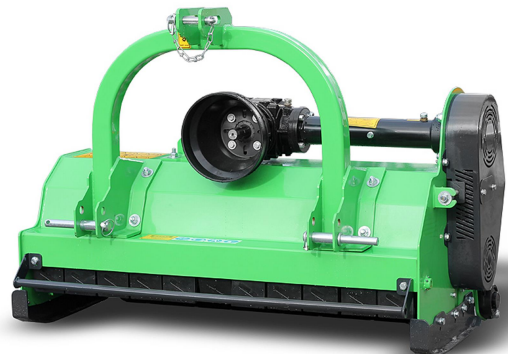




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USER MANUAL SPARE PARTS CATALOGUE WARRANTY



**LIGHT FLAIL MOWER ECO
100; 135; 135H; 150; 150H;
180; 180H; 200; 200H; 220; 220H**



Borzytuchom 2023 - ISSUE 03

TRANSLATION OF THE ORIGINAL MANUAL



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CAUTION!

The safety regulations shall be followed while using the machine and this manual shall be read prior to the machine operation.

The manual is an integral part of the machine equipment!

The manual shall be kept in a safe place and shall be available for user and an operator during the whole period of the machine operation

If the manual is lost or destroyed, new manual shall be purchased in the machine retail outlet or at the manufacturer's office.

If the machine is sold or made available to other user, the manual and the declaration of conformity shall be attached to the machine.

The manufacturer reserves all rights to this manual.

Copying, processing the manual as a whole or its part with no consent of the manufacturer is forbidden.



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TALEX guarantees the efficient operation of the machine, providing it is being used in accordance with the technical and operating conditions specified in this USER MANUAL.

Any faults revealed during the warranty period will be repaired by the Warranty Service.

Expiration date of the warranty period is specified in the WARRANTY CARD.

Machine parts and components, which are subject to wear in normal operating conditions, are not covered by the warranty, regardless of the warranty period.

Warranty Service covers only instances such as: mechanical damages not caused by a fault of the user, production defects, etc.

The group of elements includes, among others, the following parts/components:

- Flail hammer,
- bearings.

In the event of damages resulting from:

- mechanical destruction caused by a fault of the user or a traffic accident,
- improper use, adjustment and maintenance, use of the machine for a purpose other than intended,
- use of a damaged machine
- repairs conducted by unauthorized persons, improper repairs,
- arbitrary changes and modifications of the machine structure,

the user's rights to Warranty Service may become invalid.

The user is obliged to immediately report any noticed damages of paint coat or spots of corrosion, and order repairs regardless whether or not the damages are covered by the Warranty. Warranty conditions are specified in detail in the WARRANTY CARD attached to the purchased machine.



TABLE OF CONTENTS

1. Machine identification.....	6
2. Introduction	7
2.1. Read the manual	7
2.2. Intended use	7
2.3. Warranty	8
3. Health and safety rules	8
3.1. General safety rules	8
3.2. Safety signs on the machine	10
3.3. Threats occurring during the use of the mower.....	12
3.4. Working parts of the machine	13
3.5. Machines linked with three point hitch	13
3.6. Machine unlinked from the tractor	13
3.7. Work with the PTO shaft.....	13
3.8. Service	14
3.9. Technical specification	15
3.10. Construction and operation	16
4. Usage	17
4.1. Linking the machine with the tractor, setting and adjusting the height.....	17
4.2. Work	18
5. Recommended machine maintenance.....	19
5.1. Greasing	19
5.2. V-belts tensioning.....	20
5.3. Replacing the flail hammers	21
6. Technical inspections, storage and utilization.....	22
6.1. Storage.....	23
6.2. Disassembly and utilization	23
7. Spare parts catalogue	24
7.1. General machine construction	25
7.2. Working shaft	27
7.3. Contour following roller ECO 100, 135, 150.....	28
7.4. Contour following roller ECO 180, 200, 220.....	29
7.5. Rear curtain.....	30
7.6. Skids	32
7.7. V-belt gearbox cover ECO 100/135/150	33

7.8.	V-belt gearbox cover ECO 180/200/220	34
7.9.	Belt tensioner	35
7.10.	Fixed headstock	36
7.11.	Hydraulic headstock	37
7.12.	Drive train	39
7.13.	Stone curtain	42
7.14.	Bumper	43
7.15.	Body with end cap	44
8.	Warranty	45
9.	Declaration of conformity CE	47

TABLE OF FIGURES.

Fig 1.	ECO shredder dimensions	16
Fig 2.	Shredder drive diagram	17
Fig 3.	Linking the shredder	18
Fig 4.	Oil change holes	19
Fig 5.	Greasing diagram	20
Fig 6.	Belt tensioning scheme	21
Fig 7.	Flail hammer assembly	21
Fig 8.	General machine construction	25
Fig 9.	General machine construction	25
Fig 10.	Working shaft components	27
Fig 11.	Complete contour following roller ECO 100, 135, 150	28
Fig 12.	Complete contour following roller ECO 180, 200, 220	29
Fig 13.	Complete rear curtain	30
Fig 14.	Complete skid	32
Fig 15.	Complete v-belt gearbox cover ECO 100/135/150	33
Fig 16.	Complete v-belt gearbox cover ECO 180/200/220	34
Fig 17.	Belt tensioner	35
Fig 18.	Fixed headstock - set	36
Fig 19.	Hydraulic headstock - set	37
Fig 20.	Components of the drive train	39
Fig 21.	Stone curtain	42
Fig 22.	Bumper components	43
Fig 23.	Body with end cap	44



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1. Machine identification

All the information needed for identification is located on the nameplate, which is attached to the body of the machine. It contains such information as the name and address of the manufacturer, year of production, factory number, weight of the machine.



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POLAND



Nazwa/Name:	ECO	
Typ/Type: 150 H	Nr seryjny/Serial No.:	000001
Masa/Weight: 315 KG	Rok produkcji/ Year of production:	2023

Fig 1: Nameplate

In case of uncertainty, the dealer or manufacturer should provide any information about the machine and clarification of the operating instructions.

Manufacturer's address:

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2. Introduction



CAUTION!

This symbol indicates danger.

This warning symbol indicates important information about the dangers.
You are requested to read the information carefully,

Follow the recommendations

2.1. *Read the manual*



CAUTION!

Read the operating instructions
before use

The user manual is provided with the machine. Please read it carefully before starting any work with the machine.

This manual provides the user with information on the operation, use and maintenance of the machine. It contains operational characteristics, requirements for safe and correct operation with the machine, allowing the best use of the machine with maximum service life and reliability. A careful reading of the operating instructions will help to avoid accidents and allow for long and trouble-free service.

2.2. *Intended use*

The machine is designed for normal, typical agricultural use, i.e. for mowing and shredding of low-stemmed plants (bushes, plant stems, etc.).

The use of the shredder for other purposes shall be considered as misuse. This excludes the manufacturer's responsibility for any damage resulting from such use.

- The machine may only be operated by trained operators who have read the operating instructions and have been authorised to drive a vehicle with a shredder.
- The shredder shall be used for its intended use and properly maintained and repaired.
- Follow the safety regulations specified in this manual, general health and safety rules, road traffic rules.
- Follow the occupational health and safety rules when operating and maintaining the machine.
- Unauthorised modifications to the machine exclude the manufacturer's responsibility for any damage resulting therefrom.

2.3. *Warranty*

Warranty conditions are stated in the warranty card. It is the responsibility of the machine operator to thoroughly familiarise himself with this operating manual. Failing to follow the rules of proper operation will lead to a reduction in the efficiency of the shredder, its failure and the loss of warranty rights. Warranty entitlements will be lost in particular in the following cases:

1. Any mechanical damage caused by operation that does not comply with the operating instructions, particularly mowing when driving backwards.
2. Performing repairs by workshops other than the dealer's service centre, the factory service centre or the service centre indicated by the manufacturer.
3. Use of other than original spare parts for repairs.
4. Any unauthorised modifications to the shredder build.

3. Health and safety rules

Most of the accidents that occur during work, handling or transport are down to a non-compliance with elementary safety rules. It is therefore important that anyone working with the machine follows the following basic safety rules as closely as possible:

3.1. *General safety rules*


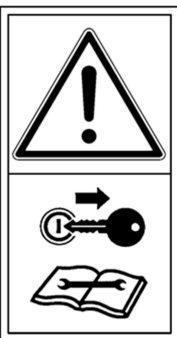







1. Observe the general rules of health and safety in addition to the instructions in this manual!
2. Comply with the indications of warning signs and symbols on the machine. Compliance with them protects the operator safety!
3. It is forbidden to use the machine without the necessary safety guards, damaged guards must be replaced by original spare parts.
4. Do not start shredder operation until the tractor's PTO nominal speed has been reached. Do not exceed 540 rpm.
5. It is forbidden to do any work on the machine while the moving parts are rotating, it is mandatory to wait until they have stopped. Never wear loose clothing which can be snagged by rotating parts.
6. Never leave the shredder running when not in control
7. Ensure that no persons or animals are in the danger zone before or during the mower operation.
Operating the shredder in the presence of bystanders within a distance of less than 50 m is prohibited!
8. It is forbidden to climb onto the machine.
9. Fields and meadows must be cleared of stones and hard objects before work- larger stones must be removed.
10. It is forbidden to operate the mower while driving backwards.
11. It is forbidden to step between the tractor and the machine until the shredder has been secured against rolling before the tractor parking brake has been locked or by placing chocks under the wheels..


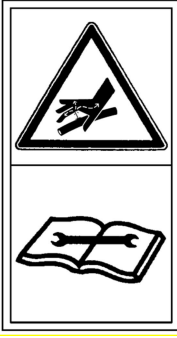








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12. The control of the tractor's hydraulic linkage lever should be carried out only from the driver's seat position.
13. It is not allowed to operate the lifting and lowering lever from outside the vehicle.
14. It is forbidden to raise the machine on the tractor's hydraulic linkage when the drive is switched on and the working shaft is rotating.
15. Be particularly careful when working on slopes and hillsides.
16. Do not use dangling, unbuttoned pieces of clothing when working, fitting, adjusting, dismantling. Keep them away from structural components that can snag them.

3.2. Safety signs on the machine

 <p>Prior to using the machine, read the User Manual</p>	 <p>Switch off the engine and remove the key before carrying out maintenance or repair work</p>	 <p>Keep a safe distance from the machine. Do not allow bystanders to be within less than 50m away</p>
 <p>Warning, belt transmission. Use extreme caution. Drawing-in of hand and arm.</p>	 <p>Warning, possibility of being drawn-in by the machine</p>	 <p>Keep a safe distance from the machine. Crushing of toes or foot – Force applied from above</p>
 <p>Do not ride on platforms or ladders</p>	 <p>Do not stand near the lift strands when controlling the lift</p>	 <p>Do not open or remove safety guards when the engine is running</p>

 <p>Keep a safe distance from power lines</p>	 <p>Avoid exposure to liquids flowing under pressure.</p>	 <p>Warning : cutting knives. Keep away from the working mower</p>
 <p>Lifting points on the mower during handling</p>	 <p>Use protective coverall</p>	 <p>Wear eye protection</p>
 <p>Wear ear protectors</p>	 <p>Use safety gloves</p>	<div data-bbox="1018 1189 1378 1335" data-label="Text"> <p>16 MPa</p> </div> <p>Warning message about pressure in the hydraulic system</p>

3.3. Threats occurring during the use of the mower

No.	Threat	Source of threat (reason)	Measures to protect against threats
1	Overload of the motion system (physical load)	Working in a standing, tilted-forced position, walking, moving	Reading the instruction manual, on-the-job training including the weight carrying standards while performing manual transport works, proper techniques of weights carrying, other person assistance, devices facilitating the transport i.e. lifting jack, hoisting winch
2	Fall at the same level (falter, slipping etc.)	Bumpy surface, disorder – laying and standing items, items on the passageways, slippery surfaces	Proper working shoes, plane surface, staying alerted, keeping it tidy, reading the instruction manual
3	Hitting fixed parts of the machine	Machine and its surroundings	Proper position of the machine, safe space for moving, proper organization of work, staying alerted, reading the instruction manual
4	Being hit by the mowed material	Granulated plants, accidental parts of turf, stones thrown by the machine	Observing due attention, designating the danger zone, prohibiting movement while the machine is running, removing stones, prohibiting work in stony areas, use of personal protective equipment - protective helmet, glasses, familiarization with the operator's manual
5	Sharp dangerous edges	Projecting structural elements of the machine, use of hand tools	Personal protective equipment - protective gloves, working clothes fastened, special attention
6	Belt gearboxes	Moving gear wheels and belts, rotating PTO shaft, no covers for moving parts	Prohibition to move, approach and make adjustments to the working machine, exercise extreme caution, use guards for moving parts, familiarize yourself with the operating manual
7	Oil mechanical gears, power hydraulic systems	Fluids, hydraulic and lubricating oils, solid lubricants, temperature, leaks, slippage, burns, injections, allergies, poisoning	Exercise extreme caution, use personal protective equipment - protective footwear, gloves and protective glasses, securely position the machine. Familiarization with the user manual. Getting acquainted with the characteristics sheets of oils and greases used in machine operation.
8	Weight of the suspended standing machine	Improper assembly, linking, wrong positioning of the machine, wrong operation, leaving the suspended machine on the tractor	Exercise extreme caution, use personal protective equipment - protective footwear, protective gloves, set the machine safely, use the help of another person, use jacks, davits, familiarize yourself with the operator's manual
9	Microclimate - changing weather conditions	Work performed in various weather conditions	Appropriate work clothes, drinks, sunscreen, rest, read the operating instructions
10	Noise	Machine speed too high, damaged, loose vibrating parts	Working with an efficient machine, current inspections of the machine, proper rotation of the machine, familiarization with the operating manual

Transport

- Before the mower linked to the tractor is set to the transport position, make sure that the PTO shaft is turned off and all rotating elements are at rest.
- Be especially careful when traveling with the attached machine on public roads and comply with applicable road law. Moreover, for the duration of transport, a portable light and warning device and a triangular sign for slow-moving vehicles should be installed on the machine.
- Adjust your speed on roads to current road conditions and use common sense.
- When cornering, be aware that the machine sticks out to the rear and sideways..

