

# Operating manual

## **AMAZONE**

### **Cayros**

**Cayros M**  
**Cayros XM**  
**Cayros XMS**  
**Cayros XS**  
**Cayros XS-Pro**

**Cayros M V**  
**Cayros XM V**  
**Cayros XMS V**  
**Cayros XS V**  
**Cayros XS-Pro V**

### Mounted reversible plough



MG5698  
BAG0172.8 03.20  
Printed in Germany

Read and observe this  
operating manual before using  
the implement for the first time!  
Keep it in a safe place for future  
use!

en



# READING THE INSTRUCTION

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

---

*Leipzig-Plagwitz 1872. Rud. Sark.*

---

**Identification data**

---

Implement ID No.  
Type: Cayros  
Permissible system pressure (bar):  
Year of manufacture:  
Factory:  
Basic weight (kg):  
Permissible total weight (kg):  
Maximum load (kg):

---

**Manufacturer's address**

---

**AMAZONE Technology Kft.**  
Úttörő u. 43  
H - 9200 Mosonmagyaróvár  
Tel.: + 36 (06) 20/469 6360  
Fax: + 36 (06) 696/576-662

---

**Spare part orders**

---

Spare parts lists are freely accessible in the spare parts portal at  
[www.amazone.de](http://www.amazone.de).  
Please send orders to your AMAZONE dealer.

---

**Formalities of the operating manual**

---

Document number: MG5698  
Compilation date: 03.20  
© Copyright AMAZONEN-WERKE H. DREYER GmbH & Co. KG, 2020  
All rights reserved.  
Reprinting, even of sections, only possible with the approval of  
AMAZONEN-WERKE H. DREYER GmbH & Co. KG.

## Foreword

---

## Foreword

---

Dear Customer,

You have chosen one of the quality products from the wide product range of AMAZONEN-WERKE, H. DREYER GmbH & Co. KG. We thank you for your trust in our products

On receiving the implement, check to see if it has been damaged during transport or if parts are missing. Using the delivery note, check that the implement has been delivered in full, including any special equipment ordered. Damage can only be rectified if problems are signalled immediately.

Before initial operation, read and observe this operating manual, and particularly the safety information. Only after careful reading will you be able to benefit from the full scope of your newly purchased implement.

Please ensure that all the implement operators have read this operating manual before they put the implement 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 implement.

## User evaluation

---

Dear Reader

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

AMAZONEN-WERKE

H. DREYER GmbH & Co. KG

Postfach 51

D-49202 Hasbergen, Germany

Tel.: + 49 (0) 5405 50 1-0

E-mail: [amazone@amazone.de](mailto:amazone@amazone.de)

<b>1</b>	<b>Implement description.....</b>	<b>7</b>
1.1	Rating plate .....	7
1.2	Proper use.....	7
<b>2</b>	<b>Safety first .....</b>	<b>8</b>
2.1	Safety instructions.....	8
2.2	Safety and accident prevention regulations.....	9
2.3	Warning symbols and other labels on the implement.....	11
2.3.1	Positions of warning symbols and other labels.....	12
<b>3</b>	<b>Model overview / Technical data .....</b>	<b>16</b>
3.1	Overview of the equipment versions.....	16
3.2	Technical data.....	18
3.2.1	Ploughs with mechanical cutting width adjustment.....	18
3.2.2	Ploughs with infinitely variable hydraulic cutting width adjustment.....	19
<b>4</b>	<b>Preparations on the tractor and plough.....</b>	<b>20</b>
4.1	Calculating the actual values for the total tractor weight, tractor axle loads and load capacities, as well as the minimum ballast .....	20
4.1.1	Data required for the calculation .....	21
4.1.2	Calculation of the required minimum front ballast $G_{V \min}$ of the tractor to ensure safe steering.....	22
4.1.3	Calculation of the actual tractor front axle load $T_{V \text{ act}}$ .....	22
4.1.4	Calculation of the actual total weight of the tractor/ implement combination.....	22
4.1.5	Calculation of the actual tractor rear axle load $T_{H \text{ act}}$ .....	22
4.1.6	Tyre carrying capacity.....	22
4.1.7	Table .....	23
4.2	Preparation on the tractor .....	24
4.3	Preparation on the plough.....	25
<b>5</b>	<b>Mounting and dismounting the plough.....</b>	<b>27</b>
5.1	Mounting the plough .....	28
5.2	Dismounting the plough .....	28
5.3	Hydraulic connections.....	29
5.3.1	Coupling the hydraulic hose lines .....	30
5.3.2	Uncoupling the hydraulic hose lines .....	30
<b>6</b>	<b>Turning the plough .....</b>	<b>31</b>
6.1	Turning with double-acting automatic cylinder.....	32
6.2	Turning with double-acting automatic cylinder in conjunction with hydraulic beam pivoting.....	33
<b>7</b>	<b>Adjusting the plough .....</b>	<b>34</b>
7.1	Mechanical cutting width adjustment .....	35
7.2	Infinitely variable hydraulic cutting width adjustment.....	36
7.3	Front furrow width - Rough adjustment of the plough on the tractor .....	37
7.4	Working depth adjustment .....	38
7.5	Pitch adjustment .....	39
7.6	Pulling point setting.....	40
7.7	Precise front furrow adjustment .....	41
7.8	Disc coulter adjustment.....	42
7.8.1	Disc coulter adjustment for standard .....	42
7.8.2	Disc coulter adjustment for Vario.....	43
7.8.3	Disc coulter adjustment for automatic stone release .....	44
7.9	Fertiliser skimmer.....	45
7.10	Swivel arm for supporting a packer .....	46
<b>8</b>	<b>Road transport .....</b>	<b>47</b>
8.1	Rear transport pendulum support wheel.....	48

## Table of Contents

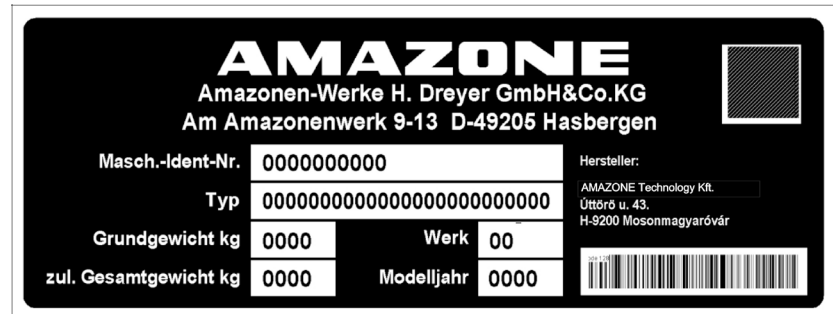
8.2	Lighting - Warning equipment for road transport .....	49
<b>9</b>	<b>Overload safety device .....</b>	<b>50</b>
9.1	List of shear bolts .....	50
9.2	Shear bolt .....	50
9.3	SEMI-automatic .....	51
9.4	Automatic hydraulic stone release .....	52
9.4.1	Hydraulic stone release with central pressure setting .....	53
9.4.2	Hydraulic stone release with decentralised pressure setting .....	54
<b>10</b>	<b>Cleaning, maintenance and repair .....</b>	<b>55</b>
10.1	Cleaning .....	57
10.2	Storage / overwintering .....	58
10.3	Maintenance schedule – overview .....	59
10.4	Checking the condition of the shares and wear parts .....	60
10.5	Checking the shear bolts .....	60
10.6	Checking the support wheel .....	61
10.6.1	Check bearing clearance on wheel hubs .....	61
10.7	Hydraulic system .....	62
10.7.1	Labelling hydraulic hose lines .....	63
10.7.2	Maintenance intervals .....	64
10.7.3	Inspection criteria for hydraulic hose lines .....	64
10.7.4	Installation and removal of hydraulic hose lines .....	65
10.7.5	Installation of hose valve chests with O-ring and union nut .....	65
10.8	Screw tightening torques .....	66
<b>11</b>	<b>Malfunctions and their correction .....</b>	<b>67</b>

## 1 Implement description

### 1.1 Rating plate

When making enquiries or orders, please state the construction year, implement no., and plough type.

These numbers are embossed in the nameplate on the mounted body.



All points in this manual concerning your safety have been ascribed this sign! Please pass all safety instructions or the manual to all other users.

### 1.2 Proper use

The implement has been designed only for conventional use in agricultural work (intended use).

Intended use also includes compliance with the conditions for operation, maintenance, and repairs prescribed by the manufacturer.

Unauthorised changes to the implement exclude manufacturer from liability and warranty for resultant damage.

The technical equipment of the implement corresponds to the explicit wishes of the customer. The customer acknowledges that the implement may not be intended for use on public roads and may not have the safety equipment required for road traffic. **AMAZONE Technology Kft.** points out that the vehicle owner as well as the vehicle driver are responsible for ensuring that the implement has the required safety equipment for use on public roads and complies with the applicable national laws and regulations.



#### **DANGER**

**A speed of 25 km/h may not be exceeded!**

## 2 Safety first

### 2.1 Safety instructions



**It is imperative that the following instructions be observed:**

1. When uncoupling plough from tractor, ensure that the stand support is properly clamped!
2. Road transport with transport swing support wheel:  
When transporting on public roads, road traffic regulations must be observed! On transport journeys with transport swing support wheel, the tractor's toplink must be dismantled.  
Furthermore, when driving with the transport swing support wheel, the rear plough must be locked using the transport locking mechanism (located at the front on the headstock)!
3. For plough types M850, M950, M1020 of a 4-furrow design and above, XM850, XM950, XM1050, XMS850, XMS950, XMS1050, XS850, XS950, XS1050, XS1150, XSPPro 850, XSPPro 950, XSPPro 1050 and XSPPro 1150 of a 5-furrow design and above (shear pin, SEMI or automatic stone release), a transport swing support wheel must be used for all transport journeys  
→ Service life of plough reversing mechanism!

**RISK OF ACCIDENT!**

4. To avoid damage to the transport wheel caused by the disc coulters when pushing back in transport position, these disc coulters must be moved up to the stop (near coulters shaft)!
5. For all plough types of 4-furrow design and above, a mounting axle of Cat. II/36 or III/36 (= pin diameter Ø36 mm or ball diameter Ø64 mm) is always prescribed.

**Pin diameter Ø28 mm or ball diameter Ø56 mm is prohibited ! RISK OF ACCIDENT!**



## 2.2 Safety and accident prevention regulations

---

1. Operators shall wear close-fitting clothing. Solid footwear must be worn.
2. Special care is to be taken when handling any sharp and pointed tools and components - Risk of injury!
3. Before initial operation, please familiarize yourself with all equipment and operating elements as well as their function - both on the tractor and on the plough!  
It is too late to do this during working operation.
4. Use only stipulated parts for mounting the plough!
5. The mounting category (pin diameter, ball diameter) for three-point linkage must be compatible for tractor and plough!
6. Special care must be taken when mounting or dismounting the implement onto or from the tractor!
7. Prior to connecting and disconnecting implement to the three-point suspension, place operating equipment in such a position as to prevent unintentional lifting or lowering!
8. When actuating the external controls for three-point linkage, do not step between tractor and plough!
9. When working between the tractor and the implement, ensure that the vehicle is secured by the parking brake and/or wheel chocks to prevent it from rolling away!
10. Before starting vehicle, check its road and operating safety!
11. Stickers concerning safety warnings must be kept clean and legible! If damaged, they must be replaced.
12. Couple the implement according to the instructions. Handling, steering and braking are all influenced by implement, and ballast weight. Therefore ensure that the steering and brakes are not impaired.
13. The respective road traffic regulations must be observed at all times when using public roads.
14. When implement is in transport position, always ensure that there is sufficient lateral locking of the tractor's three-point linkage!
15. Packer arms must be swivelled in and locked before road transport!
16. Observe the authorised axle loads, drawbar loads and total weights!
17. Check surrounding vicinity (children!) before driving off!
18. When driving in curves, take account of the wide sweep and/or centrifugal mass of the implement!
19. Do not leave the driver's platform while tractor is in motion!
20. Riding on the implement during work or road transport is not permissible.
21. Before leaving the tractor, lower the implement to the ground, switch off the engine, and remove the ignition key!
22. Before each transport journey, check the implement for any damage, material fatigue, as well as for safe functioning of relevant safety parts for road transport.

23. If using subsoilers, the subsoiler(s) must be dismantled on the release side and removed to ensure the stability of the plough.
24. Make sure that no people or animals are within the working and swivelling range of the plough. The implement operator is responsible for people and animals in work area.
25. All hydraulically controlled folding parts have shear and crush zones!
26. The implement must only be parked on level, firm, and horizontal ground.  
**RISK OF OVERTURNING!**
27. The turning cylinder of implements with single-acting turning cylinder must be hydraulically locked using stop tap.
28. Put the stand supports in the correct position and fasten securely when mounting or dismantling the plough!
29. Maintenance, repair, and adjustment work shall only be carried out when the implement has been lowered to the ground.
30. For spare parts or accessories, use only original parts! Do not make any "independent" changes to the implement.
31. When carrying out electrical welding work on the tractor and mounted implement, disconnect the cable on the generator (alternator) and battery!
32. The hydraulic system is under pressure!
33. When connecting the hydraulic hoses to the tractor's hydraulic system, ensure that the hydraulics are depressurised on both the tractor side and the implement side!
34. Label coupling sleeves and plugs to exclude operating errors! When the connections are inverted, the inverse function is performed (e.g. lifting / lowering)  
**Risk of accident!**
35. Check hydraulic hose lines regularly and replace if damaged or worn! The replacement lines must meet the technical requirements of the implement manufacturer.
36. Fluids (hydraulic oil) escaping under high pressure can penetrate the skin and cause serious injuries! In the event of injury, seek medical advice immediately. Risk of infection!
37. Lower the implement on the ground before working on the hydraulic system. Depressurise system and switch off engine.
38. Check the nuts and bolts regularly for tight fit and retighten if necessary!
39. For maintenance work - e.g.: the replacement of wearing parts – that is performed when the implement is raised, always secure with suitable support mechanisms!
40. Replacement parts must at least meet the technical requirements stipulated by the implement manufacturer! This is guaranteed by using original replacement parts.

## 2.3 Warning symbols and other labels on the implement



Always keep all the warning symbols of the implement 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 pictograms indicate danger areas on the implement and warn of residual dangers. Permanent or unexpected dangers exist in these areas.

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: risk of cutting

2. The consequence of non-compliance with the risk avoidance instructions.

For example: causes serious injuries to fingers or hands.

