



TALEX Sp. z o.o.
ul. Dworcowa 9C
77-141 Borzytucho
tel.: +48 59 821 13 40
e-mail: biuro@talex-sj.pl
www.talex-sj.pl

ORIGINAL USER MANUAL SPARE PARTS CATALOGUE WARRANTY



GRASS CONDITIONER BOCIAN 225

Borzytucho 2024 - Edition 09

TRANSLATION OF THE ORIGINAL MANUAL





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ATTENTION!

Please read this User Manual prior to operating the machine and follow the included safety rules.

The User Manual is the integral part of the machine!

The Manual should be kept in a safe place accessible to the user and the operator throughout the entire time of operating the machine.

In case of losing or damaging the User Manual, a new copy should be obtained from the machine's retailer or manufacturer.

In case of selling the machine or making it available to other operators, the User Manual together with the declaration of conformity should be with the machine.

The manufacturer reserves all rights to the User Manual.

Copying, processing of the User Manual or its parts is prohibited without the manufacturer's permission.



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TALEX guarantees machine functionality when used following the technical and operational guidelines described in the USER MANUAL.

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

The repair deadline is specified in the WARRANTY BOOK.

The warranty does not cover the machine parts and elements that are subject to wear under normal operating conditions, regardless the warranty period e.g.: bearings, blades/flails, protective skirts/stone guards, hydraulic hoses etc.

Warranty claims cover mechanical damage not caused by the user's fault, parts factory defects etc.

In case when the damage was caused by:

- Mechanical damage caused by user's fault or road accident,
- improper exploitation, adjustment and maintenance, use of the machine contrary to its intended use,
- using a damaged machine,
- repairs carried out by unauthorized persons, incorrect performance of repairs,
- unauthorized changes to the machine construction,

The user may lose the warranty.

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



WARNING !

Demand the seller to carefully fill out the WARRANTY BOOK. The lack of, for example, the date of sale or the stamp of the dealership exposes the user to risk of warranty complaints rejection.



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1. Introduction

Before starting the first activities related to the use of the tedder-rake, it is absolutely necessary to read and understand this Operator's Manual and follow all its recommendations.

ATTENTION!
Read the user manual before first use



This manual contains a description of the dangers that may occur when the safety rules are not followed when working and operating the machine. The manual lists the precautions that must be taken to minimize or avoid the risks.

The manual also contains the rules of proper use of the tedder-rake and explains what service activities should be performed.

If the information provided in the manual is difficult to understand, please contact the manufacturer directly for explanation.

ATTENTION!



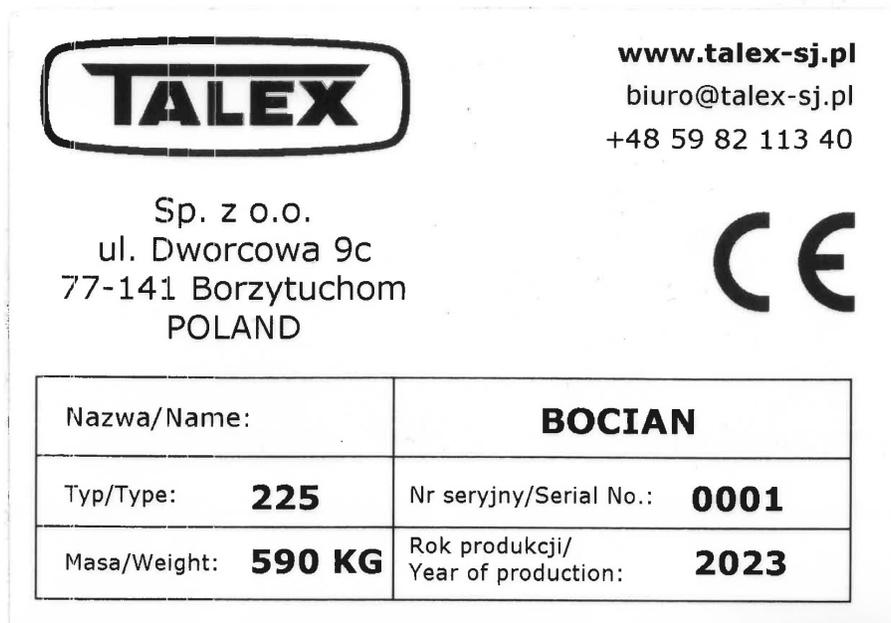
The symbol warns of a risk. This warning symbol draws attention to important information about possible hazards. Please read the information carefully, follow the recommendations and keep particular caution.



