

## SUNMASTER PRO ROWFREE SUNMASTER ROWFREE

### sunflower header

*Date: 29.04.2024*

*Ziegler-Nr.: 12-106855A Vers. 00 BTA EN*

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# ZERTIFIKAT

DIN EN ISO 9001



PÜG Prüf- und Überwachungsgesellschaft mbH  
bescheinigt hiermit, dass das Unternehmen

**ZIEGLER** | **ZIEGLER**  
Harvesting | Transport | Cultivation

Zertifikatsinhaber: Ziegler GmbH  
Schrobenhausener Straße 58, 88554 Pöttmes

Zertifizierte Standorte: + Firmenstandorte (siehe Anlage \*)

ein Qualitätsmanagementsystem entsprechend der DIN EN ISO 9001:2015 eingeführt hat und dieses wirksam anwendet.

Der Nachweis wurde im Rahmen des Zertifizierungs-Audits erbracht.

\*) Die Anlage ist Bestandteil der Urkunde und umfasst eine Seite.

Dieses Zertifikat ist gültig vom: 04.08.2021  
bis: 03.08.2024

Zertifikat-Registrier-Nr.: K24066-20210802-Q-de



Gäufelden, 02.08.2021

  
Leitung der Zertifizierungsstelle

Anlage zur Urkunde Seite 2 von 2  
vom 02.08.2021

Zertifikat-Registrier-Nr.: K24066-20210802-Q-de

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Das Zertifikat ist gültig für die nachstehend genannten Standorte.

### Zertifizierte Standorte

<u>Firmenbezeichnung</u>	<u>Straße PLZ und Ort</u>	<u>Bereiche</u>
Ziegler GmbH	Schrobenhausener Straße 56, 86554 Pöttmes	Strategische Geschäftseinheit Harvesting, Transport, Cultivation, Maschinenbau und Automobiltechnik mit Entwicklung/Konstruktion, Einkauf, Disposition, Logistik und Vertrieb
Ziegler Automobiltechnik spol. S.r.o.	Dr. Klementa 1186 330 23 Nýrany (CZ)	Strategische Geschäftseinheit Harvesting, Transport, Cultivation, Maschinenbau und Automobiltechnik mit Entwicklung/Konstruktion, Einkauf, Disposition, Herstellung, Logistik und Vertrieb
Zieglera Masinbūve SIA	Spalu iela 3 5404 Daugavpils (LV)	Strategische Geschäftseinheit Harvesting, Transport, Cultivation, Maschinenbau und Automobiltechnik mit Entwicklung/Konstruktion, Einkauf, Disposition, Herstellung, Logistik und Vertrieb

Gäufelden, 02.08.2021

  
Leitung der Zertifizierungsstelle



In order to guarantee the handover of the operating instructions to the end customer and the reseller.

Date of delivery: \_\_\_\_\_

Please copy and send back completely filled to  
ZIEGLER GmbH, Schrobenhausener Straße 56, D-86554 Pöttmes (Germany)

Address of official distributor / importeur

\_\_\_\_\_

company

\_\_\_\_\_

street

\_\_\_\_\_

zip / city

\_\_\_\_\_

company stamp / signature

address of customer

\_\_\_\_\_

name

\_\_\_\_\_

street

\_\_\_\_\_

zip / city

I hereby declare that I have purchased the machine / kit mentioned below. I also confirm that the operation instructions were handed out to me upon delivery of the machine. I commit myself to read these operating instructions comprehensively and carefully before commissioning the machine and to operate the machine in accordance with its content. Moreover, I commit myself to hand over the operating instructions in the case of its resale and inform the buyer of his obligation to pass over the instructions with the machine. I am aware that a guarantee claim can be made against ZIEGLER GmbH only after ZIEGLER GmbH has received a completed and signed version of this declaration. Furthermore, I am aware that the guarantee period starts with the date of the machine's / kit's transfer, regardless of the date the declaration was returned.

\_\_\_\_\_

Machine / kit type

\_\_\_\_\_

machine / kit number

\_\_\_\_\_

City / date

\_\_\_\_\_

customer signature

**Guarantee payments can only be made with a completed and signed handover declaration!**



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## 1. FOREWORD

Dear customer,

In purchasing our sunflower header, you have decided for a high-quality ZIEGLER product.

We would like to thank you for your confidence in buying this product.

Please read these operating instructions carefully and before use in order to ensure the best possible use of the sunflower header.

This manual has been structured in order to provide comprehensive information about the required activities following the technical sequence. It provides comprehensive information concerning the maintenance, the safe operation of the machine, safe working methods, special precautionary measures, and the additional accessories available. Compliance with the specifications contained in this manual is vital in order to ensure operational safety, reliability and value-conservation of the sunflower header.

**Please note:**

This manual also refers to the sunflower header as the “machine” or “front attachment device”.

**Please note:**

These operating instructions represent a constituent part of the machine and must be stored in immediate proximity to it.

Only ever operate the machine after full training and in compliance with the specifications of this manual. It is absolutely necessary that you adhere to the safety information.

Please comply with all the applicable accident prevention regulations and all generally recognized safety and medical-safety regulations and the applicable highway code.

All the information, diagrams and technical specifications made in these operating instructions correspond to the latest state of technology at the point of publication.

We reserve the right to make alterations to the design at any time and without the need to specify reasons. Should these operating instructions become completely or partially unusable, we will provide you with a replacement. Please state the number on the next page.

We wish the best of success with your sunflower header.

Ziegler GmbH



## 2. INTRODUCTION

These operating instructions contain the basic information which require compliance during the operation and maintenance of your machine. All personnel must read these operating instructions before commissioning and using the machine. They are to be held accessible to personnel at all times.

Follow all the safety instructions provided in these operating instructions and not just the general instructions listed under the main safety heading.

### 2.1 Intended use

The Ziegler sunflower header caters to the needs of farmers and contractors who prefer the row-independent harvesting of sunflowers. The sunflower header brings considerable advantages over row-dependent header extensions. Its special design features mean that the sunflower header can harvest freely, regardless of the sowing direction.

The new Ziegler sunflower header is available in working widths of 5.90 m, 7.40 m, 9.40 m and 10.70m. The rounded tip shape prevents shaking of the crop.

The tips divide the sunflower plant regardless of the direction of travel of the harvesting machine. As a result, the machine works more productively and with fewer losses.

With its high-quality components, the Schumacher cutting system guarantees minimal loss during harvesting.

The feed auger has a one-piece design, which ensures maximum material flow speed into the harvesting machine intake channel even in the most adverse of harvesting conditions. The auger drive is equipped with a safety coupling which limits the torque to the auger in case of contact with stones or other foreign bodies and protects all rotating parts from overload.

All drive shafts are made of high-quality material. Manufactured for maximum service life with less wear. The header requires no hydraulic or electrical connections, only mechanical connections. The snapping roller and feed auger are driven by chains and belts.

In the case of model adaptations, only the removable frame changes. The universal sunflower header is adaptable to any combine harvester. The design of the sunflower header means that it is extremely lightweight and has a low fuel consumption. The simple design of the sunflower header reduces wear and tear and significantly reduces maintenance costs. The sunflower header enables a harvesting speed of up to 13 km/h.

### 2.2 Validity

These operating instructions are valid for the sunflower header **SUNMASTER PRO ROWFREE, SUNMASTER ROWFREE.**

### 2.3 Contact partner.

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Internet: [www.ziegler-cultivation.com](http://www.ziegler-cultivation.com)


### 3. SAFETY

#### 3.1 Identification of advice in these operating instructions


The safety advice provided in these operating instructions which can cause danger to personnel in the case of non-compliance is marked with general danger symbols:

#### 3.2 Identification of danger signals


##### Danger!

	<b>DANGER! –Type and source of the danger!</b>
	Impact: Danger to life or of serious injuries. ➤ Measures for danger prevention


##### Warning!

	<b>WARNING! – Type and source of the danger!</b>
	Impact: Injuries, serious damage to material. ➤ Measure for damage limitation

##### Caution!

	<b>WARNING – Type and source of the danger!</b>
	Impact: Material damage ➤ Measure for damage limitation

##### Please note

	<b>PLEASE NOTE – Type and source of the danger!</b>
	Impact: Economic use of the machine ➤ Measures to be performed

**Warnings placed directly on the machine always require compliance and are to be maintained in a completely legible manner.**

#### 3.3 Personnel qualification and training

The machine may only be used, serviced and repaired by those who are familiar with it and have been informed about the dangers involved. The area of responsibility, responsibility and monitoring of personnel have to be regulated clearly by the owner. Personnel lacking any requisite knowledge must be trained and instructed. The owner has to ensure that the personnel has read and understood entirely the specifications of the operating instructions.

Repair work not described in these operating instructions may only be performed by an authorized specialized garage.

#### 3.4 Dangers due to non-compliance with safety instructions

Non-compliance with the safety instructions can result in threats for persons environment, and the machine itself. In addition, it can result in loss of all liability cover.

Non-compliance can result in the following threats:

- Threats to persons due to unsecured working areas
- Failure of important machine functions
- Failure of the prescribed methods of maintenance and repair
- Threat of persons due to mechanical and chemical influences
- Threat of the environment due to leakage of oil

### 3.5 Safety conscious working

The safety instructions, existing instructions to accident prevention as well as internal work and safety instructions of the operator have to be considered.

The health and safety and accident-prevention regulations of the appropriate professional associations are mandatory.

The safety information of the vehicle manufacturer must be adhered to as well as the relevant highway code when driving on public highways (in Germany StVZO and StVO)

Be prepared for any emergencies. Maintain fire extinguishers and First-Aid kits within reach. Hold the emergency numbers for medical and fire services available.

