

OPERATING MANUAL

AMAZONE

LIFT GROUNDKEEPER

GHL 02 135, 150
GHL-T 02 120, 135, 150



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PREFACE

The Lift Groundkeeper is an implement for scarifying and mowing from the comprehensive product range of the AMAZONEN-WERKE, H. Dreyer GmbH & Co. KG.

In order to make full use of your newly purchased “AMAZONE-Lift Groundkeepers 02”, please carefully read and adhere to this operation manual before starting to operate your machine.

Especially adhere to the safety advice and warning symbols on your machine.

Ensure that all operators read this operation manual before they operate the machine.

Your Lift Groundkeeper complies only with the regulations of the agricultural health and safety authorities when in case of repair original spare parts of AMAZONE are used for replacement.

This instruction manual is valid for the AMAZONE-Lift Groundkeeper 02.

1. Details about the machine

1.1 Range of operation

The AMAZONE-Lift Groundkeeper 02 has been designed for mowing and scarifying lawns, sportfields, parks etc. In Autumn it sweeps, collects and chops fallen leaves.

1.2 Manufacturer

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1.3 Conformity declaration

The Lift Groundkeeper 02 fulfils the requirements of the EU Guide Line machines 89/336/EC and the corresponding additional guide lines.

1.4 Details when making enquiries and ordering

When ordering options or spare parts, please always state the serial number of your Lift Groundkeeper 02.



The safety requirements are only fulfilled when, in the event of repair, original AMAZONE spare parts are used. Using other parts may rule out the liability for resulting damage.

1.5 Identification of the machine

Identification plate on the machine (ill.1/1)



ill. 1



The entire identification is of documentary value and may not be changed or disguised!

1.6 Technical data.

Type GHL 02	135	150
Working width	1.35 m	1.50 m
Total width	1.70 m	1.85 m
Dead weight	460 kg	500 kg
Tyre equipment (front)	260 x 85	260 x 85
Air pressure (front)	1.5 bar	1.5 bar
Total height	1.60 m	1.60 m
Hopper volume	1800 l	2000 l

Semi-mounted type

Type GHL/T 02	120	135	150
Working width	1.20 m	1.35 m	1,50 m
Total width	1.55 m	1.70 m	1,85 m
Dead weight	474 kg	497 kg	540 kg
Tyre equipment (rear)	15 x 6.00-6	6 x 6.5-8	16 x 6.5-8
Air pressure (rear)	2 bar	2 bar	2 bar
Total height	1.60 m	1.60 m	1.60 m
Hopper volume	1000 l	1100 l	1200 l

1.6.1 Noise levels

The operator seat related emission value (sound pressure level) is:
LpA = 98 dB(A). Measured when operating at the ear of the operator.
Value of the maximum noise level: LwA = 115 dBA).

1.7 Inappropriate use of the machine

The AMAZONE-Lift Groundkeeper 02 has been designed for use exclusively on turf's. It has been designed for mowing, scarifying and collecting the mown grass and leaves in Autumn.

Any use beyond those stipulated above is not considered designed use and the manufacturer does not accept any liability or responsibility for damage arising from this; therefore the operator carries the full risk.

The concept of "designed use" requires the operator to adhere to the recommended maintenance and repair programmes and to ensure that any spare parts used are **genuine AMAZONE spare parts**.

The AMAZONE-Lift Groundkeeper 02 should only be operated, maintained and repaired by persons, who are familiar with the machine and aware of the relevant dangers posed.

Observe all advice regarding accident prevention and adhere to the general regulations pertaining to health- and safety and traffic in your country. Strictly follow the warning- and advice signs on the machine, its components and options.

Modifications made to the AMAZONE-Lift Groundkeeper 02 by the owner/user may result in damage and therefore the manufacturer does not accept liability for damage to modified machines.

2. Safety advice

This operators manual contains basic advice that should be observed when mounting, operating and maintaining the machine. Therefore, this operators manual must be read by the operator prior to use and must be made available to him.

All the safety advice given in this manual should be carefully observed and adhered to.

2.1 The risks of not adhering to the safety advice

Not adhering to the safety advice

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

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

- Failure of important functions.
- Failure of prescribed measures for maintenance and repair.
- Danger to persons by mechanical or chemical means.
- Danger to persons or the environment from leaking hydraulic oil.

2.2 Qualification of the operator

The AMAZONE-Lift Groundkeeper 02 may only be operated, maintained and repaired by persons, who are familiar with it and have been informed of the relevant danger.

2.3 Specification of “hints” in the operation manual

2.3.1 General danger symbol



Safety advice considered necessary to avoid the risk of personal injury is identified with the general danger symbol (according to DIN 4844-W9).

2.3.2 Attention symbol



Advice to avoid damage to the machine or working environment is identified with the Attention symbol.

2.3.3 Hint symbol



Advice regarding the machine's specific operating functions which should be followed for a faultless performance are identified with the Hint symbol.

2.3.4 Warning pictographs and hint symbols on the machine

- The warning pictographs indicate dangerous points on the machine. These pictographs should always be observed for safe operation of the machine. Warning pictographs always appear with safety/warning symbols.
- The hint symbols indicate specific points that have to be observed to ensure maximum performance.
- Strictly observe all warning pictographs and hint symbols!
- Please pass on all safety advice to other users!
- Always keep all warning pictographs and hint signs clean and legible.

Please replace damaged symbols. These can be ordered from your dealer (picture-number = Order-number).

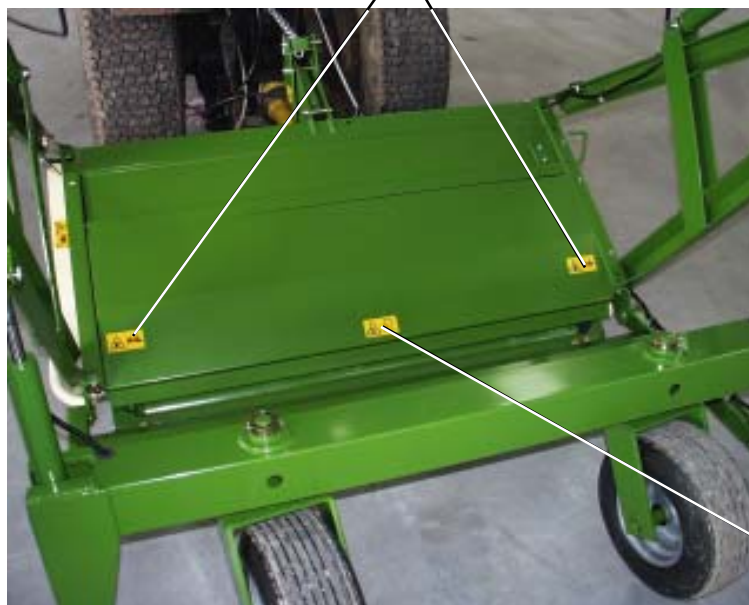
- The illustrations 2, 3, 4, 5 and 6 show the display points for warning pictographs and hint signs. Please refer to the following pages for relevant explanations.