3.4. **Working parts of the machine**

- Before using the machine, pay attention to the condition of the cutting elements.
- Worn and damaged cutting elements as well as their fasteners must be replaced immediately with original spare parts.

3.5. **Machines linked with three point hitch**

- Before linking or removing the mower from the tractor's three-point linkage, set the hydraulic lift lever in a position in which unintentional lifting or lowering of the machine is excluded.
- Hitch categories of the tractor and the machine must comply.
- In the transport position, always pay attention to the lateral stability of the tractor-mower connection.
- During transport with the machine raised, the hydraulic lift control lever must always be secured against lowering.

3.6. **Machine unlinked from the tractor**

Park the machine on a stable and level surface, in a place protected from weather conditions and unauthorized persons.

3.7. **Work with the PTO shaft**

- Use only PTO shafts supplied by the machine manufacturer or with similar parameters.
- All mounted PTO shaft covers must be operational. Replace damaged shaft covers immediately!
- Install and remove the PTO shaft only with the PTO shaft disengaged, the engine switched off and the ignition key removed!
- Observe the prescribed overlapping of the PTO shaft halves in the working and transport positions!
- Secure the shaft cover with a chain to prevent it from turning with the shaft!
- Before engaging the PTO shaft, make sure that the direction of rotation and rotational speed of the PTO shaft correspond to the rotation of the PTO shaft.
- Before engaging the PTO shaft, make sure that no one is within a dangerous distance of the machine.
- Turn off the PTO shaft when it is not needed.

- With the PTO disengaged, wait until the rotation due to the inertia of the rotating masses has ceased before anyone enters the danger zone.
- After disconnecting the PTO shaft, put the covers back on and put it in the place provided.
- After any damage occurs, it must be removed immediately or the shaft replaced with a new one.

3.8. *Service*

Perform all repair, maintenance and adjustment works only with the drive disconnected, the engine turned off and the ignition key removed..

Pay special attention to the hazards when moving the machine from working to transport position.



Use protective clothing and gloves during maintenance work - especially when replacing cutting elements!

It is forbidden to operate the machine on the edges of streets, roads, public squares (parks, schools, etc.) or on stony terrain, in order to avoid the danger of throwing stones and other objects.



All decals on the machine must be legible. If any of them is damaged, it is the responsibility of the owner/user to replace it with a new one.

3.9. Technical specification

Shredder type		100	135/135H	150/150H	180/180H	200/200H	220/220H
Shredding work width(A)		1000 mm	1350 mm	1500 mm	1730mm	1930mm	2130mm
Power demand		min 15 HP	min 25 HP	min 30 HP	min 40 HP	min 50 HP	min 60 HP
Carrier hitch category(3PT)		I	I	I	I/II	I/II	I/II
Number of flails		16 szt.	22 szt.	24 szt.	26 szt.	30szt.	34 szt.
PTO RPM		540					
Effeciency		Approx.. 0,5ha/h	Approx. 0,7ha/h	Approx. 0,75ha/h	Approx. 1,3 ha/h	Approx. 1,6 ha/h	Approx. 1,9 ha/h
Working speed		3-5 km/h			5-8 km/h		
Transport speed		20 km/h					
Length (B)		836mm/985mm (fixed/ hydraulic headstock version)			855/987mm (fixed/ hydraulic headstock version)		
Width (C)		1298mm	1663mm	1792mm	2050 mm	2250 mm	2450 mm
Height(D)		869-904mm/956-991mm(fixed/ hydraulic headstock version)			927-972/1014-1059 (fixed/ hydraulic headstock version)		
Mass		222kg	260kg/302kg	273kg/315kg	373kg/408kg	397kg/432kg	420kg/455kg
Hydraulic offset(E)		400 mm (only with hydraulic offset version)					
The level of noise emitted by the machine	L _{pA}	91,4 ^{+2,1} ₊₀ dB	91,6 ^{+2,0} ₊₀ dB	92,0 ^{+2,0} ₊₀ dB	96,1 ^{+2,1} ₊₀ dB	93,0 ^{+2,1} ₊₀ dB	92,7 ^{+2,0} ₊₀ dB
	L _{Amax}	96,5 ^{+2,6} ₊₀ dB	96,8 ^{+2,6} ₊₀ dB	96,1 ^{+2,6} ₊₀ dB	101,0 ^{+2,6} ₊₀ dB	96,6 ^{+2,6} ₊₀ dB	98,1 ^{+2,6} ₊₀ dB
	L _{Cpeak}	124,1 ^{+2,6} ₊₀ dB	124,1 ^{+2,6} ₊₀ dB	124,1 ^{+2,6} ₊₀ dB	124,1 ^{+2,6} ₊₀ dB	124,1 ^{+2,6} ₊₀ dB	124,1 ^{+2,6} ₊₀ dB
L _{pA} – The level of exposure to noise related to the 8-hour daily working time.							
L _{Amax} – Maximum sound measurement value.							
L _{Cmax} – Peak sound level.							

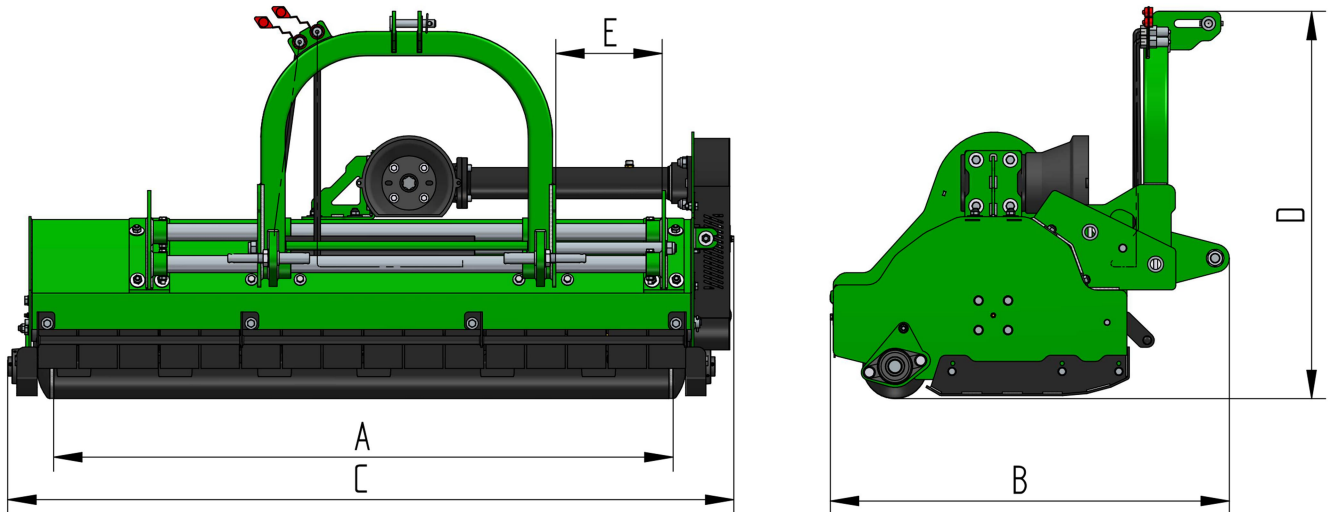


Fig 1. ECO shredder dimensions

3.10. *Construction and operation*

The shredder is linked to the tractor's three-point linkage. The working shaft (4) is driven from the tractor's PTO through the PTO shaft (1), angular transmission (2) and belt transmission (3).

The working element of the shredder are flails mounted on the working shaft. The working shaft is placed in the body laid on the ground using a contour following shaft.

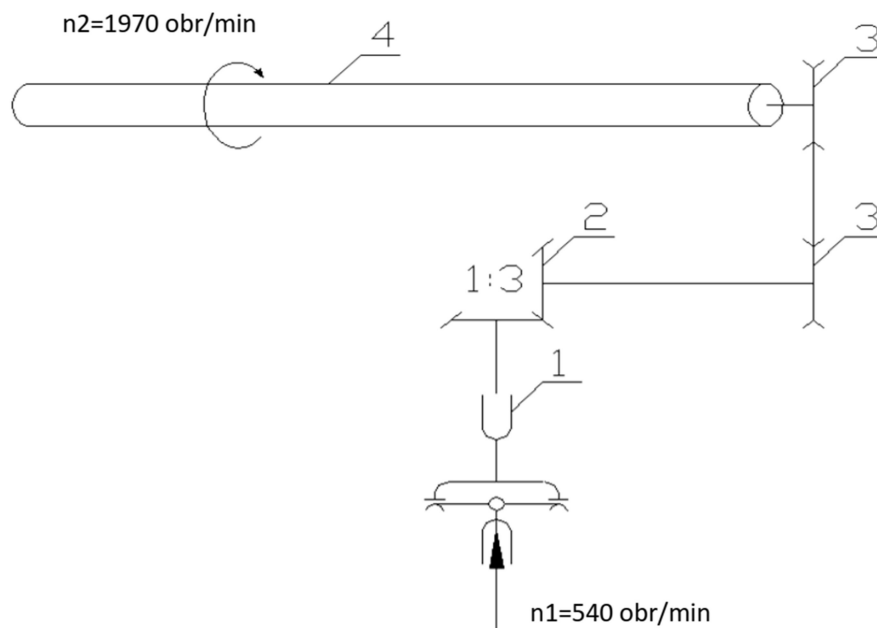


Fig 2. Shredder drive diagram

- 1 – PTO shaft,
- 2 – Angular transmission,
- 3 – Belt transmission,
- 4 – Working shaft.

4. Usage

4.1. Linking the machine with the tractor, setting and adjusting the height.

The shredder is designed to work with tractors equipped with the first category three-point linkage for ECO 100, 135 and 150 shredders and equipped with the first or second category three-point linkage for ECO 180, 200, 220 shredders.

The shredder is linked with the tractor using its three-point linkage (3PT):

- Lower pins (No. 1 in the drawing below) of the shredder's headstock should be placed in the holes of the ball joints of the two lower levers of the tractor and secured,
- connect the holes in the yoke with the pin (2) of the tractor's upper connector and secure it with a cotter pin,

- mount the PTO shaft, i.e. put the shaft ends on the tractor PTO and PTO of the machine, and secure against slipping out with the shaft latches.

The shredder should be placed in such a way that the slides are parallel to the ground. To do this, adjust the upper link.

To adjust the cutting height, unscrew the M12 bolts (marked with number 3 in the figure below) and loosen the M14 bolts (4). The next step is to put the M12 screws through one of the 4 holes in the side walls of the body. Moving the screw one hole results in lowering or raising the cutting height by about 11mm.

