two cogs inside the gearbox (7.8/1) provide two ratios: "high" or "low". The setting range of the setting scale (7.8/2) is enlarged. By turning the cog (8.10/1) "fast speed" range (Fig.7.10), alternatively a "slow speed" range (Fig.7.11) can be set.

The "slow speed" range should only be used, if for setting small seed rates, a gearbox setting of below "5" has to be chosen. Ex works the gearbox is set to the "fast speed".

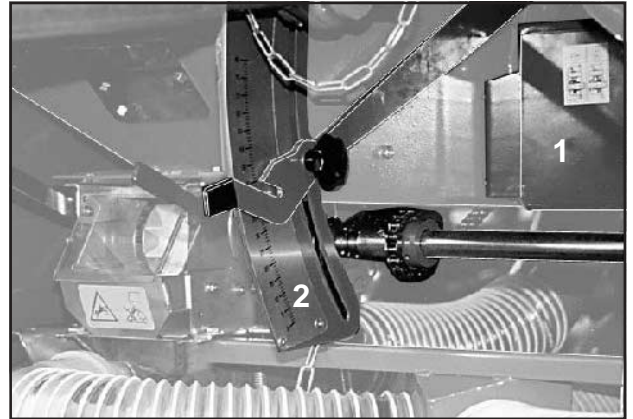


Fig. 7.8

7.5.1 Shifting to the "slow speed" range

- Open the gearbox side cover (7.9/1) after having removed the thumb bolt (7.9/2) and the thumb nuts (7.9/3) .
- Remove the cog (7.10/1) from the shaft, turn it and reinsert it according to Fig. 7.11 . If the pinion cannot be pulled off the shaft by hand, move the drive wheel until the cog can be removed easily from the shaft.
- Put side cover back in place and bolt properly.



If at all possible, sow in the "fast speed" range. After sowing in the "slow speed" range shift the gearbox back again to the "fast speed" range .

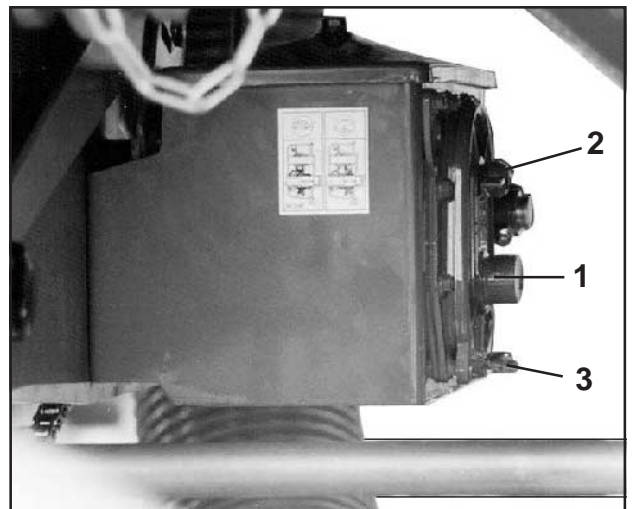


Fig. 7.9

7.5.2 Determining the gearbox setting figure after shifting the gearbox into the "slow speed" range

- After shifting into the "slow speed" range, conduct a calibration test, e.g. with gearbox setting figure "50".
- Determine the final gearbox setting figure with the aid of the disc rule (please refer to para. 7.2).

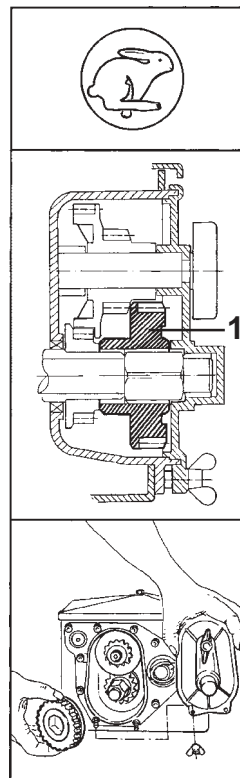


Fig. 7.10

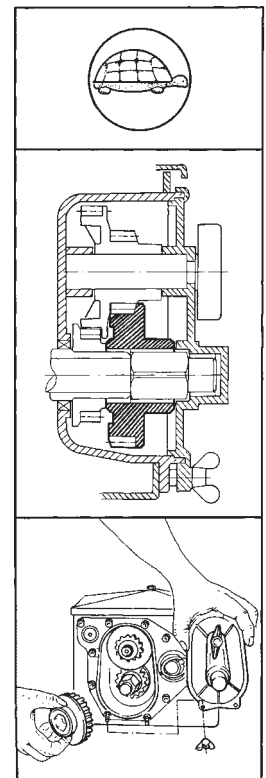


Fig. 7.11



7.6 Setting the depth placement

For each coulter group the **depth placement** can centrally be set by the crank (7.12/1). The setting scale allows the equal setting of all coulter groups. The arrow points to the scale edge.

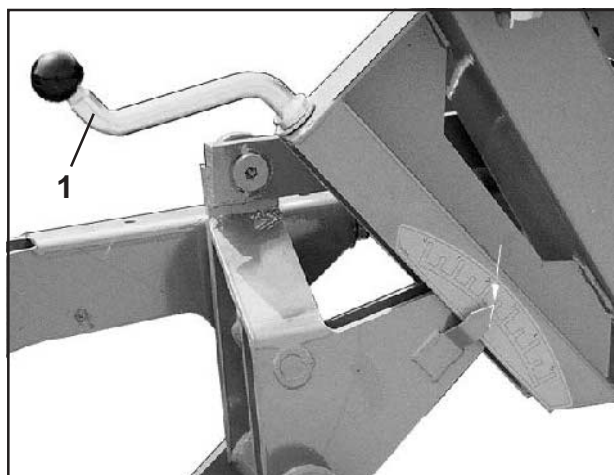


Fig. 7.12

7.7 Setting the tine roller

Besides the depth guidance of the chisel opens the **tine roller** is also adjustable for **coverage of the sowing slits**.

The additional holes (7.13/1) in the tine roller carrying arms allow the conversion of the tine roller into a position in which the tine roller does not work so aggressively. A changed tine roller position might become necessary at mulch sowing or on conventional sowing.

By the factory the tine rollers have been fitted in the illustrated position and are suited for the direct sowing operation.