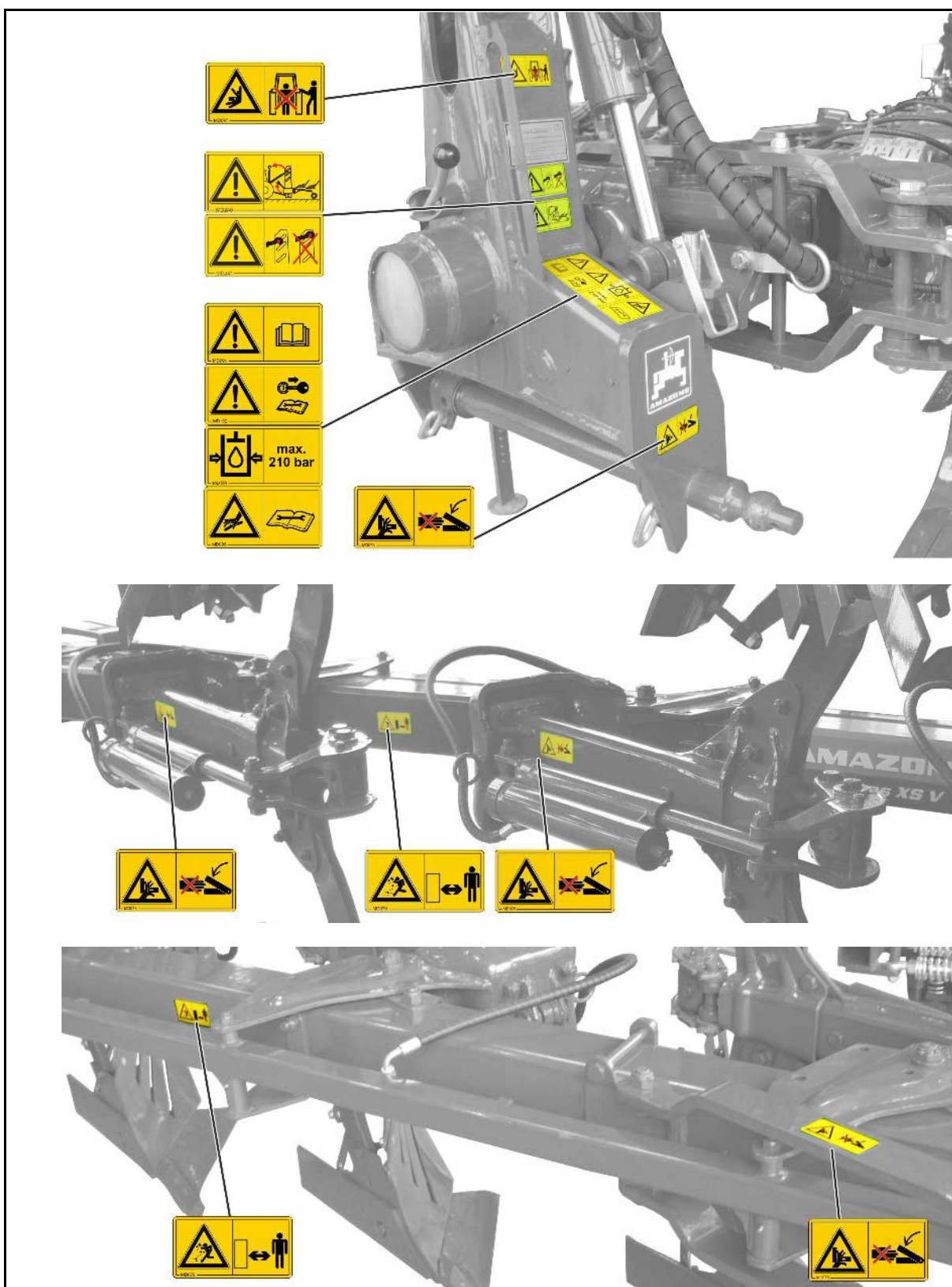
3. Risk avoidance instructions.

For example: only touch implement parts when they have come to a complete standstill.

## 2.3.1 Positions of warning symbols and other labels

### Warning symbols

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



Order number and explanation

Warning symbols

**MD 078**

**Risk of crushing of fingers/hand by accessible, moving parts of the implement!**

This hazard can cause the most severe injuries with loss of body parts.

Never reach into the hazardous area while the engine of the tractor with connected universal joint shaft/hydraulics/electronic system is running.

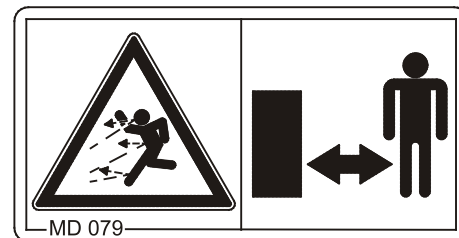


**MD 079**

**Risk of materials or foreign objects being flung away by or out of the implement!**

These dangers can cause extremely serious and potentially fatal injuries.

- Keep a sufficient safety distance from the implement as long as the tractor engine is running.
- Ensure that all other persons also keep a sufficient safety distance from the danger area of the implement as long as the tractor engine is running.



**MD 095**

Read and follow the operating manual and safety information before starting up the implement!

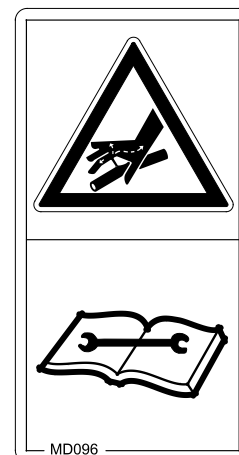


**MD 096**

**Danger from escaping high-pressure hydraulic fluid due to leaking hydraulic hose lines.**

This danger may cause serious injuries, perhaps even resulting in death, if escaping high-pressure hydraulic fluid passes through the skin and into the body.

- Never attempt to plug leaks in hydraulic hose lines using your hand or fingers.
- Read and observe the information in the operating manual before carrying out maintenance work on the hydraulic hose lines.
- If you are injured by hydraulic fluid, contact a doctor immediately.

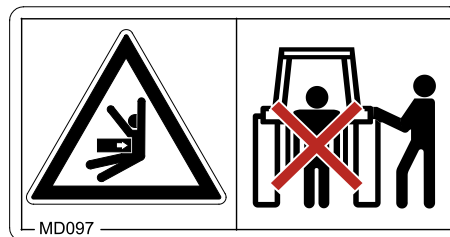


## MD 097

### **Risk of crushing and contusions between the rear of the tractor and the implement when coupling and uncoupling the implement!**

These dangers can cause extremely serious and potentially fatal injuries.

- It is forbidden to actuate the three-point hydraulic system of the tractor as long as persons are standing between the rear of the tractor and the implement.
- Actuate the operator controls for the tractor's three-point hydraulic system:
  - Only from the intended workstation alongside the tractor.
  - Only when you are outside the danger area between the tractor and the implement.

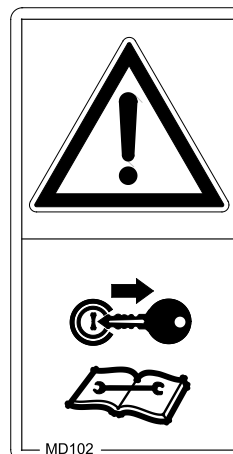


## MD 102

### **Dangerous situations for the operator due to unintentional starting / rolling of the implement during all work on the implement, e.g. installation, adjustment, troubleshooting, cleaning or maintenance.**

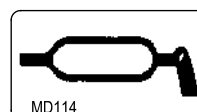
The potential dangers can inflict severe and potentially fatal injuries on all parts of the body.

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



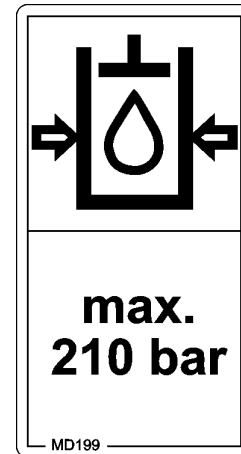
## MD 114

This pictogram indicates a lubrication point.

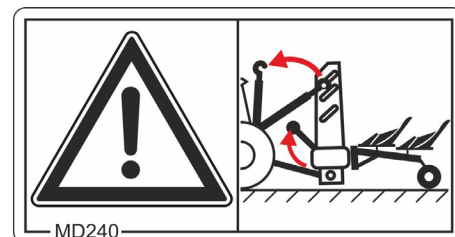


**MD 199**

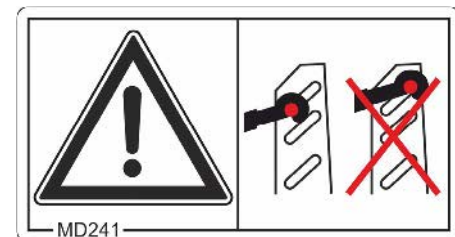
The maximum operating pressure of the hydraulic system is 210 bar.

**MD240**

Remove the upper link from the mounting body for transport and secure the implement.

**MD241**

The coupling point of the upper link on the implement side must be located at the front in the slot of the support frame.



### 3 Model overview / Technical data

#### 3.1 Overview of the equipment versions

MODEL	M	XM	XMS	XS	XSPro
	Medium series for universal use	Medium weight model series, universal use	Medium weight premium class, specially for maize straw, up to 105 cm	For large tractors	
Tractor - Hp Class	to 120	to 140	to 175	to 260	to 380
Number of shares					
3 shares	•	•	•	•	•
4 shares	•	•	•	•	•
5 shares			•	•	•
6 shares				•	•
Cutting width, mechanical (standard)	•	•	•	•	•
Cutting width, hydraulic (Vario)	•	•	•	•	•
Overload safety:					
• Shear pin	•	•	•	•	•
• SEMI-automatic	•				
(semi-automatic with spiral spring)					
• hydraulical decentralised	•	•	•	•	•
• hydraulical central	•	•	•	•	•



---

**Equipment versions for mounted reversible plough**

---

**Additional equipment:**





- **Disc coulter:** For clean furrow clearing
- **Landside coulter:** More inexpensive version instead of the disc coulter; mounted on the plough head
- **Fertiliser skimmer:** Universal use, from ploughing up grassland to maize straw  
Can be mounted on each element
- **Skimmer:** Used especially for shallow work when ploughing up grassland  
Mounted like the fertiliser skimmer
- **Special skimmer:** For optimal work with extreme harvest residues, with large underbeam clearance  
Mounted like the fertiliser skimmer
- **Skimmer guide plate:** To incorporate the fertiliser  
Mounted on the plough body
- **Deflector plate:** Enables crop residues to slide off more easily
- **Subsoiler:** Mounted on the plough head
- **Double support wheel**
- **Pendulum support wheel** rear
- **Transport swing wheel**
- **Scraper**
- **Lighting**
- **Packer extension arm:** Can be mounted on the adjustment slide block for any plough type, the packer is used for clod breaking or seedbed preparation
- **Hydraulic pulling point adjustment:** Recommended when the pulling point is frequently adjusted
- **Hydraulic beam pivoting:** Recommended for 5-furrow ploughs and above
- **Hydraulic track width adjustment:** Recommended when the track width is frequently adjusted

**For the list below, the following applies:**





- \* The specified maximum HP (kW) values correspond to the max. permissible tractor power.
- \*\* Weight excluding additional equipment (weight depends on beam height and plough body)

## 3.2 Technical data

### 3.2.1 Ploughs with mechanical cutting width adjustment

					kW/HP*	Share				
Type	Interbody clearance. (cm)	Cutting width	Underbeam clearance (cm)	Clear span (mm)	max. HP range (PS)-	Weights (kg) **				
Cayros						2	3	4	5	6
M 850 S	85	32/36/40/44	78	1150 - 1700	88 (120)	675	890	1105	—	—
M 950	95	36/40/44/48	78	950 - 1500	88 (120)	575	730	890	—	—
M 950 S	95	36/40/44/48	78	1150 - 1700	88 (120)	680	895	1110	—	—
M 1020	102	36/40/44/48	78	950 - 1500	88 (120)	580	735	895	—	—
M 1020 S	102	36/40/44/48	78	1150 - 1700	88 (120)	685	900	—	—	—
XM 850	85	32/36/40/44	78/82	1050 - 1650	103 (140)	—	860	1005	—	—
XM 850 S	85	32/36/40/44	78	1250 - 1850	103 (140)	—	1025	1225	—	—
XM 950	95	36/40/44/48	78/82	1050 - 1650	103 (140)	—	865	1010	—	—
XM 950 S	95	36/40/44/48	78	1250 - 1850	103 (140)	—	1030	1230	—	—
XM 1050	105	36 <sup>1</sup> /40/44/48	78/82	1050 - 1650	103 (140)	—	870	1015	—	—
XM 1050 S	105	36/40/44/48	78	1250 - 1850	103 (140)	—	1035	1235	—	—
XMS 850	85	32/36/40/44	78/82	1050 - 1650	147 (200)	—	975	1150	1345	—
XMS 850 S	85	32/36/40/44	78/82	1250 - 1850	147 (200)	—	1140	1370	1620	—
XMS 950	95	36/40/44/48	78/82	1050 - 1650	147 (200)	—	980	1160	1360	—
XMS 950 S	95	36/40/44/48	78/82	1250 - 1850	147 (200)	—	1145	1380	1635	—
XMS 1050	105	36 <sup>1</sup> /40/44/48	78/82	1050 - 1650	147 (200)	—	985	1170	1375	—
XMS 1050 S	105	36/40/44/48	78/82	1250 - 1850	147 (200)	—	1150	1390	—	—
XS 950	95	36/40/44/48	82/90	1050 - 1850	191 (260)	—	—	1310	1530	1745
XS 950 S	95	36/40/44/48	82	1250 - 2050	191 (260)	—	—	1565	1845	2115
XS 1050	105	36 <sup>1</sup> /40/44/48	82/90	1050 - 1850	191 (260)	—	—	1325	1550	1765
XS 1050 S	105	36/40/44/48	82	1250 - 2050	191 (260)	—	—	1580	1865	2130
XS 1150	115	40/44/48	82/90	1050 - 1850	191 (260)	—	—	1340	1570	—
XS pro 950	95	36/40/44/48	82/90	1050 - 1850	279 (380)	—	—	1360	1590	1818
XS pro 950 S	95	36/40/44/48	82	1250 - 2050	279 (380)	—	—	1615	1905	2185
XS pro 1050	105	36/40/44/48	82/90	1050 - 1850	279 (380)	—	—	1375	1610	1835
XS pro 1050 S	105	36/40/44/48	82	1250 - 2050	279 (380)	—	—	1630	1925	2200
XS pro 1150	115	40/44/48	82/90	1050 - 1850	279 (380)	—	—	1390	1630	—

### 3.2.2 Ploughs with infinitely variable hydraulic cutting width adjustment

					kW/PS*	Shares			
Type	Interbody clearance. (cm)	Cutting width	Underbeam clearance (cm)	Clear span (mm)	max. HP range (PS)-	Weights (kg) **			
Cayros V						3	4	5	6
M 950 V	95	32 - 52	78	950 - 1500	88 (120)	800	975	—	—
M 950 VS	95	32 - 52	78	1150 - 1700	88 (120)	965	—	—	—
M 1020 V	102	32 - 52	78	950 - 1500	88 (120)	805	980	—	—
M 1020 VS	102	32 - 52	78	1150 - 1700	88 (120)	970	—	—	—
XM 850 V	85	32 - 52	78/82	1050 - 1650	103 (140)	945	1105	—	—
XM 850 VS	85	32 - 52	78	1250 - 1850	103 (140)	1110	1325	—	—
XM 950 V	95	32 - 52	78/82	1050 - 1650	103 (140)	950	1110	—	—
XM 950 VS	95	32 - 52	78	1250 - 1850	103 (140)	1115	1330	—	—
XM 1050 V	105	32 - 52	78/82	1050 - 1650	103 (140)	955	1115	—	—
XMS 850 V	85	32 - 52	78/82	1050 - 1650	147 (200)	985	1240	1515	—
XMS 850 VS	85	32 - 52	78/82	1150 - 1850	147 (200)	1270	1530	1810	—
XMS 950 V	95	32 - 52	78/82	1050 - 1650	147 (200)	990	1250	1530	—
XMS 950 VS	95	32 - 52	78/82	1150 - 1850	147 (200)	1280	1540	1825	—
XMS 1050 V	105	32 - 52	78/82	1050 - 1650	147 (200)	995	1260	1545	—
XMS 1050 VS	105	32 - 52	78/82	1150 - 1850	147 (200)	1290	1550	—	—
XS 950 V	95	32 - 52	82/90	1050 - 1850	191 (260)	—	1380	1650	1905
XS 950 VS	95	32 - 52	78/82	1150 - 2050	191 (260)	—	1635	1980	2325
XS 1050 V	105	32 - 52	82/90	1050 - 1850	191 (260)	—	1390	1665	1925
XS 1050 VS	105	32 - 52	78/82	1150 - 2050	191 (260)	—	1645	1995	—
XS 1150 V	115	32 - 55	82/90	1050 - 1850	191 (260)	—	1400	1680	—
XS pro 950 V	95	32 - 52	82/90	1050 - 1850	279 (380)	—	1740	1940	2190
XS pro 950 VS	95	32 - 52	78/82	1150 - 2050	279 (380)	—	1890	2295	2695
XS pro 1050 V	105	32 - 52	82/90	1050 - 1850	279 (380)	—	1755	1960	2215
XS pro 1050 VS	105	32 - 52	78/82	1150 - 2050	279 (380)	—	1905	2315	—
XS pro 1150 V	115	32 - 55	82/90	1050 - 1850	279 (380)	—	1770	1980	—

## 4 Preparations on the tractor and plough

### 4.1 Calculating the actual values for the total tractor weight, tractor axle loads and load capacities, as well as the minimum ballast



The approved total tractor weight specified in the vehicle documentation must be greater than the sum of the

- empty tractor weight
- ballast weight and
- machine's total weight when attached or supported weight when hitched.