MD 095

ill. 2

MD 078



MD 075

ill. 3



MD 076

ill. 4



MD 078

ill. 5



MD 081

ill. 6

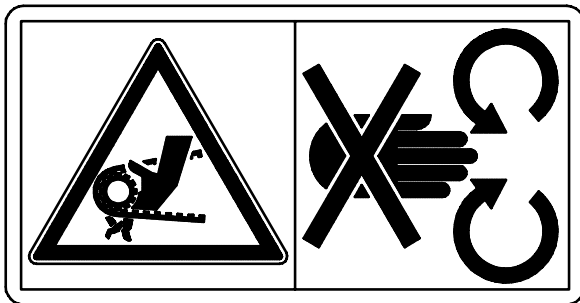


MD075

Fig. No.: MD075

Explanation :

Do not stay within the zone of spinning mowing units!
Do not touch moving implement parts!
Await their absolute standstill!
Wait until all machine components have completely stopped before touching them!

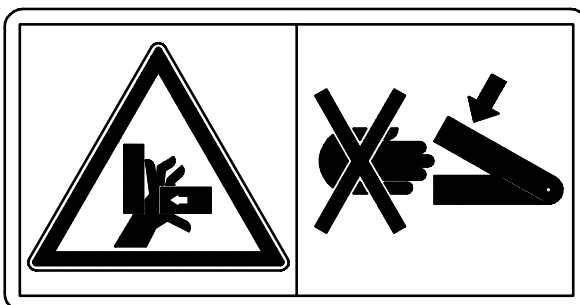


MD076

Fig. No.: MD076

Explanation :

Only start to operate your machine with all guards fitted!
Do not open or remove safety shields while engine is running!
Before removing the guard, stop the engine and remove the ignition key.

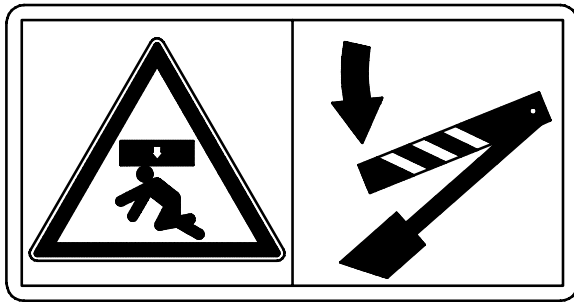


MD078

Fig. No.: MD078

Explanation :

Advise people to leave the danger zone!
Never reach into the crushing area as long as parts may move!



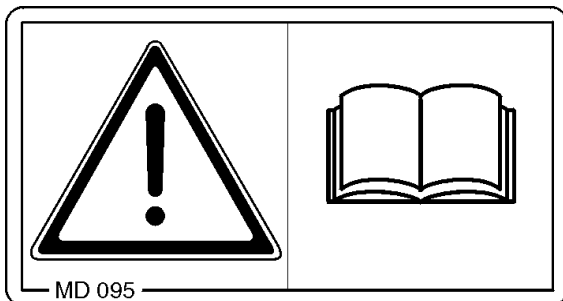
MD081

Fig. No : MD081

Explanation :

Before entering the danger zone, lock the lifting rams !

Secure lifting cylinder with locking device before getting in hazardous area.



MD 095

Fig. No.: MD095

Explanation:

Carefully read operator's manual before handling the machine.

Observe instructions and safety rules when operating !

2.4 Safety conscious operation

Besides the safety advice in this operators manual, the national and generally accepted operational safety and accident prevention regulations of the authorized trade association are binding.

The safety advice indicated on the machine stickers must be observed.

2.5 Safety advice for the operator

2.5.1 General safety and accident prevention advice



Basic principle!

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

1. Besides the remarks made in these operating instructions observe the generally applicable safety regulations and rules for the prevention of accidents.
2. The warning symbols and signs attached provide important instructions for a safe operation; follow them for your personal safety.
3. Observe the respective regulations when using public roads.
4. Make yourself familiar with all facilities and operating elements as well as their functions before you start to work. Afterwards, when the machine is already in operation, it will be too late to do so.
5. The user's clothes shall fit tightly. Avoid loosely worn clothes.
6. Check the immediate surroundings before starting and before commissioning. (Children!) Ensure sufficient visibility.
7. Passengers are not allowed on the unit at any time.
8. Couple the units correctly and to the appropriate type and size of power unit.
9. Special care is necessary when coupling and uncoupling units to or from the tractor.
10. Place the supports in the corresponding position when mounting or dismounting. (Stability!)
11. Comply with the axle weight limits of the tractor (refer to the motor vehicle registration book).

12. Watch for outside transport dimensions according to the motor vehicle construction and use regulation!
13. Check and install transport equipment such as lighting, warning devices and protecting devices, if any.
14. Release ropes for quick hitches must hang loosely and must not be able to be release automatically when being used in a low position.
15. Road behaviour, steering and braking action are influenced by mounted or coupled units and by the loading weight. Therefore take care that the steering and braking action is sufficient.
16. When the Groundkeeper is lifted the front axle of the tractor is relieved differently depending on the respective size. Watch for compliance with the required front axle weight (20 % of the tractor weight).
17. In cornering, the wide radial range and/or the centrifugal mass of the unit have to be taken into account. To prevent the unit from swinging back and forth, brace the lower link arms of the three-point hydraulic system.
18. Only put the unit into operation if all protecting devices have been fixed in their protective positions.
19. Keep off the working area.
20. Do not stay in the turning and swivelling zone of the unit.
21. Hydraulic folding frames may only be activated if no persons stay in the swivelling zone.
22. There are crush and shearing points at parts activated by external forces (e. g. hydraulic actuation).
23. Before leaving the tractor put the unit down on the floor, turn off the motor and take out the ignition key.
24. Nobody is allowed to stay between the tractor and the unit without the vehicle being secured against rolling away by the parking brake and/or by wheel chocks.

2.5.2 Mounted Units

1. Before mounting and dismounting of units to the three-point linkage put the operating control into the position where unintentional lifting or lowering are excluded.
2. The mounting categories for tractor and unit in the case of a three-point linkage must by all means be in conformity with each other or be adjusted.
3. In the area of the three-point linkage there is danger of injuries by crushing and shearing points.
4. Do not step between tractor and unit when operating the external control for the three-point linkage.
5. When the unit is in transport position, always take care that the tractor three-point linkage is sufficiently controlled laterally.
6. For road transports with lifted unit, the operating lever must be locked against lowering.
7. Couple/mount the units according to the regulations. Check functioning of the trailer braking system. Comply with the manufacturer's instructions.
8. Operating units shall only be transported and driven with the tractors provided for this purpose.