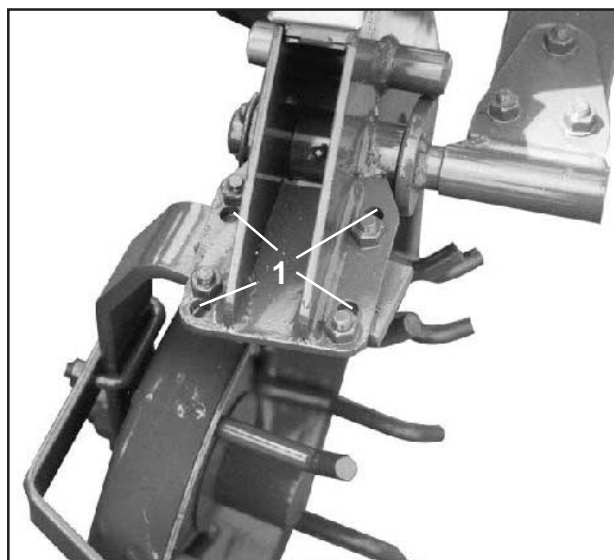


Fig. 7.13

7.12 Setting the track markers

Set the working depth of the track marker tines in such a way that they create a clearly visible trace.

- After slackening the bolts (7.14/2) the working depth of the track marker tines (7.14/1) can be set in relation to the running wheel. Retighten bolts.

The track marker measurement is measured from the machine's centre until the place where the track marker tines touch the soil and corresponds to the working width of the seed drill.

- After slackening the bolts (7.14/3) the marker arm length can be corrected. Thereafter retighten bolts firmly.
- The **folding speed** of the track markers can be steplessly set on the check valve (7.15/1) .



Take care that the track markers do not work too deeply in the soil. When the track markers work too deeply damages may occur on rough, stony soil.



On public roads the track markers have to be locked in transport position..



When folding in and out the track markers advise people to leave the track markers' swivel area!



Secure the upwards folded track marker (7.16/1) in transport position with the linch pin (7.16/2) .



When folding in and out the track markers there are bruizing and squeezing places between track marker and machine frame. Never reach into this area while parts can move there.



Never stay under a raised track marker that is not secured!

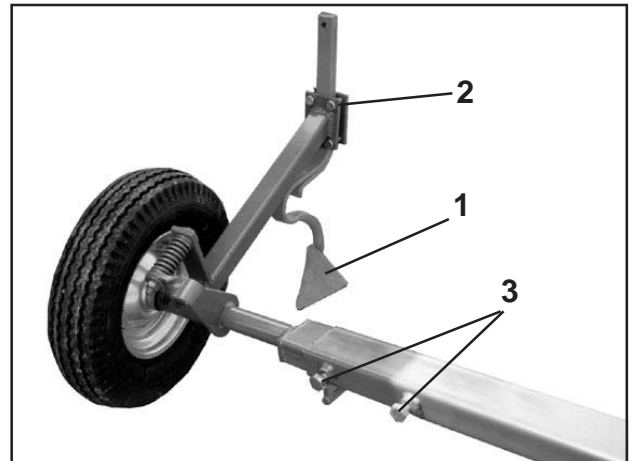


Fig. 7.14

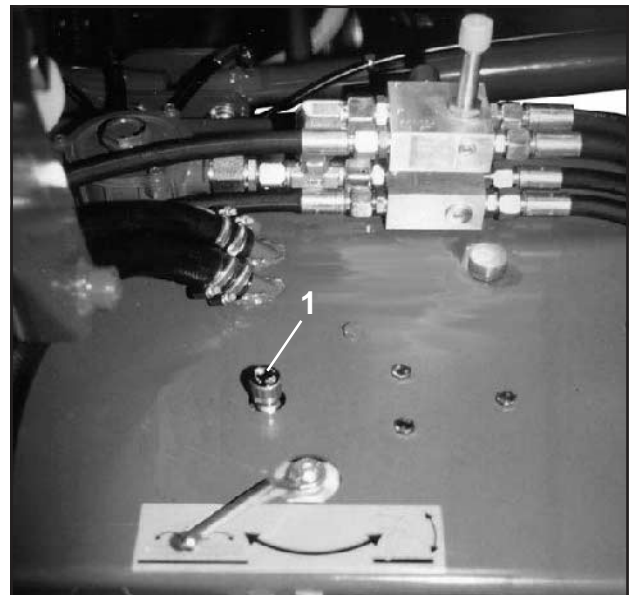


Fig. 7.15

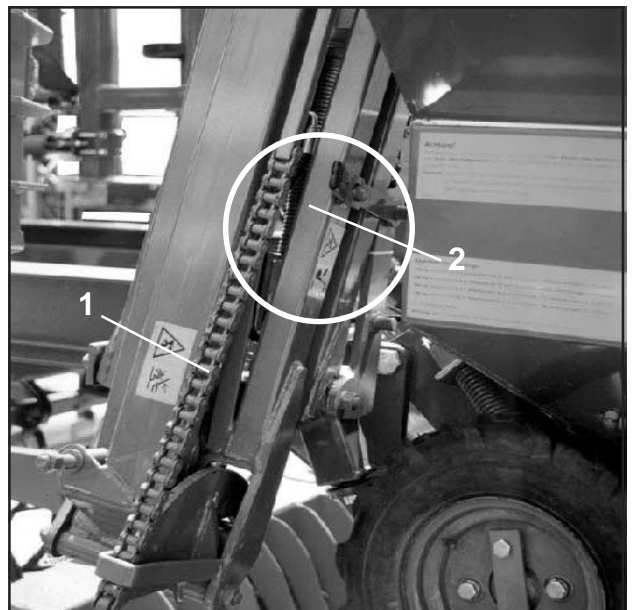


Fig. 7.16



7.9 Settings of the rotor harrow

The **drive** of the rotor harrow can be **switched on and off with the setting wheel (7.17/1)**.

- **Screw in** setting wheel - **switch on** drive.
- **Screw out** setting wheel - **switch off** drive



When operating with dismantled rotor harrow the setting wheel must be screwed out entirely as otherwise an unpermissible oil heating is caused.

