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USER MANUAL

EQUIPMENT FOR FRONT LOADERS

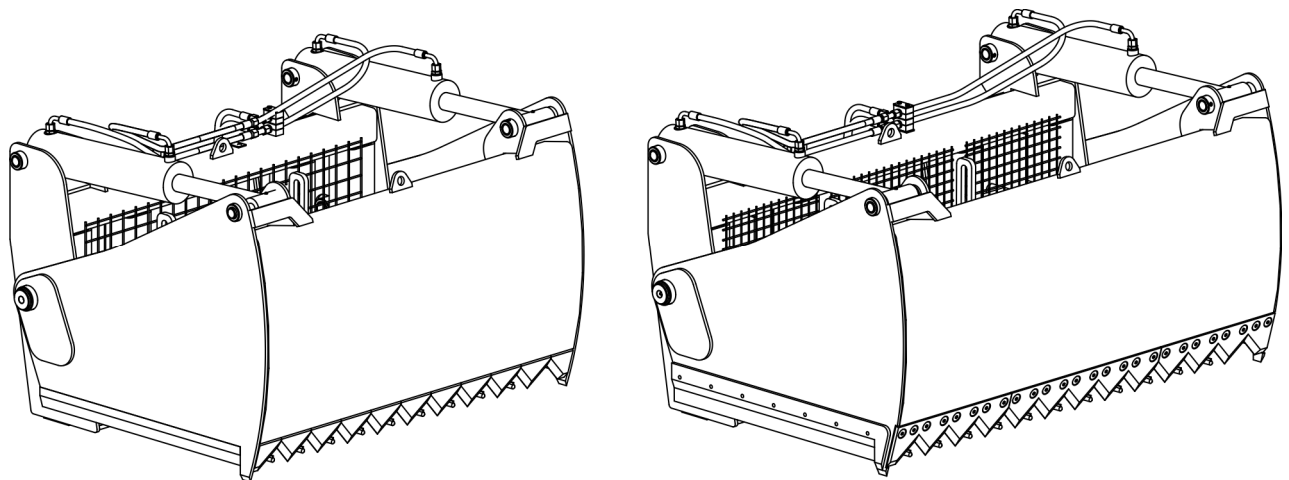
FASTENERS TYPE:LC-1650; EURO; SMS

SILAGE CUTTER

PRONAR WK1,25 (E /W /EW /SMS /SMSW)

PRONAR WK1,5 (E /W /EW /SMS /SMSW)

TRANSLATION OF THE ORIGINAL COPY OF THE MANUAL



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PUBLICATION NUMBER 152N-00000000-UM



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FASTENERS TYPE: ŁC-1650; EURO; SMS

SILAGE CUTTER
PRONAR WK1,25 (E /W /EW /SMS /SMSW)
PRONAR WK1,5 (E /W /EW /SMS /SMSW)

MACHINE IDENTIFICATION

TYPE:

SERIAL NUMBER:

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INTRODUCTION

The information contained in the publication is current as at the date of publication. As a result of improvement, some sizes and illustrations contained in this publication may not correspond to the actual state of the machine delivered to the user. The manufacturer reserves the right to introduce constructional changes in the manufactured machines to facilitate operation and improve the quality of their work, without making any current changes to this publication.

The operating instruction is the basic equipment of the machine. Before using the machine, the user must read the contents of this manual and observe all recommendations contained therein. This will guarantee safe and trouble-free operation of the machine. The machine was constructed in accordance with applicable standards, documents and current legal regulations. The operating instruction describes the basic principles of safe use and operation of the accessories. If the information contained in the operating instructions does not turn out to be comprehensible, please contact the sales office where the machine was purchased or to the Manufacturer.

MANUFACTURER'S ADDRESS

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SYMBOLS USED IN THE MANUAL

Information, descriptions of hazards and precautions as well as instructions and orders related to safe use in the manual are marked with:



and preceded by the word „**DANGER**”. Failure to comply with these recommendations may endanger the health or life of persons operating the machine or unauthorized bystanders.

Particularly important information and recommendations, the observance of which is absolutely necessary, are highlighted in the text with a sign:



and preceded by the word „**CAUTION**”. Failure to comply with these recommendations creates the risk of damage to the machine due to improper handling, adjustment or use.

In order to draw the user's attention to the necessity to perform periodic maintenance, the content of the manual is marked with the following sign:



Additional instructions contained in the manual describe useful information on operating the machine and are marked with a sign:



and preceded by the word „**ADVICE**”.

DESIGNATION OF DIRECTIONS IN THE MANUAL

Left side – the left hand side of the observer facing the machine in the forward direction.

Right side – the right hand side of the observer facing the machine in the forward direction.



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EC DECLARATION OF CONFORMITY OF THE MACHINERY

PRONAR Sp. z o.o. declares with full responsibility, that the machine:

Description and identification of the machinery						
Generic denomination and function:	Silage block cutter					
Type:	WK1.5	WK1.5W	WK1.5E	WK1.5EW	WK1.5SMS	WK1.5SMSW
Model:	–	–	–	–	–	–
Serial number:						
Commercial name:	Silage block cutter PRONAR WK1.5 Silage block cutter PRONAR WK1.5W Silage block cutter PRONAR WK1.5E Silage block cutter PRONAR WK1.5EW Silage block cutter PRONAR WK1.5SMS Silage block cutter PRONAR WK1.5SMSW					

to which this declaration relates, fulfills all the relevant provisions of the Directive **2006/42/EC** of The European Parliament and of The Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (Official Journal of the EU, L 157/24 of 09.06.2006).

The person authorized to compile the technical file is the Head of Research and Development Department at PRONAR Sp. z o.o., 17-210 Narew, ul. Mickiewicza 101A, Poland.

This declaration relates exclusively to the machinery in the state in which it was placed on the market, and excludes components which are added and/or operations carried out subsequently by the final user.

Narew, the 10 MAJ 2012

Place and date

Z-CIA DYREKTORA
d/s technicznych
członek zarządu

Roman Omelianiuk

Full name of the empowered person
position, signature



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CHAPTER

1

GENERAL

1.1 IDENTIFICATION

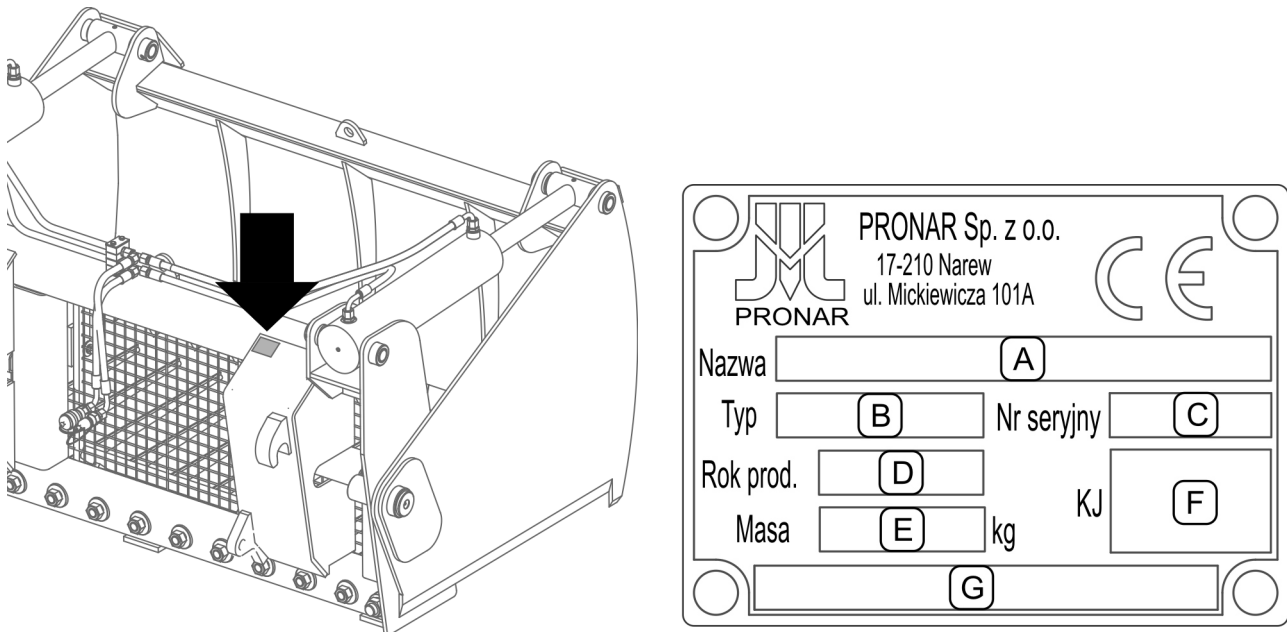


FIG 1.1 Location of the nameplate

Meaning of the individual nameplate fields (FIG 1.1)

- A - machine name
- B - type
- C - serial number
- D - year of machine production
- E - the machine's karb weight [kg]
- F - Quality Control mark
- G - blank field or the continuation of the name (field A)

The serial number is stamped on the nameplate. The nameplate is located on the right side of the frame (FIG 1.1). When purchasing the machine, check that the serial numbers on the machine match the number entered in the *WARRANTY CARD*, in the sales documents and in the *USER MANUAL*.

1.2 INTENDED USE

The accessories described in this manual are intended for LC-1650 front loaders, loaders equipped with EURO and EURO fastening systems.

The silage cutter is used for cutting silage and haylage from silo piles, loading onto means of transport and transport to the place of feeding or fodder preparation. The equipment can be used to transport material over short distances only.

The above-mentioned equipment may only be used for work in agriculture, forestry and municipal management. Use for other purposes is not in accordance with the intended purpose.

Intended use also includes all activities related to the correct and safe operation and maintenance of the machine. Therefore, the user is obliged to:

- get acquainted with the contents of the *USER MANUAL* and comply with its recommendations,
- understand the principle of machine operation and the safe and proper operation,
- work in compliance with general safety regulations,
- accident prevention,
- comply with traffic regulations.

The machine may only be used by persons who:

- are familiar with the content of this publication and with the content of the carrier's manual,
- have been trained in operation and work safety,
- have the required authorization to drive the machine and are familiar with the traffic rules.

CAUTION



The machine may not be used for purposes other than those for which it is intended in particular:

- transport people and animals,
- use the equipment to transport material over longer distances and reload other materials than provided for in the manual.

TAB 1.1 Front loader requirements

	UNIT	REQUIREMENTS
Tool mounting system <i>(depending on the cutter model)</i>	– – –	EURO ŁC-1650 SMS
Hydraulic system for equipment controlling	–	YES
Hydraulic connections <i>(depending on the cutter model)</i>	–	1 socket + 1 plug 2 sockets
Nominal pressure in the loader hydraulic system	MPa	18.5
Type of oil	–	hydraulic, HL32

1.3 EQUIPMENT

The equipment of the machine includes:

- User manual;
- Warranty Card;

1.4 TERMS OF WARRANTY

PRONAR Sp. z o.o. in Narew guarantees smooth operation of the machine when it is used in accordance with the technical and operational conditions described in the *USER MANUAL*. Defects revealed during the warranty period will be removed by the Warranty Service. Deadline for completion of repairs is specified in the *WARRANTY CARD*.