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2. Machine identification

Every machine is equipped with serial plate, which contains important identification data. Plate is located in easily accessible part of the machine. Information contained by the base plate confirm compliance with applicable safety regulations. Due to this reason it cannot be reused or removed.



Serial plate contains:

- Full name of the manufacturer
- Name
- Weight
- Serial number
- Type
- Year of production
- CE sign

3. Principles of work safety

3.1 User safety

The swath conditioner may only be used by adults who are familiar with its operation and the content of this manual, and who have appropriate qualifications. Tedders should be operated with all precautionary measures, and in particular:

- In addition to the instructions in this manual, observe the general principles of health and safety at work.
- Comply with the warning symbols on the machine.
- Persons under the influence of alcohol or other intoxicants must not operate the machine.
- Never allow the vehicle operating the tedder to be driven by a person other than its operator and under no circumstances allow other people to stay on the vehicle or near the machine during work.
- The tedder may be operated by a person authorized to drive the vehicle to which it is installed, in accordance with the manufacturer's recommendations.
- The operator's workstation during work with the tedder is the vehicle cabin to which the machine is mounted.
- Remember that there are many places on the machine that may cause injury (sharp edges, protruding structural elements, etc.).
 - protective clothing,
 - protective gloves,
 - safety shoes.
- It is forbidden to transport people or objects on the machine.
- It is forbidden to operate the machine by people who are not acquainted with the manual.
- An employee working with a tedder should be provided with a first aid kit with first aid measures along with instructions for their use.
- When moving the vehicle with the tedder not working, ensure a safe transport height of ~ 0.3 m.

- Be especially careful while driving on public roads and comply with the applicable provisions of the Highway Code.
- When driving on public roads, electric vehicle marker lighting must be used, checking its efficiency and visibility, while ensuring its cleanliness. A triangular sign for low-speed vehicles should be attached to the machine or to the rear of the vehicle. Make sure that reflective lighting and warning signs on structural elements of the machine are clean and visible.
- The transport speed should be adapted to the road surface condition, it should not exceed 20 km / h.
- It is forbidden to leave the vehicle with the tedder on the slopes or other terrain slopes without securing the vehicle against automatic rolling away. The tedder should be lowered to the ground. Place chocks under the wheels of the vehicle.
- The tedder must be adjusted to work when mounting to the vehicle. During operation, the setting may be adjusted, which is possible from the cabin, without the operator leaving the vehicle cabin.
- Activities related to the preparation, assembly, disassembly or adjustment can be performed after turning off the drive, stopping the engine, immobilizing the vehicle
and waiting for all moving parts of the machine to stop.
- After the first hour of operation, check the condition of all separable connections, min. screw connections.
- The tedder should be stored on flat, even, hardened ground out of the reach of bystanders and animals. For a stable setting of the tedder, use a support foot.
- Be careful when assembling and disassembling the tedder, paying particular attention to the structural elements responsible for the attachment with the vehicle.
- Before starting work, check the technical condition of the machine and the associated vehicle. The unit, vehicle and machine must be in good technical condition. Worn or damaged parts should be replaced immediately.
- The tedder must be equipped with all protection covers (provided by the manufacturer) against access to moving parts. The covers must be complete and fully functional.

- Before starting work with the swath conditioner, familiarize yourself with the operation by reading the operator's manual, safety rules as well as operating and adjustment recommendations.
- The weight of the machine attached to the vehicle may affect the handling. In this situation, be especially careful.
- The operating manual should be available with the machine. When lending the machine, hand over it in a technically efficient manner, together with the instructions for use.
- It is forbidden to attach additional means of transport to the swath conditioner.
- During the first start-up, check the operation of the machine and make initial adjustments without load.
- Mounting secures of the three-point linkage of the swath conditioners pins should be performed only with the use of typical security pins in the form of cotter pins. Working with other security measures is prohibited.
- Due to natural wear, the condition and completeness of the raking springs should be checked according to the recommendations described in section 6. Service and maintenance.
- When collecting and transporting the machine, check its technical condition for damage.
- It is forbidden to stand under the lifted machine, risking to be crushed by structural elements.
- During adjustment, do not put fingers or limbs between structural elements of the machine.
- The operator of the vehicle who works with the swath conditioner must be careful during the work and adjustments, nobody should approach the machine and should not be closer than 50m from the working machine.
- When turning around or backing up, or manoeuvring with the machine, make sure you have adequate visibility and a suitably trained person.
- It is forbidden to stay between the vehicle and the machine with the vehicle engine running.
- Working on slopes of more than 15% is not allowed.
- Be especially careful when working on slopes.
- When making turns, the PTO drive (PTO shaft) must be disengaged.