**This note only applies to Germany:**

If, having tried all possible alternatives, it is not possible to comply with the axle loads and/or the approved total weight, then a survey by an officially recognised motor traffic expert can, with the approval of the tractor manufacturer, be used as a basis for the responsible authority to issue an exceptional approval according to § 70 of the German Regulations Authorising the Use of Vehicles for Road Traffic and the required approval according to § 29, paragraph 3 of the German Road Traffic Regulations.

#### 4.1.1 Data required for the calculation

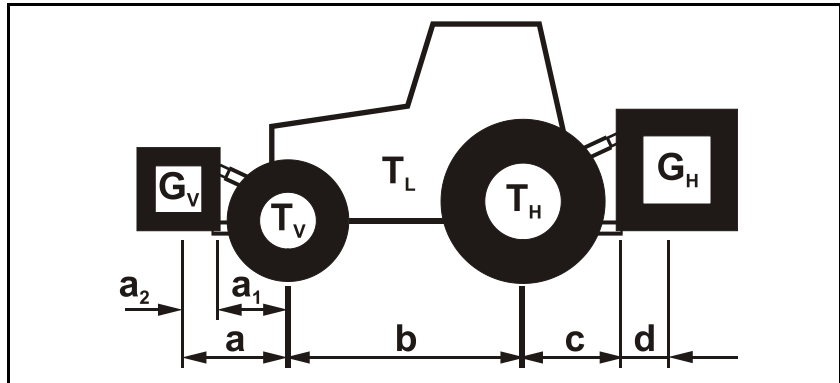


Fig. 1

$T_L$	[kg]	Empty tractor weight	See tractor operating manual or vehicle documentation
$T_V$	[kg]	Front axle load of the empty tractor	
$T_H$	[kg]	Rear axle load of the empty tractor	
$G_H$	[kg]	Total weight rear mounted implement or rear weight	Please see technical rear mounted implement or rear weight
$G_V$	[kg]	Total weight of front mounted implement or front weight	Please see technical data front mounted implement or front weight
$a$	[m]	Distance between the centre of gravity of the front machine mounting or the front weight and the centre of the front axle (total $a_1 + a_2$ )	See technical data of tractor and front machine mounting or front weight or measurement
$a_1$	[m]	Distance from the centre of the front axle to the centre of the lower link connection	See tractor operating manual or measurement
$a_2$	[m]	Distance between the centre of the lower link connection point and the centre of gravity of the front machine mount or front weight (centre of gravity distance)	See technical data of front machine mounting or front weight or measurement
$b$	[m]	Tractor wheel base	See tractor operating manual or vehicle documents or measurement
$c$	[m]	Distance between the centre of the rear axle and the centre of the lower link connection	See tractor operating manual or vehicle documents or measurement
$d$	[m]	Distance between centre lower link point and centre of gravity of rear mounted implement or rear weight (centre of gravity distance)	See technical data of machine

#### 4.1.2 Calculation of the required minimum front ballast $G_{V \min}$ of the tractor to ensure safe steering

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

Enter the numeric value for the calculated minimum ballast  $G_{V \min}$ , required on the front side of the tractor, in the table (section 4.1.7).

#### 4.1.3 Calculation of the actual tractor front axle load $T_{V \text{ act}}$

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

Enter the numeric value for the calculated actual front axle load and the approved tractor front axle load specified in the tractor operating manual in the table (section 4.1.7).

#### 4.1.4 Calculation of the actual total weight of the tractor/ implement combination

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

Enter the numeric value for the calculated actual total weight and the approved total tractor weight specified in the tractor operating manual in the table (section 4.1.7).

#### 4.1.5 Calculation of the actual tractor rear axle load $T_{H \text{ act}}$

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

Enter the numeric value for the calculated actual rear axle load and the approved tractor rear axle load specified in the tractor operating manual in the table (section 4.1.7).

#### 4.1.6 Tyre carrying capacity

Enter the double value (two tyres) of the approved load capacity (see, for example, tyre manufacturer's documentation) in the table (section 4.1.7).

#### 4.1.7 Table

	Actual value according to calculation	Approved value according to tractor instruction manual	Double approved load capacity (two tyres)
Minimum ballast front/rear	<div style="border: 1px solid black; padding: 5px; text-align: center;">/ kg</div>	--	--
Total weight	<div style="border: 1px solid black; padding: 5px; text-align: center;">kg</div>	≤ <div style="border: 1px solid black; padding: 5px; text-align: center;">kg</div>	--
Front axle load	<div style="border: 1px solid black; padding: 5px; text-align: center;">kg</div>	≤ <div style="border: 1px solid black; padding: 5px; text-align: center;">kg</div>	≤ <div style="border: 1px solid black; padding: 5px; text-align: center;">kg</div>
Rear axle load	<div style="border: 1px solid black; padding: 5px; text-align: center;">kg</div>	≤ <div style="border: 1px solid black; padding: 5px; text-align: center;">kg</div>	≤ <div style="border: 1px solid black; padding: 5px; text-align: center;">kg</div>



- You can find the approved values for the total tractor weight, axle loads and load capacities in the tractor registration papers.
- The actually calculated values must be less than or equal to ( $\leq$ ) the permissible values!



#### WARNING

**Crush, cut, entanglement, pulling in and impact hazards caused by poor stability and insufficient steering and braking capacity of the tractor.**

It is forbidden to couple the machine to the tractor used as the basis for calculation, if

- One of the actual, calculated values is greater than the approved value.
- There is no front weight (if required) attached to the tractor for the minimum front ballast ( $G_{V \min}$ ).



You must use a front weight, which is equal to at least the required minimum front ballast ( $G_{V \min}$ ).

## 4.2 Preparation on the tractor



- Familiarize yourself with all functions on the tractor!!
- Read the operating manual of the tractor manufacturer!



### Tyres:

Tyre pressure, especially that of the tractor's rear wheels, must be identical.

### Ballast weights:

Ensure adequate front ballasting of your tractor. The weight of the plough on the rear lifting mechanism of the tractor relieves the load on the front axle and can impair the steering and braking behaviour.

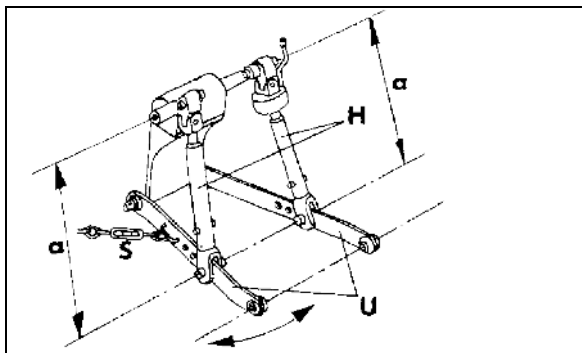
Moreover, the pulling force transfer (slippage) is improved with four-wheel drive tractors.

### Lifting rods:

The lifting rods **H** must be set to the same length left and right. If the lifting rods **H** can be set on the lower links **U**, then they should be set as far back as possible. This relieves the load on the tractor's hydraulic system.

### Lateral stabilisation of the lower links:

The lower links **U** must have maximum possible lateral movement during operation. Stabilizing bars or tension chains **S** must never be tight during ploughing. During transportation, the lateral movement of the lower connecting rods **U** must be greatly reduced or fully blocked.

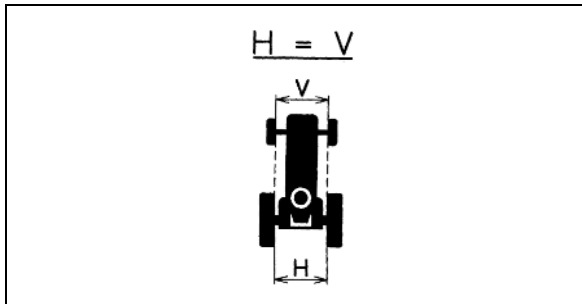


### Control:

For tractors with control hydraulics, ploughing is mainly performed using pulling force or combined control. Mounting and dismounting of the plough is to be carried out in position control!

### Clear span

**Clear span =** The inner distance between the wheels must be the same at the front and rear!

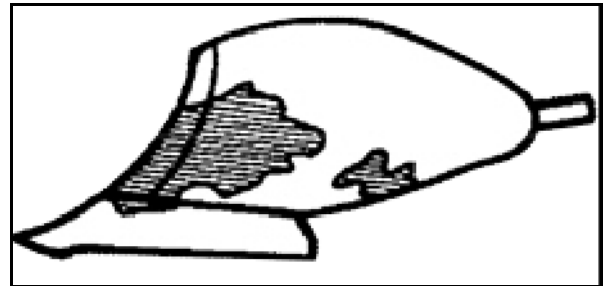




### 4.3 Preparation on the plough

#### Before initial operation

Strip the protective varnish from the shares and mouldboards.



#### After the first 2 operating hours

Retighten all of the bolts.



**After a short period of operation, the bolted connections lose preload force and can become loose. This is why it is particularly important to retighten the bolts after 2 hours of operation!**

#### Every 50 operational hours

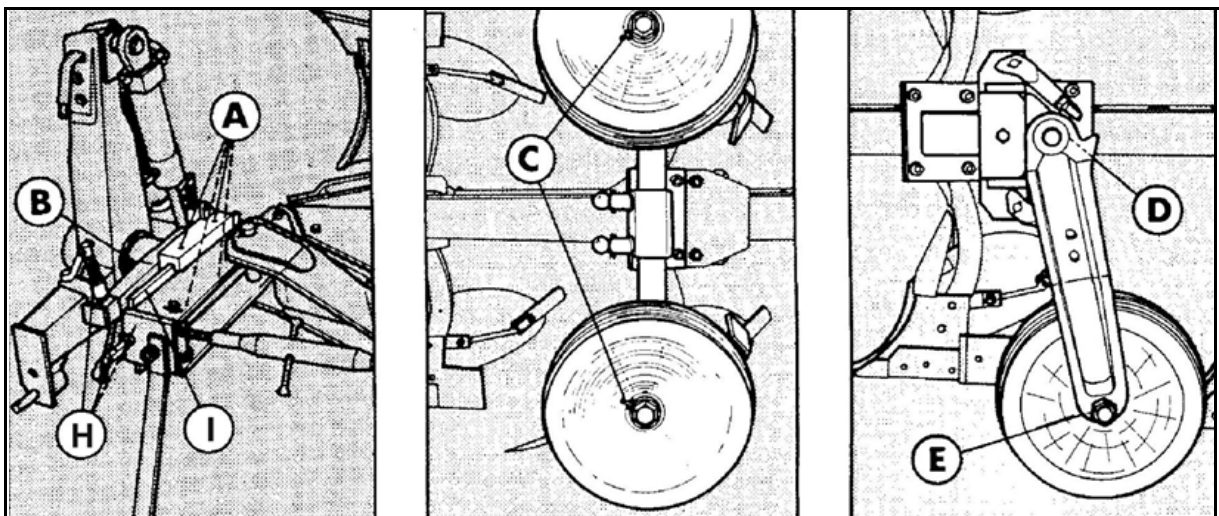
Retighten all of the bolts.

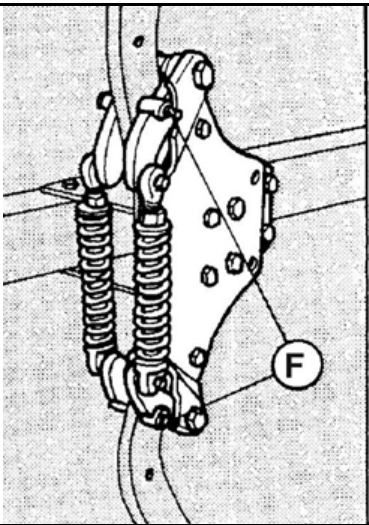
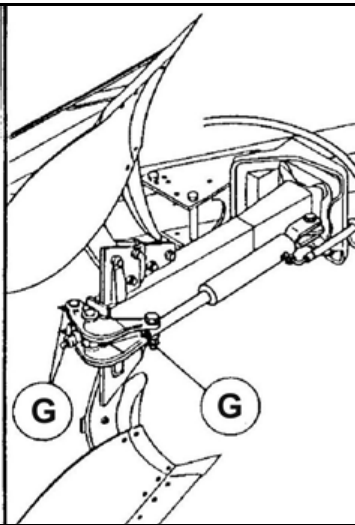


#### Every 50 operational hours

Grease all lubrication points.

Lubrication points **A-G** must be lubricated regularly with a grease gun (grease nipple). The spindles and slide faces **H** and **I** must also be greased regularly.



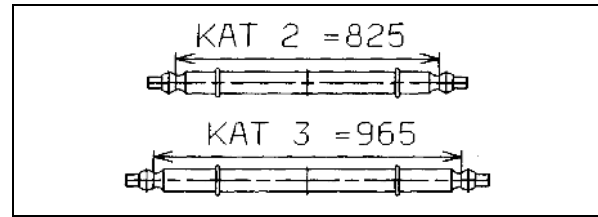
	
	<p>Vario only</p>



**Use only high-quality grease - as this will increase the implement's service life.**

## 5 Mounting and dismounting the plough

As a rule:



- The plough may only be mounted on the tractor's lifting gear using original parts with matching connection size (Category 2 or 3).
- Before mounting or dismounting the plough on the tractor's lifting gear, move the control lever for the hydraulic system to a position where unintentional lifting or lowering of the three-point linkage is ruled out.
- When mounting or dismounting the plough on the tractor and when operating the lifting gear, ensure that there is nobody standing between plough and tractor
- There must be nobody standing between the tractor and implement unless the tractor is secured by the parking brake and/or wheel chocks to prevent it from rolling away. Switch off engine, remove ignition key
- There is a risk of tipping when the plough is being dismounted. It is therefore essential that the implement be secured with stand supports.
- The plough must only be mounted and dismounted on firm, level ground

## 5.1 Mounting the plough



Stand the plough in working position and connect to tractor as follows:

- For models with four-share design and above, the mounting axle diameter must have a pin diameter of **36 mm** or ball diameter of **64 mm**.
- Use the correct mounting axle:  
 Mounting axle  
 Cat. 2/28 = Shoulder size 825  
 Cat. 2/ 36 = Shoulder size 825  
 Cat. 3/ 36 = Shoulder size 965
- Set the tractor hydraulic system to position control.
- Connect lower links to the plough's mounting axle and secure with linch pins
- Release stand support, turn by 90° and secure again.
- Insert the tractor upper link into one of the three elongated slots or holes in the headstock with connecting pin and secure with linch pin. Preferably use long slot in connecting body - specifically for multi-furrow (4-,5-,6-share) ploughs - so that upper connecting rod can move freely during ploughing (Advantageous on hilly ground). Connect the top link such that the connection point on the plough is higher than the connection point on the tractor during operation.
- Connect the hydraulic hose or hoses to the tractor control unit.
- For plough work set hydraulic control to pulling force or combined control. Also observe the operating manual of the tractor manufacturer.