2.5.3 Power take-Off

1. All PTO shafts used must be in conformity with those stipulated by the manufacturer and be equipped with protecting devices complying with the regulations.
2. Protective tube and protective guard of the PTO shaft as well as power take-off protection - on the implement input shaft - must be mounted and be in a proper condition.
3. For PTO shafts, the prescribed tube overlap in transport and working positions have to be observed. (Comply with the operating instructions of the PTO shaft manufacturer!)
4. The PTO shaft shall only be mounted and dismounted when the power take-off shaft is switched off, the motor is turned off and the ignition key is taken out.
5. Always watch for correct mounting and securing of PTO shaft.
6. Secure PTO shaft protection against following by suspending the chains.
7. Make sure before switching the power take-off shaft on that the selected power take-off speed of the tractor is in accordance with the admissible power take-off speed of the unit (operating speed). As a rule, the power take-off speed is 540 rpm.
8. Careful coupling saves tractor and unit.
9. Before switching the power take-off shaft on take care that nobody is in the danger zone of the unit.
10. Never switch the power take-off shaft on when the motor is turned off.
11. When the power take-off shaft is operated nobody is allowed to stay in the area of the swivelling power take-off shaft.
12. Always switch the power take-off shaft off if the operating angles are too large and if it is no longer needed.

13. Caution! After the power take-off shaft has been switched off there is danger by after-running centrifugal force. Keep clear of the unit during this period. Operations at the unit may only be carried out after the unit has come to a total standstill.
14. The power take-off driven unit or the PTO shaft may only be cleaned, greased or adjusted when the power take-off shaft is switched off, the motor is turned off and the ignition key is taken out.
15. Deposit the uncoupled PTO shaft on the holding device provided for this purpose.
16. After the PTO shaft has been dismantled attach protective covering on power take-off stub.
17. Damages are to be repaired immediately before the unit is operated again.

2.5.4 Hydraulic system

1. The hydraulic system is under high pressure.
2. When connecting the hydraulic cylinders and motors carefully connect the hydraulic hoses.
3. When connecting the hydraulic hoses to the hydraulic system of the tractor see to it that the hydraulic system is depressurized both on the tractor side and on the unit side.
4. Coupling sockets and plugs have to be marked for hydraulic functional connections between tractor and unit to exclude misoperations. When the connections are interchanged, the function is reverse (e. g. lifting/ lowering) - **Danger of Accidents!**
5. Regularly check hydraulic hose pipes and exchange them when showing signs of damage or ageing! The replacement pipes must be in accordance with the technical requirements stipulated by the unit manufacturer.
6. When searching for leakages use appropriate devices on account of the danger of injuries.

7. Liquids being discharged under high pressure (hydraulic oil) may penetrate the skin and cause heavy injuries. Should any injuries have occurred immediately consult a doctor.
8. Before any works at the hydraulic system are carried out, put the unit down, depressurise the system and switch off the motor and remove ignition key.
9. Hose pipes should not be used for more than six years, including a storage period of max. 2 years, if any. Hoses and hose connections are subject to natural ageing, even if properly stored and stressed within the permissible range; therefore their period of storage and usage is limited. Unlike this, the period of usage may be fixed according to empirical values, with particular consideration of the endangering potential. For hoses and hose pipes of thermo plastic construction

2.5.5 General Safety Regulations and Rules for the Prevention of Accidents for Maintenance, Repair and Servicing

1. On principle, only carry out repair, maintenance and cleaning works and only eliminate malfunctions when the drive is switched off and the motor is at a standstill. Take out the ignition key.
2. Regularly check nuts and bolts for tightness - for the first time after 3-4 bin fillings - and tighten, if necessary.
3. When maintenance works are carried out with the unit being lifted, always secure it by appropriate supporting elements.
4. Duly dispose of oils, greases and filters according to Health and Safety regulation.
5. Before any works on the electrical installation are carried out the power supply has to be cut off.
6. When carrying out electrical welding on the tractor or implement, remove cable to battery and generator.
7. **Essential!** Spare parts must at least meet the stipulated technical requirements of the unit manufacturer. This is the case, for instance, if **Original** spare parts are used.

3. Take-over of the Machine

Upon receipt of the machine please find out whether any transport damages have occurred or whether any parts are missing! Only immediate complaints addressed to the forwarding company will result in payments for damages. Please check whether all parts listed on the delivery note are available.

Before starting to work, completely remove the packing including wires and check the lubrication (PTO shaft).

4. Mounting and dismounting of the machine at the rear three-point linkage of the tractor



Before mounting the machine to the tractor, the lower link of the machine must be adjusted to the same distance as the lower link of the tractor. In order to do so, the lower links can be adjusted between Category I and Category II.

- take away the four screws each (ill. 7)
- put the lower link into the desired position
- retighten the screws.



ill. 7

The diameter of the bolts of the lower link is in accordance with category I. Reducing bushings can be used for category II



To ensure safe mounting and dismounting of the machine to and from the tractor (also comply with chapter 2.5.2) it is advisable to proceed in the following order:

- Attach the PTO shaft on the free shaft end at the machine. (If PTO shafts with free-wheel are used, the free-wheel must be attached on the machine side.)
- Attach the lower links to the implements lower link pins.
- Ensure securing lynch pins are fitted.

- Attach the PTO shaft on the power take-off shaft of the tractor.
- (**Attention:** Watch for the correct length of the PTO shaft as otherwise damage may occur to the tractor or to the angular gearbox of the machine when the machine is lifted!)
- Connect the top link.
- Adjust the top link until the pin A is approximately in the middle of its mowing way (ill. 8/1).



ill. 8

- Insert hydraulic pipes.
- Put the support bracket in the working position:
 - take off the pin,
 - fold in the bracket (ill. 8a),



ill. 8a

- secure it with the pin in the working position (ill. 8b).



ill. 8b

- To uncouple the machine you can proceed in reverse order.
- Should you be in possession of a semi-trailed Lift Groundkeeper GHLT please take into account the additional instructions given in Chapter 9.



Expel persons from the danger zone behind and under the machine since the machine can swing out backwards if the top link is unscrewed or fails completely.



The lowering time of the filled unit must at least two seconds. Set lowering throttle in hydraulic system, if any.

4.1 PTO shaft



Only use the PTO shaft prescribed by the manufacturer:

- Walterscheid W 2300 with or without free-wheel for tractors up to 40 HP max.
- Walterscheid W 2400 with or without free-wheel for tractors from 40 HP onwards.



