

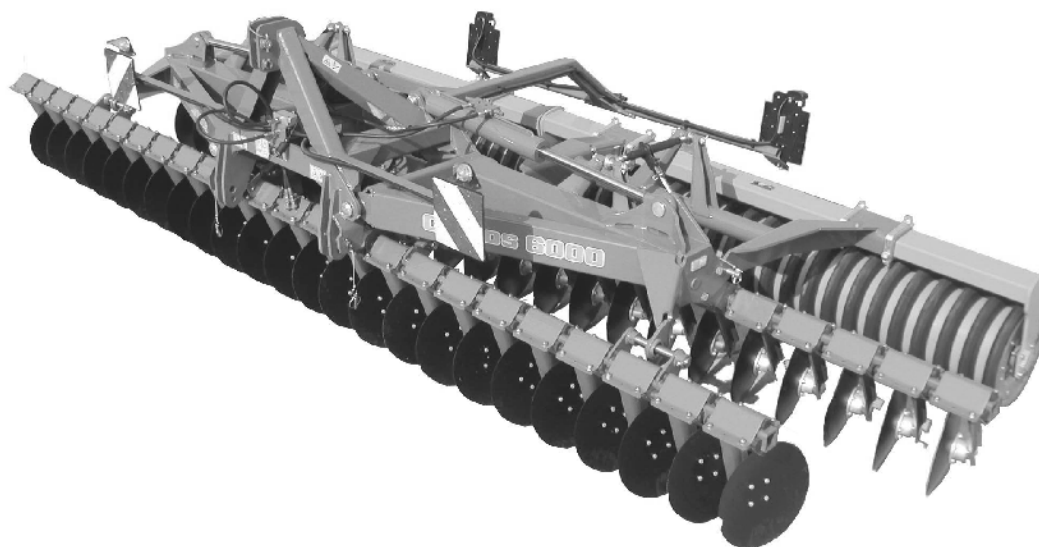
AMAZONE BBG

Instruction Manual

Mounted Disc

CATROS 3001, 4001

CATROS 4001-2, 5001-2, 6001-2



MG 1002
KGB 329.1 (GB) 05.06
Printed in Germany



Before starting work,
please carefully read
and adhere to this op-
eration manual and
safety advice!



Reading the instruction

manual and to adhere to it should not appear to be inconvenient and superfluous as it is not enough to hear from others and to realise that a machine is good, to buy it and to believe that now everything would work by itself. The person concerned would not only harm himself but also make the mistake of blaming the machine for the reason of a possible failure instead of himself. In order to ensure a good success one should go into the mind of a thing or make himself familiar with every part of the machine and to get acquainted with its handling. Only this way, you would be satisfied both with the machine as also with yourself. To achieve this is the purpose of this instruction manual.

Leipzig-Plagwitz 1872. Rud. Sark.

Copyright © 2006

AMAZONEN-WERKE
H. DREYER GmbH & Co. KG
D-49202 Hasbergen-Gaste
Germany
All rights reserved



Contents	page
1. Details about the machine.....	6
1.1 Range of application	6
1.2 Manufacturer	6
1.3 Conformity declaration	6
1.4 On requesting after sales service and parts	6
1.5 Type plate	6
1.6 Technical data.....	7
1.6.1 Requirements on the tractor's hydraulic system	7
1.7 Designated use of the machine	7
2. Safety.....	8
2.1 Danger when not adhering to the safety advice	8
2.2 Qualification of operator.....	8
2.3 Identification of advice in this instruction manual	8
2.3.1 General danger symbol	8
2.3.2 Attention Symbol	8
2.3.3 Hint symbol.....	8
2.4 "Warning" pictographs and "hint" symbols on the machine.....	9
2.5 Safety conscious operation.....	13
2.6 General safety and accident prevention advice.....	13
2.6.1 Tractor mounted / trailed implements.....	13
2.7 Safety advice hydraulic system	14
2.8 General safety and accident prevention advice for maintenance, repair and cleaning.....	14
2.9 Transport on public roads	15
2.10 Combination of tractor and mounted implement.....	16
2.10.1 Determination of the total weight, the axle loads and the load capacity of the tyres as well as of the minimum ballast	16
3. Description of product.....	18
3.1 Discs	18
3.2 Roller.....	19
3.3 Harrow (Option)	19
3.4 Additional weights (Option).....	19
3.5 Hydraulic connections.....	20
3.6 Area of danger	21
4. On receipt of the machine	22
5. Mounting and dismounting	22
5.1 Mounting to the tractor	22
5.2 Dismounting	23
6. On the route to the field – Transport on public roads and ways	24
6.1 Transport and operational position	25
7. Settings	27
7.1 Working depth.....	27
7.1.1 Staggering of the disc gangs.....	28
7.1.2 Setting the scraper on the wedge ring roller	29



8.	Operation	30
8.1	Driving at the headlands	30
9.	Cleaning, maintenance and repair	31
9.1	Lubricant review.....	32
9.2	Hydraulic hoses	33
9.2.1	Exchange intervals	33
9.2.2	Marking.....	33
9.2.3	Please observe when fitting and removing	33
9.3	Cleaning the machine.....	33
9.4	Hydraulic table	34

1. Details about the machine

1.1 Range of application

The mounted disc harrow CATROS is designed for the usual soil tillage operation in combination with an **Amazone-BBG** roller.

1.2 Manufacturer

BBG Bodenbearbeitungsgeräte Leipzig GmbH & Co.KG

A company of the **AMAZONEN**-Group

Weidenweg 19

04249 Leipzig / Germany

1.3 Conformity declaration

The implement combination fulfils the requirements of the EC-guide line Machine 98/37/EC.

1.4 On requesting after sales service and parts

When ordering options or spare parts, the machine model and the serial number have to be quoted.



The safety requirements will only be fulfilled if in case of repair original AMAZONE-BBG-spare parts will be used. No liability will be accepted by AMAZONE-BBG for consequential losses or resulting damage if other than AMAZONE-BBG spare parts will be used.

1.5 Type plate

Type plate on the machine



The type plate is of documentary value and may not be changed or disguised.



Fig. 1

Type

Mach. No. _____

1.6 Technical data

Disc harrow		Catros 3001	Catros 4001	Catros 4001-2	Catros 5001-2	Catros 6001-2
Execution		starr	starr	klappbar	klappbar	klappbar
Basic Weight	[kg]	1620	2000	2550	2950	3300
Permissible total weight	[kg]	1970	2350	3250	3650	4000
Transport width	[mm]	3000	4000	2950	2950	2950
Total height	[mm]	1700	1700	2500	3000	3500
Total length	[mm]	2450	2450	2650	2650	2650
Working width	[mm]	3000	4000	4000	5000	6000
Tractor power requirement	[kW]	70	90	90	110	130
Disc spacing	[mm]	250	250	250	250	250
Disc diameter	[mm]	460	460	460	460	460
Setting the disc staggering		mechanic	mechanic	mechanic	mechanic	mechanic
Working depth	[mm]	30 - 120	30 - 120	30 - 120	30 - 120	30 - 120
Tractor power requirement		cat. II and III	cat. II and III	cat. II and III	cat. II and III	cat. II and III
Linkage	[mm]	1200	1200	1200	1200	1200

1.6.1 Requirements on the tractor's hydraulic system

Required for connecting the mounted disc harrow with to the tractor's hydraulic system:

- For the foldable execution: one double acting spool valve is required

The permissible pressure of the tractor hydraulic must not exceed.

1.7 Designated use of the machine

The designated use of the BBG **Catros 3000, 4000, 5000 6000** is for exclusive operation in agriculture for shallow oil tillage only.

. Any use beyond the one stipulated above is no longer considered as designated use. The manufacturer does not accept any responsibility for damage resulting from non-compliance and therefore the operator himself carries the full risk.

Under "designated use" also the manufacturer's prescribed operation, maintenance and repair conditions must be adhered to as well as the exclusive use of **original BBG spare parts**.



Any damage resulting from arbitrary changes on the machine rule out the responsibility of the manufacturer!

2. Safety

This instruction manual contains basic advice, which has to be observed when mounting, operating and maintaining the machine. Thus, this instruction manual has implicitly to be read by the operator before starting to operate and this book must be made available to him.

All safety advice in this instruction manual must be strictly observed and adhered to.

2.1 Danger when not adhering to the safety advice

Not adhering to the safety advice

- may result in endangering persons, also the environment and also the machine itself.
- may result in the rejection of any claim for damage.

Not paying attention to the safety advice may cause the following risks:

- Danger to persons not excluded from operational areas.
- Failure of important functions within the machine.
- Failure of carrying out prescribed measures of maintenance and repair.
- Danger to persons through physical or chemical contact.
- Danger to persons, or the environment by leaking hydraulic oil.

2.2 Qualification of operator

The implement may only be operated, maintained and repaired by persons, who are acquainted with it and have been informed of the relevant dangers.

2.3 Identification of advice in this instruction manual

2.3.1 General danger symbol



The safety advice in this operators manual, which may lead to a danger to persons if not being observed, are identified with the general danger symbol (Danger symbol according to DIN 4844-W9).

2.3.2 Attention Symbol



The safety advice in this operation manual which may cause danger for the machine and its function when not being adhered to, are identified with the attention symbol.