## 5.2 Dismounting the plough

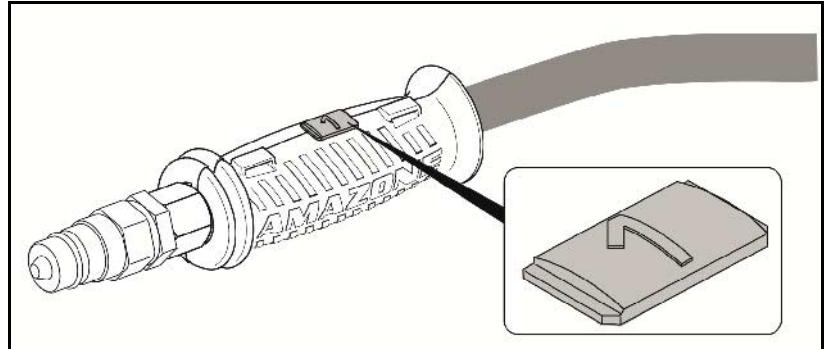


- Before lowering the plough onto the ground, it is advisable to ensure that the turnover system is in an upright position by using the pitch adjustment spindle and turning cylinder. Turning gear that is not upright can cause a problem when remounting the plough. Before the next operation, return wheel camber spindle to its original setting.
- Park the plough on solid and level ground.
- Switch the hydraulic system to position control.
- Turn the plough beam to working position and switch the engine off.
- Move the control lever for turning of plough back and forth a few times to build up pressure.
- Remove the upper link from the mounting body.
- Uncouple hydraulic hose or hoses from the tractor and replace protective caps.
- Release stand supports, fold down and secure again with linch pin.
- Disconnect lower links from the mounting axle.

## 5.3 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	

Marking		Function			Tractor control unit	
Yellow		 (optional)	Front furrow width	bigger	Double acting	
				Smaller		
Red		 (optional)	Automatic cutting width / working width	bigger	Double acting	
				Smaller		
green		 (optional)	Working direction	Right and left	Double acting	
	 *)			<ul style="list-style-type: none"> <li>Releasing the packer (optional)</li> <li>Cancelling a started rotation</li> </ul>		
Beige		 (Option)	Pre-tensioning of the stone release		Single-acting	

\*) On the tractor side, ensure that the pressure of return flow on the tractor control unit is as low as possible. Back pressure can cause malfunctions on the packer arm.


**WARNING**
**Danger of infection from escaping hydraulic fluid at high pressure!**

When coupling and uncoupling the hydraulic hose lines, ensure that the hydraulic system is depressurised on both the implement and tractor sides.

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

### 5.3.1 Coupling the hydraulic hose lines


**WARNING**
**Danger from incorrect hydraulic functions if the hydraulic hose lines are connected incorrectly!**

When coupling the hydraulic hose lines, observe the coloured markings on the hydraulic connectors.



- Observe the maximum admissible working pressure of 210 bar.
- Check the compatibility of the hydraulic fluids before connecting the implement to the hydraulic system of your tractor.
- Do not mix mineral oils with bio-oils..
- Push the hydraulic connector(s) into the hydraulic sockets until you feel them lock.
- Check the coupling points of the hydraulic hose lines for a correct, tight seat.
- Coupled hydraulic hose lines
  - o must give without tension, bending or rubbing on all movements when travelling round corners.
  - o must not chafe against other parts.

1. Swivel the actuation lever on the control valve on the tractor to float position (neutral position).
2. Clean the hydraulic connector of the hydraulic hose lines before you connect them to the tractor.
3. Connect the hydraulic hoses to the tractor control units.

### 5.3.2 Uncoupling the hydraulic hose lines

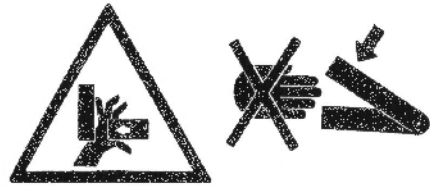
1. Swivel the actuation lever on the control valve on the tractor to float position (neutral position).
2. Release the hydraulic connectors from the hydraulic sockets.
3. Protect the hydraulic sockets from soiling by fitting the dust caps.
4. Hook the hydraulic connectors into the connector holders.

## 6 Turning the plough

As a rule:



- All (hydraulically) actuated components have shear and crush points.
- Maintain a safe distance!
- Direct persons out of the danger area!



- Before each turning procedure, make sure that nobody is standing in the turning and swivelling range of the plough
- Operate the turning hydraulic system only from the tractor seat
- Do not bend or crush the hydraulic hoses
- Always keep plug connections clean
- The plough must be completely raised for every turning procedure



**CAUTION**  
**THE PLOUGH SWEEPS OUT**  
**WHEN IT IS TURNED!**



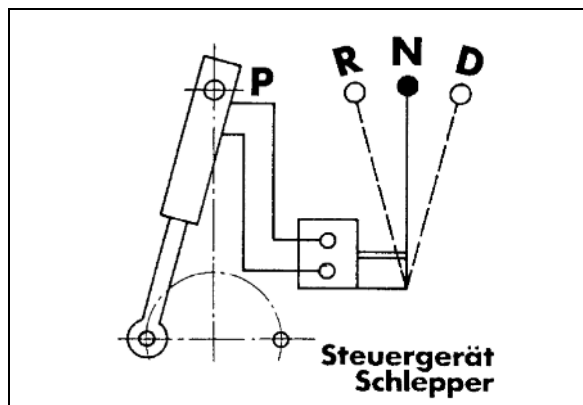
## 6.1 Turning with double-acting automatic cylinder

The double-acting automatic cylinder is equipped with automatic reversing and hydraulic end position locking. This requires double-acting control unit on the tractor.

The double-acting automatic cylinder can also be connected to a single-acting control unit, but this requires an oil return line to the oil tank of the tractor.

### Connection to a double-acting control unit:

- N** = Neutral  
Cylinder is hydraulically locked (drop locking)
- D** = Turning  
Turning is always in position **D** no matter whether turning left or right
- N** = Reverse turning  
If the plough is stopped during the turning procedure (switch position from **D** to **N**), it can be turned back in position **R**



From neutral position to turning position = plough turns by 180°

Then back to neutral position = plough locked.  
Next turn possible after 5 seconds.

If lever is briefly set to **R** and then switched to **D**, turning takes place immediately.

If the turning procedure is interrupted while turning, e.g. after 15 - 20°, the plough can be switched back in lever position **R**.

### Turning the plough in combination with hydraulic beam pivoting

If the gap between the plough and the ground is too small and the plough or the support wheel collides with the ground during turning, the plough must be equipped with a hydraulic frame in-swing mechanism.

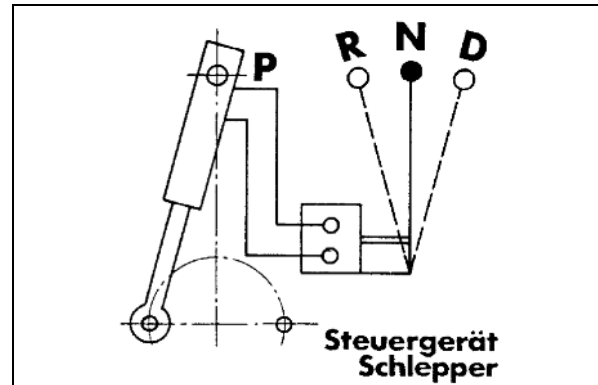
Instead of using the mechanical tension jack to adjust the traction point, a double-action hydraulic cylinder is used. This cylinder is hydraulically connected to the turning cylinder on the headstock of the turning gear. (There is no need for an additional control unit on the tractor.)

During the turning procedure, the plough beam is automatically swung in (narrow) and back out to the set cutting width. To swing the frame in hydraulically, the turning cylinder must be equipped with a double valve block.



## Connection to a single-acting control unit with oil return line to the tractor tank

The switching process for turning is the same as with connection to a double-acting control unit, but reverse turning in position **R** is not possible!



## 6.2 Turning with double-acting automatic cylinder in conjunction with hydraulic beam pivoting

The beam pivoting cylinder is combined with the turning cylinder. In turn, only one double-acting control unit or one single-acting control unit with oil return line to the tractor tank is required for the turning procedure. A second double-acting control unit is required to enable adjustment of the cutting width.

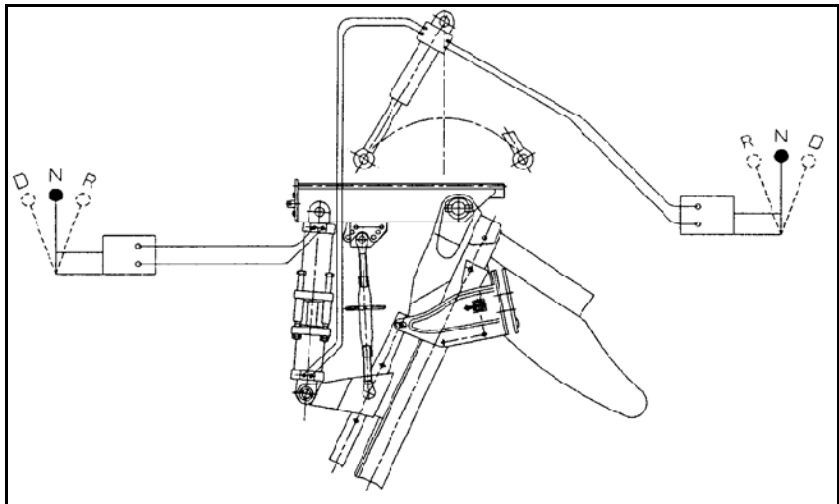
### Turning procedure:

When the control unit for turning is actuated, first the beam pivoting cylinder is extended.

→ This causes the beam to pivot in.

The turning procedure takes place immediately and then the beam pivoting cylinder is retracted

→ This causes the beam to pivot back to its original position.



## 7 Adjusting the plough

### General

When using the plough for the first time, it is recommended that the diverse rough adjustments be carried out in the yard. If these adjustment recommendations are followed, it is generally only necessary to make small correcting adjustments on the field. The adjustments are made with the plough mounted on the tractor!

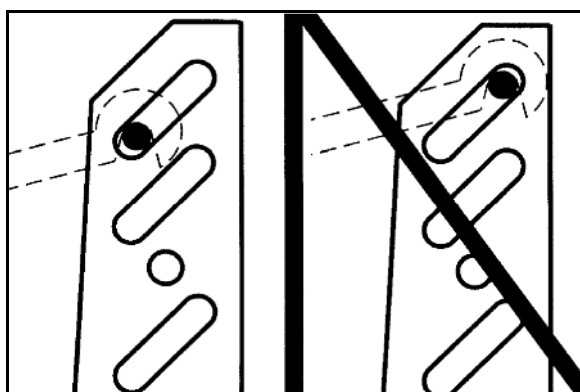
### Top link

Connect upper connecting rod to plough headstock in such a way that it is raised to some extent in the direction of the plough.

#### In general:

When using a support wheel (double support wheel, swing support wheel, transport swing support wheel), the upper connecting rod should be fitted in one of the long holes (slots) and should lie in the front third of the long hole during operation (see Figure).

When using a plough without a support wheel, the top link is fitted in the hole (bore) in the plough headstock.



### Adjustment of the pulling point spindle

For mechanical or hydraulic pulling point adjustment or hydraulic beam pivoting, the plough is normally set so that the mounting body runs in the middle of the tractor track!

### Double support wheel or pendulum transport support wheel

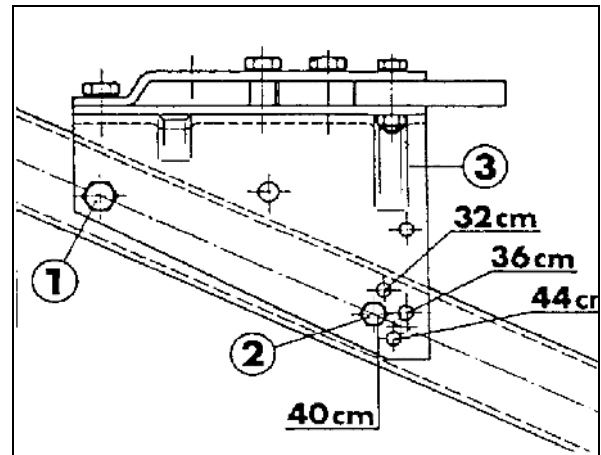
The support wheel is set as required depending on intended working depth. To this end, the vertical distance between the lower edge of the wheel and the share plane is measured and, if necessary, corrected. The wheels are then adjusted vertically as explained below.

### Clearance for the turning procedure (clearance between the end of the plough / support wheel and the ground)

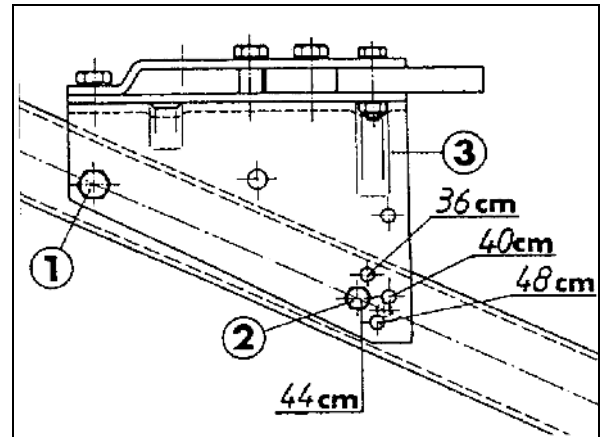
The plough has to be fully raised and then rotated. It is necessary to check here whether there is sufficient clearance between the plough/support wheel and the ground. If this is not the case: connect the upper connecting rod higher on the plough headstock or attach frame in-swing mechanism (hydraulic in-swing mechanism is normally used in ploughs of a 5-furrow design and above).

## 7.1 Mechanical cutting width adjustment

Cutting width 32 – 44 cm  
for M850, XM-, XMS-,  
XS- and XSPro 850



Cutting width 36 - 48 cm  
for M 950, 1020, XM-, XMS-, XS-,  
XSPro950, -1050 and -1150



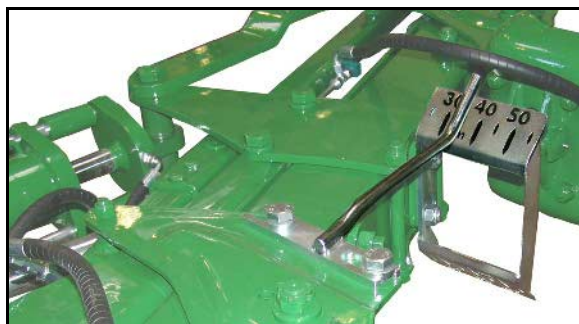
1. Loosen the front plough beam bolt (item 1).
2. Remove the rear plough beam bolt (item 2).
3. Turn the plough beam (item 3) so that the desired plough beam hole is lined up with a hole in the frame tube.
4. Replace bolt (item 2).
5. Tighten bolts (items 1 and 2).

Any adjustments to cutting width is automatically passed on to front tools such as, fertiliser skimmers, disc coulter, and support wheels (if present) and fit new cutting width exactly. No further adjustments whatsoever are required.

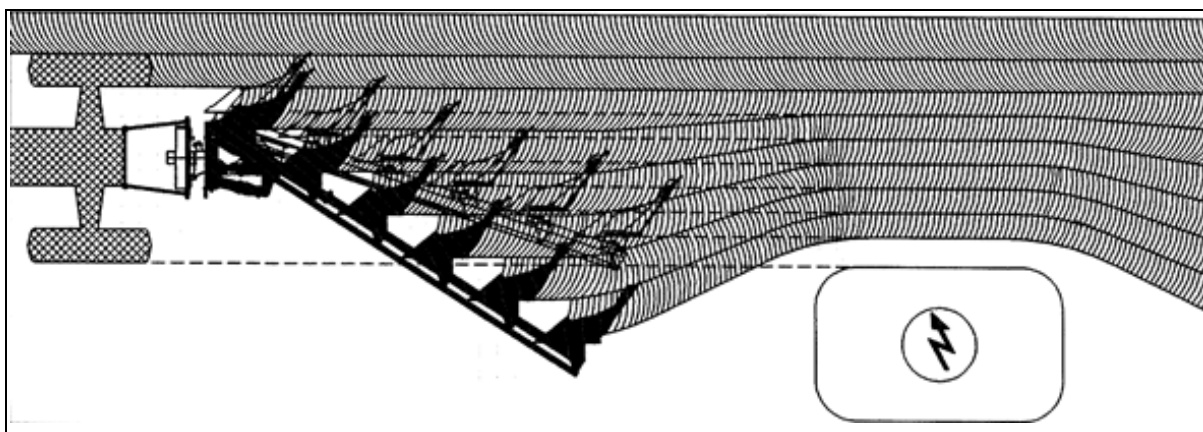
## 7.2 Infinitely variable hydraulic cutting width adjustment

The infinitely variable cutting width adjustment is performed using the double-acting tractor control unit.