Should you have a tractor without independent power take-off, you must use a PTO shaft with free-wheel. Otherwise, the tractor is kept in motion by the large centrifugal force of the rotor in spite of a disengaged clutch

4.2 Mounting and adaptation of the PTO shaft

4.2.1 Mounting of the PTO shaft

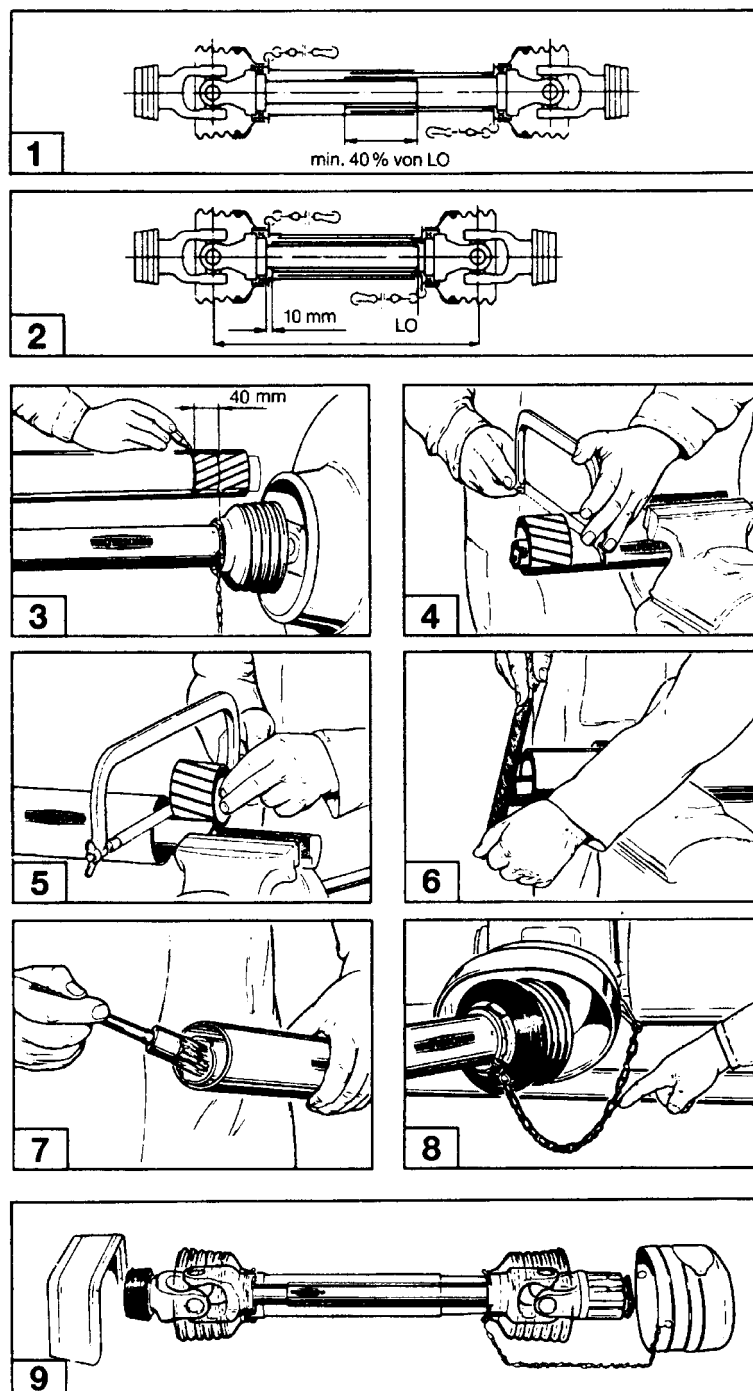


Clean the gearbox input shaft at the machine beforehand and always attach the PTO shaft with grease on the input shaft!

4.2.2 Adaptation of the PTO shaft during first Installation



During first installation adapt the PTO shaft to the tractor according to ill. 9. As this adaptation is only valid for this particular type of tractor check or repeat PTO shaft adaptation when the type of tractor is changed.



ill. 9

During first installation attach the other PTO shaft half on the power take-off profile of the tractor without fitting the PTO shaft guards into each other.

1. By holding both PTO shaft guards side by side check whether a sliding profile overlapping of the PTO shaft tubes of **at least 40 % LO** (length 0) is guaranteed both for a lowered and for a lifted three-point linkage coupled machine.
2. In shortest position, the PTO shaft housings must not bump against the yokes of the universal joints. A safety gap of at least 10 mm must be observed.

3. To adapt the length, hold the PTO shaft halves side by side in their shortest operating position and mark them.
- 4+5. Equally shorten the internal and the external protective tubes.
6. Round off parting edges and carefully remove chips.
7. Grease sliding profiles and fit them into each other.
8. The holding chains have to be anchored in such a way that the construction is stable and the PTO shaft protection does not follow the rotating movement during operation.
9. Only work with a completely protected drive.

Insert PTO shaft with complete PTO shaft guard and complementary protection at the tractor and the unit. Immediately replace the protecting devices when damaged.



The max. cardan angle of a universal joint of the PTO shaft must not exceed 25°.

The PTO shaft manufacturer's mounting and maintenance instructions affixed to the PTO shaft also have to be observed!



To avoid damages only engage the power take-off shaft slowly at a low tractor engine speed!

4.3 Input speeds at the Lift -Groundkeeper 02 gearbox

The Lift Groundkeeper 02 Gearbox is equipped with a power take-off connection (1"3/8, 8 segments). The machine has to be driven with a maximum speed of the driving motor of 540 rpm.

Speed of the driving motor $n = 540 \text{ rpm}$
--



Speeds of the driving motor which are higher than indicated lead to a considerably higher rotor speed. In extreme cases, this might result in the detachment of cutters possibly endangering the operating personnel.

Guarantee claims for damages due to a too high speed of the driving motor of the power take-off shaft will not be accepted.

4.4 Hydraulic connections

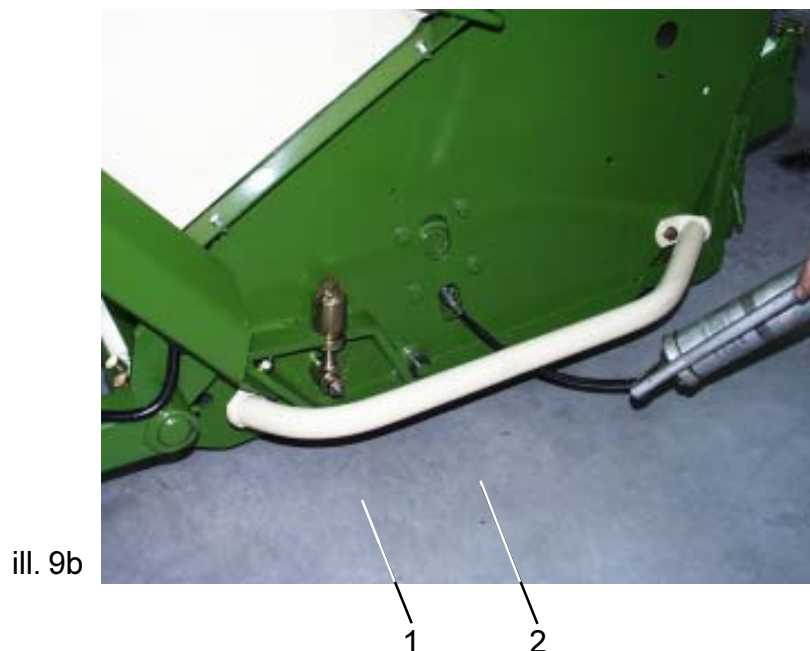
To be able to work with the machine properly, two single acting hydraulic pipes must be available on the tractor. If there is only one single acting pipe available on the tractor, the two ways valve (option) must be fitted on the machine.

