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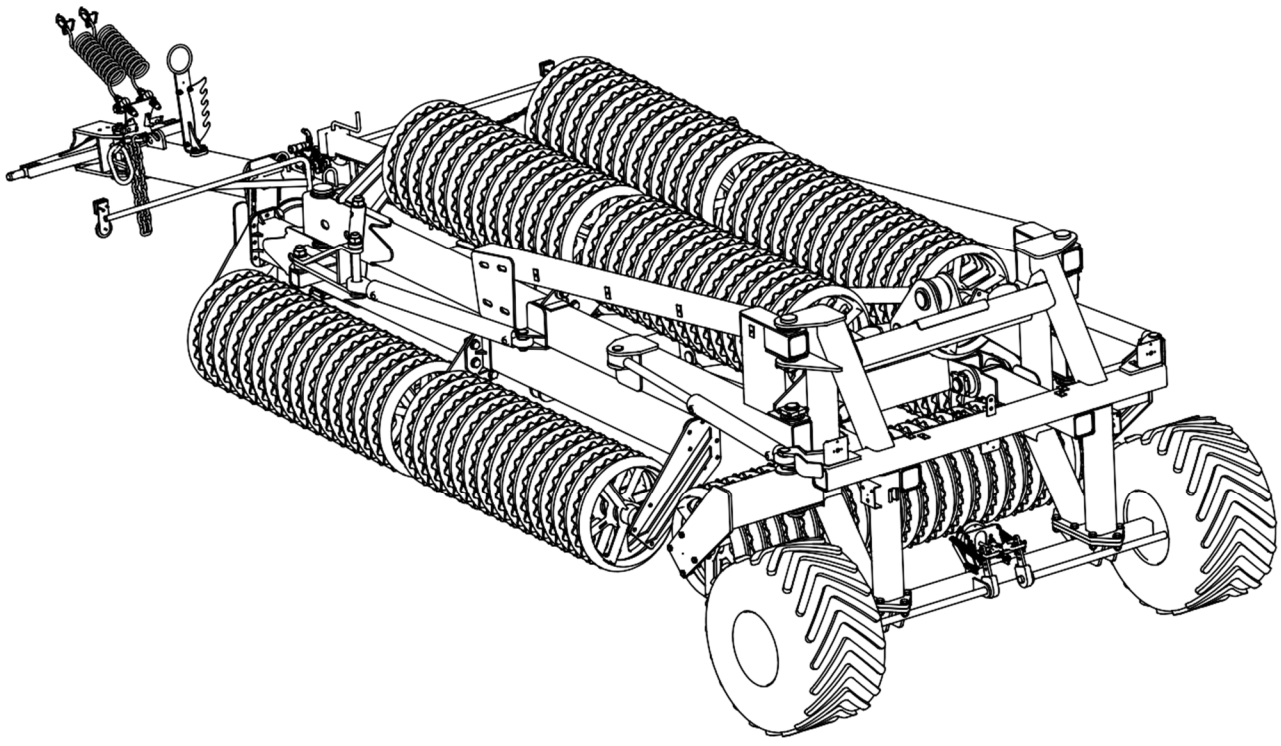
CULTIVATION ROLLER

Pack Roller HD XL



EN User manual

Krośniewice 2024

EC DECLARATION OF CONFORMITY

„EXPOM" Sp. z o.o.
ul. Parkowa 2,
99-340 Krośniewice

Acting as a manufacturer:
Declares with full responsibility that the complete machine:

CULTIVATION ROLLER
MAXIMUS

Type/model: .....
Year of production: .....
Serial number: .....

As detailed in this declaration fulfils the requirements of:

Regulation of the Minister of Economy of 21 October 2008 on essential requirements for machines (Journal of laws no. 199, item 1228) and **European Union Directives**: 2006/42/EC of 17 May 2006 on machinery (Official Journal of the EU L157 of 09.06.2006, p.24 – 86)

The following harmonised standards were applied in order to assess compliance.

PN-EN ISO12100-1:2005+ Ap1:2006+A1:2009, PN-EN ISO 4254-1:2009,
PN-EN ISO12100-2:2005+A1:2009

Standard and regulations:
PN-ISO 3600:1998, PN-ISO 11684:1998

Person authorized to prepare technical documentation:

First and last name.....adress Parkowa 2 st. 99-340 Krośniewice

This EC declaration of conformity becomes invalid if the machine is changed or rebuilt without the manufacturer's consent.
THE OPERATING MANUAL CONSTITUTES THE BASIC EQUIPMENT OF THE MACHINE!!!

Krośniewice.....
Place and date of issue

mgr inż. Wietrzyk Marek -
President of the Management Board
Full name and signature of the authorised person

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1. General information

**Congratulations on purchasing the modern Pack Roller HD XL tillage roller.
We are convinced that the roller will meet the customer's expectations.**

Upon purchase, the user receives a complete machine, factory-assembled and ready for operation.

In order to use it correctly and safely, we recommend that you read this user manual carefully.

The manual is an important part of the machine and should be kept for future reference. The manual includes a catalog of machine parts and a warranty card.

Proper use of the machine, along with proper maintenance, lubrication and storage, will help keep it in good condition and ready for operation.

The machine was designed and manufactured taking into account all requirements related to its safe use, in accordance with applicable standards. However, it is necessary to follow all recommendations contained in the operating manual and applicable legal regulations regarding the use of the machine.

It should be borne in mind that despite the use of solutions aimed at meeting all requirements of national and international standards in the field of ergonomics and safety of use, threats related to, for example, residual risk, as well as situations whose occurrence during operation are difficult to predict cannot be ruled out.

Using the embankment for other purposes will be understood as use inconsistent with its intended purpose.

Additional information regarding the rules of use and spare parts can be obtained on the website: https://my.agrisem.com, directly or by phone at AGRISEM or at machine sales points.

Any deviation from the manufacturer's requirements and applicable legal regulations, including any changes to the machine's structure without the manufacturer's consent, the use of spare parts other than the original ones will be understood as use inconsistent with the requirements.