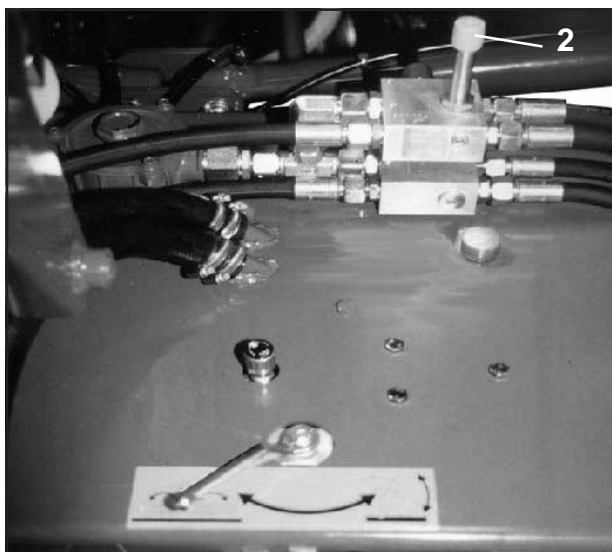


Fig. 7.17

The **working depth** of the rotor harrow can be **steplessly set with the upper link (7.18/1)**.

- **Screw out** upper link - **reduce** working depth.
- **Screw in** upper link - **increase** working depth.

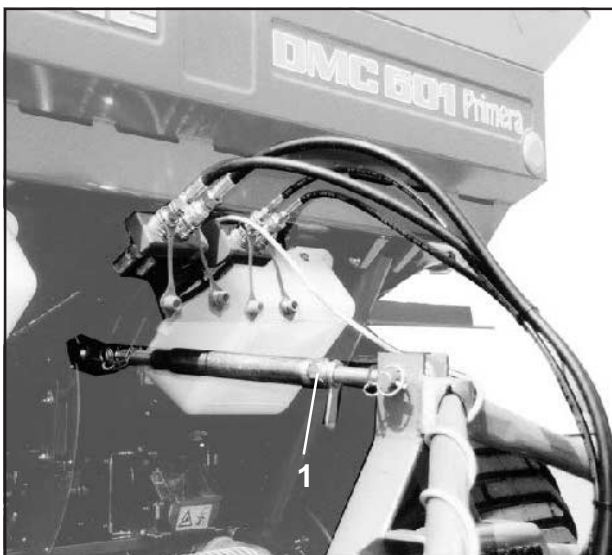


Fig. 7.18

The **working width** of the outer rotor elements can be aligned with the central rotor element by changing the position of the wheel carrying arms (8.19/1) on the quadrant plate (8.19/2).

The spring linkage and the hydraulic drive protect the rotor from overload and damage by stones and obstacles.

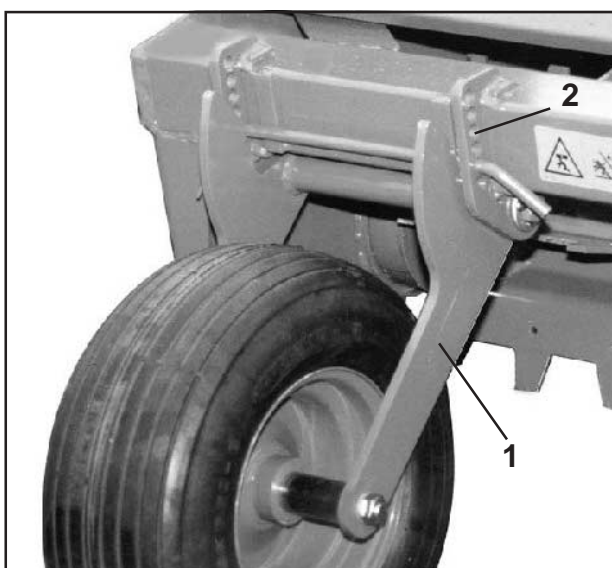


Fig. 8.19

7.10 Setting the extra coverage following harrow

The extra coverage following harrow is set by extending or shortening the upper link on the coulter bed.

The extra coverage following harrow evenly covers the seed sown with soil.

Set the spring tines (7.17/1) of the extra coverage following harrow in the field so that they

- lie horizontally on the soil and
- can still move downwards by about 5 to 8 cm.

The spacing between the soil and the square tube should then measure between 230 and 280 mm.

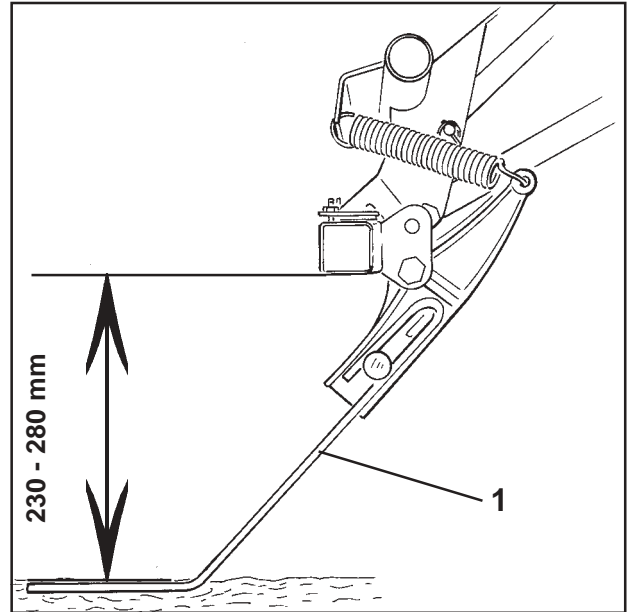


Fig. 7.17

Setting the extra coverage following harrow pressure

- Pull the stop lever (7.18/1) upwards.
- Insert the pin (7.18/1) into a hole below the stop lever and secure with lynch pin.

The higher the pin is inserted into the quadrant plate, the higher the pressure of the extra coverage following harrow will be.

Set the spring pressure so that the tines of the harrow are pressed onto the ground in such a way that the seed coverage has no ridge of soil visible on the field.

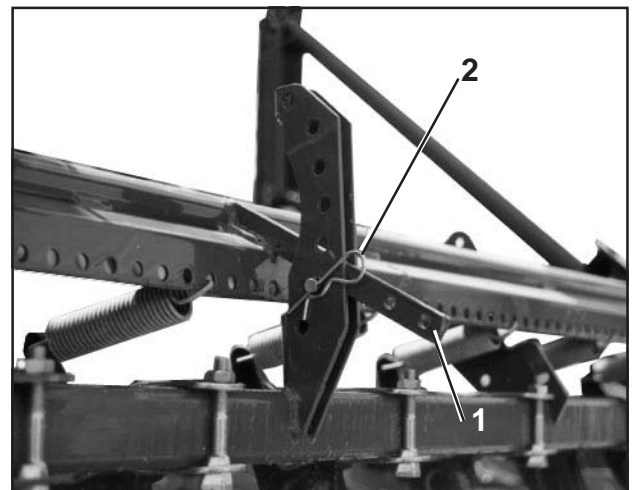


Fig. 7.18



8.0 Transport to the field - transport on public roads and fields

Please adhere to the following hints. They help to prevent accidents in public traffic.