- It is forbidden to operate the machine on the edges of public squares (parks, schools, etc.) or on rocky terrain in order to avoid the danger of throwing stones and other objects.
- During work, do not allow the PTO revolutions to exceed 540 rpm, and the driving speed must be adapted to the required work.
- Work with a damaged or incomplete PTO shaft is prohibited. In particular, it is forbidden to work without guards of the moving parts.
- Never leave the vehicle with the engine running. Before leaving the driver's seat (cabin), lower the machine to the ground, turn off the vehicle's engine, remove the key from the ignition switch, pull the handbrake.
- Do not use unfastened, hanging parts of work clothes during operation, assembly, disassembly, adjustment. Keep them away from structural parts that may catch them.
- After finishing work, it is recommended to clean and wash the machine.
- The machine should be stored in places protected against bystanders and animals, eliminating the risk of accidental injury, on a flat, hardened surface, under a roof.
- In the event of a breakdown, switch off the drive transmitted from the vehicle immediately.



Non-compliance with the above rules may pose a threat to the operator and other people, and may also damage the machine. The user is responsible for any damage resulting from failure to comply with these rules.

3.2 Safety signs placed on the machine

 <p>1.1- Read the manual before use</p>	 <p>1.2- Turn off the engine and take the key out of the ignition before maintenance or service</p>	 <p>1.3- Keep safe distance from the machine. Don't let 3rd parties closer than 50m during work</p>
 <p>1.4- Chain transmission. Take extra precautions.</p>	 <p>1.5- Possibility of being pulled into the machine.</p>	 <p>1.6- Do not be near the jack arms during operation of the jack</p>
 <p>1.7- Don't open or take off the safety covers while the engine is in motion</p>	 <p>1.8- Do not touch the machine elements before they stop rotating</p>	 <p>1.9- Keep safe distance from the machine. Force applied from above.</p>

 <p>1.10- Don't drive on bridges</p>	 <p>1.11- Grapple location during moving</p>	 <p>1.12- Lift point</p>
 <p>1.13- Warning about the pressure present in the tyres</p>	 <p>1.14- Grease gun symbol indicates location of grease fittings</p>	 <p>1.15- Use safety gloves</p>
 <p>1.16- Wear ear protectors</p>	 <p>1.17- Wear eye protection</p>	 <p>1.18- Use protective coverall</p>

3.3 Residual threat assessment

Talex company has made every effort to ensure that the design of the machine, and its intended use, do not pose any risk to persons or the environment.

Due to the nature of work being done by the tedder and, for example, the inability to completely cover the machine's working unit, certain risk factors may occur.

No.	Threat	Risk source (cause)	Means of protection against threats
1	Locomotor system overload (physical stress)	Working in a standing position, inclined-forced position, walking, moving	Getting acquainted with the operating manual, workplace training taking into account the standards of lifting when performing manual transport work, correct lifting and lifting techniques, using the help of another person, devices facilitating movement, e.g. jack, winch
2	Fall on the same level (stumble, slip, etc.)	Uneven ground, mess - lying and standing objects, cables lying on traffic	Appropriate work shoes, even ground, paying attention, maintain order, reading the manual
3	Hit against parts of the machine	The machine, its surroundings	Proper setting of the machine, safe space for moving, proper organization of work, paying attention, reading the manual
4	Hit by moving objects	Plants thrown out by the machine, random parts of the turf, stones	Keeping attention, delineating the danger zone, no moving around the working machine, no staying at a distance of less than 50m from the running machine, using personal protective equipment - a protective helmet, glasses, reading the manual
5	Sharp dangerous edges	Protruding structural elements of the machine, the use of hand tools	Personal protective equipment - protective gloves, fastened working clothes, paying special attention
6	Chain transmission	Moving wheels and gear chain, rotating articulated telescopic shaft, no guards for moving parts	Prohibition of moving, approaching and making adjustments to the working machine, extreme caution, use of guards for moving parts, reading the operator's manual
7	Weight of the mounted machine, standing	Incorrect assembly, coupling, incorrect setting of the machine, poor operation, leaving the machine suspended on the tractor	Being especially careful, using personal protective equipment - safety shoes, protective gloves, setting the machine safely, using the help of another person, using jacks, davits, reading the manual
8	Microclimate - changing weather conditions	Work done in various weather conditions	Appropriate work clothes, drinks, sunscreen, rest, reading the instruction manual
9	Noise	Machine speed too high, damaged, loose vibrating parts	Work with a working machine, regular machine inspections, proper machine rotation, reading the operator's manual