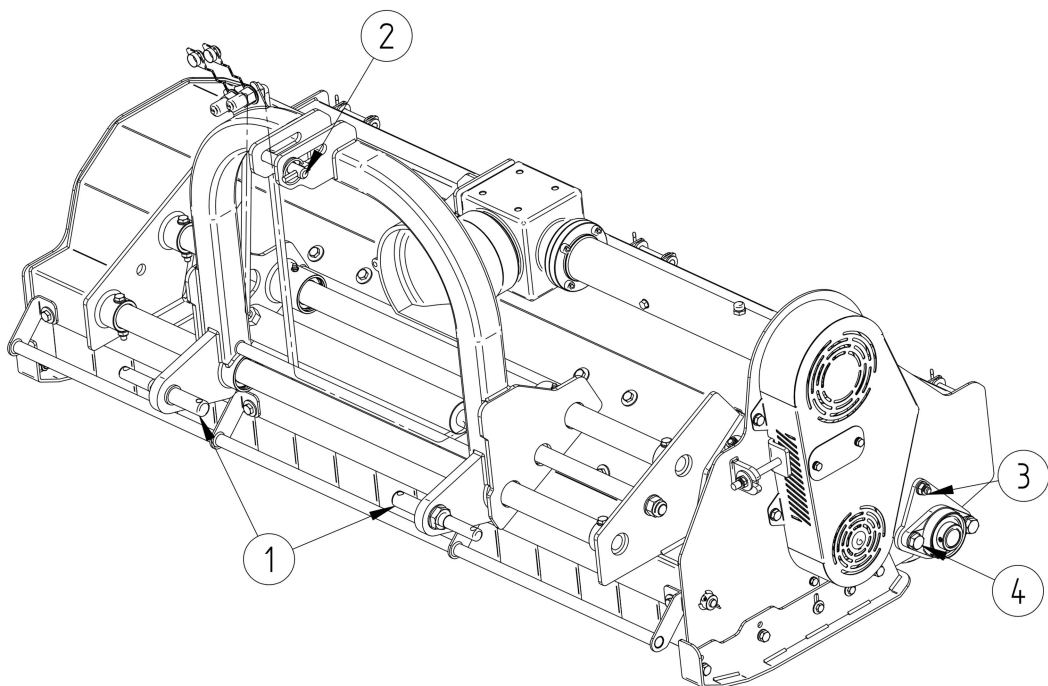


Fig 3. Linking the shredder



When moving the machine from the transport position to the working position and vice versa, it is forbidden to stay in the area of moving elements.

4.2. Work



The machine can be started after resting on the ground. It is forbidden to engage the drive when the machine is lifted above the working surface, not resting on the ground. Lifting the machine while working is forbidden. Before lifting, disengage the drive and wait for rotation to stop.



During operation, the rear curtain should be tightened so that it is impossible for it to rise on its own.

5. Recommended machine maintenance

At least once a year, change the oil in the gearbox and in the drive shaft housing. Use commercially available gear oil with the characteristics of GL-4 80W90. The amount of oil required for replacement is shown below:

Shredder type	100	135/135H	150/150H	180/180H	200/200H	220/220H
Amount of oil in the gearbox	0,9L	0,9L	0,9L	1,5L	1,5L	1,5L
Amount of oil in the drive shaft housing	0,4L	0,6L	0,6L	0,6L	0,6L	0,6L

The oil change spots are marked in the figure below.

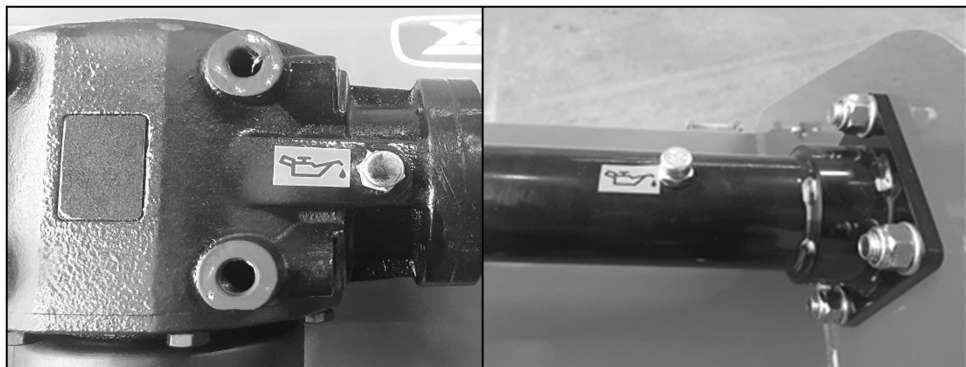


Fig 4. Oil change holes

In addition, it is necessary each time before the work is performed:

- Check the tension of the V-belts,
- Check overall condition of the machine.

5.1. Greasing

To ensure proper operation of the machine, it must be carefully and properly greased, in accordance with the greasing scheme.

All the spots marked on the fig. 6, are equipped with ball grease nipples, fill with grease ŁT43 using a grease gun. Grease the PTO shaft after removing it from the machine. The telescopic part of the shaft should be lubricated at least after 8 hours of operation - with the shaft fully extended and after prior removal of impurities.

In the figure below, the white field indicates the recommended time after which the presented elements should be lubricated.

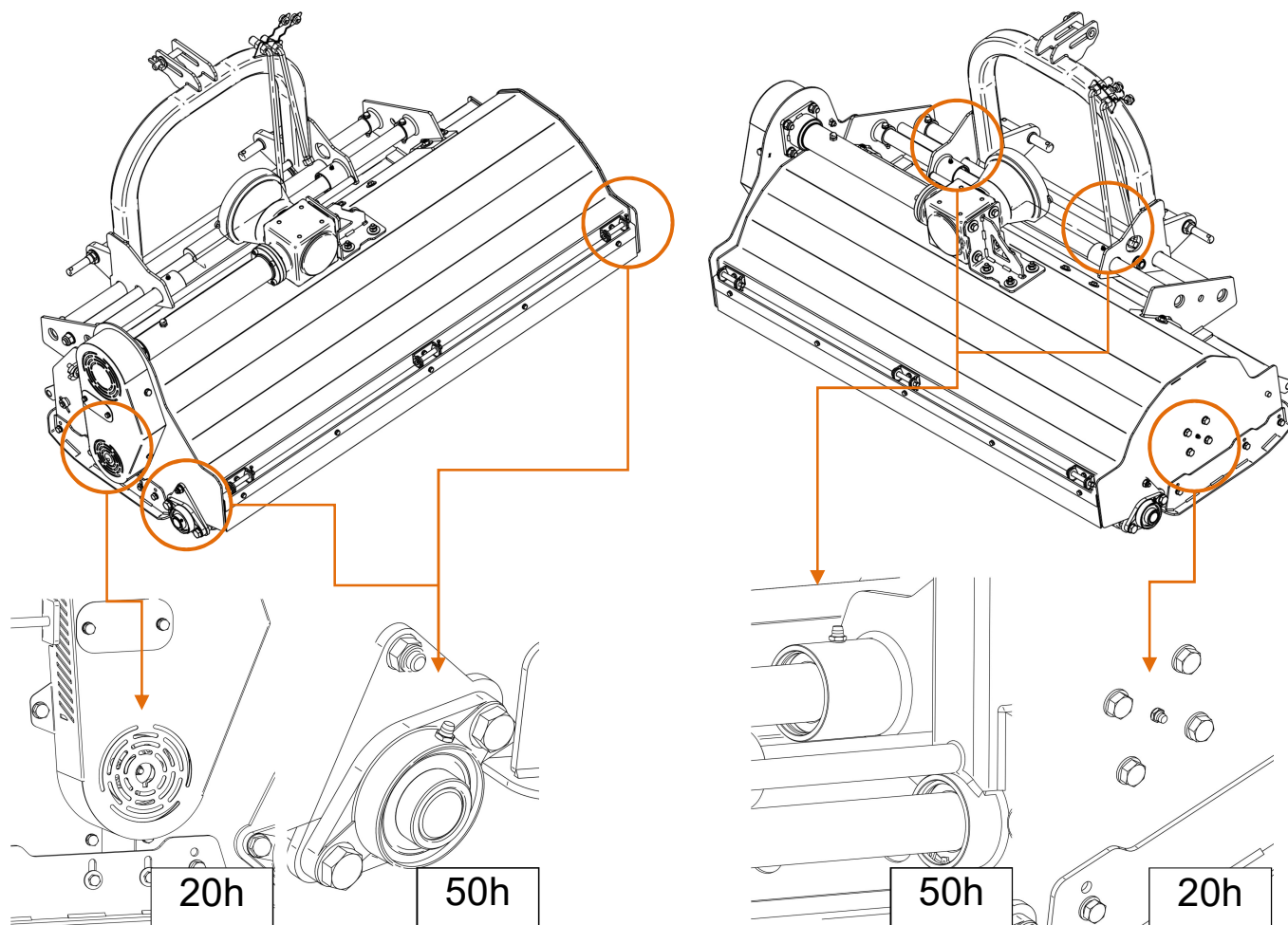


Fig 5. Greasing diagram

5.2. V-belts tensioning

Open the inspection visor before tensioning the v-belts. To do this, unscrew the 2 M8x16 bolts (1) and remove the plug (2). Then loosen the M14 bolt (3) located in the inspection visor. The next step is to loosen the M12 nut (4). In order to tension the loosened belts, make the appropriate number of turns with the M12 nut (5) clockwise. The belts, when properly tightened, should bend by 10-15 mm (if it is necessary to check, additionally remove the cover (6), which is attached with M10 bolts). After adjusting the tensioner, tighten the M14 bolt (3). Then counter the tightening bolt with the M12 nut (4) and close the inspection visor with the M8 bolts (1). The tension of the belts should be checked regularly, as their durability depends to a large extent on it.

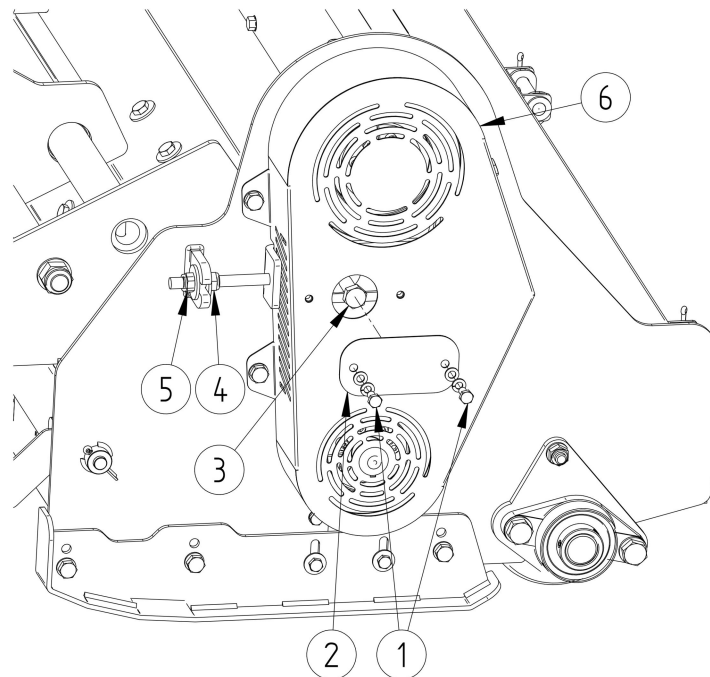


Fig 6. Belt tensioning scheme

5.3. *Replacing the flail hammers*

The working shaft in the ECO shredder is equipped with shredding parts in the form of flail hammers (Figure 8). The set consists of an M14x90 bolt (1), spacers (2), flail hammer (3) and an M14 nut (4).

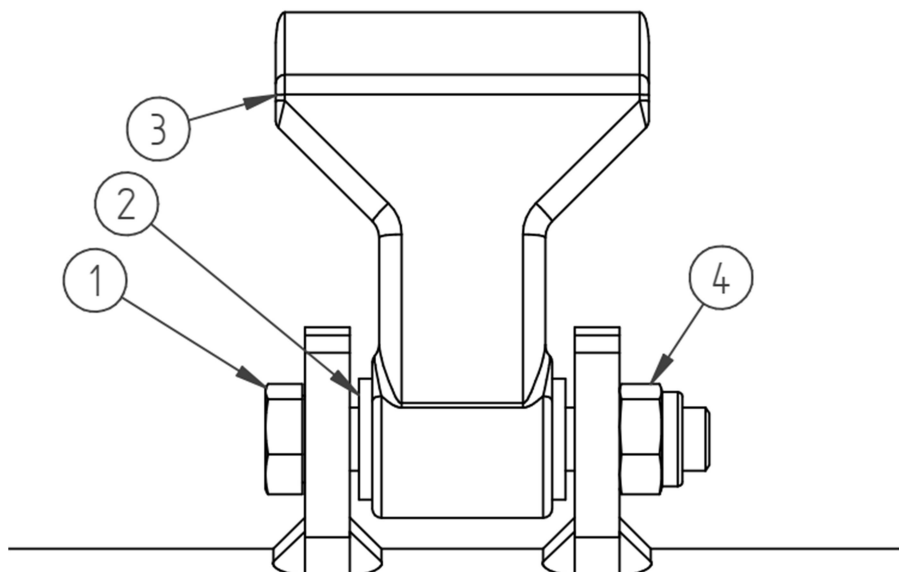


Fig 7. Flail hammer assembly



Shredding parts must be replaced after discovering defects, clear signs of wear, blunting of cutting edges, incomplete beaters or excessive looseness of mounted parts.