2.3.3 Hint symbol

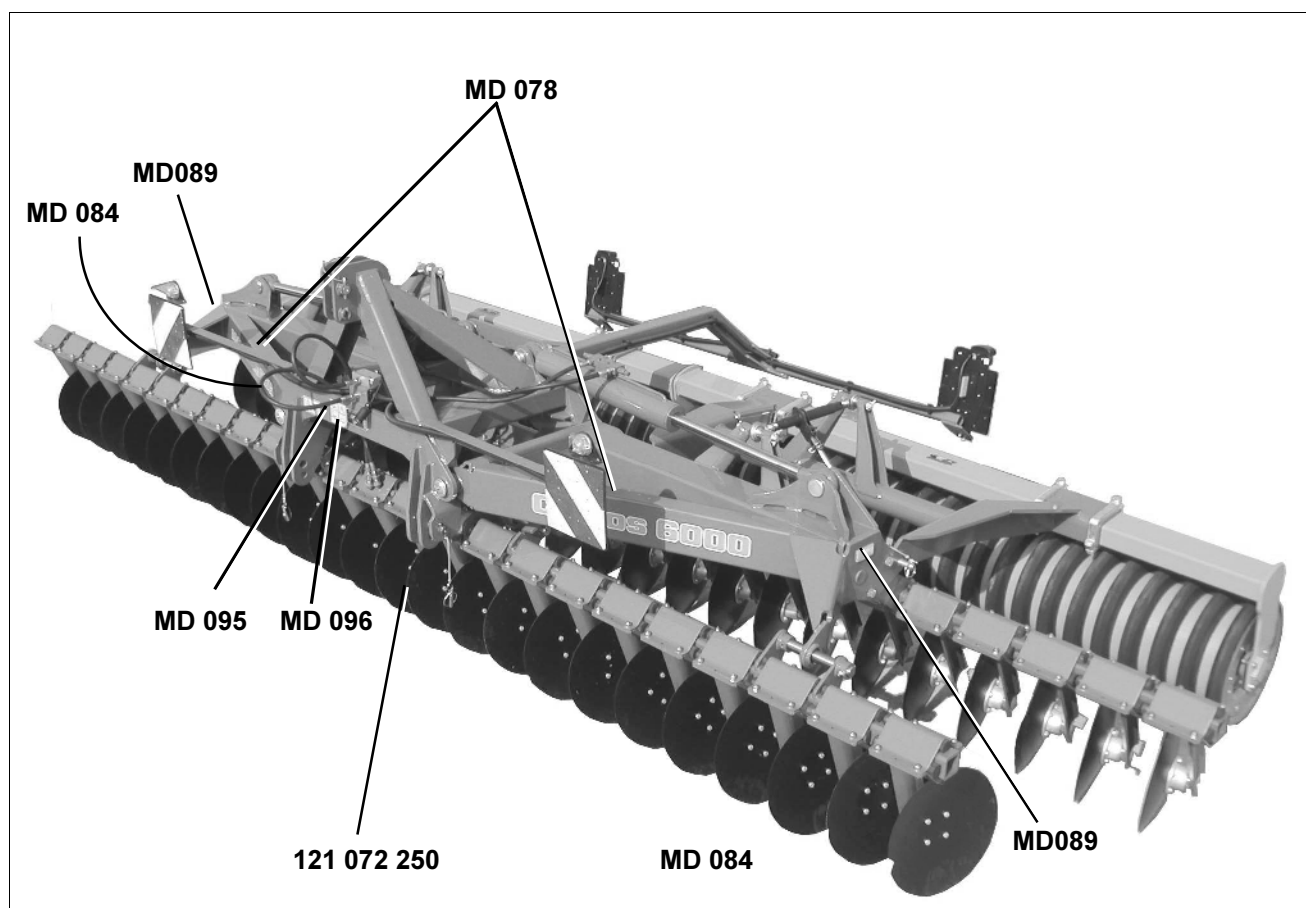
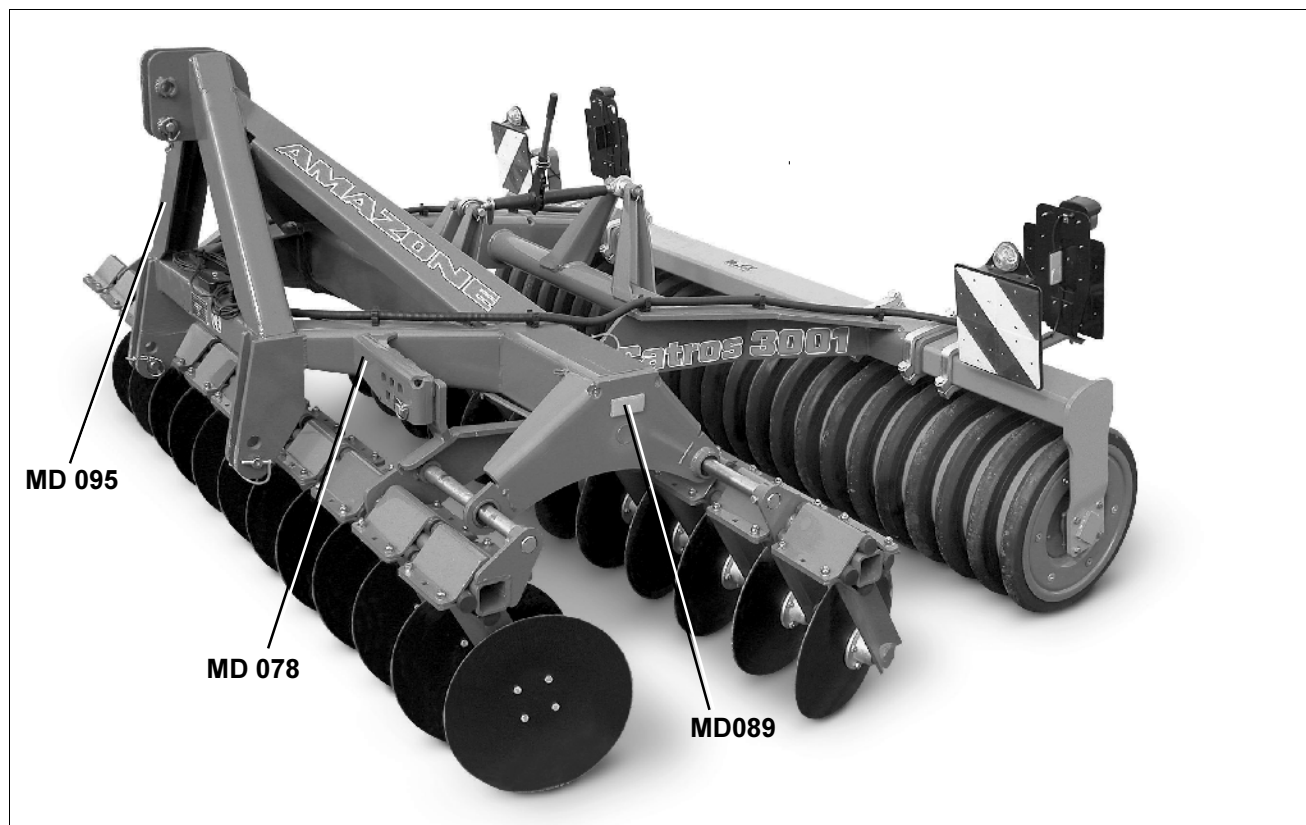


This symbol marks machine's specific points that should be observed to ensure the correct function of the machine.



2.4 "Warning" pictographs and "hint" symbols on the machine

- The warning pictographs indicate dangerous points on the machine. Observing these pictographs means safety to all persons using this machine. The warning pictographs are always used together with the operational safety symbols.
- The hint symbols mark machine's specific points which have to be observed to ensure correct function of the machine.
- Strictly adhere to all warning pictographs and hint symbols.
- Please pass on all safety advice also to other users.
- Please keep all warning pictographs and hint symbols clean and in an easily readable condition. Please ask for replacement of damaged or missing decals for warning pictographs and hint signs from your dealer and attach to relevant place. (Picture No. = Order No.)
- The figure illustrates the machine's fixing points for the warning pictographs and hint signs. Please refer to the following pages for relevant explanations.



Picture No.: **MD 095**

Explanation:

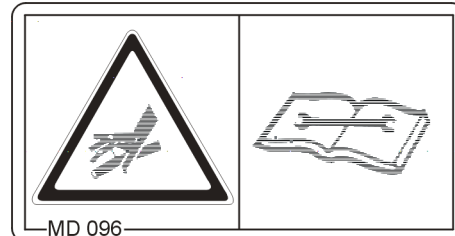
Before commencing operation read thoroughly operators manual and safety advice!



Picture No.: **MD 096**

Explanation:

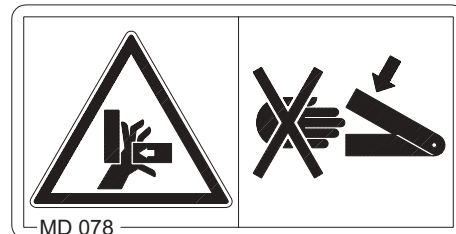
Caution in case of leaking high pressure liquid. Observe advice in the technical manual!



Picture No.: **MD 078**

Explanation:

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



Picture No.: **MD 084**

Explanation:

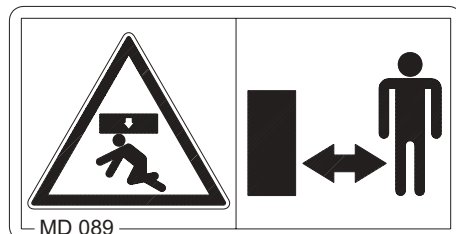
Do not stand near swivelling parts of the machine!