A double acting hydraulic ram (option) can be fitted on the machine for lifting up and down the hopper.

Connection 1 (ill. 9b/1)
high lifting of the hopper

Connection 2 (ill. 9b/2)
high lifting of the hopper when double acting hydraulic ram is fitted on the machine (option)

For informations about the LGB-T see chapter 9.1.1



5. The mowing attachment

The Lift Groundkeeper 02 has a flail mowing attachment with mowing blades being oscillatingly suspended from a pipe with a large diameter. When the rotor starts spinning, the mowing and scarifying knives are raised and thus catch hold of the material to be mown and cut it off. The cutters made of special steel are suspended in four rows from the rotor perimeter by means of so-called hooked bolts.

5.1 Mounting of the mowing and scarifying knives

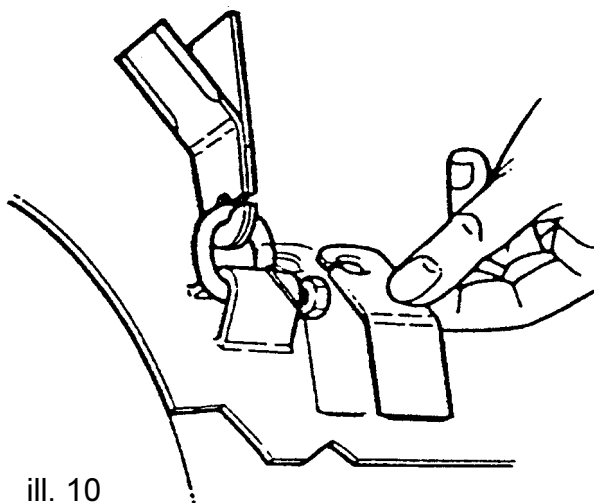
There are five different kinds of knives which are shown in the following table 11 (see p. 30).

If the mowing (A) or scarifying (B) knives used are worn on one side they can be re-used by turning them round. This is possible because both the front and the rear side of the blades are provided with a cutting edge.

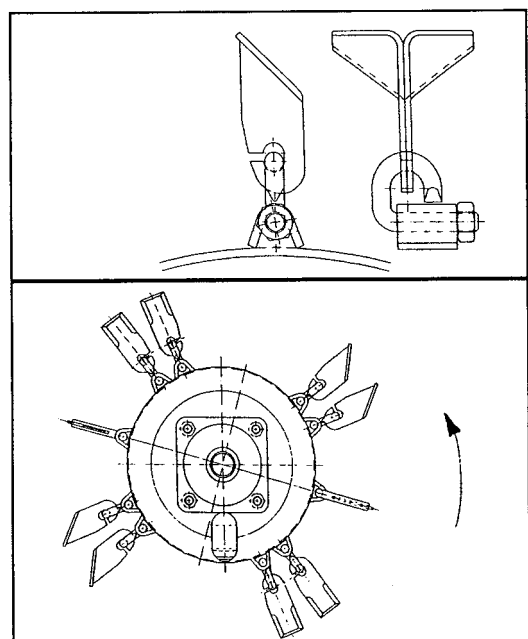
Blades can be turned round or exchanged without any tools (ill. 10).

Note:

It must by all means be ensured that the rotor is completely equipped with the same cutter arrangement. Missing or wrongly mounted mowing knives lead to an unbalanced mass resulting in a damage to the complete machine.



ill. 10



ill. 11

Table 11a



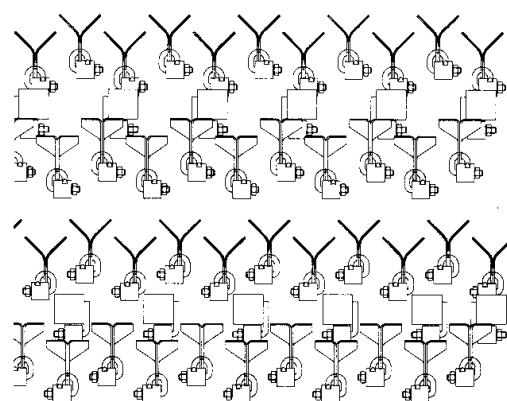
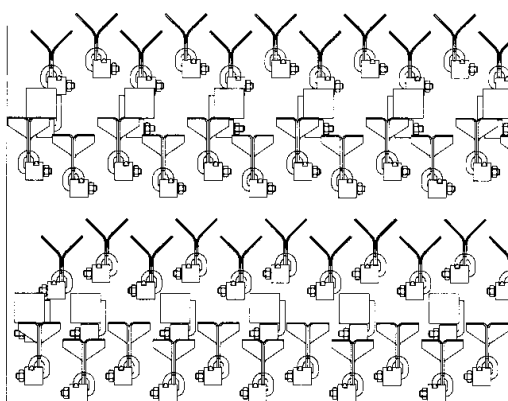
Blades replacement without any tools	100% Cutting blades	100% Scarifying blades	100% cutting + 100% scarifying blades	50% cutting + 50% wing cutting blades (*)	100% short wing blades + 100% scarifying blades
Mowing + collection in dry conditions	● ● ●			● ●	
Mowing + collection in wet conditions	● ●			● ● ●	
Scarifying + collection in dry conditions		● ● ●			
Scarifying + collection in wet conditions		● ●			● ● ●
Collection scarifying result in dry conditions				● ● ● + 100% Scarifying blades	● ●
Collection scarifying result in wet conditions				● ● ● + 100% Scarifying blades	● ●
Mowing, scarifying + collection in one single pass in dry conditions			● ● ●		
Mowing, scarifying + collection in one single pass in wet conditions				● ● ● + 100% Scarifying blades	
Leaf collection in dry conditions	● ● ●			● ● ● + 100% Scarifying blades	
Leaf collection in wet conditions	● ●		● ●	● ● ● + 100% Scarifying blades	
Cutting and in the same time cleaning of horses' paddocks			● ●	● ● ●	● ● ●
Fine cutting in almost all conditions				● ● ● 100% Long wing blades sharpened	

● ● ● very good results

● ● good results

(*) fitted on 2 opposite rows on the rotor with the standard cutting knives on the 2 other rows (ill. 11 + 10A)

III. 10A



ANS-N 32436

The rotor is accessible in the following way:

- Mount the machine on a tractor,
- Lift the hopper until the final position is reached,
- Insert the securing bracket on the right upper lifting ram of the hopper (ill. 12),
- Switch off the tractor engine,
- Fold up the hood (ill. 13).