The warranty does not apply to parts and sub-assemblies of the machine, which are subject to wear in normal operating conditions, regardless of the warranty period.

The warranty services only apply to such cases as: mechanical damage not caused by the fault of the user, factory defects of parts, etc.

In the event that damage occurs as a result of:

- mechanical damage caused by the user's fault, road accident,
- from improper operation, adjustment and maintenance, use of the machine contrary to its purpose,
- use of damaged or inefficient machine,
- repairs carried out by unauthorized persons, improper repairs,
- execution of user changes in machine design,

the user loses the warranty.



ADVICE

You should require the seller to carefully fill out the *WARRANTY CARD* and complaint coupons. The lack of e.g. date of sale or point of sale stamp exposes the user to not accept any complaints.


The user is obliged to immediately report all noticed defects in the paint coatings or traces of corrosion, and order removal of defects regardless of whether the damage is covered by the warranty or not. Detailed warranty conditions are given in the *WARRANTY CARD* attached to the newly purchased machine.


Modifications to the machine without the written consent of the Manufacturer are prohibited. In particular, it is unacceptable to weld, bore, cut or heat the main structural elements, which directly affect the safety of work with the machine.

1.5 TRANSPORT

The equipment is ready for sale completely assembled and does not require packing. Packing is required only for the machine's technical and operational documentation. Delivery to the user can be carried out by road transport or independent transport.

When transporting by vehicle, the equipment should be securely fastened to the loading platform using certified belts or chains equipped with a tensioning mechanism.

	DANGER
It is forbidden to transport the equipment suspended on the front loader on public roads.	

	DANGER
When transporting by car, secure the machine to the transport means platform in accordance with the safety requirements during transport. The car driver should exercise extreme caution when transporting the machine. This is due to the vehicle's centre of gravity shifting upwards with the machine loaded.	

When loading and unloading, comply with the general principles of workplace health and safety for reloading work. Persons operating reloading have required permissions to use these devices.

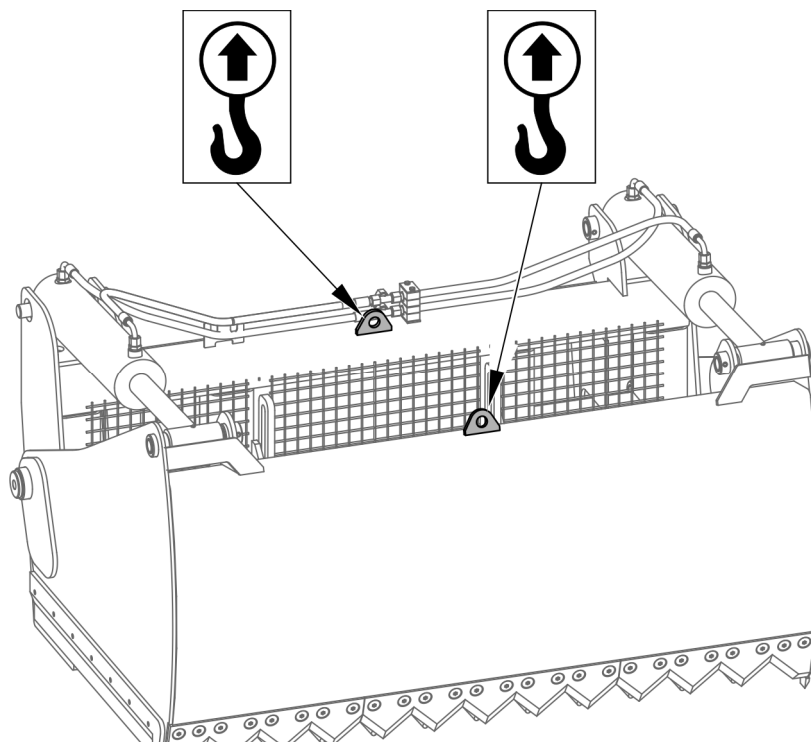


FIG 1.2 Transport handles

The machine should be attached to lifting devices in places specially designed for this purpose (FIG 1.2), i.e. by the lugs in the upper part of the cutter. Suspension points are marked with information stickers. When lifting the machine, be especially careful due to the possibility of tipping over the machine and the risk of injuries from protruding parts. In order to keep the lifted machine in the right direction, it is recommended to use additional lashings. During reloading work, take special care to avoid any damage of the paint coating.

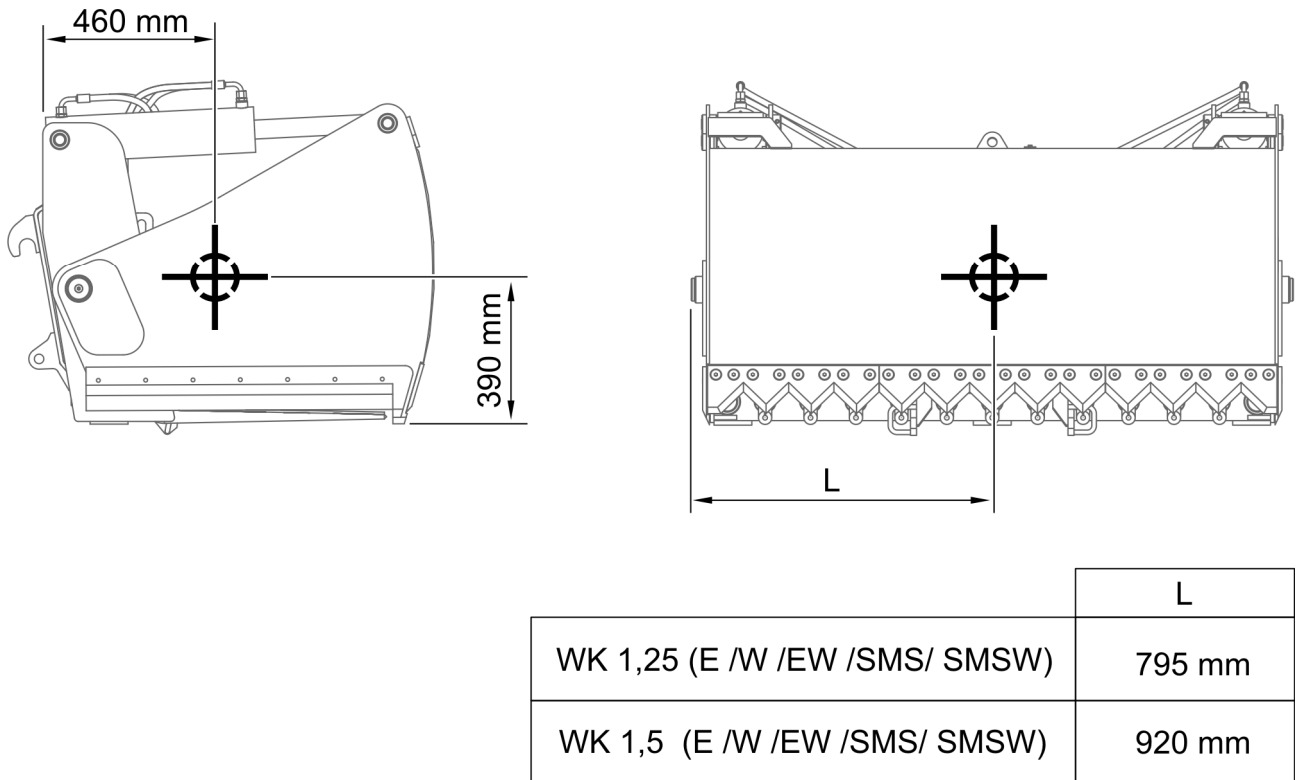


FIG 1.3 Location of the centre of gravity



CAUTION

The location of the centre of gravity depending on the implement model may deviate within ± 25 mm from the values given above.



CAUTION

It is forbidden to attach slings and any kind of load securing elements to the hydraulic cylinders and hoses.



DANGER

When loading and transporting, the bucket should be closed.

1.6 THREAT TO THE ENVIRONMENT

A hydraulic oil leak is a direct threat to the natural environment because of its limited biodegradability. Repair works with a risk of leakage of oil, should be carried out in rooms with an oil resistant surface. In the event of oil leaking into the environment, first of all contain the source of the leak, and then collect the leaked oil using available means. Collect oil residue with sorbents or mix the oil with sand, sawdust or other absorbent materials. Collected oil contaminants should be stored in an airtight and marked container, resistant to hydrocarbons, and then transferred to an oil waste disposal point. The container should be kept away from heat sources, flammable materials and food.

Oil which has been used up or is unsuitable for further use due to the loss of its properties is recommended to be stored in its original packaging in the same conditions as described previously.

1.7 WITHDRAWAL FROM USE

If the user decides to withdraw the machine from use, comply with the provisions in force in the given country regarding withdrawal from use and recycling of machines withdrawn from use.

Before dismantling the machine, the oil must be completely removed from the hydraulic system. Disassembly of hydraulic system components should be entrusted to appropriately qualified persons.

In the event of parts being replaced, worn or damaged parts should be sent to a recycling centre. Used oil as well as rubber or plastic elements should be taken to plants dealing with the utilization of this type of waste.



CAUTION

During disassembly, use appropriate tools and use personal protective equipment, i.e. protective clothing, footwear, gloves, glasses, etc.

Avoid oil contact with skin. Do not allow used oil to spill.

CHAPTER

2

SAFETY OF USE

2.1 GENERAL TERMS OF SAFETY

2.1.1 THE MACHINE USE

- Before using the user should carefully read the content of this document and the *WARRANTY CARD*. During their operation, all recommendations contained therein must be observed.
- The equipment may only be used and operated by persons qualified to drive the carrier and trained in the use of the equipment.
- If the information contained in the User's Manual is difficult to understand, contact a seller who runs an authorized technical service on behalf of the manufacturer, or contact the manufacturer directly.
- Careless and improper use and operation of the equipment, non-observance of the recommendations contained in these instructions creates a threat to health.
- Be aware of the existence of a residual risk of hazards, therefore the basic principle of using the equipment should be the application of the principles of safe use and reasonable behaviour.
- The equipment must not be used by persons who are not authorized to drive the carrier, including children, people under the influence of alcohol and drugs or other intoxicating substances.
- Non-compliance with the rules of safe use poses a threat to the health of the operating and bystanders.
- It is forbidden to use the equipment inconsistently with their intended use. Everyone who uses the machine in a manner contrary to its intended use, thus takes full responsibility for all consequences arising from its use. Use of the machine for purposes other than envisaged by the Manufacturer is inconsistent with the purpose of the machine and may void the warranty.
- The equipment may only be used when all safety elements, including warning signs, are technically sound and correctly positioned. In the event of damage or loss of safety elements, they must be replaced with new ones.

2.1.2 COUPLING AND UNCOUPLING OF EQUIPMENT

- It is forbidden to couple the implement to the carrying vehicle, if the hydraulic oils used in the implement and the carrying vehicle are of a different type and the equipment mounting system is not compatible with the mounting system in the loader.
- After completing the coupling with the loader, check the securities. Read the loader operating instructions.
- The loader with which the equipment works must be technically efficient and must meet the requirements set by the manufacturer of the equipment.
- Be especially careful when coupling the equipment to the loader.
- When coupling, there must be nobody between the equipment and the loader.
- The grapple must be emptied and closed before uncoupling the equipment from the loader.
- Be especially careful when uncoupling the equipment.
- The equipment disconnected from the loader must be placed on a level, sufficiently hard surface in such a way that it can be coupled again.

