

LIGHT UNIVERSAL MULCHER

LUM 110 / 130 / 150

LUM 110 - FPM-618.232 - 1,1 m
LUM 130 - FPM-618.197 - 1,3 m
LUM 150 - FPM-618.198 - 1,5 m

№ 63049



INSTALLATION / HANDLING / MAINTENANCE SPARE PARTS LIST

FPM
AGROMEHANIKA

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WARNING FOR YOU, USER

By buying this tool you have made a wise choice. It is the result of many years of thinking, research and training. And you, like thousands of other users, will realize that you have the best that technique, knowledge and field testing could create. You have bought a reliable tool, but only if you use it properly, you can expect good performance and long service life.

This manual provides all the necessary information you need to achieve the best possible efficiency with your tool. This effect largely depends on how carefully you read this manual and apply that knowledge. It is a simple tool, but often you can overlook the shortcomings that are obvious, and are shown by poor performance, which often occurs because you neglected the natural wear of parts or that your tool is not well adjusted. Therefore, do not imagine that you know how to use and maintain the tool before reading this manual, which you should always have on hand.

Our service representatives or sales and service centers with their professional staff can offer you all the original parts of universal mulchers for servicing. These parts are manufactured and carefully inspected in the same factory where the mulcher works, in order to ensure high quality and accurate assembly at each replacement.

LIGHT UNIVERSAL MULCHERS PRODUCTS: FPM AGROMEHANIKA DOO BOLJEVAC

Lightweight universal mulchers meet the criteria prescribed by the Ordinance on the safety of machines ("Official Gazette of the REPUBLIC OF SERBIA", No. 21/2020, valid from 06.03.2020), especially in terms of stability and protection of parts and assemblies that could function and shape to endanger the safety of the operator.

IMPROVEMENT: **FPM AGROMEHANIKA DOO constantly strives to improve its products and therefore reserves the right to make changes or improvements when necessary, without any obligation to change or supplement previously manufactured or sold equipment.**

The information in this manual is correct on the date of issue.

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FPM AGROMEHANIKA DOO BOLJEVAC

AN INTEGRAL PART OF THE INSTRUCTIONS FOR HANDLING AND MAINTENANCE IS THE DECLARATION OF CONFORMITY 2006/42 / EC WITH THE SAFETY REQUIREMENTS DETERMINED BY THE EUROPEAN DIRECTIVE.



Izdaje: FPM AGROMEHANIKA DOO Boljevac
Godina: 2021

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WARNING FOR YOU, USER

It is very important that the PTO shaft that you attach to your plant residue mulcher is of the prescribed dimensions. Therefore, it is necessary to obtain a PTO shaft with the following characteristics.

- Groove 35 JUS M.L1.601 - DIN 9611 at both ends of the PTO shaft
- Shaft with one-way coupling F5 / 1R – right

The cardan shaft is a product of the company "WALTERSCHEID" and can be purchased under the number:

- W 100E-SD15-610-F5/1R, 1 3/8"(6) - 1 3/8"(6) - for LUM 110 (FPM-618.232)**
 - for LUM 110 PRO (FPM-618.275)
 - for LUM 130 (FPM-618.197)
- W 200E-SD15-610-F5/1R, 1 3/8"(6) - 1 3/8"(6) - for LUM 150 (FPM-618.198)**



IMPORTANT: If you do not follow the above warning, the factory is not responsible for damage or breakage on the tractor, cardan shaft or shredder - mulcher.

WE WISH YOU HAPPY WORK!

READ CAREFULLY!

You will find warning labels, "CAUTION", "CAUTION" and "DANGER" in this manual and on the tool. The warnings are intended to draw your attention to the personal caution and caution of those who work with you because they too need to read it..

PERSONAL SECURITY

CAUTION: This word "CAUTION" is used where care is needed to protect the operator and other persons from an accident..

ATTENTION: This word "ATTENTION" means the possibility of a serious injury to the operator and staff that can occur suddenly. It is a frequently used word as a warning to the operator and others to prevent surprises when using the mower.

DANGER: This word "DANGER" means what we must not do, because it entails risk.

BEHIND ADDITIONAL WARNINGS AS A "WARNING" AND "IMPORTANT" ARE SPECIAL INSTRUCTIONS REGARDING THE SAFETY OF MULCHERS.

MULCHAR SAFETY

WARNING: THIS WARNING DRAWS THE OPERATOR'S ATTENTION TO THE POSSIBILITY OF DAMAGE TO THE MULCHER, IF HE DOES NOT FOLLOW AN INSTRUCTION.

IMPORTANT: THE READER IS INFORMED ABOUT SOMETHING HE NEEDS TO KNOW IN ORDER TO PREVENT SMALL DEFECTS ON THE MULCHER, IN CASE HE MISSES IT.

WARNING!

IF YOU DO NOT COMPLY WITH THE ABOVE WARNINGS "CAUTION", "WARNING" AND "DANGER", SERIOUS INJURIES MAY OCCUR.

WARRANTY LIMITATIONS

The factory gives a guarantee in accordance with the Law on Standardization and the Rulebook on safety of machines ("Official Gazette of the REPUBLIC OF SERBIA", No. 21/2020, valid from 06.03.2020), for each original piece of mulcher delivered to the user by the sales network FPM AGROMEHANIKA DOO Boljevac which guarantees that at the time of delivery each such part of the mulcher is new, without defects in material and workmanship, and that the rotary mulcher is guaranteed for a period of one year from the date of delivery to the end user, provided that the machine is used and serviced in accordance with the recommendations in this operating and maintenance manual.

EXCEPTIONS:

- 1.- parts made of wood are not covered by the warranty.
- 2.- Parts not manufactured by FPM AGROMEHANIKA DOO Boljevac (tires, plastics, belts, PTO shaft, PTO shaft, hydraulic cylinder with connection hoses, etc.) are not covered by this warranty, but by the manufacturer's warranty..
- 3.- parts that are normally consumed in operation, namely: rotors, cutting knives, cutting knife holders, sliders under the mulcher's sides.
- 4.- this warranty is void in the event of misuse, improper or negligent use or damage in an accident. The warranty expires due to the use of non-original parts, and the factory is not liable for damage caused during transport.

THE FACTORY IS NOT RESPONSIBLE FOR LOSS OF EARNINGS DUE TO FAILURE OF MULCHERS OF PLANT RESIDUES OR INJURY TO THIRD PARTIES, OR FOR ADDITIONAL COSTS OF WORK ON REMOVAL AND REPLACEMENT OF PARTS.

The buyer is responsible and bears the costs of the following:

- 1.- normal maintenance, such as lubrication, oil refill, minor adjustment and the like.
- 2.- transport of mulchers where the service is performed within the warranty period and back.
- 3.- travel time of the authorized service to the owner of the mulcher and back, or delivery and return of the mulcher from the service workshop after repair.