Attention:

When working at the rotor and lifted hopper at all times ensure that the rotor is at a standstill and that the securing bracket is inserted on the hydraulic ram.



ill. 12



ill. 13

5.2 Mowing

The operating speed is dependent upon the density and humidity of the lawn. It must be adapted to the conditions. The maximum speed of the PTO shaft of 540 rpm has to be observed. The hopper must be emptied in due course to guarantee a clean pick-up. If the hopper is too heavily filled this might lead to clogging in the vertical shaft above the rotor which will not even come off when the hopper is emptied.

5.3 Scarifying

Scarifying is normally carried out at the beginning or at the end of the vegetation growth period.

In order to clean and aerate felted and moss-grown lawn, cutting, scarifying and picking up can all be done in one operation.

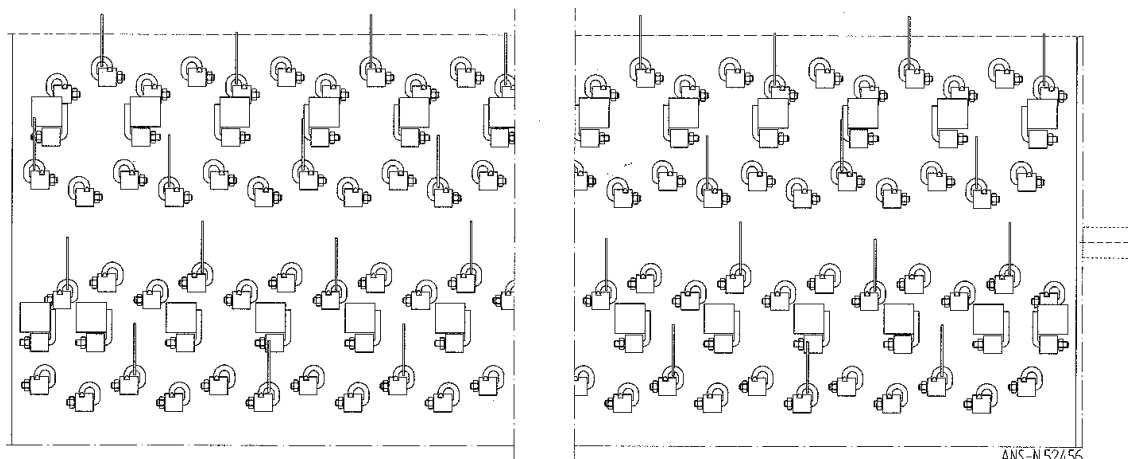
For this purpose, straight scarifying blades are mounted between the bent mowing blades pairs. If the lawn has already been cut short, only the straight blades are mounted. The best suction effect is achieved by a combination of short wing cutting knives and scarifying blades. Therefore, a combination of wing cutting knives and scarifying blades should be used under difficult, wet conditions.

- **wide scarifying, knives spacing 57mm,**

The rotor must be equipped with scarifying knives (see below drawing A).

This allows deeper work without affecting the turf too much.

A



- **narrow scarifying, knives spacing 19mm,**

All hook-bolts on the rotor have to be equipped with scarifying knives.

This method of scarifying is rather aggressive and suited for regeneration work of heavily felted lawn (moss) in spring.



ATTENTION!

1. **The rotor must be absolutely equipped as described on the drawings. Missing flails or wrong placed flails will provide an unbalance of the rotor which will cause failure and damages on the machine.**
2. **Never mix used knives with new knives: this would cause an unbalance of the rotor!**
3. **For scarifying operations with a high soil proportion, only fill about half the hopper since otherwise there is danger of overloading the tractor and the machine frame with a full hopper.**
4. **Moreover, it must be driven carefully with full hopper and lifted machine on uneven ground as otherwise frame damages might occur.**
5. **When the hopper is full, the machine may only be lowered slowly. If the rear supporting roller hits on stones or paved edges, damagemight otherwise occur to the machine.**

5.4 Mulching

If the mowing material is only to be mown, chopped up and then to be dropped immediately, the flap which normally serves as a rotor protection when lifting the hopper can also be closed during the mowing operation. In order to do so, lift the operating bracket (ill. 14) and block the actuation shaft in its closed position (ill. 15).

For coming back to the initial position, lift hydraulically the hopper and lower it in its working position : the flap will be then in the collection position.



ill. 14



ill. 15

5.5 Collection

Due to the high suction effect generated by the rotor, the machine can also be used for picking up already mown or other loose material. During this process the material is lifted by the air suction, chopped up by the rotating blades and blown through the shaft into the hopper. Depending upon the state of the material to be picked up, the deflectors (accessories) might possibly be used to prevent the material from being blown forward.

5.6 Hopper emptying

First of all, the machine is lifted by the three-point hydraulic system of the tractor. Then the hopper is lifted by the laterally attached hydraulic rams. When the machine is discharged on the slope it must not be placed at right angles to the slope in order to prevent the tractor and the machine from tilting. In extreme cases, this could also lead to damages to the machine frame.



Only drive extremely carefully with a lifted hopper!

The hopper closing time must be of at least 8 seconds. This closing speed can be adjusted with the fitted throttle (pic. 16 and 17). (only for double acting hydraulic ram).



ill. 16



ill. 17

6. Adjustment of the cutting height

The observance of a uniform height of cutting is ensured by the rear supporting roller and the front wheels.

The height of the front wheels is adjusted by removing the distance bushings or washers and changing their plug-in connections (ill. 18). In order to do that operation, the machine must be lifted with the three-point linkage of the tractor. The pin must be removed and the bushings must be positioned in accordance with the desired working height.



ill. 16

The supporting roller is adjusted as follows:

- Lift the machine,
- Untighten the blocking nut on the side supporting brackets (ill. 19),



ill. 19

- Bring the supporting roller into the desired position by turning the adjustment bolt (ill. 20),
- Retighten the blocking nut.



ill. 20

The roller must be adjusted on each end at the same height . You can control that on the control scale (ill. 21/1).



ill. 21

6.1 Front roller

For scarifying on uneven ground, a front roller is offered as a special accessory. It is mounted into the same holding devices as those of the front wheels (ill. 22).



ill. 22

For height adjustment, the R-clip and the pint at both sides have to be removed and the roller has to be aligned into the desired position (ill. 23).



ill. 23

7. Cleaning of the machine

Above all, when mowing and scarifying wet grass which is then also partly mixed with soil the machine will soil heavily. In this case, it is

recommended to clean the rotor and the bin intensively by a water jet.