### 3.6 Safety and accident-protection regulations

- In addition to the information contained in these operating instructions, comply with all the generally valid safety and accident-prevention regulations.
- Warning signs provide important information required for danger-free operation. Compliance serves your safety.
- Comply with all traffic regulations when using public highways.
- Please ensure that you familiarize yourself with all the features and operating elements as well as their function before commencing work. It is too late to do so whilst working!
- Operating personnel should wear tightly fitting clothing. Avoid wearing any loose clothing.
- Keep the machine clean in order to minimize the danger of fire.
- Check the immediate surroundings before activating and commissioning (Children!) Ensure sufficient visibility.
- It is forbidden to ride on the working device and attachment during work.
- Couple the devices as prescribed and only fix and secure to the prescribed equipment.
- Bring the support equipment into the respective position during attaching and detaching.
- Pay special attention when coupling and uncoupling the disc harrows to or from the tractor.
- Always couple the ballast weights to the intended attachment points in accordance with the specifications.
- Comply with the permissible axle loads, total weight and transport dimensions.
- Check and install the transport equipment such as lighting, warning equipment and if necessary, the safety equipment.
- The actuation equipment (ropes, chains, rods etc.) of remote-controlled units must be installed in such a way that they do not trigger unintended movements in all transport and working positions.
- Bring the tractor into the prescribed state for road travel and lock in accordance with the relevant specifications.
- Never leave the driver's cab during work.
- The travel speed must always be adapted to the surrounding conditions. Avoid sudden turning manoeuvres during hill and valley travels as well as during transversal movements on slopes.
- Handling steering and braking are influenced by the installation of the devices and the addition of ballast weight. Ensure sufficient steerability and brake capacity!
- Pay attention to the wide projection and / or the oscillating weight of the device when travelling on curves!
- Only ever operate the Cultivator once all safety equipment has been installed and are in the protection positions!
- Maintain safety equipment in a good state. Replace missing or damaged parts.
- It is forbidden to remain in the work area.
- Do not remain in the turning and pivoting area.
- The hydraulic folding frame may only be actuated once there is no-one in the pivoting area.
- Danger of crushing and shearing at remote-actuated parts (e.g. hydraulics)!
- Before leaving the tractor, set down the Cultivator on the ground, engage the parking brake, switch off the motor and remove the ignition key!
- It is forbidden to remain between the tractor and Cultivator without the parking brake and stop block being activated in order to stop the vehicle from rolling away!
- Follow all the further safety information in the tractor's operating instructions

### 3.7 Attached devices

- Special attention must be paid when coupling and uncoupling the Cultivator to or from the tractor!
- The Cultivator may only be attached to the type of tractor intended for use.
- By coupling machines to the front or rear of a tractor, the following aspects must not be exceeded
  - permitted total tractor weight
  - permitted tractor axle weight
  - permitted tyre load of tractor tyres
- Safeguard the tractor and machine against unintentional movement before coupling and uncoupling the machine
- When coupling and uncoupling the machine, move support devices (if available) into the appropriate position (stability!)
- By operating the support devices, a risk of injury from crushing and shearing points occurs.
- Special attention must be paid when coupling and uncoupling the machine to the tractor! Crushing and shearing points exist in the area around the coupling point between the tractor and the machine.
- It is forbidden to remain between the machine to be coupled and the tractor while the tractor is approaching the machine!
- Work on the Cultivator may only be performed with the motor switched off and the ignition key removed. All control levers should be in neutral position and none of the hydraulic lines should be under pressure.
- Never perform work under a raised Cultivator.
- The Cultivator must always be placed into the transport position for transport on public streets. The lighting (if available) must be connected. Repair works, maintenance, cleaning work as well as fault repair may only be performed with drive and engine stopped. Remove ignition key!
- Liquids emerging under pressure (hydraulic oil) can penetrate the skin and cause serious injuries which are not visible from outside. See a hospital immediately after injuries. Danger of infection!
- Operating materials such as waste oils have to be disposed properly.
- Repair work of the hydraulic installation can only be performed by special repair garages.

### 3.8 Hydraulic system

- The hydraulic system is under pressure.
- When connecting hydraulic cylinders and motors, ensure that you connect the hydraulic hoses in the correct way!
- Before performing any work on the hydraulic system, sink all hydraulically raised parts to the ground. Set the hydraulics pressure-free on the tractor and device side.
- When connecting the hydraulic hoses to the hydraulic connections of the chopper, make sure that the hydraulics are depressurized on both sides.
- Given hydraulic function connections between the tractor and the front attachment, ensure that the coupling sleeves and plugs are marked in order to prevent incorrect operation. Swapping the connections of the opposite functions (e.g. raising and sinking) brings the DANGER OF ACCIDENT.
- The hydraulic hose lines are subject to regular checks and replacement if damaged or worn. All replacement hose lines must meet the technical requirements of the device manufacturer.
- Use suitable resources when searching for leakage in order to prevent.
- Liquids emerging under pressure (hydraulic oil) can penetrate the skin and cause serious injuries. Consult a doctor immediately after injuries. Danger of infection
- Make sure that the hydraulic system has been depressurized and switch off the motor before performing any work on the hydraulic system!

### 3.9 Maintenance

- Repair, maintenance and cleaning work and the elimination of malfunctions should only be performed once the drive has been switched off and the motor is at a standstill - Remove the ignition key.
- Test all nuts and screws for their tightness and tighten if necessary.
- When performing maintenance work on the raised machine, make sure that it is secured with appropriate support elements.
- Dispose oils, grease and filters correctly.
- Always disconnect the electrical system from the power supply before commencing work.
- If protection devices are subject to wear, regular checks and replacements have to be made.
- When performing electrical welding work on the vehicle and connected devices, disconnect the power supply via the battery main switch or the cable on the generator and pinch off the battery.
- The spare parts must correspond at least to the manufacturer's technical specifications. This is guaranteed by original ZIEGLER spare parts.
- When replacing the cutting tools, use appropriate tools and wear suitable gloves!
  - Do not wash new machines with a steam jet or a high-pressure cleaner. The coating requires c. three months to harden and could suffer damage.

### 3.10 Unauthorized alterations and production of spare parts

Alterations or changes of the machine are only permitted after consultation the manufacturer. ZIEGLER original spare parts and manufacturer-authorized accessories serve the machine's security. Using other parts can invalidate the liability for the resulting consequences.

### 3.11 Inadmissible modes of operation

The operating safety of the machine is only guaranteed by its intended use in accordance with the chapter "Introduction Intended use" of the operating instructions. The threshold values specified in the data sheets must never be exceeded.

Do not apply extra ballast to the roller.

### 3.12 Safety instructions on the machine

The ZIEGLER front attachment device is equipped with all the necessary safety equipment. Not all danger points on this machine can be secured entirely against function-loss. The corresponding safety instructions, which point to the remaining residual dangers, are placed on the machine. The danger instructions have been presented in the form of so-called warning symbols. The following section provides information about the position of these warnings.

The safety information on the machine warn against residual dangers. They consist of warning symbols and work safety symbols. Please follow all the safety information. Safety instructions must always be maintained in a clean and easily-legible state. Should the safety information suffer damage or should get lost, order replacements from the supplier and install them on the intended locations. The position and meaning are described in the following section.

#### **DANGER! – Danger area of the machine**



Impact. Danger to life or of serious injuries.

- Replace damaged or illegible labels immediately.
- Affix the corresponding safety labels to all repaired, replaced or otherwise altered components.
- Never use a high-pressure jet to clean areas to which a safety label has been affixed.
- Familiarize yourself with the meaning of the warning symbols. The text next to it and the selected position for the labels provide information for the special danger areas on the machine.

3.13 Meaning of safety labels

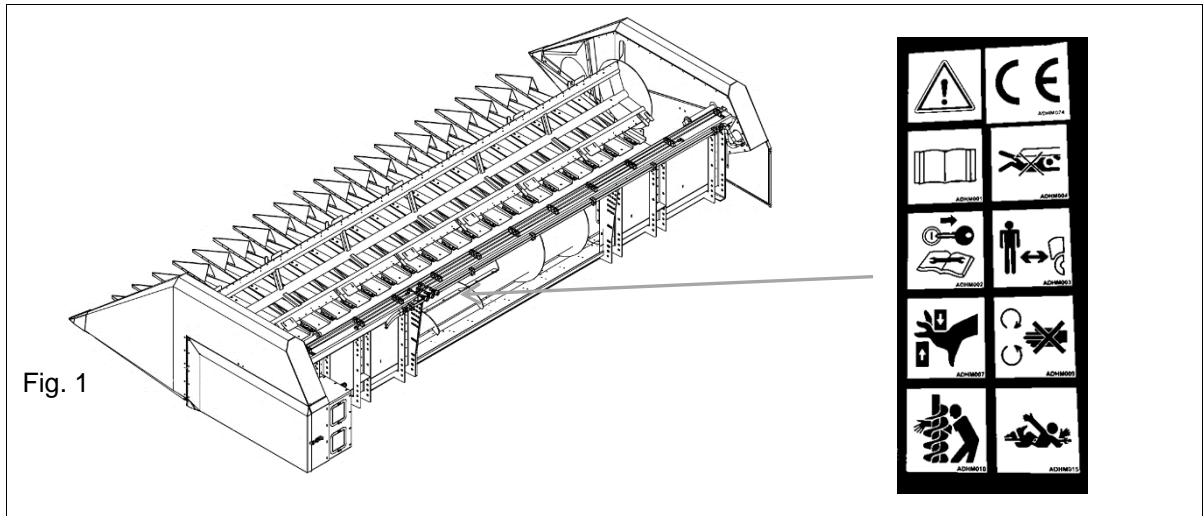










Fig. 1

			
<p>CE mark</p>	<p>Only touch the machine components once they have reached a complete standstill.</p>	<p>Read and comply with the operating instructions and the safety instructions before commissioning.</p>	<p>Switch off the motor and remove the key before maintenance and repair work.</p>
			
<p>Do not remain under an unsecured suspended load.</p>	<p>Do not open or remove safety equipment during operation.</p>	<p>Maintain sufficient safety clearance to the harvest attachment. Switch off the harvest attachment drive and the motor and remove the key before performing maintenance work or removing blockages.</p>	<p>Do not remain in the area of the drive shaft. Danger of injury!</p>



**4. TECHNICAL DATA AND LABELLING**

All the information, diagrams and technical specifications made in these operating instructions correspond to the latest state of technology at the point of publication. We reserve the right to make alterations to the design at any time and without the need to specify reasons.