This warranty does not apply to mulchers that have been changed or modified without our express permission or have been repaired by someone other than an authorized service center.

The warranty is subject to strict adherence to the warnings:

- all instructions in this manual must be followed and all guards must be regularly inspected and replaced, as needed.

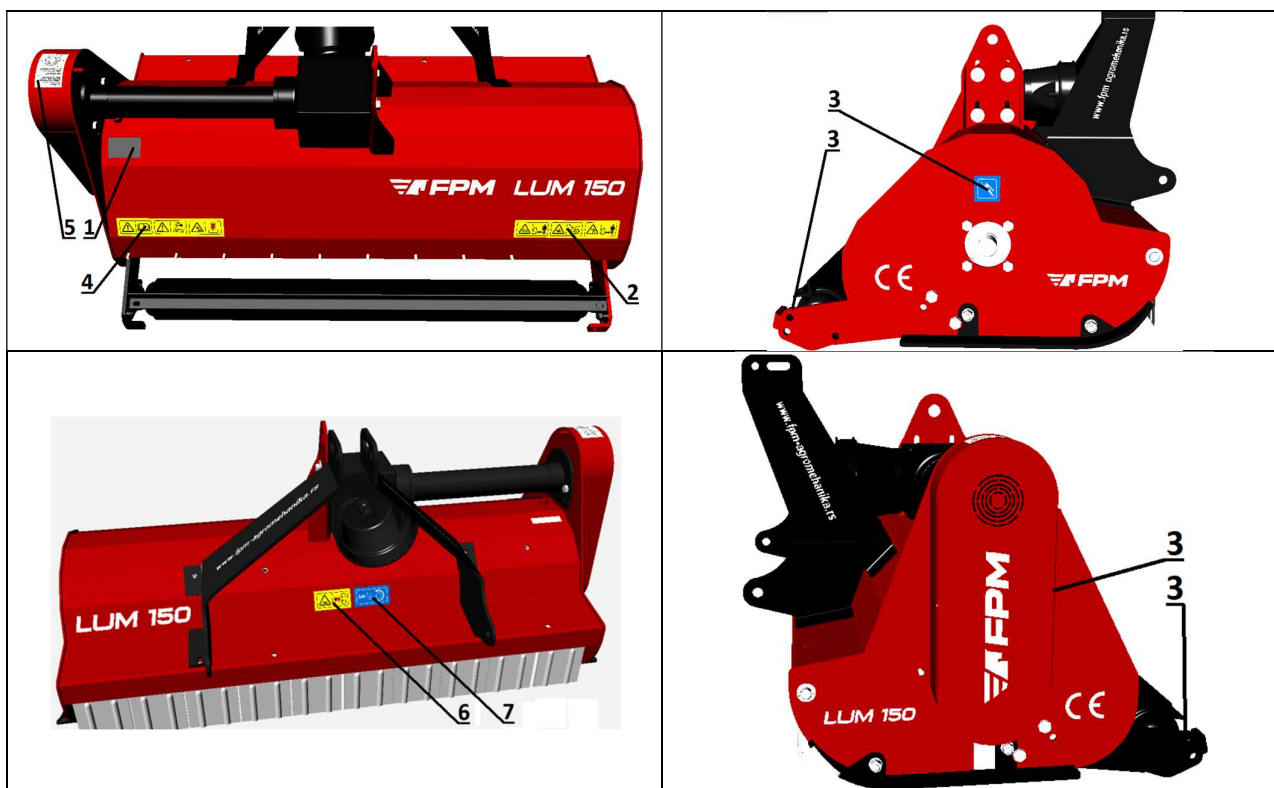
No warranty is given for products that are not new.

Persons who only work in our factory are not officially representatives of the factory and have no right to assume any obligation on its behalf.

No warranty covers product equipment wider than that provided, and the factory is not liable for damages resulting from such use..

WARNING LABELS AND IDENTIFICATION PLATE





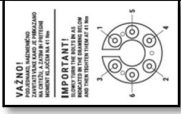


The following warning labels have been affixed to your mulcher for your safety as well as the safety of the people working with you. Holding this manual in your hand, go around the machine and check these warning labels and instructions in the manual. Labels must be legible, if not replace them.



Identification of MULCHAR is done through the identification table (No. 1 in the previous picture) which contains the following markings:

1. In the SERIAL No. field. / SERIAL NUMBER enter information that would consist of nine digits, and their meaning would be as follows:
 - first two digits - year of manufacture
 - - other two digits - month of production
 - other five digits - ordinal number of the product from the day of the beginning of production (example: year: 2020; month: 01; product number: 03734 → 200103734)
1. 1. In the field TYPE / SERIES the whole product designation would be entered (example: FPM-619.091)
2. 2. In the WEIGHT / MASS field, enter the net weight of the product in kg
3. 3. In the field YEAR OF PRODUCTION, enter the year of production
4. In field Z, enter the number of the certificate (document) on safety at work.

	Sticker
	Description

1.		Identification table
2.		Rotating elements! Keep legs and arms away from rotating elements. Other persons must stand at a safe distance from the machine.
3.		A place where there is a greaser! Mandatory, daily, lubrication before starting work.
4.		Read the instructions carefully before working with the machine. When adjusting, lubricating or cleaning the tool, switch off the tractor and wait for all moving parts to stop. Never transport other people on the tool.
5.		Equally, alternately tighten the screws as shown in the drawing. Tighten torque with a wrench to 41 Nm
6.		Rotating elements! Keep legs and arms away from rotating elements. Other persons must stand at a safe distance from the machine.
7.		Speed of the output shaft on the tractor

ATTENTION: THIS TRIANGULAR SYMBOL IS USED EVERYWHERE YOUR SAFETY, SAFETY OF OTHERS, AND IN ORDER TO PROTECT YOUR PLANT RESIDUE MULCHER FROM RISK. THEREFORE, CAREFULLY READ THE WARNING WHERE THESE SIGNS ARE LISTED.



INFORMATION FOR CORRECT READING OF THE INSTRUCTIONS

In this manual, "left" and "right" are specified if viewed in the direction of travel.

- A - The front
- B - The last part
- L - Left side
- D - Right side

Metric thread is used during assembly.
Tighten all screws during installation.

Each image uses letters that indicate where the installation should be performed.

Read the text carefully to ensure that the mulcher is mounted correctly.

Most accidents occur during operation, maintenance and transport as a result of non-compliance with basic safety requirements. To work and maintain a mulcher, whether you work alone, with family members or others, be sure to read and follow the basic procedures for working with a mulcher. In addition, warning labels have been placed on the mulcher, which should draw attention to the mandatory observance of safety.