When travelling on public roads and ways during transport to the field the execution of tractor and machine have to correspond to the national road transport and traffic rules.



Both, the vehicle owner and operator are responsible for adhering to the legal traffic rules.



The traffic lights have to correspond to the legal traffic rules.



The vehicle width has to correspond to the legal traffic rules.

- The transport width of 3 m must not be exceeded.
- **Traffic lights and warning plates:**

Required traffic lights and warning plates (Fig. 8.1):

- Complete rear traffic light with rear reflectors and if necessary warning plates, during the night additional front limiting lights.

Required warning plates:

- Front and rear, right and left hand warning plates according to DIN 11 030 or parking warning plates.

The AirstarPrimera is equipped as option with a complete set of parking warning plates, front limiting lights (Fig. 8.2), rear lights, rear reflectors and warning plate carriers (Fig. 8.1 and 8.2), Order-No. 915785 .

Relevant are the national road transport and traffic rules of your country. The machine owner is responsible for the traffic lights and warning plates meeting with the rules.

- Check traffic lights for function before using public roads.



Fig. 8.1



Fig. 8.2

8.1 Converting the implement for road transport

- Bring the track markers (if fitted to the machine) into transport position according to Fig. 8.3, lock and secure with lynch pins.



When folding in and out the coulter wings and marker arms, advise persons to leave the working area of these parts!



When folding in and out the wings and track markers there are bruizing and squeezing places between wings or markers and the machine frame. Never reach into this area while parts can move .



Never stay underneath a raised, unsecured track marker.

- Secure transport safety on the friction wheel.
 - For this, the securing plate (8.4/1) has to be folded downwards.



Fig. 8.3



Fig. 8.4

- Shut off block tap (8.5/1) for hydraulic locking of the coulters bed (Position "Zu" [off]).



During road transport lock the actuating lever for the three-point-coulter bed against unintended lowering.

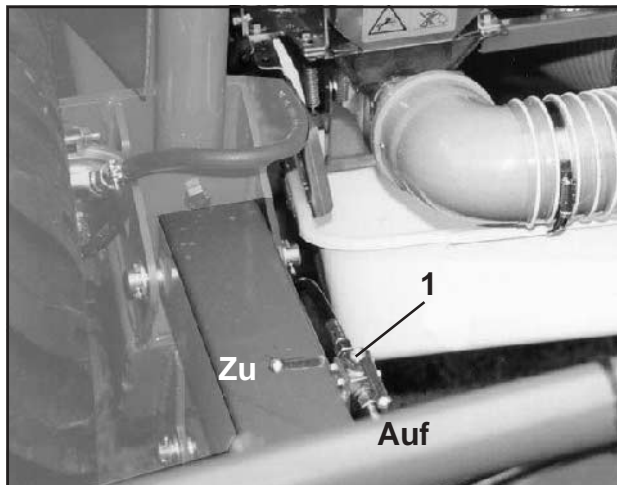


Fig. 8.5

- Set block ball tap (8.6/1) into position as illustrated.
- Fold wings of coulters and spring tine cultivator into transport position.



In case of leaking control valve and/or after longer pauses, e. g. when transporting the machine, leave the block ball tap in this position in order to avoid unintended lowering of the coulters and the spring tine cultivator.

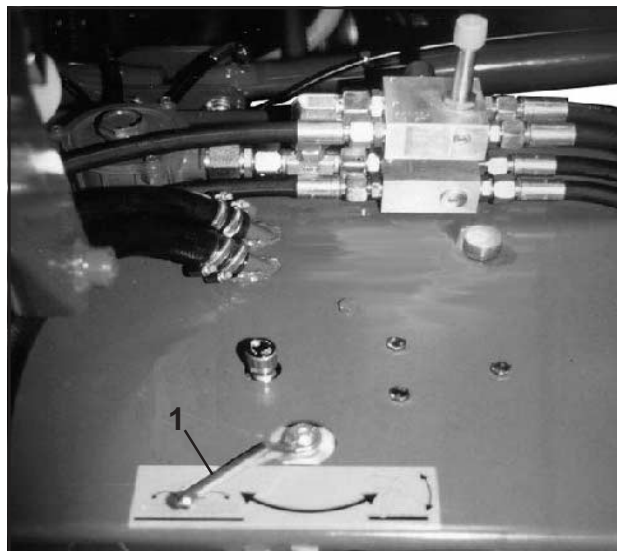


Fig. 8.6

9.0 Setting up the machine in the field

9.1 Setting up the machine before starting operation

- Swivel the block tap (9.1/1) into the illustrated position. (Position 1)
- Actuate the double acting control valve and **fold down the sowing coulter- and rotor harrow wings < 6m >**.

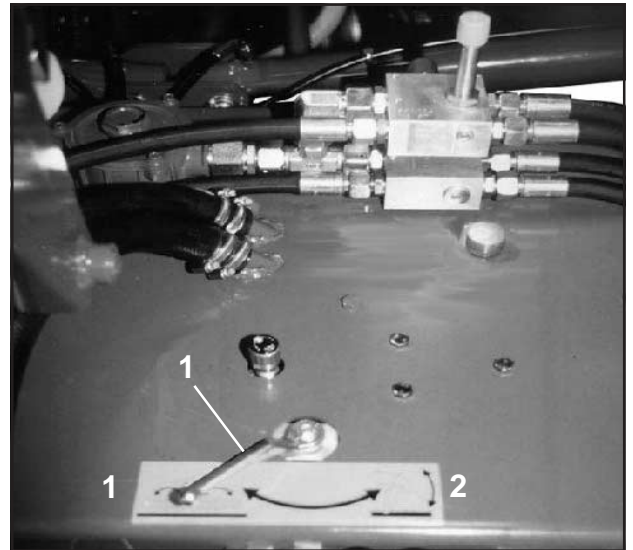


Fig. 9.1

- Open the block tap (9.2/1) of the rotor harrow (Position "Auf").