For the damages incurred then, AGRISEM is not responsible.

The product is identified by the rating plate located on the main frame beam of the unit.

The nameplate contains the following data:

- name and address of the manufacturer
- machine name
- machine type
- year of construction
- serial number
- mass
- KTM symbol

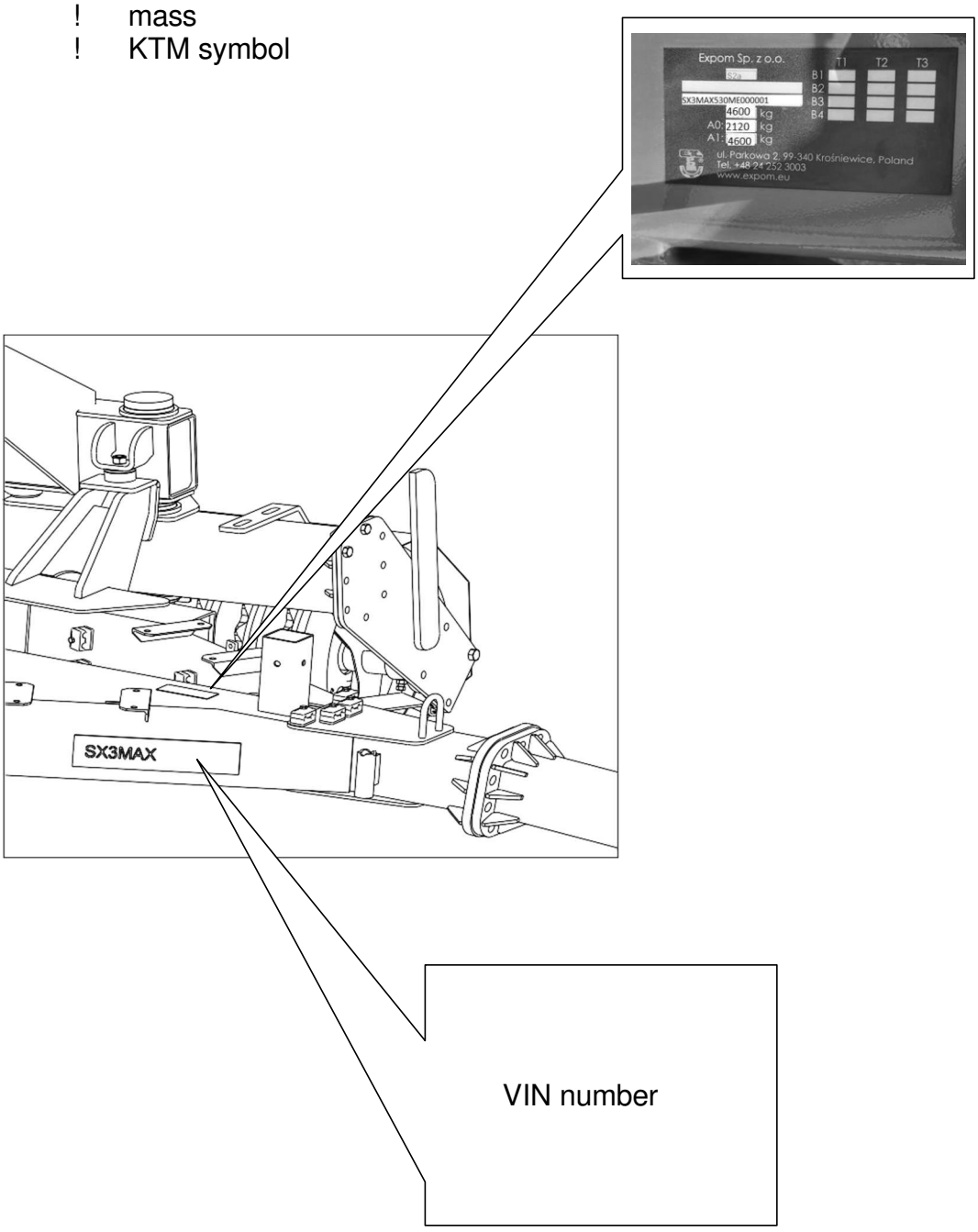


Fig. 1. Rating plate

2. General safety regulations

In order to avoid hazards, before starting to work with the machine, please read this user manual and follow the following recommendations:

The operation and use of the machine may only be entrusted to a person who has appropriate qualifications to operate tractor agricultural units and has read this manual. Operation should only be performed from the ground, after lowering the machine onto a level, hardened surface.

The shaft should be connected to the tractor correctly, in accordance with the instructions in the operating manual, securing the connecting elements with factory pins and pins.

Before starting the roller, make sure there are no bystanders, especially children, or objects nearby that could pose a threat. Only the operator is allowed in the roller operating zone.

Before using the machine, pay attention to its technical condition, especially the method of mounting individual working units and the connection system (hydraulic) to the tractor. Check whether all components work properly.

You must not operate a machine that is not technically functional!

The shaft's working units may pose a threat, but due to the functions they perform, they cannot be covered. While working, the operator must make sure that there are no bystanders near the working roller. Ensure good visibility of the area around the embankment. The safe distance from the working roller is 5m.

When working with the shaft, if there is a threat to the operator or bystanders, immediately stop the tractor, turn off the tractor engine, lower the machine to the rest position and apply the handbrake.

The roller operator should wear buttoned clothing while working. Loose items of clothing can be caught in rotating parts, posing a hazard to the operator.

The roller must not be moved backwards with the machine lowered.

It is prohibited to transport people or objects that do not constitute roller equipment on the machine.

It is forbidden to leave the tractor cabin while the shaft is moving.

Before leaving the tractor, lower the machine to the ground, turn off the tractor engine and remove the key from the ignition. The machine must not be left on slopes.

It is forbidden to get between the tractor and the machine when the engine is running or if it is not secured by applying the parking brake and placing chocks under the wheels.

