

Operating Manual

AMAZONE

GROUNDKEEPER

GHS Drive SMARTCUT



MG5078
BAF0010.3 08.17
Printed in France

Please read and follow this operating manual before putting the machine into operation. Keep it in a safe place for future use.

en





READING THE INSTRUCTION

manual and adhering 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 should 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 good success one should go into the mind of a thing, make himself familiar with every part of the machine and to get acquainted with its handling. Only in this way would you 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.

**Identification data**

Enter the machine identification data here. You will find the identification data on the rating plate.

Machine identification number:
(ten-digit)

Type:

Groundkeeper GHS-Drive
SMARTCUT

Year of manufacture:

Basic weight (kg):

Approved total weight (kg):

Maximum load (kg):

Manufacturer's address

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Spare part orders

Spare parts lists are freely accessible in the spare parts portal at www.amazone.de.

Please send orders to your AMAZONE dealer.

Formalities of the operating manual

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Foreword

Foreword

Dear Customer,

You have chosen one of the quality products from our wide range of AMAZONE agricultural machinery. We thank you for your confidence in our products.

On receiving the machine, check to see if it was damaged during transport or if parts are missing. Using the delivery note, check that the machine was delivered in full including the ordered special equipment. Replacement will be made only if a claim is filed immediately!

Please read and follow this operating manual—in particular, the safety instructions—before putting the machine into operation. Only after careful reading will you be able to benefit from the full scope of your newly purchased machine.

Please ensure that all the machine operators have read this operating manual before they put the machine into operation.

Should you have any questions or problems, please consult this operating manual or contact your local service partner.

Regular maintenance and timely replacement of worn or damaged parts increases the lifespan of your machine.

User evaluation

Dear Reader

We update our operating manuals regularly. Your suggestions for improvement help us to create ever more user-friendly manuals. Please send your suggestions to:

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1 User information

The "User information" section supplies information on using the operating manual.

1.1 Purpose of the document

This operating manual

- Describes the operation and maintenance of the machine.
- Provides important information on safe and efficient handling of the machine.
- Is a component part of the machine and should always be kept with the machine or the traction vehicle.
- Keep it in a safe place for future use.

1.2 Locations in the operating manual

All the directions specified in the operating manual are always viewed in the direction of travel.

1.3 Diagrams used

Instructions for action and reactions

Tasks to be carried out by the user are presented as numbered instructions. Always keep to the order of the instructions. The reaction to instructions is given by an arrow.

Example:

1. Instruction for action 1
→ Reaction of the machine to instruction for action 1
2. Instruction for action 2

Lists

Lists without a mandatory sequence are presented as a list with bullet points.

Example:

- Point 1
- Point 2

Item numbers in diagrams

Numbers in round brackets refer to the item numbers in the diagrams. The first digit refers to the diagram; the second digit, to the item number in the illustration.

Example (Fig. 3/6)

- Figure 3
- Item 6



2 General safety instructions

This section contains important information on safe operation of the machine.

2.1 Obligations and liability

Comply with the instructions in the operating manual

Knowledge of the basic safety information and safety regulations is a basic requirement for safe handling and fault-free machine operation.

Obligations of the operator

The operator is obliged only to let those people work with/on the machine who

- Are aware of the basic workplace safety information and accident prevention regulations.
- Have been trained in working with/on the machine.
- Have read and understood this operating manual.

The operator is obliged

- To keep all the warning symbols on the machine in a legible state.
- To replace damaged warning symbols.

If you still have queries, please contact the manufacturer.

Obligations of the user

Before starting work, anyone charged with working with/on the machine is obliged

- To comply with the basic workplace safety instructions and accident prevention regulations.
- To read and understand the section "General safety information" of this operating manual.
- To read the section "Warning symbols and other labels on the machine" of this operating manual and to follow the safety instructions represented by the warning symbols when operating the machine.
- To get to know the machine.
- To read the sections of this operating manual, important for carrying out your work.

If the user discovers that a function is not working properly, then they must eliminate this fault immediately. If this is not the task of the user or if the user does not possess the appropriate technical knowledge, then they should report this fault to their superior (operator).



Risks in handling the machine

The machine has been constructed to the state-of-the art and the recognised rules of safety. However, there may be risks and restrictions which occur when operating the machine

- For the health and safety of the user or third persons,
- For the machine,
- For other goods.

Only use the machine

- For the purpose for which it was intended.
- In a perfect state of repair.

Eliminate any faults that could impair safety immediately.

Guarantee and liability

Our "General conditions of sales and business" are always applicable. These shall be available to the operator, at the latest on the completion of the contract. Guarantee and liability claims for damage to people or goods will be excluded if they can be traced back to one or more of the following causes:

- Improper use of the machine.
- Improper installation, commissioning, operation and maintenance of the machine.
- Operation of the machine with defective safety equipment or improperly attached or non-functioning safety equipment.
- Non-compliance with the instructions in the operating manual regarding commissioning, operation and maintenance.
- Independently-executed construction changes to the machine.
- Insufficient monitoring of machine parts that are subject to wear.
- Improperly executed repairs.
- Catastrophic events as a result of the impact of foreign objects or force majeure.

2.2 Representation of safety symbols

Safety instructions are indicated by the triangular safety symbol and the highlighted signal word. The signal word (DANGER, WARNING, CAUTION) describes the gravity of the risk and has the following significance:



DANGER

Indicates an immediate high risk, which will result in death or extremely serious physical injury (loss of body parts or long term damage) if not avoided.

If the instructions are not followed, then this will result in immediate death or serious physical injury.



WARNING

Indicates a medium risk, which could result in death or (extremely serious) physical injury if not avoided.

If the instructions are not followed, then this may result in death or serious physical injury.



CAUTION

Indicates a low risk, which could incur minor or medium level physical injury or damage to property if not avoided.



IMPORTANT

Indicates an obligation to special behaviour or an activity required for proper machine handling.

Non-compliance with these instructions can cause faults on the machine or in the environment.



NOTE

Indicates handling tips and particularly useful information.

These instructions will help you to use all the functions of your machine to the optimum.



2.3 Organisational measures

The operator must provide the necessary personal protective equipment, such as:

- Protective glasses
- Protective shoes
- Protective suit
- Skin protection, etc.



The operation manual

- Must always be kept at the place at which the machine is operated.
- Must always be easily accessible for the user and maintenance personnel.

Check all the available safety equipment regularly.

2.4 Safety and protection equipment

Before each commissioning of the machine, all the safety and protection equipment must be properly attached and fully functional. Check all the safety and protection equipment regularly.

Faulty safety equipment

Faulty or disassembled safety and protection equipment can lead to dangerous situations.

2.5 Informal safety measures

As well as all the safety information in this operating manual, comply with the general, national regulations pertaining to accident prevention and environmental protection.

When driving on public roads and routes, then you should comply with the statutory road traffic regulations.

2.6 User training

Only those people who have been trained and instructed may work with/on the machine. The operator must clearly specify the responsibilities of the people charged with operation, maintenance and repair work.

People being trained may only work with/on the machine under the supervision of an experienced person.

Activity \ People	Person specially trained for the activity ¹⁾	Trained person ²⁾	Person with specialist training (specialist workshop) ³⁾
Loading/Transport	X	X	X
Commissioning	--	X	--
Set-up, tool installation	--	--	X
Operation	--	X	--
Maintenance	--	--	X
Troubleshooting and fault elimination	--	X	X
Disposal	X	--	--

Legend:

X..permitted

--..not permitted

¹⁾ A person who can assume a specific task and who can carry out this task for an appropriately qualified company.

²⁾ Instructed persons are those who have been instructed in their assigned tasks and in the possible risks in the case of improper behaviour, have been trained if necessary, and have been informed about the necessary protective equipment and measures.

³⁾ People with specialist technical training shall be considered as a specialist. Due to their specialist training and their knowledge of the appropriate regulations, they can evaluate the work with which they have been charged and detect possible dangers.

Comment:

A qualification equivalent to specialist training can be obtained through long term activity in the appropriate field of work.



Only a specialist workshop may carry out maintenance and repair work on the machine, if such work is specifically designated "Workshop work". The personnel of a specialist workshop shall possess the appropriate knowledge and suitable aids (tools, lifting and support equipment) for carrying out the maintenance and repair work on the machine in a way which is both appropriate and safe.



2.7 Safety measures in normal operation

Only operate the machine if all the safety and protection equipment is fully functional.

Check the machine at least once a day for visible damage and check the function of the safety and protection equipment.

2.8 Dangers from residual energy

Note that there may be residual mechanical, hydraulic, pneumatic and electrical/electronic energy at the machine.

Use appropriate measures to inform the operating personnel. You can find detailed information in the relevant sections of this operating manual.

2.9 Maintenance and repair work, fault elimination

Carry out prescribed setting, maintenance and inspection work in a timely manner.

Secure all media such as compressed air and the hydraulic system against unintentional start-up.

Carefully fix and secure larger subassemblies to lifting gear when carrying out replacement work.

Check all the screw connections for a firm seat. On completing maintenance work, check the function of safety and protection equipment.

2.10 Constructive changes

You may make no changes, expansions or modifications to the machine without the authorisation of AMAZONEN-WERKE. This is also valid when welding support parts.

Any expansion or modification work shall require the written approval of AMAZONEN-WERKE. Only use the modification and accessory parts released by AMAZONEN-WERKE so that the operating permit, for example, remains valid in accordance with national and international regulations.

Vehicles with an official type approval or with equipment connected to a vehicle with a valid type approval or approval for road transport according to the German road traffic regulations must be in the state specified by the approval.



WARNING

Risk of being crushed, cut, caught, drawn in or struck if supporting parts break.

It is forbidden to:

- Drill holes in the frame or on the chassis.
- Increasing the size of existing holes on the frame or the chassis.
- Welding support parts.

2.10.1 Spare and wear parts and aids

Immediately replace any machine parts which are not in a perfect state.

Use only genuine **AMAZONE** spare and wear parts or the parts cleared by AMAZONEN-WERKE so that the operating permit retains its validity in accordance with national and international regulations. If you use wear and spare parts from third parties, there is no guarantee that they have been designed and manufactured in such a way as to meet the requirements placed on them.

AMAZONEN-WERKE accepts no liability for damage arising from the use of unapproved spare parts, wear parts or auxiliary materials.

2.11 Cleaning and disposal

Handle and dispose of any materials used carefully, in particular:

- When carrying out work on lubrication systems and equipment and
- When cleaning using solvents.

2.12 User workstation

The machine may be operated by only one person sitting in the driver's seat of the tractor.



2.13 Warning symbols and other signs on the machine



Always keep all the warning symbols of the machine clean and in a legible state. Replace illegible warning symbols. You can obtain the warning symbols from your dealer using the order number (e.g. MD 075).

Warning symbols - structure

Warning symbols indicate dangers on the machine and warn against residual dangers. At these points, there are permanent or unexpected dangers.

A warning symbol consists of two fields:



Field 1

is a symbol describing the danger, surrounded by triangular safety symbol.

Field 2

is a symbol showing how to avoid the danger.