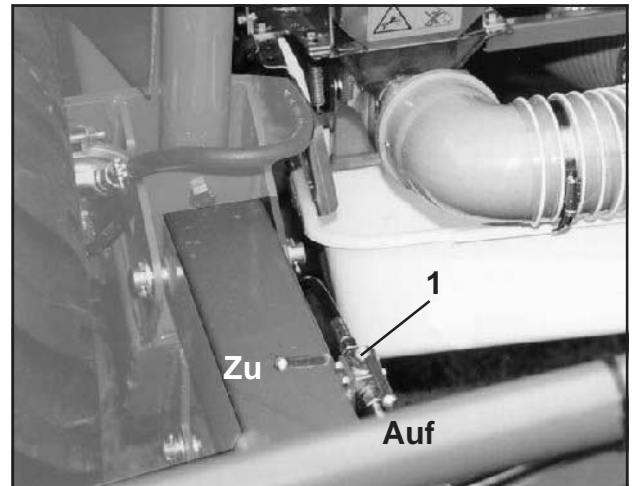


Fig. 9.2

- Swivel block tap (9.1/1) into position 2.
- Set the double acting control valve to "Heben" (lift) for a short time.
- Unlock transport safety catch of the friction wheel.
 - Fold securing plate (9.3/1) upwards.
- Track marker (if fitted to the machine) unlock



Fig. 9.3

from their transport safety.

- Make sure that the block tap(9.1/1) had been swivelled into position 2.
- **Actuate the double acting control valve and lower the sowing coulters, the track markers, the friction wheel and the rotor harrow into working position.**



If the lowered track marker is on the "wrong side", fold in and out track marker. Hereby the track marker position changes.



- Check whether all parts have been lowered into working position.
- Check whether the seed tubes squeeze or hook .
- Check seed tubes for "sagging" .



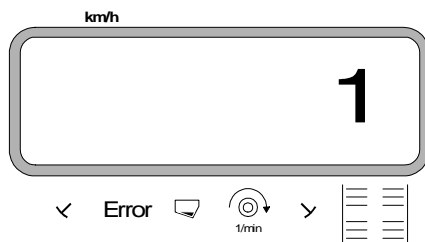
Fig. 9.4

9.2 Programming the AMADOS

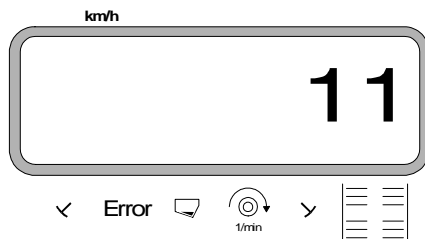
before starting operation



- Press key  (AMADOS switched on).
- Press key  and check, correct, if necessary..

Display mode „1“ for machines with track marker

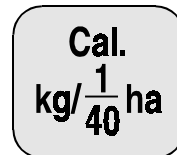
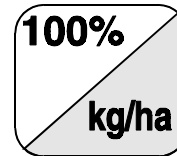
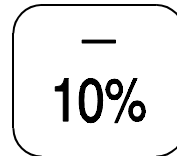
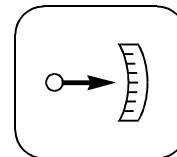
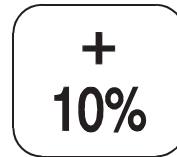


Display **Mode "11"** for machines **without** track markers **and with** track markers **and** special optional equipment: give-way control to obstacles.



-  check and correct, if necessary
-  check and correct, if necessary.

The following keys are not to be used when operating the Airstar Primera in conjunction with AMADOS:





Possible switching rhythm on the AirstarPrimera

A	B	C	D
			START
3,0 m 4,0 m 6,0 m	9 m 12 m 18 m	3	
2,5 m 3,0 m 4,0 m 4,5 m 6,0 m	10 m 12 m 16 m 18 m 24 m	4	
3,0 m 4,0 m 6,0 m	15 m 20 m 30 m	5	
A working width of the seed drill	tramline- spacing	C switching rhythm.B	D Tramline counter, controlled and displayed by the AMADOS

9.3 Creating tramlines with AMADOS

The distance of the tramlines depends on the working width of your seed drill and the working widths of other machines, as e. g.

- centrifugal broadcaster and/or
- field sprayer.

Depending on the working width of these machines it is necessary to be able to create tramlines with different tramline spacings.

For this it is necessary when using the on-board computer AMADOS to program the switching rhythm for creating tramlines (tramline rhythm) before starting operation. For this a certain figure has to be entered for the chosen switching rhythm (depending on the tramline distance).

The tramline counter controls the creation of the tramlines. When creating a tramline the tramline counter shows the figure "0" on the display.

The forward switching of the tramline counter is done on the Airstar Primera

- **with** track marker via the hydraulically actuated track marker folding which is coupled with the sensor for the tramlining control. **AMADOS** receives the necessary information for switching when the track marker changes.
- **without** track marker with track marker and special option "obstacle gives-way" control, as soon as the operational speed sensor (gearbox sensor) does not send impulses any more. This is the case when the seed drill is raised at the headlands, however also when it is stopped in the field.

Example:



Seed drill	6m working width
Fertiliser broadcaster/ field sprayer:	24m working width = 24 m tramline distance

- Unfold boom.
- Lower coulter bed and spring tine cultivator. Automatically one of the two track markers is also lowered

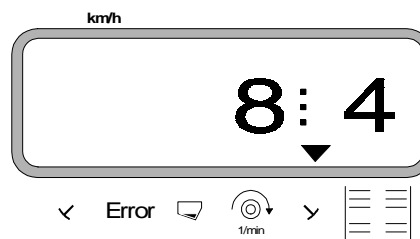





If the lowered track marker is on the "wrong side", raise sowing coulters and lower again. Thus the track marker position changes.

- Look in the left hand side table for "Switching rhythms possible with the AirstarXpress" the line in which the seed drill's working width (**6m**) and the desired tramline distance (**e.g. 24m**) are listed side by side.
- For the switching rhythm read off the figure **"4"**.

- if necessary, press key  (switch on AMADOS).
- On the **AMADOS** press key  and the display shows the actual switching rhythm.

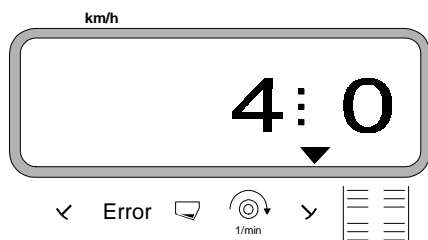
Display of actual switching rhythm




- Via the keys  or  preselect the required switching rhythm **"4"**.
- Press key  and store the value **(4)**. thereafter the following display is shown:



Display showing a new switching rhythm

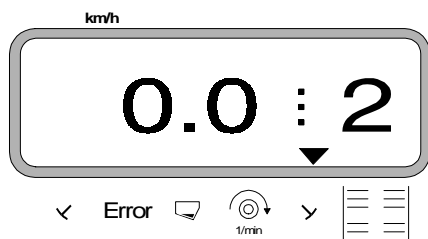


Set tramline counter

For the correct creation of tramlines shift over the tramline counter by pressing key  and thus choose the figure which it indicates under the writing "START" (table page 44) .