Shaft operation is only permitted if the safety devices are functioning properly.

The manufacturer is not liable for damage resulting from improper use of the machine, incorrect or inaccurate adjustments, use of the machine contrary to its intended use, use of replaceable parts other than the factory ones, or changes made by the user to the structure without prior agreement with the manufacturer.

If the inscriptions and signs placed on the machine are damaged or become illegible, they should be immediately replaced with new ones (order from the manufacturer or at the point of sale).

Meeting the requirements for using the machine, servicing and repairing it according to the manufacturer's recommendations and strictly observing them is a condition for proper use.

Failure to comply with the above rules may lead to threats to the operator and bystanders, as well as damage to the unit. For any damage resulting from this, AGRISEM is not responsible.

2.1. Connecting to a tractor

Before connecting or disconnecting the shaft from the three-point hitch, check whether the tractor's control levers are in a position that will prevent unintentional raising or lowering of the lift arms.

When connecting the machine to a three-point hitch, make sure that the connection systems are of the same category.

There is a risk of crushing or cutting in the area of the suspension rods. When operating the lift, no one may be between the machine and the tractor.

2.2 Hydraulic system

When connecting the hydraulic system conduits to the tractor, make sure that there is no pressure in the system. However, when disconnecting the installation, lower the machine to the ground, reduce the pressure and turn off the tractor engine.

Sockets and plugs in the hydraulic system should be properly marked to avoid errors when connecting. Incorrect connection of cables may lead to hazards for the operator. In case of replacement and installation, new hydraulic lines must have the same technical specifications as those being replaced.

Leaks in the hydraulic system should be removed using available methods that do not pose any hazards.

Hydraulic fluid escaping under pressure can cause personal injury and pose a serious threat to the operator. If you suffer a personal injury, consult a doctor immediately.

Hydraulically lowered elements can only change position when there are no bystanders, objects or devices within their range.
(E.g. Power lines) that may pose a threat.

In accordance with applicable legal regulations, used oil and grease should be sent to appropriate points (refineries, gas stations) collecting lubricants.

2.3 Maintenance and repair activities

Repair activities may be performed by a person with appropriate qualifications.

Maintenance and repair activities requiring connecting the machine to the tractor should be performed with the handbrake on and the tractor and machine engine turned off.

When performing maintenance and repair activities, it is prohibited to get under the machine, which must be in the rest position.

Replace damaged elements with new original ones. Disassembly and assembly of parts in the unit can be performed by a properly trained person, using appropriate tools.

Bolts and nuts should be checked and tightened regularly.

Elements loosened for repairs or inspection must be reattached.

Podczas pracy z elementami ostrymi należy stosować odpowiednie narzędzia i rękawice ochronne.

When working with sharp elements, use appropriate tools and protective gloves.

When replacing parts, use original spare parts with the same technical specifications.

2.4 Road transport

When traveling on public roads, comply with applicable legal regulations regarding road safety, vehicle and machine lighting.

When traveling, please remember that the embankment exceeds the transport width of 2.5 m and may pose a threat to people and animals passing by during transport.

You may only drive on public roads with the roller arms folded into the transport position and mechanically secured against accidental unfolding.

For driving on public roads, the embankment must be equipped with lighting devices and appropriate signs for slow-moving vehicles.

3. Warning and information graphics

Pack Roller HD XL roller is factory marked with the following graphics:

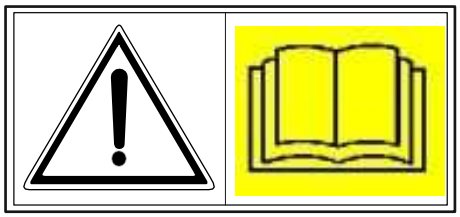
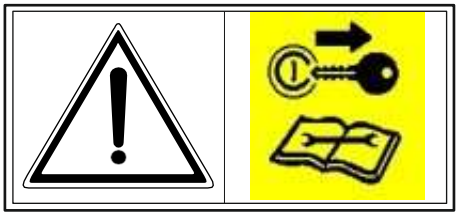
Symbol (sign) of safety	Meaning of the symbol	Placement on the machine
	Read the user manual	The central beam of the unit
	Turn off the engine and remove the key before servicing or repairing the vehicle	The central beam of the unit
	Crush - aggregate wing	Left and right side arms of the unit
	Crushing the fingers of the hand	Unit frame hinge
	Crushing the toes	Frame of the roller

Fig. 2. Warning and information graphics

4. Purpose of the roller

Pack Roller HD XL rollers are designed to compact the top layer of soil immediately after plowing, before or after sowing, and to create its lumpy structure.
They are particularly useful on compact, clay soils, where they perfectly crush plowed furrows and clods, while compacting and leveling the top layer of soil.
Thanks to their special profile, the roller rings penetrate the soil and compact it on the surface. The considerable weight per meter of width causes sufficient hardening and leveling of the topsoil.
Thanks to this, deep ruts are not formed during subsequent passes, and due to better capillarity of the soil, a significantly higher emergence capacity is achieved.
The design of the roller drawbar allows the roller to be attached to:
- drawbar - standard,
- lower transport hook - optional

5. Roller description

The roller consists of three sections:

! Roller center frame

! Working section (left and right wing)

! Drawbar

The central frame is a supporting element for the working sections and is made of closed z/g sections. The shaft's road wheels are attached to the frame. The middle frame can change its position in the vertical plane using the middle cylinders, which allows it to reach the transport position.

The central shaft and the working sections, i.e. the right and left wing, are attached to the central frame.

The working section consists of a series of cast iron rings placed on a steel axle mounted at the ends in self-aligning bearing units. The bearing units used are highly resistant to contamination and misalignment, which guarantees failure-free operation.