The scale displays the set cutting width.



Infinitely variable cutting width adjustment is possible in a range between 32 and 52 cm (for VARIO 850) and 35 – 55 cm (for VARIO 950 and 1050). With precise plough adjustment (precise pulling point adjustment and precise track adjustment with a cutting width of 40 cm), there is no need to readjust any of the setting parameters. When adjusting the cutting width, both the pulling point and the cutting width of the 1st body are also automatically adjusted with the lateral movement of the lower link.



### 7.3 Front furrow width - Rough adjustment of the plough on the tractor

Depending on the different clear spans of the tractor wheels **A** and the set cutting width **S**, the plough is first roughly adjusted carried out using the slide block guide by means of the width adjustment spindle **V**.

This gives the adjustment dimensions

$$X = A/2 - S$$

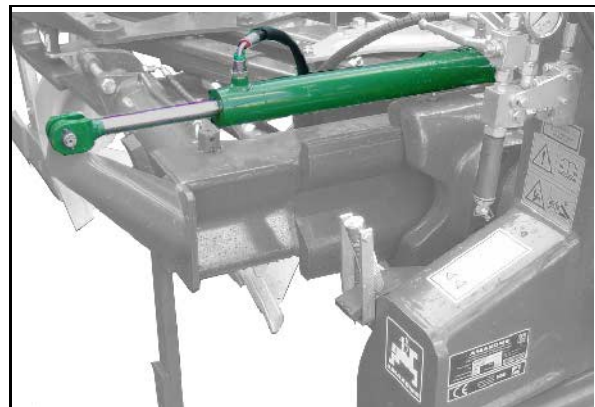
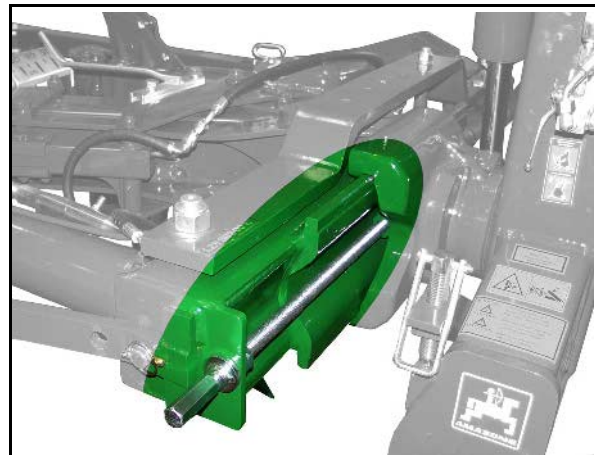
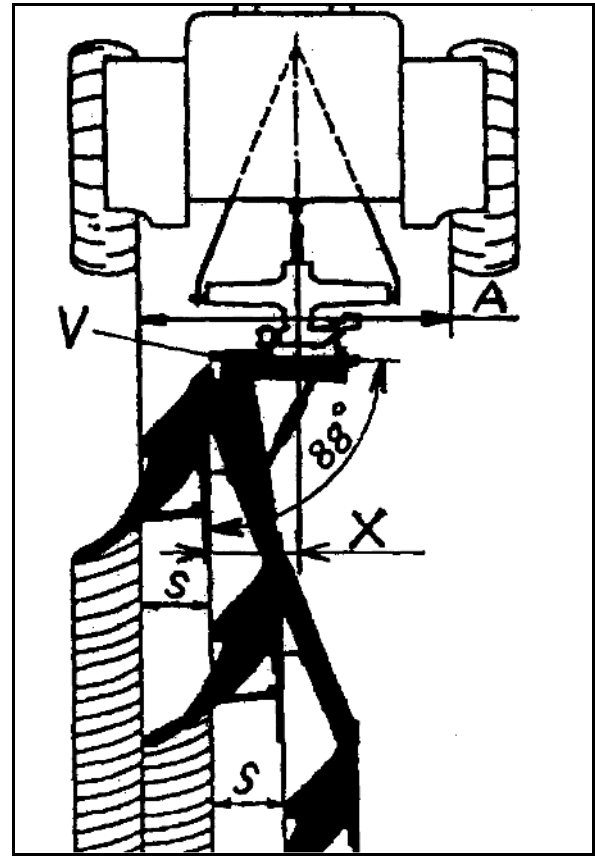


For ploughs with beam pivoting (M, XM, XMS, XS, XSPro), the beam pivoting cylinder for the track adjustment must be fully retracted for this setting.

For practical operation (pitch adjustment), the measurement **X** must be reduced depending on the working depth.

Perform the rough adjustment of the front furrow width at a standstill in the farmyard.

1. Couple the implement and raise the jack.
  2. Relieve the slide block guide using the tractor hydraulic system.
  3. Adjust the front furrow mechanically using the spindle or hydraulically using the tractor control unit.
- If necessary, perform the adjustments in several steps. Relieve the slide block guide after each adjustment.

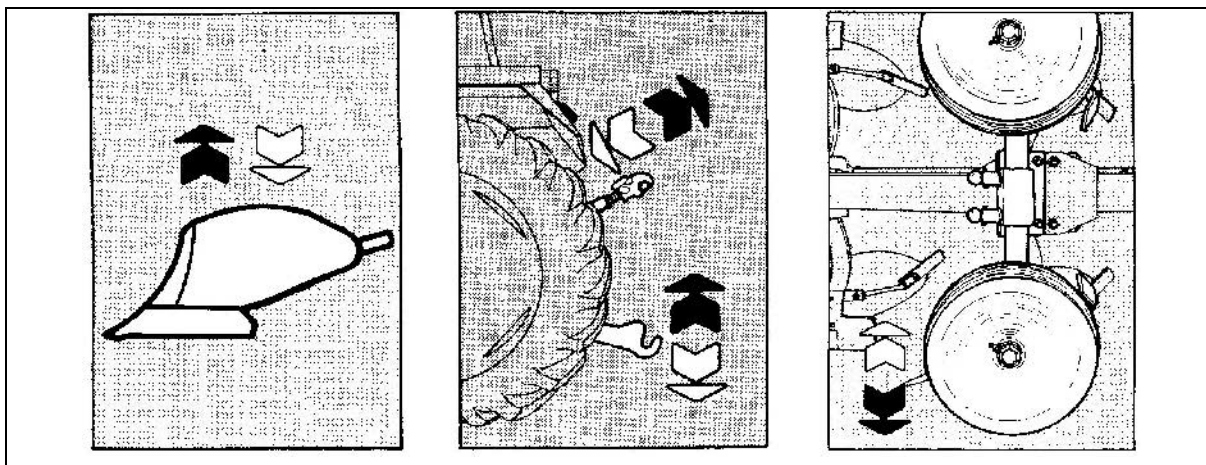




## 7.4 Working depth adjustment

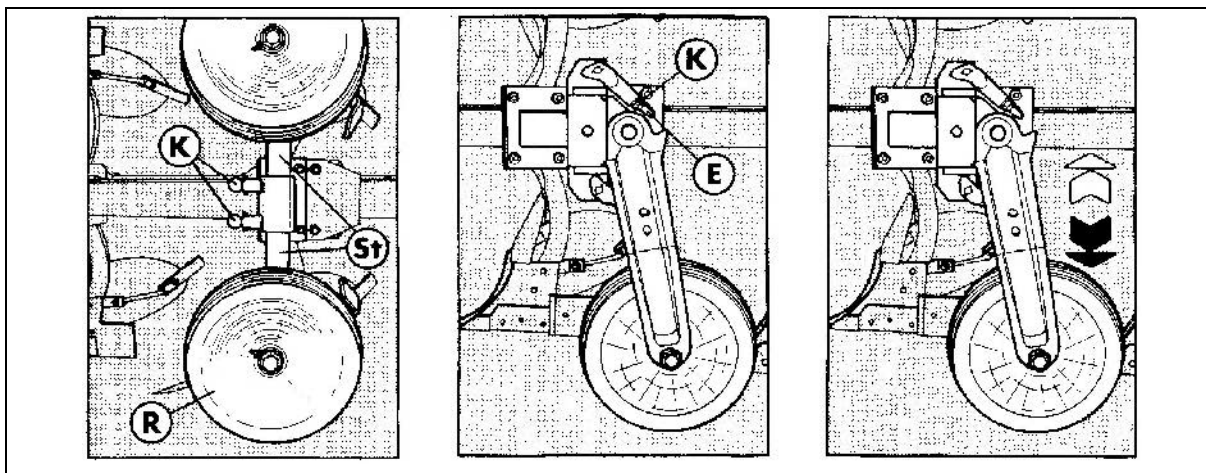
**Increase:** Set the control hydraulics to greater depth, shorten top link, raise the support wheel(s).

**Decrease:** Set the control hydraulics to a smaller depth, lengthen top link, lower the support wheel(s).



**Depth adjustment using the control hydraulics**, see operating manual from the tractor manufacturer.

### Depth adjustment with double support wheel



Pull out the ball knob **K** from each support wheel stalk **St** and turn by 90°. Shift the support wheel **R** to desired depth and allow the ball knob to latch back into place.

### Depth adjustment with pendulum transport support wheel / pendulum support wheel

The depth is adjusted manually, without tools.

- Larger working depths: Turn in the catch **E**
- Smaller working depth: Turn out the catch **E**

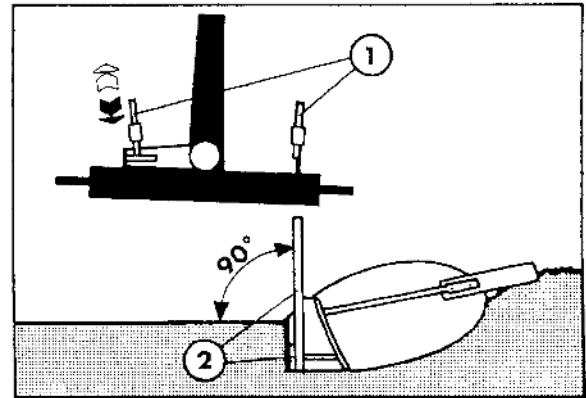


**The catch E engages automatically by means of the spring-loaded pressure piece K.**

- There is no need for tools to fasten the catch!

## 7.5 Pitch adjustment

The pitch is set using adjusting spindles (1) on left and right separately, so that plough legs or beams (2) are at right angles to the ground. To turn adjusting spindles, briefly place turning cylinder under pressure.



## 7.6 Pulling point setting

The plough should generally be set so that there is no lateral pull on the tractor. Put lower lift arms in correct position to avoid lateral pull.

For normal usage the plough is set so that mounting body (A) runs centrally to the tractor tracks. The adjustments are made using the pull point spindle S on the beam pivoting cylinder.

**For ploughs with beam pivoting (M, XM, XMS, XS, XSPro), the beam pivoting cylinder must be fully retracted!**

### Tractor pulls towards the ploughed soil

Adjust the lower link towards the ploughed soil

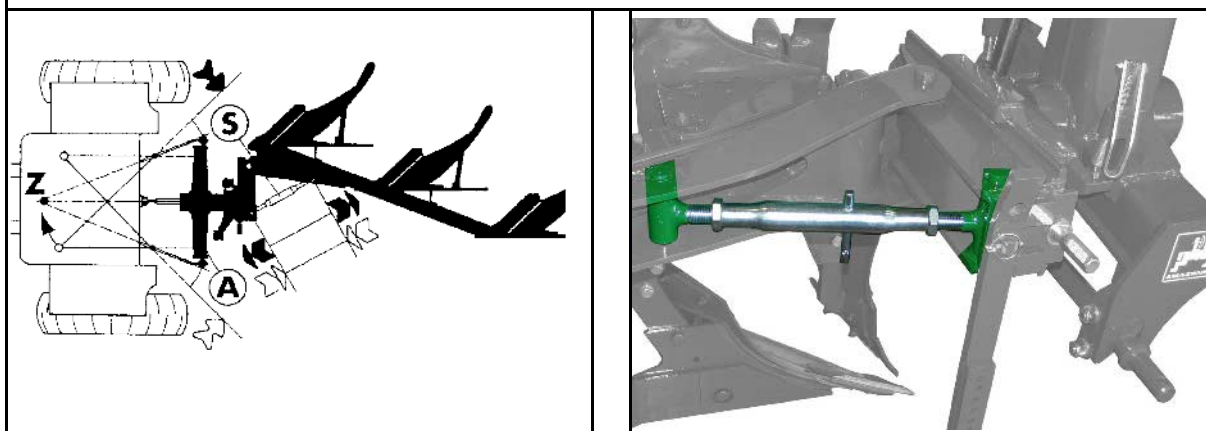
→ Screw the pull point spindle S together

### Tractor pulls towards the unploughed soil:

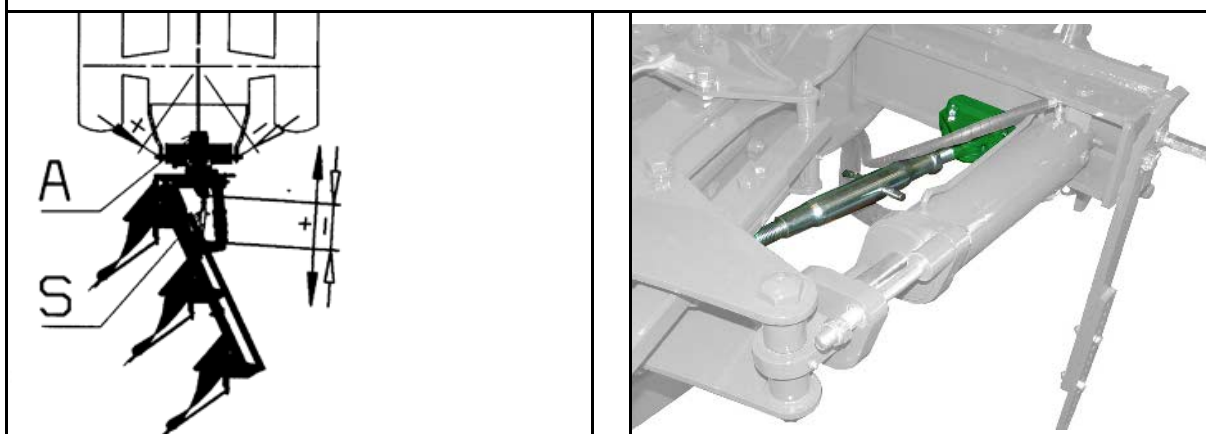
Adjust the lower link towards the unploughed soil

→ Screw the pull point spindle S apart.