8. Maintenance and servicing

As far as possible, the Lift Groundkeeper has a maintenance-free design. The following points should, however, be observed and dealt with. Please also comply with Chapter 9.4, if you possess a Semi-trailed Lift-Groundkeeper GHLT.

8.1 Oil Level in the Angular Gearbox

The angular gearbox of the machine does not require any lubricating service. However, once a year the oil level should be checked. For this purpose, the check screw (ill. 24) which is laterally attached to the gearbox must be opened and it has to be checked whether the oil level reaches the lower edge of the bore. If required, the gearbox has to be refilled with gear



ill. 24

box lubricant oil SAE 90 (capacity 0,45 l).

8.2 Greasing points

Depending upon the working intensity, the following points should regularly be lubricated with multi-purpose grease:

- Rotating hinges of the hopper (ill. 25),
- Pivot of the castor wheel fork (ill. 26),
- Rotor bearings (for this purpose, the V-belt guard on the left machine side must be removed (ill. 27, 28),

- Rear roller bearings (ill. 29),
- Front roller bearings
- PTO shaft.



ill. 25



ill. 26



ill. 27



ill. 28



ill. 29

8.3 Longer standstill periods

If the machine has not been used for a long period of time it is advisable to clean it and to preserve it with some spray oil before storing it. Before starting to work, an authorized workshop should check the functioning of the slip clutch arranged between angular gearbox and V-belt drive.

8.4 Inflation pressure

Front wheels: 2 bar



When mounting the tyres, they must be depressurized (a divided rim might explosively fly apart when being

dismounted).

9. Complementary operating instructions for the AMAZONE Semi-trailed LIFT Groundkeeper GHLT 02

The main purpose of the hydraulic rear-mounted wheels of the machine is to mount the Groundkeeper with high lift discharging on small compact tractors with low lifting power on the three point linkage.

Despite this “trailed” version of the GHL, the machine can be handled like a three-point machine when mounted to the tractor. Thus it manoeuvres as a fully mounted machine, rather than a true trailed implement.

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9.1 Mounting of the machine

As compared with the AMAZONE Lift Groundkeeper, the connection of the hydraulic connectors and the top link mechanism are different for this machine.

9.1.1 Hydraulic connections

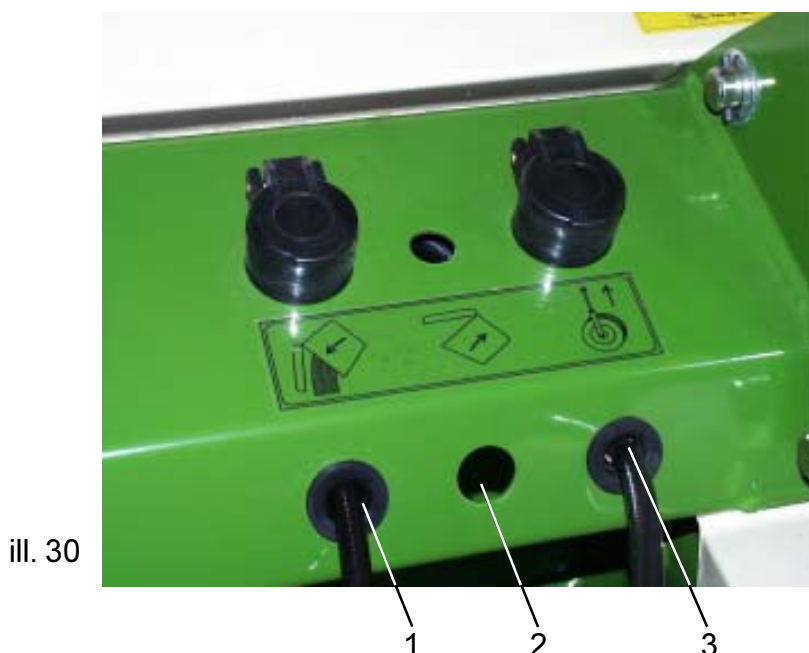
To be able to work with the machine properly, two single acting hydraulic pipes must be available on the tractor. If there is only one single acting pipe available on the tractor, the two ways valve (option) must be fitted on the machine.

A double acting hydraulic ram (option) can be fitted on the machine for lifting up and down the hopper.

Connection 1 (ill. 30/1)
high lifting of the hopper

Connection 2 (ill. 30/2)
high lifting of the hopper when double acting hydraulic ram is fitted on the machine (option)

Connection 3 (ill. 30/3)



9.1.2 Mounting to the rear three-point linkage of the tractor

The top link on the Semi-trailed Lift Groundkeeper is replaced by a chain. There is a spring-loaded mechanism on the upper three-point which ensures that the front wheels of the machine always touch the ground in undulatory terrain, i. e. relative movements between the tractor and machine are balanced by the spring mechanism.

The machine has to be mounted as follows:

- Attach the lower links to the implements lower link pins,
- Secure with lynch pins,
- Attach PTO shaft,
- Connect hydraulic couplings,
- Extend the rear wheel rams to their maximum position (ill. 31),
- Connect the chain on the upper three-point linkage of the tractor and secure (ill. 32),
- Lower the machine to working position.

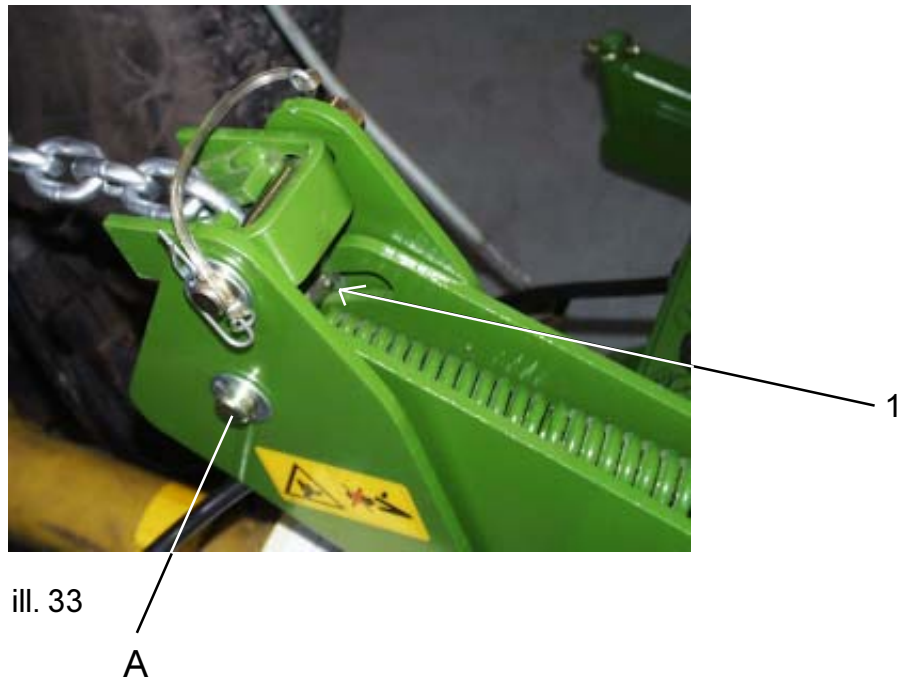


ill. 31



ill. 32

If the completely adjusted machine is put down on an even ground, the pin A must be approx. in the middle of its moving way (ill. 33/1). If this is not the case, the active length of the chain will have to be corrected. This should be checked in any case if the height adjustment of the front wheels or the supporting roller has been changed.