2.1.3 THE HYDRAULIC SYSTEM

- The hydraulic system is under high pressure during operation.
- Regularly check the technical condition of connections and hydraulic hoses. Oil leaks are inadmissible.
- In the event of failure of the hydraulic system, the machine must be decommissioned until the failure is remedied.
- When connecting the loader hydraulic hoses, make sure that the hydraulic system of the loader and the implement are not under pressure. If necessary, reduce the residual pressure of the system.
- In the event of injuries being caused by pressurized hydraulic oil, contact a doctor immediately. Hydraulic oil can penetrate the skin and cause infection. If the oil gets into the eyes, rinse with plenty of water and if irritation occurs, contact a doctor. In the event of contact of oil with skin, wash the area of contact with water and soap. Do not use organic solvents (petrol, kerosene).

- Use oil recommended by the manufacturer. Never mix two types of oil.
- Used oil or oil which has lost its properties should be stored in original containers or replacement packaging resistant to hydrocarbons. Replacement containers must be accurately described and properly stored.
- It is forbidden to store hydraulic oil in packaging intended for food storage.
- Rubber hydraulic hoses should be replaced every 4 years regardless of their technical condition.
- Repairs and replacements of hydraulic system elements should be entrusted to appropriately qualified persons.

2.1.4 TRANSPORT PASSAGE

- The maximum transport speed of 15 km/h (i.e. unladen speed) should not be exceeded. Adjust speed driving to road conditions.
- It is forbidden to transport people and animals in accessories.
- During transport, the loader boom should be blocked against accidental use.
- All journeys and access during reloading should take place with the implement lowered down so that it does not obstruct visibility and at the same time does not rub against the ground.
- It is forbidden to drive on public roads with the equipment suspended on the loader boom.
- Reckless driving and excessive speed can cause an accident.

2.1.5 MAINTENANCE

- During the warranty period, any repairs may only be carried out by a Warranty Service authorized by the manufacturer. It is recommended that any repairs are carried out by specialized workshops.
- In the event of any faults or damage, the equipment should be decommissioned until repaired.
- During work on the equipment, wear appropriate, close-fitting protective clothing, gloves and appropriate tools. In case of works related to the hydraulic system, it is recommended to use oil-resistant gloves and protective glasses.

- Any modification of the machine releases PRONAR from any liability for damage or injury.
- Before starting any work on the machine, turn off the carrier's engine.
- Regularly check the technical condition of safety devices and correct tightening of screw connections.
- Regularly inspect the machine in accordance with the scope specified by the Manufacturer.
- It is forbidden to perform maintenance or repair work under the lifted and unsecured equipment.
- Before starting work on the hydraulic system, reduce the oil pressure.
- Perform maintenance and repair activities applying general principles of health and safety at work. In the event of a cut, the wound should be immediately washed and disinfected. In case of serious injuries consult a physician.
- Repairs, maintenance and cleaning should be performed only with the carrier's engine turned off and the ignition key removed. The vehicle must be secured with the parking brake. Secure the cab against unauthorized access.
- If it is necessary to replace individual parts, use only parts recommended by the manufacturer. Failure to comply with these requirements may endanger the health or life of bystanders or operator, cause damage to the machine and constitute the basis for withdrawing the warranty.
- Check the condition of protective elements, their technical condition and correct fastening.
- It is forbidden to weld, drill, cut or heat the main structural elements that directly affect the work safety.
- In the event of work requiring the equipment to be raised, use appropriate, certified lifts. After lifting the the equipment, stable and durable supports must also be used.
- It is forbidden to support the equipment with fragile elements (bricks, hollow bricks, concrete blocks).
- After completing work associated with lubrication, remove excess grease.

- The equipment should be kept clean in order to reduce the risk of fire.

2.1.6 WORK WITH EQUIPMENT

- Before starting the machine, make sure that there are no bystanders (especially children) or animals in the danger zone. The machine operator is obliged to ensure proper visibility of the machine and the working area.
- Before starting work, familiarize yourself with the surroundings and the workplace.
- Before lifting and lowering the equipment suspended on the loader, make sure that there are no bystanders in the vicinity.
- It is forbidden to occupy any position other than the operator's position in the vehicle cabin while working with the equipment. It is forbidden to leave the operator's cabin while the machine is working.
- It is forbidden to stay in the working area of the equipment.
- The loader and the accessories may not be equipped with a sling or be used for loading, unloading and assembly works with such equipment as it does not guarantee the safety of workers within the working scope.
- When working with lifted equipment, keep a safe distance from electric lines.
- Do not exceed the maximum speed of operation of the equipment, which is 6 km/h.
- Load on or in the equipment should be evenly distributed.
- Do not work with the loader (scraping, grading) with the implement positioned vertically downwards.
- It is forbidden to lift the load to extreme heights on slopes. Pay attention to uneven terrain and its strength.
- It is forbidden to transport or load-unload materials for which the equipment is not intended.
- When driving with a load, avoid sharp turns and brake sharply.
- When driving with a load, the braking distance increases, so be especially careful when driving on slopes or on a slippery surface.

- It is forbidden to leave the equipment lifted and unsecured. The equipment must be lowered when parked.
- Before using the equipment each time, check its technical condition, especially in terms of safety. In particular, check the technical condition of the mounting elements and the hydraulic system.

2.2 DESCRIPTION OF RESIDUAL RISK

Pronar Sp. z o. o. in Narew made every effort to eliminate the risk of an accident. However, there is some residual risk that can lead to an accident and is primarily associated with the following activities:

- using the the equipment contrary to its purpose,
- being between the lift and the equipment when the engine is running and when coupling,
- being on the the equipment during engine work,
- operation of the the equipment with the covers removed or inoperative,
- failure to maintain a safe distance from hazardous areas or occupying a place in these zones during the equipment operation,
- the equipment operation by unauthorized persons or persons under the influence of alcohol,
- cleaning, maintenance and technical inspection with connected and running carrier.

Residual risk can be reduced to a minimum by following these recommendations:

- prudent and leisurely equipment operation,
- sensible application of the remarks and recommendations contained in the operating instructions,
- performing maintenance and repair work in accordance with the principles of operating safety,
- carrying out maintenance and repair work by trained persons,
- using fitted protective clothing,

- securing the equipment carrier against access by unauthorized persons, especially children.
- keeping a safe distance from prohibited and dangerous places,
- a ban on being on the the equipment while is operating.

2.3 INFORMATION AND WARNING STICKERS

All signs should always be legible and clean, visible to the user and to people who may be in the vicinity of the working machine. If any safety mark is missing or damaged, it must be replaced with a new one. All elements with safety signs and replaced with new ones during repair should be equipped with these marks. Safety marks can be purchased from the manufacturer or at the point of sale.

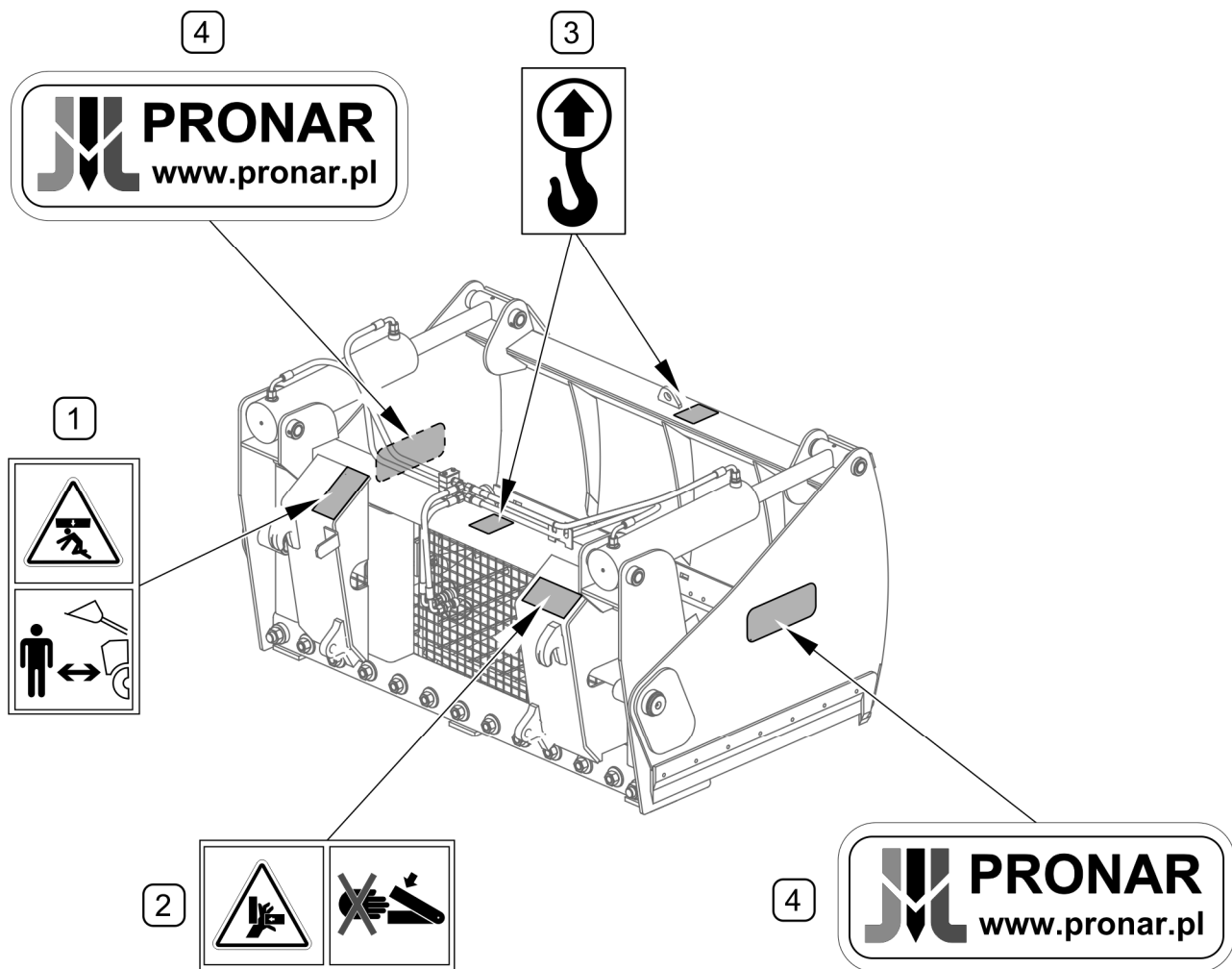

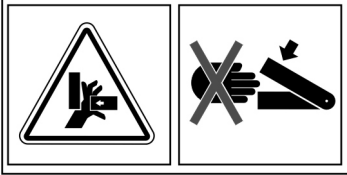
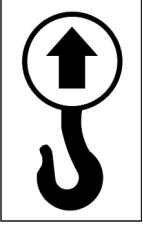