Picture No.: **MD 089**

Explanation:

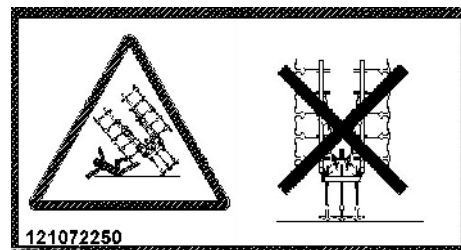
Do not stand underneath a lifted implement (unsecured load).



Picture No.: **121 072 250**

Explanation:

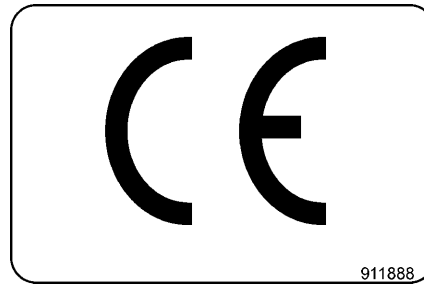
Never park in the transport position!



Picture No.: **911 888**

Explanation:

The CE sign indicates that the implement fulfils the requirements of the EX guide line Machine , 98/37/EC and the corresponding additional guide lines.



2.5 Safety conscious operation

Besides the safety advice in this instruction manual additionally, the national, and generally valid operation safety and accident prevention advice of the authorised trade association are binding, especially VSG 3.1.

Adhere to the safety advice on the decals on the machine.

When travelling on public roads observe the traffic regulations in force in your country.

2.6 General safety and accident prevention advice

Basic principle:

Always check traffic and operational safety before putting the machine to operation.

1. Adhere to the general rules of health- and safety precautions besides the advice in this instruction manual.
2. Always check traffic and operational safety before putting the machine to operation.
3. The responsible manager is bound to familiarise the operator with the implement and to make available the instruction manual to him.
4. The fitted warning- and advising decals give important hints for a safe operation; adhering to them protects your own safety.
5. When making use of public roads adhere to applicable traffic rules.
6. Become acquainted with the machines controls and functions before beginning the operation. Doing this during operation would be too late.
7. The operator should wear close-fitting clothes. Avoid wearing loose-fitting clothes.
8. Avoid danger of fire by keeping the machine clean.
9. Before beginning to move, check surrounding area (children etc.). Ensure sufficient visibility.
10. Carrying passengers whilst driving or operating the machine is not permitted.
11. Always attach weights correctly to the mounting points provided.
12. Observe the permissible axle loads, total weights and transport dimensions.
13. Ensure that the outer transport dimensions correspond to your national traffic law.
14. Check and install any transport equipment such as lighting, warning devices and any safety advice.
15. Release cables for quick hitches should hang freely and must not work loose from their housings.
16. Do not leave the driving position at any time whilst driving!
17. Standing in the operating area is prohibited.
18. Do not stand near rotating and swivelling parts of the machine.
19. Hydraulic folding frames must only be activated after making sure no-one is standing near the machine.
20. Squeeze and shear points are found on externally activated components (e.g. hydraulics).
21. Allow nobody to stand between tractor and implement if the tractor is not secured against rolling away by the parking brake and/or by the chocks.
22. Lock booms in transport position!

2.6.1 Tractor mounted / trailed implements

1. Attach implements as advised and only to the attachment points provided.
2. Special care should be taken when the implement is coupled to or off the tractor.
3. When attaching or removing the machine bring the supporting devices into the corresponding position (standing safety).
4. When fitting to the three point linkage the mounting categories at the tractor and the implement must implicitly coincide.
5. Use the pulling bar to mount the implement to the tractor's three point hydraulics.
6. Driving, steering and braking abilities are influenced by mounted or suspended equipment and ballast weights. Therefore, check sufficient steerage and braking.
7. 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.
8. When driving around bends note the width of the machine and/or the changing centre of gravity of the implement.
9. Start operating implements only when all guards have been fitted in guarding position.
10. Before leaving the tractor seat lower the machine to the ground. Actuate the parking brake, stop the engine and remove ignition key!

2.7 Safety advice 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 on the tractor as well as on the implement 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 (lifting instead of lowering or vice versa) and reduces the danger of accident.
5. All hydraulic hoses must be checked for their operational safety by a skilled person before the first operation of the machine and then at least once a year.
6. Check hydraulic hoses in regular intervals. In case of damage or ageing replace the hydraulic hoses. The replacement hoses must correspond to the technical demands of the implement manufacturer.
7. 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.
8. Before starting repair work to the hydraulic system relieve it from pressure, lower the machine to the ground and stop tractor engine.
9. When searching for leaks appropriate aids should be used because of the danger of injury.
10. Liquids leaking under high pressure (hydraulic oil) can penetrate the skin and cause severe injury. When injured see a doctor immediately. Danger of infection!



In case of injury immediately go to see a doctor. Danger of infection!

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



Climbing on the implement for maintenance, cleaning or other reasons with or without aids is prohibited. Danger of accident!

1. Standing underneath the lifted, unsecured implement is prohibited. During the swivelling procedure of the disc gangs keep away from the operational range (except for the driver) of the implement.
2. Repair-, maintenance- and cleaning operations as well as the remedy of function faults should principally be conducted with drive and engine stopped and disconnected hydraulic hoses. Remove ignition key.
3. When cleaning and repairing the implement wear a safety helmet.
4. Regularly check nuts and bolts for tightness. Retighten if necessary.
5. Tighten all fixing bolts and nuts according to the prescription of the manufacturer.
6. Disconnect cable to the tractor and battery when carrying out electric welding work on the tractor and the mounted units.
7. Exchange wheels (running gear) only with the implement in operational position.
8. When replacing work tools with cutting edges use a suitable implement and wear gloves.
9. Any spare parts fitted must, as a minimum meet with the implement manufacturers' fixed technical standards. Using original **-BBG-spare parts**, for example, ensures this.
10. After repair paint work replace the warning hints!

2.9 Transport on public roads



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

1. When travelling with lifted implement ensure that the control is locked to avoid unintended lowering.
2. In the transport position of the implement ensure that the tractor three point linkage is locked against movement to the sides.
3. Danger of injury from protruding discs in transport position.
4. During transport the valve on the draw bar must be set to the "end position" and the swivelling hydraulic must not be actuated.
5. The release ropes for quick coupler should hang freely and in the lowered position must not release by themselves.
6. The transport width must not exceed 3 m.
7. For implements with a transport width of more than 3.0 m apply for an authorisation if necessary.
8. Tractor and implements have to correspond to the national road transport and traffic rules.
9. Attach traffic lights, warning plated and guards and check for proper function.
10. If the prescribed traffic lights of the tractor are hidden by the implement they will have to be repeated on the implement. As always the latest edition of the national traffic regulations is valid, please verify them at your local traffic office. Both the vehicle owner and the operator are responsible for the proper functioning of the traffic lights.
11. Check traffic lights for function.
12. Apply warning plated according to DIN 11030 or parking warning plates at the front and the rear on the right and left hand side.
13. The distance between warning plate upper edge and ground must not exceed 1.50 m. The warning plates should be fixed with a max. distance towards the outer edge of the implement of 10 cm.
14. When driving on slopes (with the machine in transport position) the inclination must not exceed 20 %. When operating the implement on slopes the max. possible slope inclination corresponds to that possible for the tractor. Do not fold the roller frame on slopes.
15. Backing up in transport position is only allowed when a person is available who will direct the driver. Please adhere to your national traffic laws.

2.10 Combination of tractor and mounted implement



When mounting implements to the front- or rear three point linkage the permissible total weight, the permissible axle loads and the load capacity of the tyres must not be exceeded. The sufficient front axle load (20 % of the tractor net weight) has to be observed.



Before purchasing the implement ensure that these pre-conditions are fulfilled by weighing the tractor-implement combination or by making the following calculations.

2.10.1 Determination of the total weight, the axle loads and the load capacity of the tyres as well as of the minimum ballast

For the calculation you need the following data:

T_L [kg]: Net weight of the tractor ❶

T_V [kg]: Front axle load of the empty tractor ❶

T_H [kg]: Rear axle load of the empty tractor ❶

G_H [kg]: Total weight rear mounted implement / rear ballast ❷

G_V [kg]: Total weight front mounted implement / front ballast ❷

a [m]: Spacing between point of gravity front mounted implement / front ballast and centre of front axle ❷❸

b [m]: Wheel base of tractor ❶❸

c [m]: Spacing between centre of rear axle and centre of lower link ball ❶❸

d [m]: Spacing between centre lower link ball and point of gravity rear mounted implement/rear ballast ❹

- ❶ Please refer to the instruction manual for the tractor.
- ❷ Please refer to price list
- ❸ Measure
- ❹ Please refer to technical data.

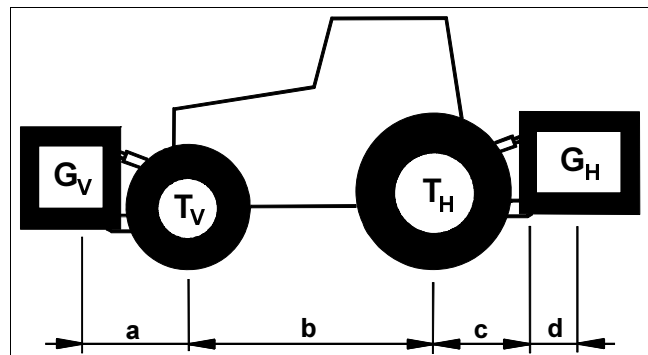


Fig. 2

Rear mounted implement or front –rear mount combinations:

1) Calculation of the minimum ballast front $G_{V \min}$:

$$G_{V \min} = \frac{G_H \cdot (c + d) - T_V \cdot b + 0,2 \cdot T_L \cdot b}{a + b}$$

Enter into the table the minimum ballast required for the tractor front.