- ▲ - These operating, maintenance and safety instructions must be complied with unconditionally respected, to ensure safe and secure work with the mulcher.
- ▲ - Before starting work, the operator must be absolutely familiar with the operation of all parts mulcher, it may be too late during work. First of all, learn to turn off the mulcher quickly and certainly, in case of danger.
- ▲ - The operating and maintenance instructions must be kept for the intended life of the mulcher.
- ▲ - The metal nameplate must always be legible, visible and clean.
- ▲ - When coupling or uncoupling the mulcher from the tractor, always move the support foot to appropriate position (safety).
- ▲ - The implements must be aggregated on tractors with adequate engine power.
- ▲ - Be especially careful when uncoupling or attaching the tractor mulcher, as the space around the hoists the lever is a danger zone.
- ▲ - Take into account the permissible axle load and the total weight. Because of the weight, it comes to different load redistributions on the wheel axles.
- ▲ - Due to safety requirements, use a tractor with a cab. Keep all glass during operation closed.
- ▲ - Before you start mulching, and for a very short distance, always translate it and secure it in it transport position. Observe the permitted dimensions during transport.
- ▲ - Before you start driving on public roads, be sure to insure the mulcher for safe driving, and follow the rules of conduct in public traffic.
- ▲ - When special occasions require, light signals to indicate danger if this is not prohibited traffic rules.
- ▲ - Never transport other people on the mulcher or tractor during work or transport.
- ▲ - Never transport the mulcher loose and secured for safe driving.
- ▲ - Never drive with the mulcher on.
- ▲ - Never engage the tractor PTO shaft while the mulcher is in the transport position.
- ▲ - Never leave the driver's seat while the tractor is in operation.
- ▲ - Each time before using the mulcher, check that all parts (nuts, bolts, etc.) tighten enough, especially tighten the blades on the rotor.
- ▲ - Knives on the rotor and parts used for their fastening (nuts, screws, etc.) if worn or damaged, immediately replace with original parts FPM AGROMEHANIKA, BOLJEVAC.
- ▲ - Before starting to adjust, lubricate or clean the mulcher, switch off the tractor engine, remove the ignition key, disengage the PTO shaft, and apply the tractor parking brake.
- ▲ - Wait for the rotating parts to stop before approaching the mulcher.

- ⚠ - Never wear loose clothing that can be caught by the rotating parts of the mulcher. Clothes should be clinging to the body. Use protective equipment, goggles, gloves and safety shoes, especially when working on rocky ground.
- ⚠ - The operator must be absolutely sure that persons or animals are not in the work area mulcher, before the mulcher starts and starts working. One should always think of the consequences irresponsible work because they are irreparable.
- ⚠ - Remove foreign objects from the plot before starting work.

IMPORTANT: In addition to roads, footpaths, public areas (parks, schools, etc.) and on rocky land, work with special care and with the provision of conditions, in order to avoid the risk of accidents, due to the rejection of parts on buildings and persons.



- ⚠ - Never work when reversing.
- ⚠ - It is absolutely forbidden to drive a mulcher by an unprofessional person, a person who does not have a driver's license permission or a person who does not have adequate psycho-physical characteristics.
- ⚠ - It is necessary that after the end of the mulcher season, an authorized service technician inspects your mulcher, puts it in the correct condition, especially the knives on the rotor, and tightens all parts (screws, nuts, etc.) with the correctly prescribed tightening torque.



THESE WARNINGS MUST NEVER BE IGNORED



SAFETY



ATTACHING THE MULCHER TO THE TRACTOR

- ⚠ - Before each attachment and detachment of the mulcher to the tractor, lock the hydraulic controls to prevent any unintentional lifting or lowering.
- ⚠ - When coupling, pay attention to the category of tractors and attachment levers of the mulcher, they must adapt to.
- ⚠ - The area around the connection points is very dangerous. There is a risk of injury when attaching the connecting levers.
- ⚠ - When using external hydraulic controls, do not stand between the tractor and the MULCHER.
- ⚠ - In the transport position of the mulcher, always take care and block the lateral movement of the connecting levers.
- ⚠ - When driving on public roads with the mulcher in the transport position, the tractor's hydraulic controls must be locked against unintentional lowering.
- ⚠ - Mulcher does not use to work on uneven terrain.



THESE WARNINGS MUST NEVER BE IGNORED



SAFETY



USING THE PTO SHAFT

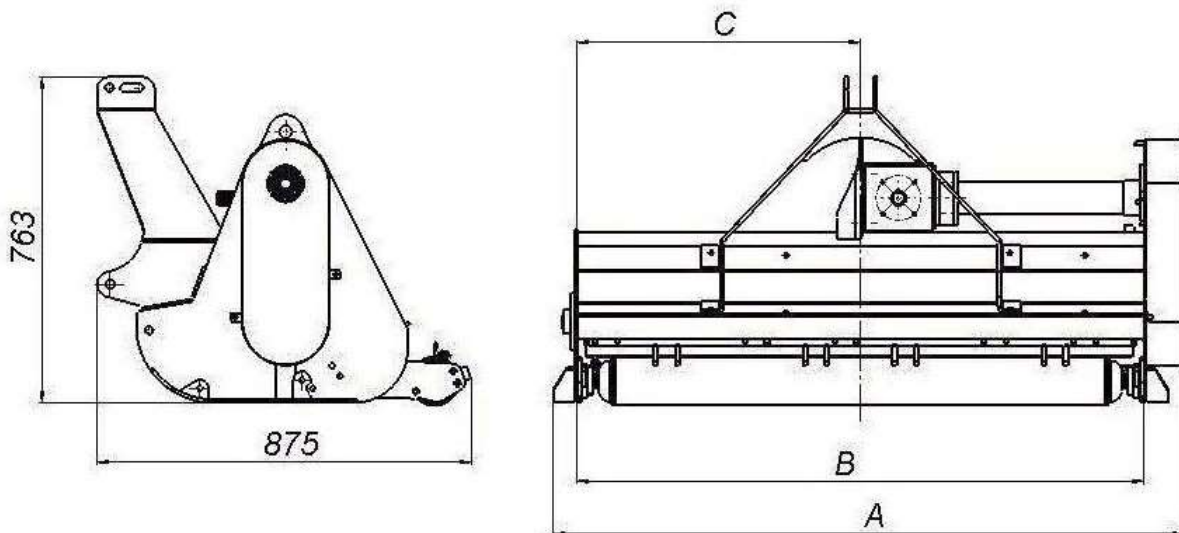
- ⚠ - Only those cardan shafts supplied with the mulcher or prescribed by the mulcher manufacturer may be used.
- ⚠ - Cardan shafts must be installed and in the prescribed condition.
- ⚠ - Make sure that the pipes overlap in the transport and working position.
- ⚠ - Coupling and uncoupling must only be carried out with the tractor output shaft switched off, the engine switched off and the ignition keys removed.
- ⚠ - The angle at which the cardan shaft works must be as small as possible, which ensures a long service life of both the cardan shaft and the tool.
- ⚠ - Always mount the PTO shaft correctly.
- ⚠ - With special care, tie the cardan shaft to the chains that have been installed for this purpose (the cardan shaft must not turn), be sure to read the instructions given with the cardan shaft. If the protection is damaged, replace it immediately with a new one.
- ⚠ - When not in use with a mulcher, secure the PTO shaft with the PTO shaft holder
- ⚠ - If you are not sure how the cardan shaft works, if it is unprotected, if the protection has been used or broken, be sure to replace the cardan shaft with a new one bearing the "CE" mark.
- ⚠ - Before switching on the tractor output shaft, make sure that the selected speed and direction of rotation are adjusted to the permitted speed and direction of rotation of the mulcher.
- ⚠ - Before switching on the tractor output shaft, make sure that persons or animals are not in the danger area of the mulcher.
- ⚠ - Do not switch on the output shaft while the tractor engine is switched off.
- ⚠ - If the PTO shaft is damaged, rectify the fault immediately, it is best to contact the nearest service center. Any unprofessional intervention leads to imbalance of the cardan shaft, which can lead to worsening of work or damage to the mulcher or the tractor output shaft.