The working sections fold hydraulically for transport. The working sections constitute the main working part of the machine. The following variants of the working sections are possible:

! Rings type **Cambridge** - diameter 600 mm;

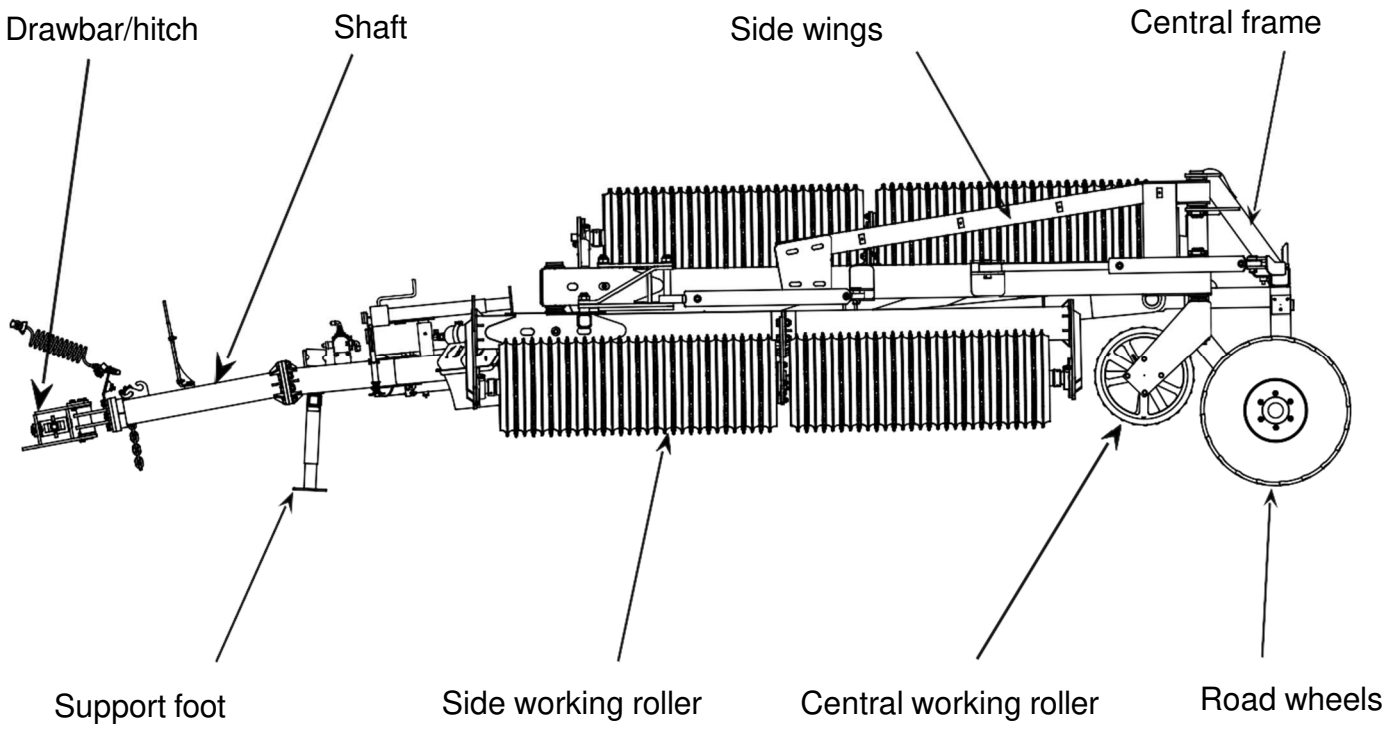
! Rings type **Cambridge** - diameter 530 mm;

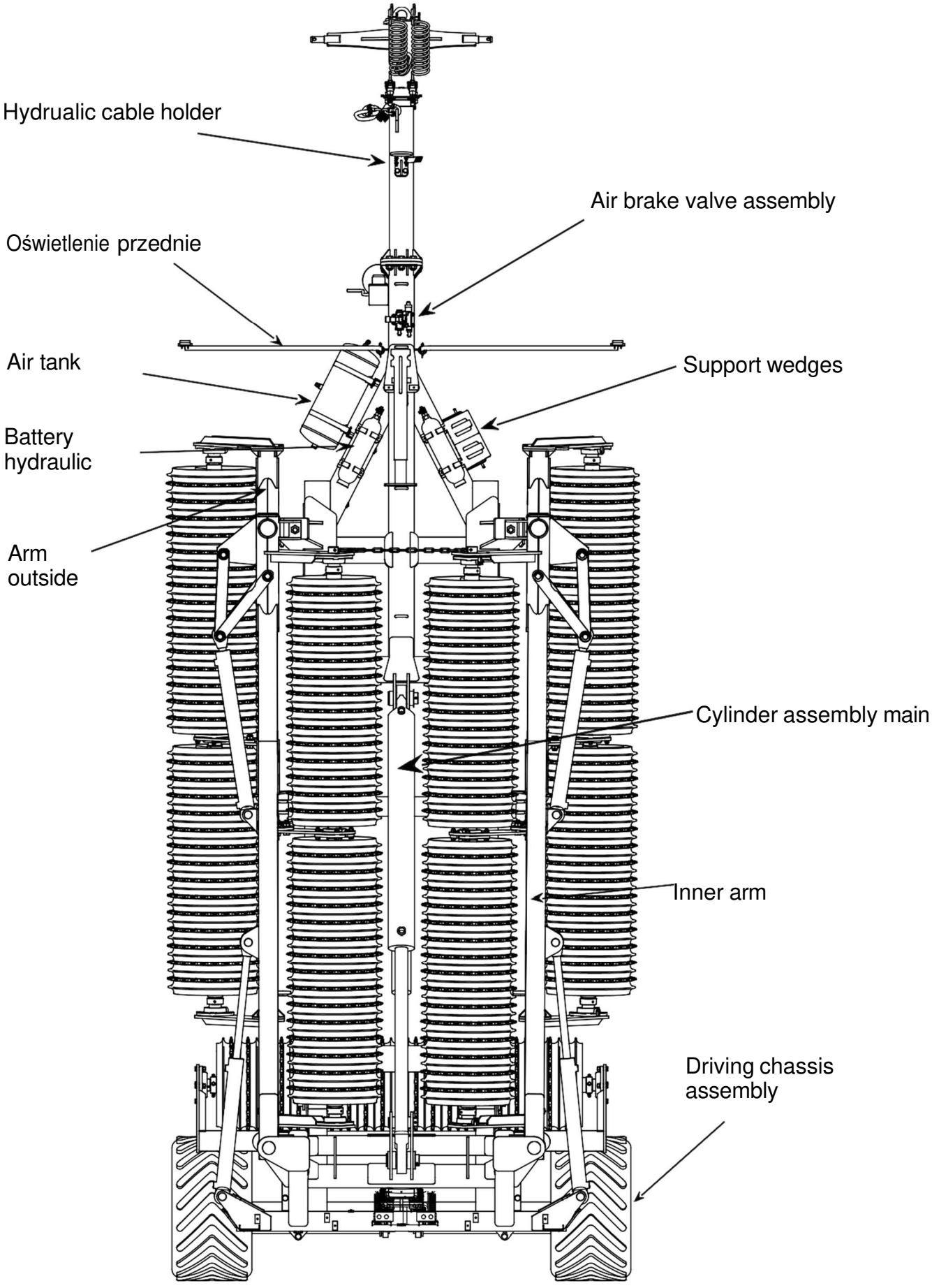
! Rings type **Cambridge** - diameter 500 mm;