FIG 2.1 Arrangement of information and warning stickers

The description of the meaning of the symbols presents TAB. 2.1

TAB. 2.1 INFORMATION AND WARNING Stickers

ITEM	SYMBOL	DESCRIPTION
1		Keep a safe distance from the raised boom or equipment. Danger of crushing.
2		Do not reach into the crushing area if the elements can move. There is a risk of crushing your fingers or hands
3		Lashing points for lifting devices during loading
4		The manufacturer's name

The numbering of the ITEM column is consistent with the designations of stickers (FIG 2.1)

CHAPTER

3

**CONSTRUCTION AND
PRINCIPLE OF
OPERATION**

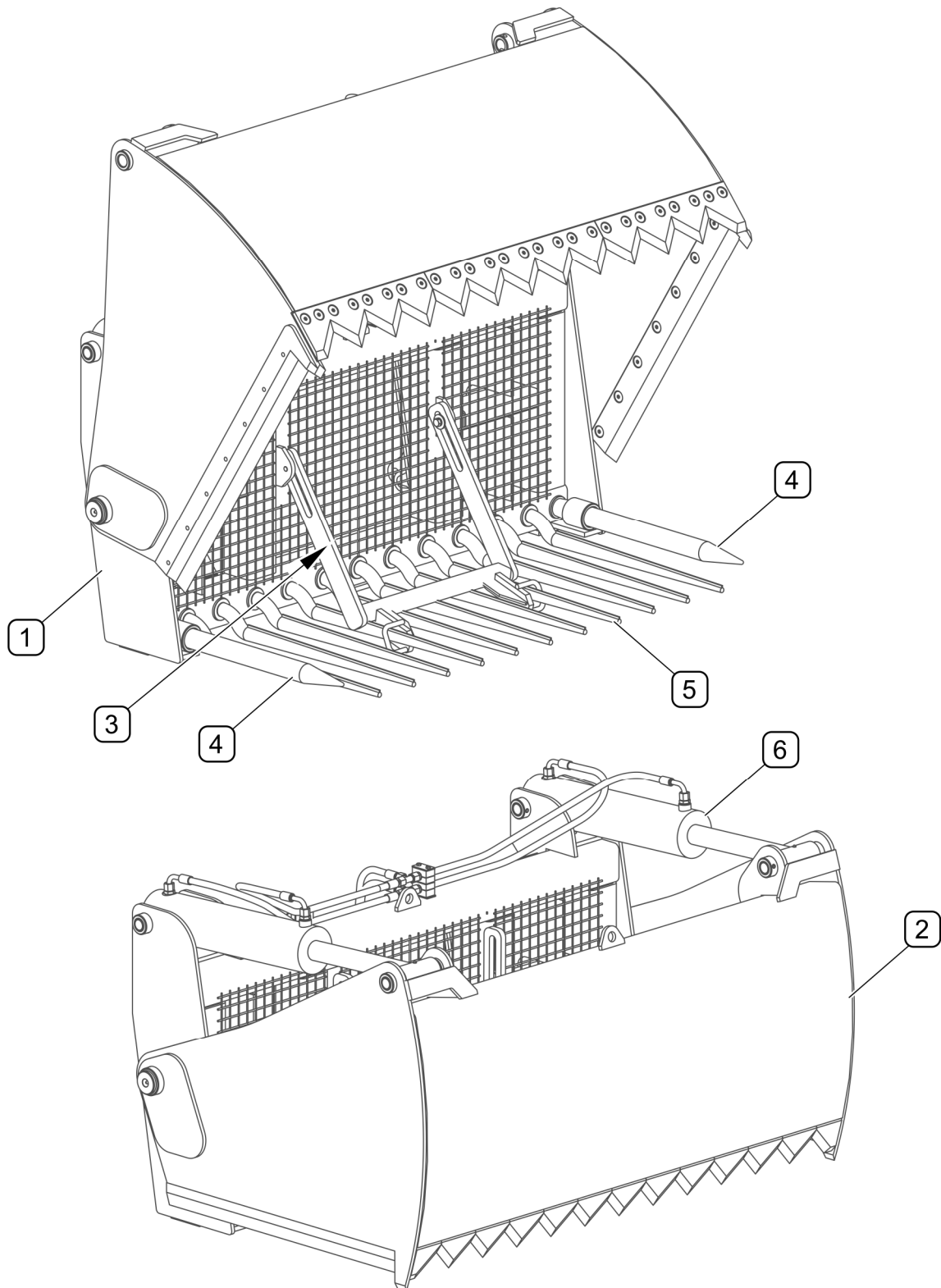
3.1 TECHNICAL CHARACTERISTICS

TABELA 3.1 GENERAL TECHNICAL DATA

Name	Silage cutter					
Model	WK1,25 / WK1,25W	WK1,25E / WK1,25E W	WK1,25SMS / WK1,25SMS W	WK1,5 / WK1,5 W	WK1,5E / WK1,5E W	WK1,5SMS / WK1,5SMS W
The volume of the block to be cut	0.85 m ³			1 m ³		
Width	1,350 mm			1,590 mm		
Cutting width	1,250 mm			1,490 mm		
Height	950 mm					
Height when opened	1,350 mm					
Opening height	860 mm					
Depth	1,140 mm	1,120 mm	1,140 mm		1,120 mm	1,140 mm
Cutting depth	730 mm					
Weight	546 / 530 kg	546 / 530 kg	550 / 534 kg	600 / 580 kg	600 / 580 kg	604 / 584 kg
number of horizontal teeth	9 + 2			11 + 2		
Number of hydraulic cylinders	2					
Controlling	By means of the third divider section					
Nominal pressure in system	18.5 MPa					
The method of attachment	ŁC-1650	EURO	SMS	ŁC-1650	EURO	SMS

The level of emitted noise does not exceed 70 dB (A)

3.2 GENERAL CONSTRUCTION



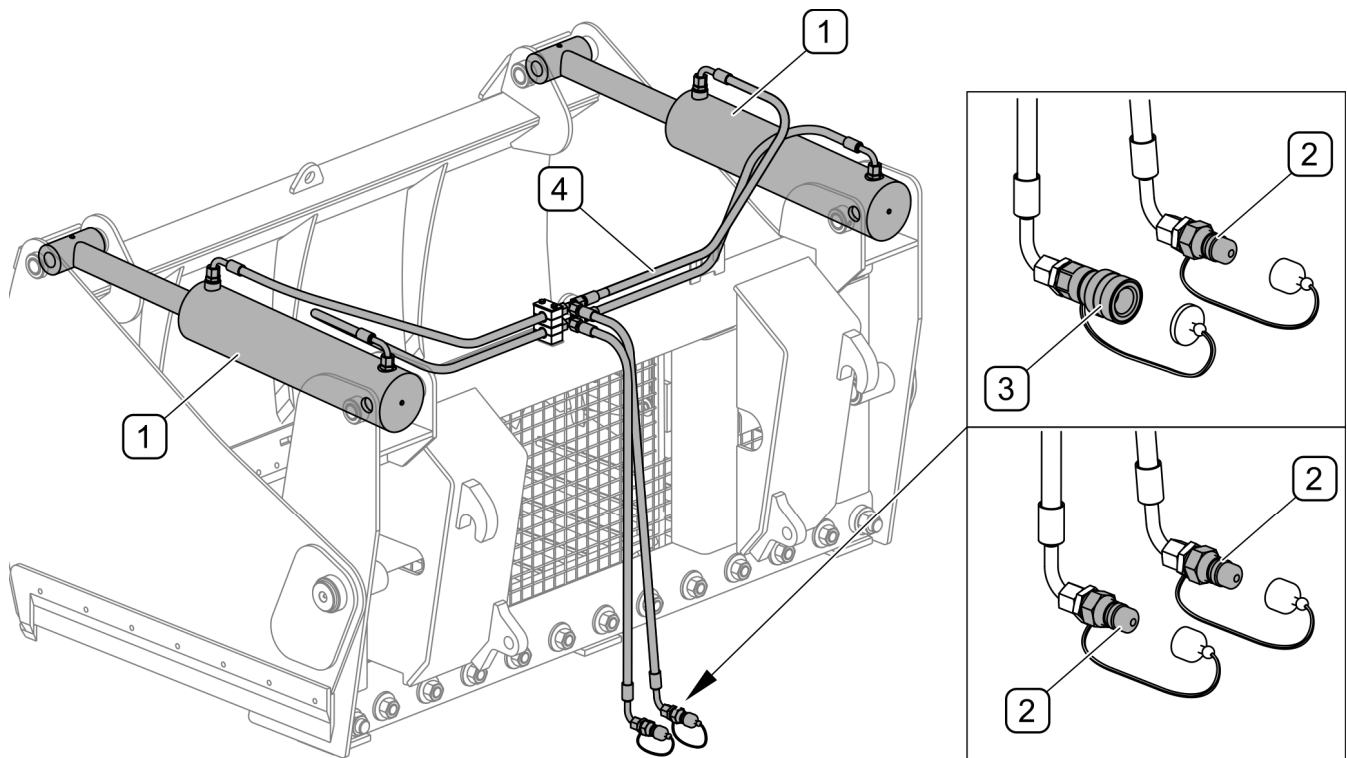
RYSUNEK 3.1 General construction

(1) - frame; (2) - cutter; (3) - scraper; (4) - horizontal round tooth; (5) - offset horizontal tooth;
(6) - hydraulic system

The silage cutter consists of a frame welded from steel elements, equipped with hooks and brackets for mounting on the loader, in which are embedded horizontal round (4) and offset (5) tooth. The number of teeth (5) depends on the cutter model. The cutter (2) is attached to the frame by means of pins, which is opened and closed using a hydraulic system (6). The cutter is equipped with a mechanical scraper (3) to facilitate unloading of the cut silage block.

Depending on the model, the cutter can be equipped with welded knives (WK1.25 / WK1.25E / WK1.25SMS / WK1.5 / WK1.5E / WK1.5SMS) or replaceable (WK1.25W / WK1.25EW / WK1.25SMSW / WK1,5W / WK1,5EW / WK1,5SMSW).

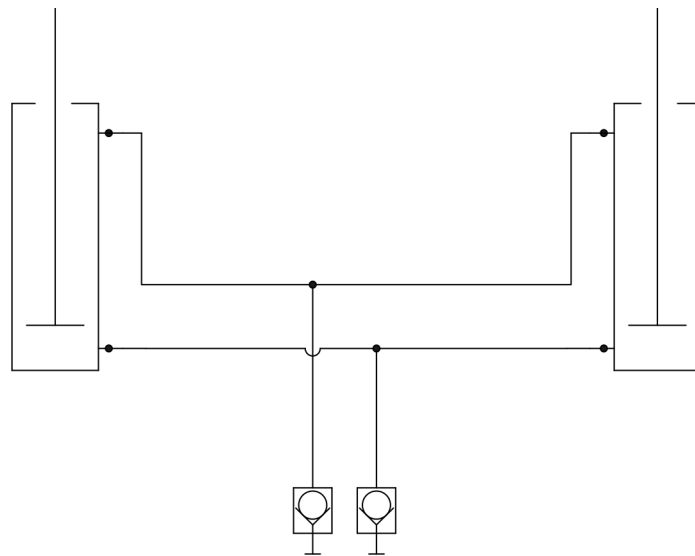
3.3 THE HYDRAULIC SYSTEM



RYSUNEK 3.2 Construction of a hydraulic system

(1) - hydraulic cylinder; (2) - hydraulic plug; (3) - hydraulic socket; (4) - wires

The opening and closing of the cutter is possible thanks to two hydraulic cylinders (1) fed with oil from the loader hydraulic system. Hydraulic hoses terminated with quick couplers are used to connect the cutter's hydraulic system with the loader system. Depending on the cutter model, it can be equipped with two hydraulic plugs (2) or a plug (2) and a socket (3).



