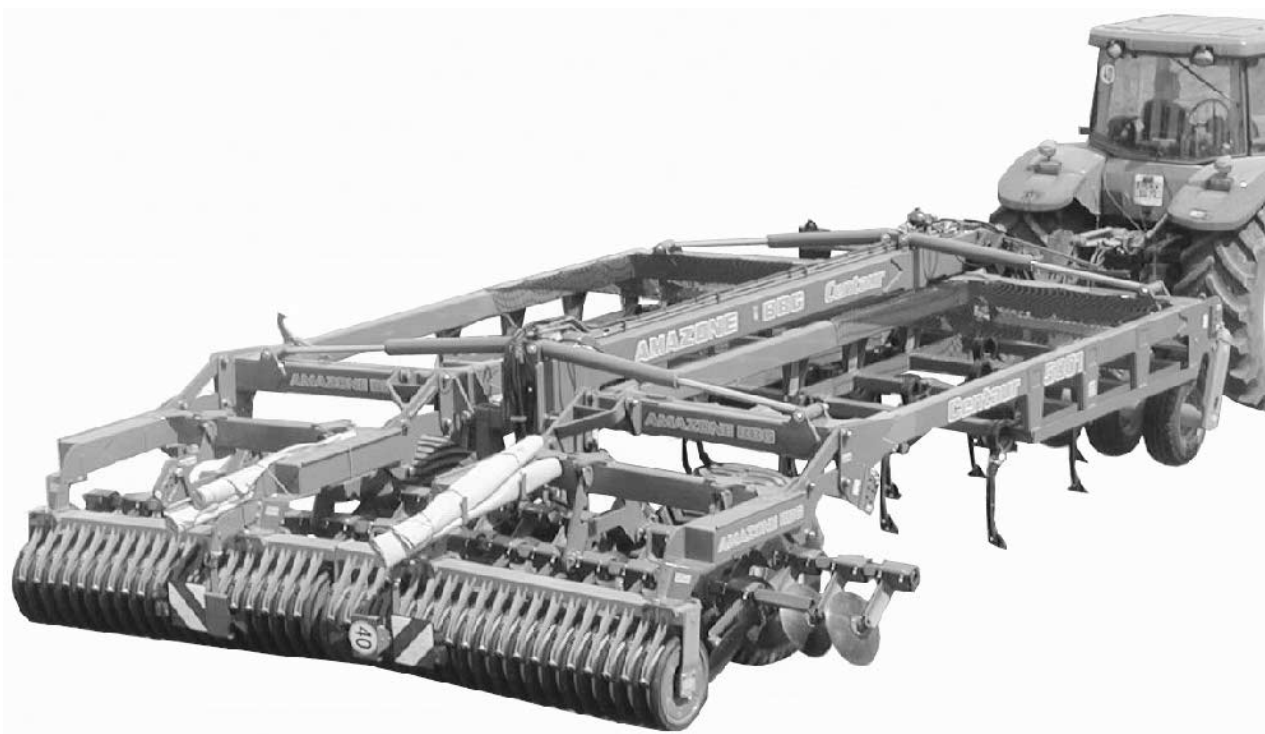


Instruction Manual

AMAZONE BBG

Centaur
3002 / 4002
5001 / 6001



MG 1196
BAG 0019.0 (GB) 09.05
Printed in Germany



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



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1. Details about the machine

1.1 Range of application

The mulch cultivator **Centaur 3002-6001** is suited for the soil cultivation on arable land.

1.2 Manufacturer

BBG Bodenbearbeitungsgeräte Leipzig GmbH & Co. KG

A company of the **AMAZONEN**-Group
Weidenweg 19
D-04249 Leipzig

1.3 Conformity declaration

The mulch cultivator fulfils the requirements of the EC guide line Machine 98/37/EG and the corresponding additional guide lines.

1.4 On requesting after sales service and parts

When ordering options or spare parts, the machine model and the disc harrow 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 for consequential losses or resulting damage if other spare parts will be used.

1.5 Type plate

Type plate on the machine



Fig. 1

Type:

Machine - No _____



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

1.6 Technical Data

Centaur		3002	4002	5001	6001
Working width	[m]	3	4	5	6
Number of tine rows	[Stk.]	4	4	4	4
Line spacing	[cm]	20	20	20	20
Number of disc rows	[Stk.]	2	2	2	2
Diameter	[mm]	460	460	460	460
Tyres		11,5/ 80-15,3	11,5/ 80-15,3	700/ 50-26,5	700/ 50-26,5
Tractor power requirement	[kw]	110	150	190	225
Transport width	[m]	3	4	3	3
Total length	[m]	8,4	8'4	10,7	10,7
Total height	[m]	1,8	1,8	2,8	3,4
Operational speed	[km/h]	10-15	10-15	10-15	10-15
Total weight	[t]	2,7	3,2	9,9	10,3
Mounting		drawn	drawn	drawn	drawn

1.6.1 Requirements on the tractor's hydraulic system

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

- one double acting spool valve is required to lift the running gear.
- one double acting spool valve is required required to fold the booms up and down (Centaur 5001-6001)
- one double acting spool valve is required for the hitch draw bar (special optional equipment).

The maximum permissible pressure of the tractors' hydraulic is 230 bar.

1.6.2 Details about noise level

The tractor operator seat related emission value (sound pressure level) is 74 dB (A), measured when operating with shut tractor cab at the ear of the tractor operator.

Measuring implement: OPTAC SLM 5.

The value of the sound pressure level mainly depends on the vehicle used.

1.7 Designated use of the machine

The mulch cultivator Centaur 3002-6001 has been designed for the exclusive usual operation in agriculture. The machine is suitable for the following operations:

- Grassland turning up without pre cultivation,
- Soil cultivation for mulch sowing,
- Soil cultivation with uniform and safe mixing where large amounts of straw prevail,
- Stubble tillage without pre cultivation.

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 AMAZONE-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 4833-W9).

2.3.2 Attention symbol



Attention symbols which may cause dangers to the machine and it's 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 for all persons using this machine. The hint symbols always are linked to safety/warning symbols.
- The hint symbols mark machine's specific points which have to be observed to ensure correct function of the machine.
- Strictly observe all warning and hint pictographs.
- Please pass on all safety advice also to other users.
- Please keep all warning and hint signs clean and in an easily readable condition. Please ask for replacement of damaged or missing decals from your dealer and attach to the relevant place (picture No.: = order-No.).
- Fig. following shows the fixing points of warning and hint signs. Please find the relevant explanations below.

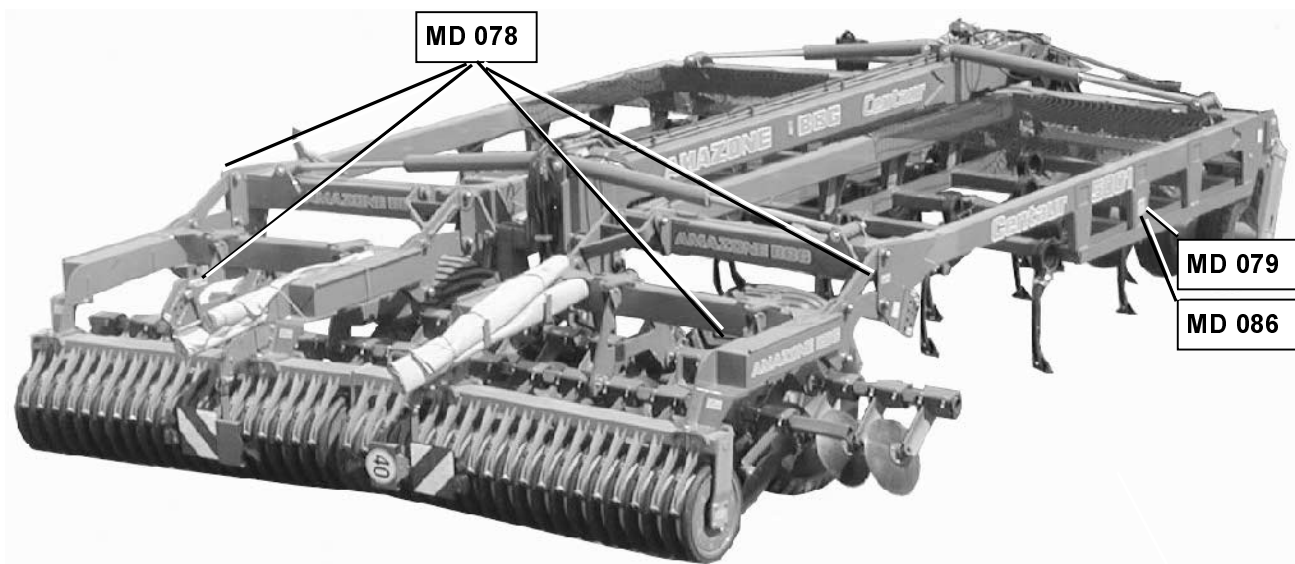
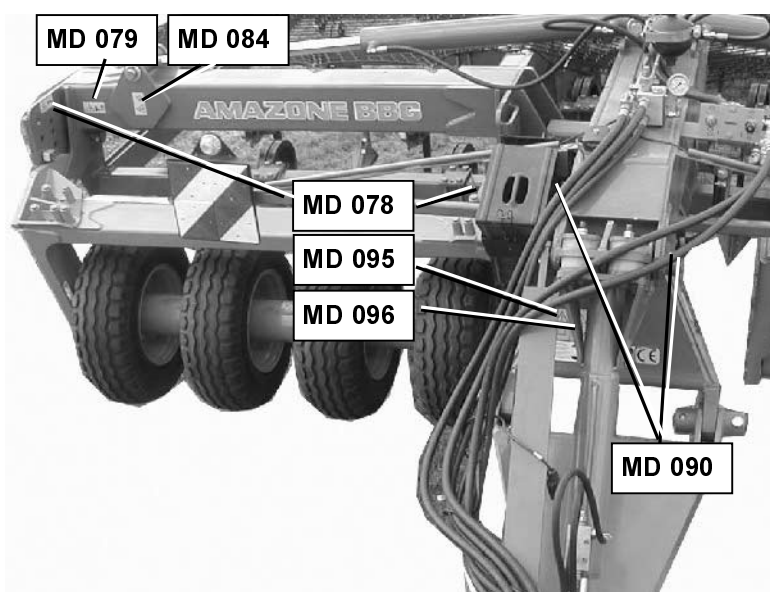