2) Calculation of the actual front axle load $T_{V \text{ tat}}$:

(If the necessary minimum ballast front ($G_{V \min}$) is not achieved with the front mounted implement (G_V), increase the weight of the front mounted implement up to the weight of the minimum ballast front.)

$$T_{V \text{ tat}} = \frac{G_V \cdot (a + b) + T_V \cdot b - G_H \cdot (c + d)}{b}$$

Enter into the table the calculated actual front axle load and the permissible axle load indicated in the instruction manual of the tractor.

3) Calculation of the actual total weight G_{tat}

(If the minimum rear ballast ($G_{H \min}$) is not achieved with the rear mounted implement (G_H), increase the weight of the rear mounted implement up to the minimum ballast.)

$$G_{\text{tat}} = G_V + T_L + G_H$$

Enter into the table the calculated actual total weight and the total weight indicated in the instruction manual of the tractor.

4) Calculation of the actual rear axle load $T_{H \text{ tat}}$

$$T_{H \text{ tat}} = G_{\text{tat}} - T_{V \text{ tat}}$$

Enter into the table the calculated actual rear axle load and the rear axle load indicated in the instruction manual of the tractor.

5) Tyre load capacity

Enter into the table double the value (two tyres) of the permissible tyre load capacity (please refer e.g. to the files of the tyre manufacturer).

TABLE	Actual value according to calculation	Permissible value according to instruction manual	Double permissible tyre load capacity (two tyres)
Minimum ballast Front / rear	<div style="border: 1px solid black; width: 150px; height: 40px; display: flex; align-items: center; justify-content: center;">/</div> kg	---	---
Total weight	<div style="border: 1px solid black; width: 150px; height: 40px; display: flex; align-items: center; justify-content: center;"></div> kg	<div style="border: 1px solid black; width: 150px; height: 40px; display: flex; align-items: center; justify-content: center;"></div> kg	---
Front axle load	<div style="border: 1px solid black; width: 150px; height: 40px; display: flex; align-items: center; justify-content: center;"></div> kg	<div style="border: 1px solid black; width: 150px; height: 40px; display: flex; align-items: center; justify-content: center;"></div> kg	<div style="border: 1px solid black; width: 150px; height: 40px; display: flex; align-items: center; justify-content: center;"></div> kg
Rear axle load	<div style="border: 1px solid black; width: 150px; height: 40px; display: flex; align-items: center; justify-content: center;"></div> kg	<div style="border: 1px solid black; width: 150px; height: 40px; display: flex; align-items: center; justify-content: center;"></div> kg	<div style="border: 1px solid black; width: 150px; height: 40px; display: flex; align-items: center; justify-content: center;"></div> kg

The minimum ballast must be attached to the tractor by means of a mounted implement or a ballast weight!

The calculated values should be smaller than / equal (\leq) the permissible values.

3. Description of product

The mounted disc harrow **Catros** has been designed for the shallow, intensively mixing tillage on medium and heavy soils.

Der **Catros 3001** (Fig. 3) and **4001** with a working width of 3 or 4m are available in rigid version.

Catros 4001-2, 5001-2 and 6001-2 (Fig. 4) with working widths of 4, 5 or 6m are equipped with a foldable frame.

For the folding procedure one double acting spool valve is required on the tractor.

For the correct road transport the folded machine requires securing by closing the ball tap on the hydraulic hose line.

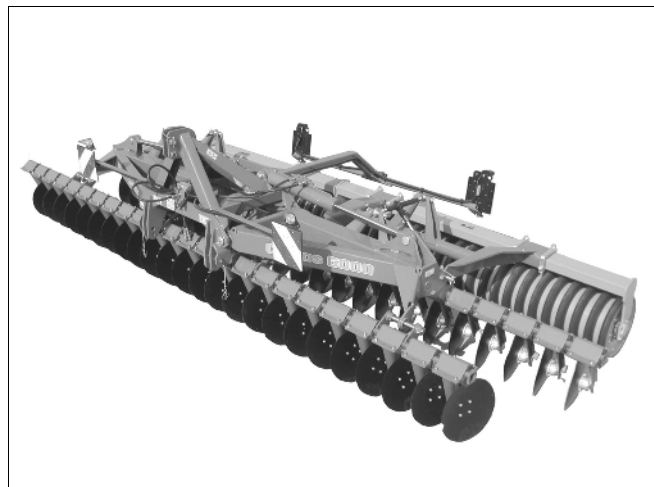


Fig. 3

3.1 Discs

Staggered arrangement of the blockage free concave discs (Fig. 3/1) with a cutting angle of 17° front and 14° rear seen in driving direction.

After having passed an obstacle the rubber sprung mountings (Fig. 3/2) return the concave discs with a diameter of 460 mm into their operational position.

The bearing of the concave discs (Fig. 3/3) consists of a 2 row angular contact ball bearing with face seal and oil filling and is free of maintenance.

The slide unit (Fig. 3/4) adjusts the stagger of the two disc gangs for working depth and speed. Adjustment via the **AMAZONE** square eccentric pins.

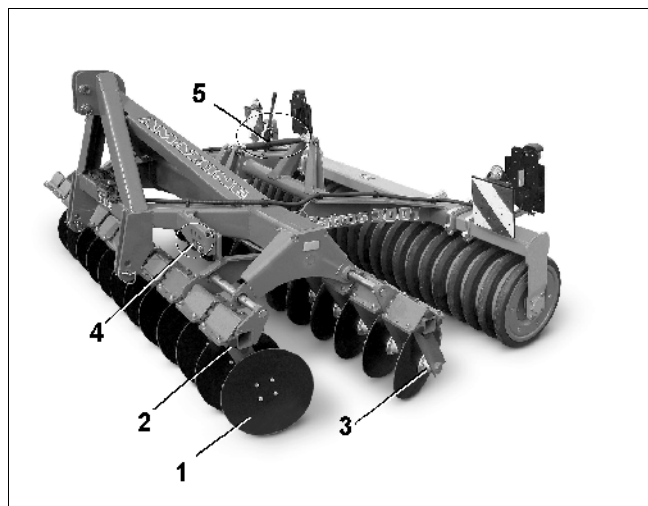


Fig. 4

Catros 3001, 4001:

For road transport back up with the lowered machine to secure both disc rows in transport position.

The disc rows are locked when the ratchets (Fig. 5/1) catch on the left and right hand side on the disc rows on the steel tube (Fig. 5/2).

The pointer (Fig. 5/3), on the right hand side of the machine indicates the locking of the rear disc row.

Unlocking is possible via rope actuation (Fig. 5/4) from the tractor cab. Driving forward with the lowered machine puts the discs into operational position.

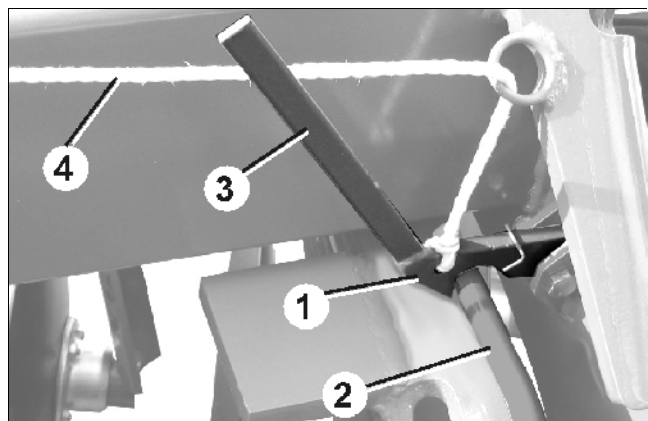


Fig. 5

3.2 Roller

The wedge ring roller (Fig. 6/1) provides the reconsolidation and depth control of the concave discs. Depth adjustment via setting spindles (Fig. 4/5).

Alternatively the Catros can be equipped with a cage roller. However, by the factory always the wedge ring roller is fitted.

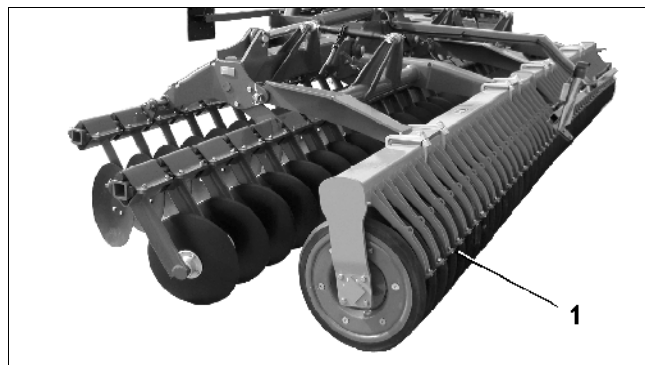


Fig. 6

3.3 Harrow (Option)

The harrow behind the roller crumbles the pressed soil and in this way prepares the seed bed.