RYSUNEK 3.3 Hydraulic system schematic diagram

CHAPTER

4

RULES OF USE

4.1 PREPARATION TO WORK

DANGER



Before using the equipment, the user should carefully read the contents of this manual as well as the manual of the loader with which it works.

Careless and improper use and operation of the equipment, and non-compliance with the recommendations given in this operator's manual is dangerous to the health of the operator and other people.

The the equipment must not be used by persons who are not authorized to drive agricultural tractors (carriers), including children and people under the influence of alcohol or other drugs.

Before starting the carrier with the equipment, make sure that there are no bystanders in the danger zone.

The manufacturer ensures that the equipment are fully operational and have been checked according to inspection procedures and are ready for use. However, this does not release the user from the obligation to check the the equipment after delivery and before first use. The equipment is delivered to the user completely assembled. Before connecting to the carrying vehicle, the operator must check the technical condition of the machine. To do this:

- read the contents of this manual and follow the recommendations contained therein, learn about the structure and understand the operation of the equipment,
- check the compatibility of the equipment mounting system with the loader mounting system with which it is to be aggregated,
- check the compliance of the hydraulic system sockets,
- check the condition of the paint coating,
- carry out a visual inspection of individual machine components in terms of mechanical damage resulting from among others due to improper transport of the machine (dents, punctures, bends or broken details),
- check all lubrication points, if necessary lubricate machine as recommended in chapter 5.
- check the technical condition of the hydraulic system,
- check the technical condition of the elements coupling with the loader,

CAUTION

Non-adherence to the recommendations contained in the manual or improper start-up may cause damage to the machine.

The technical condition of the equipment prior to commissioning must not raise any objections.

If all the activities described above have been performed and the technical condition of the equipment does not raise any objections, it should be connected to the carrier, started and inspected. To do this:

- couple the equipment to the carrying vehicle (4.3 COUPLING WITH THE LOADER),
- connect the hydraulic system hoses, check the correct operation and check the installation and actuators for tightness,

In the event of malfunctions in operation, stop using immediately, locate and remove the fault. If the defect cannot be removed or its removal may void the warranty, contact the seller or the manufacturer directly to clarify the problem.

CAUTION

Before using the equipment each time, check its technical condition. In particular, check the technical condition of the mounting elements and the hydraulic system.

4.2 TECHNICAL INSPECTION

When preparing the machine for use, check individual elements in accordance with the guidelines presented in table 4.1


TAB 4.1 TECHNICAL INSPECTION SCHEDULE


DESCRIPTION	SERVICE ACTIVITIES	REVIEW PERIOD
Technical condition of the equipment	Assess the technical condition, completeness and correctness of coupling	Before starting the work
The technical condition of the hydraulic system	Visually inspect the technical condition	
Tightening condition for screw connections	he tightening torque should be in accordance with the table 5.5	Once a week
Lubrication	Lubricate the components according to the „LUBRICATION” chapter.	According to Table 5.6

 **CAUTION**
It is forbidden to use a damaged equipment.

4.3 CONNECTING TO THE LOADER

The equipment can be combined with a loader that meets the requirements of table 1.1 FRONT LOADER REQUIREMENTS.

 **CAUTION**
Before connecting the implement to the loader, read the operating instructions for both the loader and tractor (carrying vehicle).

 **DANGER**
During coupling, there must be no people between the equipment and the loader. Be especially careful during the coupling the equipment to the loader.

4.3.1 CONNECTING TO THE BOOM

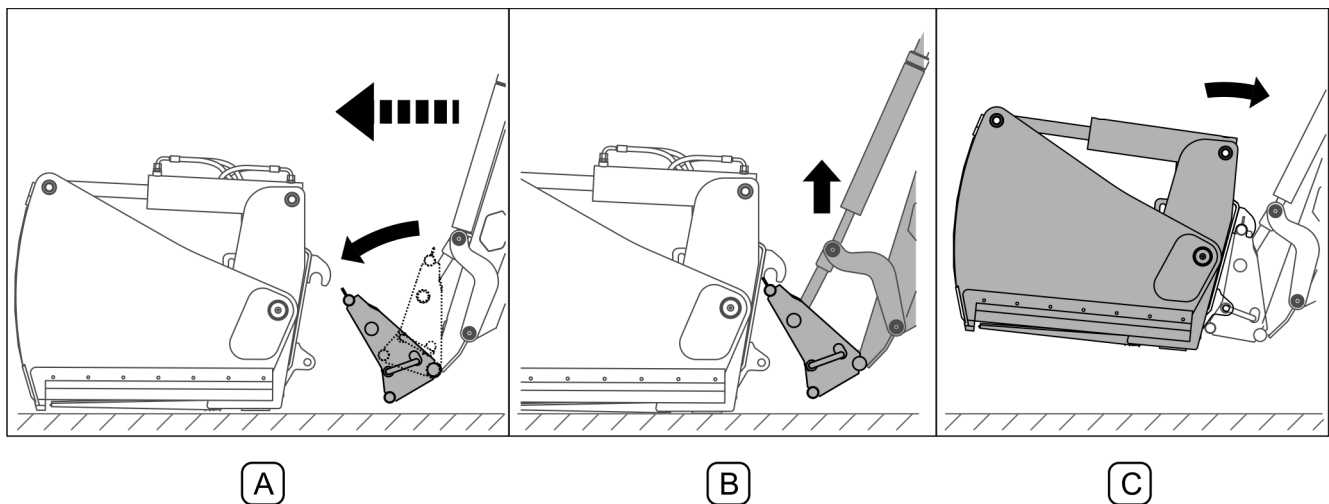


FIG 4.1 Connecting to the front loader

(A), (B), (C) - consecutive stages of coupling

Before hitching the equipment to the loader, check that the equipment attachment system is compatible with that of the loader.

When connecting the equipment with the front loader (FIG 4.1):

- unlock the mechanism fastening the tool in the loader frame (*depending on the type of loader*),
- lower the boom and rotate the frame downwards (A) so that the mounting points on the mounting frame are below the mounting hooks in the equipment,
- drive the loader to the equipment and insert the fixing points to the appropriate places in the loader frame,
- raise the boom (B) so that the upper mounting points are within the hooks of the equipment,
- by controlling the boom, tilt the frame back (C) causing the clamping mechanism to block (*depending on the type of loader*),
- check the correctness of mounting, block the quick-mounting mechanism(*depending on the type of loader*).

The described method of connection is indicative and may differ depending on the model of the loader. The description of how to attach the working tools is provided in the front loader operating manual.

4.3.2 CONNECTION OF THE HYDRAULIC SYSTEM



DANGER

Before connecting the hydraulic system conduits, read the loader manual and follow the manufacturer's recommendations.



DANGER

When connecting the hydraulic conduits, make sure that the hydraulic system of the multifunction arm and equipment is not under pressure.

The so-called the third section for controlling the implements in the loader.

In order to connect the hydraulic system of the bucket to the loader system:

- connect the equipment with the boom (*see 4.3.1 CONNECTING TO THE BOOM*),
- turn off the engine, lower the equipment until it rests on the ground and reduce the residual pressure in the hydraulic system for controlling the equipment by

moving the control lever sideways with the button that activates the third section of the distributor (depending on the type of loader),

- attach the hydraulic couplings of the equipment to the appropriate couplings in the loader boom.

The equipment designed to work with EURO loaders have a hydraulic plug and socket (B, FIG 4.2).

The equipment are adapted to work with the front loader with SMS and PRONAR ŁC-1650 mounts, has two hydraulic plugs (A, FIG 4.2)

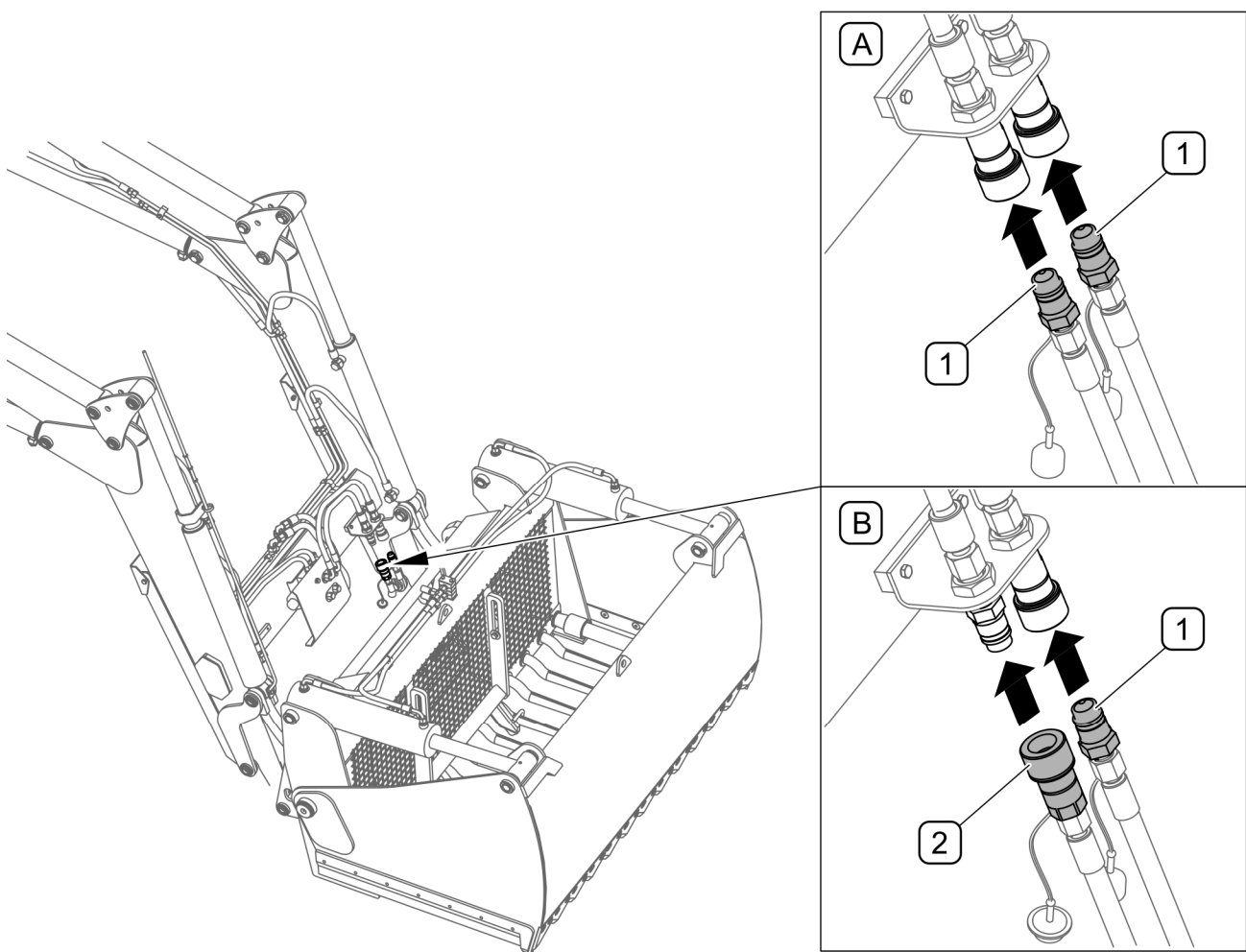


FIG 4.2 Connection of the hydraulic system

(A) - loaders with SMS and ŁC-1650 mounts; (B) - loaders with EURO mounts; (1) - hydraulic plug; (2) - hydraulic socket

**CAUTION**

Connection cables should be routed in such a way that they will not be damaged during operation.