Fig. 2



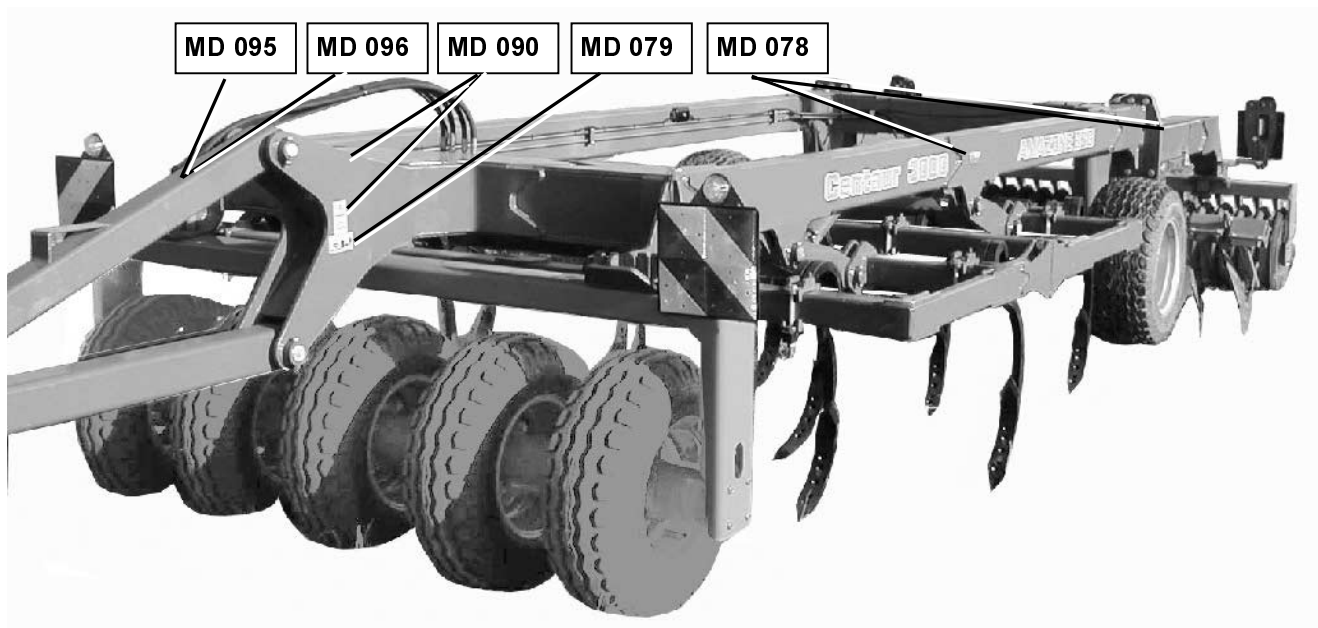
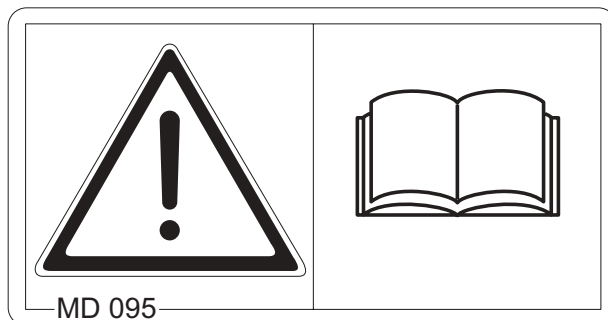


Fig. 3

Picture No.: MD 095

Explanation:

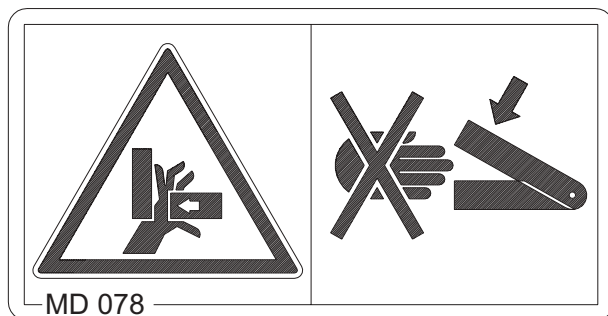
Before commencing operation read thoroughly operators manual and safety advice.



Picture No.: MD 078

Explanation:

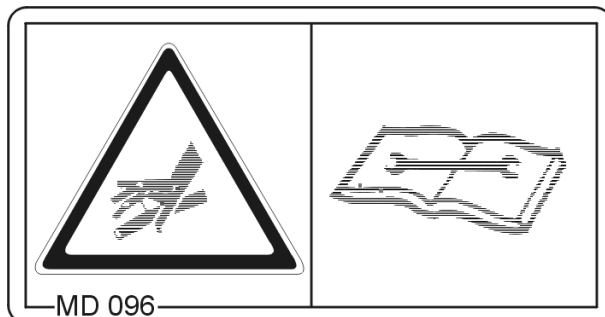
Never reach into the zone. There is danger of bruising as long as parts are still moving!



Picture No.: MD 096

Explanation:

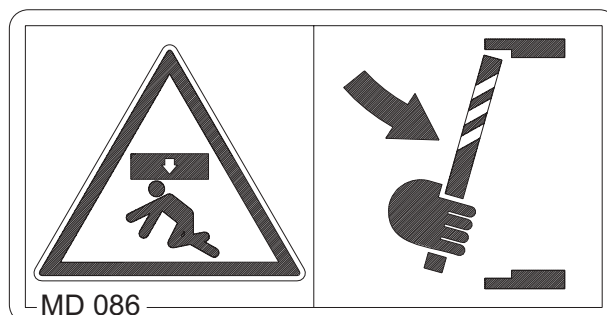
Caution in case of leaking high pressure liquid. Observe advice in the technical manual!



Picture No.: MD 086

Explanation:

Before coupling off the tractor pull out the storing supports!



Picture No.: MD 084

Explanation:

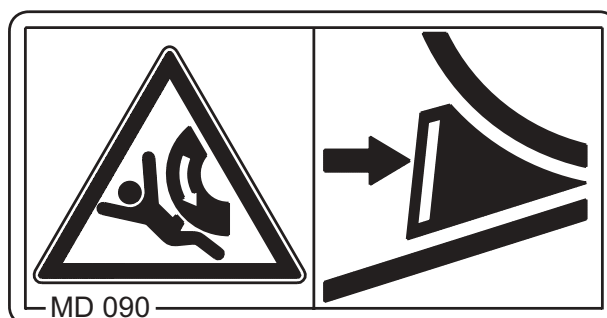
Danger because of flinging fertiliser particles. Advise people to leave the danger area.



Picture No.: MD 090

Explanation:

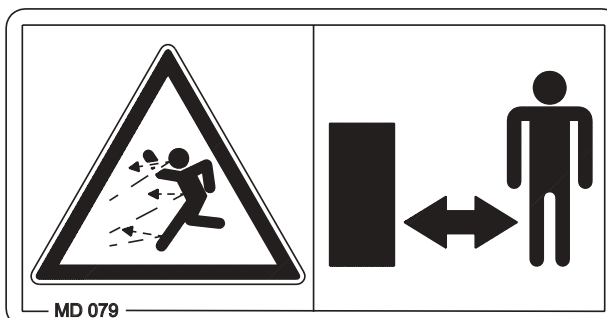
Before coupling of parking secure the machine against unintended rolling away by applying chocks.



Picture No.: MD 079

Explanation:

Danger because of flinging fertiliser particles. Advise people to leave the danger area!



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 of tractor and implement 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.