Maximum play of shredding parts

Play	Nominal [mm]	Acceptable [mm]
	Flail	Flail
Axial transverse	0,3	0,6
Axial longitudinal	0,2	0,6

Shredding parts should be replaced while observing safety rules..

1. Use only original and serviceable cutting unit parts.
2. Each replacement includes a set of parts. It is important to remember about even distribution of rotating masses and even wear of tools.
3. Bolt connections should be replaced with new ones each time the parts are replaced, paying attention to the strength class of the bolt and self-locking nut.
4. When tightening the screw connection, pay attention to the free, but without excessive play, rotation of the cutting part relative to the screw axis.

6. Technical inspections, storage and utilization

Daily, after finishing the work with the machine, the shredder should be thoroughly cleaned of impurities and its technical condition should be checked. Special attention should be paid to the condition of flail hammers. Damaged or worn parts must be replaced with new ones. All screw connections should be checked and loosened connections should be tightened in accordance with the table of tightening torques for screws and nuts. In the event of defects in the coating, they should be protected with a new layer of paint.

Tightening torques for bolts and nuts

Strengths	6.8	8.8	10.9	12.9
Metric thread	Tightening torque [Nm]			
M5	4,5	5,9	8,7	10
M6	7,6	10	15	18
M8	18	25	36	43
M10	37	49	72	84
M12	64	85	125	145
M14	100	135	200	235
M16	160	210	310	365
M18	220	300	430	500
M20	310	425	610	710
M22	425	580	820	960
M24	535	730	1050	1220

After the end of the working season:

- thoroughly clean the machine of impurities,
- carry out a technical inspection and replace damaged parts with new ones available from the manufacturer,
- grease the machine according to the greasing diagram (fig. 6).
- replenish the defects in the protective coating.

It is recommended to replace V-belts and hydraulic lines with new ones every 5 years.



All repairs and replacement of parts of the chipper drive system should be carried out by an appropriate specialist workshop, equipped with appropriate tools and instruments.

6.1. Storage

The shredder should be stored in a dry place, protected from the weather.

The machine should be placed on a stable, level surface and secured against uncontrolled movement.

6.2. Disassembly and utilization

If the machine is completely worn out to the extent that it cannot be used further, it should be scrapped. This also applies to ongoing repairs and replacement of damaged parts. For this purpose, the machine must be thoroughly cleaned, drained of operating fluids, which must be disposed of. Then disassemble the machine, sorting the parts according to the type of materials used. Segregated parts must be delivered to a recycling or disposal point.

7. Spare parts catalogue

HOW TO ORDER SPARE PARTS

In the order, the following should be specified each time:

- The address of purchaser,
- exact shipping address (machine parking place or method of collection),
- payment conditions,
- serial number and manufacture year of the machine (as on the name plate),
- spare part index number,
- spare part name,
- quantity of ordered spare parts.



Spare parts must be ordered at the machine sales points or from the manufacturer. Only the use of original manufacturer's parts guarantees safe and reliable operation of the device. Using non-genuine parts or repairing damaged parts voids the warranty.

The manufacturer reserves the right to make structural changes to the parts included in the individual assembly drawings of the parts catalog. These changes may not always be updated in the manual and parts catalogue. Individual drawings of spare parts may differ from the actual state.

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7.1. General machine construction

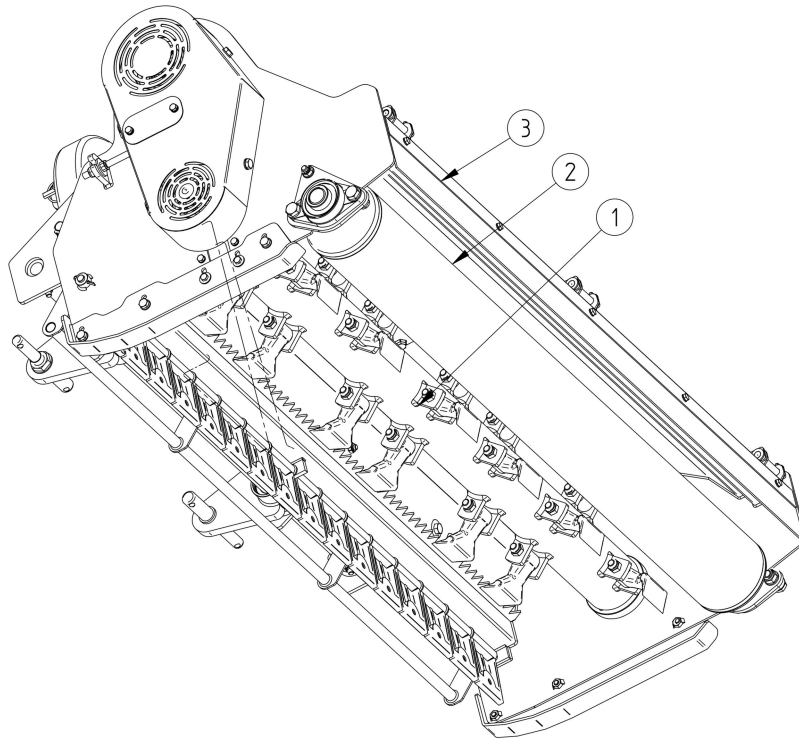


Fig 8. General machine construction

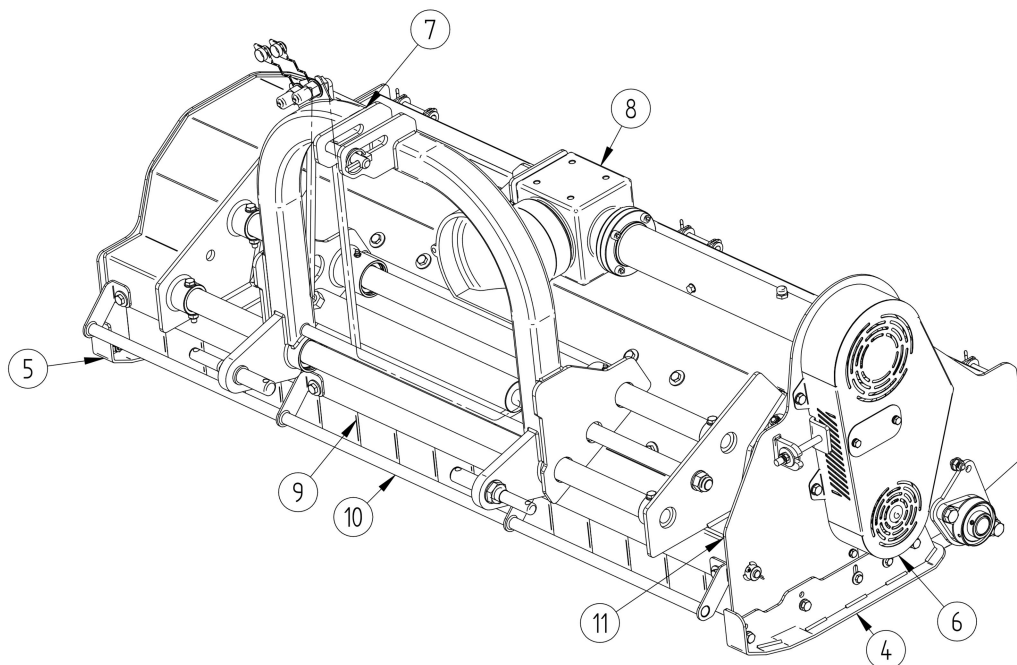


Fig 9. General machine construction



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Pos.	Name	Chapter	Pcs.
1.	Working Shaft	7.2	1
2.	Contour following roller	7.3/7.4	1
3.	Rear curtain	7.5	1
4.	Left skid	7.6	1
5.	Right skid	7.6	1
6.	Belt drive cover	7.7/7.8	1
7.	Headstock	7.10/7.11	1
8.	Drive	7.9/7.12	1
9.	Stone curtain	7.13	1
10.	Bumper	7.14	1
11.	Body and end cap	7.15	1

7.2. Working shaft

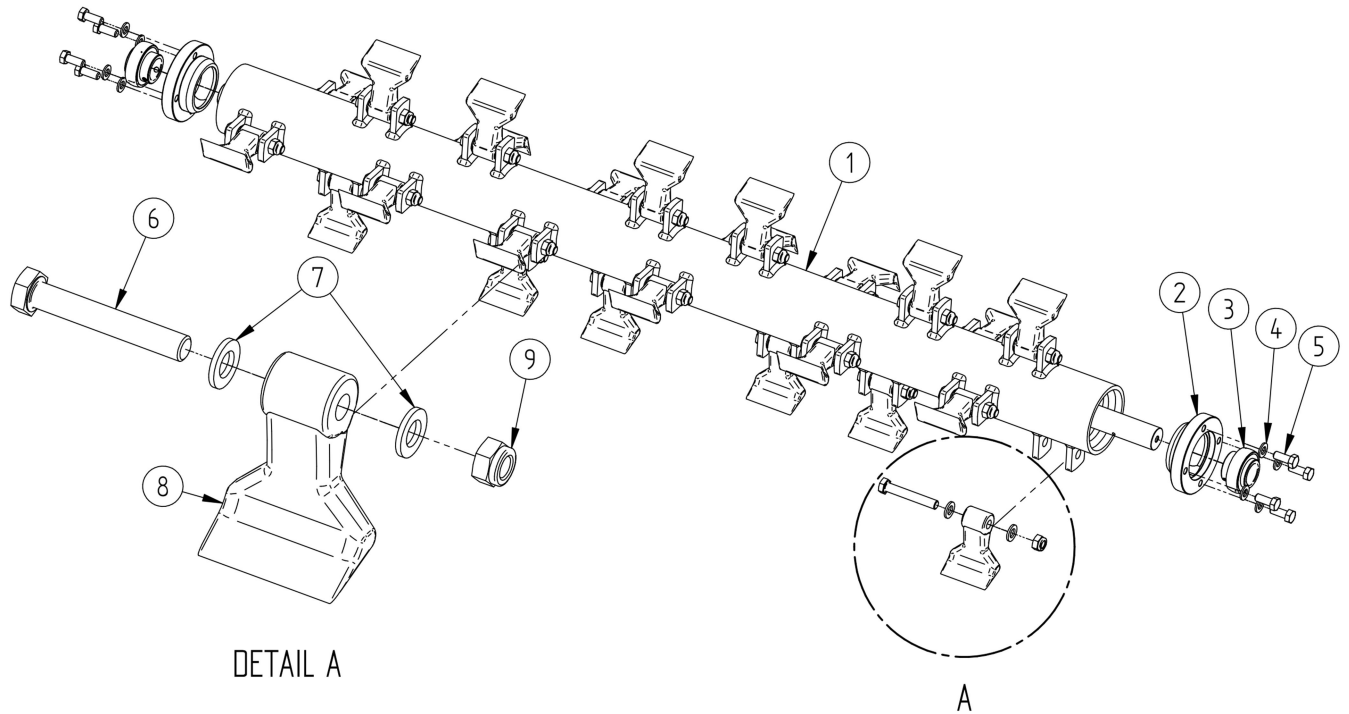


Fig 10. Working shaft components

Pos.	Name	Part no.	Pcs.
1.	Working shaft	ECO 100	1
		ECO 135	
		ECO 150	
		ECO 180	
		ECO 200	
		ECO 220	
2.	Bearing housing	P480114	2
3.	Bearing UC 207	T000204	2
4.	Standard washer M12	T000458	8
5.	Bolt M12x30-8.8	T000755	8
6.	Hex bolt. M14x90-10.9(quantity depends on model 100/135/150/180/200/220)	T000772	16/22/24/26/30/34
7.	Spacer (quantity depends on model 100/135/150/180/200/220)	P000097	32/44/48/52/60/68
8.	Flail hammer RM33 (quantity depends on model 100/135/150/180/200/220)	T000225	16/22/24/26/30/34
9.	Self-lock nut M14 (quantity depends on model 100/135/150/180/200/220)	T000293	16/22/24/26/30/34