4.4 WORK WITH EQUIPMENT

**DANGER**

It is forbidden to transport people in the loader equipment.
It is forbidden to stay within the range of the working equipment.

The working cycles of the loader with a silage cutter are as follows:

- access to the loading site (e.g. a silo pile), lowering the cutter to the desired height and setting it horizontally (*it is recommended to use the equipment level indicator - if present in the loader*)
- opening the cutter and filling the forks by the pressure on the material by driving the tractor;
- cutting the silage block by closing the cutter, lifting the load and withdrawing the tractor with the loader;
- reaching the place of unloading with a closed cutter, raised to the minimum height;
- lifting the grapple to the required height enabling unloading and placing it above the unloading site;
- unloading of silage by tilting it forward and opening the cutter;
- rotating the cutter to the rear in order to avoid a collision with the loading wall of the means of transport, while withdrawing the loader;
- retract the tractor far enough to lower the cutter and close it;
- drive to the place of loading

**DANGER**

The loader equipment can only be controlled from the operator's cabin.

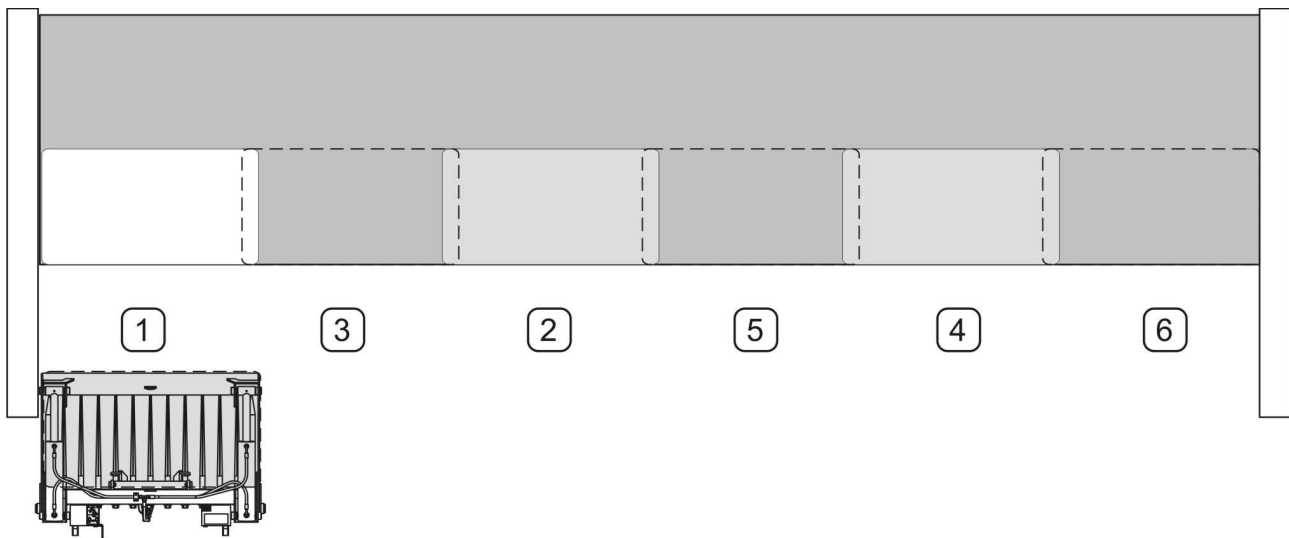


FIG 4.3 Cutting silage blocks from the silo pile

(1) (6) - order of cutting

When working with a loader with a silage cutter, pay attention to the most favourable positioning of the means of transport in relation to the place of loading. The distance should be selected so that maneuvering the loader takes place along the shortest possible path. When scooping material and driving with a loaded punch, a maximum speed of 6 km/h and the lowest possible position of the work tool are permitted. Raising of the cutter to the desired height and finishing the work should be done only at the unloading site.



CAUTION

Do not exceed the maximum working speed - 6 km/h

Avoid ruts, depressions, ditches, or driving along roadside slopes. Driving over such obstacles may cause the carrier with the loader to suddenly tilt. Driving near the edges of ditches or canals is dangerous due to the risk of landslides under the wheels of vehicle. The travel speed should be reduced sufficiently in advance of driving to curves, when driving on uneven or sloping terrain.

During work requiring greater precision in guiding the implements, it is recommended to use the implement level indicator *(if present in the loader)*.



CAUTION

Do not exceed the permissible front loader load capacity and the permissible front axle loads of the tractor (carrying vehicle).

In the event of unloading the cut entire block of silage in the barn corridor or on other hardened ground, use the mechanical scraper placed on the horizontal teeth of the cutter.

In order to use the mechanical scraper (FIG 4.4) to unload the silage block:

- lower the filled, horizontally positioned cutter onto the ground;
- open the cutter and unload the silage block by backing up the tractor with the loader. The sliding of the silage block is supported by the scraper that remains in place while the cutter is moving backwards;
- the scraper will be automatically moved to the starting position during loading by the silage pressure on the cutter forks.

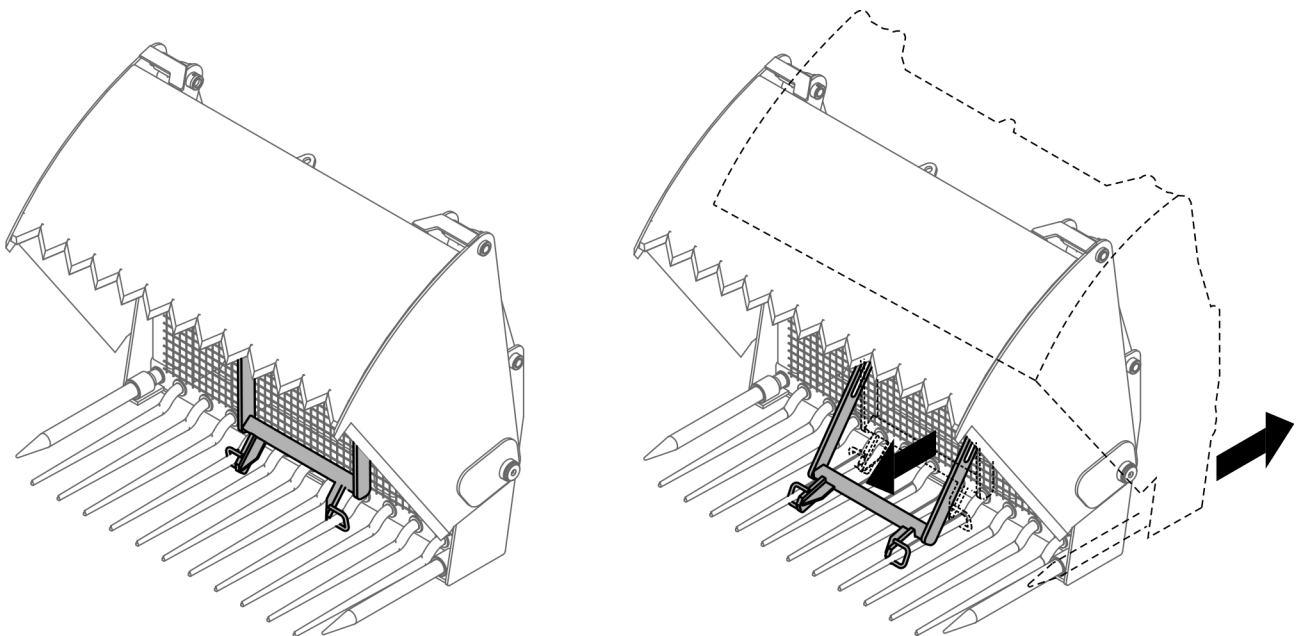


FIG 4.4 Mechanical scraper in the silage cutter

4.5 UNCOUPLING EQUIPMENT FROM THE LOADER

Before lowering the equipment to the ground, it must be level. Before removing the bucket from the loader, it must be emptied and closed. Disconnected equipment should be placed in such a place that it is possible to connect it again.



DANGER

Before disconnecting the equipment, turn off the tractor engine, engage the parking brake and secure the cabin against unauthorized access.



DANGER

Before disconnecting the hydraulic system, reduce the pressure in the system.

In order to dismantle the equipment from the loader:

- lower the boom until the bucket rests on the ground, turn off the carrier's engine,
- reduce the pressure in the hydraulic circuit for controlling the equipment by moving the control lever of the third section of the distributor (*depending on the type of loader*);
- unlock the mechanism fastening the tool in the loader frame (*depending on the type of loader*),
- disconnect hydraulic conduits of equipment from the loader installation, secure with plugs and place in the bracket (FIG 4.5);
- start the carrier and tilt the multifunction arm's frame forward until the frame bars come out of the equipment hooks, drive the loader away from the equipment.

After disconnecting from the loader, the tool should not be moved or handled with the use of other loader equipment, except for pallet forks, when the equipment is secured on a pallet.