THESE WARNINGS MUST NEVER BE IGNORED

SPECIFICATION OF TECHNICAL CHARACTERISTICS

	LIGHT UNIVERSAL MULCHER - LUM		
	LUM 110/ 110 PRO (FPM-618.232 / 275)	LUM 130 (FPM-618.197)	LUM 150 (FPM-618.198)
Working width (m)	1,1	1,3	1,5
Overall width - dimension "A" (m)	1,218	1,476	1,638
Tractor power min - max kW / HP	15 - 23 / 20 - 30	23 - 27 / 30 - 37	27 - 30 / 35 - 40
Connection method	Worn three-point variant		
Tractor category	I, II		
PTO speed	540 min ⁻¹		
Rotor diameter (tube) (mm)	114		
Side transmission (V- belt)	2	2	3
Standard knife	hammer		
Br. knives - hammer	14	18	20
Br. knives - Y	42	54	60
Height adjustment	roller		
Cut height (cm)	2 - 7		
Central transmission	Gearbox		
Side gear	Single-stage transmission belts		
Cutting height adjustment	Mechanical, using a roller		
Way to move to the side	Mechanically, two positions		
Weight (kg)	188	246	262
Dimension "B" (m)	1,070	1,328	1,490
Dimension "C" (m)	0,535	0,664	0,742



TRANSPORT OF MULCHERS



DANGER:

If the mulcher is transported on public roads, be sure to insure it for safe driving, and follow the rules of conduct in public traffic.

The tool must be raised at least 40 cm from the ground.

If the mulcher is transported by truck or rail, the "SPECIFICATION OF TECHNICAL CHARACTERISTICS" should be studied where weights and dimensions are given.

TRACTOR AGGREGATION PROCEDURE

WORK BEFORE USE



ATTENTION:

Attaching a mulcher to a tractor can be a very dangerous operation.

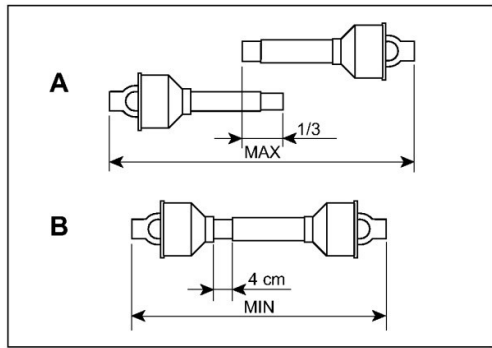
Pay special attention and strictly follow the given instructions.

Proceed as follows:

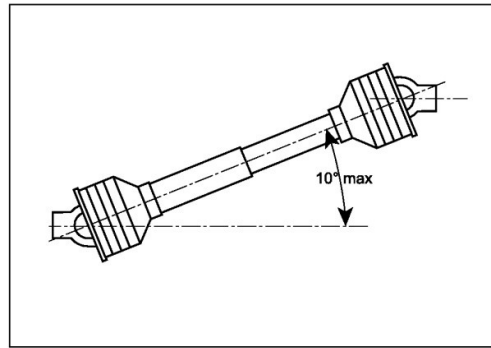
- Use a tractor whose configuration can meet the needs of the mulcher.
- Make sure that there are no objects, people or animals near the implement, and that the tractor drive shaft is switched off.
- Make sure that the tool is in a stable, horizontal position
- Slowly position the tractor at a 90 ° angle to the implement, lower the lower tractor arms to the height of the mulcher attachment axis using the hydraulic lever, and switch off the tractor.

IMPORTANT: If the tractor is poorly positioned, it is much easier to drive the tractor back and forth again than to try to bring the tools to the tractor levers using your own manpower.

- Fit the PTO shaft, the first to the grooved shaft on the tool and the other end to the tractor output shaft. Be sure to secure the shaft with existing fuses in this position.
- When the PTO shaft is extended as much as possible under operating conditions, the telescopic tubes must overlap by at least 1/3 of their length (A in Figure 4).
- When the PTO shaft is fully retracted, there must be a clearance of 4 cm (B, Fig. 4).



Picture 4.



Picture 5.

- Attach the left lower tractor link to the left tool arm, and secure it with the existing wedges.
- Attach the right lower tractor lever to the right tool arm, and secure it with the existing pegs.
- Secure the left and right lower link arms with the appropriate chains so that they are parallel to the tractor. This is done to limit the lateral oscillation of the tool from 5 to 10 cm.
- Then slowly push the tractor forward or backward from the tractor seat, with the hydraulic control lever in the lower position on the quadrant, until the front end of the upper tractor lever (topling) can be fastened to the tractor and secure with the existing wedges.
- When you have previously attached the tool to the tractor, it is necessary to bring the upper surface of the tool to a horizontal position, ie to be parallel to the ground. This is achieved by lengthening or shortening the upper tractor lever (topling).

IMPORTANT: The order of attachment of tools to the tractor should always be performed in the same way:

- a) left lower tractor lever
- b) right lower tractor lever
- c) upper tractor lever

IMPORTANT: Once you have finished bringing the mulcher to a horizontal position, you can access other settings necessary for the normal operation of the mulcher.

-- Using hydraulics, carefully lift the mulcher so that the PTO shaft breaking angle is not too large (never greater than 10°, Fig. 5). When you have raised the tool to the highest position in this way, check the following:

- a) whether the cardan shaft rotates freely and whether the joints of the same do not get stuck somewhere
- b) whether the PTO shaft is not too stretched
- c) check that the PTO shaft rotates freely
- d) fasten the cardan shaft protection to the existing chains from the cardan shaft.

IMPORTANT: It is very important that the guards on the tractor output shaft and on the implement PTO shaft overlap the PTO shaft by at least 5 cm. If some protections are not in good condition, they must be replaced immediately.



DANGER:

Never modify or adapt the PTO shaft. If necessary, contact the nearest service center.

WORK WITH A MULCHER

WORKING POSITION



DANGER:

The operator of the tool must sit exclusively in the driver's seat, because only from that place can he properly operate the tool. Before leaving the driver's seat, the operator must stop the tool, apply the parking brake and switch off the tractor engine.