7.3. Contour following roller ECO 100, 135, 150

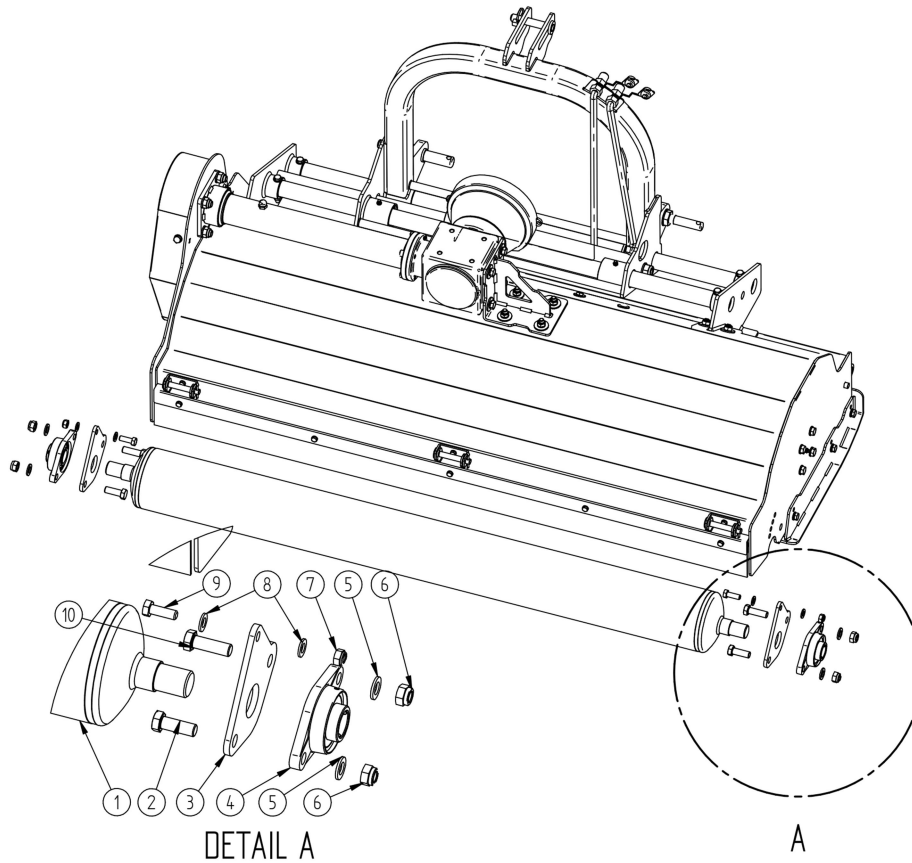


Fig 11. Complete contour following roller ECO 100, 135, 150

Pos.	Name	Part no.	Pcs.
1.	Contour following roller	ECO 100	1
		ECO 135	
		ECO 150	
2.	Bolt M16x45-8.8	T002565	2
3.	Contour following roller bracket ECO 100, 135, 150	P001618	2
4.	Bearing UCFL 207	T000208	2
5.	Standard washer M16	T000460	4
6.	M16 self-lock nut	T000294	4
7.	M12 self-lock nut	T000291	2
8.	Standard washer M12	T000458	4
9.	Bolt M12x35-8.8	T000458	2
10.	Bolt M16x50-8.8	T000781	2

7.4. Contour following roller ECO 180, 200, 220

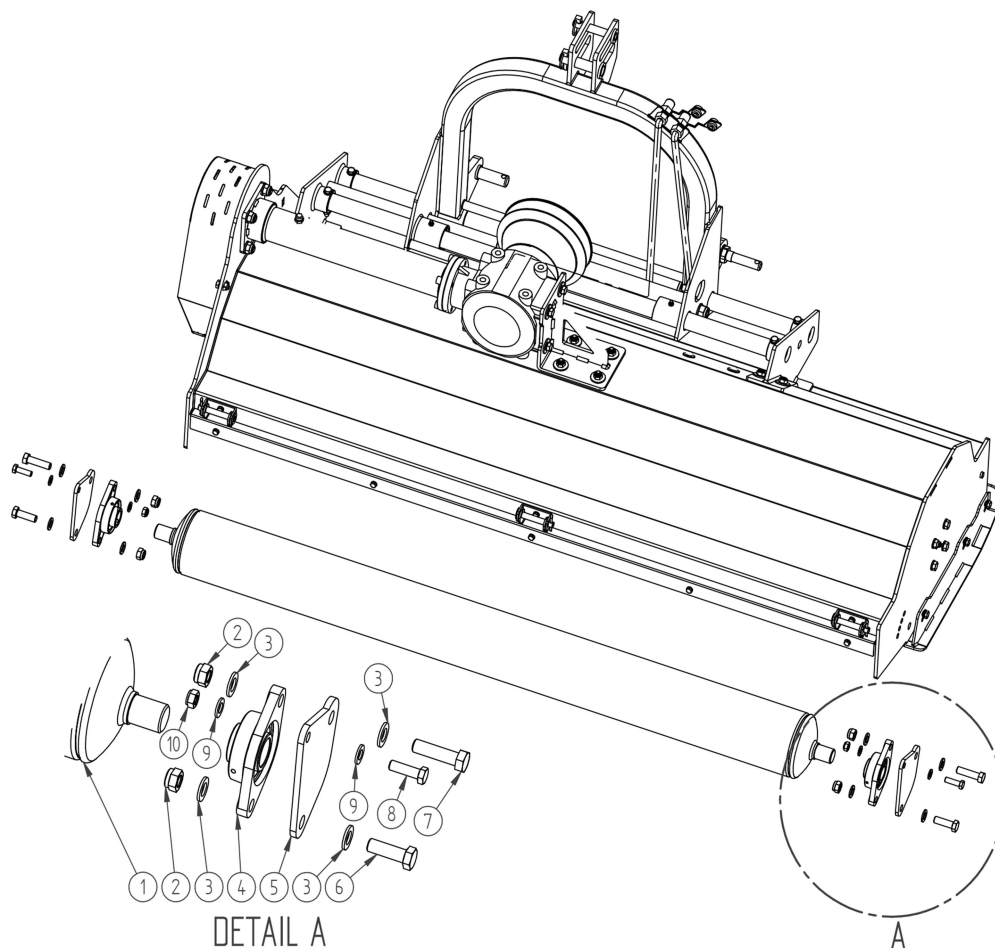


Fig. 12. Complete contour following roller ECO 180, 200, 220

Pos.	Name		Part no.	Pcs.
1.	Contour following roller	ECO 180	P127093	1
		ECO 200	P128093	
		ECO 220	P129093	
2.	M16 self-lock nut		T000294	4
3.	Standard washer M16		T000460	8
4.	Bearing UCFL 207		T000208	2
5.	Contour following roller bracket ECO 180, 200, 220		P127098	2
6.	Bolt M16x50-8.8		T000781	2
7.	Bolt M16x60-8.8		T000782	2
8.	Bolt M12x40-8.8		T000757	2
9.	Standard washer M12		T000458	4
10.	M12 Self-lock nut		T000291	2

7.5. Rear curtain

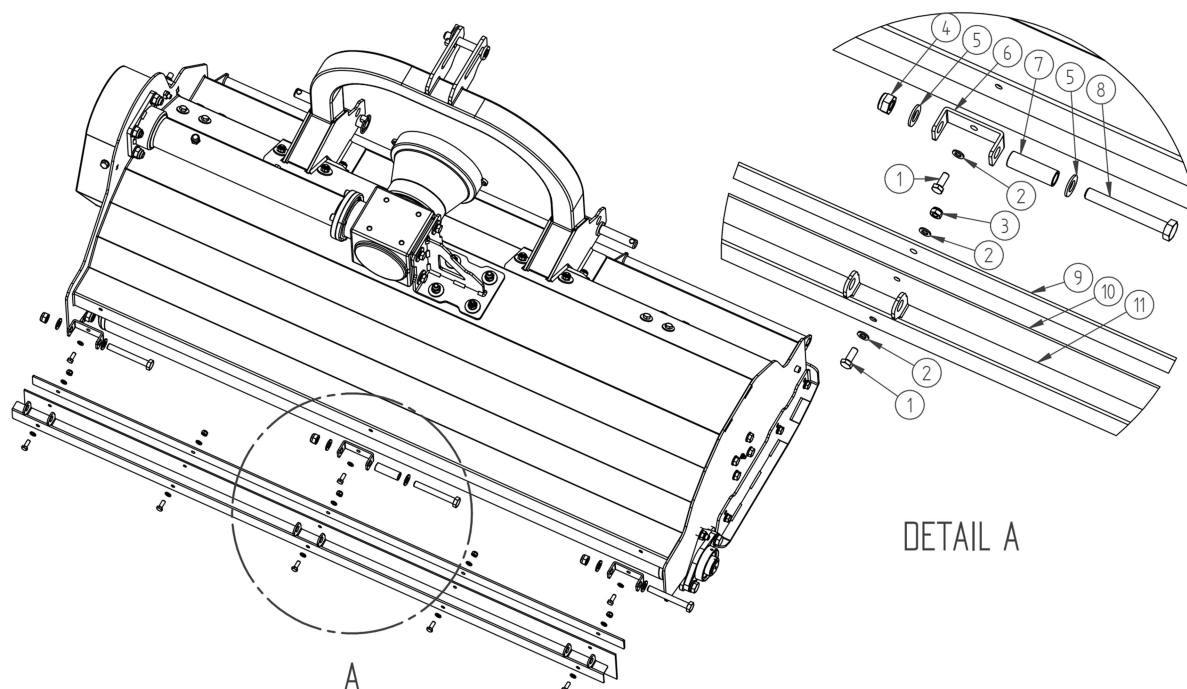


Fig 13. Complete rear curtain

Pos.	Name		Part no.	Pcs.
1.	Hex bolt. M8x20-8.8(quantity depends on model 100/135/150/180/200/220)		T000804	6/8/8/8/9/9
2.	Standard washer M8 (quantity depends on model 100/135/150/180/200/220)		T000471	10/13/13/13/15/15
3.	Self-lock nut M8 (quantity depends on model 100/135/150/180/200/220)		T000256	4/5/5/5/6/6
4.	Self-lock nut M14 (quantity depends on model 100/135/150/180/200/220)		T000293	2/3/3/3/3/3
5.	Standard washer M14 (quantity depends on model 100/135/150/180/200/220)		T000459	4/6/6/6/6/6
6.	Curtain hinge (quantity depends on model 100/135/150/180/200/220)		P127063	2/3/3/3/3/3
7.	Curtain spacer		P127018	1
8.	Hex bolt. M14x110-8.8 (quantity depends on model 100/135/150/180/200/220)		T003258	2/3/3/3/3/3
9.	Rear curtain bar	ECO 100	P480066	1
		ECO 135	P490066	
		ECO 150	P500066	
		ECO 180	P127074	
		ECO 200	P128074	
		ECO 220	P129074	



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10.	Rubber cover	ECO 100	T000138	1
		ECO 135	T000137	
		ECO 150	T000136	
		ECO 180	T000347	
		ECO 200	T000348	
		ECO 220	T000349	
11.	Rear curtain	ECO 100	P480054	1
		ECO 135	P490054	
		ECO 150	P500054	
		ECO 180	P127062	
		ECO 200	P128062	
		ECO 220	P129062	