For example "0", if the first tramline has to be created directly at the field's side.

Display of the tramline counter when stationary, figure "2" is set:

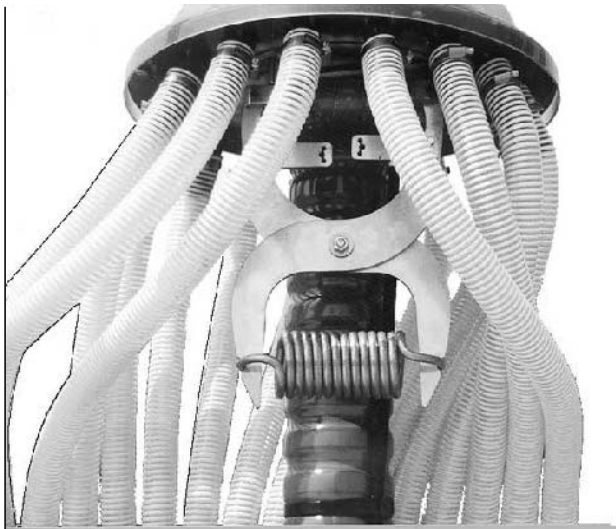


- Check whether the hydraulic switching device for creating tramlines is in the right position on the distributor head.


When creating a tramline (Tramline counter = 0") the **spring** on the switching tong is **released**.

If **no tramline is created** the **spring is tensioned** and the **hydraulic ram** is extended.

Position of the switching tong when creating tramlines (spring is released).



If the switching tong is not in the desired position, actuate track marker until the switching tong position changes.

If necessary, press key  and shift over the tramline counter correspondingly.

9.4 Starting to sow and checking the chosen machine settings

- Bring **pto shaft** slowly to its **operational speed (1000 min⁻¹)** .
- Let tractor engine run without stepping on the gas and wait for 1 minute.
- Check whether the fan is running (and the rotor harrow rotates with hand wheel being turned in) .


If the temperature is below 10° C let the tractor engine run with engaged pto shaft with increased tractor engine speed for approx. 15 min. before starting to operate.





- **Check operational performance of the seed drill and correct, if necessary.**
 - Check placement depth of the seed and correct in segments by the relevant crank, if necessary.
 - Prüfen, ob in jeder Saatreihe Saatgut abgelegt ist.
 - Check whether the seed furrows are sufficiently covered with soil, correct the tine roller setting, if necessary.
 - Check track marker measurement and operation of the track markers.

Repeat checking the performance of your seed drill's operation until a satisfying working result is achieved.



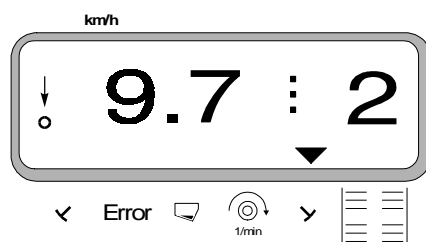
- Press key  and enter nominal speed of the blower fan (**approx. 3200 min⁻¹**) for monitoring the speed. This entering is only then possible when the hydraulic motors are driven by their rated speed (**1000 min⁻¹**) .

- Press   and thus release the start function.

During sowing operation the actual operational speed [k.p.h.] and the actual figure of the tramline counter are displayed.



Display during sowing operation



- **Lift the double acting control valve for lifting sowing coulters and track markers, raise friction wheel and arrest tramlining control in position "floating position".**
- Sow for approx. 30 m with normal operational speed and stop.



10.3 Important hints when the sowing operation in the field is interrupted

Primera equipped

- **with track markers**

AMADOS us operated in mode 1, e. g. the impulse for shifting over the tramline counter and the track marker is received via the sensor on the track marker during folding procedure..

- **without track marker** or

- **with track marker and "obstacle gives-way control"**

AMADOS is operated in mode 11, e. g. the impulse for shifting over the tramline counter and the track marker is received via the sensor on the gearbox at a standstill of the machine of 5 seconds.

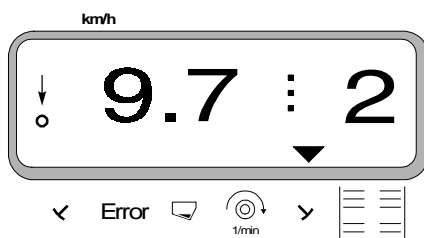
1. Primera equipped **with** track markers

(with special optional equipment **obstacle giving-way control** - see item 2).

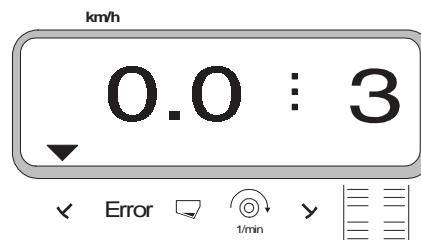
If for any reason the **track markers** are folded in during sowing operation in the field, e. g. when lifting the sowing coulters, it automatically occurs

- **unwanted track marker change over .**
- **unwanted shifting over of the tramline counter.**

Display showing during sowing operation (before having stopped in the field)



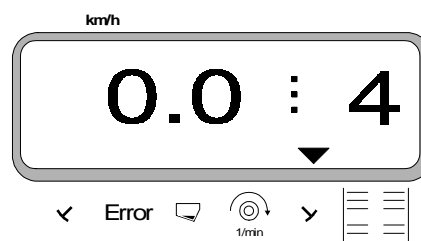
Display showing **while stopped** in the field and after a **one-time** lifting and lowering of the sowing coulters



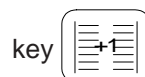
Before continuing sowing operation

- lift and lower the sowing coulters for a second time, so that the lowered track marker is on the "correct" side.

Display shows during stop in the field and **two-times** lifting and lowering the sowing coulters

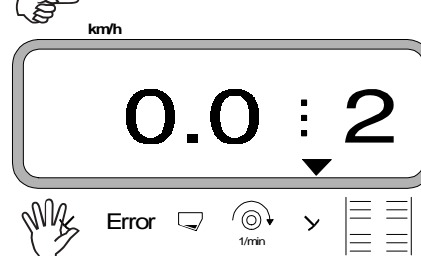


- **set back the tramline counter to that figure which was displayed before the interruption.** For this shift on the counter via



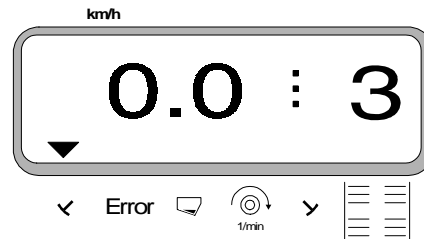
until the tramline counter shows the same figure as it did before stopping in the field (e.g. 2).