2.6.2 Brakes

1. Check function of brake before travelling on public roads.
2. Brake systems should regularly be carefully checked.
3. Setting and repair work at the braking device must only be conducted by specialists, workshops of approved services.
4. When travelling on public roads single wheel braking on the attached tractor should be excluded (lock both pedals).
8. Before starting to do repair work to the hydraulic system release the pressure 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!**

2.6.3 Bolted connections, tyres

1. Repair work to the tyres may only be conducted by trained personnel and with special mounting tools.
2. When working on the wheels make sure that the implement is safely parked and secured against rolling away (chocks).
3. All fixing bolts and nuts should be retightened as advised by the manufacturer.!
4. Check air pressure regularly.
5. Excessive air pressure may cause the tyre to explode.

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.
6. Check hydraulic hoses regularly. 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 by the Health- and Safety Authorities depending on the experience they have had and the danger potential. For hoses and hose cir-

cuits made of thermoplasts other guide lines may prevail.

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



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

1. Standing underneath the lifted unsecured implement is prohibited. Keep a safe distance from moving disc segments (except for the operator himself).
2. 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.
3. Wear a helmet whilst cleaning and repairing the implement.
4. Check nuts and bolts for tightness and retighten if necessary.
5. Tighten all fixing bolts and nuts according to the advice of the manufacturer.
6. Before conducting electric welding operations on tractor or on the mounted implement, remove cable from generator and battery.
7. Change wheels (running gear) only when the implement is in its operational position.).
8. When servicing a raised unit always ensure it is secured by suitable supports.
9. When replacing work tools with cutting edges use a suitable implement and wear gloves.
10. 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.
11. In care of repainting, replace the warning hints.

2.9 Transport on public roads



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

1. The permissible transport speed with unbraked axle load is 25 km/h.
2. When driving on public roads with lifted implement the control lever has to be locked against unintended lowering.
3. In transport position always take care for a sufficient lateral locking of the tractor's three-point.
4. In transport position danger of injury from protruding discs.
5. The release ropes for quick coupler should hang freely and in the low position must not release the quick coupling by themselves.
6. The transport width of 3 m may not be exceeded.
7. For implements of more than 3 m transport width, your national traffic law will be binding.
8. Tractor and implement must correspond to your national traffic regulations.
9. Check and attach the transport equipment, as e.g. traffic lights, warning plates and guards.
10. When transporting mounted implements the traffic lights of the tractor must not be hidden. Otherwise an additional traffic light kit should be fitted. Your national traffic regulations will be binding. The vehicle owner and the operator are responsible for adhering to the legal traffic rules.
11. Check traffic lights for function.
12. Attach red-white striped warning plates to the front and to the rear of trailed implements.
13. Apply warning plates according to DIN 11030 or parking plates on the r.h. and l.h. side at the front and at the rear.
14. The space between upper edge of the warning plate and the road should not exceed 1.50 m. Attach the warning plate with a maximum distance of 10 cm from the implement outer edge.
15. The maximum possible slope tilting (in transport position) is 20 %. The maximum possible slope tilting in operational position is equal to that of the tractor. Do not fold in and out the roller frame on slopes or undulated terrain.
16. During transport on public roads, especially when driving in bends, take wide load of the implement into account and keep a safe distance of 1 m to other vehicles and to the edge of the road.
17. Backing up with the implement in transport position is only allowed with an additional person. Backing up with the implement in operational position is prohibited.

3. Description of product

The mulch cultivator **Centaur** is designed for the usual soil tillage operation.

The Centaur 3002 (Fig. 4) and 4002 are equipped with a rigid frame, the Centaur 5001, 6001 (Fig. 5) is provided with 2 foldable booms.

The transport wheels (Fig. 4/1, Fig. 5/1) are hydraulically lifted during operation to prevent any wheel tracks being left on the worked ground.

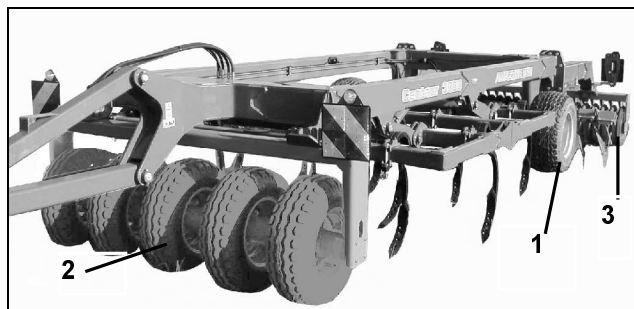


Fig. 4

The main frame carries the four row tine section with spring steel tines. The line spacing of only 20 cm ensures the full area tilth. The frame height of 75 cm allows a blockage free passage when large amounts of straw prevail. On the Centaur 3002/4002 and Centaur 5001/6001 the depth control of the coulters is provided by the front (Fig. 4/2, Fig. 5/2) and rear rollers (Fig. 4/3, Fig. 5/3).

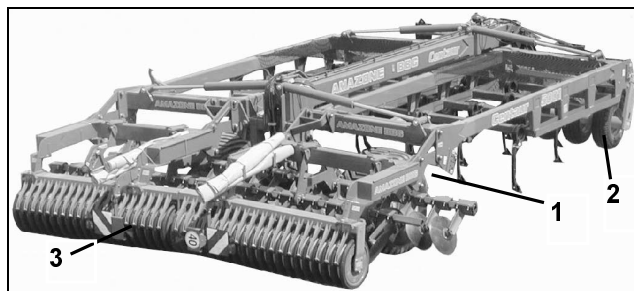


Fig. 5

The adjustment of the working depth is done by repositioning **AMAZONE**-eccentric depth pin.

The two row arrangement (Fig. 6) of the concave discs function as a levelling unit. The discs (Ø 460mm) mix, crumble and level the soil.

The working depth is parallel guided independently of the main frame by the rear roller.

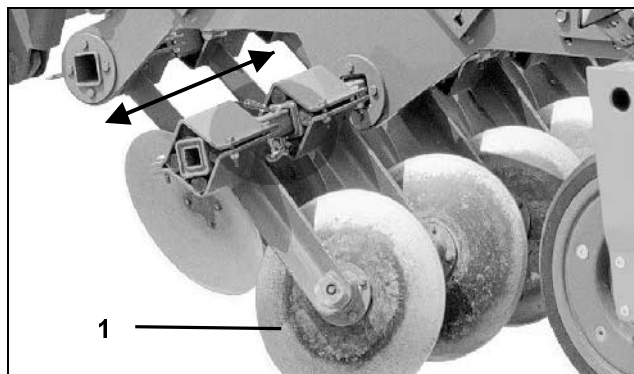


Fig. 6

Side discs (Fig. 6) which can be pulled out leave a level field without any side walls.

The rear wedge ring roller (Fig. 5/3) (Ø 580 mm / Ø 800 mm) re-compacts the soil in strips.

The spring tines (Fig. 7/1) of the Centaur can be equipped with 3 different shear shapes:

- Stubble tilth shear (170mm) (Fig. 7/2): For the shallow stubble operation to mix volunteer grain and straw.
- Inversion shear (75mm) (Fig. 7/3): For medium depth mixing and good mixing of organic.
- Narrow shear (50mm) (Fig. 7/4): For basing loosening of the top soil. At deep loosening clods remain in the lower level.

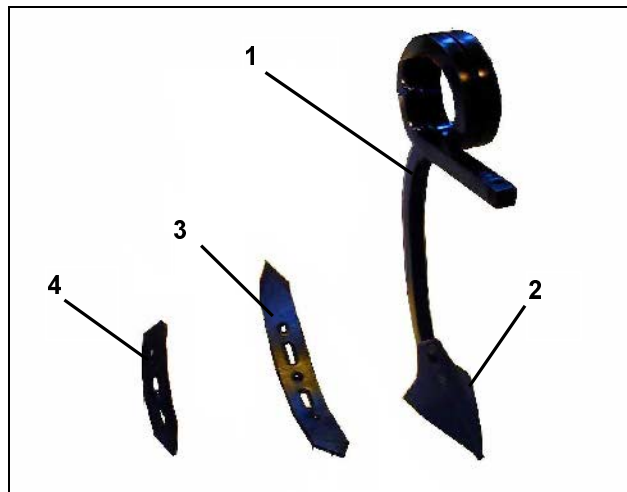


Fig. 7

In case of tine breakage, safety ropes (Fig. 8/1) on the sprung tines prevent the lower part of the tine from getting lost.

A safety net (Fig. 9/1) is stretched over the Centaur frame to keep away stones from the tractor.

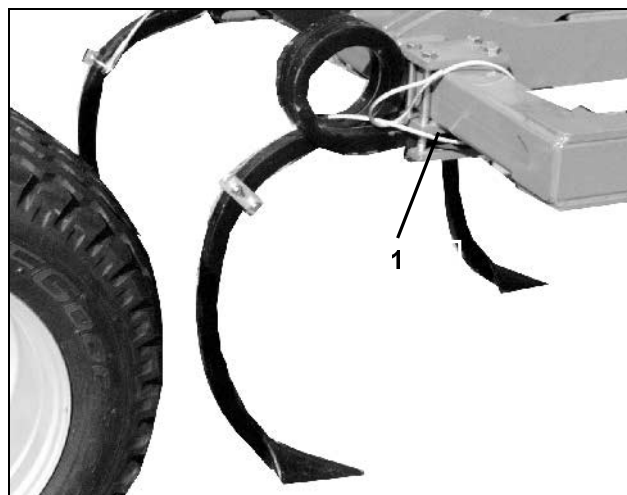


Fig. 8



Before starting to operate the machine check the correct fitting of safety ropes and net.