! Rings type **Zig-Zag**;

Each type of rings has slightly different effects on the soil:
Cambridge type rings act on the soil mainly on the surface, they level and compact the top layer of soil well,
Zig-Zag rings work more deeply into the soil and break up clods well.
The shaft drawbar is a welded structure made of flat bars and closed sections. The purpose of the drawbar is to enable the shaft to be connected to the tractor.
The drawbar has special saddles on which the working sections are supported during transport and eyes for mounting the central cylinders.

5.1 Roller Construction




Hydrualic cable holder
Air brake valve assembly
Oświetlenie przednie
Air tank
Support wedges
Battery
hydraulic
Arm
outside
Cylinder assembly main
Inner arm
Driving chassis
assembly

6. Working with the roller

6.1 Roller connection with the tractor

Pack Roller HD XL cultivation rollers are designed to work with tractors of class 3.0 or higher and require a tractor with a power of min. 160 HP.
After being aggregated on the lower hitch or drawbar, the shaft is securely attached to the tractor and does not affect its stability. Aggregation is simple and can be done by one person.

ATTNETION

! **Coupling the tractor with the roller must be done carefully, at minimum tractor speed,**

! **When unfolding the roller, make sure that there is enough space nearby and that there are no bystanders,**

! **It is forbidden to enter the area between the machine and the tractor with the tractor engine running,**

! **The support foot at the drawbar should be properly set in relation to the tractor's lower hitch, and after being aggregated, placed horizontally on the drawbar.**

6.2 Preparing machine to the work

Start work by unfolding the shaft to the working position.
To do this you need to:

! Unfasten the chain connecting the side sections,
! Carefully direct the oil to the center cylinders on the drawbar, which will cause the side sections to lift slightly above the transport saddles on the drawbar,
! Direct the oil very carefully and slowly into the side cylinders, which will cause the side shafts to fully unfold,
! Direct the oil again to the central cylinders located on the drawbar, slowly fold them, which will cause the side sections of the shaft to lie on the ground,
! Release the actuators, i.e. set the tractor's hydraulic lever to the free oil flow position

The roller can be operated at a speed of up to 7 km/h

A properly attached and adjusted roller should move evenly behind the tractor during work and compact the soil equally over the entire working width. The central frame of the roller should be horizontal to the field surface.

ATTENTION

It is unacceptable to operate the roller in stony or too humid soil as this may damage the working elements of the roller. This causes the rings to stick together, which may lead to destruction of the machine.

6.3 Hydraulic system

The hydraulic installation of the Pack Roller HD XL roller consists of two double-acting main cylinders with the symbol CJ2F- 140/80/1250 and CJ2F- 100/56/800 and two double-acting hydraulic cylinders with the symbol CJ2F - 80/45/630z and two double-acting hydraulic cylinders with the symbol CJ2F 80/45/800z – connected with hydraulic lines.

Hydraulic accumulators with pressure gauges are connected to the hydraulic installation of the inner side arms and outer side arms.
Uniform pressure of all working sections of the shaft is achieved by hydraulic pressure of the internal and external working sections (**PRESS - CONTROL system**).
The actuator on the drawbar should be in the so-called position. floating.
Recommended readings of side section pressure gauges are:

pressure gauge of internal working sections (closer to the center of the machine) - 50-60 bar
pressure gauge of external working sections (extreme) - 100 - 120 bar

The recommended indications may change depending on the type of soil, humidity, terrain and the machine user should adapt them to the situation in the field - to such an extent that the soil compaction caused by each section of the roller is the same.

Regardless of the condition of hydraulic hoses, they should be replaced every 5 years with the same marked ones. Damaged cables should be replaced with new ones and not repaired.

All shafts are standardly equipped with a pneumatic working brake and optionally with a mechanical parking brake.

6.4 Road transport

Each time the machine is expected to be transported on public roads, the machine must be prepared. To do this, we do the following:

- Using the hydraulic system, we fold the machine arms to the transport position,
- Move the transport foot to the transport position and secure it with a cotter pin;
- Disconnect the hydraulic lines from the tractor and place them in appropriate sockets;
- We check whether the side sections rest securely in the saddles on the drawbar;
- We check whether the side sections are connected with a safety chain;
- We connect the machine to the electrical and pneumatic installation;
- We mount boards distinguishing slow-moving vehicles and portable light and warning devices in holders located on the unit. A device must be used containing two warning boards with white position lights and white reflectors facing forward and two warning boards with combination lights and red reflectors facing rear.

Transport speed cannot exceed 20 km/h.