Warning symbols - explanation

The column **Order number and explanation** provides an explanation of the neighbouring warning symbol. The description of the warning symbols is always the same and specifies, in the following order:

1. A description of the danger.
For example: danger of cutting!
2. The consequence of nonobservance of the danger protection instructions.
For example: causes serious injuries to fingers or hands.
3. Instructions for avoiding the danger.
For example: only touch machine parts when they have come to a complete standstill.

Order number and explanation

Warning symbols

MD 075

Risk of fingers and hands being cut or severed by rotating machine parts.

This hazard can cause extremely serious injuries with the loss of body parts such as fingers or hands.

Never reach into the danger area when the tractor engine is running with the PTO shaft/hydraulic system connected.

Do not touch machine parts until they have come to a complete standstill.



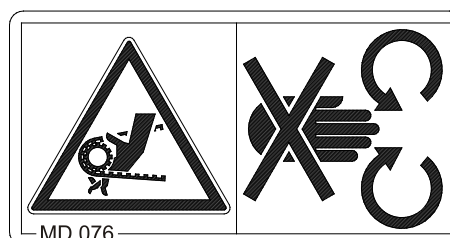
MD 076

Risk of hands or arms being drawn in or caught by power-driven, unprotected chain or belt drives.

This hazard can cause extremely serious injuries, including loss of parts of the body from hands or arms.

Never open or remove protective equipment from chains or belt drives,

- while the tractor engine is running and the PTO shaft is connected/hydraulic drive is engaged
- or the ground wheel drive is in motion



MD 078

Risk of fingers or hands being crushed by accessible moving machine parts.

This hazard can cause extremely serious injuries with the loss of body parts such as fingers or hands.

Never reach into the danger area when the tractor engine is running with the PTO shaft/hydraulic system connected.

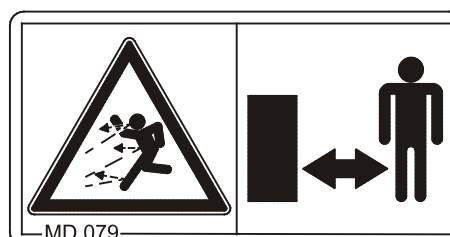


MD 079

Hazard from materials or foreign objects that are thrown from or ejected by the machine.

This hazard can cause extremely serious injuries to any part of the body.

Ensure that persons not involved in the operation of the machine maintain a sufficient safety distance from the danger area created by the machine while the tractor engine is running.





MD 080

Danger of crushing of torso in articulated area of drawbar due to sudden steering movements!

This can inflict extremely serious injuries to the torso which may also be fatal.

Persons must not enter or remain in the danger zone between the tractor and machine if the tractor engine is running and the tractor is not secured to prevent it from accidentally rolling away.



MD 081

Risk of any part of the body being crushed by machine parts descending unintentionally, having been raised via the lifting cylinder.

This hazard can cause extremely serious injuries anywhere on the body, or even death.

If machine parts have been raised, secure the lifting cylinder against lowering unintentionally, before entering the danger area beneath the raised machine parts.

To do this, use the mechanical lifting cylinder support or the hydraulic locking device.



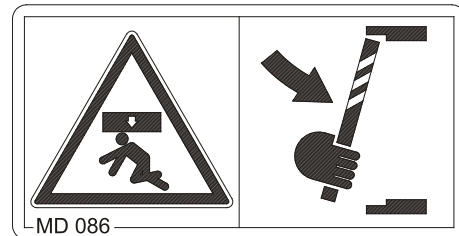
MD 086

Risk of any part of the body being crushed beneath raised machine parts if they descend unintentionally.

This hazard can cause extremely serious injuries anywhere on the body, or even death.

Before spending time in the danger area underneath raised machine parts, secure the raised parts against descending unintentionally.

To do this, use the mechanical support or the hydraulic locking device.

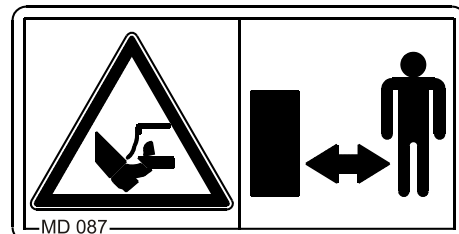


MD 087

Risk of toes or feet being cut or severed by power-driven tools.

This hazard can cause serious injuries, including loss of parts of the body from toes or feet.

Maintain a sufficient safety distance from the danger area while the tractor engine is running and the PTO shaft/hydraulic system is connected.



General safety instructions

MD 089

Danger Risk of any part of the body being crushed in the danger area beneath suspended loads/ machine parts.

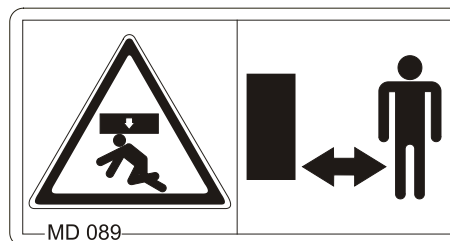
This hazard can cause extremely serious injuries anywhere on the body, or even death.

The presence of persons under suspended loads/machine parts is prohibited.

Maintain a sufficient safety distance from suspended loads/machine parts.

Ensure that all persons present maintain a sufficient safety distance from suspended loads/machine parts.

Direct persons out of the danger area created by suspended loads/machine parts.

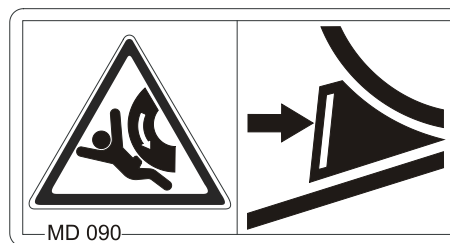


MD 090

Risk of contusions from unintentional rolling of the uncoupled, unsecured machine!

This hazard can cause extremely serious injuries anywhere on the body, or even death.

Secure the machine against unintentional rolling, before uncoupling the machine from the tractor. To do this, use the parking brake and/or the wheel chock(s).



MD 093

Risk of catching or entrapment for entire body due to unguarded driven drive shafts.

This hazard can cause extremely serious injuries anywhere on the body, or even death.

Never open or remove guard devices from drive shafts when the tractor engine is running with the PTO shaft connected / hydraulic drive engaged.



MD 095

Read and understand the operating manual safety information before starting up the machine!





MD 096

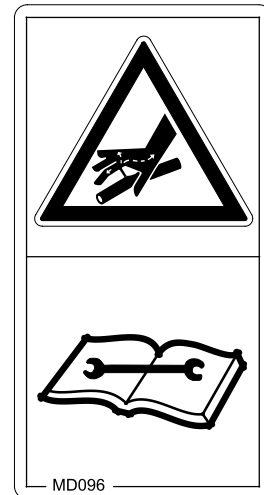
Danger of infection to the whole body from liquids escaping at a high pressure (hydraulic fluid)!

This danger will cause serious injuries over the whole body, if hydraulic fluid escaping at high pressure passes through the skin and into the body.

Never attempt to plug leaks in hydraulic lines using your hand or fingers.

Read and understand the information in the operating manual before carrying out maintenance and repair work.

If you are injured by hydraulic fluid, contact a doctor immediately.



MD 097

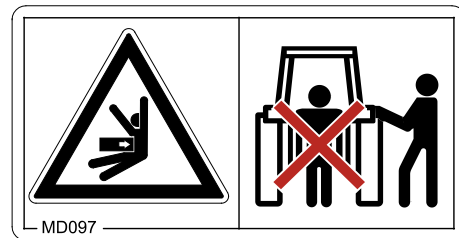
Risk of crushing torso in the stroke range of the three-point suspension due to narrowing spaces when the three-point hydraulic system is actuated.

This would cause extremely serious injuries and even death.

Persons must not enter the stroke area of the three-point suspension when the three-point hydraulics are actuated.

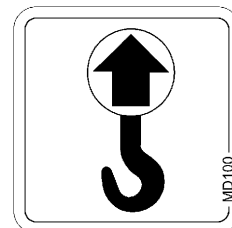
Actuate the operating controls for the tractor's three-point hydraulic system

- from the designated workstation,
- if you are outside the danger area between the tractor and the machine.



MD 100

This symbol indicates lashing points for fastening slinging gear when loading the machine.

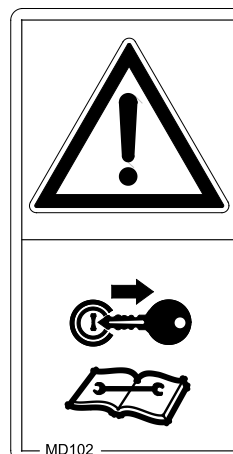


MD 102

Danger from unintentional machine starting and rolling during intervention in the machine, e.g. installation, adjusting, troubleshooting, cleaning, maintaining and repairing.

This hazard can cause extremely serious injuries anywhere on the body, or even death.

- Secure the tractor and the machine against unintentional start-up and rolling before any intervention in the machine.
- Depending on the type of intervention, read and understand the information in the relevant sections of the operating manual.



MD 104

Risk of crushing of torso due to sideways swivelling motion of machine parts.

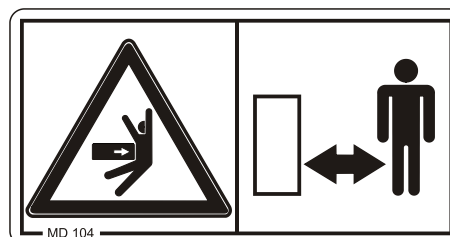
This can inflict extremely serious injuries to the torso which may also be fatal.

Stay well clear of any moving machine parts.

Persons must stay out of the swivelling range of moving machine parts.

Make sure that all persons stay well clear of moving machine parts.

Direct persons out of the range of moving machine parts before you swivel them.



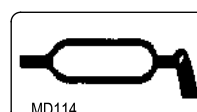
MD 113

Study and observe the instructions for cleaning, servicing and maintaining in the appropriate chapter of the operating manual.



MD 114

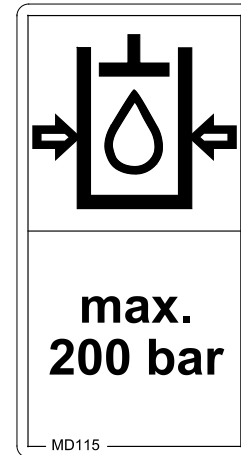
This symbol indicates a lubrication point





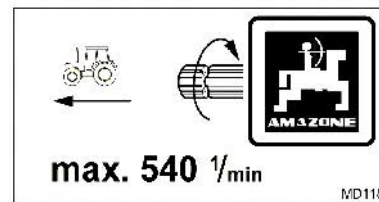
MD 115

The maximum operating pressure of the hydraulic system is 200 bar.



MD 118

This symbol indicates the maximum drive speed (540 rpm) and direction of rotation of the drive shaft on the machine side.

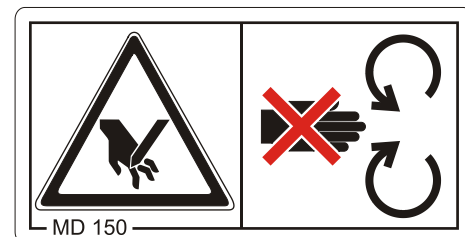


MD 150

Risk of fingers and hands being cut or severed by rotating, unprotected, sharp-edged machine parts.

This hazard can cause extremely serious injuries with the loss of body parts such as fingers or hands.