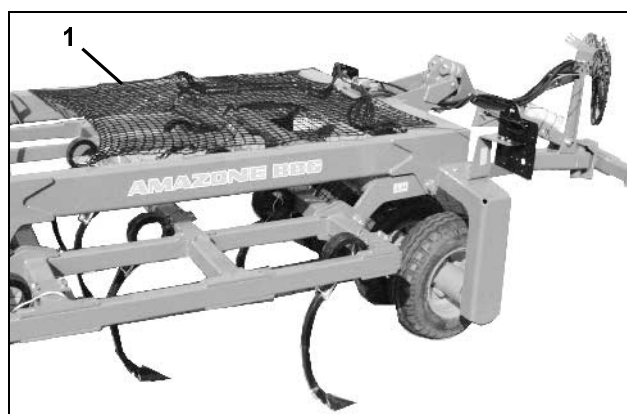


Fig. 9

4. On receipt of the machine

Check that no damage has been caused in transit and that all parts are present. Otherwise no responsibility can be accepted by the manufacturer or the carrier.

Check whether all parts (and options) listed up in the delivery note are present.

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

5. Mounting and dismounting



When mounting the soil tillage implement to the tractor observe the safety advice.



Attach implements as advised and only to the attachment points provided.



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



When attaching or removing the machine bring the supporting devices into the corresponding position (standing safety).



Nobody should stay between tractor and implement if the tractor is not secured against rolling away by the parking brake and/or by chocks.

5.1 Mounting

Centaur is designed for:

- the lower linkage cat. III (Fig. 10)
- pendulum connection via hitch draw bar (Fig. 11)
- Coupling triangle for connection with the tractor three point linkage.



When coupling no body may stay between tractor and machine.



Attach the draw bar of the Centaur to the hitch coupling, the lower links or the tractor three point linkage and secure.



Observe the max. support load of the tractor!



The lower link arms of the tractor must be provided with stabilising rods or chains in order that the implement does not sway to and fro.



Ensure that the drawbar securing engages properly.

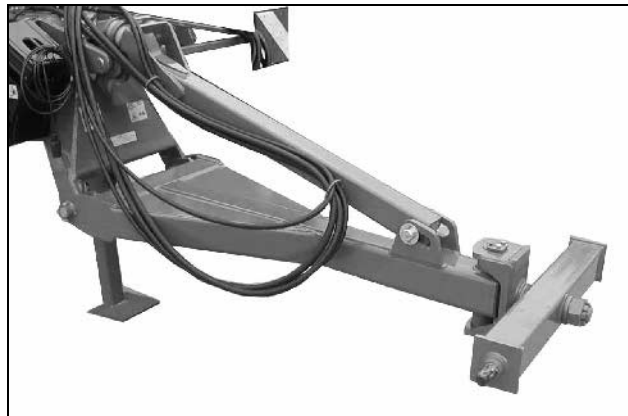


Fig. 10

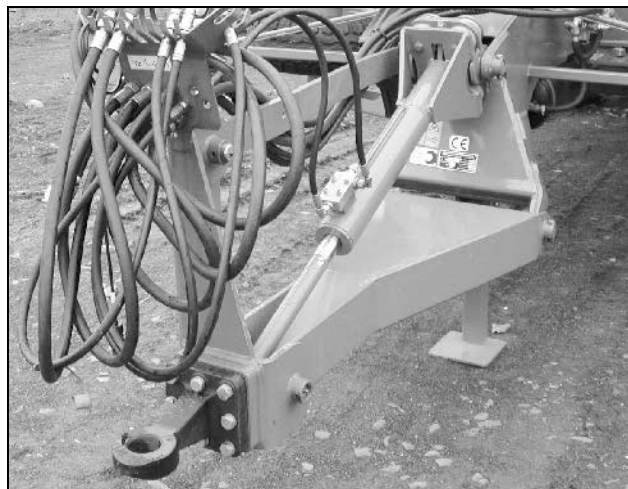


Fig. 11

- Swivel upwards the support stand (Centaur 5002-6001) (Fig. 12), lock with setting pin and secure by using a lynch pin.



Fig. 12

5.1.1 Hydraulic connections

- 1 double acting control spool valve: Lifting/lowering transport wheels, folding in and out rollers (red marked hoses)
- **Centaur 5001-6001:** 1 double acting control spool valve
Folding in and out of the booms.
- 1 double acting control spool valve: depth setting of tines (optional)

Hitch draw bar (Centaur 5001-6001):

- Connect the ram of the hitch draw bar with an additional double acting control spool valve.
- Lift the implement until it is in a level position, i.e. its frame should be in alignment with the ground.

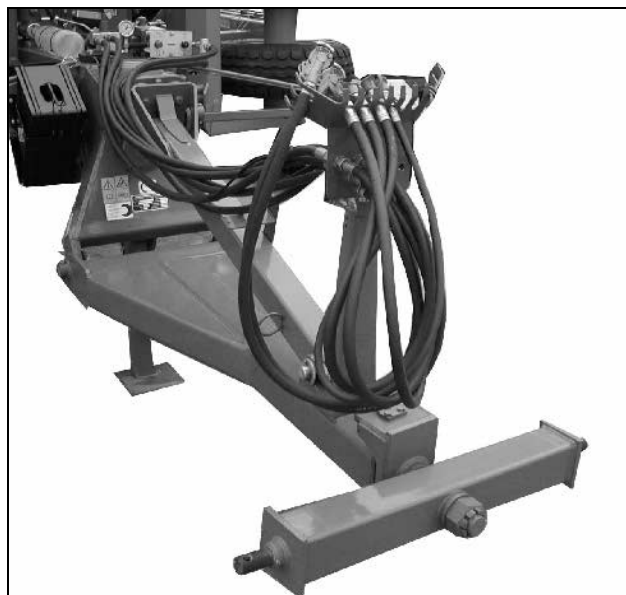


Fig. 13

5.1.2 Dual circuit air brake system of Centaur 5001-6001



Before coupling check cleanness of coupling claws and ensure correct catching



Check route of hoses. Hoses must not be allowed to rub on foreign parts.

Coupling of the air brake system to tractor:

- Coupling claw - yellow - to brake hose.
- Coupling claw - red - to secondary hose

Before moving off the double release of the machine has to be adjusted manually:

- Release parking brake (black button) (Fig. 14/1).
- The red button (Fig. 14/2) serves for releasing the brake when the brake hoses are not applied (manoeuvring).



After any adjustment of the brakes conduct a brake test!

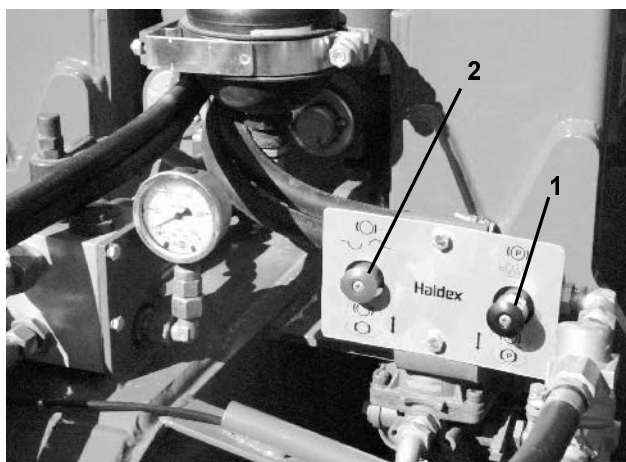


Fig. 14

- Remove chocks and secure in the pockets (Fig. 15) on the frame side.



Fig. 15

5.1.3 Traffic lights

- Connect the power cable of the traffic lights with the tractor.



Check traffic lights for proper function!

5.2 Dismounting

- Secure the Centaur with both chocks against unintended rolling away.
- Centaur 5001-6001:
 - Swivel downwards the support stand, lock with setting pin and secure by using lynch pin..
 - Pull out the parking brake (black button).
 - Remove the brake hoses and close the coupling heads.
- Insert the hydraulic hoses in the provided parking kit (Fig. 16/1).
- Release draw bar and unhook..



Before lowering the machine place planks underneath the shears/discs. For a prolonged stand still we recommend to apply an anticorrosive coating to the tools.