#### Standard:



#### Vario:





## 7.7 Precise front furrow adjustment



For precise front furrow adjustment on the field, observe the following:

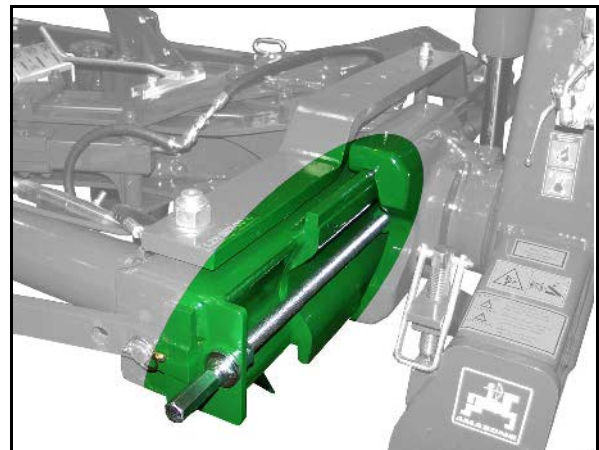
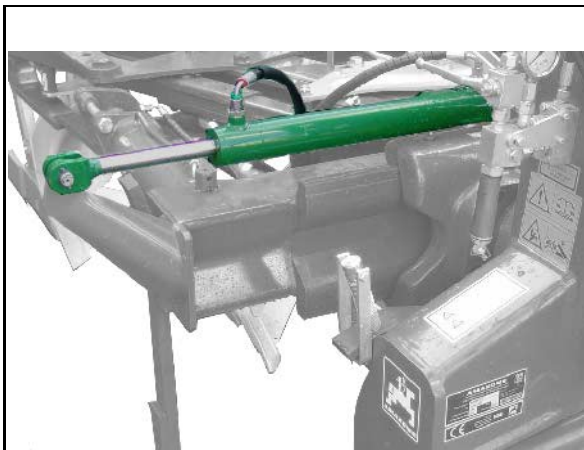
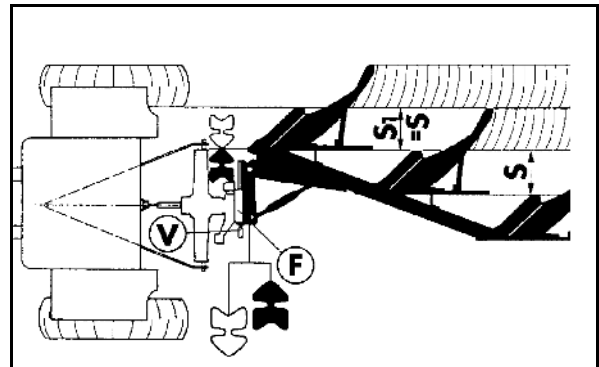
- Make the adjustments at a standstill.
- Relieve the slide block guide using the tractor rear hydraulic system.

To do so, lift the plough out of the furrow and put it back down lightly, so that the slide block guide is relieved as much as possible.



Adjust the front furrow mechanically using the spindle or hydraulically using the tractor control unit.

Depending on the field depth and pitch setting, the cutting width of the first body **S1** is adjusted using the slide block guide **F** by means of a setting spindle **V** so that it corresponds to the respective cutting width of the next body **S**.



## 7.8 Disc couler adjustment

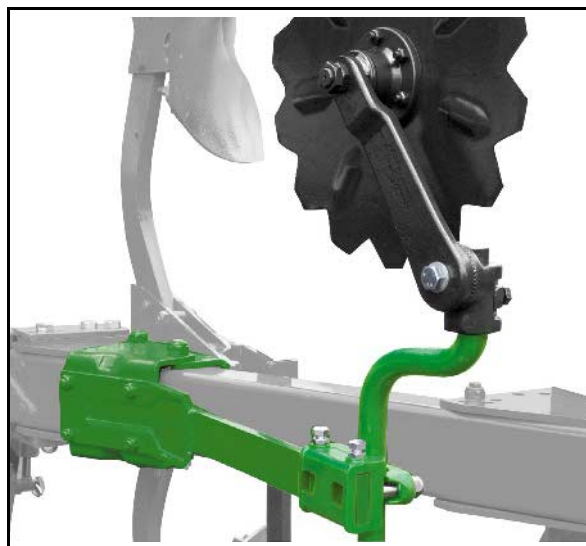
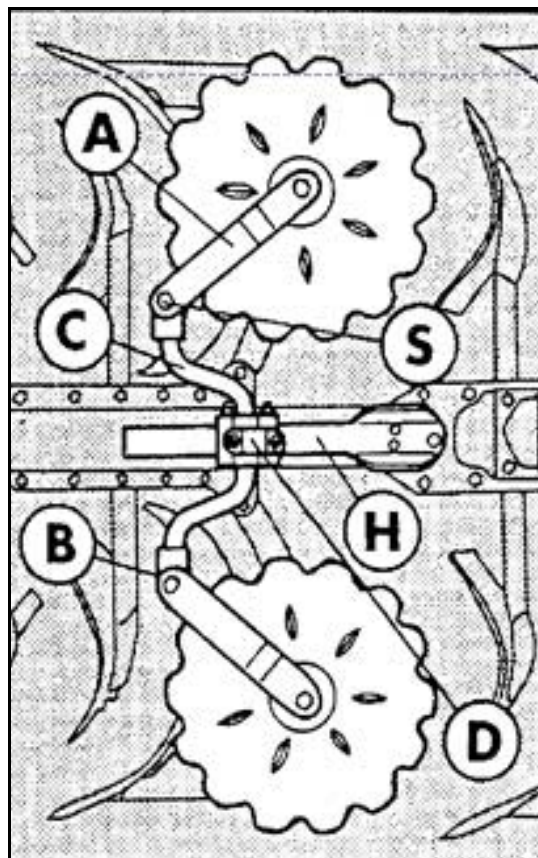
### 7.8.1 Disc couler adjustment for standard

After loosening the bolt **S** and adjusting the swing arm **A**, the depth of the disc couler is adjusted for the desired work depth so that the hub does not touch the ground. When adjusting swing arm (**A**), make sure that the toothed serrations slots together smoothly and that screw (**S**) is securely tightened.

The distance between the side of the disc and the ploughing tackle should be between 1 and 4 cm, and at least protrude over fertiliser skimmer couler. This distance is achieved by rotating the couler shaft **C**. Rotation is enabled by loosening the clamping bar (**D**). Of the two screws, use the one which is furthest away from the couler shaft **C** to loosen and re-tighten the clamping bar (better clamping effect).

Lateral swing of couler is to be set using stop (**B**). When there are large quantities of harvest remains, set the disc coulers on holder (**H**) forward accordingly

For shear pin disc couler plough types, the lateral distance is adjusted by means of a torsion-locked slot in the couler shaft holder.



## 7.8.2 Disc couler adjustment for Vario

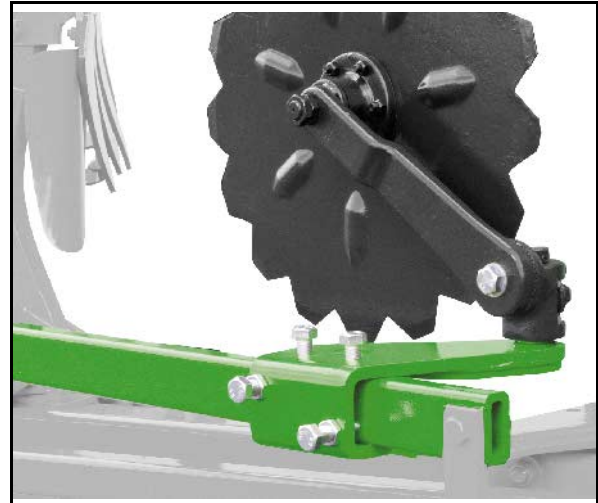
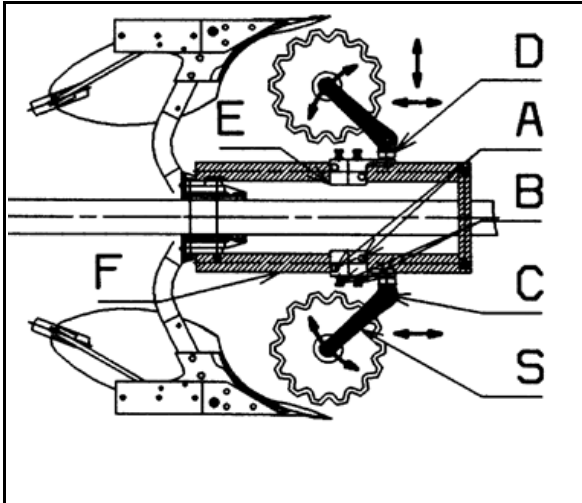
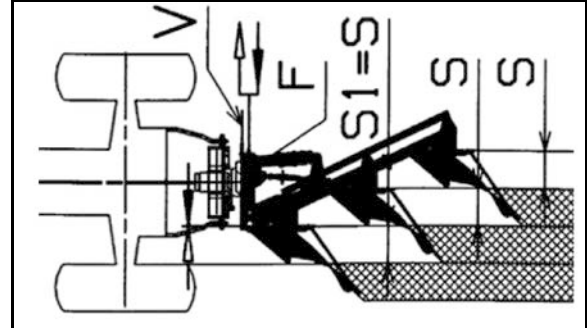


**Only adjust the disc couler in the direction of travel with the largest possible cutting width!**

After loosening the bolt **C** and adjusting the swing arm **S**, the depth of the disc couler is adjusted for the desired work depth so that the hub does not touch the ground. When adjusting swing arm **S**, make sure that the teeth interlock smoothly and that the bolt **C** is securely tightened.

The distance between the side of the disc and the ploughing tackle should be between 1 and 4 cm, and at least protrude over fertiliser skimmer couler. This distance is adjusted by loosening the locking bolt **B** and turning the bolt **A**.

Bolts **A** must be tightened again after adjusting and locked with a hex. nut



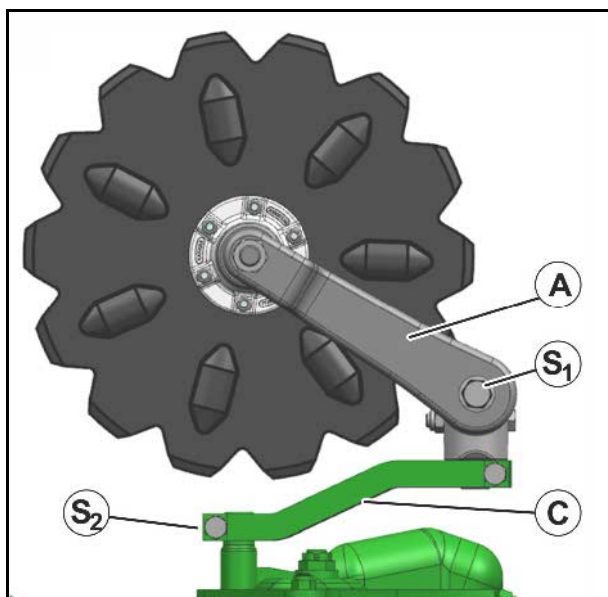
**Caution when plough is in transport position!**

The lateral movement of the couler must be adjusted using the stop **D** (with transport pendulum support wheel, the disc coulers must be raised to the stop to prevent damage to the wheel). With large amount of harvest residues, the disc coulers must be set accordingly far to the front on the shaped tube holder **F**. After adjustments have been made, the bolts **A** must be retightened and locked with hex. nuts.

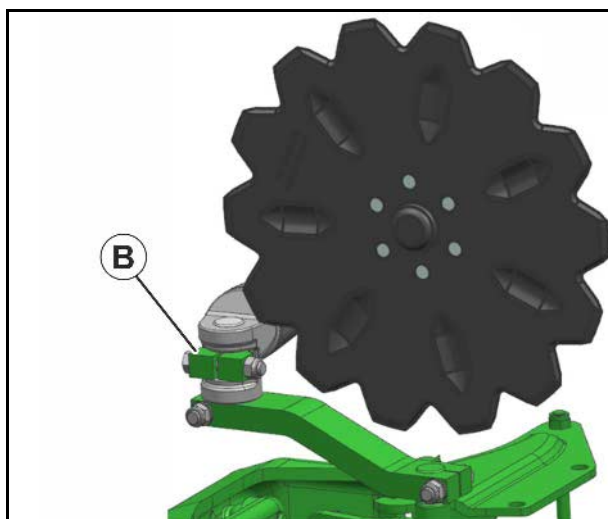
### 7.8.3 Disc couler adjustment for automatic stone release

After loosening bolt **S1** and adjusting the rocker bar **A**, the depth of the disc couler is adjusted for the desired work depth so that the hub does not touch the ground. When adjusting rocker bar **A**, make sure that the cogs engage smoothly and that bolt **S1** is securely tightened.

The distance between the side of the disc and the ploughing tackle should be between 1 and 4 cm, and at least protrude over fertiliser skimmer couler. This distance is achieved by rotating the couler shaft **C**. Rotation is enabled by loosening the bolt **S2**.



Lateral swing of couler is to be set using stop **B**.



## 7.9 Fertiliser skimmer



The fertiliser skimmers must be set so that the working depth is approximately 1/3 of the plough body working depth. For large crop residues, it can also be set somewhat deeper. Should the fertiliser skimmers be obstructed by oversized crop remains, they can easily be removed by loosening 3 screws.

For adjustable fertiliser skimmers, the lateral dimensions are set so that the particular share tip of the fertiliser skimmers is at a distance of ca. 15 - 20 mm from the share tip of the plough body. The share tip of the fertiliser skimmer should always be used in firm ground to prevent "sliding". If stubble treatment was carried out before ploughing, the fertiliser skimmer has to be set somewhat deeper in order to ensure that mulching is carried out effectively and without blockages.

This adjustment also applies to skim coulters or special feed devices.



Use on stony soils is not advised (no stone release).

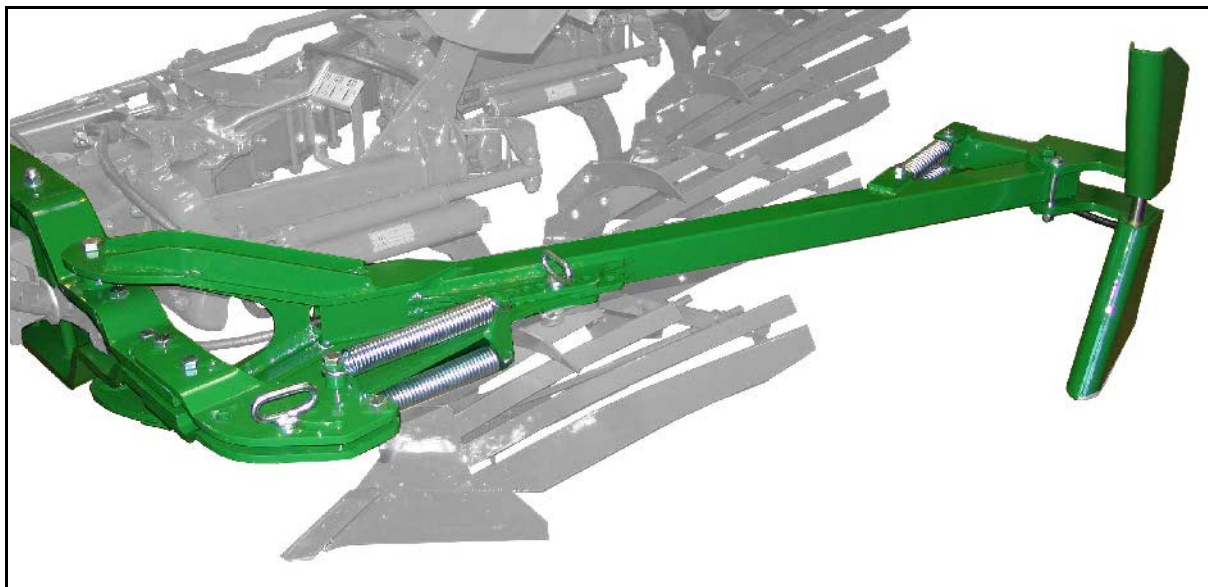


### **Driving in curves forbidden!**

It is forbidden to drive in curves during operation due to overstraining of the implement!



## 7.10 Swivel arm for supporting a packer



### (1) Working width adjustment

Position the swivel arm with pins in a suitable hole in the hole group and secure with a linch pin.

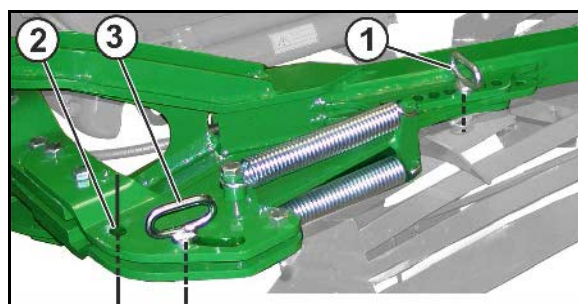
Transport: Set the smallest working width.