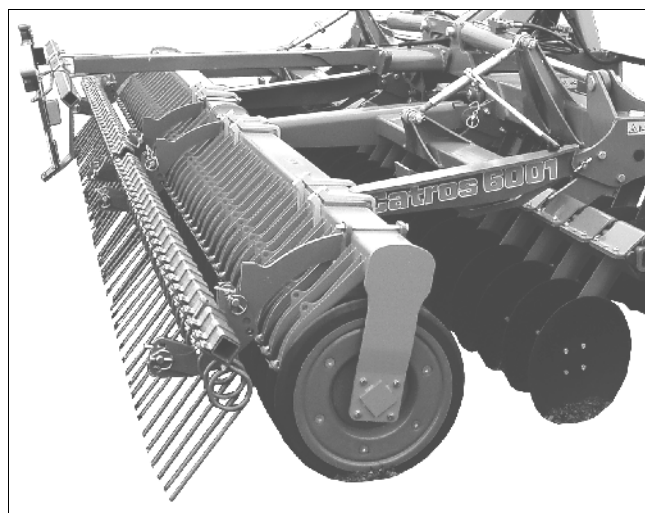


Fig. 7

3.4 Additional weights (Option)

It is possible to equip the **Catros** with additional weights (Fig. 8).

In dry conditions the additional weights improve the penetration of the discs into the soil.

One set of additional weights is 4 times 25 kg.

Catros 3001, 4001:

Max. 2 sets should be fitted.

Catros 4001-2 bis 6001-2:

Max. 3 sets should be fitted.

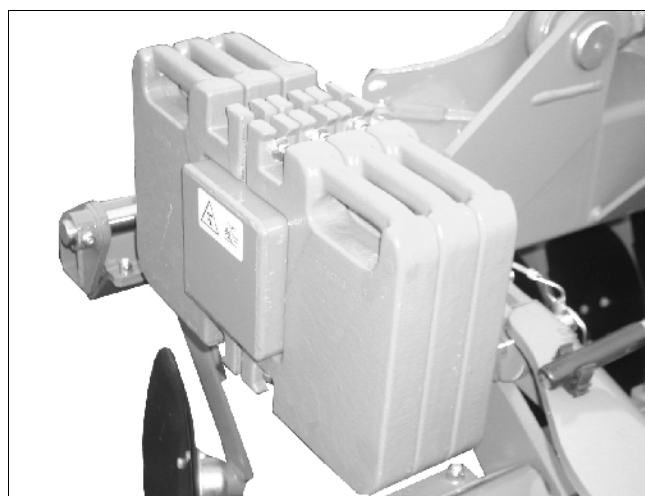


Fig. 8

Fitting the additional weights:

- Use 4 bolts (Fig. 9/1) to bolt the carrying tube (Fig. 9/2) on to the end of the machine wing.
- Bolt each two additional weights (Fig. 9/3) on to the carrying tube (Fig. 9/4) and secure.

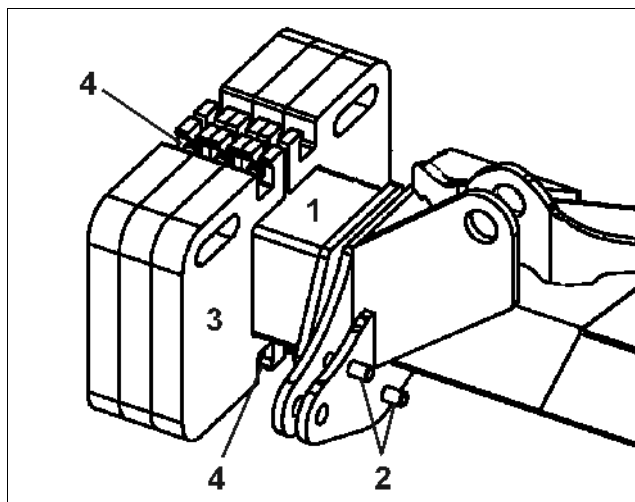


Fig. 9

3.5 Hydraulic connections



All hydraulic hose lines are provided with coloured marks to assign the relevant hydraulic function to the pressure hose of the tractor control unit!

- One hose mark: Putting into operational position.
- Two hose marks: Putting into transport position.

Control valve		Function	Hose marking
1	Double acting (foldable machines)	machine wing folding out	1 x blue
		machine wing folding in	2 x blue
2	Double acting (Option)	Working depth increase	1 x green
		Working depth reduction	2 x green

3.6 Area of danger

Areas of danger exist:

- Between tractor and machine, especially when coupling on and off.
- Within the operational range of moving parts:
 - Following wedge ring roller,
 - Rotating discs,
 - Adjustable front disc row
- In the swivel area of the machine,
- In the area of the hydraulic system of the machine:
 - Operation on the hydraulic hoses
- By climbing on to the machine,
- Under the lifted, not secured machine or parts of the machine.

In these areas permanent danger exists or unexpected danger could arise. Safety symbols identify these danger areas (see para. 2.4).

4. On receipt of the machine

When receiving the machine check that no damage has been caused in transit and all parts are present. Only with the immediate reporting of damage towards the forwarder will be considered for compensation.

Please check whether all parts for the mounted disc harrow incl. the ordered special options mentioned in the delivery note are present.

Before commencing work, remove all packing material incl. wire etc.

5. Mounting and dismounting



When mounting and dismounting the implement adhere to the safety advice!



Mount the implement in the appropriate manner to the prescribed fixing points.



Special care should be taken when coupling the implement to or off the tractor.

5.1 Mounting to the tractor



Observe the max. axle load of your tractor!



The lower link arms of the tractor's three point hydraulic must be provided with stabilising brackets or chains. Brace the lower link arms of the tractor to prevent the implement from swaying to and fro.



CATROS is designed for the rear three point linkage cat. II and III.



When mounting the implement to the rear three point linkage cat. III never use cat. II pins.

- Mount the lower link arms of the tractor to the lower coupling points of the machine using lower link pins (Fig. 10/2) and secure using clip pins (Fig. 10/3).
- Use the upper link pin to mount the upper link of the tractor to the upper coupling point of the implement (Fig. 10/1) and secure using a clip pin (Fig. 10/3).
- Attach the double acting hydraulic connection (red marked hoses) for folding in and out.

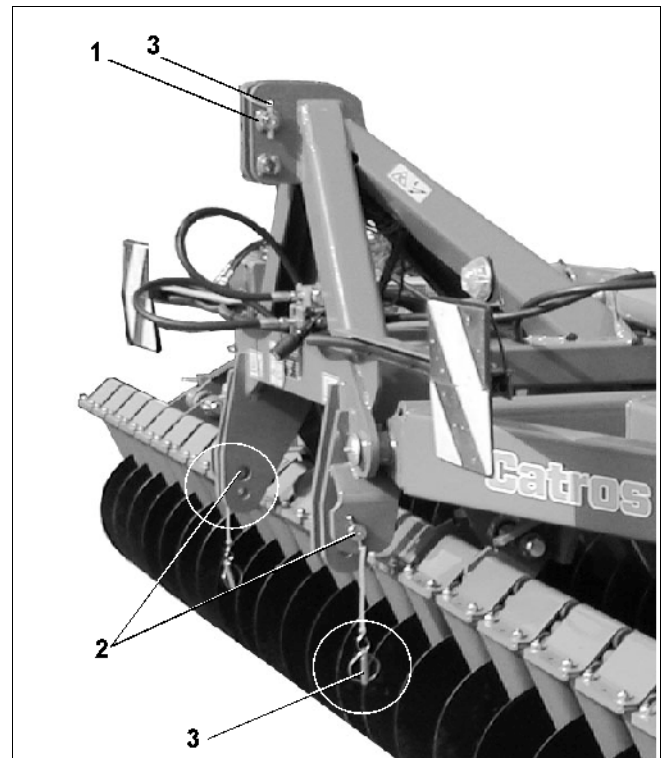


Fig. 10

5.2 Dismounting

- Lower the implement until it rests on its discs/rollers.



CATROS 4001-2, 5001-2, 6001-2 do not park in transport position. Fold down before dismounting the machine.



If the implement is parked for a prolonged period, apply an anti corrosive protective coating to the mounted discs.



Before dismounting the disc harrow ensure that the coupling points (upper and lower link) are relieved.

6. On the route to the field – Transport on public roads and ways



When travelling on public roads and ways tractor and implement have to correspond to the national road transport and traffic rules.



The vehicle owner and operator are responsible for adhering to the legal traffic rules!



Before travelling with the implement in transport position check all traffic safety devices for proper function and attach the relevant options (e.g. protective canvas on all four disc gangs!

- Agricultural and forestry implements should be provided with traffic light and warning places according to the national legal traffic rules.



The traffic lights must correspond to the national legal traffic rules



Check traffic lights for proper function!

- The transport width of 3 m should not be exceeded. Fold in roller segments. (Fig. 11)!

CATROS 4001-2, 5001-2, 6001-2:

- Fold in machine wing (Fig. 11) and secure via the ball tap from unintended folding out!

CATROS 3001, 4001:

- Lock the discs in transport position.



Before travelling on public roads with a lifted implement lock the control lever against unintended lowering!



In transport position always take care for a sufficient lateral locking of the tractor's three-point!