**4.1 Type plate**

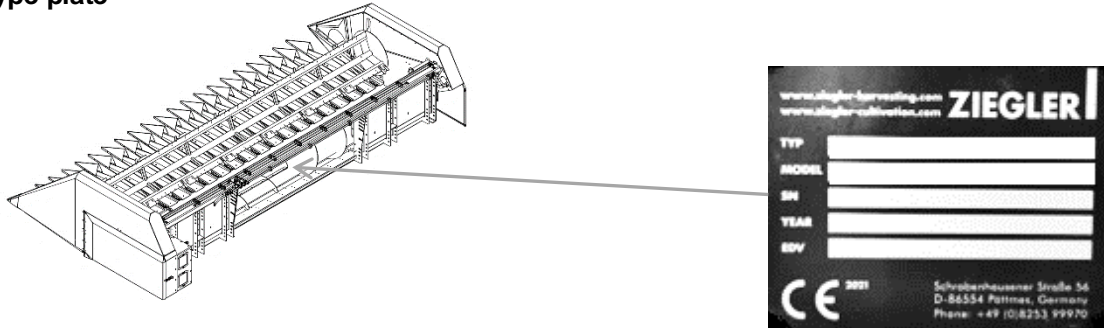


Fig. 2

**4.2 Details for enquiries and orders**

Year of construction:	
SN:	
Type:	

Retailer's address:

Name:	
Street:	
City:	
Phone.:	
Cust. No. retailer:	

The entire labelling has the status of an official document and may not be altered or changed beyond recognition!

Should you have questions about the machine or when ordering spare parts, state the type label, serial number and the year of construction of the corresponding machine. We recommend that you enter this information in the fields above so as to ensure their availability.



**Please note**

**ZIEGLER original spare parts** and manufacturer-authorized accessories serve the security of the machine. The use of spare parts, accessories and other devices not produced, tested or authorized by ZIEGLER will result in loss of liability for the resulting damage.

**Take the corresponding article numbers for the spare parts list.**

**4.3 Intended use**

The sunflower header may only be attached to transport vehicles which the respective adapter frame has been authorized for (follow the operating permission of the bearer vehicle). It is exclusively to be used for conventional agricultural operations (intended use): please consult the chapter introduction "Intended use".

Any other form beyond these specifications and is classed as non-intended use. The manufacturer is not liable for any damage resulting from this form of use. The risk is borne by the operator alone.

Intended use includes the maintenance of the operating, maintenance and servicing conditions specified by the manufacturer.

Unauthorized alterations made to the machine can exert a negative influence on the machine and impair the orderly function. Unauthorized alterations release the manufacturer from any resulting liability claims.

**4.4 Technical data**

All the information, diagrams and technical specifications made in these operating instructions correspond to the latest state of technology at the point of publication. We reserve the right to make alterations to the design at any time and without the need to specify reasons.

	<b>SC590</b>	<b>SC725</b>	<b>SC935</b>	<b>SC1070</b>
<b>Working width, mm</b>	<b>6000</b>	<b>7350</b>	<b>9400</b>	<b>1100</b>
<b>Depth, mm</b>	<b>2300</b>	<b>2300</b>	<b>2300</b>	<b>2300</b>
<b>Height, mm</b>	<b>1100</b>	<b>1100</b>	<b>1100</b>	<b>1100</b>
<b>Weight, kg</b>	<b>2220</b>	<b>2800</b>	<b>3600</b>	<b>4150</b>
<b>Combine harvester power, HP</b>	<b>ab 250</b>	<b>ab 300</b>	<b>ab 350</b>	<b>ab 350</b>
<b>Cutting height, mm</b>	<b>400-1500</b>	<b>400-1500</b>	<b>400-1500</b>	<b>400-1500</b>
<b>Harvest boat length, mm</b>	<b>1230</b>	<b>1230</b>	<b>1230</b>	<b>1230</b>
<b>Harvest boat width, mm</b>	<b>160</b>	<b>160</b>	<b>160</b>	<b>160</b>



4.1 Overview of machine

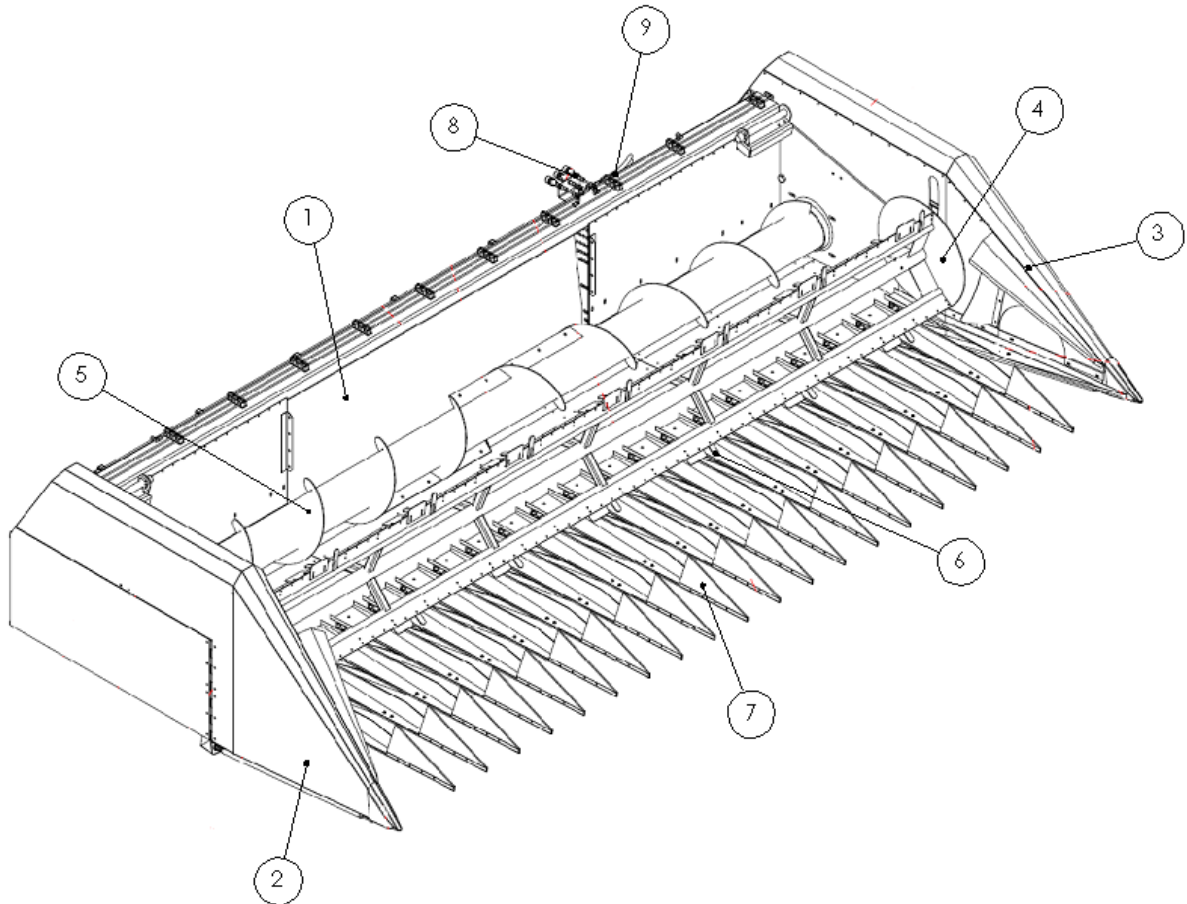




Fig. 3

- 1. Frame
- 2. Side panel right
- 3. Side panel left
- 4. Reel
- 5. Auger
- 6. Mowing blade (PRO)
- 7. Harvest boat
- 8. Hydraulics
- 9. Multi-coupler (option)

5. INSTALLATION

	<p style="background-color: #c00000; color: white; padding: 5px;"><b>DANGER! – machine can tip!</b></p> <ul style="list-style-type: none"> <li>➤ Impact: Danger to life or of serious injuries.</li> <li>➤ Secure the machine correctly with tension belts</li> <li>➤ Ensure that the machine has a firm position and let it down slowly.</li> <li>➤ Ensure sufficient chain tension.</li> <li>➤ Switch off the motor and activate the lowering lock before commencing any work on the machine</li> <li>➤ Persons are not allowed to remain in the danger zone</li> <li>➤ Use sufficient lifting gear</li> <li>➤ Follow the regulations for lifting gear</li> </ul>
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	<p style="background-color: #ffff00; padding: 5px;"><b>Caution! – Do not exceed permitted transport height!</b></p> <p>Impact: material damage</p> <ul style="list-style-type: none"> <li>➤ Pay attention to transporting height when entering doors or crossing bridges</li> </ul>
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5.1 Transport general



Fig. 4

**Transport on a HGV**

When transporting the sunflower header on a HGV, always use the ZIEGLER transport frame.