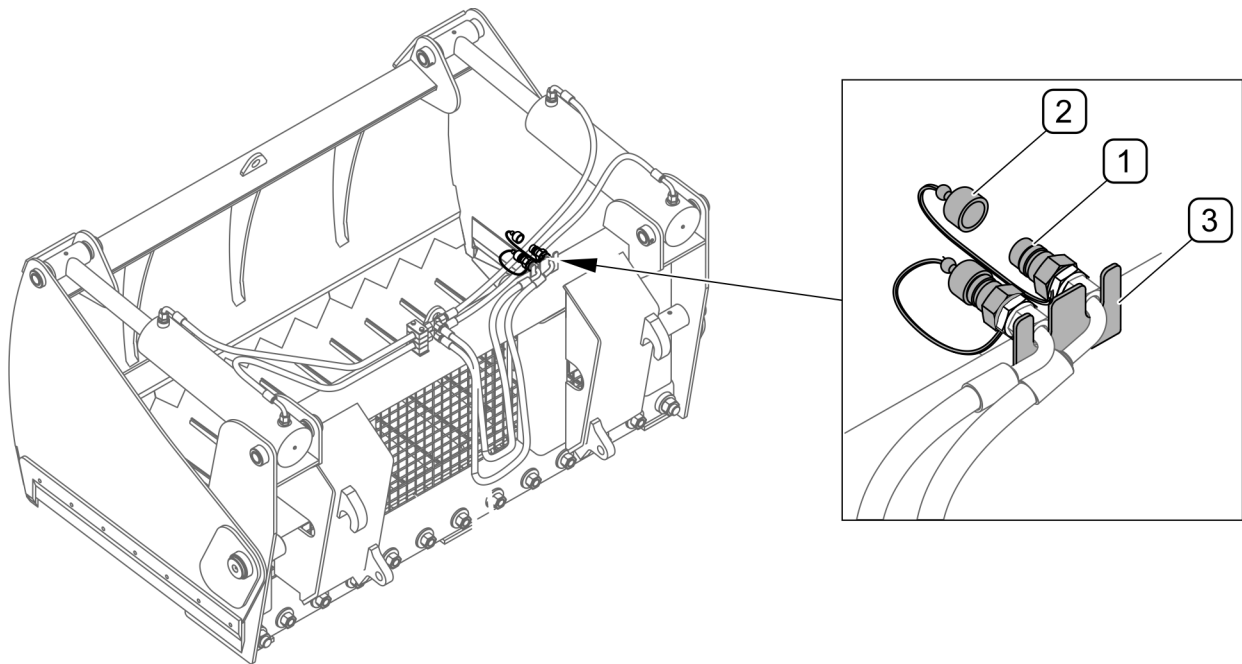


FIG 4.5 Protection of hydraulic quick couplers

(1) - hydraulic connection; (2) - safety plug; (3) - wires support;

4.6 TRANSPORT PASSAGE



DANGER

Driving on public roads with the equipment attached to the loader is forbidden.

During a transport (i.e. driving without a load over a longer distance), follow the instructions below:

- Make sure that the equipment is properly connected to the loader.
- The cutter should be closed while driving.
- During the journey, the equipment should be set so that it does not cover the lights, does not limit the visibility from the operator's position and at the same time does not rub against the ground.
- When transporting with raised equipment, secure the loader control system against accidental use (e.g. by means of a control lever lock)
- The admissible transport speed must not be exceeded. The speed of travel should be adapted to road conditions, the condition of the surface and other conditions.

**DANGER**

The maximum transport speed of 15 km/h (*i.e. unladen speed*) should not be exceeded.

CHAPTER

5

TECHNICAL SUPPORT

5.1 REPLACEMENT OF TEETH AND KNIVES

The condition of the teeth should be checked periodically, paying attention to mechanical damage and excessive wear. If the above-mentioned damage is found, the tooth should be replaced. Tooth list is showed by TAB 5.1. When replacing a tooth, set it properly in the frame and use a thread preparation that prevents the nut from unscrewing.

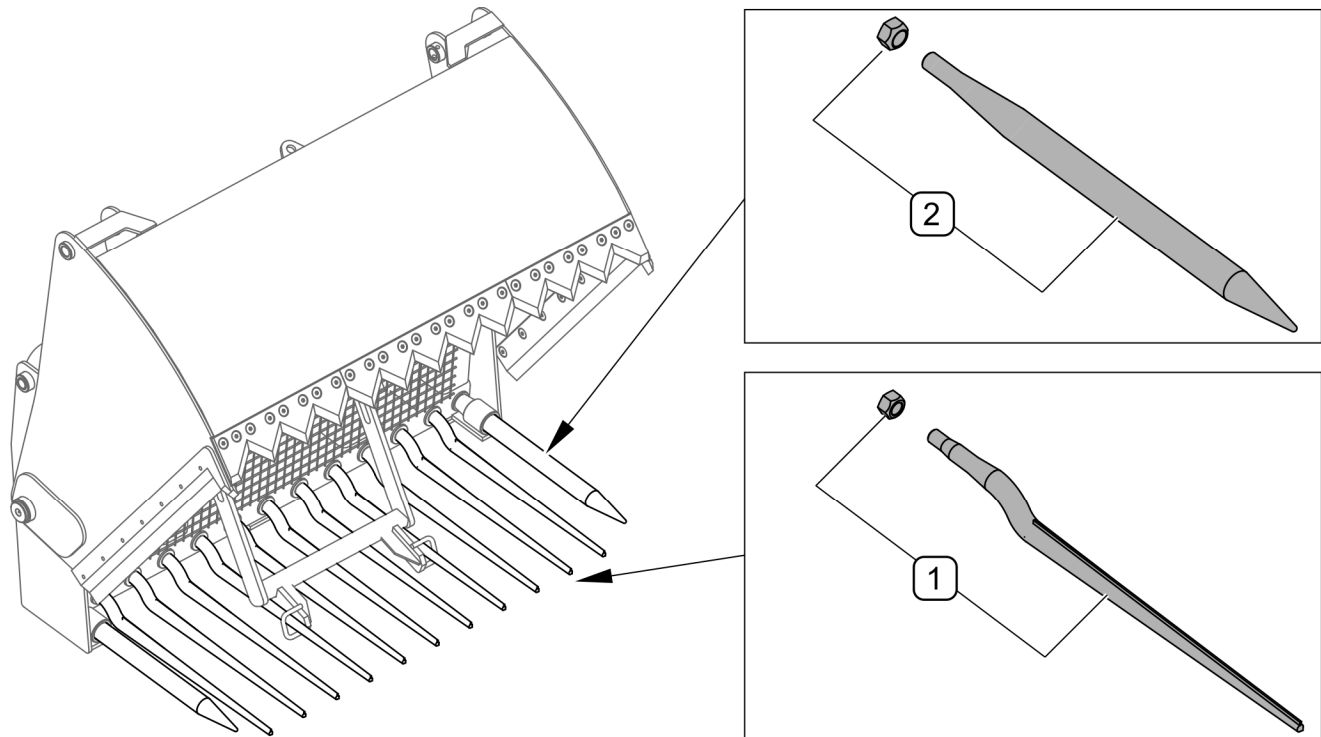


FIG 5.1 Replacement of teeth

The markings are presented by TAB 5.1

TAB 5.1 TYPE AND NUMBER OF TEETH DEPENDING ON THE CUTTER MODEL

MARKING (FIG 5.1)	Name/ catalogue number	Quantity [pcs] Depending on the cutter model	
		WK1,25 WK1,25W WK1,25E WK1,25EW WK1,25SMS WK1,25SMS W	WK1,5 WK1,5W WK1,5E WK1,5EW WK1,5SMS WK1,5SMSW
1	Offset tooth 35X810 with nut / 2576	9	11
2	Round tooth 50X800 with nut / 2578	2	2

**DANGER**

Inspection and replacement of the forks and knives make only with the tractor engine switched off. Secure the vehicle cab against unauthorized access.

**CAUTION**

If it is necessary to replace individual parts, use only original parts or those indicated by the Manufacturer. Non-adherence to these requirements may put the user and other people's health and life at risk, and also damage the machine.

Silage cutters *WK1,25W / WK1,25EW / WK1,25SMSW / WK1,5W / WK1,5EW / WK1,5SMSW* are equipped with replaceable cutting knives. If the knife is missing or damaged, replace it with a new one. The list of knives and fasteners is presented in TAB 5.2

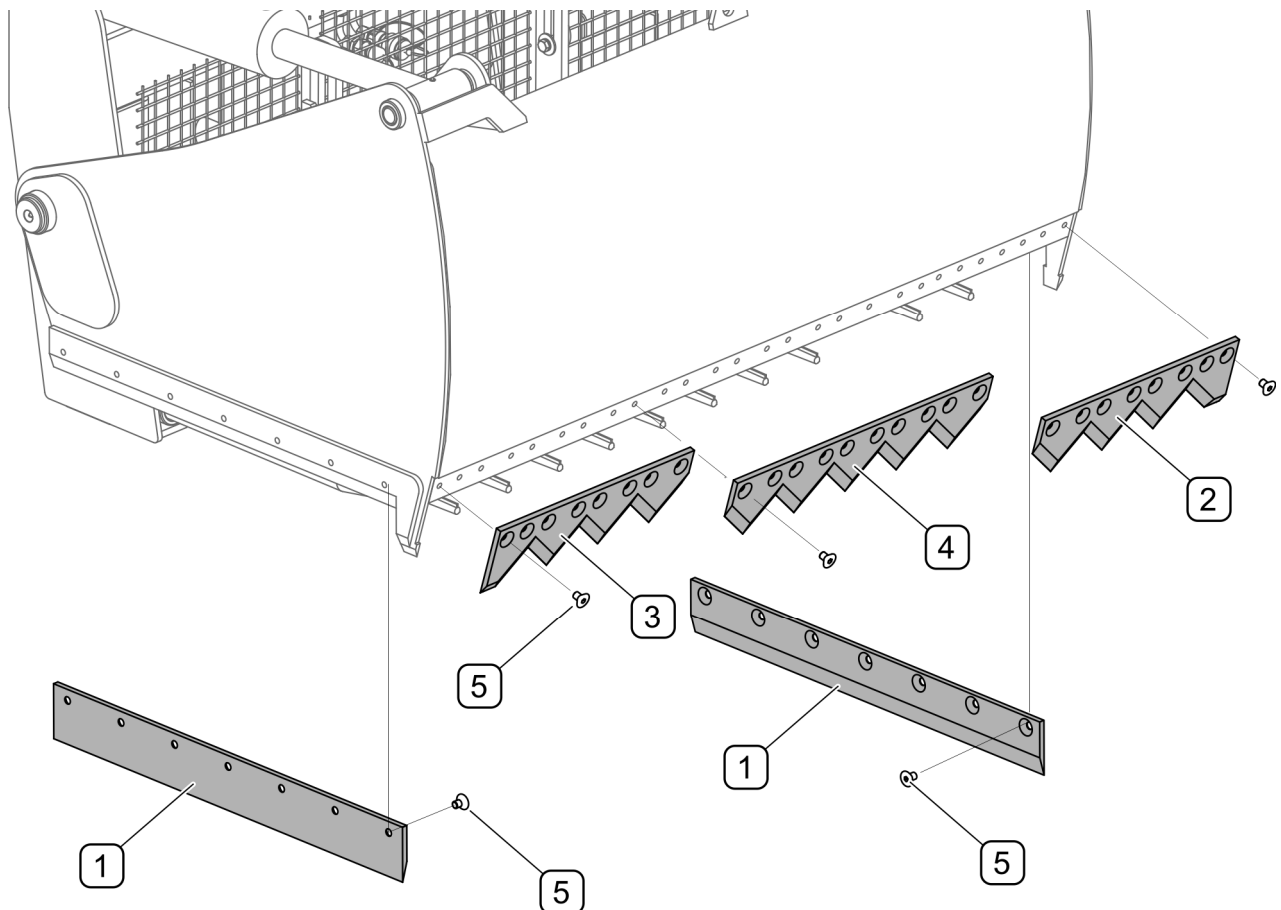


FIG 5.2 Replacing the cutter knives (only cutters with replaceable knives)

The markings are presented by TAB 5.2

TAB 5.2 LIST OF KNIVES AND FASTENING ELEMENTS


MARKING (FIG 5.1)	Name/ catalogue number	Quantity [pcs] Depending on the cutter model	
		WK1,25W WK1,25EW WK1,25SMSW	WK1,5W WK1,5EW WK1,5SMSW
1	Side knife / 152N-07000002	2	2
2	Left knife / 152N-07000003L	1	1
3	Right knife / 152N-07000003P	1	1
4	Knife / 152N-07000004	1	–
4	Knife / 152N-07000001	–	1
5	Countersunk screw / M12x20-8.8-A2J PN-EN ISO10624	36	40

The above list applies only to cutters equipped with replaceable cutting knives

5.2 HYDRAULIC SYSTEM OPERATION


The user's obligations related to the operation of the hydraulic system include:

- checking the tightness of hydraulic connections;
- checking the technical condition of hydraulic lines and quick couplers;



DANGER

It is forbidden to repair the hydraulic system on your own. Any repairs of the hydraulic system may be performed only by appropriately qualified persons.