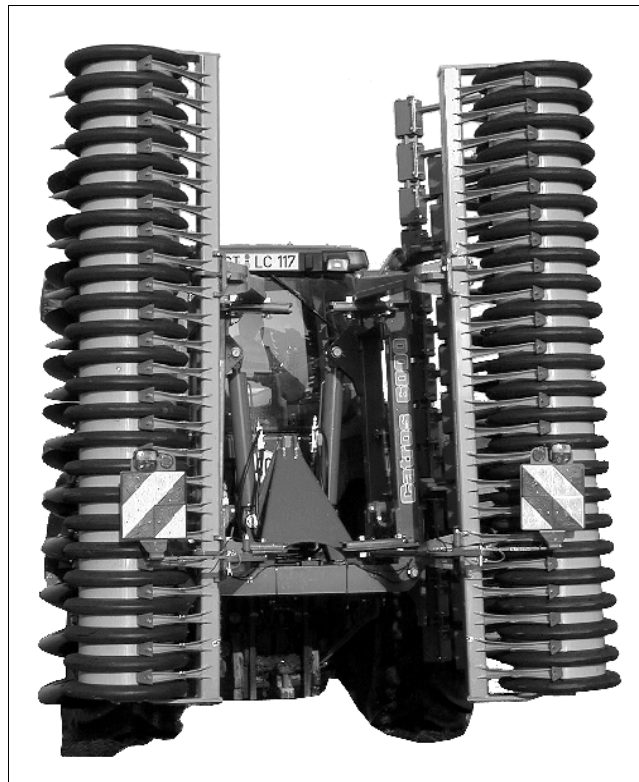


Fig. 11

6.1 Transport and operational position



Before the folding procedure lift the implement until a sufficient ground clearance within the operational range of the operating tools is achieved.

Note:

If necessary equally shorten the lifting arm spindles on both sides.



Set the upper link in such a way that the frame of the "Catros" is in alignment to the ground in longitudinal and in lateral direction.



Advise people to leave the danger area as the implement may tip over to the rear if the lower link halves are by accident twisted apart or tear apart.



When folding out observe that both implement sides are folded down until their stop position.

Note:

Due to the volume divider there might be a delay until the final position of the second ram has been reached. – Keep the lever on the control valve in position "lowering" until the outer frames are in alignment with the centre part!

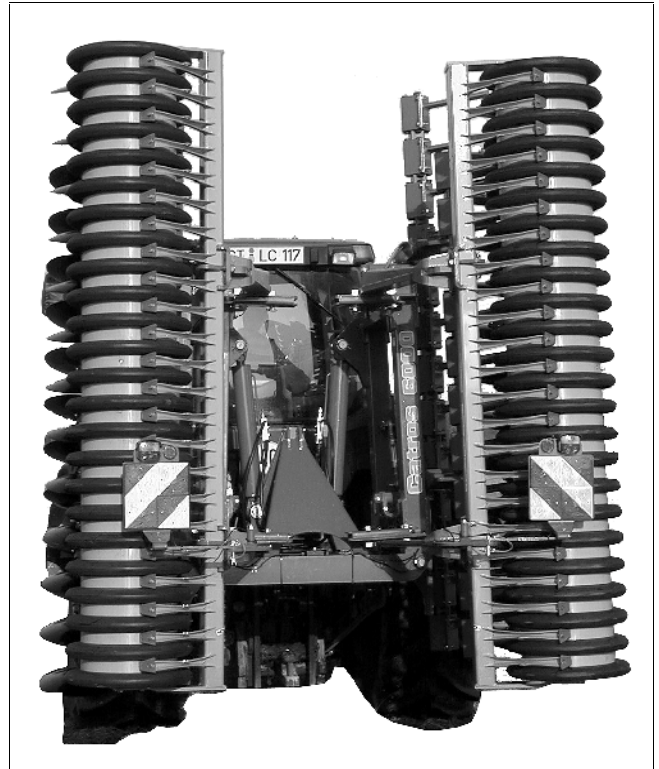


Fig. 12

Conversion from operating into transport position (Fig. 12)

- **Catros 3001 and 4001:**

- In the field back up with the implement until the disc rows lock in the transport position! (Fig. 13 – locking position).

Locking position of the rear disc row: Pointer (Fig. 13) in Pos A.

- Lift the implement
- Clean the outer tools!
- **Catros 4001-2, 5001-2 und 6001-2:**
- Gently lift the implement until the ground clearance allows an unhindered folding of the side parts!
- Fold in the implement.

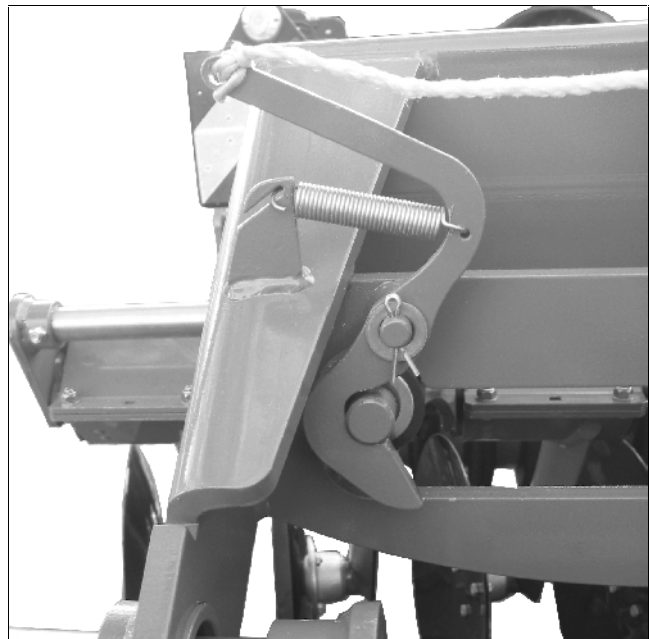


Fig. 13

- Closing the ball tap (Fig. 14/1) (position A).
- ⇒ Machine is secured from unintended folding out.
- Clean centre tools!
 - Clean traffic light kit!
 - Lift the implement until sufficient ground clearance is reached.

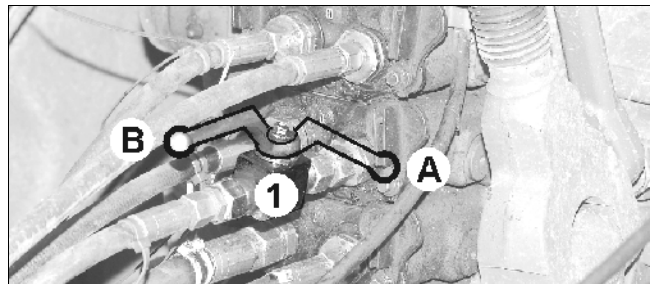


Fig. 14



Catros 3001 and 4001:
Check locking of both disc rows.

Conversion from transport- into operating position

- **Catros 3001 and 4001:**

- Lower the machine.
 - Pull the unlocking rope.
 - Drive forward for a short distance.
- ⇒ Disc locking is released.

- **Catros 4001-2, 5001-2 and 6001-2:**

- Lift the machine until the ground clearance allows the unhindered folding out.
- Open the ball tap (Fig. 14/1) (position B).
- Fold out the machine.

Lower the machine.

7. Settings

7.1 Working depth

The accurate depth guidance is provided by the wedge ring roller which can be adjusted in its height.

The maximum working depth is 12 cm.

- Depth adjustment by turning the setting spindle (Fig. 15/1) by using the lever (Fig. 15/2).



Catros 4001-2, 5001-2 and 6001-2:

Set the adjusting spindles equally on both sides.

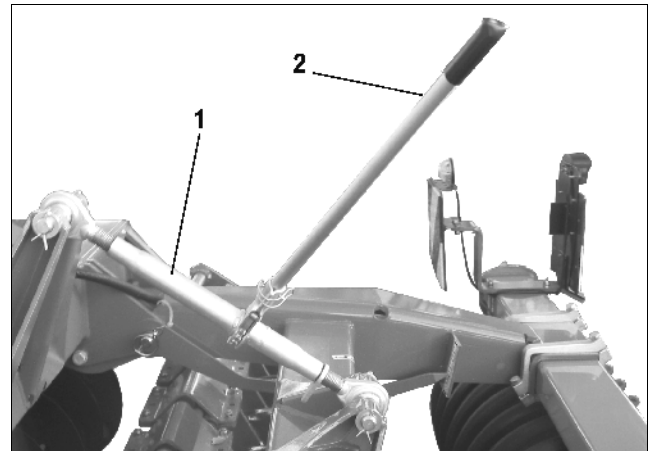


Fig. 15

- Check the adjusted working depth with the aid of the scale (Fig. 16/1) on the carrying arms of the wedge ring roller.
 - Reduction of working width: Direction 2 adjust.
 - Increase of working width: Direction 12 adjust.
- Lock position of the setting spindle by using the locking lever (Fig. 16/2).

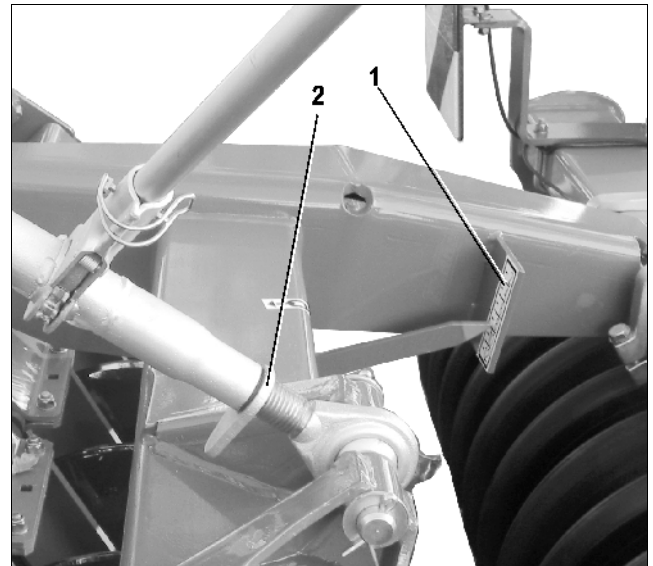


Fig. 16

7.1.1 Staggering of the disc gangs

The staggering of the disc gangs is adjusted with the **AMAZONE**-eccentric pin, as required.

For this 6 setting holes are available.