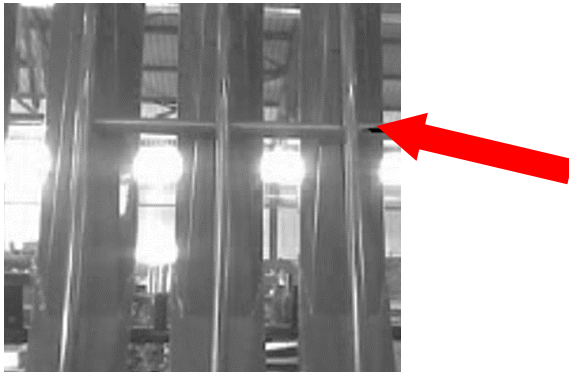
Use the anchor points on the transport frame and on the front lashing used to tilt the machine when loading and unloading with a crane. A metal bar can be applied in such a way as to ensure that support is provided on a maximum number of trays in order not to damage and/or excessively deform the machine and/or its trays or other parts of the machine.

Secure the sunflower header against falling down using tensioning belts in accordance with the locally-valid regulations.



**Ensure that the machine has a steady position!**

Fig. 5



**Loading/unloading bar**

Loading/unloading bar between the harvest boats, occupying a total of twelve harvest boats

Part of the bar that passes through the entry/exit opening on the left-hand side of the machine.

Cover on the left-hand side provides access to the opening for inserting and removing the loading and unloading bar



Fig. 6

**Transport the machine on the company premises with a crane**

The sunflower header can only be transported from above with a crane. Use the specified suspension points for suspending the load. Ensure that the picker is always in balance and that the load is distributed evenly.

Use only suitable lifting gear to perform the transport.

**Switch off the motor and activate the lowering lock before commencing any work on the machine.**



**Persons may not be in the danger area.**



Fig. 7

**Transporting the machine on the company premises with a forklift truck**

The transport frame is designed in such a way that the sunflower header can be secured to the frame so as to prevent it falling out.

You can use the ZIEGLER transport frame to transport the sunflower header with a forklift truck.

We recommend driving at a walking pace.

You will require a crane in order to set the sunflower header in the transport frame.

(See also “transporting the machine on the company premises with a crane”).

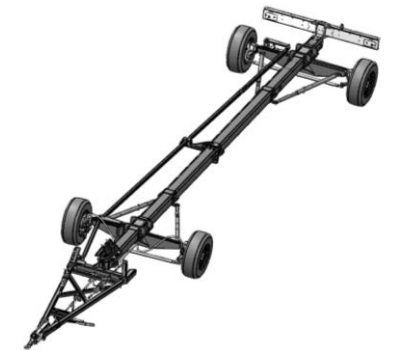
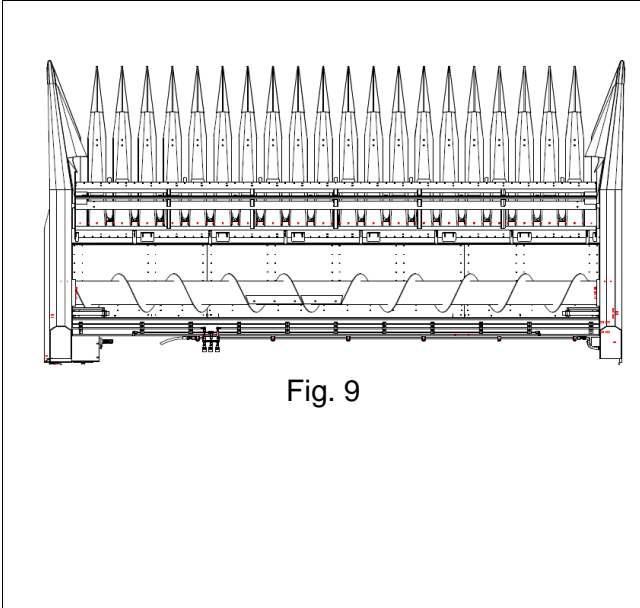


Fig . 8

**Transport with the combine harvester**

The fixed sunflower header can be attached securely to the combine harvester and transported using the ZIEGLER header trailer.

**5.2 Unpacking the sunflower header**



**Scope of delivery / state of delivery**

The sunflower header is delivered on a transport frame in a standing position.

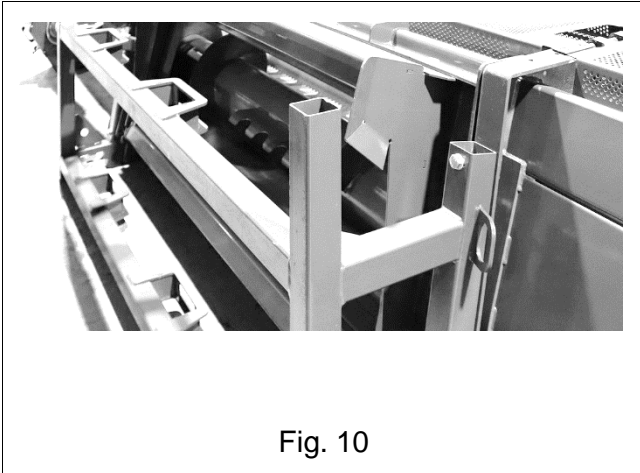
Every dispatch is accompanied by a delivery slip.

Remove the shrink wrap and the packaging pieces from the attachment device.

Check the scope of delivery.

Check the delivered row distance.

**Ensure that the machine has a steady position!**



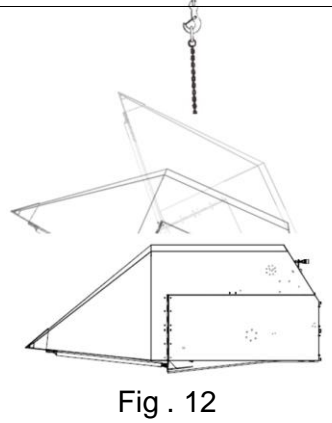
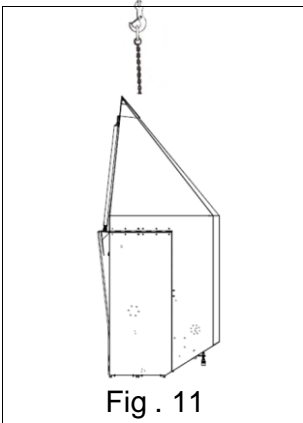
**Further use of the transport frame**

We recommend using the transport frame for any post-season service work.

Load handling attachments may only be used for their intended purpose.

All changes or the use with other machines is forbidden.

The machine may only be transported by a forklift truck using the Ziegler transport frame.



**Relocating the sunflower header**

Hook a vertical sunflower header as depicted in Fig. 11 and position the forks of the forklift truck on point A. Relocate the picker by lifting it a little with the forklift truck until chain B is tensioned. Lower the chain until the picker is resting on the floor. See Fig. 13.

Ensure that the chains are always tensioned.

5.3 Fitting the sunflower header

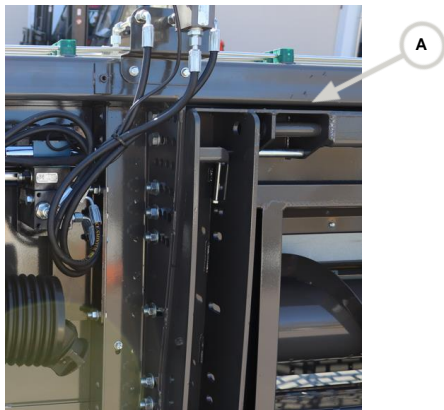


Fig. 14

**Adaption to the harvester**

Place the sunflower header is on the parking supports.  
Check the correctness of the adaption parts.

Move the harvester to the picker.

Lift up the picker with the feeder channel.  
Check the correct position of the adaption (A).



**The presence of persons between the harvester and the sunflower header not permitted during the connection.**



Fig. 15

**Additional weights**

Depending on the weight of the installed sunflower header, additional weights may be required on the steering shaft of the harvester.

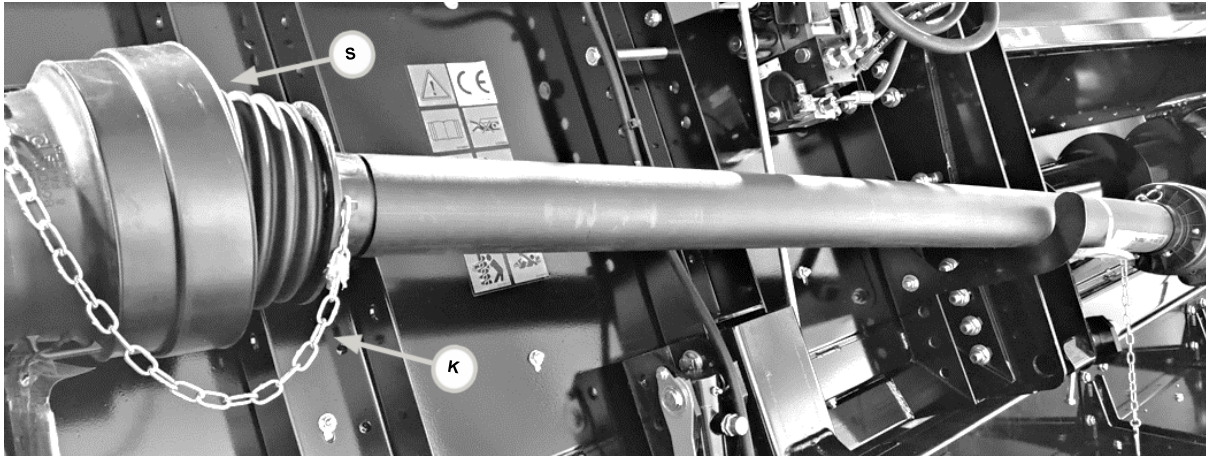
The dimensions of these additional weights are specified in the road traffic certification in the combine harvester manual.