DANGER

It is forbidden to perform service and repair work under loaded or lifted equipment.

On a new machine, the hydraulic system is filled at the factory with HL32 hydraulic oil. The oil used, due to its composition, is not classified as a dangerous substance, however long-term effects on the skin or eyes may cause irritation. In the event of contact of oil with skin, wash the place of contact with water and soap. Do not use organic solvents (gasoline, kerosene). Soiled clothing should be removed to prevent oil from getting on your skin. If the oil gets into your eyes, flush them with plenty of water and in case of irritation contact your doctor. Hydraulic oil under normal conditions is not harmful to the respiratory tract. The hazard only

occurs when the oil is strongly atomized (oil mist), or in the event of a fire during which toxic compounds may be released.

	<p>DANGER</p> <p>In the event of fire, the oil must be extinguished with carbon dioxide (CO₂), foam or extinguishing steam. Do not use water to extinguish a fire!</p>
	<p>Flexible hydraulic hoses should be replaced every 4 years.</p>

TAB 5.3 CHARACTERISTICS OF THE HYDRAULIC OIL HL32


ITEM	NAME	AMOUNT
1	Viscosity classification according to ISO 3448VG	32
2	Kinematic viscosity at 40°C	28.8 – 35.2 mm ² /s
3	Qualitative classification according to ISO 6743/99	HL
4	Quality classification according to DIN 51502	HL
5	Flash-point, °C	Above 210
6	Maximum working temperature, °C	80

Spilled oil should be immediately collected and placed in a marked, sealed container. Used oil should be taken to an oil disposal or regeneration point.

	<p>CAUTION</p> <p>Before starting work, perform a visual inspection of the hydraulic system components.</p>
---	--

The hydraulic system should be completely tight. Slight leaks are permissible with symptoms of "sweating", however in the event of noticing leaks in the form of "droplets" stop using the machine until the fault is remedied.

The hydraulic system is vented automatically while the machine is in operation.

	<p>The technical condition of the hydraulic system should be inspected on an ongoing basis while the machine is in use.</p>
---	---

**DANGER**

Before starting any work on the hydraulic system, reduce residual pressure in the system.

**DANGER**

When working on the hydraulic system, use appropriate personal protective equipment, i.e. protective clothing, shoes, gloves, glasses. Avoid oil contact with skin.

**CAUTION**

The hydraulic system is vented automatically while the machine is in operation.

5.3 STORAGE

After work finishing, the accessories should be carefully cleaned and washed with a water jet. During washing, do not direct a strong stream of water or steam at information and warning decals, bearings, and hydraulic lines. The nozzle of a pressure or steam washer should be kept at a distance of not less than 30 cm from the cleaned surface.

After cleaning, inspect the entire machine and inspect the technical condition of individual elements. Worn or damaged elements should be repaired or replaced with new ones.

In the event of damage to the paint coating, clean the damaged places of rust and dust, degrease, and then paint with a primer paint and, after drying, with a surface paint, maintaining the uniform colour and uniform thickness of the protective coating. Until painting, the damaged places can be covered with a thin layer of grease or an anti-corrosion agent. It is recommended that the equipment be stored indoors or under a roof.

If the equipment is not going to be used for a long time, it is necessary to protect it against the influence of the weather. Lubricate the machine according to the instructions provided. In the event of a longer stop, it is necessary to lubricate all components regardless of the period of the last treatment. Additionally, before the winter period, the attachment points with the loader should be lubricated.

**ADVICE**

When storing the accessories, it is recommended to protect the sharp edges of the cutter by placing wooden boards under the teeth and cutting edges.

5.4 LUBRICATION**DANGER**

Before lubricating, lower the loader boom, turn off the engine and secure the vehicle cabin against unauthorized access.

TAB 5.4 LUBRICATION POINTS AND LUBRICATION FREQUENCY

ITEM	NAME	NUMBER OF LUBRICATION POINTS	TYPE OF LUBRICANT	LUBRICATION FREQUENCY
A	Piston rod bushing	2	solid lubricant	every 25 hours of operation
B	Cylinder liner	2		
C	Cutter rotation pin	2		

Description of symbols in the "LP" column (TAB 5.4) is consistent with the numbering (FIG 5.3)

The machine should be lubricated with a manually or foot operated grease gun, filled with permanent grease. If possible, remove old grease and other contaminants before starting lubrication. Wipe off excess grease.

For lubrication, the solid grease ŁT-43-PN/C-96134 is recommended

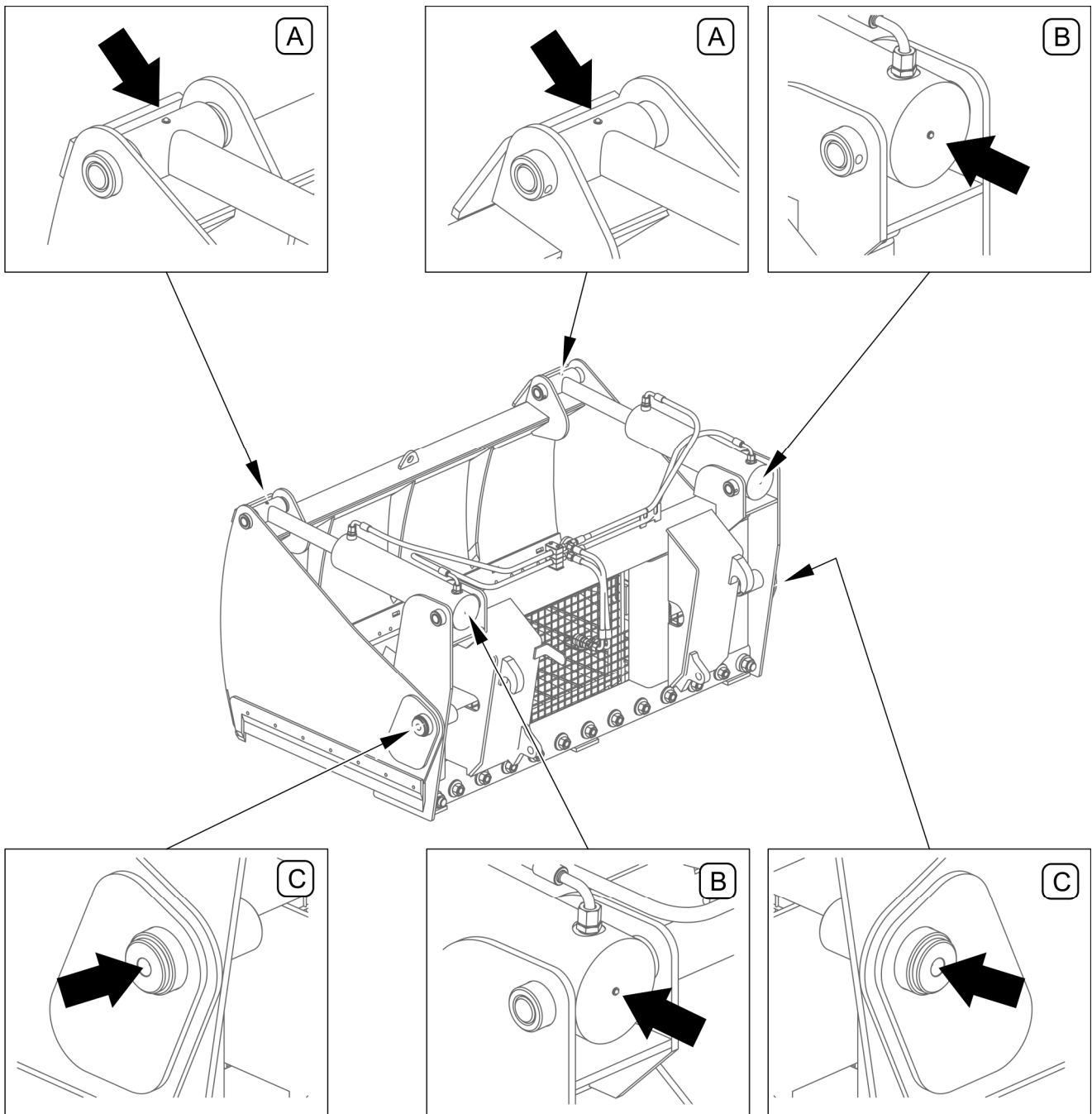


FIG 5.3 Lubrication point

The lubrication points are described in table 5.2



When using the machine, the user is obliged to follow the lubrication instructions in accordance with the prescribed schedule. The excess of lubricant will cause the deposition of additional contaminants on the places requiring lubrication, therefore it is necessary to keep the individual machine elements clean.

5.5 TIGHTENING TORQUES FOR SCREW CONNECTIONS

During maintenance and repair work, apply appropriate torques to screw connections, unless other tightening parameters are given. Recommended torques apply to non-lubricated steel bolts.



CAUTION

If it is necessary to replace individual parts, use only original parts or those indicated by the Manufacturer. Non-adherence to these requirements may put the user and other people's health and life at risk, and also damage the machine.

TAB 5.5 TIGHTENING TORQUE FOR NUT AND BOLT CONNECTIONS

Thread diameter [mm]	5.8	8.8	10.9
	Tightening torque [Nm]		
M6	8	10	15
M8	18	25	36
M10	37	49	72
M12	64	85	125
M14	100	135	200
M16	160	210	310
M20	300	425	610
M24	530	730	1,050

5.6 FAULTS AND HOW TO REMOVE THEM

TAB 5.6 FAULTS AND HOW TO REMOVE THEM

TYPE OF FAULT	CAUSE	REMOVAL METHOD
The cutter does not open or close	Hydraulic couplings of the equipment not connected to the loader	Connect hydraulic couplings to the equipment control system
	Hydraulic couplings of the equipment incorrectly connected to the loader	Correct the connection, in the event of damage to the connectors repair them with help of service
	Faulty installation of the loader equipment control	Diagnose and remove the fault
The cutter drops automatically	Damage of hydraulic hoses	Check the condition of the hoses, and if necessary, repair by the service
	Damage to hydraulic cylinder seals or piston rod running surface	Repair with service help

NOTES

A series of horizontal dotted lines for writing notes.