Never open or remove guard devices from rotating, sharp-edged machine parts while the tractor engine is running with the PTO shaft connected/ hydraulic drive engaged.



MD 170

Risk of being crushed, drawn in or caught by unprotected, moving machine parts as a result of missing safety devices.

This hazard can cause extremely serious injuries, including the loss of body parts.

Close protective equipment which has been opened or refit protective equipment which has been removed before you start the machine.



MD 171

Risk of any part of the body being crushed, as a result of standing in the tipping area when the loading bed has been raised.

This hazard can cause extremely serious and potentially fatal injuries.

- It is prohibited to stand in the tipping area when the loading bed has been raised.
- Instruct people to leave the tipping area of the machine before raising the loading bed.

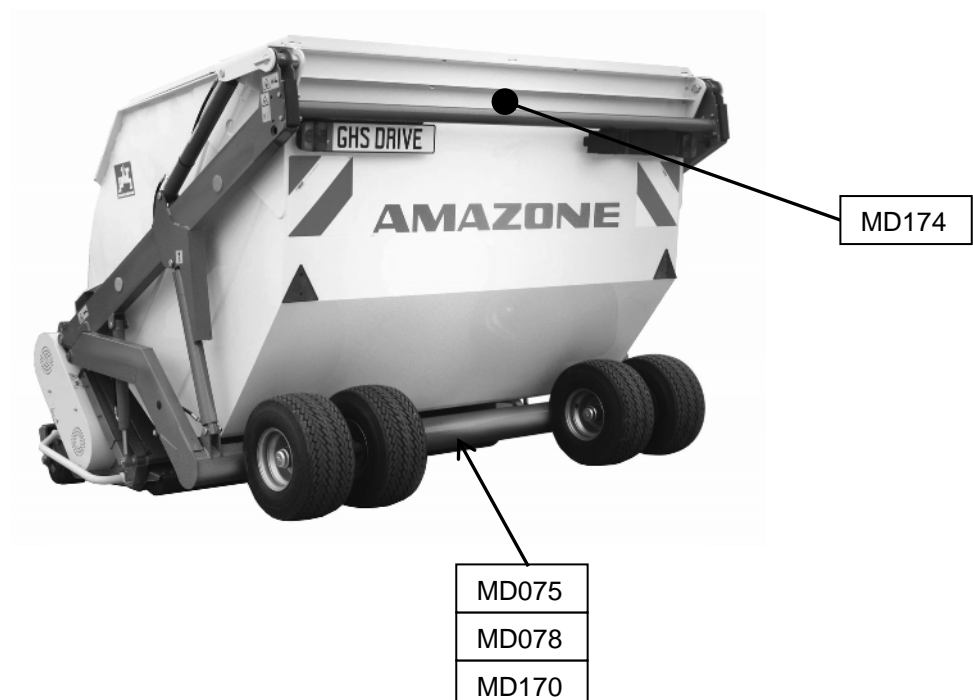
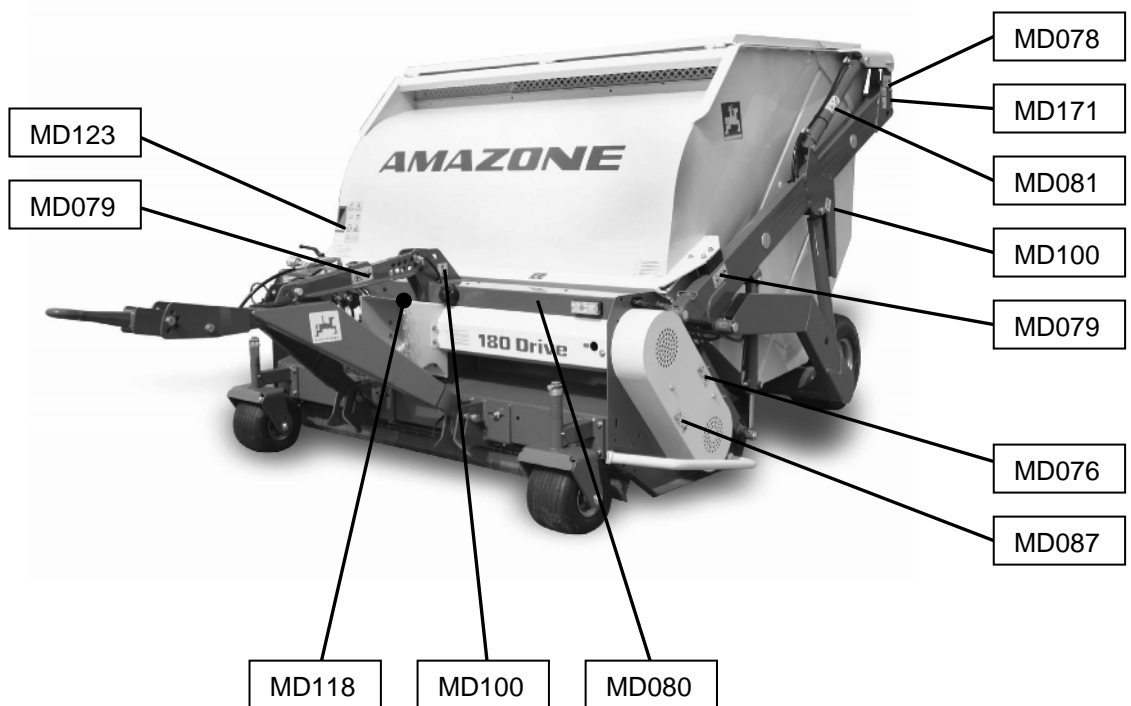




2.13.1 Positioning of warning symbols and other labels

Warning symbols

The following diagrams show the arrangement of the warning symbols on the machine.





2.14 Dangers if the safety information is not observed

Non observance of the safety information

- Can pose both a danger to people and also to the environment and machine.
- Can lead to the loss of all warranty claims.

Seen individually, non-compliance with the safety information could pose the following risks:

- Danger to people through non-secured working areas.
- Failure of important machine functions.
- Failure of prescribed methods of maintenance and repair.
- Danger to people through mechanical and chemical impacts.
- Risk to environment through leakage of hydraulic fluid.

2.15 Safety-conscious working

Besides the safety information in this operating manual, the national general workplace safety and accident prevention regulations are binding.

Comply with the accident prevention instructions on the warning symbols.

When driving on public roads and routes, comply with the appropriate statutory road traffic regulations.



2.16 Safety information for users



WARNING

Risk of being crushed, cut, caught, drawn in or struck due to insufficient traffic and operational safety!

Before starting up the machine and the tractor, always check their traffic and operational safety.

2.16.1 General safety and accident prevention information

- Beside these instructions, comply with the general valid national safety and accident prevention regulations.
- The warning symbols and labels attached to the machine provide important information on safe machine operation. Compliance with this information guarantees your safety!
- Before moving off and starting up the machine, check the immediate area of the machine (children)! Ensure that you can see clearly!
- It is forbidden to ride on the machine or use it as a means of transport!
- Drive in such a way that you always have full control over the tractor with the attached machine.

In so doing, take your personal abilities into account, as well as the road, traffic, visibility and weather conditions, the driving characteristics of the tractor and the connected machine.

Connecting and disconnecting the machine

- Only connect and transport the machine with tractors suitable for the task.
- Connect the machine to the prescribed equipment in accordance with the specifications.
- When coupling machines to the front or the rear of the tractor, the following may not be exceeded:
 - The approved total tractor weight
 - The approved tractor axle loads
 - The approved load capacities of the tractor tyres
- Secure the tractor and the machine against unintentional rolling, before coupling or uncoupling the machine.
- It is forbidden for people to stand between the machine to be coupled and the tractor, whilst the tractor is moving towards the machine!
Any helpers may only act as guides standing next to the vehicles, and may only move between the vehicles when both are at a standstill.
- When coupling and uncoupling machines, move the support equipment (if available) to the appropriate position (stability).
- When actuating the support equipment, there is a risk of injury from nip and shear points.



General safety instructions

- Be particularly careful when coupling the machine to the tractor or uncoupling it from the tractor! There are nip and shear points in the area of the coupling point between the tractor and the machine.
- It is forbidden to stand between the tractor and the machine when actuating the three-point hydraulic system.
- Coupled supply lines:
 - Must give without tension, bending or rubbing on all movements when travelling round corners.
 - May not scour other parts.
- The release ropes for quick action couplings must hang loosely and may not release themselves when lowered.
- Also ensure that uncoupled machines are stable!

Use of the machine

- Before starting work, ensure that you understand all the equipment and actuation elements of the machine and their function. There is no time for this when the machine is already in operation!
- Do not wear loose-fitting clothing! Loose clothing increases the risk over being caught by drive shafts!
- Only start-up the machine, when all the safety equipment has been attached and is in the safety position!
- Comply with the maximum load of the connected machine and the approved axle and support loads of the tractor. If necessary, drive only with a partially-filled catcher.
- It is forbidden to stand in the working area of the machine.
- It is forbidden to stand in the turning and rotation area of the machine.
- There are contusion and cutting points at externally-actuated (e.g. hydraulic) machine points.
- Only actuate externally-actuated machine parts when you are sure that there is no-one within a sufficient distance from the machine!
- Secure the tractor against unintentional start-up and rolling before you leave the tractor.
For this:
 - Lower the machine onto the ground
 - Apply the parking brake
 - Switch off the tractor engine
 - Remove the ignition key



Machine transportation

- When using public highways, national road traffic regulations must be observed.
- Before moving off, check:
 - the correct connection of the supply lines
 - the lighting system for damage, function and cleanliness
 - the brake and hydraulic system for visible damage
 - that the parking brake is released completely
 - the proper functioning of the braking system
- Ensure that the tractor has sufficient steering and braking power. Any machines and front/rear weights connected to the tractor influence the driving behaviour and the steering and braking power of the tractor.
- If necessary, use front weights.

The front tractor axle must always be loaded with at least 20 % of the empty tractor weight, in order to ensure sufficient steering power.
- Always fix the front or rear weights to the intended fixing points according to regulations.
- Comply with the maximum load of the connected machine and the approved axle and support loads of the tractor.
- The tractor must guarantee the prescribed brake delay for the loaded vehicle combination (tractor plus connected machine).
- Check the brake power before moving off.
- When turning corners with the machine connected, take the broad load and balance weight of the machine into account.
- Before moving off, ensure sufficient side locking of the tractor lower links, when the machine is fixed to the three-point hydraulic system or lower links of the tractor.
- Before moving off, move all the swivel machine parts to the transport position.
- Before moving off, secure all the swivel machine parts in the transport position against risky position changes. Use the transport locks intended for this.
- Before moving off, secure the operating lever of the three-point hydraulic system against unintentional raising or lowering of the connected machine.
- Check that the transport equipment, e.g. lighting, warning equipment and protective equipment, is correctly mounted on the machine.
- Before transportation, carry out a visual check that the upper and lower link pins are firmly fixed with the lynch pin against unintentional release.
- Adjust your driving speed to the prevailing conditions.
- Before driving downhill, switch to a low gear.
- Before moving off, always switch off the independent wheel braking (lock the pedals).