**Comply with the certification conditions for public road traffic.**



5.4 Sunflower header drive



**Drive shaft drive**

Sunflower headers are driven with a drive shaft.

Ensure that the drive shaft guard is secured against revolution by a chain (K).

If the combine harvester is fitted with an angling blade, check the cover when it is swung out.

Remove and read the special instructions for the drive shaft before commissioning.

Grease the shaft profile of the drive shaft connection once a year.

 **Check the safety equipment (S) before commissioning. Do not open or remove these during operation.**


 **Switch off the diesel motor when performing all work on the machine. Secure the drive shaft guard against revolution. Replace the damaged protection immediately.**



Fig. 17

**Hillside combine**

All sunflower headers are driven via drive shafts directly mounted by hand. Specific combinations of combine harvester - picker require a wide angle or special drive shafts.

Comply with all the regulations and the drive shaft designs.

 **Check the pivot area and length of the drive shaft before commissioning. Ensure sufficient coverage.**

The bracket (T) serves to accept the drive shaft during transport.

5.5 Hydraulic connections

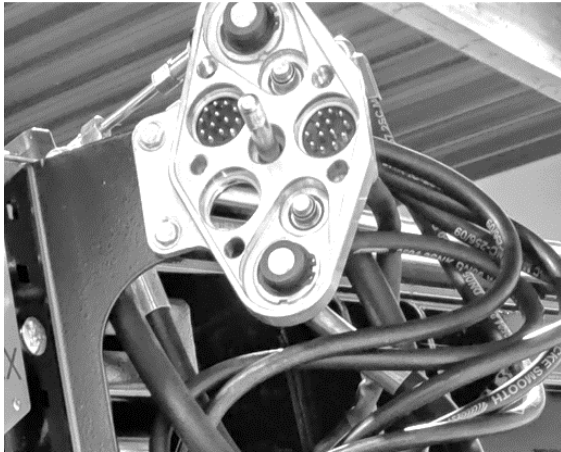


Fig. 18

**Multicoupling**

If the combine harvester is fitted with a multicoupling, the picker should also be fitted with a multicoupling.

The correct coupling is included in the scope of delivery.

Operation is performed in accordance with the regulations and instructions of the manufacturer of the combine harvester.

**Connection via the control valve coupling**

Some brands of combine harvesters require a control valve coupling to connect a picker.

The corresponding pickers are fitted with the requisite technology on a serial basis.

Operation is performed in accordance with the regulations and instructions of the manufacturer of the combine harvester.



**Avoid the danger area when performing a functional check. Check for leaks.**

**Should you find a leak, comply with all the requirements of environmental protection. Wear the corresponding protective clothing.**

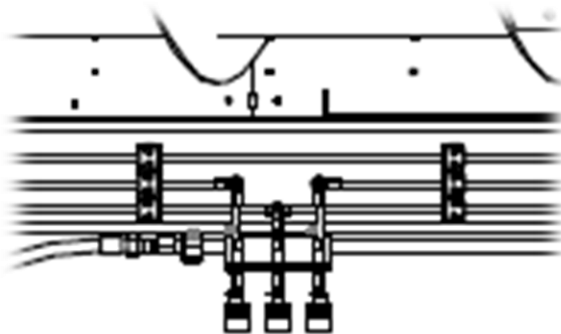


Fig. 19

**Connection via simple screw / plug connections**

If only simple screw / plug connections are present, mark double and single-acting lines.

Establish a secure connection so that oil can flow.

Mark the lines and always make identical connections so that the working sense remains unchanged.





Fig. 20

**Avoid the danger area when performing a functional check.  
Check for leaks. Should you find a leak, comply with all the requirements of environmental protection.**

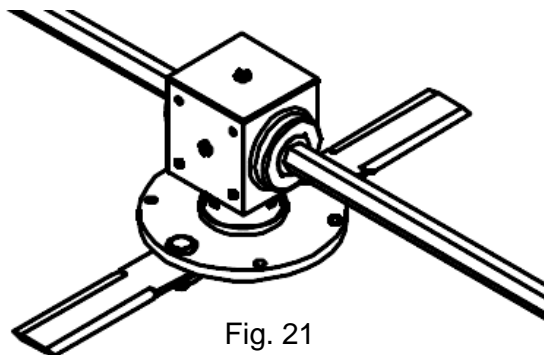
**Hydraulic actuation**



**Read the operating instructions of the combine harvester.**

Check the quantity of hydraulic oil in the harvester reservoir

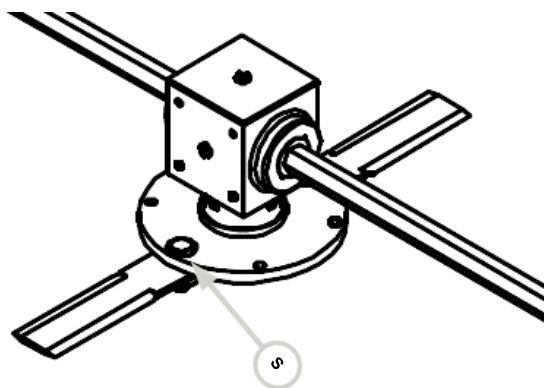
**5.6 Häcksler**



**Gearing**

**Check the oil level regularly**

The chopper bearing has a lifetime lubrication and is maintenance-free.



**Arrangement of the chopper blades**

The chopper blades are to be fitted above the blade carrier using the original bushing.

The screw (S) must be tightened in accordance with the prescriptions of the operating instructions on page Fehler! Textmarke nicht definiert..

**Switch off the motor and activate the lowering lock before commencing any work on the machine.**



**Caution: Blades over-travel for 2 minutes.**

**Wear the corresponding protective clothing.**

Fig. 22

5.7 Chopper body

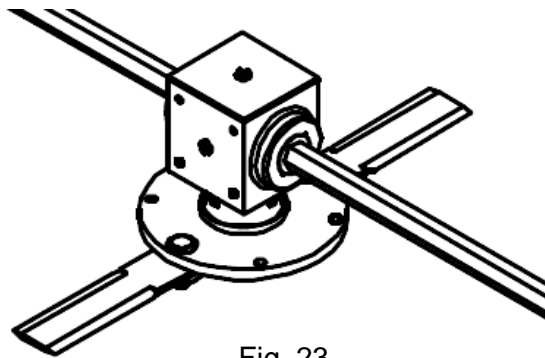


Fig. 23

**Blade carrier**

Safe operation of the chopper requires that worn, bent or damaged parts are replaced immediately.



**Caution: Blade over-travel for 2 minutes.**

**Switch off the motor and activate the lowering lock before commencing any work on the machine.**

**Wear the corresponding protective clothing.**

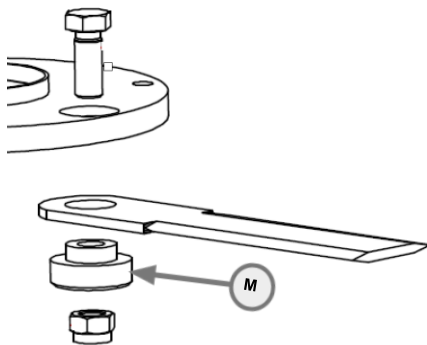


Fig. 24

**Blade replacement**

When fitting a new blade, check the blade bushings (M) for wear and renew if necessary.

**Important: The blades must only be replaced in pairs.**



**Caution: Blade over-travel for 2 minutes.**

**Switch off the motor and activate the lowering lock before commencing any work on the machine.**

**Wear the corresponding protective clothing.**

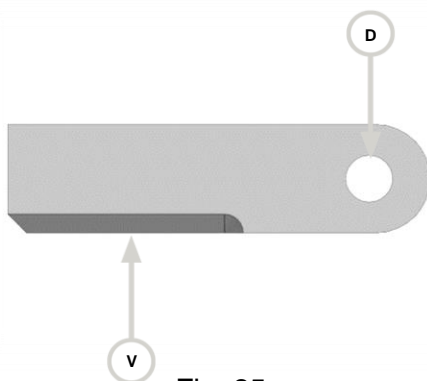


Fig. 25

**Chopper blade**

Replace the chopper blade immediately:

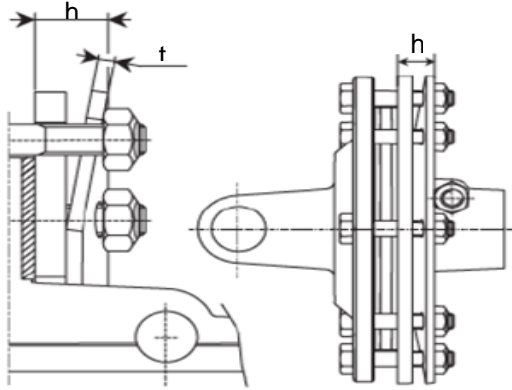
- If the drillhole (D) has an (even slightly) oval form
- If strong wear is found in the area (V) - (force requirement / chopper quality)
- If the blade is bent or has fissures

Only fit an equal blade with the same weight per blade head (perform a weight control).

**Never operate the chopper with a single or a damaged blade.**


5.8 Friction disc coupling FV


The FV couplings are adjustable, i.e. they allow the triggering torque to be adapted to the requirements of the machine by changing the pressure h of the spring washer.



The pressure of the spring washer must be checked regularly to compensate for the wear of the friction discs and to maintain the correct torque.