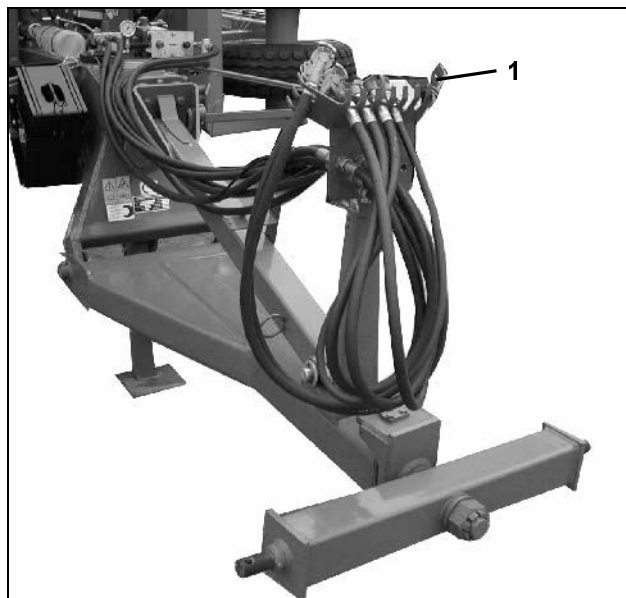


Fig. 16

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



Agricultural and forestry implements should be provided with traffic light and warning places according to the national legal traffic rules. (Fig. 17, Fig. 18)



The traffic lights must correspond to the national legal traffic rules.



Check traffic lights for proper function!



When transporting mounted implements the traffic lights of the tractor must not be hidden.



The transport width of 3 m should not be exceeded. Fold in roller segments!



Centaur 5001-6001: For prolonged travel on public roads increase the tyre air pressure to 2 bar.



Centaur 5001-6001: The transport height of 4 m should be maintained. This is ensured with a ground clearance of 25 cm.



Centaur 5001-6001: Attach protective canvas!



Slide in side discs and secure.



Maximum speed:
40 km/h – Centaur 5001, 6001.
25 km/h – Centaur 3002, 4002.

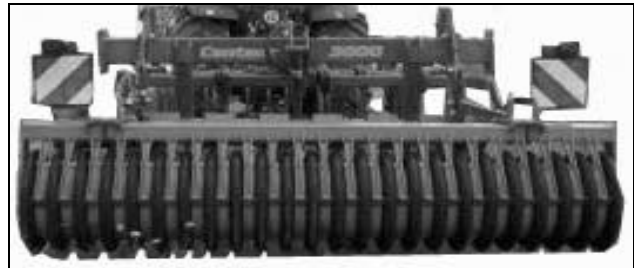


Fig. 17

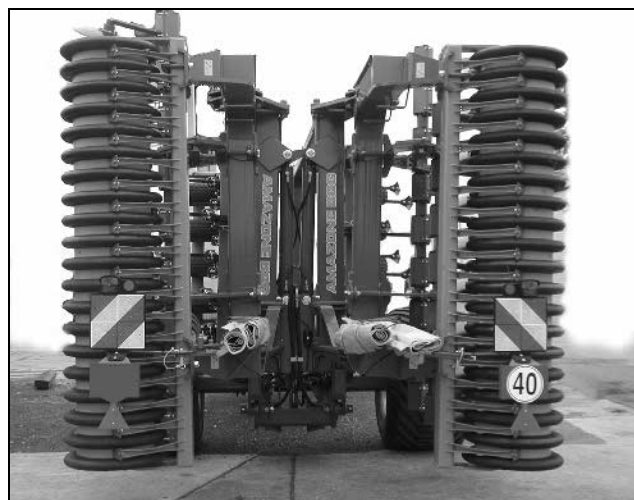


Fig. 18

Centaur 5001-6001:

Attach the protective canvas.

- Attach protective canvas to the shears on the l.h. and r.h. side (Fig. 19). For this pull the loops over the tines and affix the canvas with tightening cords on the frame.
- Apply protective canvas for the l.h. and r.h. side discs. For this affix the canvas at the front of the disc folding frame (Fig. 20) and tighten with the tightening cords at the rear on the folding frame (Fig. 21).



Fig. 19

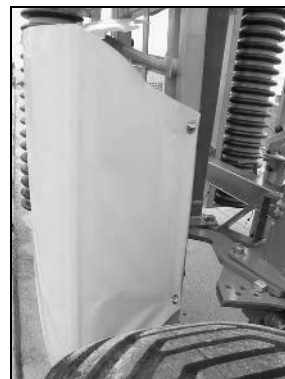


Fig. 20



Fig. 21



Danger of injury on tines and discs when attaching protective canvas.

(Fig. 22) Position of the protective canvas Centaur 5001 - 6001 in working position.



Fig. 22

7. Settings

7.1 Working depth



Lift the machine with the aid of the tractor's rear hydraulics / draw bar ram and the running gear lifting ram to free the depth setting of the tools.

To ensure an accurate depth guidance the shears (tines) are individually height adjustable. By resetting and/or twisting the eccentric pins (Fig. 24) allow a nearly infinitely variable setting of the working depth.

Reset the eccentric pin in a inserting point up-or downwards the working depth is changing of the tines and the discs on the lowered implement (Fig. 24).

The fine tuning of the working depth is achieved by twisting the eccentric pin from position 1 (shallow) up to position 4 (deep).

- Slacken clip pin.
- Insert the eccentric in higher/lower and/or turn (Position 1-4).
- Fix clip pin.



The selected inserting points must coincide on all inserting units. The stops of the eccentric pins should also coincide regarding their numbers



A quarter turn of the eccentric pin corresponds to a working width depth of 15 mm. Re-inserting the eccentric pin into the next hole corresponds to a working depth change of 60 mm.



Danger of squeezing between eccentric pins and support arms.

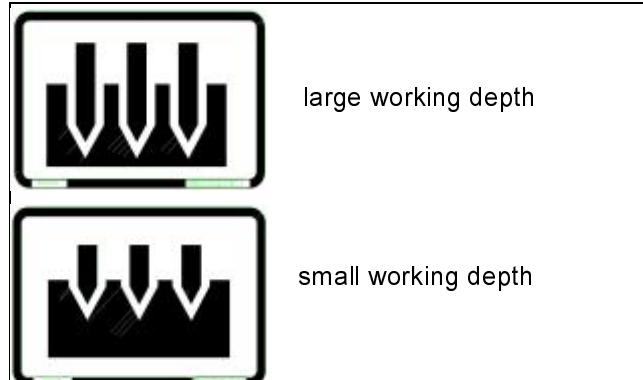


Fig. 23



Fig. 24

7.2 Working depth of the disc harrow

The depth guidance of the disc segments is carried out via the rear roller and set with each one eccentric pin on the inserting units of the disc segment (Fig. 25, Fig. 26).

Re-inserting the eccentric pin

- upwards increases the working depth of the discs.
- downwards reduces the working depth of the discs.

Turning the eccentric pin

- in Position 1 reduces the working depth of the shears.
- in Position 4 increased the working depth of the shears.

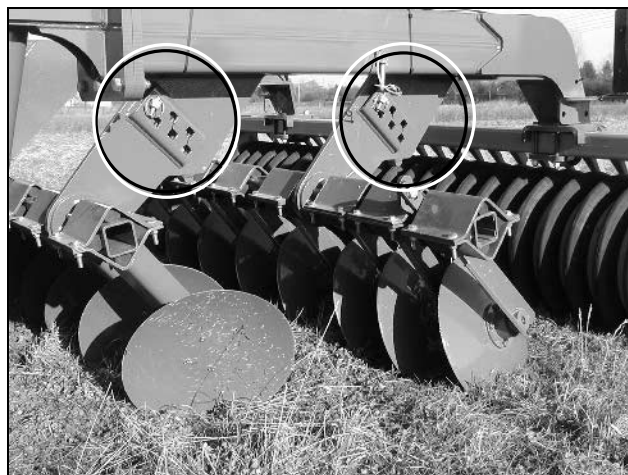


Fig. 25

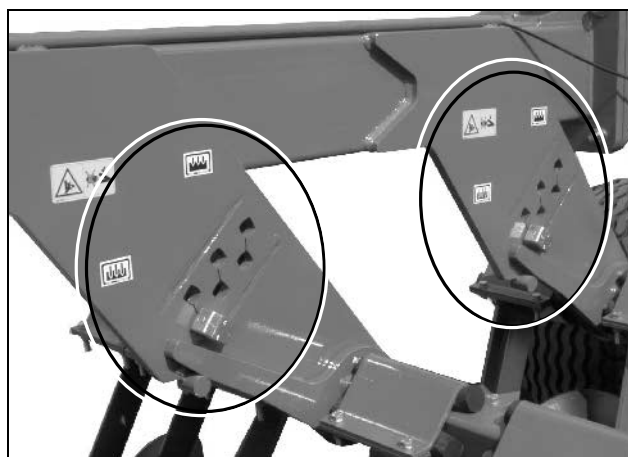


Fig. 26

7.3 Working depth of the shears - manual -

Centaur 5001 – 6001: standard fittings

The depth guidance of the shears (tines) is carried out via the roller in the front and at the rear and is set with the aid of eccentric pins:

- 2 eccentric pins on the front inserting units (Fig. 27).
- 2 eccentric pins on the rear inserting units (Fig. 28).

Front depth guidance (Fig. 27)

Re-inserting the eccentric pins

- upwards increases the working depth of the shears.
- downwards reduces the working depth of the shears.