4. Purpose of the machine

The BOCIAN swath conditioner is used for tedding mown low-stemmed plants and for raking dried hay and straw. It is perfect for preparing green mass for baling silage, for collecting green forage by self-propelled forage harvesters or self-collecting trailers.

The Bocian is a high-speed swath conditioner designed for work where grass and straw must be properly aerated to become a nutritious food for farm animals. It has also been designed in such a way as to minimize work related to harvesting swaths.

Working with the machine promotes quick drying, reducing pollution, leveling the swath and less work.

After drying, airing and breaking the swath, the Bocian leaves it in even windrows, the width of which can be adjusted by setting the rear outlet flaps. This allows the width of the windrow to be adapted to the width of the machine that participates in the next stage: a press, a forage harvester or a self-collecting trailer.

It is a machine suspended on tractors with a power of 54 ÷ 75 HP (eg C360, MF235, MF55), driven from the tractor's PTO through an articulated telescopic shaft on the machine's PTO shaft.

Mounting the machine to the vehicle is possible using the three-point linkage (3-point) brackets.

The working element is a rotating shaft with rotatably placed teeth. This unit is driven by the PTO through a bevel and chain gear.

Meeting the requirements for the use of the machine, maintenance and repair according to the manufacturer's recommendations and strict adherence to them is a condition of using it in accordance with its intended use. The machine should be used, serviced and repaired only by people who are familiar with its detailed characteristics and familiar with the rules of conduct in the field of occupational health and safety.

The manufacturer sells a wide selection of agricultural machinery. It also provides specialist advice on the selection of appropriate equipment to the user's needs.



Any doubts regarding the intended use of the device should be clarified by contacting the manufacturer of the machine. Proper selection of the device and awareness of its purpose will increase work safety.

Using the machine for other purposes shall be construed as using it against the intended purpose.

5. Description of the machine

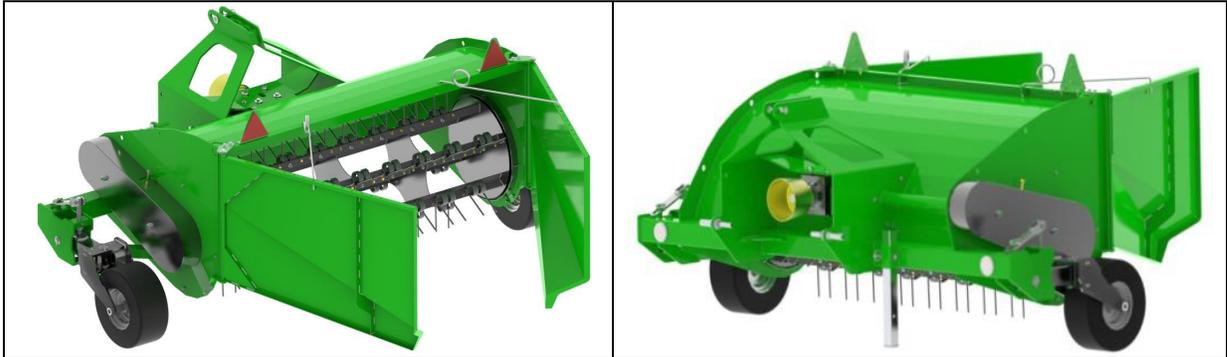


Fig. 1 – Overall view of the Bocian swather

The Bocian swather is made of two main structural elements. The first element – the support frame with the transport unit is made of steel elements connected with each other by welding, constituting a compact and durable construction. The second element – the swath conditioner drive unit consists of an angular gear, chain transmission, shaft bearing with spring teeth attached. The whole machine is built up with safety guards. In addition, the machine has road wheels which guide the machine during operation and adjustable rear guards that allow accurate width adjustment after tedding.