 **Do not overtighten the screws as this may impair the proper functioning of the coupling.**

 **Bondioli & Pavesi recommends that the user does not change the torque set by the machine manufacturer to avoid damage to the machine, gearing or harvesting machine.**

 **Couplings can reach high temperatures. Do not touch!**

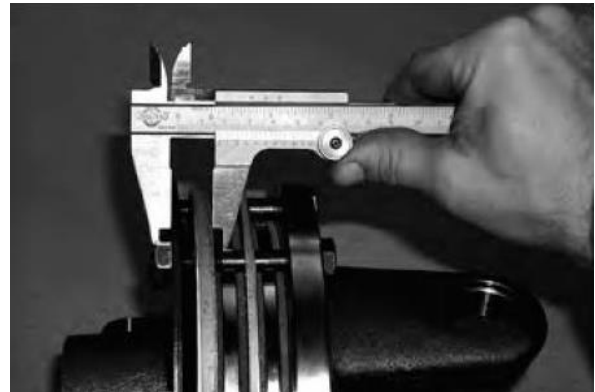
**To avoid the risk of fire, keep the area around the coupling free of flammable materials and avoid operating it for too long.**

The following tables show the code of the spring washer, the thickness t and the compression height h, measured as shown in the figure, for the most important standard sizes.


The height of the spring washer is measured near the individual screws and can vary in intervals of +/- 0.2 mm around the nominal value.

The tables also show the torque deviations that result from tightening or loosening the screws in accordance with the specified rotation. The average torque of the standard torque is taken as reference.

Intermediate holes can be achieved by proportionally tightening or loosening the screws.

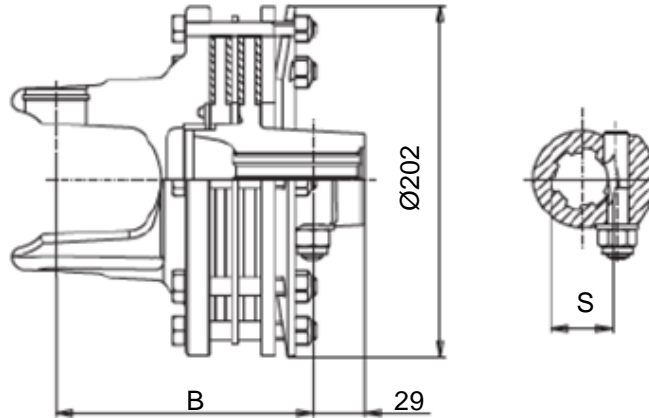


Couplings FV 44  
4 friction discs, diameter 202 mm

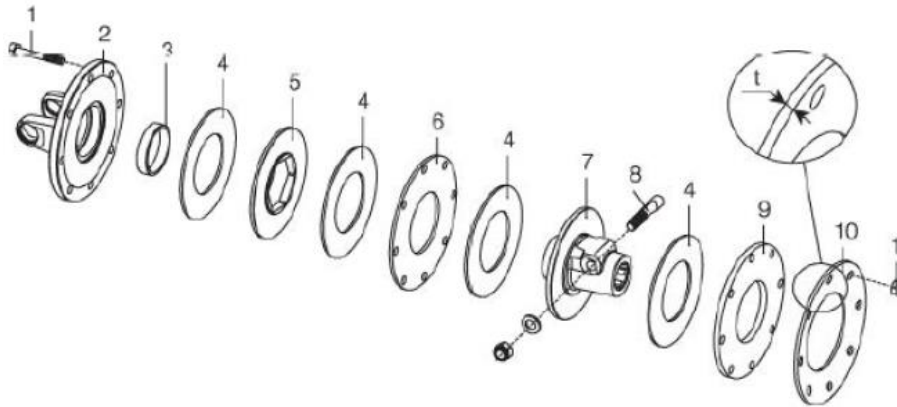
Spring washer code	T mm	Tara nm	H mm	
367009870	4,25	1.800	19,0	

**Friction disc couplings**  
**FV44**

Torque adjustable



	Torque		B (mm)			
	Nm	S = 1 3/8" z6 a	1 3/8" z21	1 3/4" z6	1 3/4" z20	
<b>G8</b>	1.800	147	147	152	152	



**FV44**  
Torque  
Adjustable

Ref.	Dimensions	Spare part code	Description	Technical notes
1		432000114r08	Screw with nut	M10 x 75 mm
2	<b>G8</b>	253078702	Pialo fork	
3		258005320r02	Ring	
4		247006351r08	Friction disc	D = 162; d = 85 mm
5		248737702	Tappet disc	
6		248870011	Spacer washer	t= 4mm
7		515900305	Housing with conical pin	1 3/8" z6
		515903705		1 3/8" z21
		515904445		1 3/4" z6
		515903805		1 3/4" z20
8		408000047r02	Conical pin	1 3/8" z6 - z21
		408000046r02		1 3/4" z6 - z20
9		248870007	Thrust washer	t= 8 mm
10		367009870	Spring washer	t= 4.25 mm

6. OPERATION

**DANGER! – The sunflower header could start up unexpectedly during setting work**



Impact: Danger to life or serious injuries.

- Lower the sunflower header completely.
- Switch off the combine harvester completely, remove the ignition key and secure against reactivation (operating Instructions of the combine harvester).
- Wear cut-proof protective gloves.
- Raise the protective hood of the sunflower header and secure against it shutting.
- Persons must not be in the danger area.
- Never operate the sunflower header without all the safety equipment fitted and closed.

**DANGER! – Persons could be in the sunflower field**



Impact: Danger to life or serious injuries.

- Ensure that no one is in the sunflower field or in proximity of the sunflower header before starting operation.

**DANGER! – Ejected parts**



Impact: Danger to life or serious injuries.

- Maintain sufficient clearance to the chopper blades when the motor is running and the drive is activated!

6.1 Test run



Fig. 26

**Reducing the starting torque**

Reduce the startup force by starting the sunflower header with a reduced motor rotation speed in the idling position. This will considerably prolong the service life of the drive couplings and belts.

Ensure that the horizontal chopper does not come into contact with foreign bodies.



**Maintain a safe distance from the machine.  
Protect yourselves and others against injury and accidents.**

**Control the operating speed!**

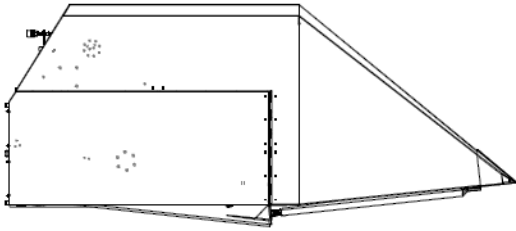


Fig. 27

**Test run only when lowered**

Considerations of safety require that the picker and chopper are only started or subject to a test run when lowered.

Take steps to prevent objects from entering the picker or the chopper during the test run.

**Switch off the motor and activate the lowering lock before commencing any work on the machine.**



**Persons must not be in the danger area.**

**Danger of accident from parts flying through the air**

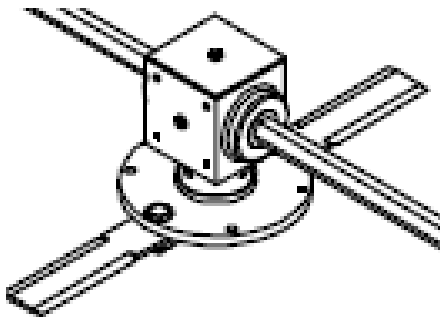


Fig. 28

**Safety instruction “Rapidly rotating blade”**



**Danger from ejected parts with activated drive. Maintain the safety clearance.**

**Maintain sufficient distance from the chopper blades when the motor is running and the drive is activated.**



**Caution: Blade over-travel for 2 minutes.**

**Switch off the motor and activate the lowering lock before commencing any work on the machine.**



6.2 Commissioning; important information

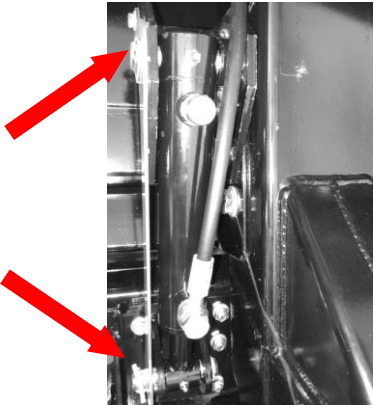
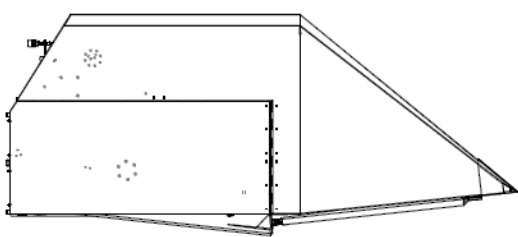




 <p>Fig. 29</p>	<p><b>Locking bar / clamp</b></p> <p>After tilting the cutter, remove the locking bar (right - left) of the chopper unit, see fig.</p>
 <p>Fig. 30</p>	<p><b>Working angle (basic setting)</b></p> <p>If larger or smaller tyres are fitted on the harvester than in series, we recommend checking the working angle. The same applies to the use of caterpillar tracks.</p> <p>This check is best performed under real operating conditions on the field with the usual clearance to the ground.</p>
 <p>Fig. 31</p>	<p><b>Testing the lateral inclination compensation</b></p> <p>Check the function of the angling blade in the harvester in connection with the sunflower header before commissioning.</p> <ul style="list-style-type: none"> <li>• Check the length of the drive shaft for sufficient cover.</li> <li>• Check the hillside control (optional).</li> </ul> <p> <b>No persons are permitted to be present in the danger area whilst the machine is running.</b></p>
 <p>Fig. 32</p>	<p><b>Securing the sunflower field</b></p> <p>Ensure that no one is in the sunflower field or in proximity of the sunflower header before commissioning it.</p> <p> <b>Danger of death for all persons in the sunflower field! Persons could be drawn in by the sunflower header and suffer severe injuries.</b></p>



Fig . 33

**Clean the air filter  
and other sensitive  
components on a daily basis!**

### Development of dust

It is impossible to prevent the development of a certain layer of dust with horizontal action choppers working in proximity to the ground.