7.6. Skids

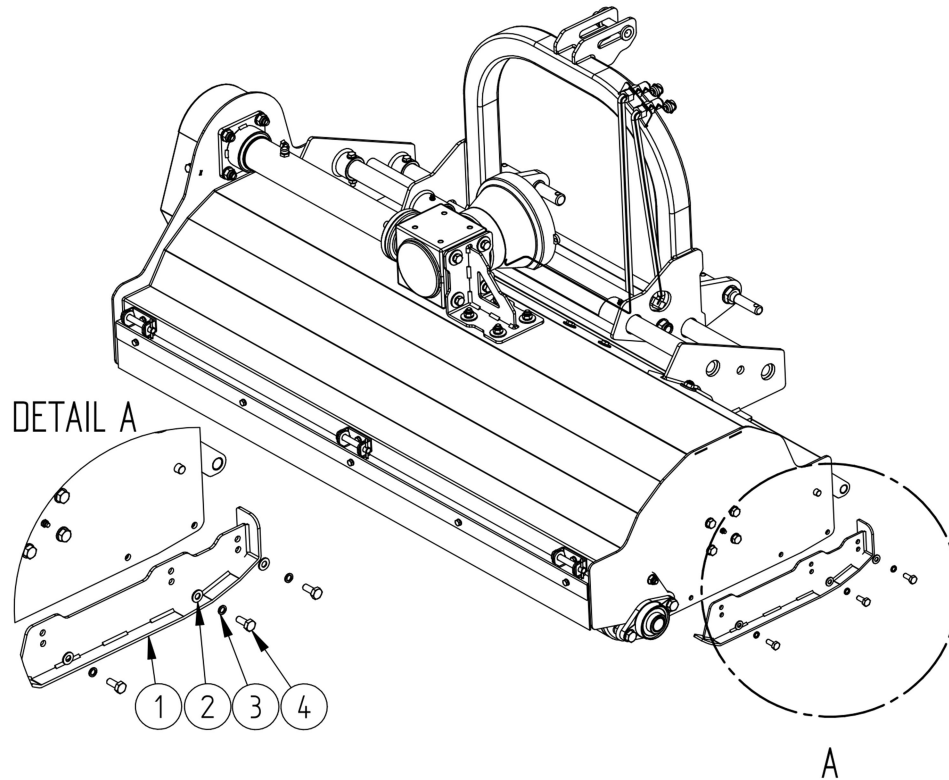


Fig 14. Complete skid

Pos.	Name		Part no.	Pcs.
1.	Skid	Left (v-belts side)	P001606	1
		Right	P001610	
2.	Standard washer M10		T000456	6
3.	Spring washer M10		T000450	6
4.	Bolt M10x25-8.8 OC for ECO 100/135/150		T000740	6
4.	Bolt M10x30-8.8 OC for ECO 180/200/220		T000741	6

7.7. V-belt gearbox cover ECO 100/135/150

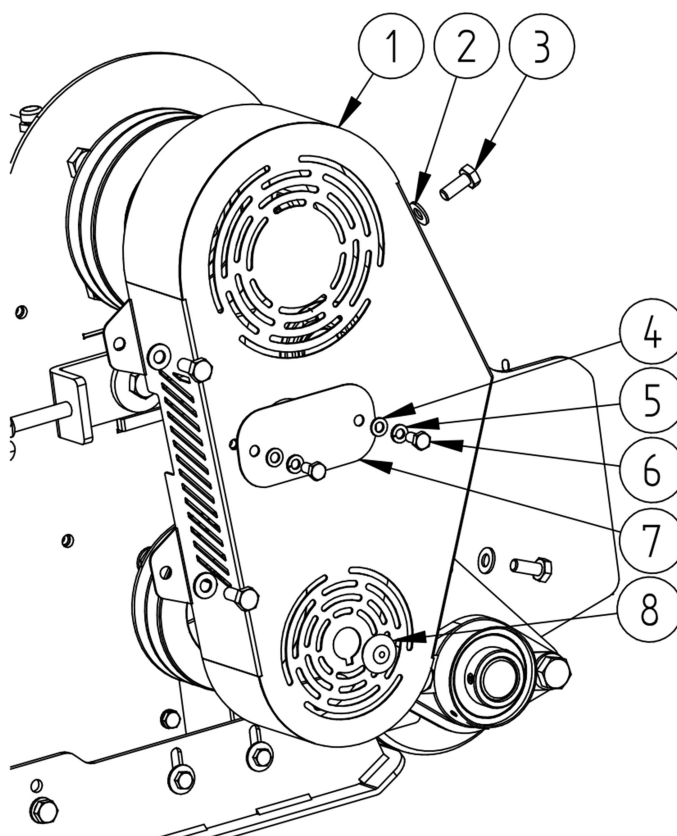


Fig 15. Complete v-belt gearbox cover ECO 100/135/150

Pos.	Name	Part no.	Pcs.
1.	Cover	P001583	1
2.	Standard washer M10	T000456	4
3.	Bolt M10x25-8.8	T000740	4
4.	Standard washer M8	T000471	2
5.	Spring washer M8	T000455	2
6.	Śruba M8x16-8.8	T000803	2
7.	Belt inspection cover	P001588	1
8.	Rubber plug	T002571	1

7.8. V-belt gearbox cover ECO 180/200/220

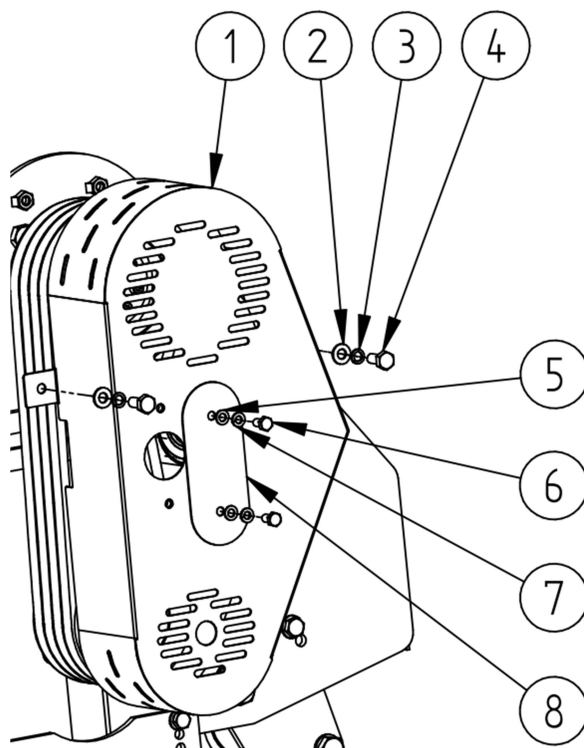


Fig 16. Complete v-belt gearbox cover ECO 180/200/220

Pos.	Name	Part no.	Pcs.
1.	Cover	P127043	1
2.	Standard washer M10	T000456	2
3.	Spring washer M10	T000450	2
4.	Bolt M10x25-8.8	T000740	2
5.	Standard washer M8	T000471	2
6.	Spring washer M8	T000455	2
7.	Bolt M8x16-8.8	T000803	2
8.	Belt inspection cover	P127049	1

7.9. Belt tensioner

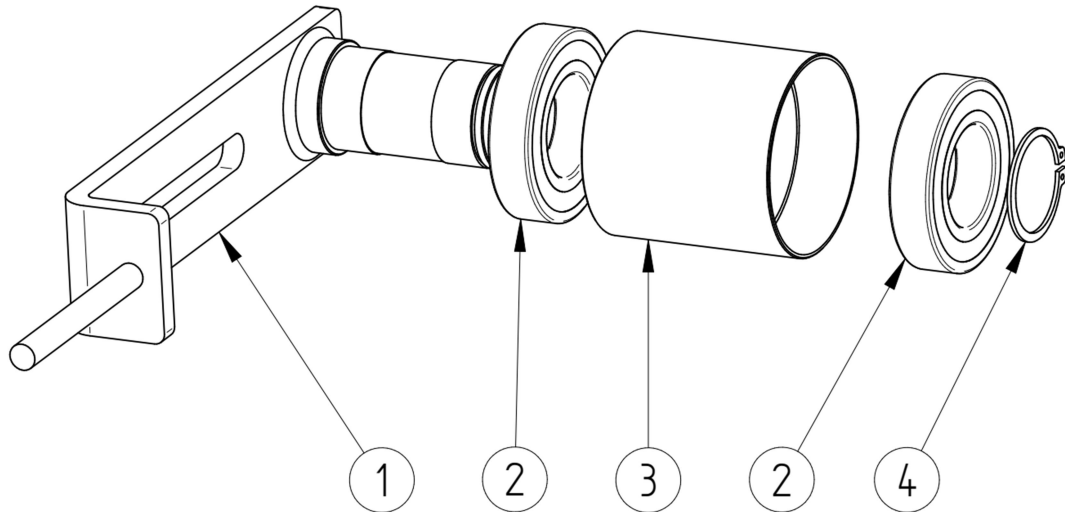


Fig 17. Belt tensioner

Pos.	Name	Part no.	Pcs.
1.	Belt tensioner arm ECO 100/135/150	P001626	1
1.	Belt tensioner arm ECO 180/200/220	P127127	
2.	Bearing 6207 2RS C3 for ECO 100/135/150	T002556	2
2.	Bearing 6209 2RS C3 for ECO 180/200/220	T000181	
3.	Tensioner roll ECO 100/135/150	P001629	1
3.	Tensioner roll ECO 180/200/220	P127131	
4.	Circlip Z35 for ECO 100/135/150	T000412	1
4.	Circlip Z45 for ECO 180/200/220	T000414	

7.10. Fixed headstock

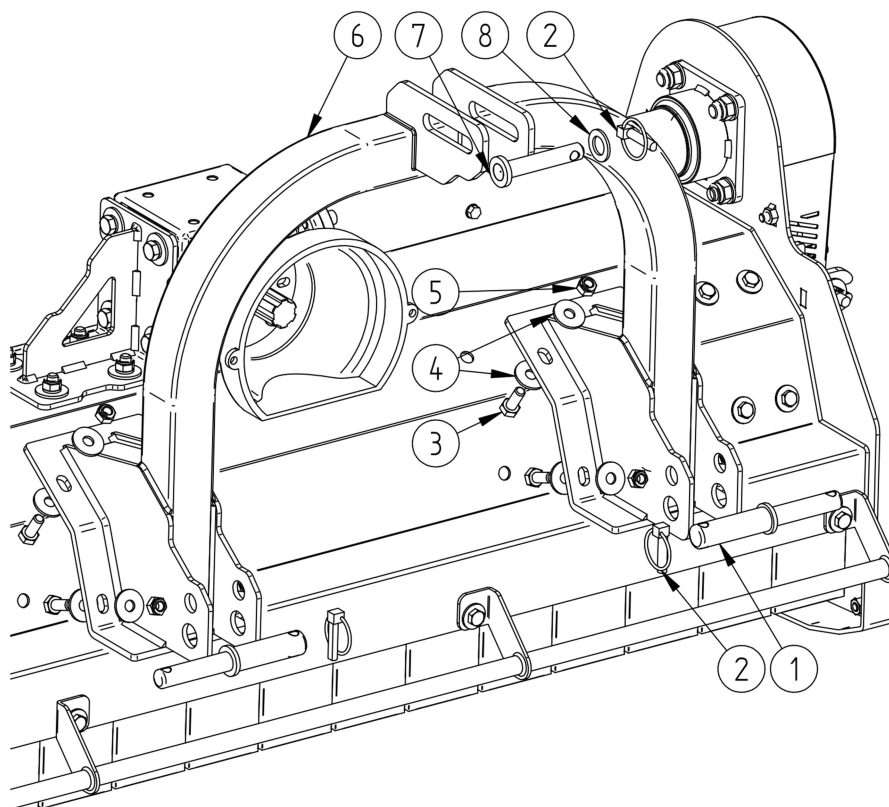


Fig 18. Fixed headstock - set

Pos.	Name	Part no.	Pcs.
1.	Lower hitch pin	P127010	2
2.	Universal plug	T000981	3
3.	Bolt M12x30-8.8	T000755	8
4.	Large washer M12	T000442	16
5.	M12 Self-lock nut	T000291	8
6.	Fixed headstock ECO 100/135/150	P001639	1
6.	Fixed headstock ECO 180/200/220	P127003	1
7.	Upper hitch pin cat. I for ECO 100/135/150/180/200/220	P570059	1
7.	Upper hitch pin cat. II for ECO 180/200/220	P280198	1
8.	Standard washer M20	T000462	1