2.16.2 Hydraulic system

- The hydraulic system is under a high pressure.
- Ensure that the hydraulic hose lines are connected correctly.
- When connecting the hydraulic hose lines, ensure that the hydraulic system is unpressurised on both the machine and tractor sides.
- It is forbidden to block the operator controls on the tractor which are used for hydraulic and electrical movements of components, e.g. folding, swivelling and pushing movements. The movement must stop automatically when you release the appropriate control. This does not apply to equipment movements that:
 - are continuous or
 - are automatically locked or
 - necessarily require an open centre or pressure position to operate correctly
- Before working on the hydraulic system
 - Lower the machine
 - Depressurise the hydraulic system
 - Switch off the tractor engine
 - Apply the parking brake
 - Remove the ignition key
- Have the hydraulic hose line checked at least once a year by a specialist for proper functioning.
- Replace the hydraulic hose line if it is damaged or worn. Only use original **AMAZONE** hydraulic hose lines.
- The hydraulic hose lines should not be used for longer than six years, including any storage time of maximum two years. Even with proper storage and approved use, hoses and hose connections are subject to natural ageing, thus limiting the length of use. However, it may be possible to specify the length of use from experience values, in particular when taking the risk potential into account. In the case of hoses and hose connections made from thermoplastics, other guide values may be decisive.
- Never attempt to plug leaks in hydraulic lines using your hand or fingers.

Escaping high pressure fluid (hydraulic fluid) may pass through the skin and ingress into the body, causing serious injuries!

If you are injured by hydraulic fluid, contact a doctor immediately. Danger of infection.
- When searching for leakage points, use suitable aids, to avoid the serious risk of infection.



2.16.3 Electrical system

- When working on the electrical system, always disconnect the battery (negative terminal).
- Only use the prescribed fuses. If fuses are used with too high a rating, the electrical system will be destroyed – danger of fire.
- Ensure that the battery is connected correctly - firstly connect the positive terminal and then connect the negative terminal. When disconnecting the battery, disconnect the negative terminal first, followed by the positive terminal.
- Always place the appropriate cover over the positive battery terminal. Contact with earth may cause an explosion
- Risk of explosion: avoid the production of sparks or the presence of naked flames in the vicinity of the battery.
- The machine can be equipped with electronic components and units, whose function may be influenced by electromagnetic interference from other devices. Such influences can lead to personal hazard if the following safety information is not followed.
 - If electrical units and/or components are retrofitted on the machine, which require a connection to the on-board power supply, the user must assume responsibility for checking whether the retrofit causes faults in the vehicle electronics or in other components.
 - Ensure that the retrofitted electrical and electronic components comply with the EMC directive 89/336/EEC in the appropriate version and carry the CE mark.

3 General description of the machine

3.1 Areas of application

The AMAZONE Groundkeeper GHS-Drive is designed for mowing and scarifying grassed areas in public parks, sports fields and gardens, etc.

It can be used to collect and chop foliage in the autumn.

3.2 Declaration of conformity

The Groundkeeper Jumbo complies with the requirements of EC Machinery Directive 2006/42/EC and corresponding supplementary guidelines.

3.3 Details required for enquiries

When ordering special optional equipment and spare parts, please always quote the **machine number** of your Groundkeeper Jumbo.



Safety requirements are only fulfilled if genuine AMAZONE spare parts are used when a repair is undertaken. The use of other parts may remove liability for any consequences which may occur as a result.

3.4 Identification of the machine

The rating plate is fitted on the front left-hand side of the machine (Fig. 3.4/1).



The whole identification plate has the status of a certificate and must not be altered or made irrerecognisable.



3.5 Technical data

Typ GHS Drive	1500	1800	2100
Working width	1,50m	1,80m	2,10m
Complete width	1,90m	2,20m	2,50m
Empty weight (with drawbar)	1 020kg	1 120kg	1 230kg
Tyres, front	270 x 185	270 x 185	270 x 185
Front tyre pressure	2 bar	2 bar	2 bar
Rear tyres	18.5 x 8.50-8	18.5 x 8.50-8	18.5 x 8.50-8
Rear tyre pressure	3,4 bar	3,4 bar	3,4 bar
Complete high	1,70m	1,70m	1,70m
Catcher	2.500l	3.000l	3.500l

**Tractor attachment:**

The output values specified are max. transmitted universal joint shaft outputs:

3.5.1 Weight of GHS-Drive machine with drawbar (GHS-T)



Due to statutory national regulations, the permissible overall weight of the machine must not exceed 1500 kg during **transportation on public roads**.

The technically permissible overall weight is 2400 kg.



When driving on public and unclassified roads the tractor and machine must comply with the national road traffic regulations (StVZO and StVO in Germany) and the relevant accident prevention regulations.

3.5.2 Noise production data

The emission value (noise level) applicable to the working area is:
LpA = 98 dB(A). Measurements were taken under working conditions close to the driver's ear. Maximum noise emission : LwA = 115 dB(A).



3.6 Intended use

This Amazone Groundkeeper Jumbo has been designed exclusively for conventional use in the upkeep of grassed open areas and parks (intended use).

Any use which goes beyond these limits is not regarded as the intended use. The manufacturer is not liable for any damages which may result from such use.

The risk involved in such use is borne solely by the user.

Intended use also includes compliance with instructions specified by the manufacturer concerning operation, servicing and maintenance as well as the exclusive use of **genuine AMAZONE spare parts**.

This Amazone Groundkeeper Jumbo may only be used, serviced and maintained by persons who are familiar with the machine and have received instruction concerning the risks involved.

All relevant accident prevention regulations and any other generally recognised rules relevant to safety, occupational health and traffic laws must be observed and the safety instructions on the labels attached to the machine must be strictly followed.

Any unauthorised modification of the machine will automatically render all warranty claims against the manufacturer for resulting damage invalid.



4 Taking delivery of the machine

On receiving the machine, check to see if it was damaged during transport or if parts are missing. Replacements will only be made if claims are submitted promptly to the haulage company. Please check that all the parts listed on the despatch note have been delivered.

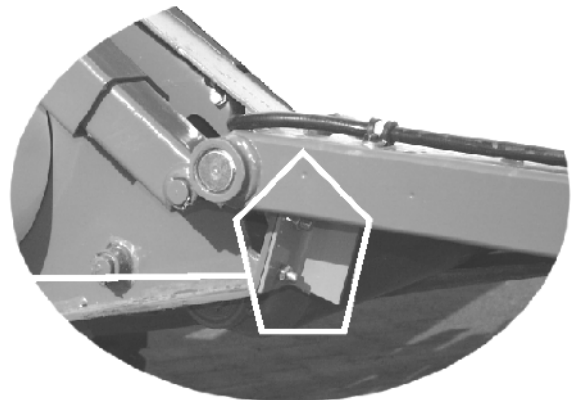
Before starting up, completely remove all packaging (including wires) and check lubrication.



CAUTION

Remove the transport lock without fail before putting the equipment into operation.

(2 orange angle irons between frame and hopper)



5 Attaching and detaching the machine to/from the tractor

5.1 Coupling and uncoupling the machine



Observe the safety instructions when coupling and uncoupling. Uncouple machines according to the instructions and only attach them to the prescribed equipment. Particular care is required when coupling and uncoupling machines to/from the tractor. Observe max. axle load of tractor. Observe max. trailer load of tractor. Observe the technically and legally permissible overall weight.



The machine does not have a parking brake.



Before uncoupling, the machine must always be secured with 2 wheel chocks, i.e. with one wheel chock under each rear wheel on both sides of the machine. When in use or during journeys on the road, the machine always runs on its rear wheels.

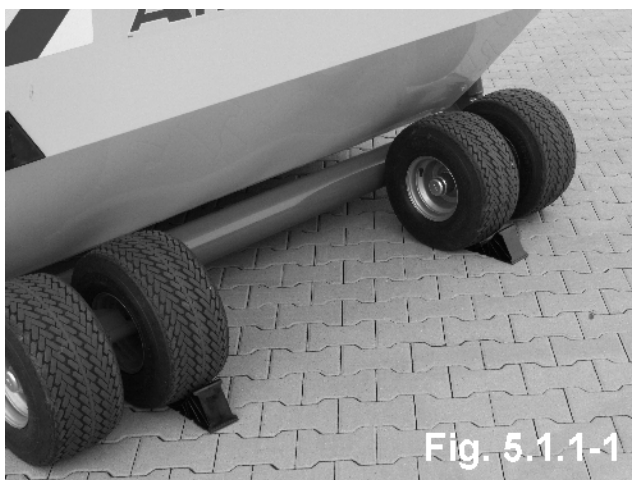
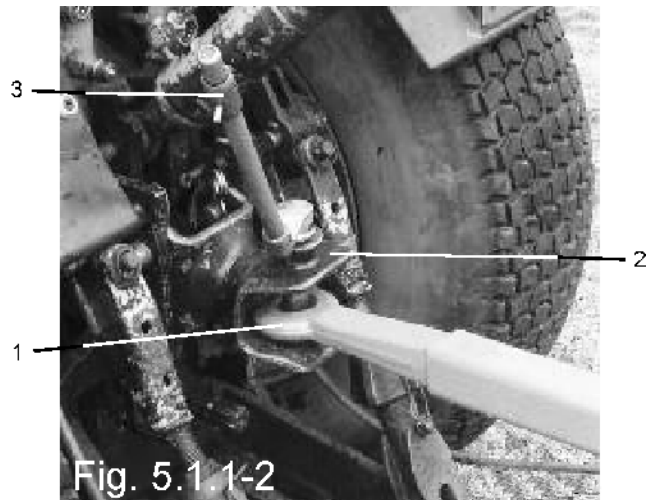


Fig. 5.1.1-1



- Couple the machine to the yoke bar (Fig. 5.1.1-2/2) of the tractor with the towing eye (Fig. 5.1.1/-21).
- Secure the pin (tractor-dependent) (Fig. 5.1.1-2/3).



When coupling vehicles, use the equipment provided for that purpose in the intended manner.



It is prohibited for persons to stand between tractor and machine when the tractor is driving towards the machine to couple or uncouple.

Any assistants present standing next to the tractor and machine may only give directions.

Do not link up the operating connections from the machine until tractor and machine have been coupled, the tractor engine has been turned off, the handbrake applied and the ignition key taken out.

Check the routing of the supply lines.

The supply lines

- must give slightly in order to accommodate all movements produced when cornering without being subjected to tension, kinks or friction
- must not chafe against other parts.

5.2 Safety yoke

Fold the yoke forward and rest it on the drawbar.