Catros 3001, 4001: Fig. 17

Catros 4001-2 to 6001-2: Fig. 18

- Slacken clip pin (Fig. 17/3 and Fig. 18/1).
- Insert the eccentric pin (Fig. 17/2 and Fig. 18/2) in desired position.
- Fix clip pin.



A priority setting hole is marked with an arrow (Fig. 17/3).



Catros 4001-2 to 6001-2:

The setting holes on the left hand and right hand side must coincide.

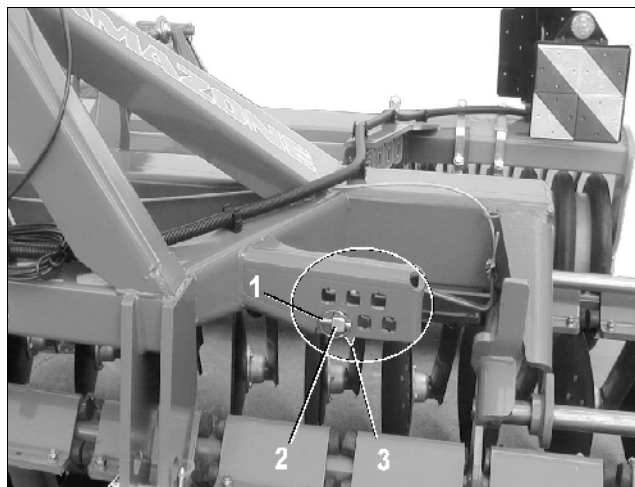


Fig. 17

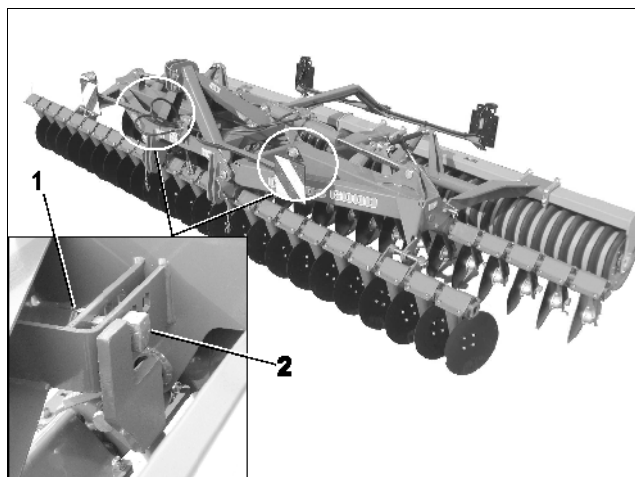


Fig. 18

The fine tuning of the working depth is achieved by turning the eccentric pin (Fig. 19) of position 1 up to position 4.

- Slacken clip pin.
- Turn the eccentric (Position 1-4).
- Fix clip pin.



Before setting the disc stagger it may be necessary to back up with the lowered machine in the field for a short distance to free the inserting holes.

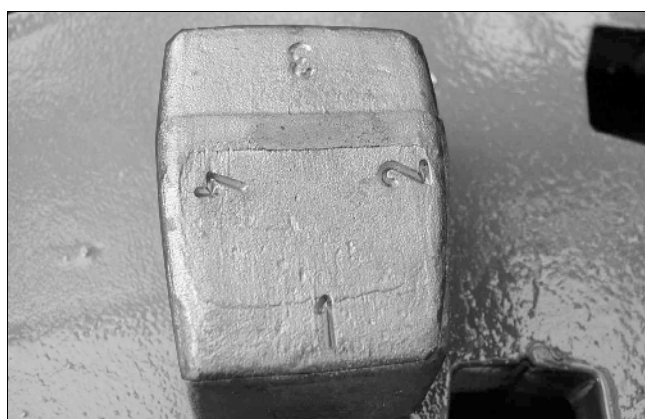


Fig. 19



Danger of squeezing between eccentric pin and the stop of the disc row.

Check the operational situation by uncovering the working horizon behind the machine.:

Fig. 20/1, Fig. 21/1, Fig. 22/1:
cutting edge of the 1st disc row

Fig. 20/2, Fig. 21/2:

cutting edge of the 2nd disc row

- Correct setting of disc rows (Fig. 20).
- Adjust the 1st disc row to the right hand side and check again (Fig. 21):
- The cutting edge of the 2nd disc row is not visible and follows the 1st disc row (Fig. 22): Adjust 1st disc row to the left hand side.

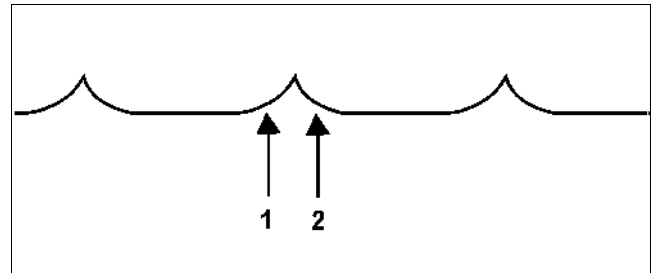


Fig. 20

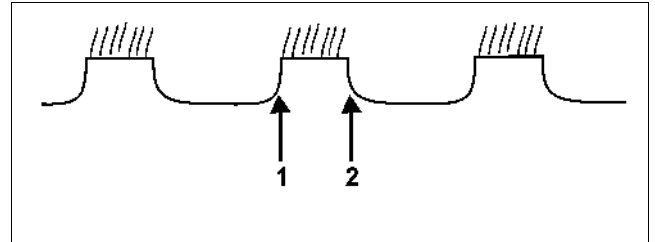


Fig. 21

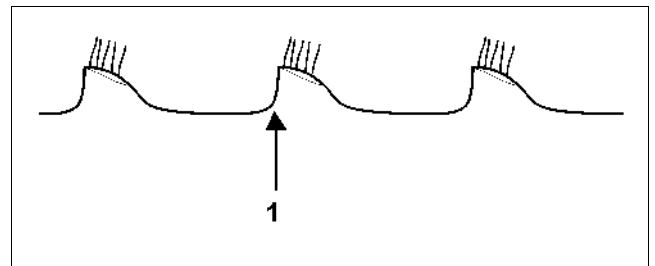


Fig. 22

7.1.2 Setting the scraper on the wedge ring roller

The scrapers are factory set. In order to adapt the setting to the operational conditions proceed as follows:

- slacken bolted connections (Fig. 23/1),
- set the scraper in the slotted hole,
- retighten bolted connections.



Ensure the minimum spacing of 1 cm between scraper and plastic ring!

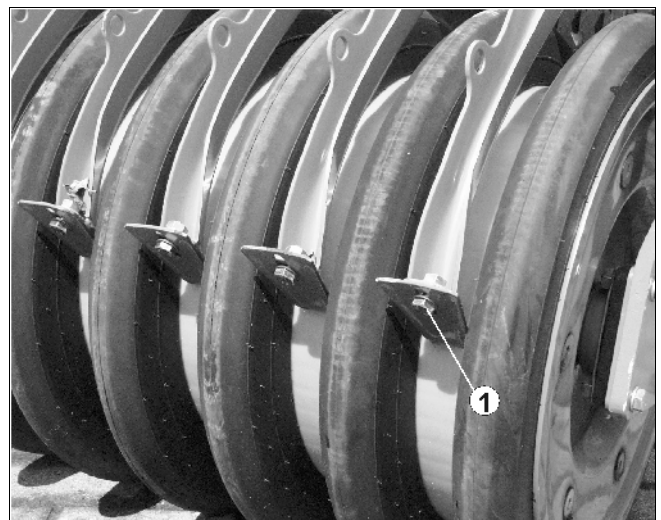


Fig. 23

8. Operation

The mounted disc harrow should be preferably used in the floating position of the tractor rear three point. The depth guidance is provided by the wedge ring roller (chap.7.1).

The operational control in the field is only necessary for lifting and lowering the implement at the headlands.



Set the implement at the lifting arm spindles and the tractor's upper linkage so that during operation the frame is always parallel to the soil surface in longitudinal and lateral direction!



Fig. 24

Correction of the upper link setting if the machine does not follow the tractor properly:

- Machine pulls out to the right:
 - Set the upper link longer.
- Machine pulls out to the left:
 - Set the upper link shorter.

8.1 Driving at the headlands

When driving curves at the headlands raise the implement to avoid a transverse load of the tools.



When driving narrow curves in the headlands lift the implement!



At the headlands only lower the implement into operational position when the implement and operational direction coincide.

9. Cleaning, maintenance and repair



Repair-, maintenance- and cleaning operations as well as the remedy of function faults should principally be conducted with drive and engine stopped. Remove ignition key!



When carrying out maintenance work on the lifted implement use appropriate supports.



Before conducting electric welding operations on tractor or mounted implement remove cable from tractor and battery!



Regularly check nuts and bolts for tightness. Retighten if necessary!



When dismantling spring loaded elements (disc segments) mind the pre-tensioning. Use appropriate tools!

For mounting and dismantling use additional longer bolts as auxiliary tool! (Fig. 25)



Check traffic lights for proper function!



Regularly check the proper hose and cable routing and check the hydraulic hose couplings and tube bolted joints for leakage.