Required display **before continuing the sowing operation** (only valid for this procedure sample)



If the switching tong is not in the correct position lift the track marker long enough so that the tramline counter shifts on and brings the switching tong into the correct position.

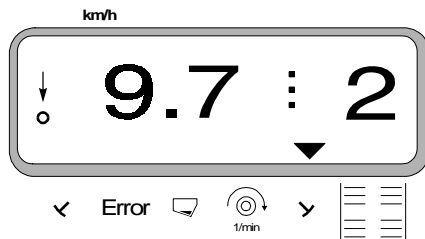
If no tramline is created the spring is tensioned and the hydraulic ram extended.



2. a) Primera without track markers
b) with track marker and "obstacle gives-way control"

If for any reason you have to stop in the field, automatically

- an unwanted shifting over of the tramline counter occurs.



Display shown **when stopped** in the field after approx. 5 seconds:

Before continuing the sowing operation

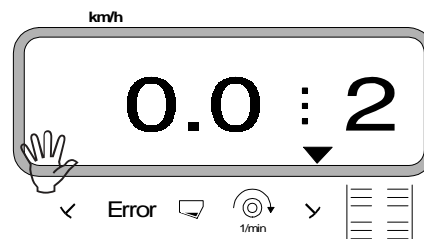
- shift back the tramline counter for one digit. For this

shift on the counter via the key



until the tramline counter shows the same figure which was displayed before stopping in the field (e. g. 2).

Required display before continuing the sowing operation (only valid for this procedure sample)



If the switching tong is not in the correct position lift the sowing coulters long enough so that the tramline counter shifts on and brings the switching tong into the correct position.

If no tramline is created the spring is tensioned and the hydraulic ram is extended.



10.0 After sowing operation

10.1 Emptying the seed box

- Place collecting tray under the outlet openings of the metering units.
- Swivel lever (10.1/1) of the emptying flaps downwards, arrest and thus give way to the outlet.



After emptying swivel both opening flaps upwards and catch the lever in the uppermost position.

If the machine is stored for longer periods:

- empty seed box completely because otherwise danger of germination.
- Open emptying flaps of the metering units so that no mice are caught as they otherwise may nibble at the plastic parts.



After a longer standstill the seed residues cake and lead to forced breakages of the seed metering wheels.

10.2 Cleaning the machine

Clean the machine with a jet of water or with a high pressure cleaner.



In case you blow out the seed box with pressurized air, keep in mind: dressing dust is poisonous. Do not inhale the dust.

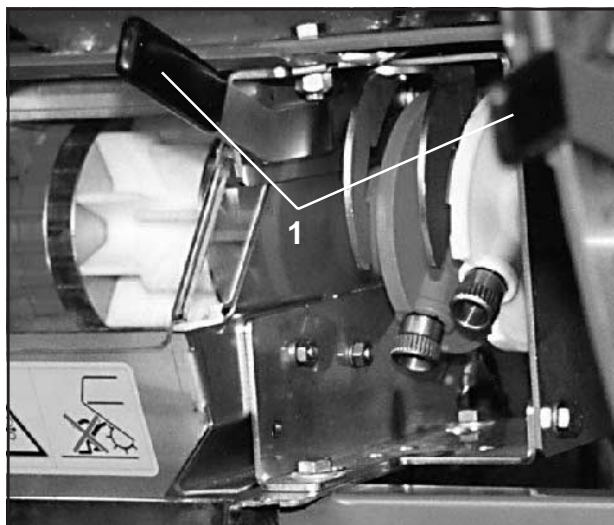


Fig. 10.1

11.0 Maintenance

- Daily:

- Check oil level of the **hydraulic system** and fill in oil if necessary. Use the following kinds of oil: **Hydraulic oil HLP, Wiolan HS 22. Filling quantity: 20 l.**
- Check the wear of **the coulter tips.**
- **Check hydraulic motor** on the blower fan. The bore beneath the bearing has to be free of grease.
- **Check cooling spiral. Remove dirt.**
- Check the **metering system** for residues.
- **Check gearbox setting lever for firm seating.**
- Check easy run of the **friction wheel** .
- **Check tightness of the setting screws** for for the main- and fine seed metering wheels in the different positions.
- **Check wheel nuts for tightness.**
- **Check air pressure of tyres.**
- **Check hydraulic system for leakages.**
- **Check distributor head** (Fig.11.1) regularly and clean - especially when sowing dressed seeds - after every operation.
 - Relieve hydraulic system from pressure.
 - Remove distributor outer hood (11.1/1) for cleaning.
- **Airbrake:** Dehydrate the air tank if necessary.
- **Hydraulic brake:** Check the stroke of the braking ram piston! At full braking readjust approx. 1/3 to 1/2 of the total ram piston stroke, at least when reaching 2/3 of the total stroke readjust wheel brake! Release brake and check whether the piston of the ram returns entirely! Replace damaged bellows!
- **Check brake performance!**

- after every 25 hours of operation:

- Check all **frame bolts for tightness.**
- **Check oil level in the two-range gearbox** at the oil level gauge and fill with oil if necessary. **An oil change is not necessary.** For adding oil, unscrew the lid of the gearbox. **Filling quantity: 1.8 litres.**