5.1 Basic equipment

- Wheels,
- Support foot,
- User manual,
- Warranty card.



The basic equipment of the machine does not include a triangular plate for low-speed vehicles. It can be purchased at an additional cost from the producer or agricultural equipment store. Every machine user should have an efficient slow-moving vehicle distinctive plate. Failure to wear it during transport may result in an accident. The machine user is responsible for any damage caused by an accident.

5.2 Additional

- The PTO shaft is CE marked

Attention!

ALL OPTIONAL ELEMENTS OF THE MACHINE ARE AVAILABLE FROM THE MANUFACTURER FOR AN ADDITIONAL CHARGE.

5.3 Technical specification

<i>Item</i>	<i>Description</i>	<i>UoM</i>	<i>Parameter</i>
1.	Type Z-503	-	225
2.	Hitch type		Mounted, 3pt linkage
3.	Working width	[mm]	2250
4.	Min. power requirement	[HP]	60
5.	Quantity of working shafts	[pcs.]	1
6.	Tine quantity	[pcs.]	70
7.	3 point linkage category	-	II
8.	PTO shaft speed	[RPM]	540
9.	Work efficiency	[ha/h]	2,25
10.	Tyre size		16x6.50-8
11.	Working speed	[km/h]	10
12.	Transport speed	[km/h]	20
13.	Quantity of operators	[pcs.]	1
14.	Overall dimensions		
	Length	[mm]	2785
	Width	[mm]	3080
	Height	[mm]	1180
15.	Weight	[kg]	590
16.	Noise level emitted by the machine	L_{pA} [dB]	$86,9 \pm 1,0$ dB
		L_{Amax} [dB]	$93,4 \pm 1,3$ dB
		L_{Cpeak} [dB]	$123,6 \pm 1,3$ dB

*value of declared power guarantees proper weight of a tractor providing the stability while operations on maximal reach of the flail mower.

L_{pA} - Noise exposure level related to 8 hours of work per 24 hours

L_{Amax} - Maximum sound measurement value

L_{Cpeak} - Peak sound value

6. Use of the machine

The manufacturer ensures that the machine is fully operational and has been checked in accordance with quality control procedures and is approved for use. However, this does not release the user from the obligation to check the machine upon delivery.



Before each use of the swath conditioner, check its technical condition, especially the condition of the tine assembly, drive system and guards.

6.1 Linking the machine – swath conditioner assembly



Make sure that the mounting elements of the vehicle and the machine are properly matched to each other, so that they guarantee safe assembly and operation. In case of any doubts, please contact the vehicle or machine manufacturer.

I. Installation of the vehicle and machine suspension system.

The machine is mounted on the three-point linkage of the tractor or vehicle. To facilitate mounting, the lower arms should be at the height of approx. 350mm. After linking the machine, adjust the length of the upper link so that the position of the lower part of the body is parallel to the ground. The chain of the tractor lower rods should be adjusted so that the lateral play of the machine is minimal. Depending on the type of the three-point hitch, original safeguards should be provided. Each time during assembly, check the condition of the connecting elements: pins and pivots. In the event of wear, they must be replaced with new ones.

II. Machine drive shaft assembly.

After mounting the machine on the three-point linkage, attach the PTO, and then raise the support to the upper position.



To power the swath conditioner, use only the original PTO shaft, marked with the CE mark, along with original covers.

Dismantling the machine takes place in the reverse order, with special safety when dismantling the mechanical system that separates the machine from the vehicle.

7. Service and maintenance activities

All activities related to the operation of the machine may be performed by the operator of the vehicle to which it is attached, provided that he is authorized to operate the vehicle. Before starting work, check the field for hidden objects / debris that could damage the machine, injure people or other objects. Before linking the machine to the tractor, the machine operator must check the technical condition of the machine and prepare it for a trial run. To do this, you need to:



- Read this manual and adhere to the recommendations contained within.
- Know the construction and understand how the machine works.
- Perform visual inspection of all machine elements for mechanical damage.
- Lubricate the machine according to the instructions.
- Check the technical condition of the hitch system pins and securing plugs.
- Check the oil level in the gearbox.