DURING WORK

After properly attaching the implement to the tractor, taking the driver's seat, and starting the tractor, do the following:

- use hydraulics to raise the tool 10 - 20 cm from the ground.
- Let the tractor run at low engine speeds, and switch on the tractor output shaft.
- Shift the transmission into forward gear, and increase the engine speed.
- Gradually lower the tool until it touches the ground. This allows the tool to adapt to the terrain.



CAUTION:

Do not overdo it when accelerating.

- drive the tool briefly, and then check that the chopping quality is satisfactory
- You can adjust the chopping height by adjusting the roller

Factors to consider in order to select the appropriate shredding:

- stem height
 - quantity and size of all branches on the ground
 - tractor speed
 - optimal chopping height
- Good shredding is achieved by low tractor speed and high rotor speed with blades



CAUTION:

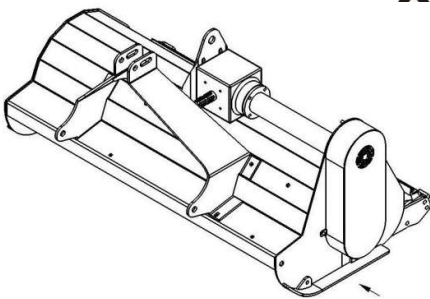
To avoid damaging tools or breaking the blades, limit the tractor speed to 6 - 14 km / h.

When the tool is in operation, do not change the direction of movement and do not make sharp turns. Never drive backwards when the tool is on the ground!

ADJUSTMENT OF HEIGHT OF CRUSHING OF PLANT RESIDUES

DANGER:

Adjusting the shredding height is a dangerous operation. Wear protective gloves and use appropriate tools and accessories.



Proceed as follows when adjusting the shredding height.

- Park the tractor on a level surface and use hydraulics to lift the implement off the ground.
- Place two stronger side supports under the tool to secure it from falling.
- Lower the implement onto the supports, switch off the tractor

engine and apply the parking brake.

The amount of shredding of plant residues is determined by the position of the turntable to which the tool roller bearing is attached (see figure). To change the position of the roller, loosen the screws on both sides of the side panels, remove the screws on one side, move the roller down or up depending on the required cutting height. Replace the screws and repeat the same procedure on the other side. Then tighten all screws to the required torque.

A higher crushing height is achieved with a lower roller position and vice versa, a smaller one with a higher roller position, because the tool is closer to or farther from the ground.

When you move the roller to a position closer to the ground, you must also adjust the third connection point (topling) so that the tool is parallel to the ground surface.

USEFUL TIPS, FOR YOU

Here are some helpful tips on how to troubleshoot some issues that may occur during operation.

VEGETABLE RESIDUES ARE TOO CRUSHED

- slightly lift the blades off the ground, adjust the height with the roller (cutting blades must not touch the ground)
- increase the speed of the tractor

THE PLANTS ARE NOT CRUSHED ENOUGH

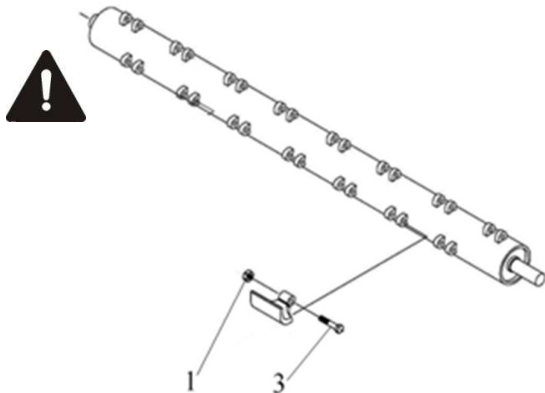
- slightly lower the blades towards the ground, adjust the height with the roller (the blades must not touch the ground)
- reduce the speed of the tractor
- do not work if the soil is too wet

WORK ON SLOPE FIELDS

When working, move the tool in the direction of the slope.

WORKING ELEMENTS - CUTTING KNIVES

Check the condition of the working elements - the cutting knives with which the mulcher is equipped, and make sure that they are worn. If the blades become covered and break during operation, you must immediately replace all blades with new ones.



maintain the "balance" of the rotor.

When replacing knives, do the following:

- remove the nut (pos. 1, fig. 8) from the screw that tightens the worn blades. Examine well the position of all parts during the replacement phase, especially the spacer sleeve (pos. 3, fig. 8). Mount new knives and other parts in the same place, in the same position
- if the screws (pos. 2, fig. 8) and nuts are damaged, be sure to replace them as well

DANGER:

If the cutting blades get stuck, it is strictly forbidden to try to clean the tool while it is in operation. First switch off the output shaft drive, then switch off the tractor and apply the parking brake. Wait for the moving parts to stop, and only then start cleaning the tools. Be careful!

TOOL STOP

Upon completion of the work, the operator must:

DANGER:

Replacing cutting blades is a dangerous operation, be careful.

When replacing cutting blades, proceed as follows:

- Park the tractor with the tool on a level surface, then use the hydraulics to lift the tool off the ground.
- Place two strong pads on both ends of the tool
- lower the implement onto the pads, switch off the tractor and apply the parking brake.

One pair of blades must be mounted, opposite each other, to

- switch off the tractor output shaft drive
- by releasing the hydraulics, lower the tool to the ground
- switch off the tractor engine and apply the parking brake
- make sure that all parts of the tool are at rest

Only after checking the above operations can the operator leave the driver's seat.

TOOL PARKING

- posle završetka posla, oruđe morate da parkirate na ravnu površinu.
- zaustavite motor traktora i povucite parkirnu kočnicu.
- kada je ugašen motor traktora i svi pokretni delovi na oruđu u stanju mirovanja, skinite kardan sa izlaznog vratila traktora.
- otkočite oruđe sa traktora.



ATTENTION:

The place where the tool is parked must be:

- dry
- sheltered from bad weather
- protected or locked, to prevent access to children or unauthorized persons.



CAUTION:

If you do not use the tool for a long period of time, lubricate all parts that are subject to wear, lift the tool on a wooden stand placed under a canopy or a special dry room and cover it with plastic wrap.

If you have done the previous operations carefully, then the tool is mobile and ready to use when the need arises to use it again.

MAINTENANCE

REGULAR MAINTENANCE

Remember that lower maintenance costs and longer tool life depend on constant adherence to the given instructions.



ATTENTION:

Before starting any operation, make sure that the tool is parked on a level surface.

Secure the tool against movement by placing the mat under the wheels.

Maintenance, adjustment and preparation of the tool for work, works only when the PTO shaft is removed from the tool.

The service frequency suggested in this manual refers to normal conditions of use.

Service operations must be performed more frequently in difficult conditions of use.