7.11. Hydraulic headstock

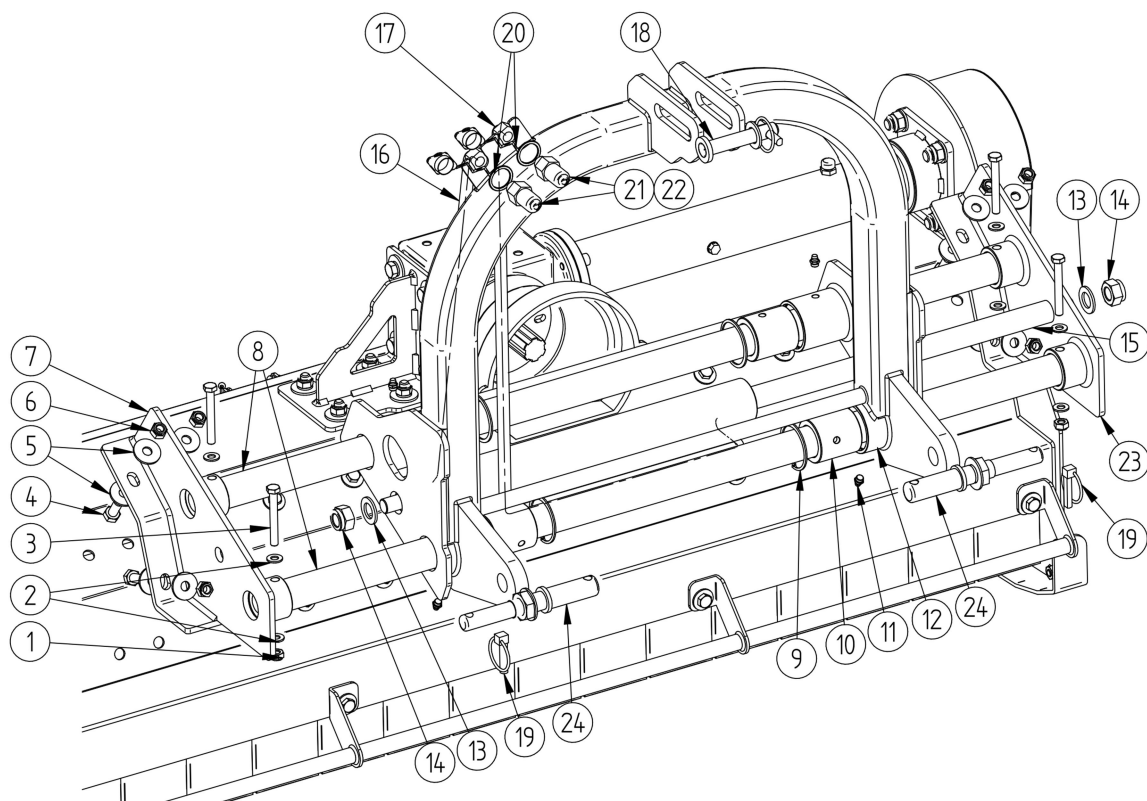


Fig 19. Hydraulic headstock - set

Pozycja	Nazwa	Indeks	Ilość
1.	M10 Self-lock nut	T000292	4
2.	Standard washer M10	T000456	8
3.	Bolt M10x80-8.8	T000749	4
4.	Bolt M12x30-8.8	T000755	8
5.	Large washer M12	T000442	16
6.	M12 Self-lock nut	T000291	8
7.	Left guideway holder	P520014	1
8.	Guideway	P520026	2
9.	Circlip W62	T000418	4
10.	Bushing	P560047	4
11.	Grease nipple M10x1	T000643	4



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12.	Hydraulic headstock main part ECO 100/135/150	P001576	1
12.	Hydraulic headstock main part ECO 180/200/220	P130001	1
13.	Standard washer M20	T000462	2
14.	M20 Self-lock nut	T000255	2
15.	SMT1TA hydraulic cylinder	T001067	1
16.	Hose AA90/221/8L 2110	T000523	1
17.	Hose AA90/221/8L 2610	T000524	1
18.	Upper hitch pin cat. I for ECO 100/135/150/180/200/220	P570059	1
18.	Upper hitch pin cat. II for ECO 180/200/220	P280198	1
19.	Universal plug	T000981	2
20.	ISO plug cap	T000488	2
21.	Hydraulic valve EURO	T000995	2
22.	Reducer 11,5x1	T001264	2
23.	Right guideway holder	P520018	1
24.	Lower hitch pin	P520022	2

7.12. Drive train

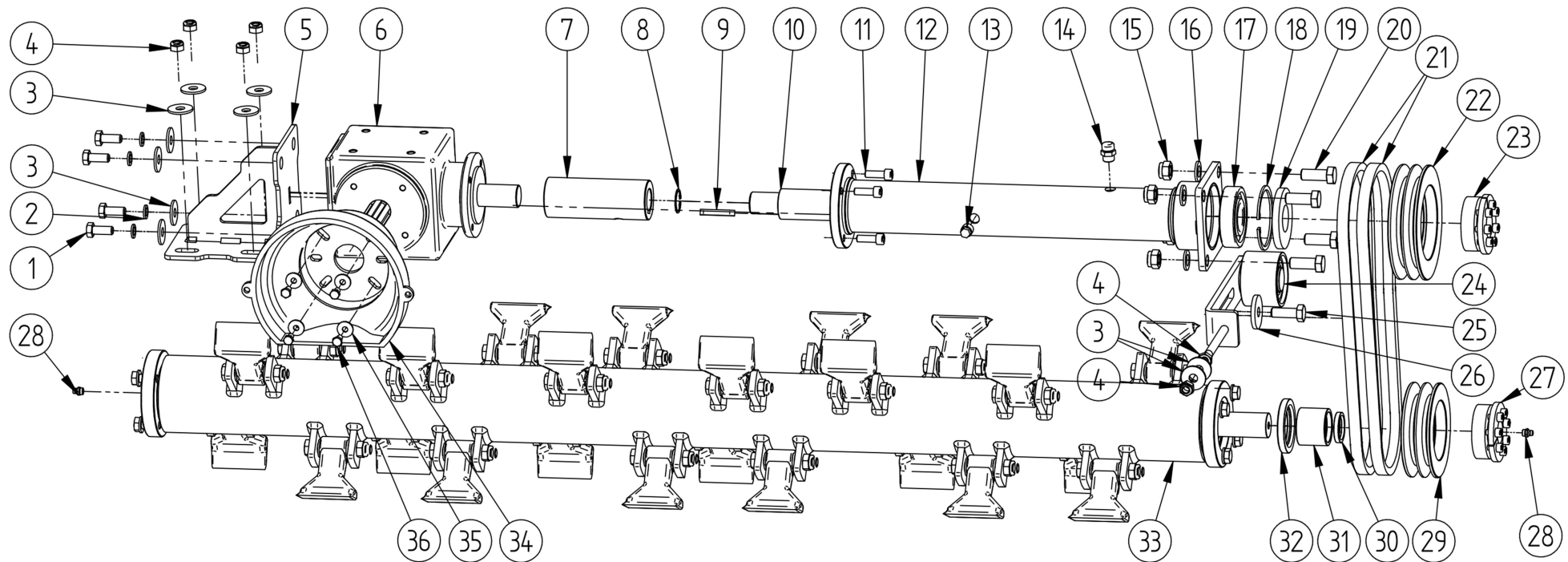


Fig 20. Components of the drive train



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Pos.	Name		Part no.	Pcs.
1.	Bolt M12x30-8.8		T000755	4
2.	Spring washer M12		T000451	4
3.	Large washer M12		T000442	10
4.	M12 Self-lock nut		T000291	6
5.	Gearbox support ECO 100/135/150		P001635	1
5.	Gearbox support ECO 180/200/220		P127154	
6.	Gearbox ECO 100/135/150		T002050	1
6.	Gearbox ECO 180/200/220		T000501	
7.	Connector		P127145	1
8.	Circlip W33		T000425	1
9.	Woodruff key 12x8x52		T000949	1
10.	Drive shaft	ECO 100	P001692	1
		ECO 135	P001634	
		ECO 150	P001634	
		ECO 180	P127144	
		ECO 200	P127144	
		ECO 220	P127144	
11.	Comes with the gearbox			4
12.	Drive shaft cover	ECO 100	P001690	1
		ECO 135	P001631	
		ECO 150	P001631	
		ECO 180	P127139	
		ECO 200	P127139	
		ECO 220	P127139	
13.	Drain bolt		T000820	1
14.	Vent		T000329	1
15.	M16 Self-lock nut		T000294	4
16.	Standard washer M16		T000460	4
17.	Bearing 6308		T000210	1
18.	Circlip W90		T000429	1
19.	Sealant 40x90x10		T000882	1
20.	Bolt M16x40-8.8		T000685	1
21.	V-belt ECO 100/135/150		T002555	2
21.	V-belt ECO 180/200/220		T000380	4



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22.	Pulley 170/2 for ECO 100/135/150		T002051	1
22.	Pulley 170/4 for ECO 180/200/220		T000097	1
23.	Clamp clutch 40/80		T000681	1
24.	Belt tensioner ECO 100/135/150		P001708	1
24.	Belt tensioner ECO 180/200/220		P127126	
25.	Bolt M14x40-8.8		T000767	1
26.	Tensioner spacer		P480133	1
27.	Clamp clutch 35/80		T000678	1
28.	Grease nipple M10x1		T000643	2
29.	Pulley 140/2 dla ECO 100/135/150		T002052	1
29.	Pulley 140/4 dla ECO 180/200/220		T000096	
30.	Sealant 35x45x7		T002415	1
31.	Working shaft bushing		P127121	1
32.	Sealant 55x80x10		T000885	1
33.	Working shaf	ECO 100	P001685	1
		ECO 135	P001671	
		ECO 150	P001619	
		ECO 180	P127107	
		ECO 200	P128107	
		ECO 220	P129107	
34.	PTO cover	ECO 100	T000368	1
		ECO 135	T000370	
		ECO 150	T000370	
		ECO 180	T000368	
		ECO 200	T000368	
		ECO 220	T000368	
35.	Large washer M8		T000443	4
36.	Bolt M8x16-8.8		T000803	4

7.13. Stone curtain

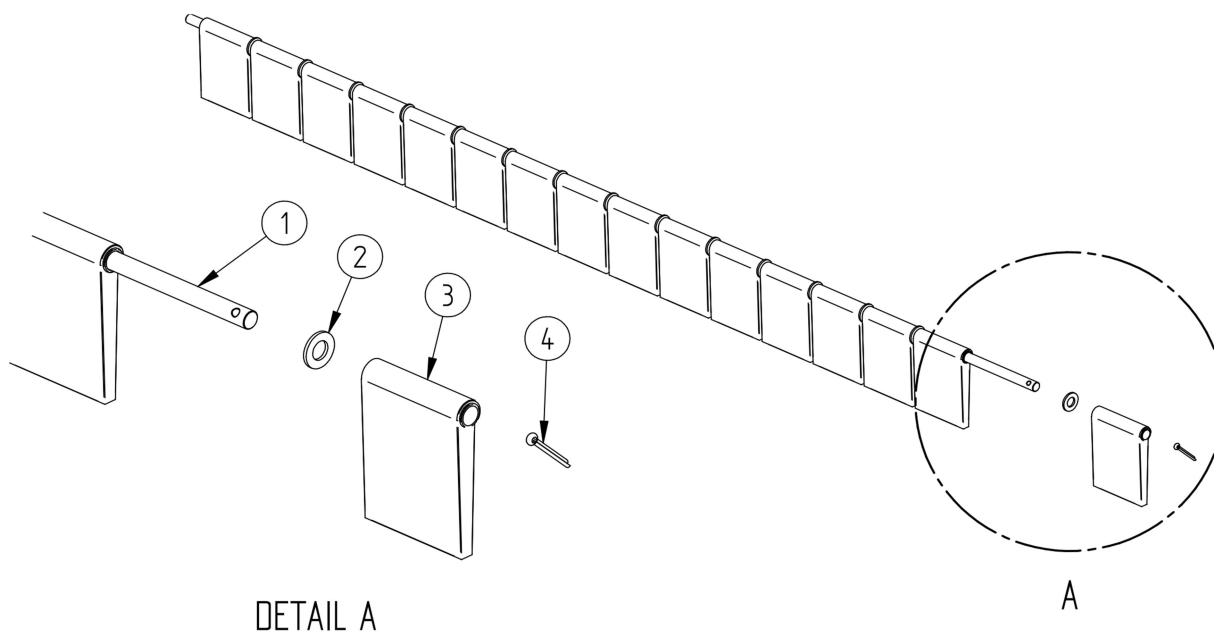


Fig 21. Stone curtain

Pos.	Name		Part no.	Pcs.
1.	Curtain rod	ECO 100	P480049	1
		ECO 135	P490049	
		ECO 150	P500049	
		ECO 180	P127057	
		ECO 200	P128057	
		ECO 220	P129057	
2.	Standard washer M14 (quantity depends on model 100/135/150/180/200/220)		T000459	12/16/17/20/22/24
3.	Curtain guard (quantity depends on model 100/135/150/180/200/220)		T001932	11/15/16/19/21/23
4.	Cotter pin 5x40		T000985	1