If all the above activities have been performed and the technical condition of the machine does not raise any objections, it can be connected to the tractor.

- Place the machine in its working position.
- Adjust the length of the PTO shaft to the cooperating tractor in accordance with the shaft manual.
- Connect the PTO shaft to the tractor and swath conditioner
- Start the drive.

For an even and regular swath, it is recommended that the machine is run against the direction of travel of the mower.

The width of the formed swath is controlled by the position of the rear outlet flaps, and to some extent by the engine speed. The swath should be thrown out along the top section of the outlet door. If the material is thrown out by the Bocian at a too small angle, adjust the rear outlet door to give the swath the correct width.

It may be necessary to change the swath conditioner's RPM in order to adapt to the swath. When spreading grass with the Bocian machine, the machine should be operated at the PTO speed close to 540 rpm. When spreading straw and other dry material, the PTO speed of 450 rpm may be more appropriate to avoid and reduce damage to the swath.

The choice of travel speed will depend on the volume of the swath, soil conditions and the finish required. Driving at high speed in difficult conditions can cause swath compaction caused by machine tamping. Conversely, driving too slowly will also result in uneven swath as the rotor catches the swath at the front and throws it out at the rear of the machine before the machine has had time to cover the same swath length.

When making sharp turns, raise the machine so that the wheels are approximately 150 mm above the ground. The PTO shaft may continue to work in these conditions, but the machine must under no circumstances be fully raised with the PTO shaft engaged, as this may result in a very heavy load on the universal couplings and drive system.

If the machine becomes clogged by too much shaken mass, stop and wait until the mass is ejected by the rotating working shaft. If this does not help, put the machine on level ground, turn off the tractor, secure it with the parking brake, make sure that there is no risk of rolling of the tractor and the machine, and then clean the shaft manually, being careful of its sharp and protruding parts. Be sure to use personal protective equipment such as goggles and gloves.

7.1 Chain tension adjustment

The chain tension should be checked at least once a day and adjusted if necessary. To adjust the chain tension, unscrew its cover, then lower the tightener spring to the next hole in the base of the tightener (Fig. 2). If the tensioner cannot be tightened, use a new one.

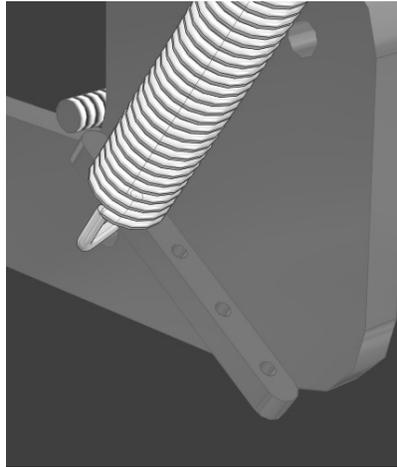


Fig. 2 – chain tension.

7.2 Tine replacement

Before starting any work, make sure that the tedding shaft has stopped, the tractor is stationary and the key has been removed from the ignition.

Always make sure the machine is securely supported before working under the machine.

Unscrew the two bolts holding the tine holder and remove it. If the holder is damaged, then it must be replaced with a new one. Using a 13 mm spanner and a 17 mm spanner, remove the broken tine and replace it with a new one. Tighten the nut to the correct torque and install the holder.



It is forbidden to use the machine with an incomplete number of tines. Due to natural wear, check their condition and completeness according to the recommendations described.