CAUTION:

Before injecting the grease, it is necessary to wipe the area around the grease nipples and the grease nipple itself with a dry cloth, so that mud and dust are not mixed with the grease, and thus the quality of lubrication is reduced.

Lubricate as carefully as possible, as injecting large amounts of grease under pressure can damage the bearing protection. Lubricate all places provided for lubrication.



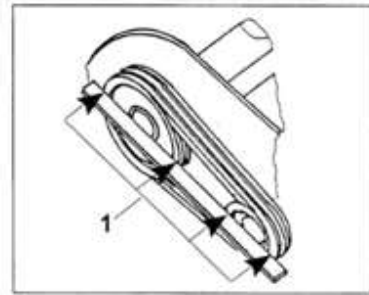
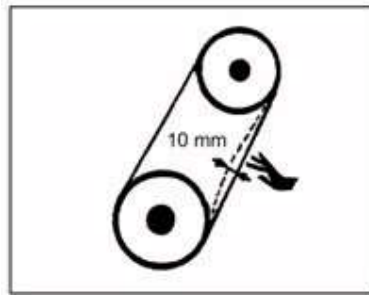
DANGER:

Keep all lubricants out of the reach of children!

Carefully study all warnings on grease and oil packaging. After working on the lubrication, the operator must service the body parts thoroughly for grease and oil residues.

Dispose of used oil in the prescribed manner, in accordance with the "Environmental Protection Act".

V-BELT REPLACEMENT



V-belts are properly tightened if the deflection is max. 10 mm (as given in Figure 9), to prevent excessive slipping.

Insufficiently tightened belts are the cause of poor work of mulchers and premature damage and tearing of belts. When replacing belts, or checking their tightness, do the following:

- Loosen the nuts and remove the V-belt guard.
- loosen the screw holding the elastic connecting elements of the pulley.
- Adjust the pulley with a ruler.
- Replace the protective cover.

All transmission parts from the gear unit to the drive pulley must be aligned when tightening the belts. Loosen the screws on the gear unit plate, raise or lower the gear unit so that the transmission shaft is parallel to the upper tool plate, then tighten the screws.

Check that the pulleys are in the same plane when the belts are tightened or replaced.

To check, use a metal ruler when you have to place both pulleys on the surfaces. The edge of the ruler must adhere to all four points.



WARNING: IT IS NECESSARY AND IMPORTANT TO CHECK THE BELTS TIGHTENING AND TIGHTEN THEM PROPERLY. IT IS ESPECIALLY IMPORTANT TO DO THIS AFTER 0.5 HOURS OF USING THE TOOL. WHEN REPLACING WEAR BELTS, REPLACE THE ENTIRE BELT SET, REGARDLESS ON THE CONDITION OF ONE BELT IN RELATION TO THE OTHER.

LUBRICATION

It is very important to properly lubricate any tool, both transmission and all parts that slide into each other, in order to meet strict requirements for work even in the most difficult conditions, which is vital for the long life and functionality of the tool.

Therefore, you must lubricate regularly - at certain intervals.

The lubrication time given in this manual refers to tools used under normal conditions.

If the tool works in difficult working conditions, then lubrication must be at shorter intervals.

RECOMMENDED OILS

For lubrication of gears in the multiplier, the use of hypoid oil SAE 85 W-140 is recommended, to achieve a quality level of American military specification MIL-L-2105C and API Service Classification GL-5 or standard JUS B.H3.303 Type "MP-5" .

RECOMMENDED LUBRICANT

- For lubrication of all places where lubricators are located, use calcium grease with an additive that increases adhesion to metal surfaces, and which meets JUS B.H3.634 VM-2 specifications NLGI-2.

TO USE THE OIL CHANGE:

Manufacturer's name	Oil label
Rafinerija Beograd	HIPOL - B
"FAM" Kruševac	MULTI HIPO
"MODRIČA" Modriča	HIPOIDNO ULJE - B
"INA" Zagreb	HIPENOL GTL
"SHELL"	SPIRAX - HD
"MOBIL"	MOBILUBE - HD
"VALVOLINE"	"VALVOLINE" X-18
"ESSO"	ESSO GEAR OIL GX
"CASTROL"	CASTROL EPX

FOR LUBE REPLACEMENT USE:

Manufacturer's name	Lube label
Rafinerija Beograd	LUMA - 2
"FAM" Kruševac	FOR - 2
"MODRIČA" Modriča	LITMA - 2
"INA" Zagreb	LIS - 2
"SHELL"	ALVANIJA R-2
"MOBIL"	MOBILUX 2
"VALVOLINE"	GREASE LB1-2

SERVICE SETTINGS - AFTER THE FIRST 8 HOURS

Check each tool after the first 8 hours of use. The verification procedure is as follows:

- Detailed check of the basic condition of the tool
- Check the cutting blades for wear and damage, be sure to tighten all screws and nuts on the rotor with the blades.
- Tighten all other screws and nuts to the required torque.

SERVICE SETTINGS - AFTER EVERY 20 HOURS

- Check and tighten all screws and nuts on the blade rotor to the required torque.
- Lubricate all PTO shaft parts, roller bearings, all screws on the roller height adjustment plate.

SERVICE SETTINGS - AFTER EVERY 100 HOURS

Check the oil level in the multiplier housing. If necessary, top up with oil through the plug on top of the housing.

SERVICE SETTINGS - AFTER EVERY 500 HOURS

- Change the oil in the multiplier housing after every 500 hours of operation, or at least once a year.
- It is best to drain the oil immediately after the tool is finished, since the oil is still warm and the sediment has not settled in it..

STORAGE - STORAGE OF MULCHERS

- If you do not use a mulcher for a long period of time, then completely clean all parts that came in contact with plant debris from the stuck ground and plant debris, and you should also keep in mind the inside of the tin armor and trailer.
 - Wash all tools thoroughly after cleaning.
- Drain the oil from the gear unit and fill it with clean oil to the appropriate level. (Dispose of old oil, discard and adhere to and comply with environmental laws).
 - Carefully remove all excess oil with a cloth.
 - Tighten all screws and nuts on the tool.
 - Clean rusty surfaces and exposed areas and coat with protective paint.
 - Raise the tool on a wooden stand located under the canopy or in a special dry room.
- If you have done the previous operations carefully, the mulcher is mobile and ready for use next working season.