Use the following kinds of oil:

hydraulic oil WTL 16,5 CST/50°C or

motor oil SAE 10 W

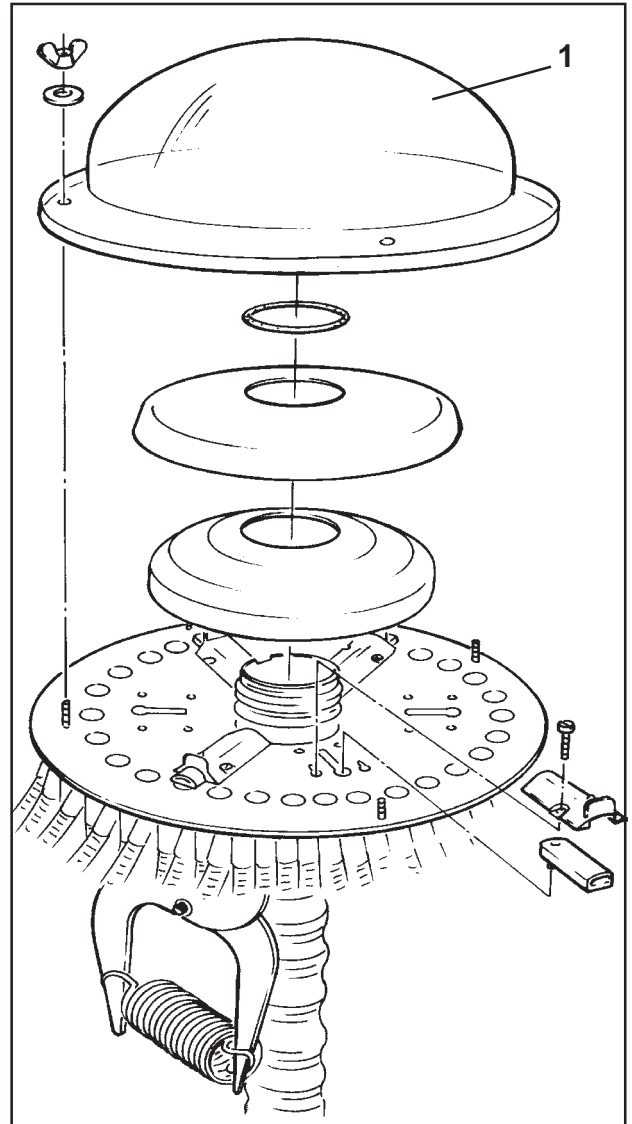


Fig. 11.2



- Check brake system:

- Check and clean the inserts of the tube filters.
- Check the braking circuit for leaks. The pointer of the pressure meter should stay unchanged for 3 minutes after stopping the tractor engine at an air tank pressure of 5.3 bar. In case of any loss of air pressure within the above mentioned time limit, remedy should be made by a licenced workshop.
- Check brake hoses for faultless condition. If necessary exchange damaged brake hoses.
- Never weld or solder on control units and pipes. Exchange damaged parts.
- Greasing! For greasing only use grey-special grease for air assisted implements. When greasing apply grease to the pin of the yoke head of the piston ram.

- after every season:

- apply grease to all **grease nipples** (keep clean sealings).

You will find grease nipples at the:

- track marker (3x),
- packer roller (each 2),
- lifting ram harrow,
- folding ram harrow,
- folding ram coulter frame,
- bearing boom.

- Check tightness of all frame bolts.

- **Apply oil to roller chains** (remove chain guard to do this, then refix after having finished this work).

- If necessary:

- **Readjust roll disc coulter scrapers.** In order to clean the roll disc coulters from sticking soil, every roll disc coulter is equipped with two scrapers (11.2/1) .

These scrapers undergo a certain wear and have to be reset if required.

Set scrapers in such a way that they touch slightly on the outer edge of the roll disc without braking the disc too much. Slacken bolts (11.2/2) before setting and retighten afterwards.

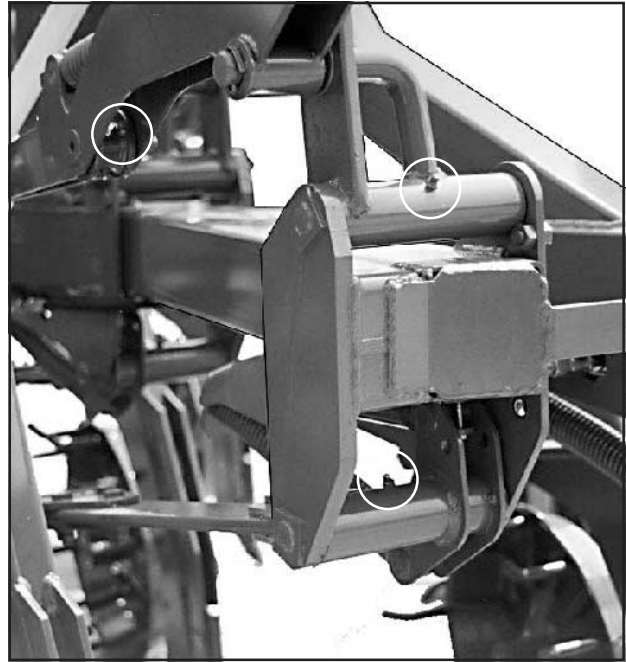


Fig. 11.2

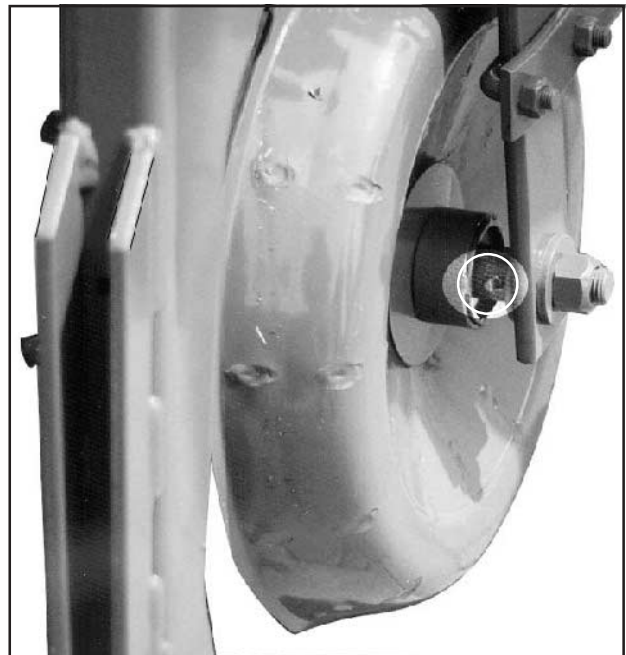


Fig. 11.3

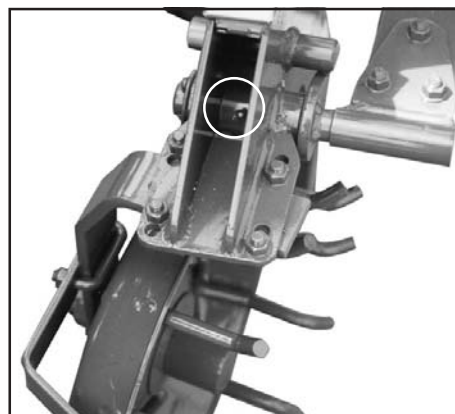


Fig. 11.4





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