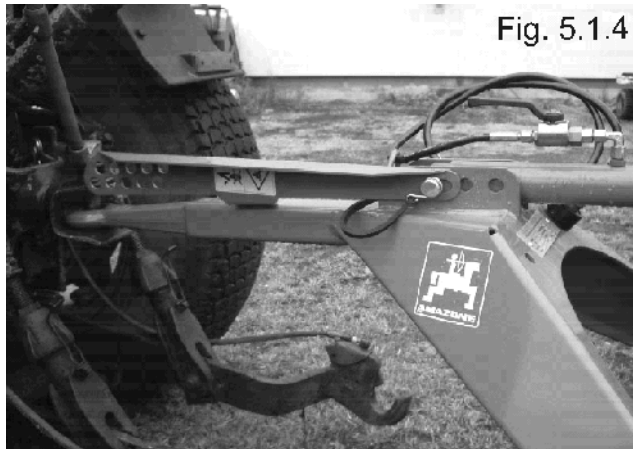


Fig. 5.1.4



5.3 Uncoupling

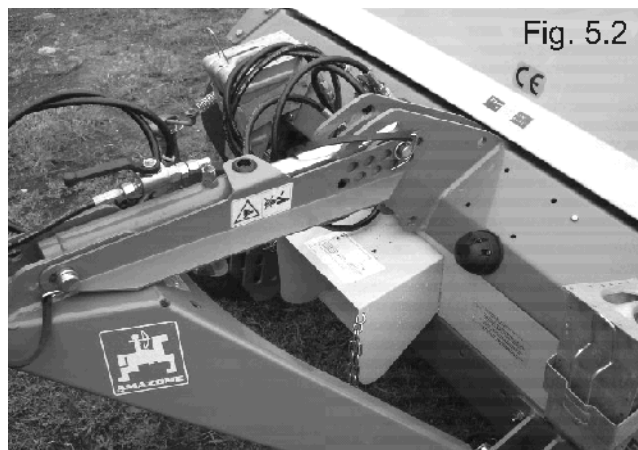
- Bring the tractor and machine to a stop in a straight line on level ground.
- Retract the hydraulic cylinder on the drawbar. The machine should be standing on all tyres and the support roller.
- Turn off the tractor engine, apply the handbrake and remove the ignition key.
- Release the spring pins and remove the 2 wheel chocks from the mountings at the rear of the machine.
- Secure the machine on both sides with 1 wheel chock under each of the outside tyres.



Always secure the machine with 2 wheel chocks before you uncouple the machine from the tractor.

The wheel chocks take the place of the machine's parking brake.

- Disconnect all supply lines between the tractor and machine.
- Close off the coupling heads on the lines with protective caps.
↕
or
- Plug all supply lines into the holders provided.
- Remove the lynch pin and fold the yoke backwards
- Depending on the height of the tractor, secure the yoke in the anchor with the lynch pin (Fig. 11.2)



The machine must only be set down on level and firm ground.



Before detaching the machine, check that the coupling point is not under load.

- Uncouple the drawbar.
- Drive the tractor away.



When driving the tractor away, there must be nobody present between tractor and machine.



Always use the retaining bracket for the drawbar. Without the retaining bracket, the drawbar would fall to the ground, thereby creating a risk of injury.

5.4 PTO shaft



Only use the PTO shaft specified by the manufacturer:

- Walterscheid WWE2480with freewheel



If you have a tractor without a double clutch for the universal joint shaft drive, you must necessarily use a freewheel PTO shaft.

Otherwise, the tractor will remain in motion due to the flywheel mass of the rotor, even if the clutch pedal has been depressed.



5.5 Fitting and adjusting the PTO shaft

5.5.1 Fitting the PTO shaft



Before fitting, clean the gearbox input shaft on the machine and always use grease to push the PTO shaft onto the input shaft.

5.5.2 Adjusting the PTO shaft when first attached



When first attached, adjust the PTO shaft to the tractor according to Fig. 5.2.2. Since this adjustment is only applicable for this one type of tractor, the PTO shaft adjustment must be checked and repeated if the type of tractor is changed.

When attaching other PTO shaft halves onto the tractor's universal joint shaft profile, fit them without sliding the PTO shaft tubes into each other.

1. Hold the two PTO shaft tubes side by side and check whether the PTO shaft tubes provide a guaranteed sliding profile overlap of **at least 40 % of the LO** both when the machine is lowered and raised.
2. When pushed together, the PTO shaft tubes must not knock against the forks of the universal joints. A minimum safety distance of 10 mm must be observed.
3. To adjust the length, hold the PTO shaft halves alongside each other in the shortest operational position and draw a mark.
- 4+5. Shorten the inner and outer protective tubes by equal amounts.
6. Round off the cut edges and carefully remove swarf.
7. Grease the sliding profiles and slide inside each other.
8. Hook in the supporting chains in such a way that the PTO shaft guard does not turn at the same time during operation.
9. Only use the machine if the drive is fully guarded.

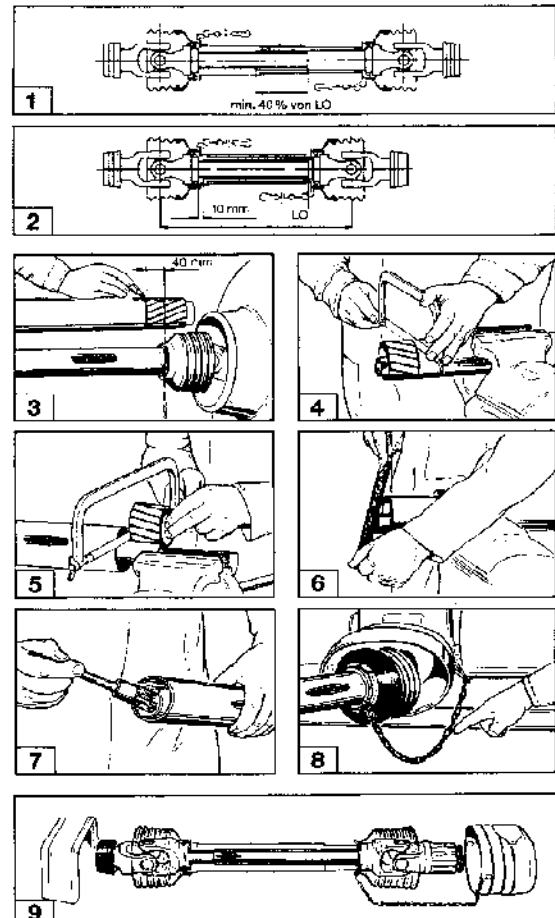


Fig. 5.4.2

Use PTO shaft with the full PTO shaft protection and supplementary protection at the tractor and machine. Replace protective equipment immediately at the first signs of damage.



The angle defining the maximum joint bends in a universal joint on the PTO shaft can be found in the accompanying operating manual provided by the manufacturer.

This manual also contains instructions which must be observed regarding fitting and maintenance operations.



To avoid damage, only connect the universal joint shaft slowly when the tractor engine is running at low revs.

5.6 Groundkeeper GHS-Drive gearbox input speed

The gearbox on the Groundkeeper GHS-Drive has a universal joint shaft connection. The machine must be powered with a maximum drive speed of 540 rpm:

Drive speed $n = 540$ rpm.



Higher drive speeds than specified will cause the rotor to turn at significantly higher speeds. In extreme cases, this may lead to blades being released which could create a hazard for operating personnel.

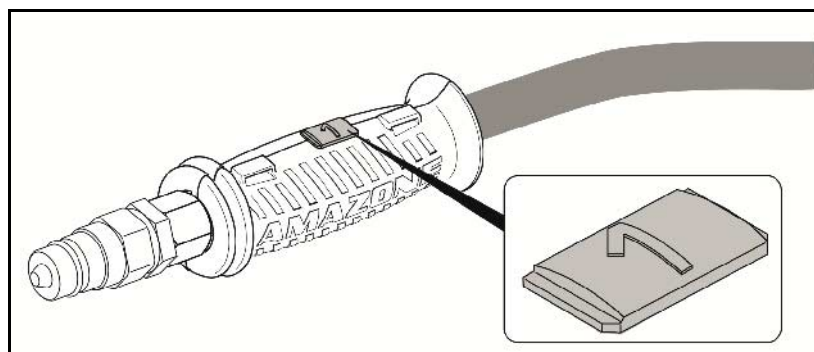
Warranty claims for damage which can be traced back to an excessively high drive speed of the universal joint shaft will not be recognised.



5.7 Hydraulic connections

- All hydraulic hose lines are equipped with grips.

Coloured markings with a code number or code letter have been applied to the gripping sections in order to assign the respective hydraulic function to the pressure line of a tractor control unit!



Films are stuck on the implement for the markings that illustrate the respective hydraulic function.

- The tractor control unit must be used in different types of activation, depending on the hydraulic function.

Latched, for a permanent oil circulation	
Tentative, activate until the action is executed	
Float position, free oil flow in the control unit	

Folding using tractor control units		Function		Hose identification	
yellow		Hopper	raise	Double acting	
			lower		
green		Machine	raise	Double acting	
			lower		
nature		Drawbar+ (Cutting deck operation)		Single acting	
red		Flow for Hydraulic block		Single acting	
red		Pressure-free return flow			

**WARNING****Risk of infection from hydraulic fluid escaping at high pressure.**

When coupling/uncoupling the hydraulic hose line, ensure that the hydraulic system is not under pressure on the tractor or machine side.

If you are injured by hydraulic fluid, contact a doctor immediately.

Maximum permissible pressure in oil return: 1,5 bar

Therefore do not connect the oil return to the tractor control unit, but to a pressure-free oil return flow with a large plug coupling.

**WARNING**

For the oil return, use only DN16 lines and select short return paths.

Pressurise the hydraulic system only when the free return has been correctly coupled.

5.7.1 Coupling hydraulic hose lines

**WARNING**

Risk of crushing, cutting, being trapped or drawn in, or impact through faulty hydraulic functions when hydraulic hose lines are incorrectly connected.

When coupling the hydraulic hose lines, please note the coloured markings on the hydraulic plugs.



- Check the compatibility of the hydraulic fluids before connecting the machine to the tractor hydraulic system.
Do not mix any mineral oils with biological oils.
- Observe the maximum permissible hydraulic fluid pressure of 200 bars.
- Only couple clean hydraulic connectors.
- Plug the hydraulic plug(s) into the hydraulic sockets until you can feel the hydraulic plug(s) locking.
- Check the coupling points on the hydraulic hose lines, to see if they are sitting correctly and are sealed.

1. Swivel the actuation lever on the control valve on the tractor to float position (neutral position).
2. Clean the hydraulic plugs on the hydraulic hose lines before coupling the hydraulic hose lines with the tractor.
3. Connect the hydraulic hose line(s) to the tractor control unit(s).



5.7.2 Disconnecting hydraulic hose lines

1. Swivel the actuation lever on the tractor control unit on the tractor to float position (neutral position).
2. Unlock the hydraulic connectors from the hydraulic sockets.
3. Protect the hydraulic plug and hydraulic socket against soiling using the dust protection caps.
4. Store the hydraulic hose lines in the hose cabinet.

5.7.3 Electrically controlled hydraulic block (optional, country-specific)

In order to be able to work correctly with the machine, the following hydraulic joint must be fitted on the tractor side.

The remote control supplied with the machine is held in place in the driver's cab by the holder provided and allows the machine to be operated using only two hydraulic lines and one additional electrical connection.

Connection 1: permanent pressure connection

required hydraulic power: 200 bar
40 l/min

Connection 2: free return

max. return pressure: 1.5 bar

Connection 3: electrical socket, 3-pin

required electrical power: 12 V
15 A

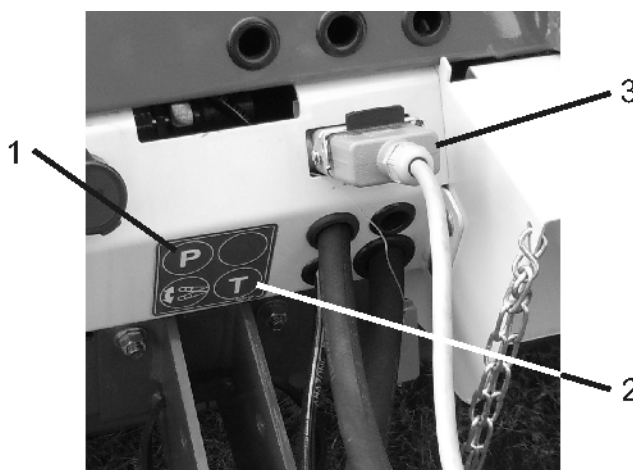


Fig. 5.6.1-1



If the tractor has no connection for the electrical system, an optional additional cable with socket can be obtained from **AMAZONE**.