Turning the eccentric pin

- in Position 1 reduces the working depth of the shears.
- in Position 4 increases the working depth of the shears.

Rear depth guidance (Fig. 28):

Re-inserting the eccentric pin

- upwards reduces the working depth of the shears.
- downwards increases the working depth of the shears.

Turning the eccentric pin

- in Position 1 reduces the working depth of the shears.
- in Position 4 increases the working depth of the shears.



Fig. 27

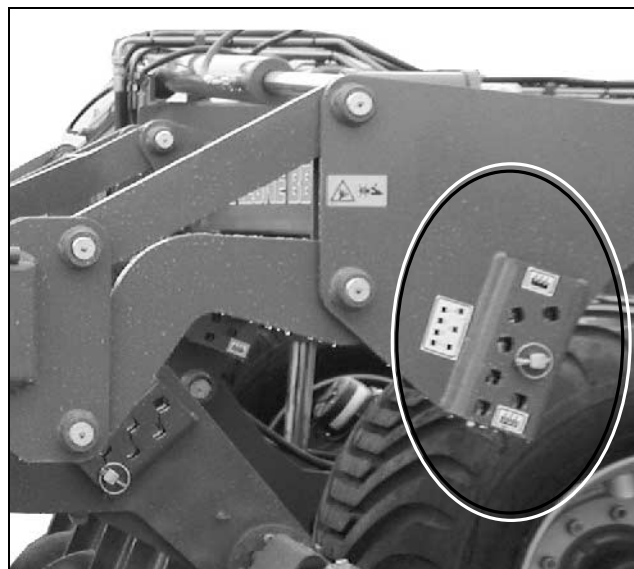


Fig. 28

7.4 Working depth of the shears - hydraulic

Centaur 3002-4002: standard fittings

Centaur 5001 - 6001: optional equipment

Set the working depth of the shears via a double acting control spool valve on the tractor..

For your guidance regarding the setting depth, please refer to the depth scale (Fig. 29/1) (indication from 0-8).

Indication scale 0 – minimum working depth

Indication scale 8 – maximum working depth

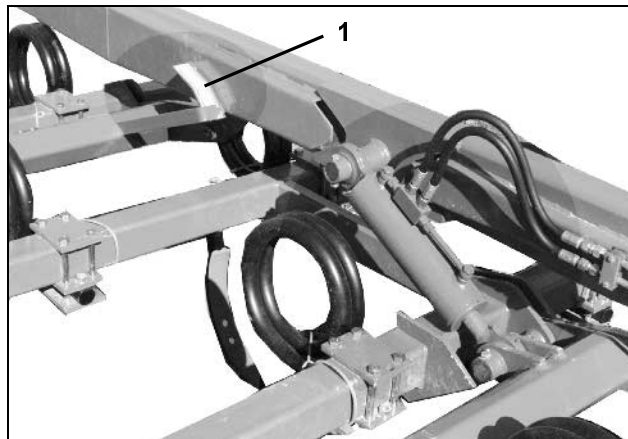


Fig. 29

7.5 Setting the scraper on the wedge ring roller

The scrapers (Fig. 30) are factory set. In order to adapt the setting to the operational conditions proceed as follows:

- slacken bolted connections
- set the scraper in the slotted hole.
- retighten bolted connections.



Do not set the distance between scraper and intermediate ring smaller than 10 mm. Otherwise danger of excessive wear.

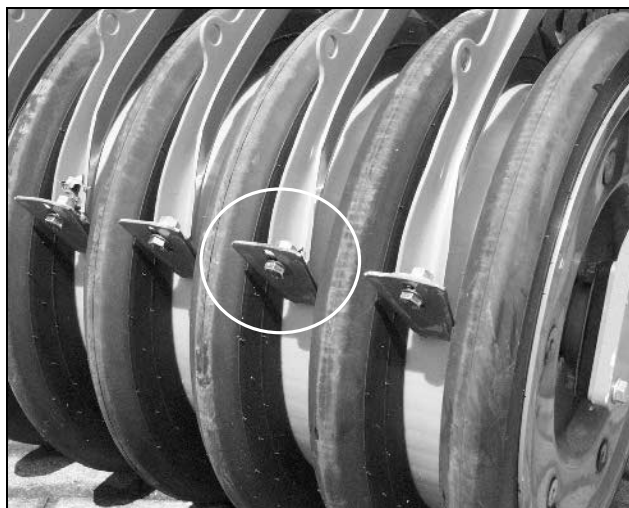


Fig. 30

8. Starting up

8.1 Conversion from the transport into the operational position

8.1.1 Centaur 3002/4002

- Conversion on level ground.
- Bring side discs (Fig. 31) into operational position:
 - Pull out the side discs and affix by using securing pins and lynch pins.
- Lower the tools:
 - Lift the running gear with the aid of the double acting control valve.
 - Lower the tractor rear hydraulics.

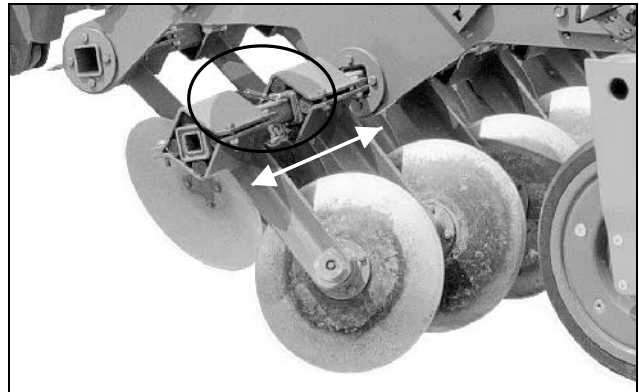


Fig. 31

8.1.2 Centaur 5001-6001

- Conversion on level ground.
- Remove protective canvas and fix on the frame (see para.6).
- Open the block tap for the hydraulic locking of the running gear (Fig. 32, Pos A).
- Raise the running gear with the aid of the double acting control valve right up to the stop to release the boom locking (Fig. 33/1).
- Fold down the boom with the aid of the double acting control valve.
- Bring the side discs (Fig. 31) into operational position:
 - Pull out the side discs and secure with the aid of securing pins and lynch pins.
- Lower the tools:
 - Lift the running gear with the aid of the hydraulics.
 - Lower the machine with the aid of the tractor rear hydraulics / lower hydraulic ram of the hitch draw.
- Swivel upwards the rear traffic light kit into operational position and secure.



Fig. 32

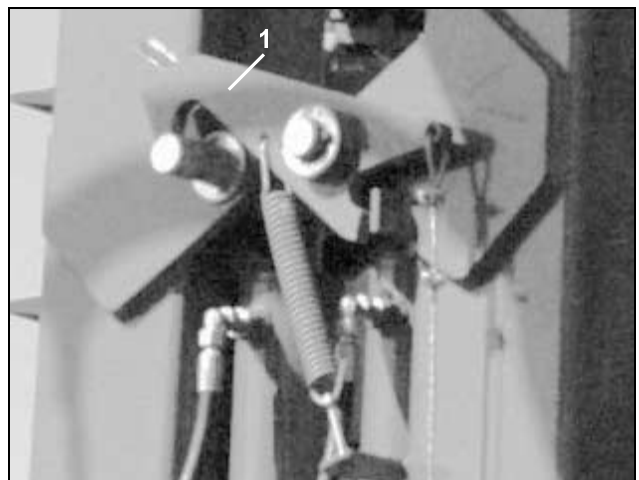


Fig. 33



When folding down the booms observe a minimum distance of 5 m.

8.2 Operation

- Mount the disc harrow onto the tractor.
- Connect hydraulic system.
- The working depth of shears and disc harrow is set.
- The machine is in operational position (Fig. 34).
- Centaur 5001-6001: (s. Kap. 8.3).



Fig. 34



When coupling with the aid of the hitch draw bar: Keep the hydraulic ram of the hitch draw bar in float position whilst operating to allow a good cross adaptation of the machine.



When coupling with the lower links: Set the tractor hydraulic in such a way that the draw bar pin (Fig. 35/1) is in the centre range of the slotted hole during operation.

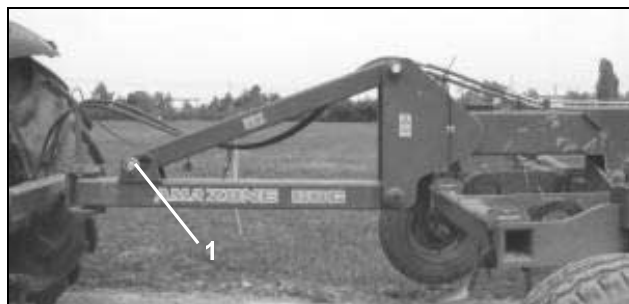


Fig. 35



Do not back up with the implement in operational position.

8.3 Relief of frame on Centaur 5001-6001

- With the aid of the hydraulic ram for folding in and out the weight of the running gear frame is distributed to the booms.
- The pressure gauge (Fig. 36/1) indicates the pressure of the rams.
- In the horizontal position of the **Centaur 5001-6001**:
 - **Centaur 5001: 20-30 bar**
 - **Centaur 6001: 30-40 bar**
- By actuating the tractor control spool valve in the direction "folding out" the pressure is increased.
- By actuating the control spool valve in the direction "folding in" the pressure is reduced.