When checking the tightness of the bolts and replacing the parts, tighten the bolts based on the tables shown

Normalni navoj

Dimenzija x P	Sila prednaprezanja F_v [N]					Moment pritezanja M_k [Nm]				
	4.6	5.6	8.8	10.9	12.9	4.6	5.6	8.8	10.9	12.9
M 4 x 0,7	1.280	1.710	3.900	5.700	6.700	1,02	1,37	3,0	4,4	5,1
M 5 x 0,8	2.100	2.790	6.400	9.300	10.900	2,0	2,7	5,9	8,7	10
M 6 x 1,0	2.960	3.940	9.000	13.200	15.400	3,5	4,6	10	15	18
M 8 x 1,25	5.420	7.230	16.500	24.200	28.500	8,4	11	25	36	43
M 10 x 1,5	8.640	11.500	26.000	38.500	45.000	17	22	49	72	84
M 12 x 1,75	12.600	16.800	38.500	56.000	66.000	29	39	85	125	145
M 14 x 2,0	17.300	23.100	53.000	77.000	90.000	46	62	135	200	235
M 16 x 2,0	23.800	31.700	72.000	103.000	124.000	71	95	210	310	365
M 18 x 2,5	28.900	38.600	91.000	129.000	151.000	97	130	300	430	500
M 20 x 2,5	37.200	49.600	117.000	166.000	194.000	138	184	425	610	710
M 22 x 2,5	46.500	62.000	146.000	208.000	243.000	186	250	580	830	970
M 24 x 3,0	53.600	71.400	168.000	239.000	280.000	235	315	730	1.050	1.220
M 27 x 3,0	70.600	94.100	221.000	315.000	370.000	350	470	1.100	1.550	1.800
M 27 x 3,0	70.600	94.100	221.000	315.000	370.000	350	470	1.100	1.550	1.800
M 30 x 3,5	85.700	114.500	270.000	385.000	450.000	475	635	1.450	2.100	2.450
M 33 x 3,5	107.000	142.500	335.000	480.000	560.000	645	865	2.000	2.800	3.400
M 36 x 4,0	125.500	167.500	395.000	560.000	660.000	1.080	1.440	2.600	3.700	4.300
M 39 x 4,0	151.000	201.000	475.000	670.000	790.000	1.330	1.780	3.400	4.800	5.600

Fini navoj

Dimenzija x P	Sila prednaprezanja F_v [N]			Moment pritezanja M_k [Nm]		
	8.8	10.9	12.9	8.8	10.9	12.9
M 8 x 1	18.100	26.500	31.000	27	40	47
M 10 x 1,25	28.500	41.500	48.500	54	79	93
M 12 x 1,25	43.000	64.000	74.000	96	140	165
M 12 x 1,5	40.500	60.000	70.000	92	140	165
M 14 x 1,5	58.000	86.000	100.000	150	220	260
M 16 x 1,5	79.000	116.000	136.000	230	340	390
M 18 x 1,5	106.000	152.000	177.000	350	490	580
M 20 x 1,5	134.000	191.000	224.000	480	690	800
M 22 x 1,5	166.000	236.000	275.000	640	920	1.070
M 24 x 2	189.000	270.000	315.000	810	1.160	1.350
M 27 x 2	245.000	350.000	410.000	1.190	1.700	2.000
M 30 x 2	309.000	440.000	515.000	1.610	2.300	2.690

SPARE PARTS LIST

- Instructions for ordering spare parts –

To order spare parts or components, contact the sales department - spare parts.

The existing images on the following sheets show the machine parts marked with numbers.

The text next to the picture contains: the ordinal number of the machine part, its identification number, the quantity within the mulcher and, if necessary, the dimensions or standard. Also pay attention to the additional markings on the sheets.

To avoid misunderstandings and incorrect delivery when ordering spare parts, be sure to specify:

- mark and number of mulchers (series, ())
- number and name of the spare part (determine in this list)
- quantity of required spare parts
- desired delivery method (by mail, express, etc.)
- full address of the ordering party (with postal code)

The image shows a black identification plate for FPM AGROMEHANIKA. It contains the following information and fields:

- FPM AGROMEHANIKA** logo on the left.
- Address: **Ul. Đorđ a Simeonovića 25, 19370 Boljevac.** and website: **www.fpm-agromehanika.rs** on the right.
- Fields for: **SERIAL No. / SERIJSKI BROJ**, **TYPE / SERIJA**, **WEIGHT (kg) / MASA (kg)**, and **YEAR OF PRODUCTION / GODINA PROIZVODNJE**.
- CE mark and a triangle warning symbol.
- A small box with the letter **Z** and another empty box.
- Bottom text: **• Made in Serbia •**

Na vašoj mulčaru na pločici prikazanoj na slici, utisnuta je serija i fabrički broj.

Garantni slučajevi i druga pitanja ne mogu se rešavati bez podataka o seriji i fabričkom broju.



FPM AGROMEHANIKA DOO
Đorđa Simeonovića 25
19370 Boljevac – Srbija

DECLARATION OF CONFORMITY

We, **FPM Agromehanika DOO**,
Djordja Simeonovića 25, 19370, Boljevac, Srbija

We hereby declare, as manufacturers, within our responsibility, that the products listed below are in accordance with the requirements of the Ordinance on the safety of machinery (" Official Gazette of the REPUBLIC OF SERBIA ", No. 21/2020, valid from 06.03.2020)

Type:	Plant residue shredder - MULCHAR (for use in fruit growing and viticulture)	
Model:	LUM 110	FPM-618.232 – 1,10 m
	LUM 130	FPM-618.197 – 1,30 m
	LUM 150	FPM-618.198 – 1,50 m

Year of manufacture: 2021

as well as in accordance with the requirements set out in the **European Directive 2006/42 / EC (for machines)**.