Depending on its quality, cut material thrown about in the air can hinder some of the functions of the harvester.

It is therefore important to subject air filters (and similar parts) and other sensitive parts (hydraulic cylinder piston rods etc.) to regular cleaning.




Fig. 34


Drive speed up to 13km/h




7. MAINTENANCE AND CARE

7.1 Accident protection / operating safety

	<p><b>DANGER! – The sunflower header could start up unexpectedly during maintenance work</b></p>
	<p>Impact: Danger to life or serious injuries.</p> <ul style="list-style-type: none"> <li>➤ Lower the sunflower header completely.</li> <li>➤ Switch off the combine harvester completely, remove the ignition key and secure against reactivation (operating Instructions of the combine harvester).</li> <li>➤ Wear cut-proof protective gloves.</li> <li>➤ Raise the protective hood of the sunflower header and secure against it shutting.</li> <li>➤ Persons must not be in the danger area.</li> <li>➤ Never operate the sunflower header without all the safety equipment fitted and closed.</li> </ul>

	<p><b>DANGER! – Over-travel of the sunflower header for 2 min.</b></p>
	<p>Impact: Danger to life or serious injuries.</p> <ul style="list-style-type: none"> <li>➤ Start with maintenance work 2 minutes after shutdown at the earliest.</li> </ul>

	<p><b>Caution – contact with oils and grease</b></p>
	<p>Impact: Injuries</p> <ul style="list-style-type: none"> <li>➤ Avoid skin contact with oil, grease, cleaning agents and solvents.</li> <li>➤ Consult a doctor immediately after injuries or burns from oils, cleaning agents and solvents.</li> </ul> <p>Comply with all further safety instructions to prevent injury and accidents.</p>


	<p><b>Safety cover of the sunflower header</b></p> <p>Check the rubber safety cover for completeness and integrity before every commissioning. Locate the reason for any damage.</p> <p><b>Check</b></p> <ul style="list-style-type: none"> <li>• Ensure that the chopper blade is complete and undamaged.</li> <li>• The balancing / concentric run of the chopper blade.</li> <li>• Sufficient ground clearance.</li> </ul> <p>Replace any damaged or lost protection immediately.</p>
<p>Fig. 35</p>	



Fig. 36

**Lateral straw chopper – safety equipment**

With certain models of picker and row distances, it is possible that the chopper blade runs to the right or left (even to the right and left) of the outside enclosure of the picker.

A special protection prevents contact with the fast-rotating chopper blades blade.

Ensure that the safety equipment is complete and undamaged.

**When the drive is activated and the motor is running, maintain sufficient clearance to the chopper blades.**

**Caution: Blade over-travel for two minutes.**

**Clean the air filter and other Sensitive components on a daily basis**

**Development of dust**

It is impossible to prevent the development of a certain layer of dust with horizontal action choppers working in close proximity to the ground.

Depending on its quality, cut material thrown about in the air can hinder some of the functions of the harvester.

It is therefore important to subject air filters (and similar parts) and other sensitive parts (hydraulic cylinder piston rods etc.) to regular cleaning.

**7.2 Lubricants / general information / disposal**

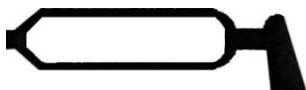


Fig. 37

**Recommended lubricants**

**Blade drive:**

Lubricant **Oil EP 2**

**Gearing (for chopper)**

Lubricant **Oil EP 100**

**Hydraulics:**

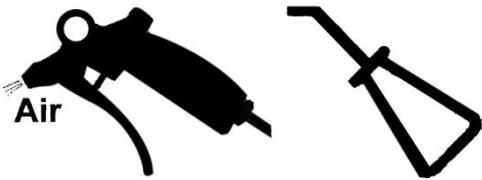
In accordance with the specifications of the manufacturer of the combine harvester.


**General lubrication nipple:**

Lubricant **Multi-purpose grease KP 2**

**Wear the correct protective clothing**

**Perform an end control of the lubrication points before commissioning the sunflower header.**

 <p>Fig. 38</p>	<p><b>General instructions</b></p> <p>All moving parts should be lubricated and cared for to a degree usual for a machine construction context.</p> <p>Regular cleaning and the removal of deposits serves the value-retention and operating safety.</p> <p>Components not included in the special mentioned components which are subject to regular or irregular movement also require periodic oiling or greasing.</p> <p>All bare metallic machine parts require reliable rust protection after the conclusion of the harvest.</p> <p><b>Lubricant Oil (conventional)</b></p>
--	--

 <p>Fig. 39</p>	<p><b>Storage</b></p> <p><u>Recommendation:</u></p> <p>Clean the machine thoroughly after the conclusion of the harvest of all crop and other residue.</p> <p>The cleaning hatches and service apertures are to be kept open during the storage period, in order to prevent damage to the cables by rodents.</p>
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**7.3 Maintenance / care / inspection**

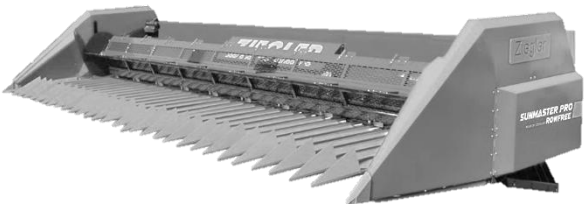
 <p>Fig. 40</p>	<p><b>Cleaning after the harvest season</b></p> <p>After the end of a predominantly dry harvest season, we recommend dry cleaning, e.g. with compressed air only.</p> <p>If the machine has been subject to damp conditions and suffered the corresponding soiling, it is necessary to perform the cleaning with a high-pressure cleaner.</p> <p>The hood and the feeder chains must be removed first. All bearings must be greased.</p>
--	--



Fig. 41

**Inspection after the harvest season**

During the periodic inspection (after the harvesting season) the following components must be checked and replaced if necessary:

- Rubber strip
- Headers
- Safety equipment of the power take-off shaft
- 

Hydraulic hoses and hydraulic fittings

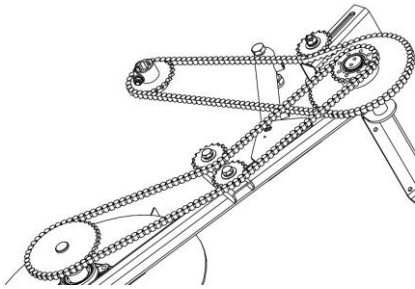


Fig. 42

**Roller chains**

The roller chains fitted for the transverse auger drive are to be kept rust-free during storage. The relevant recommendations regarding caring for the roller chains apply.

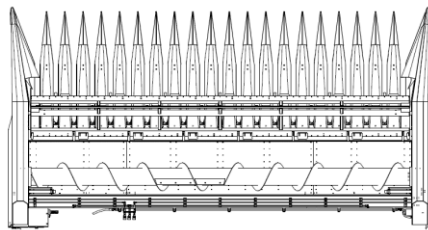


Fig. 43

**Storage**

The sunflower header is best stored in a well-ventilated hall, either standing in its transport frame or placed down on dry ground.

Protect all bare metallic parts from rust.

Load handling attachments may only be used for their intended purpose. All changes or the use with other machines is forbidden.

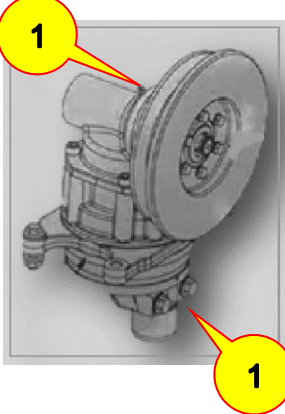
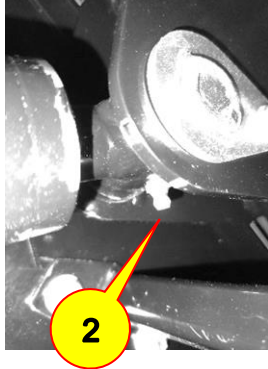
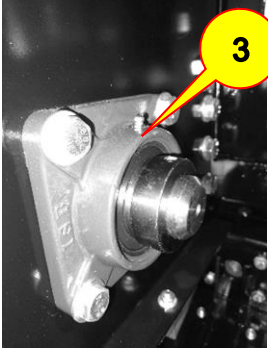



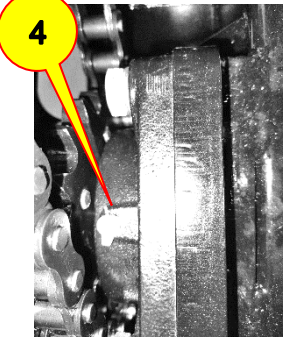
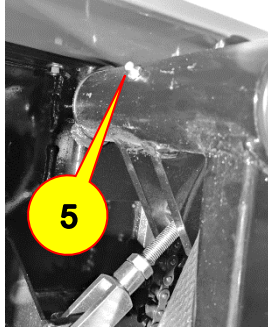
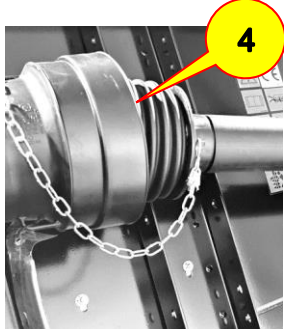