7.14. Bumper

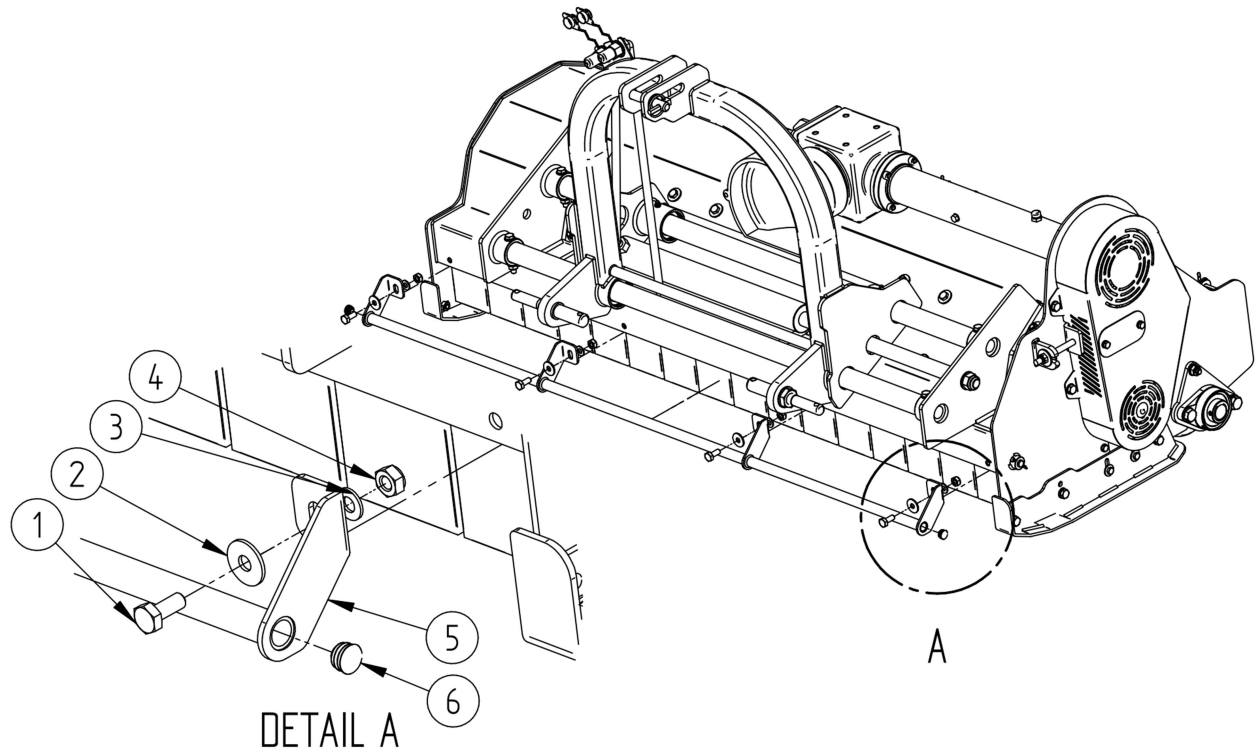


Fig 22. Bumper components

Pos.	Name	Part no.	Pcs.
1.	Bolt M10x25-8.8 (quantity depends on model 100/135/150/180/200/220)	T000740	2/3/4/4/4/4
2.	Large washer M10 (quantity depends on model 100/135/150/180/200/220)	T000457	2/3/4/4/4/4
3.	Standard washer M10 (quantity depends on model 100/135/150/180/200/220)	T000456	2/3/4/4/4/4
4.	M10 Self-lock nut (quantity depends on model 100/135/150/180/200/220)	T000292	2/3/4/4/4/4
5.	Bumper	ECO 100	1
		ECO 135	
		ECO 150	
		ECO 180	
		ECO 200	
		ECO 220	
6.	Plug	T000935	2

7.15. Body with end cap

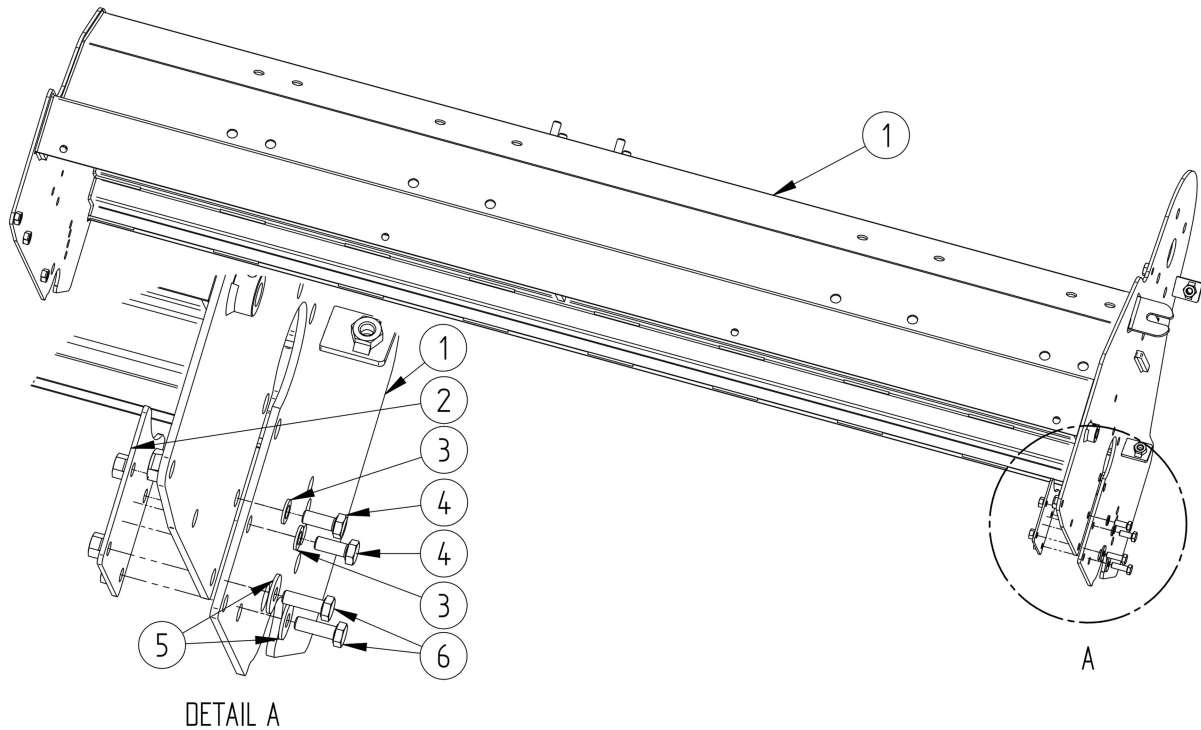


Fig 23. Body with end cap

Pos.	Name		Part no.	Pcs.
1.	Body	ECO 100	P001679	1
		ECO 135	P001665	
		ECO 150	P001594	
		ECO 180	P127075	
		ECO 200	P128075	
		ECO 220	P129075	
2.	Working shaft end cap		P001601	1
3.	Standard washer M8		T000471	2
4.	Bolt M8x20-8.8		T000804	2
5.	Large washer M8		T000443	2
6.	Bolt M8x25-8.8		T000805	2

*In some cases, plugs of technological holes in the form may occur on the body:

- Bolt M10x20-8.8 (Part no.: T000738) -8pcs,
- Large washer M10 (Part no.: T000457) -8pcs,
- M10 Self-lock nut (Part no.: T000292) -8pcs.



8. Warranty

Warranty card

Serial no.	Type
Prod. year	QC

Under the warranty, the manufacturer undertakes to repair free of charge physical defects revealed during the warranty period, which is valid for 12 months from the date of sale.

The manufacturer is released from warranty liability in the event of:

- Mechanical damage to the machine after it has been handed over to the user;
- Improper operation, maintenance, storage of the machine, in particular inconsistent with the operating instructions;
- Performing repairs by unauthorized persons without the manufacturer's consent to carry them out;
- Introducing structural changes without consulting the manufacturer;
- Fractures in the gear housing caused by shaft runout;

The warranty card is valid if it has the signature of the seller and the date of sale confirmed with the company stamp of the commercial unit. It cannot contain deletions and corrections by unauthorized persons.

A duplicate warranty card may be issued upon written request upon presentation of proof of purchase by the user.

In the event of an unjustified service call for warranty repair, the costs associated with it are borne by the user. Complaints are reported by the user within 14 days from the date of damage, directly to the seller.

The manufacturer provides warranty service within 14 days from the date of notification to the date of repair.

The warranty is extended by the repair time, counting from the date of notification until the service is performed, if the defect prevented the use of the machine.

The warranty does not cover elements subject to natural wear and tear, such as hydraulic hoses, plastic and rubber covers, skids, working shaft, flails, blades, copying roller, belts, fasteners, bearings, bushings and sliding elements.

Date of purchase: _____
(day, month, year)

(dealer stamp and signature)



RECORD OF WARRANTY REPAIRS

Filled by the manufacturer

The date of the complaint: _____

Repair scope and replaced parts: _____

Complaint end date: _____

Warranty extended untill : _____

(Workshop stamp and signature)

The date of the complaint: _____

Repair scope and replaced parts: _____

Complaint end date: _____

Warranty extended untill : _____

(Workshop stamp and signature)

The date of the complaint: _____

Repair scope and replaced parts: _____

Complaint end date: _____

Warranty extended untill : _____

(Workshop stamp and signature)

The date of the complaint: _____

Repair scope and replaced parts: _____

Complaint end date: _____

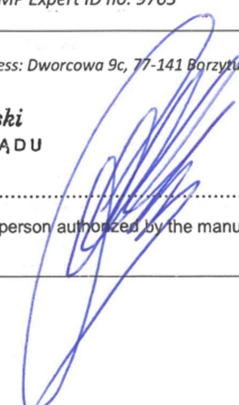
Warranty extended untill : _____

(Workshop stamp and signature)



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9. Declaration of conformity CE

Declaration of conformity WE	
Within the meaning of the Machinery Directive 2006/42/WE, enclosure II,1.A	
Manufacturer: TALEX Sp. z o.o.	address: <i>ul. Dworcowa 9C 77-141 Borzytuchom</i>
The undersigned hereby declares that the product	
Brand (trade name): <i>ECO</i>	
Function: <i>Mowing grass in orchards and green areas. Mowing grass, shredding cut tree branches, cutting weeds and undergrowth in undeveloped areas. Mulching and laying the s (biomass).</i>	
type/model: <i>100; 135; 135H; 150; 150H; 180; 180H; 200; 200H; 220; 220H</i> , serial number: <i>...0001...</i>	
Meets the requirements of the following EU directives:	
<ul style="list-style-type: none">• Machine directive 2006/42/WE from 17.05.2006 r. (Dz.U. L 157 from 9.06.2006 r. p.24) and its modification 2009/127/WE from 21.10.2009 r. (Dz.U. L 310 from 25.11.2009 r. p.29).	
Meets the requirements of the following harmonized standards:	
<ul style="list-style-type: none">• PN-EN ISO 4254-1:2016-02 Agricultural machinery. Safety. Part 1: General requirements• PN-EN ISO 4413:2011 Hydraulic drives and controls – General rules and safety requirements for systems and their components• PN-EN 15811:2015-04 Agricultural machinery – Fixed and locked guards, with or without locking guards for moving transmission parts.• PN-EN 12100/2012 Machinery safety. General principles of design .Risk assessment and risk reduction• PN-ISO 11684/1998 Safety signs and hazard pictograms• PN-EN ISO 14120:2016-03 Machinery safety -- Guards – General requirements for the design and construction of fixed and movable guards• PN-ISO 17101-2:2017-04 Agricultural machinery specifications and acceptance criteria for the thrown-object testing of flail mowers used in agriculture.• PN-EN ISO 4254-12:2012 Agricultural machinery -- Safety -- Part 12: Drum, disc ,rotary and flail mowers	
Meets the requirements of other applied technical standards and specifications	
<ul style="list-style-type: none">• Welding manual Welding instruction MIG/MAG 2022/08 edition 02• Painting manual Painting manual, application of wet lacquered covers 2022/08 edition 2• KJ manual Quality control manual 2022/08 edition 02	
Conformity with directives and standards requirements was stated on the basis of test carried out by the company: SIMP Association of Engineers and Polish Mechanic Technicians in Gdańsk. The tests were carried out by: <i>M.A. Eng. Zbigniew Myszkowski –SIMP Expert ID no. 9763</i>	
Person responsible for preparing the technical documentation: <i>Karol Jaworski, Address: Dworcowa 9c, 77-141 Borzytuchom</i>	
<div style="text-align: center;">Karol Jaworski PREZES ZARZĄDU</div>	
<i>Borzytuchom, 10.05.2023.</i>	
Place and date of issue	(first name, surname and signature of person authorized by the manufacturer)