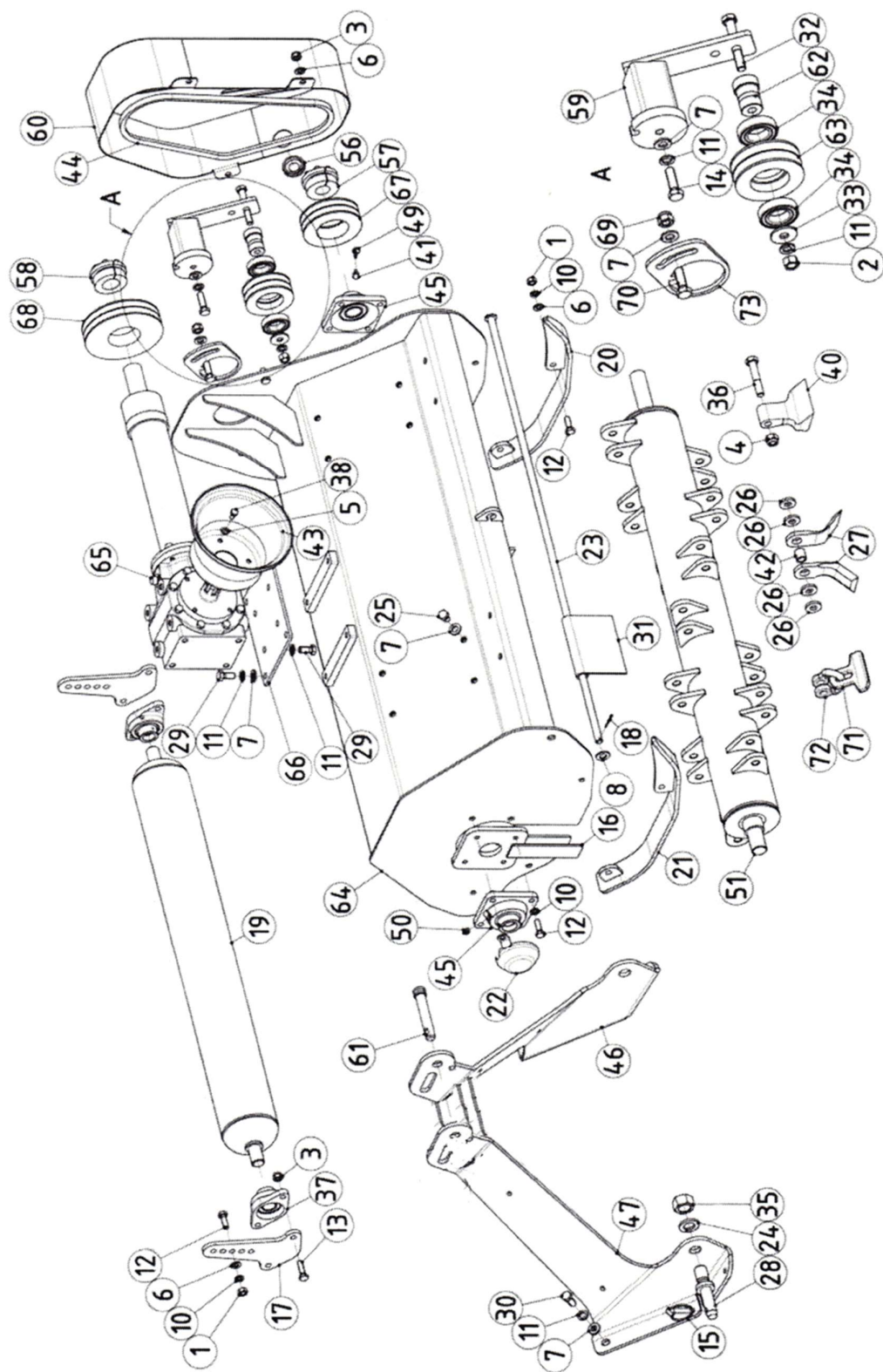
The product complies with the following technical standards:

- SRPS EN ISO 12100:2014
- SRPS EN ISO 13857:2020
- SRPS EN ISO 4254-1:2016
- SRPS EN ISO 4254-5:2018
- SRPS EN ISO 4254-12:2013
- EN 1553:2000
- SRPS ISO 11684:1999
- SRPS EN ISO 11201:2014

At Boljevac,
03.02.2021.

Potpis odgovorne osobe:
GENERALNI DIREKTOR
Branislav Rajić, maš.ing





poz.	br. crteža	kom. po sklopu	napomena
1.	618010189	12	
2.	618010190	1	
3.	618010202	12	
4.	618023141	14	
5.	618010218	4	
6.	618010219	20	
7.	618010220	17	
8.	618010221	1	
9.	618010224	1	
10.	618010232	20	
11.	618010233	16	
12.	618010259	20	
13.	618010260	4	
14.	618010271	1	
15.	618010328	3	
16.	618 010419	2	
17.	618 010468	2	
18.	618010449	1	
19.1.	618010454	1	LUM 110 (FPM-618.232)
19.2	618010455	1	LUM 130 (FPM-618.197)
19.3	618110456	1	LUM 150 (FPM-618.198)
20.	618 010467	1	
21.	618010468	1	
22.	618010474	1	
23.1.	618010477	1	LUM 110 (FPM-618.232)
23.2.	618010478	1	LUM 130 (FPM-618.197)
23.3.	618010479	1	LUM 150 (FPM-618.198)
24.	618010660	2	
25.	618010662	6	
26.	618010771	56	
27.	618010867	28	
28.	618010940	2	
29.	618010997	8	
30.	618010270	6	
31.	618011436	5	
32.	618010473	1	
33.	618011654	1	
34.	618011832	2	
35.	618011886	2	
36.	618011933	14	
37.	618011956	2	
38.	618012024	4	
39.	618012026	5	
40.	618012052	14	
41.	618012250	1	
42.	618012462	14	
43.	618012471	1	
44.	618012526	2	
45.	618012692	2	
46.	618015109	1	

47.	618015110	1	
48.	618015345	1	
49.	618017212	1	
50.	618017213	1	
51.1.	618017316	1	LUM 110 (FPM-618.232)
51.2.	618017351	1	LUM 130 (FPM-618.197)
51.3.	618017317	1	LUM 150 (FPM-618.198)
52.1.	618018043	1	LUM 110 (FPM-618.232)
52.2.	618018044	1	LUM 130 (FPM-618.197)
52.3.	618018045	1	LUM 150 (FPM-618.198)
53.1.	618018047	1	LUM 110 (FPM-618.232)
53.2.	618018048	1	LUM 130 (FPM-618.197)
53.3.	618018049	1	LUM 150 (FPM-618.198)
54.	618 019024	1	
55.1.	618019137	1	LUM 110 (FPM-618.232)
55.2.	618019138	1	LUM 130 (FPM-618.197)
55.3.	618019139	1	LUM 150 (FPM-618.198)
56.	618019896	1	
57.	618022432	1	
58.	618022433	1	
59.	618022440	1	
60.	618022488	1	
61.	618022815	1	
62.	618024256	1	
63.	618024259	1	
64.1.	618024268	1	LUM 110 (FPM-618.232)
64.2.	618024269	1	LUM 130 (FPM-618.197)
64.3.	618024270	1	LUM 150 (FPM-618.198)
65.	618024274	1	
66.	618024281	1	
67.	618024282	1	
68.	618024283	1	
69.	618010203	1	
70.	618010270	1	
71.	618024396	14	
72.	618024397	14	
73.	618024958	1	
74.1.	618025215	1	LUM 110 (FPM-618.232)
74.2.	618025214	1	LUM 130 (FPM-618.197)
74.3.	618025213	1	LUM 150 (FPM-618.198)



This machine meets the safety requirements of the European Machinery Directive.



**THE OPERATOR SHOULD COMPLY WITH ALL REGULATIONS ON SAFETY AND HEALTH CARE, AS WELL AS REGULATIONS ON ROAD TRAFFIC.
FOR THE PURPOSE OF YOUR OWN SAFETY, USE ONLY ORIGINAL PARTS PRODUCED BY FPM AGROMEHANIKA DOO - BOLJEVAC.
THE MANUFACTURER IS NOT RESPONSIBLE FOR THE CONSEQUENCES OF INCORRECT USE OR NON-COMPLIANCE WITH THE RECOMMENDATIONS**



**FOR YOUR PERSONAL SAFETY AND TO GET
THE BEST FROM YOUR PLANT REMOVER
MULCHER, USE ONLY THE ORIGINAL PARTS
PRODUCED
FPM AGROMEHANIKA DOO BOLJEVAC**

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