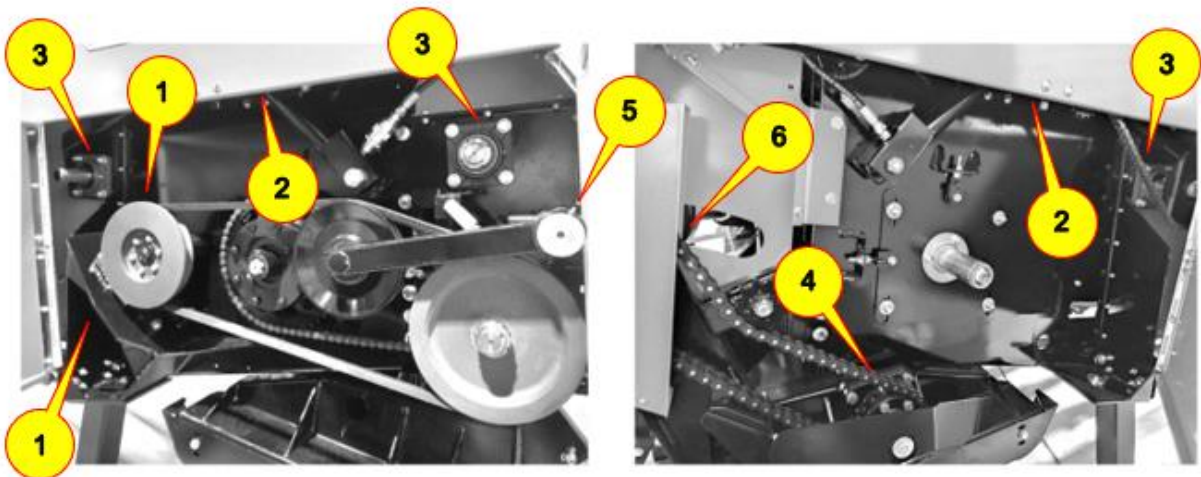
**Do not store the sunflower header in a raised position on the combine harvester.**

**Avoid unnecessary loading of the harvester tyres.**

8. LUBRICATING POINTS

Fig. 44

		
<p style="text-align: center;"></p> <p style="text-align: center;">Nach 50 Arb. Std. After 50 op.hrs. После 50 ч. работы</p>	<p style="text-align: center;"></p> <p style="text-align: center;">Nach 10 Arb. Std. After 10 op.hrs. После 10 ч. работы</p>	<p style="text-align: center;"></p> <p style="text-align: center;">Nach 50 Arb. Std. After 50 op.hrs. После 50 ч. работы</p>
		
<p style="text-align: center;"></p> <p style="text-align: center;">Nach 10 Arb. Std. After 10 op.hrs. После 10 ч. работы</p>	<p style="text-align: center;"></p> <p style="text-align: center;">Nach 50 Arb. Std. After 50 op.hrs. После 50 ч. работы</p>	<p style="text-align: center;"></p> <p style="text-align: center;">Nach 50 Arb. Std. After 50 op.hrs. После 50 ч. работы</p>





9. DECOMMISSIONING AND DISMANTLING

**DANGER! – The machine can tip!**



- Impact: Danger to life or serious injuries.
- Apply the transport lock.
- Secure the machine correctly with tensioning belts .
- Ensure that the machine has a steady position.
- Lower slowly.
- Ensure sufficient chain tension.
- Switch off the motor and activate the lowering lock before commencing any work on the machine.
- Persons must not be in the danger area.
- Use sufficient lifting gear.
- Comply with the regulations for lifting gear.

**Caution – contact with oils and grease**



- Impact: serious injury or damage to the machine**
- Avoid skin contact with oil, grease, cleaning agents and solvents.
  - Consult a doctor immediately after injuries or burns from oils, cleaning agents and solvents.
- Comply with all further safety instructions to prevent injury and accidents.**

**Environment**



**PLEASE NOTE – Oil or grease enters the environment.**

- Impact: Pollution**
- Dispose of oils and grease in an environmentally-friendly fashion and in accordance with the applicable regulations.



Fig. 45

**Decommissioning**

If the use end of the sunflower header or its components have reached the end of their service life and require scrapping, the components must be separated according to material and disposed of or recycled in an environmentally-safe manner. Comply with the applicable regulations.



Fig. 46

**Disposal**

Ensure the correct and environmentally-friendly disposal of the operating and auxiliary materials.  
Ensure that no operating materials (oil, grease or other operating materials which endanger the groundwater) are able to sink into the groundwater or the soil.

Please address any questions to the local disposal specialists.  
Always wear personal protective equipment when performing the disposal.

10. FAULTS AND TROUBLESHOOTING

HYDRAULICS

Fault	Cause	Remedy	Page
<b>The sunflower attachment cannot be raised</b>	Insufficient quantity of hydraulic oil	Refill oil	
	Insufficient lift force	Additional lifting cylinder required	
<b>Hydraulic functions of the picker does not function</b>	Hydraulic connections have no throughflow	Check the connections / couplings / screw connections	
	Insufficient pressure of the hydraulic system	Check the pressure, increase if permissible	
	Insufficient quantity of hydraulic oil	Refill oil	

DRIVE

Fault	Cause	Remedy	Page
<b>Drive is activated but the picker does not rotate</b>	Drive shaft	Check the drive shaft	
	The drive shaft coupler does not engage	Locking not performed, check the coupling halves for complete engagement	
	The coupling does not engage	Check the alignment, make the sliding piece operable	
<b>The picker remains stationary during operation</b>	The V-belt is not tensioned	Check the drive	
	Overload	Adapt the working speed	

TRANSVERSE AUGER

Fault	Cause	Remedy	Page
<b>Transverse auger remains stationary</b>	Overload	Reduce the material quantity, straw content too high	
	Slip coupling engages	Remove foreign objects, check the scraper	
	Drive	Check the chain and coupling	
	Original combine harvester, splash guard fitted in front of the feeder channel	Remove the splash guard	
<b>Auger ejects sunflower heads from the machine</b>	Position and number of conveyor plates	Alter to fit the conditions	
	Insufficient feed rate	Increase the feed	

**PICKING UNIT**

Fault	Cause	Remedy	Page
<b>The picker stops during harvesting</b>	Drive belts not tightened	Perform a service	
	Working speed too high	Adapt	
<b>Straw content too high</b>	Snapping plates	Open the snapping plate as far apart as possible	
	Working speed	Adapt the working speed to the conditions	
<b>Blockage within the picking row</b>	Snapping plates not parallel	Set the snapping plates	
	Foreign bodies in or underneath the picking row	Remove and dispose of sluggish sunflower straw	
	Picking gap closure	Missing or set incorrectly	
<b>Sunflower head losses</b>	Working speed	Adjust speed	
	Row distance	Adapt the machine to the conditions	
<b>Grain loss</b>	Snapping plates	Adjust closer together	
	Recirculation of feeder channel chain	Set the covering above the transverse auger lower	
	Working speed	Increase until the picker is better filled with material	
<b>Sunflower stubble too long</b>	Horizontal cutting blade worn	Replace blade if necessary	
	Divider tips	Set flatter, bring the picker closer to the ground	
	Row distance	Improper	
	Working speed	Reduce speed	
<b>Snapping plate blocked</b>	Soiling	Clean the mechanism, open and close the plates multiple times per day	
	Hydraulic feed line	Check	
	Basic setting	Check	
<b>Machine is agitated or vibrates</b>	Horizontal cutting blade broken or lost	Locate the cause immediately and replace the blade if necessary	



**11. TIGHTENING TORQUE FOR SCREWS**

Tightening torque for galvanized screws

Strength class	Tightening torque Nm	NOMINAL DIAMETER - NORMAL THREAD																		
		M3	M4	M5	M6	M7	M8	M10	M12	M14	M16	M18	M20	M22	M24	M27	M30	M33	M36	M39
5.6	Nm	0.56	1.28	2.50	4.3	7.1	10.5	21	36	58	88	121	171	230	295	435	590	800	1030	1340
	ft/lb	0.41	0.94	1.84	3.1	5.2	7.7	15	26	42	64	89	126	169	217	320	435	590	759	988
8.8	Nm	1.28	2.90	5.75	9.9	16.5	24	48	83	132	200	275	390	530	675	995	1350	1830	2360	3050
	ft/lb	0.94	2.14	4.24	7.3	12.1	17.7	35	61	97	147	202	287	390	497	733	995	1349	1740	2249
10.9	Nm	1.80	4.10	8.1	14	23	34	67	117	185	285	390	550	745	960	1400	1900	2580	3310	4290
	ft/lb	1.33	3.02	5.97	10.3	16.9	25	49	86.2	136	210	287	405	549	708	1032	1401	1902	2441	3163
12.9	Nm	2.15	4.95	9.70	16.5	27	40	81	140	220	340	470	660	890	1140	1680	2280	3090	3980	5150
	ft/lb	1.59	3.65	7.15	12.1	19.9	29	59	103	162	250	346	486	656	840	1239	1681	2278	2935	3798

Strength class	Tightening torque Nm	NOMINAL DIAMETER - FINE THREAD								
		M8 x 1	M10 x 1.25	M12 x 1.25	M14 x 1.5	M16 x 1.5	M18 x 1.5	M20 x 1.5	M22 x 1.5	M24 x 2
8.8	Nm	25	49	88	140	210	305	425	570	720
	ft/lb	18	36	64	103	154	224	313	420	531
10.9	Nm	35	68	125	195	295	425	600	800	1000
	ft/lb	25	50	92	143	217	313	442	590	737
12.9	Nm	42	82	150	235	350	510	720	960	1200
	ft/lb	30	60	110	173	258	376	531	708	885

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