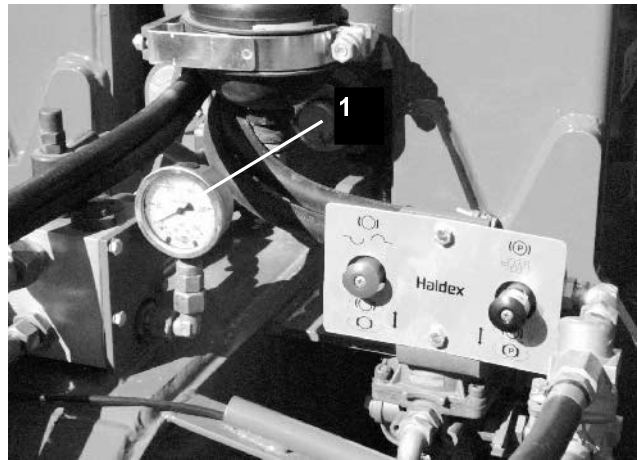


Fig. 36

8.4 Operation at the headlands



Prior to driving sharp bends at the headlands raise the implement to avoid a lateral burdening of the tools.



Only lower the implement at the headland when the direction of the implement coincides with the operational direction.

8.5 Conversion from the operational to the transport position

8.5.1 Centaur 3002/4002

- Lift the machine on level ground:
 - Lift the machine with the aid of the tractor hydraulics.
 - Lower the running gear hydraulically with the aid of the double acting control spool valve.
- Clean the tools.
- Slide in the side discs (Fig. 37) and affix by using securing pins and lynch pins.

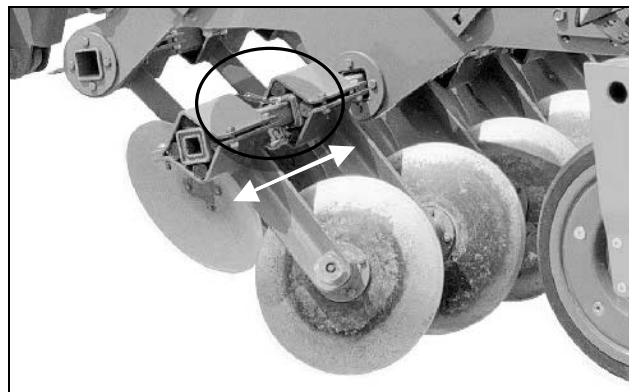


Fig. 37

8.5.2 Centaur 5001 - 6001

- Lift the machine on level ground right up to the stop:
 - Lift the machine with the aid of the tractor rear hydraulics / hydraulic ram of the hitch draw bar.
 - Lower the running gear with the aid of the double acting control spool valve.
- Clean the outer tools.
- Slide in the side discs (Fig. 37) and affix by using securing pins and lynch pins.
- Swivel down the traffic light kit (Fig. 38) into the transport position, set with pins (Fig. 38/1) and secure.
- Fold in the machine with the aid of the double acting control spool valve hydraulically.

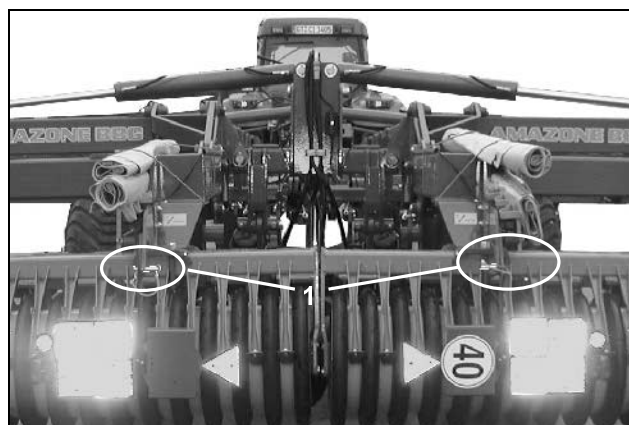


Fig. 38



Before folding in, lift the machine right up to the stop. In case of too a small lifting height the booms may touch the ground resulting in damage on the machine.



Check the locking of the booms in the transport position(Fig. 39)!



Fig. 39

- Clean the centre tools.
- Lower the machine so that frame and tools are free and parallel to the ground.
- Shut the block tap for the hydraulic locking of the running gear (Fig. 40/Pos.B) in order to prevent an unintended lowering of the machine during transport
- Clean the traffic light kit and check for function.
- Apply protective canvas (s. Kap.6).
- When parking the Centaur in the transport position swivel downwards the supporting stand (Fig. 41), set using pins and secure with the aid of lynch pins.



For transport ensure a ground clearance of approx. 25 cm.

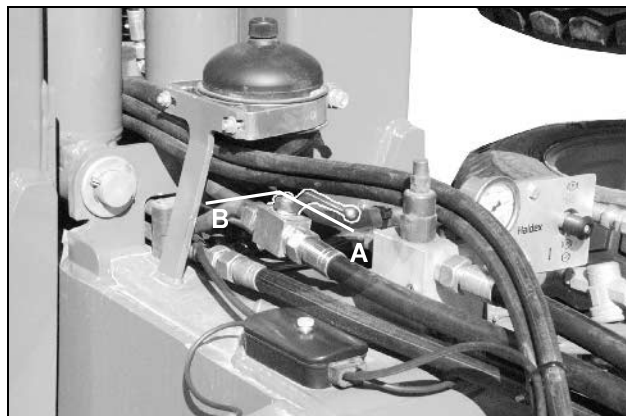


Fig. 40



Fig. 41

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 servicing a raised unit always ensure it is secured by suitable supports.



Check air pressure of the tyres regularly!



Check the proper hose and cable routing and hose couplings and tube joints of the hydraulics for leakages.



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

For mounting and dismantling use additional the longer screws

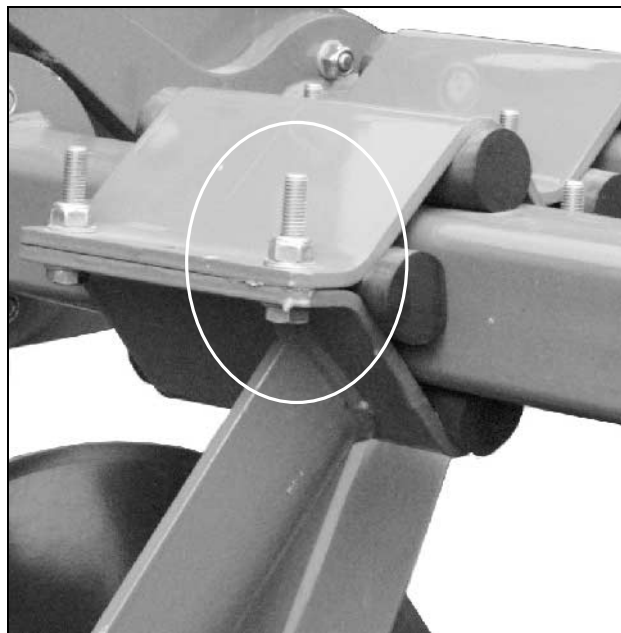


Fig. 42



- When carrying out electric welding on tractor and coupled implement remove the cables on tractor and battery of the tractor.
- Check traffic lights for function.
- When carrying out repair work with paint work ensure that the product graphs and hint signs are renewed.
- The bolted connections on the towing rod (lower link flange plates) should be regularly checked for firm seating and wear.
- Exchange worn and damaged parts. Only use original spare parts.
- Lubricate all indicated greasing points according to the lubrication advice (para.10) and apply grease to all slide- and hinge points.
- Clean the tools after operation

9.1 Running gear

- Check nuts of the tyres for tightness daily and retighten if necessary.
- Check air pressure of the tyres:

Front roller tyres	4,3 bar
Lifting axle	1,9 bar
- Check tube filter and clean if necessary.
- Check the brake system for each operation.
- Check the brake system for leakage. With switched off motor and a reservoir pressure of 5.3 bar the pointer of the barometer must remain unchanged for 3 minutes. If a loss of pressure is noted within this period of time, the fault should be remedied by an authorised workshop.
- Check brake hoses for proper condition. Exchange damaged brake hoses.
- Drain air reservoir, if necessary.



Any welding or soldering on control units and tubes is prohibited. Exchange damaged parts.

9.2 Hydraulic hoses

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

If hoses are found defective in any way, exchange 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 leakages
- Check the appropriate fitting of the hoses
- Check the hose 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

Hydraulic hoses are as follows:

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

9.2.2 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.