CAUTION

If you connect this cable incorrectly to the battery the hydroelectric control system may be severely damaged. Connect the cable as follows:

(-) Earth = blue

(+) Voltage = brown

Explanation of the remote control (Fig. 5.4.1-2):

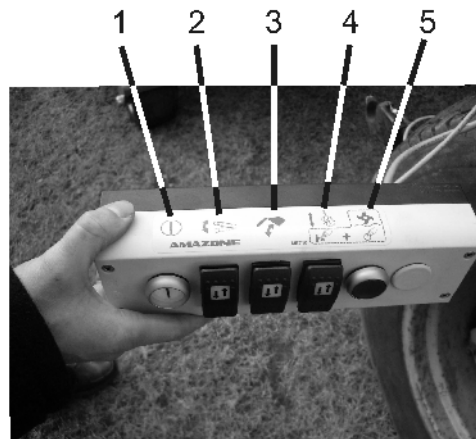
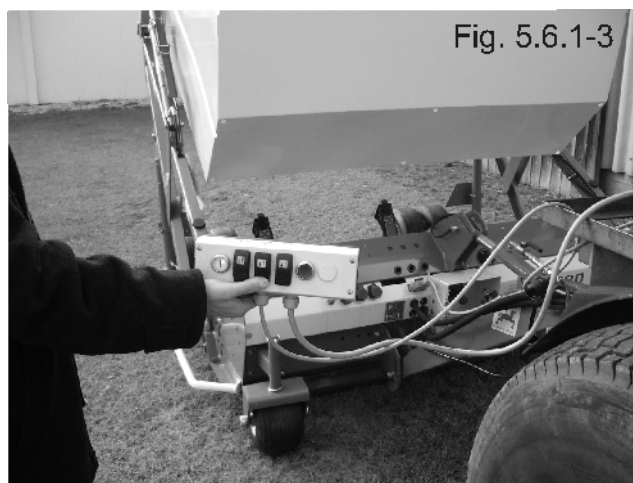


Fig. 5.6.1-2

- 1- On/Off switch
- 2- Raise and lower the drawbar
- 3- Raise and lower the hopper (only with GHS-T)
- 4- Extend and retract the rear hydraulic cylinders
- 4+5- Machine in float position when both switches are operated simultaneously

Float position means that the mower takes control of ground tracking, with the rear wheels only providing a support function while for the most part equalising differences in ground level between the right and left-hand side wheels. The drawbar is also in float position.

As soon as another switch is operated, the float position is automatically switched off. The machine's hydraulic system shifts into transport mode.



If a switch is released during operation, the hydraulic block is locked and the machine remains in the exact position it is in at the time.

5.8 Lowering throttle



The hopper of the machine must take at least eight seconds to lower when full. The lowering speed can be adjusted using the lowering throttle in the hopper's hydraulic actuation circuit (mounted in the frame next to the gearbox).

(see Fig. 5.4-2 and Fig. 5.4-3).

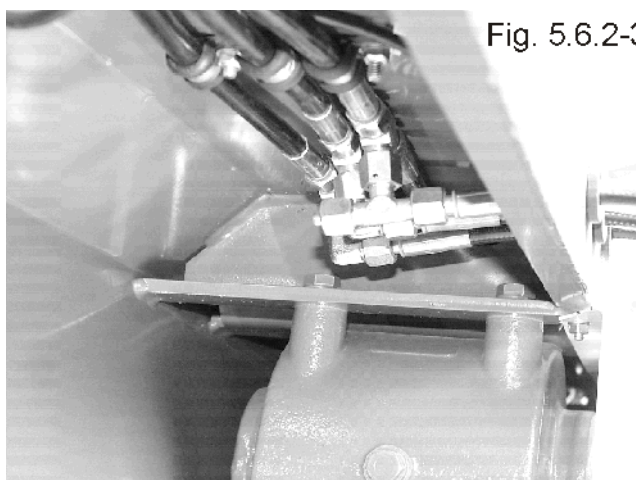


Fig. 5.6.2-3

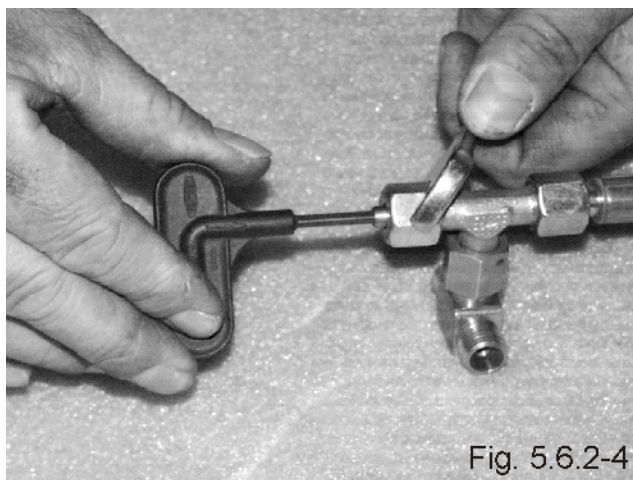


Fig. 5.6.2-4

5.9 Electrical connections

Connecting the power line: connect the machine's power cable to the socket provided on the tractor.

Required battery voltage: 12 volts

Plug for lighting: 7 pin

6 The mower unit

The Groundkeeper GHS-Drive has a flail-type mower unit. This involves free-moving cutting tools which are suspended on a large-diameter tube. When the rotor starts to turn, the cutting and scarifying blades are erected by centrifugal force, which allows them to reach into the grass which is to be cut and mow it off. The blades are made of special steel and suspended in four rows around the rotor from so-called clip bolts

6.1 Fitting the mowing and scarifying tools

There are 5 different tool arrangements (shown in Table 11).

If the mowing or scarifying blades are worn on one side, they can be reused by turning them round. This is possible because both the front side and the rear side of the blades have been provided with a cutting edge.

The blades can be turned or replaced without the use of tools (Fig. 6.1-1).



Care must be taken to ensure that the rotor is equally fitted with blades. If cutting tools are missing or have been incorrectly fitted, an imbalance is created which, over time, will lead to the whole machine being damaged.

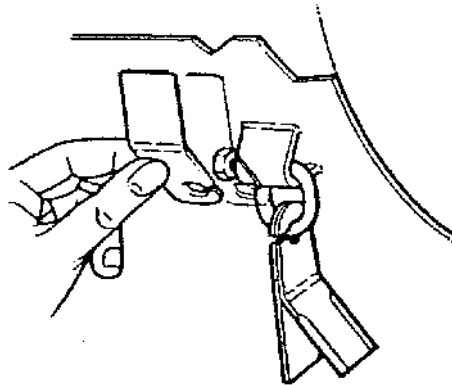


Fig. 6.1-1

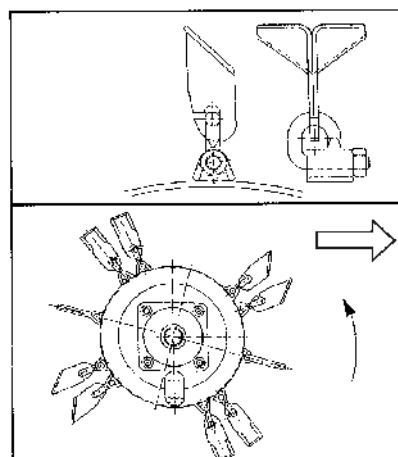



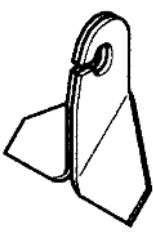
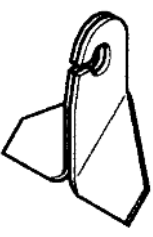
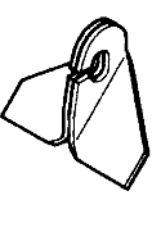


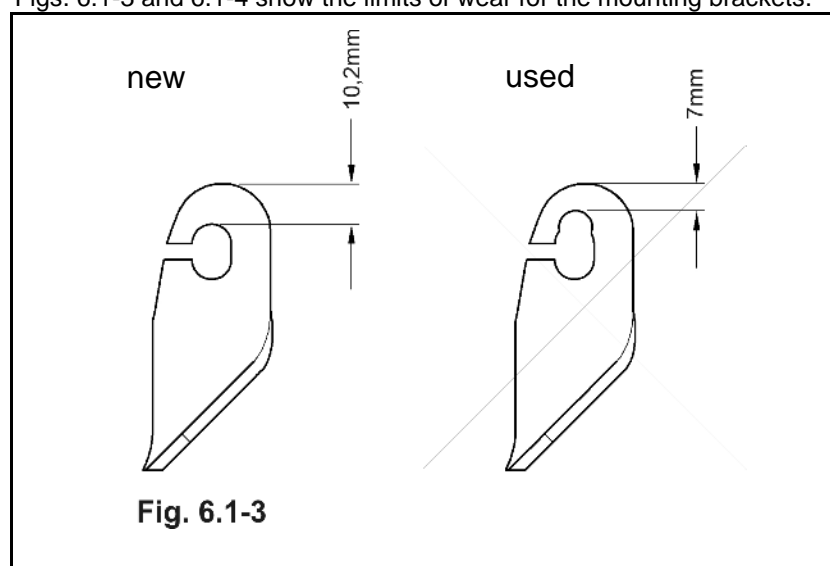
Fig. 6.1-2

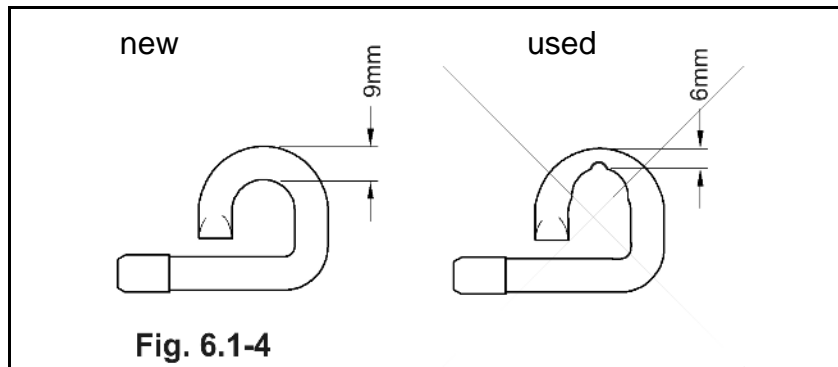
						
	50 %	100 %	100 %	50 %	100 %	100 %
	Mowing blade	Scarifying blade (2 mm)	Scarifying blade (3 mm)	Wing blade, long, H77 ground	Wing blade, long, H77 ground	Wing blade, short, H60 ground
	Piece	Piece	Piece	Pair	Pair	Pair
Working width 1.50 m	82 pcs	83 pcs	83 pcs	42 pairs	83 pairs	83 pairs
Working width 1.80 m	100 pcs	100 pcs	100 pcs	50 pairs	100 pairs	100 pairs
Working width 2.1 m	116 pcs	116 pcs	116 pcs	58 pairs	116 pairs	116 pairs

Wear limit of suspended tools:

The blade fasteners and clip bolts must be checked regularly for wear. Heavily worn tools must be promptly replaced.