### (2) Pegging position for pins in working position.

→ Allows the packer roller to be picked up gently

### (3) Pegging position for pins in transport position.

→ Position of the packer arm is locked.



## 8 Road transport



### WARNING

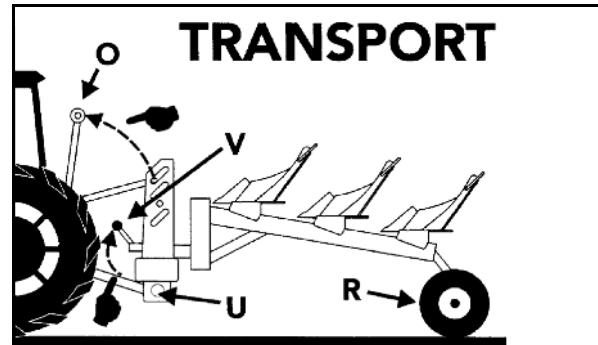
#### Cayros V

**Danger during transport due to unintentional swivelling out of the machine or machine parts!**

Observe the maximum transport width. Before road transport, move the plough into transport position.

#### Procedure for ploughs with transport pendulum support wheel:

1. Move transport swing support wheel (R) into transport position - see transport swing support wheel, front and rear.
2. Set the transport locking mechanism V (on the plough mounting body) into locking position (swivel the lever).
3. Turn the plough into horizontal position (turning cylinder completely retracted) and ensure that the transport locking mechanism V latches in.
4. Unhook the top link O and ensure that lateral movement of the lower links U is greatly restricted or prevented completely!



The maximum permissible forward speed for road transport with a transport pendulum wheel **must not exceed 25 km/h!**

#### Packer arm



### WARNING

**Before road transport, move the packer arm into transport position.**

#### Tyre pressure



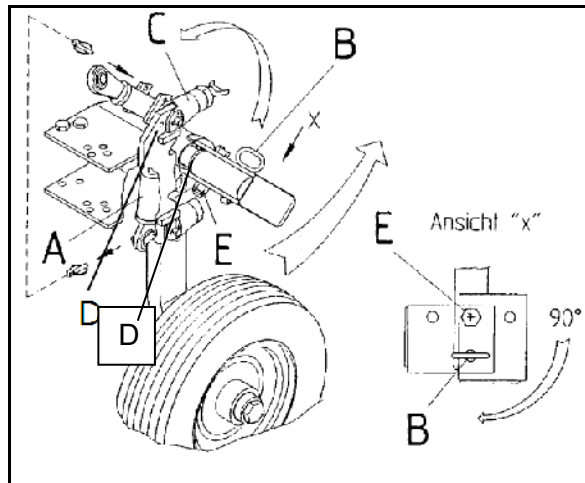
- **Ensure correct tyre inflation pressure! Check air pressure regularly.**
- **Tyres are at risk of bursting during inflation and if tyre pressure is too high!**
- **For safety reasons, the specified maximum inflation pressure values must not be exceeded!**
- **Depending on the respective wheel (tyre and rim), maximum air pressure values must be observed:**

## 8.1 Rear transport pendulum support wheel

	Version	Ø
One stalk	= Standard	550,600,680
Double stalk	= Heavy	600.680

### Move the transport swing support wheel into transport position:

- Detach the hydraulic damper **A** from the support wheel stalk (remove split-pin), fold it up and position it between the lugs using the linch pin.
- Remove locking pin **B** by releasing the linch pin and pulling the locking pin out.
- Raise catch **C** and fasten it in hole **D** using the linch pin so that the support wheel stalk can be lifted out of the lower stop and thus be pivoted by 90° about the pivot point bolt **E**.  
The locking pin **B** is then re-installed.





## 8.2 Lighting - Warning equipment for road transport

### As a rule:

- When driving in fog, twilight or in the dark, protruding parts must be made visible.
- Lighting elements and warning signs can be supplied upon request.
- The road traffic regulations of each country must always be observed!



**When transporting on public roads, road traffic regulations must be observed at all times!**

When reversing, the transport pendulum support wheel rotates about its axis. Ensure that the disc coulters are set to prevent the support wheel colliding with the disc coulters.

The technical equipment of the implement corresponds to the explicit wishes of the customer. The customer acknowledges that the implement may not be intended for use on public roads and may not have the safety equipment required for road traffic. **AMAZONE Technology Kft.** points out that the vehicle owner as well as the vehicle driver are responsible for ensuring that the implement has the required safety equipment for use on public roads and complies with the applicable national laws and regulations.



**A speed of 25 km/h may not be exceeded!**

## 9 Overload safety device

### 9.1 List of shear bolts

Plough	Hexagonal bolt as a shear bolt
Cayros XS	M16 x 72 10.9
Cayros XS Pro	M16 x 80 10.9
Cayros XMS	M16 x 65 10.9
Cayros XM	M16 x 65 10.9
Automatic stone release	M16 x 65 10.9

### 9.2 Shear bolt

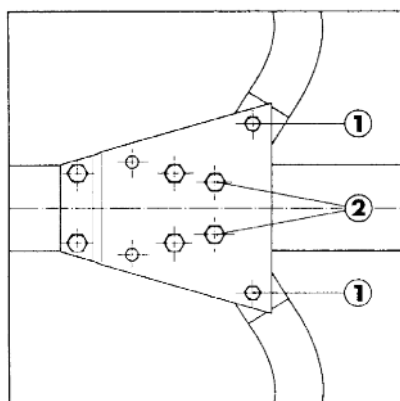
The shear bolts (Pos. 1) serve to protect against damage in event of overloading.

After a shear bolt breaks, the swivelled-out plough body can be pivoted back into working position after releasing the pivot point bolts (item 2) and removing the remains of the shear bolt. After replacement, securely tighten new shear bolt and pivot point bolt.



**Use only original shear bolts of the appropriate size and quality!**

Only these bolts guarantee proper protection. Never use bolts with higher or lower strength or bolts with shorter shafts!



### 9.3 SEMI-automatic

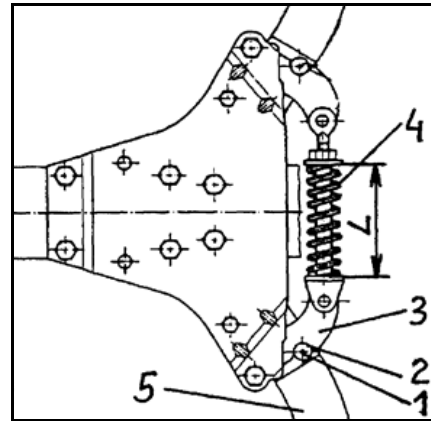
The semi-automatic stone release is used when there are so many stones in the soil that the shear bolt safety would react too often.

#### The semi-automatic stone release functions as follows:

When the plough body meets an obstacle (stone), roller pins (item 1) and bearing rollers (item 2) activate the catches (item 3) and thus compress the compression springs (item 4). The plough body with plough beams (5) can swing upwards and backwards.

To swivel the plough body back again, the tractor must come to a stop.

Short reversing of the tractor or lifting the plough is enough to make the plough body latches back into the plough beam.



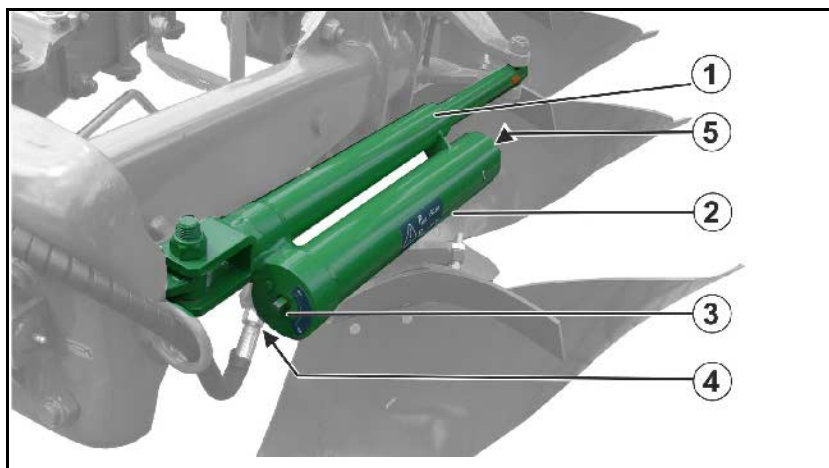
To ensure smooth operation, the roller pin (item 1) must always be lubricated! Moreover all parts such as roller pins (1), bearing rollers (2), and catches (3) must be checked and replaced when worn.

#### Basic setting: Spring length $L = 200 \text{ mm}$

The release force of the SEMI automatic can be infinitely adjusted according to the particular ground conditions (the smaller the spring length, the higher the release force - depending on the frame height).

## 9.4 Automatic hydraulic stone release

When the plough body meets an obstacle (stone), the plough beam element turns upwards through the ball joint. When the obstacle has been passed, the plough beam element falls back into original position. The whole procedure occurs without having to stop the tractor.



- (1) Hydraulic cylinder
- (2) Pressure accumulator
- (3) Stop tap
- (4) Hydraulic connection
- (5) Pressure accumulator valve



**Keep clear of the plough beam element and hydraulic accumulator during operation ! The system is under high pressure.**



### **RISK OF ACCIDENT!**

Prior to assembling or disassembling the hydraulic stone release (cylinder, accumulator, hose lines, tubes, etc.), reduce the system pressure completely using the pressure control tube (system is under high pressure).



### **Risk of overturning!**

Before reducing the system pressure, the plough must be coupled or suitably supported.

### **Operating instructions:**

When triggered, the plough body presses a piston into the reservoir via the hydraulic cylinder. The gas is compressed, and after passing the obstacle, it automatically moves the body back to its initial position.

Where required, the tripping force can be set via the tractor hydraulics and read from the pressure gauge.

To protect against damage, the stone release must be fitted with a shear bolt.

## Pressure on the hydraulic accumulator:

The gas pressure side may only be set by the dealer and must be checked **once annually!**



**The maximum pressure set must not exceed 140 bar, otherwise component parts on the plough will be subject to overload and damage.**



<b>Pre-tensioning pressure</b> (nitrogen)	90 bar
<b>Min. working pressure</b> (hydr. oil)	90 bar
<b>Max. working pressure</b> (hydr. oil)	140 bar

## 9.4.1 Hydraulic stone release with central pressure setting

The tripping pressure can be adjusted for all shares together while driving, via the *grey* tractor control unit.

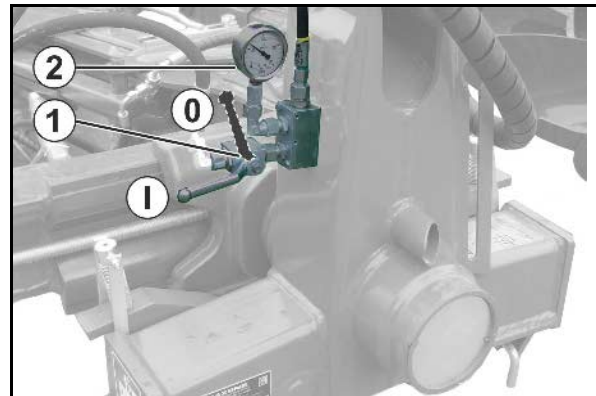


Before coupling and uncoupling the hydraulic hose, close the stop tap.

To set the tripping pressure while driving, the stop tap must be opened.

The pressure gauge shows the tripping pressure for all shares.

- (1) Stop tap
- (2) Pressure gauge



Using the stop tap on the hydraulic cylinder, different tripping pressures can be applied to the shares also with central pressure setting.

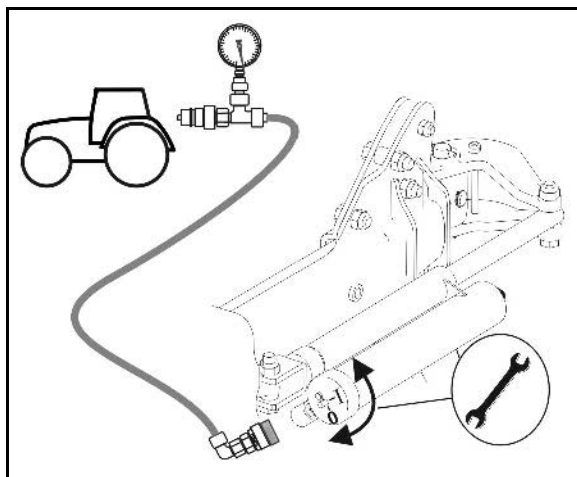
## 9.4.2 Hydraulic stone release with decentralised pressure setting

Before operation, the tripping pressure can be set independently for each share.

For setting the pressure, use the intended pressure control hose with pressure gauge.

### Setting the tripping pressure

1. Couple the intended pressure control hose to the tripping unit and tractor.
2. Open the stop tap on the hydraulic cylinder (position I).
3. Actuate the tractor control unit.  
Set the desired tripping pressure.
4. Close the stop tap on the drawbar hydraulic cylinder (position 0).
5. Depressurise the pressure control hose.
6. Set all other shares in the same manner.



## 10 Cleaning, maintenance and repair



### WARNING

**Risk of crushing, shearing, cutting, being caught and/or drawn in, or impact through**

- **unintentional falling of the machine raised using the tractor's three-point linkage.**
- **unintentional falling of raised, unsecured machine parts.**
- **unintentional start-up and rolling of the tractor-machine combination.**

Secure the tractor and machine against unintentional start-up and rolling, before carrying out cleaning, maintenance or repair work on the machine.



### DANGER

- **When carrying out maintenance and repair, observe the safety instructions, particularly "Field sprayer operation" section.**
- **You may only carry out maintenance or repair work under moving machine parts that are in a raised position if such parts are secured with suitable, positive-fit locking devices against accidental lowering.**



- Regular and proper maintenance will keep your trailed sprayer in good condition for a long time, and will prevent early signs of wear. Regular and proper maintenance is a requirement of our warranty conditions.
- Use only genuine AMAZONE spare parts (see "Spare and wear parts and aids" section).
- Use only genuine AMAZONE replacement hoses, and hose clamps made of V2A for assembly.
- Specialist knowledge is the requirement for carrying out testing and maintenance operations. This specialist knowledge is not given here in this operating manual.
- Observe environmental protection measures when carrying out cleaning and maintenance work.



- Observe legal requirements when disposing of lubricants, e.g. oils and grease. Also affected by these legal requirements are parts that come into contact with these lubricants.
- Do not exceed a greasing pressure of 400 bar when greasing with high pressure grease guns.
- The following are prohibited
  - drilling the running gear.
  - drilling through pre-existing holes on the transport frame.
  - welding on load-bearing components.
- Protective measures are necessary, such as covering lines or removing lines in particularly critical locations
  - during welding, drilling and grinding work.
  - when working with cut-off wheels near plastic wires and electric wires.
- Clean the implement thoroughly with water before carrying out repair work.
- Always disconnect the implement cable as well as the power supply from the on-board computer when performing any care and maintenance work. This applies particularly to welding work on the implement.



## 10.1 Cleaning



- The implement must **not** be cleaned with a steam jet cleaner within the first 3 months! After this time, only clean at a nozzle distance of at least 50 cm at 100 bar and 50°C!
- When the cleaning and care instructions are not observed, any resulting paint damage will not be covered by the warranty!



- Monitor brake, air and hydraulic hose lines particularly carefully
- Never treat brake, air or hydraulic hose lines with benzine, benzene, petroleum or mineral oils.
- Lubricate the trailed sprayer after cleaning, particularly after cleaning with a pressure washer / steam jet, or fat-soluble mediums.
- Observe the statutory requirements for the handling and removal of cleaning agents.