Driving on public roads without warning signs and lighting required by road traffic regulations may result in an accident.

Lighting and warning devices are not included in the equipment of the generators. The user can purchase them at agricultural machinery sales points.

It is prohibited to transport people or objects that do not constitute its permanent equipment on the embankment.

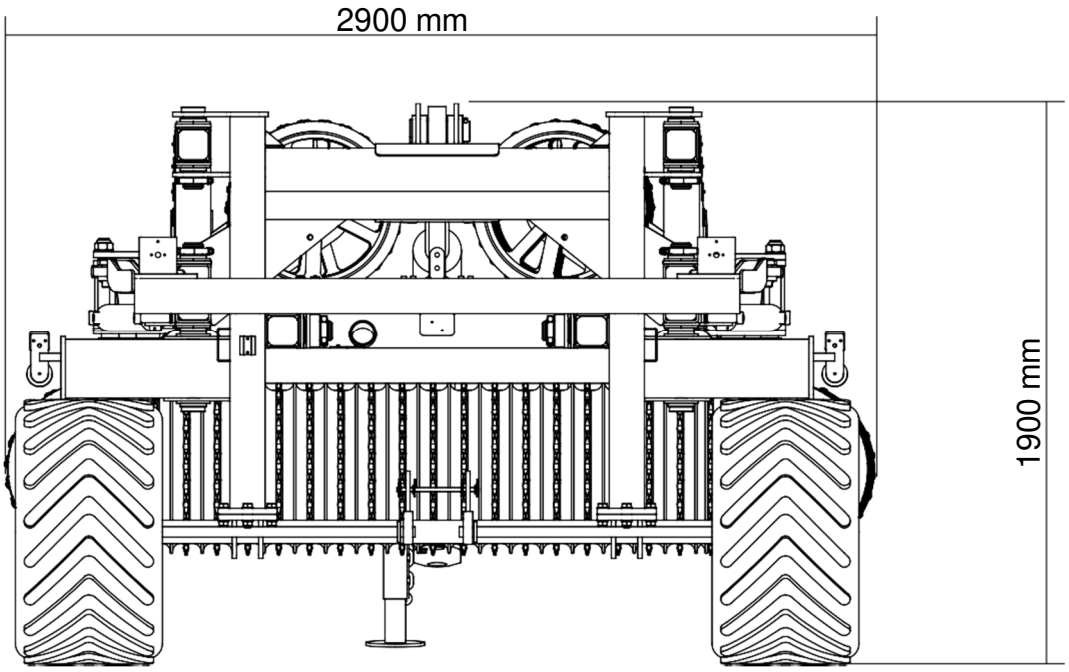
The shaft's working units may pose a threat to bystanders and other road users, therefore special attention should be paid while driving.

8.Technical characteristics

No.	Parameters	Unit	Working width (m)
			15,3
1	Machine type		attached passive
2	Dimensions: working position Length Width Height	 mm mm mm	 7850 15680 1520
3	Dimensions: transport position Length Width Height	 mm mm mm	 7950 2900 1900
4	Power demand	HP	160-220
5	Roller weight Cambridge 500 Cambridge 530 Cambridge 600 Zig - Zag	 kg kg kg kg	 8100 9050 9950 9930
6	Number of wheels transport	 pcs	 2
7	Wheelbase	mm	2370
8	Roller operation	person	1
9	Tires	-	520/50-17 SG Flotation
10	Transport speed	km/h	max. 20
11	Braking system Service brake(standard) Parking brake(extra)		 pneumatic mechanical