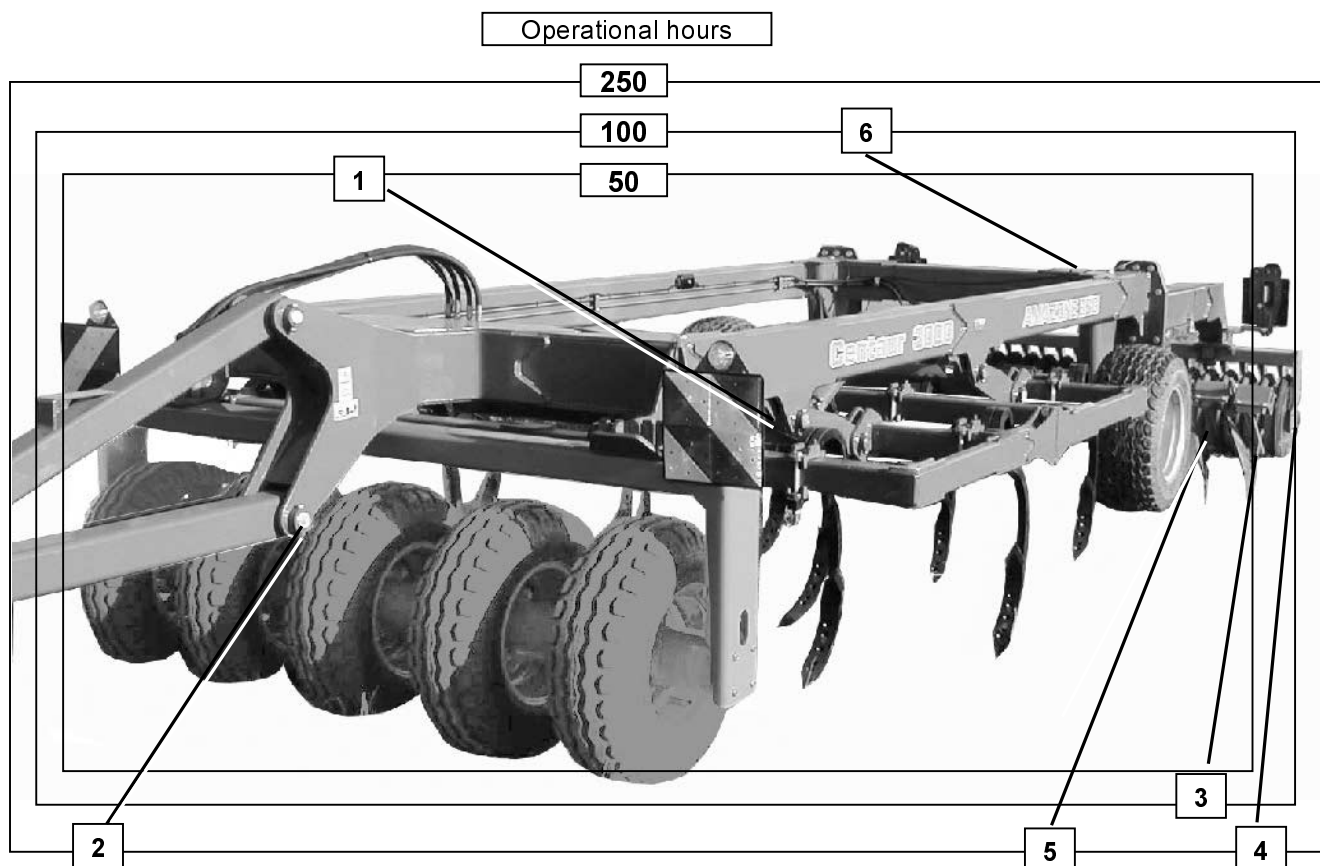
9.3 Cleaning of the machine

- Clean the machine with a jet of water or a high pressure cleaner.
- Lubricate all grease nipples (keep sealings clean).

10. Lubrication advice

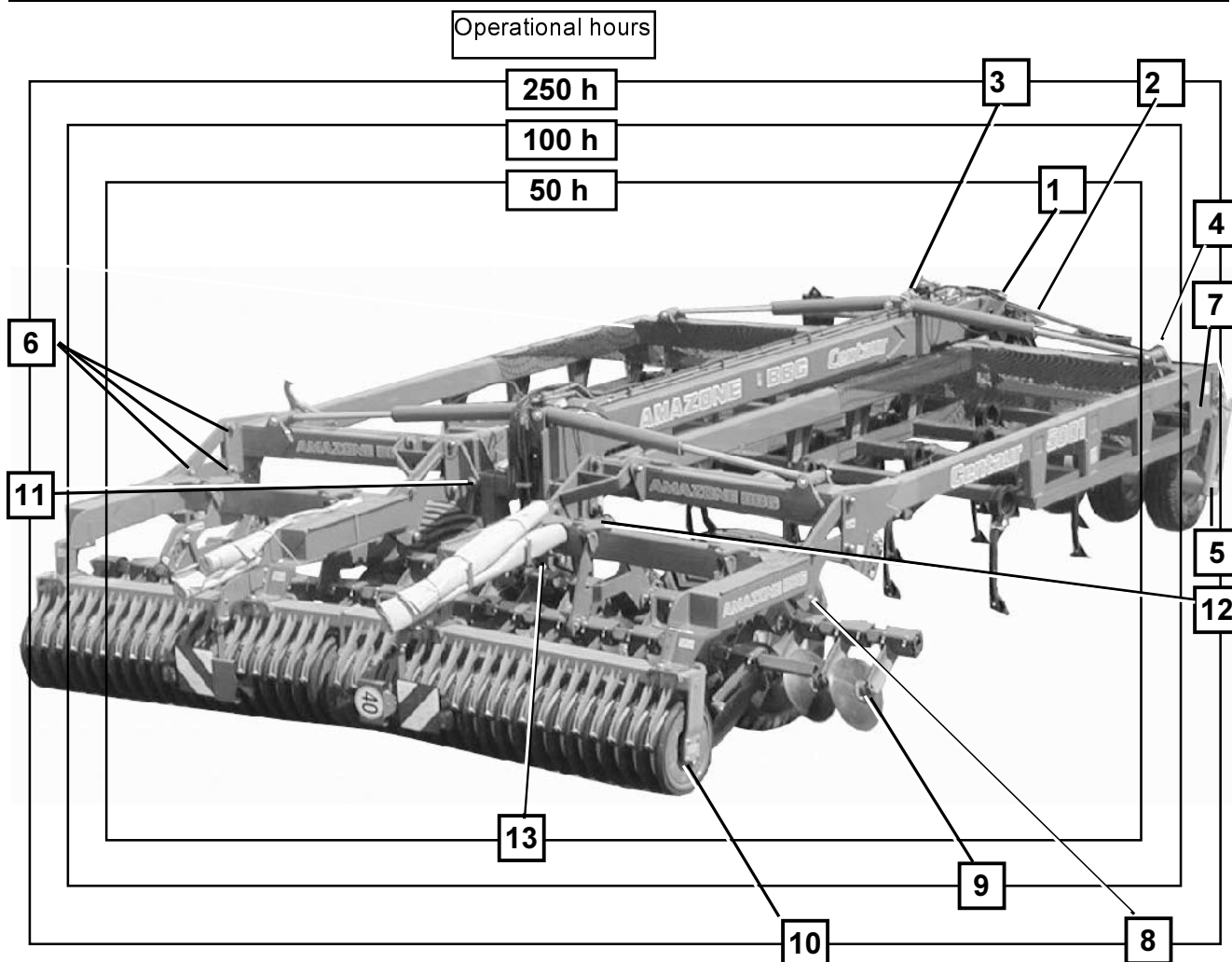
10.1 Lubrication advice Centaur 3002/4002

	Description	Qty.	Lubricating interval	Lubricant	Comment
1	Swivel bearing of towing device	1	50 Operational hours	SWA 532	
2	Bearing of towing rod	1	250 Operational hours	SWA 532	
3	Disc bearing	16	100 Operational hours	SWA 532	
4	Flange bearing following rollers	2/4	250 Operational hours	SWA 532	
5	Axle pin	2	250 Operational hours	SWA 532	
6	Joint eyes of the lifting ram	2	100 Operational hours	SWA 532	



10.2 Lubrication advice Centaur 5001/6001

Item	Description	Qty.	Lubricating interval	Lubricant	Comment
1	Swivel bearing of towing device	4	50 Operational hours	SWA 532	
1	Hitch draw bar and ball head coupling	5+1	50 Operational hours	SWA 532	
2	Bearing of towing bar	2	250 Operational hours	SWA 532	
3	Joint eye of working ram	4	250 Operational hours	SWA 532	
4	Joint eye of piston rod head	4	250 Operational hours	SWA 532	
5	Flange bearing rollers	4	250 Operational hours	SWA 532	
6	Steering bearing rear frame	14	250 Operational hours	SWA 532	
7	Steering bearing front roller	4	250 Operational hours	SWA 532	
8	Hinge bearing of disc	1x	250 Operational hours	SWA 532	
9	Disc bearing	1x	100 Operational hours	SWA 532	
10	Flange bearing following rollers	4	250 Operational hours	SWA 532	
11	Hinge bearing centre frame/outer frame	4	250 Operational hours	SWA 532	
12	Brake lever	3x2	250 Operational hours	SWA 532	
13	Joint eyes of the lifting ram	2	50 Operational hours	SWA 532	









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