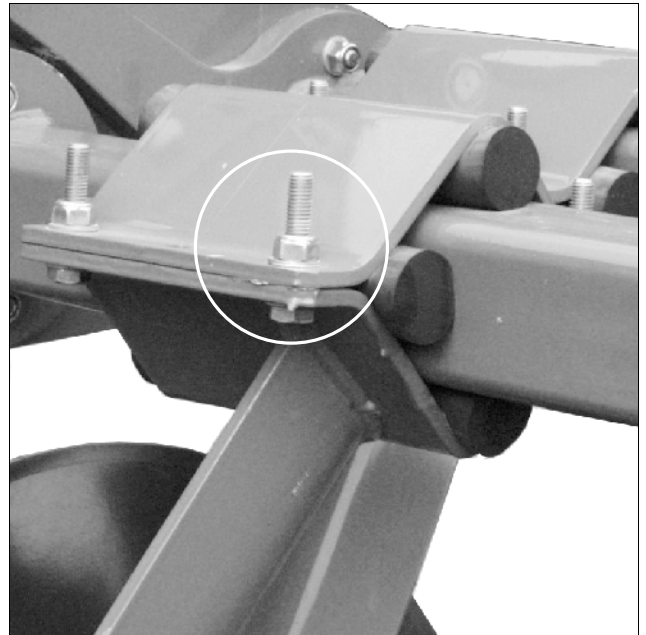


Fig. 25



Check the screw joints on the hydraulic rams (Fig. 26/1,2) every 100 operating hours / monthly:

- Prescribed thread reach (Fig. 27)
- Torque 300 – 400 Nm (Fig. 28)



In case of repair work with painting replace the safety symbols and hint signs.



Replace worn and damaged parts. Only use original spare parts.



Grease all lubrication points according to the lubrication plan (para. Fehler! Verweisquelle konnte nicht gefunden werden.) and apply grease to the slide and hinge points.



Clean the tools after any operation.

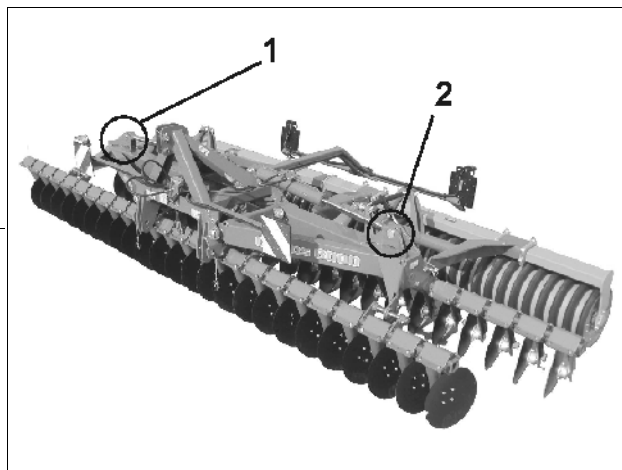


Fig. 26

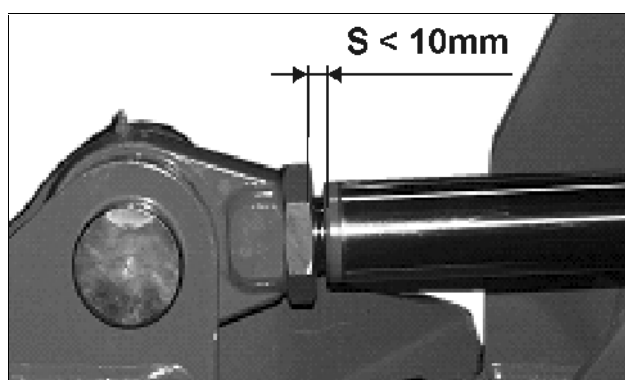


Fig. 27

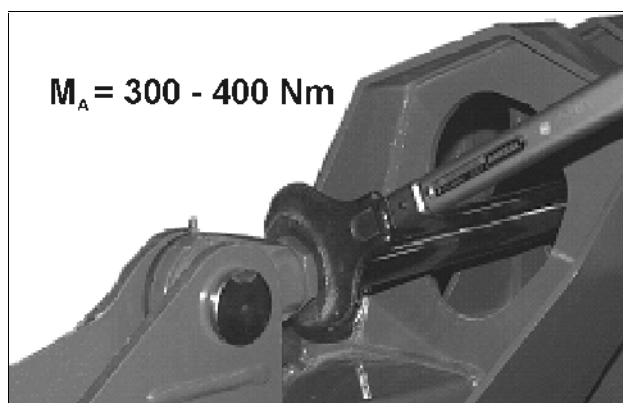


Fig. 28

9.1 Lubricant review

No.	Description	Greasing interval after hours of operation	Bezeichnung des Schmierstoffes
1	Flange bearing for the roller	50	SWA 532
2	Joint bearings centre part right hand and left hand	50	SWA 532
3	Setting spindle	50	SWA 532

9.2 Hydraulic hoses

When starting and during operation the ordinary condition of the hoses should be checked by a skilled person.

If the hoses are found to be defective in any way, change them immediately.

The maintenance of the checking intervals should be recorded by the operator.

Checking intervals

- for the first time when putting to operation
- thereafter at least once a year

Checking points

- Check hose casing for damage (kinks, cuts and abrasion, trapping, rubbing points)
- Check whether the hose casing is brittle
- Check hose for deformation (bubbles, buckling, squeezing, separation of layers)
- Check for leakage
- Check the appropriate fitting of the hoses
- Check the hoses for firm seating in the armature
- Check connecting armature for damage and deformation
- Check for corrosion between connecting armature and hose
- Do not exceed the permissible period of use

9.2.1 Exchange intervals

- The period of use of any hydraulic hose circuit should not exceed 6 years (including a possible storing period of two years maximum).

9.2.2 Marking

Hydraulic hoses are marked as follows:

- Name of manufacturer
- Date of production
- Maximum dynamic operational pressure

9.2.3 Please observe when fitting and removing

Affix the hydraulic hoses on the fixing points given by the manufacturer.

- Always ensure that hydraulic parts and connections are clean.
- The hoses have to be fitted in such a way that their natural placement and movement are not hindered.
- During operation the hoses should not be under tension, twisted or strained by external forces.
- The permissible bending radius must be observed.
- The hoses should not be painted.

9.3 Cleaning the machine

- Clean the machine with a jet of water or by using a high pressure cleaner.
- Grease all lubrication nipples (keep the sealings clean).

9.4 Hydraulic table

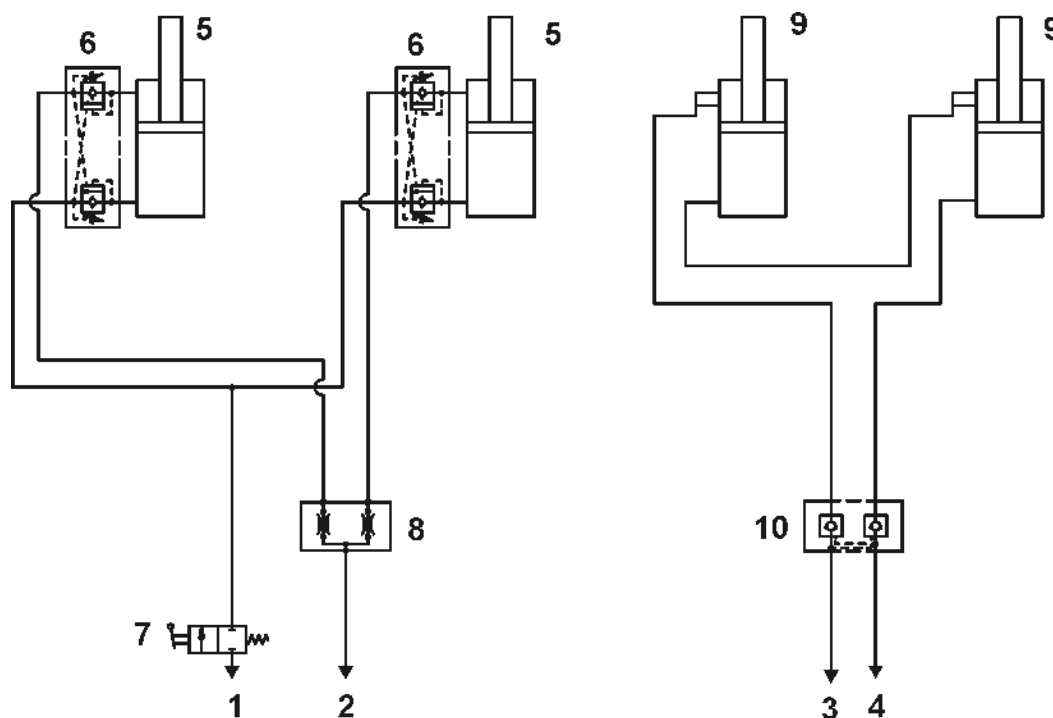


Fig. 29

- 1 Connection to control unit 1
(hose mark 1 x blue)
- 2 connection to an control unit 1
(hose mark 2 x blau)
- 3 connection to an control unit 2
(hose mark 1 x green)
- 4 connection to an control unit 2
(hose mark 2 x green)
- 5 hydraulic ram for folding
- 6 lowering brake valve
- 7 ball tap
- 8 divider
- 9 hydraulic ram for working depth
- 10 locking block





AMAZONEN-WERKE

H. DREYER GmbH & Co. KG

P. O. Box 51
D-49202 Hasbergen-Gaste
Germany

Tel.: ++49 (0) 54 05 50 1-0
Telefax: ++49 (0) 54 05 50 11 47
e-mail: amazone@amazone.de
http:// www.amazone.de

Branch factories: D-27794 Hude • D-04249 Leipzig • F-57602 Forbach
Subsidiaries in Great Britain and France

Factories for: Fertiliser broadcasters, -storage halls, -handling systems. Seed drills.
Soil cultivation machinery. Field boom sprayers. Municipal machinery.