Fig. 7. Technical characteristics

7.Main dimensions of the machine



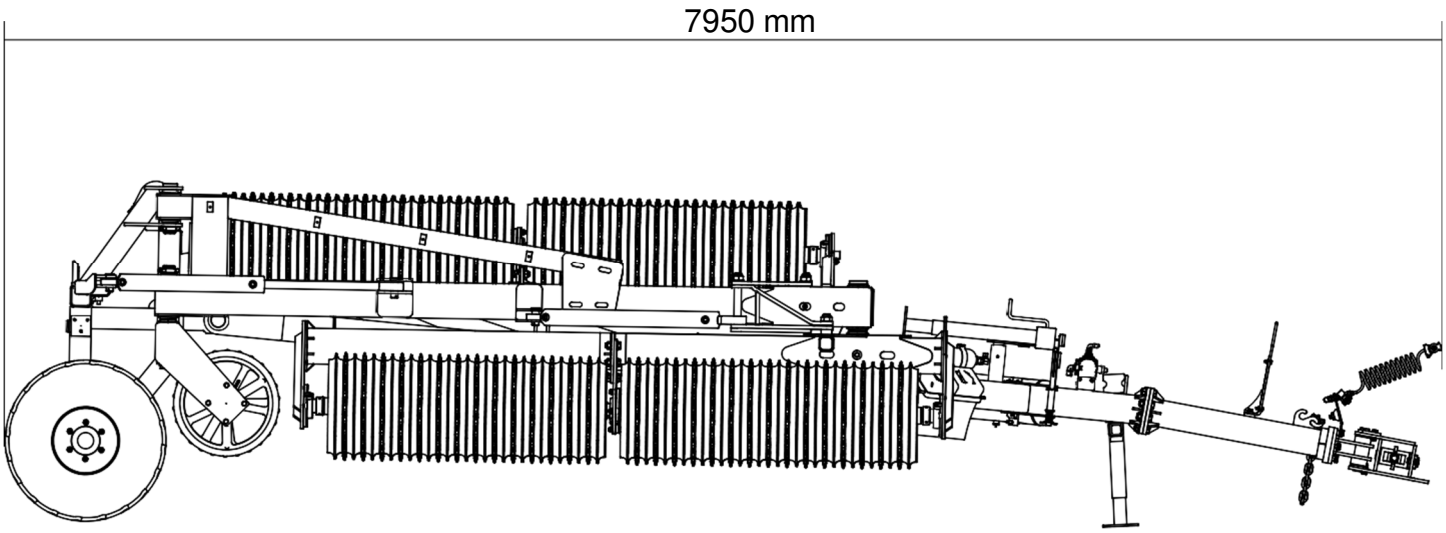


Fig.6. MAXIMUS roller - main dimensions

9. Lubrication points

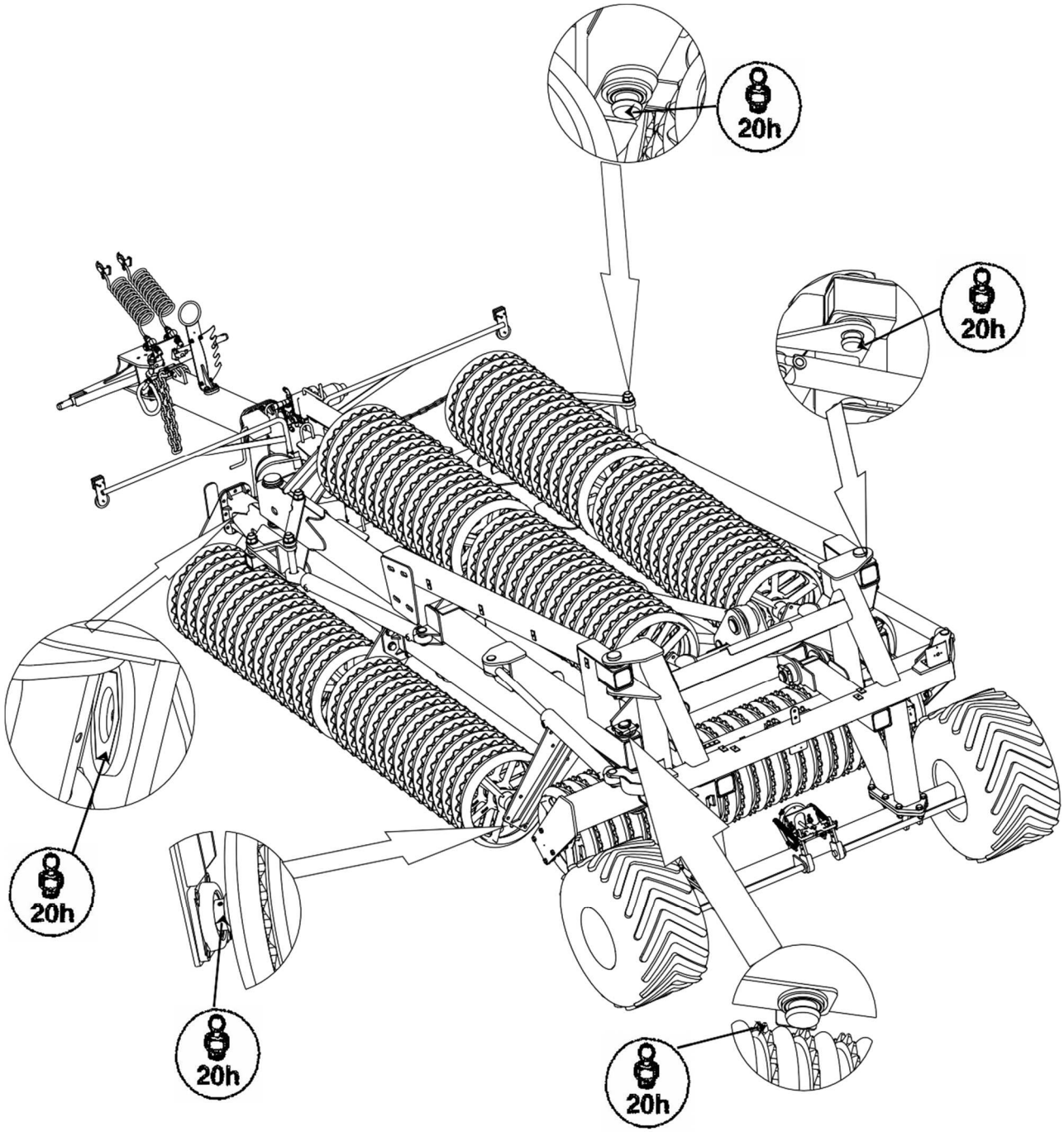


Fig.8. MAXIMUS roller lubrication points

10. Removing malfunctions

Symptoms	Reason	How to remove it
Cylinder does not work	Wrong connection Insufficient oil Installation leakage Blocked hole in the flange	Improve the connection Add oil Repair the leak Check the patency of the orifice
The rings don't spin	Damaged bearing	Replace bearing Unlock the rings
Uneven pressure on sections	Hydraulic lever in wrong position	Move the lever to the "floating" position
The sections unfold too slowly	Contaminated oil in the system	Check the cleanliness of the oil

Fig.9. Removing malfunctions

11. Maintenance and storage

The service life and operational reliability of the shaft strictly depend on properly performed operation and maintenance.

After the first 10 hours of operation, tighten all screw connections. Each time after work, the roller should be carefully inspected and cleaned of any remaining soil or dust.

Before a longer stop, for example in the winter, the working elements of the machine in direct contact with the soil should be preserved by lubricating their surfaces with oil. Losses in paint coatings should be filled.

Hydraulic lines should be cleaned, the plugs should be protected against dirt or moisture, and they should be placed in the appropriate sockets on the machine.

When performing maintenance and repair work, wear appropriate protective clothing and gloves.

Maintenance operations should be performed after ensuring an appropriate free zone around the machine.

The roller should be stored on an even, hardened, horizontal surface in a dry, airy place, protected from weather conditions, in a way that does not pose a threat to people or animals.

During storage, the roller must rest on the ground in an unfolded state.

12. Disassembly and disposal

The disassembly of the machine should be carried out by persons familiar with its structure and appropriate qualifications, equipped with appropriate personal protective equipment and working clothes. These activities should be performed using appropriate tools, after placing the machine in the rest position, on an even and hard surface.