### Cleaning with a pressure washer / steam jet



- Always observe the following points when using a pressure washer / steam jet for cleaning:
  - Do not clean any electrical components.
  - Do not clean any chromed components.
  - Never aim the cleaning jet of the cleaning nozzle of the high pressure cleaner/steam jet directly at lubrication points, bearings, rating plates, warning signs, and stickers.
  - Always maintain a minimum jet distance of 300 mm between the pressure washer or steam jet cleaning nozzle and the machine.
  - The set pressure of the high-pressure cleaner / steam jet must not exceed 80 bar.
  - Permissible water temperature max. 50°C.
  - Do not clean the implement with warm water at ambient temperatures below 10°C.
  - The nozzle spraying angle must be at least 25°.
  - Do not use a spraying jet booster.
  - Comply with safety regulations when working with pressure washers.

## 10.2 Storage / overwintering

---

- After use, clean the implement with a normal water jet (oiled implements should only be cleaned on washing sites with oil separators).



Dirt attracts moisture and leads to the formation of rust.

- Protect uncoated parts (e.g. plough body, piston rod) against rust with a corrosion protection agent (use only biodegradable preservatives).
- Do not spray the implement with aggressive, oily media for preservation.
- Repair paint damage to protect from corrosion!
- Park the implement protected from the weather, but not close to mineral fertilisers / salts or in stables.
- Grease all lubrication points and wipe off emerging grease.

### 10.3 Maintenance schedule – overview



- Execute maintenance tasks after the first scheduled maintenance period has been reached.
- The times, running hours or maintenance intervals of any third party documentation shall have priority.

#### Before each start-up

1. Check the hoses/tubes and connecting pieces for visible defects/leaky connections.
2. Repair any areas of chafing on hoses and tubes.
3. Replace any worn or damaged hose and tubes immediately.
4. Fix leaky connections immediately.

#### After the first working run

Component	Servicing work	see page	Workshop work
Hydraulic system	<ul style="list-style-type: none"> <li>• Check for leaks</li> <li>• Check for defects on the hose lines</li> </ul>	62	
Bolted connections	<ul style="list-style-type: none"> <li>• Check all bolts for tightness</li> </ul>	61	

#### Daily

Component	Servicing work	see page	Workshop work
Whole implement	<ul style="list-style-type: none"> <li>• Check for visible defects</li> <li>• Clean after operation, and protect uncoated surfaces against corrosion</li> </ul>		
Shares / other wear parts	<ul style="list-style-type: none"> <li>• Condition check, replace if necessary</li> </ul>	60	
Shear bolts	<ul style="list-style-type: none"> <li>• Check all bolts for tightness, replace if necessary</li> </ul>	60	

#### Weekly / 50 operating hours

Hydraulic system	<ul style="list-style-type: none"> <li>• Check for leaks</li> <li>• Check for defects on the hose lines</li> </ul>	62	
Support wheel	<ul style="list-style-type: none"> <li>• Check inflation pressure, correct if necessary</li> </ul>	61	
Bolted connections	<ul style="list-style-type: none"> <li>• Check all bolts for tightness</li> </ul>	61	

## 10.4 Checking the condition of the shares and wear parts

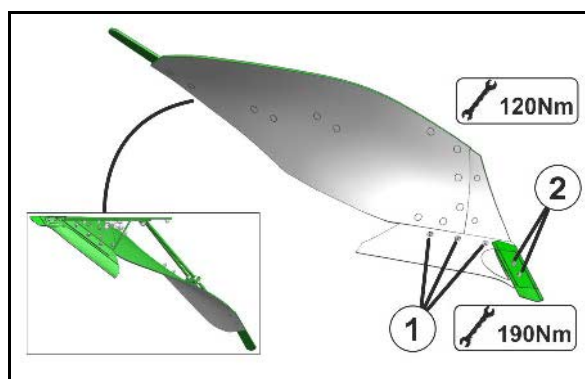
Replace worn shares and mould boards promptly to prevent damage to the frogs or supporting parts. The same applies to leading tools, if equipped

## 10.5 Checking the shear bolts

Check the bolts for tightness.

Required tightening torque for the bolts:

- (1) Shear: M14x39 12.9 (B03) 190+20 Nm
- (2) Chisel: M12x40 12.9 (B03) 120+10 Nm



## 10.6 Checking the support wheel

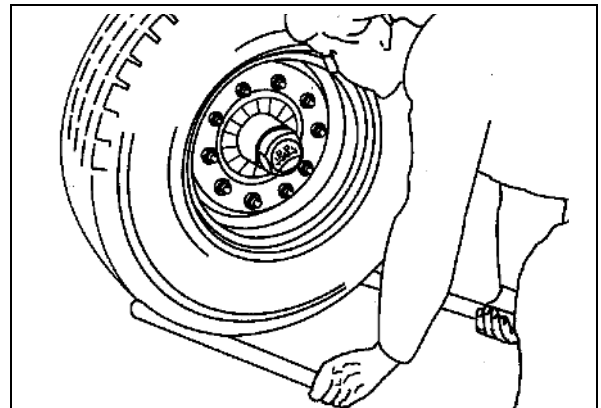


- Regularly check
  - that wheel nuts are firmly seated.
  - tyre inflation pressure.

Support wheel diameter Ø	Required tyre inflation pressure	Required tightening torque for wheel nuts / bolts	
500	-	-	
550	5.0 bar	-	
580	3.6 bar	150 Nm	Single shaft
600	5.0 bar	260 Nm	Double shaft
680	3.9 bar	260 Nm	Double shaft
690	4.0 bar	260 Nm	Double shaft

### 10.6.1 Check bearing clearance on wheel hubs

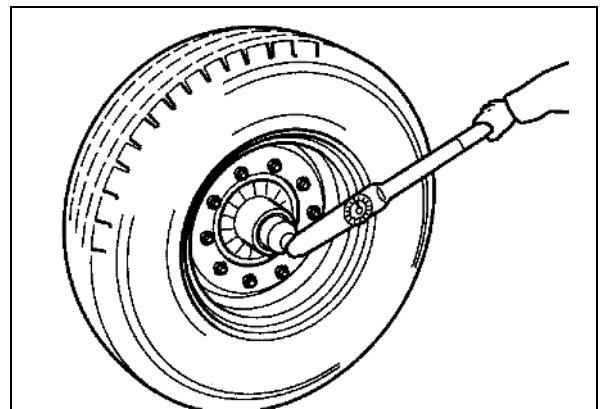
1. To check the bearing clearance on the wheel hubs, lift the axle until the wheels are free.
2. Release the brake.
3. Place a lever between the tyre and the ground and check the bearing clearance.



#### If there is noticeable bearing clearance:

Bearing clearance adjustment →  
Workshop work

1. Remove the dust cup or hub cap.
2. Remove the cotter pin from the axle nut.
3. Tighten the wheel nut by simultaneously turning the wheel until the run of the wheel hub is lightly braked.
4. Turn the axle nut back to the next possible cotter pin hole. If there is congruence, to the next hole (max. 30°).
5. Insert the cotter pin and bend it up slightly.
6. Replenish the dust cap with some long-term grease and pound or screw it into the wheel hub.



## 10.7 Hydraulic system



### WARNING

**Risk of infection through the high pressure hydraulic fluid of the hydraulic system entering the body.**

- Only a specialist workshop may carry out work on the hydraulic system.
- Depressurise the hydraulic system before carrying out work on the hydraulic system.
- When searching for leak points, always use suitable aids.
- Never attempt to plug leaks in hydraulic hose lines with 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. Risk of infection



### WARNING

**Risk of accidental contact with hydraulic fluid!**

Perform the following first aid measures:

- After inhalation:
  - no special measures required.
- After skin contact:
  - wash off with lots of water and soap.
- After eye contact:
  - flush eyes with the lids open for several minutes under flowing water.
- After swallowing:
  - seek medical treatment.

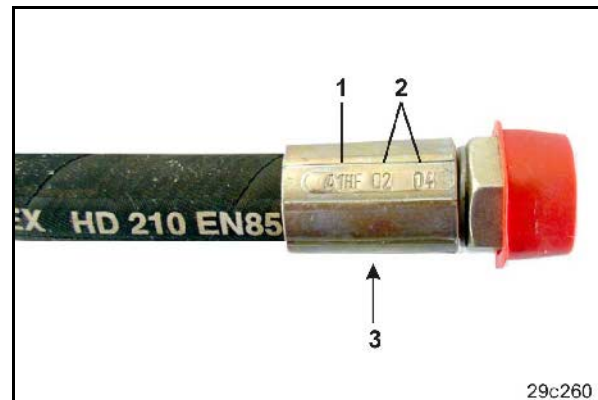


- When connecting the hydraulic hose lines to the hydraulic system of connected machines, ensure that the hydraulic system is depressurised on both the drawing vehicle and the trailer.
- Ensure that the hydraulic hose lines are connected correctly.
- Regularly check all the hydraulic hose lines and couplings for damage and impurities.
- Have the hydraulic hose lines 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 genuine AMAZONE hydraulic hose lines.
- The hydraulic hose lines should not be used for longer than six years. This period includes any storage time of a maximum of 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.
- Dispose of old oil in the correct way. If you have problems with disposal, contact your oil supplier.
- Keep hydraulic fluid out of the reach of children!
- Ensure that no hydraulic fluid enters the soil or waterways.

### 10.7.1 Labelling hydraulic hose lines

Valve chest identification provides the following information:

- (1) Manufacturer's marking on the hydraulic hose line (A1HF)
- (2) Date of manufacture of the hydraulic hose lines (02 04 = February 2004)
- (3) Maximum approved operating pressure (210 BAR).



## 10.7.2 Maintenance intervals

### After the first 10 operating hours, and then every 50 operating hours

1. Check all the components of the hydraulic system for tightness.
2. If necessary, tighten screw unions.

### Before each start-up:

1. Check the hydraulic hose lines for visible damage.
2. Repair any areas of chafing on hydraulic hose lines and pipes.
3. Replace any worn or damaged hydraulic hose lines immediately.

## 10.7.3 Inspection criteria for hydraulic hose lines



For your own safety and in order to reduce pollution, ensure the following inspection criteria.

Replace hoses if the respective hose fulfils at least one of the following criteria:

- Damage to the outer layer up to the ply (e.g. scouring points, cuts, cracks).
- Brittleness of the outer layer (crack formation of the hose material).
- Deformations which do not match the natural shape of the hose. Both in a depressurised and pressurised state or when bent (e.g. layer separation, bubble formation, pinching, bends).
- Leak points.
- Installation requirements not complied with.
- Life span of 6 years has been exceeded.

The date of manufacture of the hydraulic hose line on the assembly is decisive for determining these six years. If the date of manufacture on the assembly is "2004", then the hose should not be used beyond February 2010. See also "Labelling of hydraulic hose lines"



Common causes for leaking hoses / pipes and connection pieces include:

- missing O-rings or seals
- damaged or badly fitting O-rings
- brittle or deformed O-rings or seals
- foreign bodies
- badly fitting hose clips



#### 10.7.4 Installation and removal of hydraulic hose lines



Use

- only genuine AMAZONE replacement hoses. These hoses stand up to chemical, mechanical and thermal loads.
- hose clips made from V2A for fitting hoses, as a rule.



When installing and removing hydraulic hose lines, always observe the following information:

- Ensure cleanliness.
- Always install the hydraulic hose lines to ensure the following in all operating positions
  - There is no tension, apart from the hose's own weight.
  - There is no possibility of jolting on short lengths.
  - External mechanical influences on the hydraulic hose lines are avoided.

Use appropriate arrangements and fixing to prevent any scouring of the hoses on components or on each other. If necessary, secure hydraulic hose lines using protective covers. Cover sharp-edged components.

- The approved bending radii may not be exceeded.



- When connecting a hydraulic hose line to moving parts, the hose length must be appropriate so that the smallest approved bending radius is not undershot over the whole area of movement and/or the hydraulic hose line is not overtensioned.
- Fix the hydraulic hose lines at the specified fixing points. There, avoid hose clips, which impair the natural movement and length changes of the hose.
- The coating of hydraulic hose lines is not permitted.

#### 10.7.5 Installation of hose valve chests with O-ring and union nut

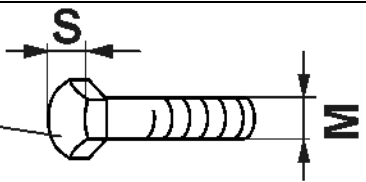
1. First tighten the union nut by hand.
2. Then tighten the union nut further with a spanner by at least  $\frac{1}{4}$  to maximum  $\frac{1}{2}$  a turn.

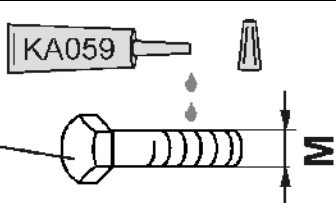


You may not tighten the bolted connection with an O-ring as tight as bolted connections with a cutting ring!

If you tighten the union nut tighter than specified, the tapered bolted connection can burst (especially on the welded journal of the hydraulic cylinder).

## 10.8 Screw tightening torques

<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;"> <b>8.8</b>  <b>10.9</b>  <b>12.9</b> </div>  </div>				
M	S	Nm		
		8.8	10.9	12.9
M 8	13	25	35	41
M 8x1		27	38	41
M 10	16 (17)	49	69	83
M 10x1		52	73	88
M 12	18 (19)	86	120	145
M 12x1,5		90	125	150
M 14	22	135	190	230
M 14x1,5		150	210	250
M 16	24	210	300	355
M 16x1,5		225	315	380
M 18	27	290	405	485
M 18x1,5		325	460	550
M 20	30	410	580	690
M 20x1,5		460	640	770
M 22	32	550	780	930
M 22x1,5		610	860	1050
M 24	36	710	1000	1200
M 24x2		780	1100	1300
M 27	41	1050	1500	1800
M 27x2		1150	1600	1950
M 30	46	1450	2000	2400
M 30x2		1600	2250	2700

<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;"> <b>A2-70</b>  <b>A4-70</b> </div>  </div>												
M	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M22	M24
Nm	2,4	4,9	8,4	20,6	40,7	70,5	112	174	242	342	470	589



Coated bolts have different tightening torques.

Observe the specific data for tightening torques in the maintenance section.

---

## 11 Malfunctions and their correction

---

<b>Plough does not penetrate into the soil:</b>	<ul style="list-style-type: none"><li>• Draw transverse furrows at the ends of the field</li><li>• Shorten the top link</li><li>• Replace the shares or use chisel shares</li><li>• Set the disc coulter and fertiliser skimmer higher up</li><li>• Reduce the pitch a little</li></ul>
<b>The plough does not reach the desired working depth:</b>	<ul style="list-style-type: none"><li>• Set the support wheels higher up</li><li>• Lower the hydraulic system</li><li>• Shorten the top link</li><li>• Replace the shares or use chisel shares</li></ul>
<b>Plough bodies work at different depths:</b>	<ul style="list-style-type: none"><li>• Readjust the top link</li><li>• Correct the pitch</li></ul>
<b>Plough works unevenly:</b>	<ul style="list-style-type: none"><li>• Shear pin on one of the plough beams broke off (replace)</li></ul>
<b>The plough swerves towards the landside:</b>	<ul style="list-style-type: none"><li>• Increase the working depth</li><li>• Reduce the pitch</li><li>• Install additional glide plates</li></ul>
<b>The plough will not turn</b>	<ul style="list-style-type: none"><li>• Replace the implement coupling plug if it does not fit for the tractor coupling part (opening stroke of the valve body) See Point 5 "Turning the plough"</li></ul>
<b>Plough does not stay on pitch</b> (double-acting automatic cylinder)	<ul style="list-style-type: none"><li>• Return cylinder to the factory, non-return valves are defective</li></ul>
<b>Plough does not stay on pitch</b> (single-acting cylinder)	<ul style="list-style-type: none"><li>• Tractor control unit has a leak</li><li>• Replace the piston seal if oil is escaping.</li></ul>

---



# **AMAZONEN-WERKE**

## **H. DREYER GmbH & Co. KG**

Postfach 51  
D-49202 Hasbergen-Gaste  
Germany

Tel.: + 49 (0) 5405 501-0  
e-mail: [amazone@amazone.de](mailto:amazone@amazone.de)  
<http://www.amazone.de>

---