9.1.2.1 Adjustment of the upper three-point chain

To optimally use the machine the initial tension of the spring can always be adjusted exactly or adapted, respectively. By suspending the chain links into the oblong hole slot on the upper three-point mechanism, the active chain length can be modified as follows:

- Extend the rear wheel rams to their maximum position,
- Remove the pin of the spring bracket,

Attention!



It must be possible to easily draw the pin out of the bore. If this is not the case, check whether the back rams are fully extended.

Actuation of the hydraulic rams on the rear wheels frame.

A control valve having a stop position for the depressurized condition must be used for Connection 3.

- Draw the chain link out of the oblong hole and suspend it again in the desired length (ill. 34),
- Reinsert the pin and secure,
- Lower machine.

If the pin A is now in the middle of its moving way, operation can be started; otherwise, the above-mentioned steps will have to be repeated until the exact adjustment has been reached.



ill. 34

Attention!



For dismounting the machine from the tractor, extend the back rams at the maximum before uncoupling the upper chain.

During the operation of the machine as well as during lifting and lowering there is bruising danger at the upper three-point mechanism!

9.2 Transport on public roads

On public roads, the machine has to be lifted to the desired height by means of the hydraulic system of the rear wheels and the lower link arms of the tractor. When doing so, the machine must always be aligned horizontally, i. e. it must neither be strongly inclined forward nor backward (ill. 35).

The weight of the machine (above all when the hopper is filled) should not be underestimated, in particular for tractors having a low gross weight.



ill. 35

9.2.1 Vibration damping of the rear wheels

For longer road transports, particularly with an unloaded machine, it is recommended to switch on the vibration damping of the rear wheels.

This will prevent the wheels from oscillating and thus avoid increased wear of the tyres.

Switching vibration damping on or off:

- Back up until the wheels are positioned against the direction of motion (ill. 36),
- Remove key from damper bushing,

- Turn damper bushing round (ill. 37),
- Reinsert key.

This operation must be done on both backwheels.



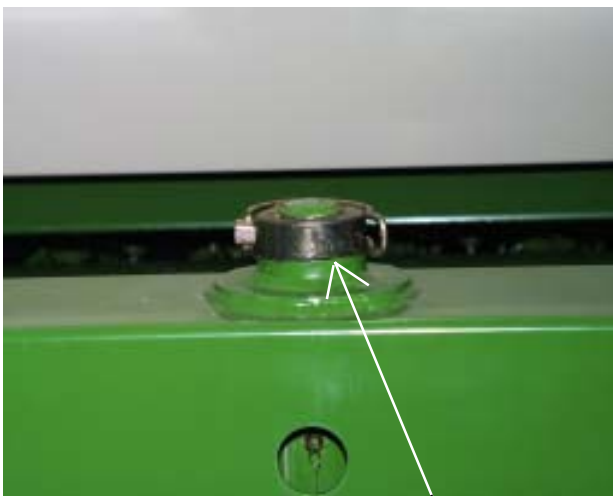
ill. 36



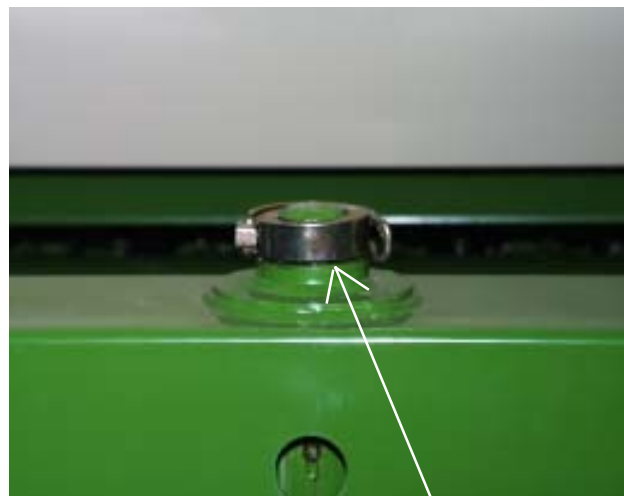
ill. 37

The vibration damping should always be used when transporting the machine on roads or hard surfaces. When the machine is working on lawn the vibration damping must be in the initial position which allows the wheels to turn freely.

- vibration damping in transport position: no gap apparent (ill.38/1),
- vibration damping in working position (on lawn) : gap apparent (ill.39/1).



ill. 38



ill. 39

9.3 Machine in operation

9.3.1 Mowing and scarifying

The operating of the cutting unit is the same than the one of the basic machine. There are just some differences by lifting and lowering of the machine .

The machine should always be lifted or lowered equally, i. e. take care that the alignment is as horizontal as possible in every lifting position. If the machine is lifted too far forward or backward while in operation, the PTO shaft might damage.

If the machine is in working position, the hydraulic back rams must be de pressurized. Otherwise, the undesirable effect might occur on uneven terrain that the supporting roller is lifted resulting in an irregular height of cutting.

9.3.2 Hopper emptying

The rear lifting cylinders are designed in such a way that it is possible to empty the hopper at a height of approx. 1.90 m.

Do not start lifting the hopper before you have reached the discharge position.

9.4 After operation - Uncoupling of the machine

By extending the rear hydraulic rams, the lowered machine is inclined forward until the spring of the upper three-point mechanism (ill. 40) is relieved. Now the upper chain can be detached from the tractor. The machine is lowered with the back rams to the ground again and uncoupled like a normal three-point machine.

Note:



The upper chain must never be uncoupled by force, i. e. in prestressed position, from the machine or from the tractor!



ill. 40

9.5 **Maintenance**

Apart from the few maintenance works to be carried out at the AMAZONE GH L Lift Groundkeeper there are two further items which have to be taken into account for GHLT.

9.5.1 **Inflation pressure**

Front wheels: 2 bar
Rear wheels: 2 bar



When mounting works are carried out at the tyres, they must by all means be depressurized (a divided rim might explosively fly apart when being dismantled).

9.5.2 Additional greasing points

- The damping elements of the rear wheels must be also greased in accordance with the greasing intervalls (ill. 41)
- Pivot of the lower link frame (ill. 42)
- Fork Stems of the back wheels (ill. 43)



ill. 41



ill. 42



ill. 43

NOTES

[illegible]