Figs. 6.1-3 and 6.1-4 show the limits of wear for the mounting brackets.

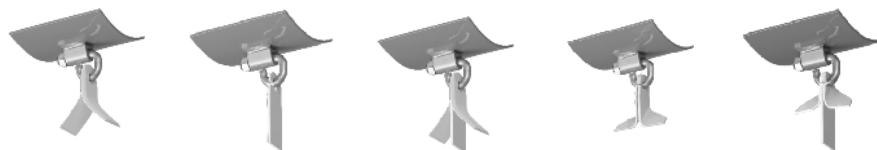


**CAUTION**

The blades and the blade fasteners must be checked before the start of every run.

All screw unions must be firmly tightened.

Blade overview

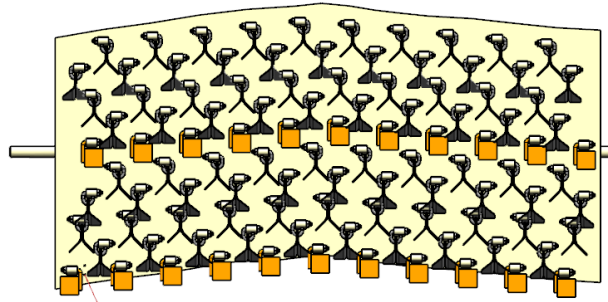


	A	B	C	D	E
<i>Blade replacement without tools</i>	100 % mowing blade	100 % scarifying blade	100 % mowing and scarifying blade	50 % mowing 50 % wing blade, long, H77 (*)	100 % wing blade, H60 100 % scarifying blade
Mowing and collecting <i>dry conditions</i>	●●●			●●	
Mowing and collecting <i>wet conditions</i>	●●			●●●	
Scarifying and collecting <i>dry conditions</i>		●●●			
Scarifying and collecting <i>wet conditions</i>		●●			●●●
Collecting scarified ma- terial <i>dry conditions</i>				●●● + 100 % scarifying blade	●●
Collecting scarified ma- terial <i>wet conditions</i>				●●● + 100 % wing blade, long, H77 + 100 % scari- fying blade	●●
Mowing, scarifying and collecting in one opera- tion <i>dry conditions</i>			●●●		
Mowing, scarifying and collecting in one opera- tion <i>wet conditions</i>				●●● + 100 % scarifying blade	
Foliage collection <i>dry conditions</i>	●●●			●●●	
Foliage collection <i>wet conditions</i>	●●		●●	●●● + 100 % scarifying blade	
Paddock mowing includ- ing collection of drop- pings			●●		●●●
Fine mowing and collect- ing <i>all conditions</i>				●●● 100 % wing blade, long, H77, ground	

●●● excellent result

●● good result

(*) Pairs of rows opposite one another on the rotor are each fitted with mowing blades or wing blades (fig. 6.1-2).



The rotor is accessed in the following manner:

- Attach the machine to a tractor.
- Fully raise the catcher.
- Fit the safety support on the upper right-hand lifting cylinder of the catcher (Fig. 6.1-5).
- Turn off the tractor engine,
- Unlock the intermediate hood (Fig. 6.1-7),
- Fold up the intermediate hood (Fig. 6.1-8).



Caution:

When you intend to work on the rotor with the catcher raised, make sure that the rotor is stationary and engage the retaining hook on the container.

Fig. 6.1-6

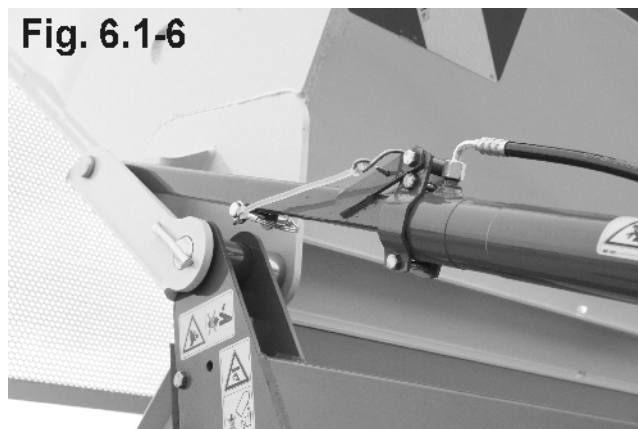


Fig. 6.1-7

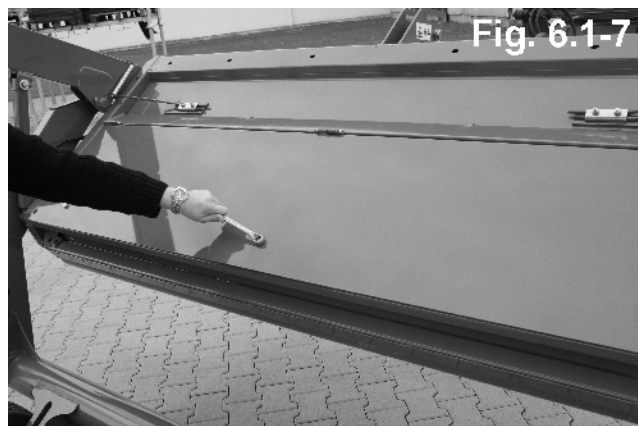


Fig. 6.1-8



6.2 Adjustment of baffle plate

A baffle plate that optimises collection when mowing and scarifying is in progress is fastened below the rotor protection flap and can be set at various positions. This baffle plate is set for mowing as standard.

Setting positions:

- **Scarifying:** slide plate up to limit position.
- **Mowing:** slide plate down to limit position.



- The baffle plate can be accessed by raising and securing the hopper then folding up the cover flap.



CAUTION

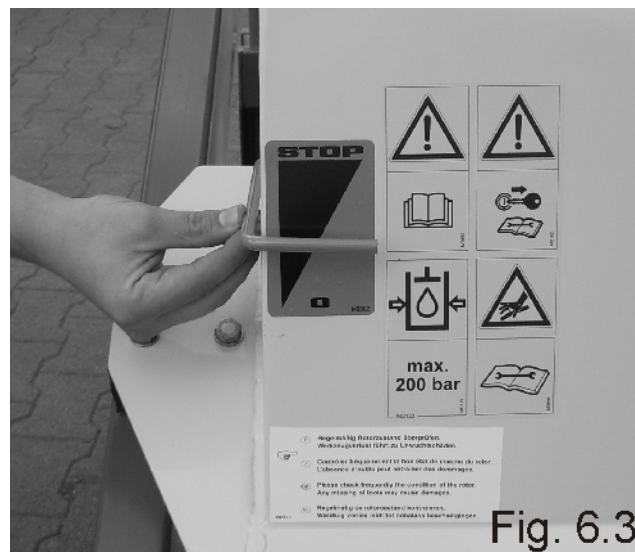
Only carry out work on the machine when the rotor is at a standstill.

6.3 Mowing

The cutting tools described above are used for mowing or scarifying. The working speed depends on the density and wetness of the turf. It must be adjusted to suit the conditions. The maximum PTO shaft speed of 540 rpm must be observed. The hopper must be emptied in good time to ensure tidy collection.

The hopper is fitted with an indicator which shows whether the hopper needs to be emptied (Fig. 6.2).

While the indicator is in the lower position, cuttings can continue to be collected. When the pointer starts to approach or has reached the upper position, the hopper must be emptied. The sensitivity of the indicator is dependent on the type of the cuttings.



6.4 Scarifying

Scarifying is usually carried out at the start or end of vegetation growth.

It is possible to clean and aerate turf containing thatch and moss by simultaneously mowing, scarifying and collecting in one operation.

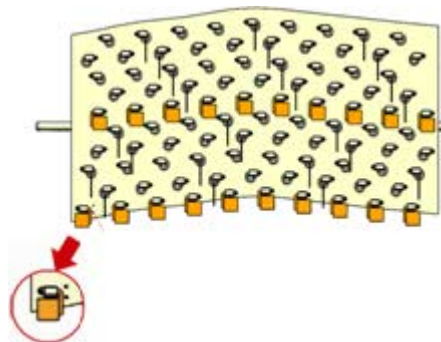
To achieve this, straight scarifying blades are fitted between the pairs of curved mowing blades. If the turf has already been cut short, only the straight blades are fitted. The combination of mowing and scarifying blades produces the best suction effect. Therefore, a combination of mowing and scarifying blades should be used for wet and difficult conditions.

- **Wide scarifying, blade spacing 51 mm**

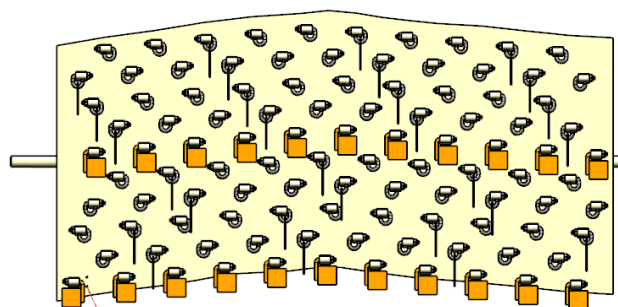
In this case, 2 mm or 3mm thick scarifying blades are mounted on the rotor.

This allows the working depth to be increased without engaging too aggressively with the turf.

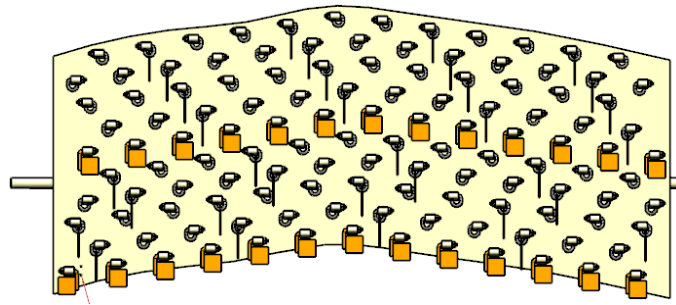
Marker for row 1



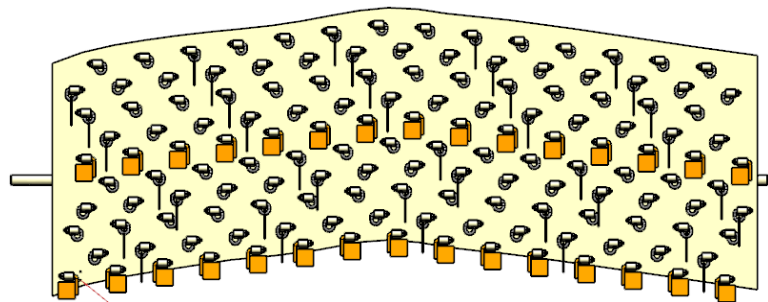
GH 1500



GH 1800



GH 2100



- **Narrow scarifying, blade spacing 17 mm**

Scarifying blades must be attached to all clip bolts on the rotor.