Due to the forces that may exceed 200 N, when dismantling individual components such as the frame, wings, etc., lifting devices should be used, using structural nodes as hooks.

Lifting equipment used during disassembly may only be operated by a properly qualified person.

The machine should be decommissioned after its complete disassembly. Used lubricants and oil from the hydraulic cylinder should be sent through collecting gas station networks or directly to the refinery.
The dismantled shaft should be taken to a scrap collection point or as secondary material.

13. General rules of warranty proceedings

1. The warranty covers defects and damage resulting from the manufacturer's fault, material defect, poor processing or installation.
The user receives a guarantee of failure-free operation of the unit for a period of time **12 months from the date of purchase.**
When granting a warranty, the manufacturer undertakes to:

- free repair of the complained equipment,
- providing the user with new, properly made parts free of charge,
- covering costs including labor costs and reimbursement of transport costs incurred;

2. The warranty does not cover parts that are worn out as a result of normal use or as a result of use inconsistent with the recommendations of this manual;

3. Warranty service is provided by the manufacturer;

4. In the event of minor damage, the user receives free / return old / new parts needed for repair, after the manufacturer accepts the complaint.

5. The User is obliged to submit a complaint immediately, but no later than within 14 days from the date of the complaint;

6. The warranty is extended by the period during which the equipment was repaired;

7. The manufacturer has the right not to accept a complaint if:

- the machine does not have a factory nameplate,
- during the warranty period, any technical changes or repairs were made to the equipment without the manufacturer's knowledge,
- the equipment was stored or used contrary to its intended use and instructions in the manual,
- the buyer is unable to present the original equipment manual with the date of purchase and appropriate entries identifying the machine;

8. The basis for settling a complaint is a complaint coupon with the date of purchase of the equipment confirmed on it;

9. A warranty card without the name of the machine, type, model, attached proof of purchase, date and place of sale, and a legible signature of the buyer is invalid.

WARRANTY CARD

Order number ..... serial number ..... Year of production.....

Date of sale (in words).....

The warranty is valid for 12 months from the date of sale.

Warranty service on behalf of the manufacturer is provided by:

.....
(completed by the seller)

.....
(seller's signature and stamp)

.....
(date of issue of the warranty card)

WITH THE TERMS AND CONDITIONS OF THIS WARRANTY
I HAVE READ AND ACCEPT THEM

.....
(legible signature of the buyer)

When making a complaint, you must present the warranty card.

ATTENTION !!!

The seller receives a warranty from the equipment manufacturer for a period of **12 months** from the date of delivery of the equipment.
After this period, the seller provides a warranty to the buyer at his own expense.

Photo no. 1. Tarpaulin cover for the external elements of the machine - right side of the shaft.

Photo no. 2. Tarpaulin cover for the external elements of the machine - left side of the shaft.

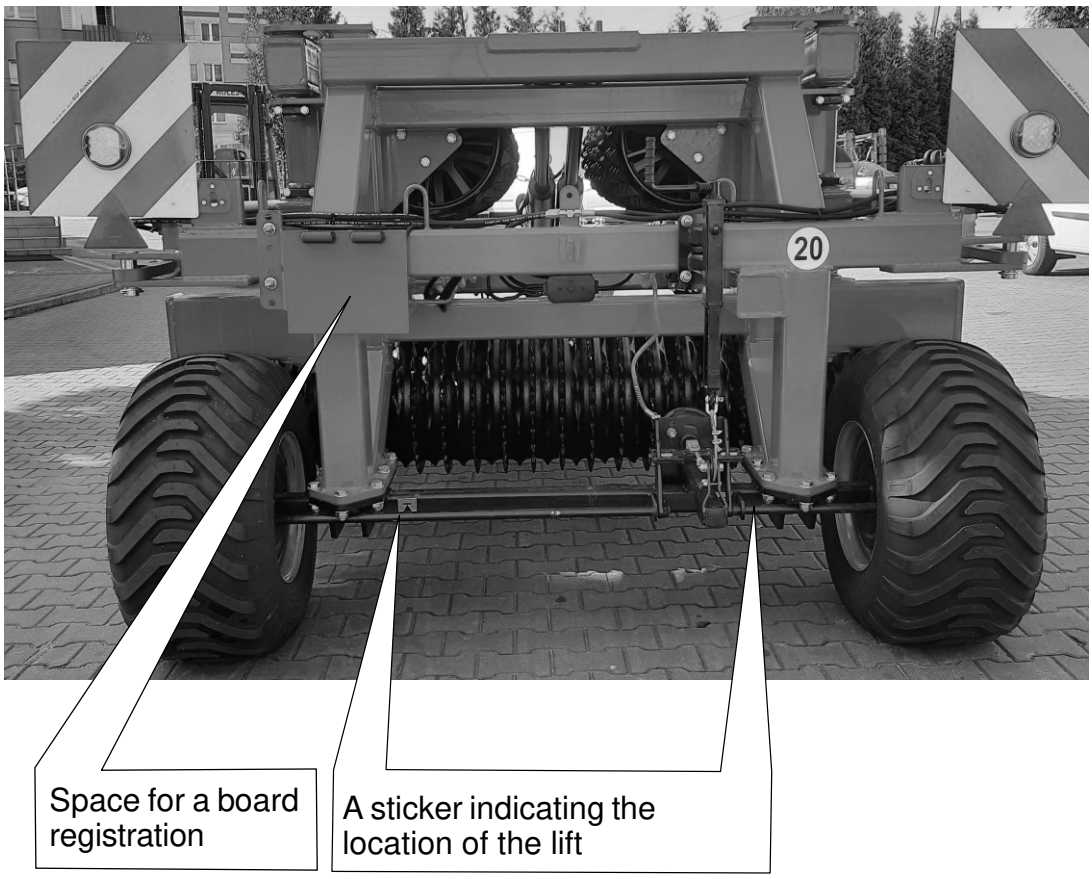


Photo no. 3. Places of placing the jack when replacing the road wheel