This type of scarifying is relatively aggressive and is suitable for restorative work on heavily thatched turf (moss) in the spring.

CAUTION



1. It must be ensured that the rotor is equipped with one of the above blade arrangements. If cutting tools are missing or have been incorrectly fitted, an imbalance is created which, over time, will lead to the whole machine being damaged.
2. Only one type of scarifying blade may be used! Risk of imbalance.
3. If a high proportion of soil content is produced from scarifying, only fill the catcher to approximately half way as otherwise there is a risk that the tractor and machine frame will be overloaded when driving with a full catcher.
4. Similarly, the tractor must also be driven with due care across uneven terrain when the catcher is full and the machine is raised, otherwise the frame may be damaged.
5. The machine must always be lowered slowly when the catcher is full. The machine may be damaged if the rear cage roller strikes against stones or fixed edges.
6. The technical and legally permissible overall weight must be observed without fail.

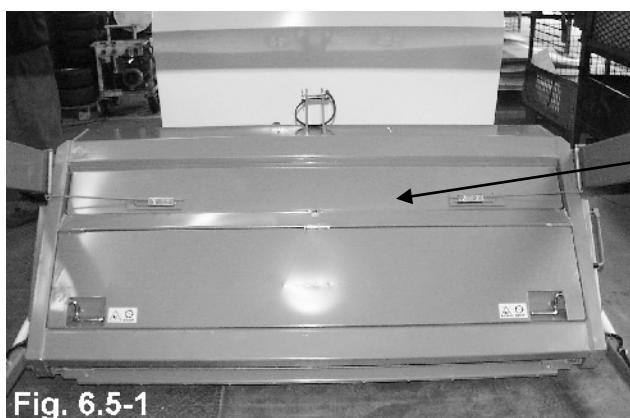
6.5 Mulching

The Groundkeeper GHS-Drive can also be used for mulching. The rotor cover flap (Fig. 6.5-1) normally opens automatically when the catcher is lowered but in this case it must remain closed during mowing. To make this adjustment, proceed as follows:

- Extend the hydraulic system of the rear guide wheels and lower the three-point system (Fig. 6.5-2),
- Raise the hopper (Fig. 6.5-3),
- Lower the hopper,
- Lower the hydraulic system of the rear guide wheels.

During this process, the driver (Fig. 6.5-4) of the mulching flap slides over the flap lever which causes the flap to remain closed.

Raise and lower the hopper to change back to the collection position.





6.6 Collecting

Because of the strong suction effect produced by the rotor, the machine can also be used for collecting material which has already been mowed or any other material lying loose on the ground. The material will be lifted by this suction effect ; the rotating knives shredder the material and throw it through the tunnel into the hopper.

The speed of the universal joint shaft and the forward speed must be adapted to the weather conditions and material being collected.



Never unload on a side embankment.

6.7 Emptying the catcher

The catcher is fitted with an indicator which shows whether the catcher needs to be emptied (Fig. 6.7).

While the indicator is in the lower position, cuttings can continue to be collected. When the pointer starts to approach or has reached the upper position, the catcher must be emptied. The sensitivity of the indicator is dependent on the type of the cuttings.



Fig. 6.7

First, the machine is raised by the tractor's three-point hydraulic system and rear running gear. The catcher is then tipped backwards about its swivel axles by the cylinders mounted at the side. When unloading on a slope, the machine must not be positioned across the slope, in order to prevent the tractor and machine from tipping over.



CAUTION

- Never unload on a side embankment.
- Drive with great care if the catcher is raised.

7 Adjusting the cutting height

You can adjust the cutting height of the Groundkeeper GHS-Drive via the front guide wheels and rear cage roller.

You can adjust the rear cage roller centrally using the crank on the right-hand side of the machine.

Fig. 7-1



Turn the crank clockwise to retract the cage roller and reduce the cutting height; turn the crank anticlockwise to extend the cage roller and increase the cutting height (see Fig. 7.1-2).

You can adjust the height of the guide wheels by removing the spacer sleeves and repositioning them (see Fig. 7-2). To adjust the wheels, it is necessary to raise the machine using the tractor's hydraulic system. The lynch pins must be removed and the sleeves positioned according to the required working height.

The machine should always be raised and lowered evenly, i.e. care should be taken to keep the machine as level as possible in every lifting position. If the machine is raised too much on one side only, whether at the front or rear, damage may be caused to the PTO shaft, if the machine is still running.



Fig. 7-2

7.1 Front roller (accessory)

A front roller is available as a special accessory for scarifying on uneven terrain. This is mounted in the brackets of the front guide wheels (Fig. 7.1-1).



To adjust the height, the lynch pin and the pin must be removed on both sides and the roller must be pegged in the required position (Fig. 7.1-2).





8 Cleaning the machine

The machine can, on occasion, become heavily soiled, especially when mowing and scarifying wet grass which is also sometimes interspersed with earth. In such cases, it is recommended to clean the rotor and the catcher intensively with a jet of water.

9 Maintenance are care

The Groundkeeper GHS-Drive is largely maintenance free. Consider and attend the following points:

9.1 Oil level in the angular gearbox

The angular gearbox on the machine does not require lubrication servicing. However, the oil level should be checked annually. The inspection screw on the side of the gearbox must be opened (Fig. 9.1) in order to check whether the oil level reaches up to the lower edge of the bore hole. The gearbox must be filled with SAE 90 transmission oil (capacity 0.45 l), if required.



9.2 Lubrication points

Depending on the intensity of work, the following areas should be regularly lubricated with multipurpose grease:

- Hopper hinges (Fig. 9.2-1),
- Guide wheel fork bearing (Fig. 9.2-1),
- Rotor bearings (the V-belt protection on the left-hand side of the machine must be removed beforehand) (Fig. 9.2-2, 9.2-3),
- Rear cage roller bearing (Fig. 9.2-4)
- roller bearing (Fig. 9.2-5),
- Transport frame pivot point (Fig. 9.2-6),
- High adjusting (Fig. 9.2-7),
- drive shaft (Fig. 9.2-8),
- PTO shaft.,
- Universal joint of friction coupling (remove weighing frame) and drive shaft bearing.
- (With front roller option, grease this bearings too)

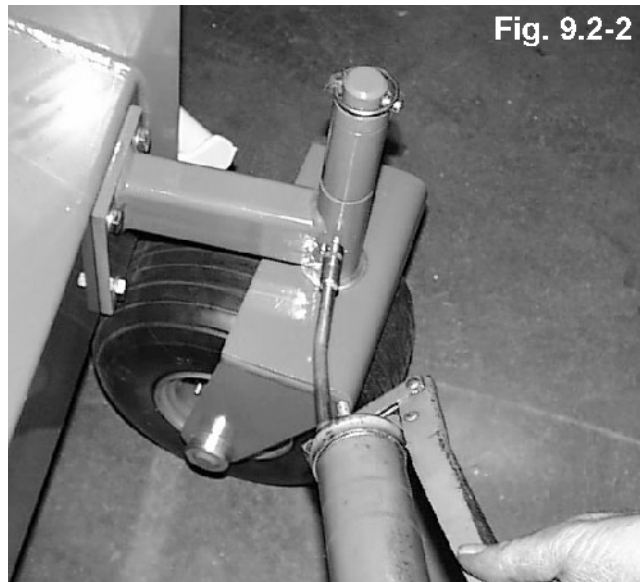




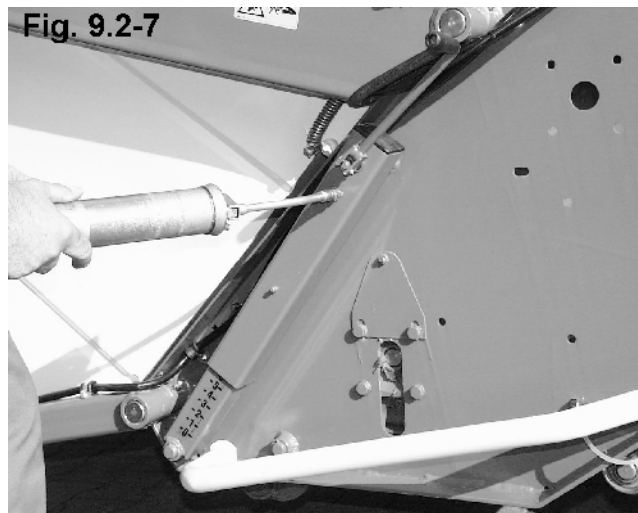
Fig. 9.2-4



Fig. 9.2-5



Fig. 9.2-6





9.3 V-belt drive

Regularly check (every 50 – 75 operating hours) that all drive belts are tensioned correctly and are undamaged.

Replace damaged belts

The service life of the belt depends on the transmission forces of the PTO shaft drive, and type of use.



IMPORTANT

Never operate the machine if the protective plate is not installed.

9.4 Extended periods of downtime

If the machine is not to be used for a long period of time, it is recommended that, before storing, it should be cleaned and protected using a suitable preservative product.

Before recommissioning, an authorised garage should check that the overload clutch between the angular gearbox and the belt drive is operating correctly.

9.5 Tyre pressure

Front guide wheels: 2 bar
Rear guide wheels: 3,4 bar



When removing or fitting tyres, the tyres must always be fully deflated (a split tyre wall can fly apart with explosive force during removal).



10 Transport on public roads



Road transport position: Rear hydraulic cylinder of the driven wheels must be close completely. Fully extend hydraulic cylinder of drawbar (Fig. 10-1 und Fig. 10-2).

The weight of the machine should not be underestimated (especially if the catcher is full), particularly on tractors with a low dead weight.

If the gap between the frame and hopper (Fig. 10-2/1) is too small, this will damage the machine frame when the machine is loaded and driven on uneven terrain.

Max. road speed: 30 km/h



When driving on public and unclassified roads the tractor and machine must comply with the national road traffic regulations

YES



NO



When driving on public and unclassified roads the tractor and machine must comply with the national road traffic regulations (StVZO and StVO in Germany) and the relevant accident prevention regulations.

Before driving with the machine on public roads, plug in the connector for the lighting and make sure the machine's lighting is working properly.

The vehicle keeper and driver are responsible for ensuring that the statutory regulations are complied with.

Furthermore, the instructions in this section must be followed prior to setting off and when on the road.

The regulations for prevention of road traffic accidents must be complied with.

Comply with the permissible axle loads, load capacities of tyres, drawbar load of tractor lower link and overall tractor weight.

The front axle load of the tractor must be at least 20% of the unladen weight of the tractor when transporting the machine as otherwise a sufficient margin of safety no longer exists for steering the tractor.

The maximum speed of the machine is 25 km/h. The machine must always be driven at much lower speeds especially when travelling on poor roads and unclassified roads.

The weight of the machine affects the driving dynamics as well as the steering and braking capability.

The large overhang and inertia of the machine must be taken into consideration during cornering.

Do not ride on the machine or use it as a means of transport.

Always check that all traffic safety kits are functional or mount suitable accessory parts (e.g. protective tarpaulins) once the machine is in the transport position.

The control lever of the tractor's hydraulic system must be locked to prevent the machine from folding out and lowering when travelling on the road with the machine lifted out.



Before setting off: check the tyre air pressure of the wheels on the running gear.





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