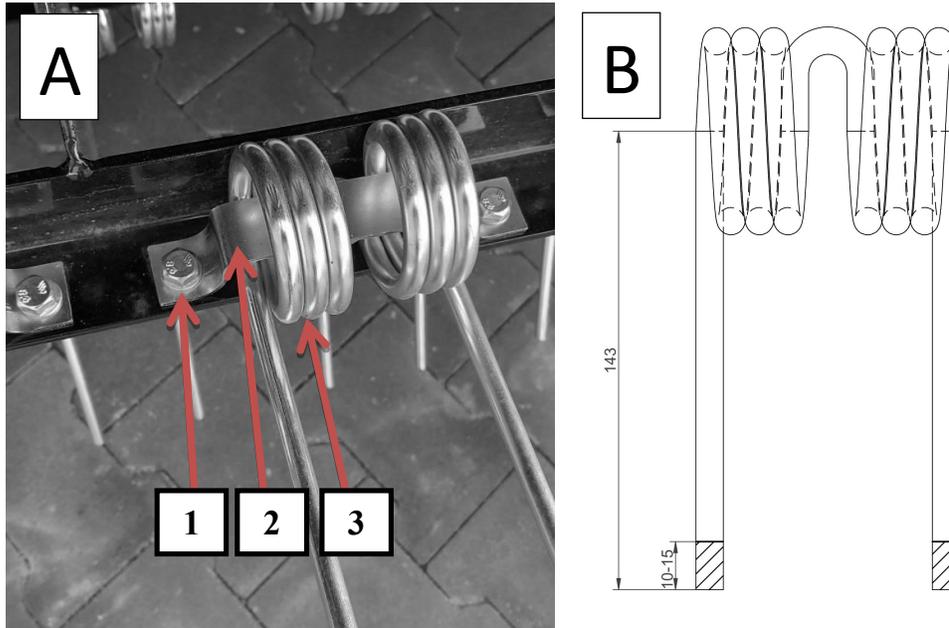
Check the condition of the tines regularly. Tighten any loose tines immediately. The correct tightening torque for the tine mounting bolts is 25 and 49Nm in accordance with table No. 2. Broken tines must be replaced immediately.

The machine is equipped with brackets holding the broken tines to the tedding shaft. If you continue to use the machine with a broken tine, it will break the safety bracket and lose the tine in the swath. Damage to the next-stage machine (eg. harvesters) may result.

Before starting work, check the tightness of the tine mounting bolts. This should also be done one hour after the installation of new tines.

Check that all brackets are present and tightened. The brackets prevent broken springs from getting lost in the swath.

The acceptable wear of the spring is around 10-15mm



Rys.4. A - Spring protector: 1) protector mounting screw, 2) spring protector 3) spring.
 B- Acceptable degree of wear of the rake spring.

7.3 After-work maintenance

Each time after finishing work, the machine should be cleaned and placed on a flat, hard surface. You should review the connections of parts and assemblies. Damaged parts and worn ones must be replaced. Check all bolted connections and tighten loose bolts according to table 2 - tightening torques for nuts and bolts.

Table 2 – tightening torques.

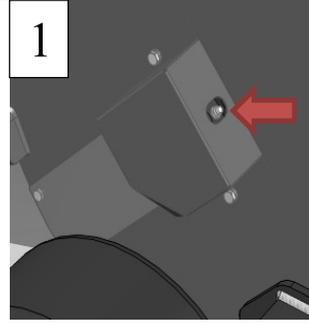
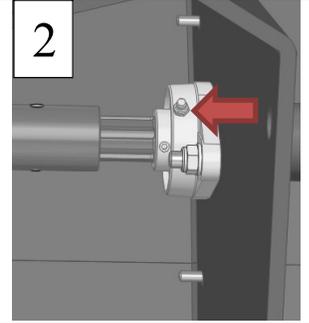
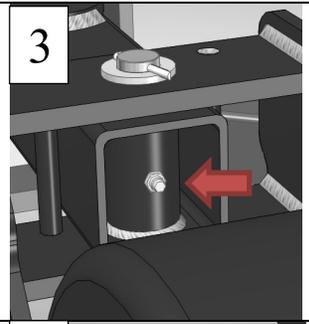
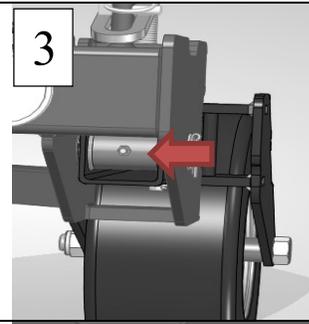
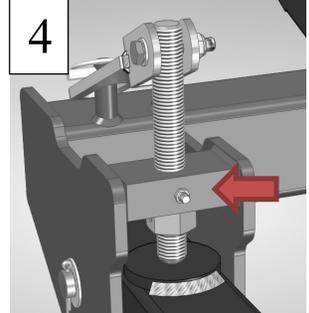
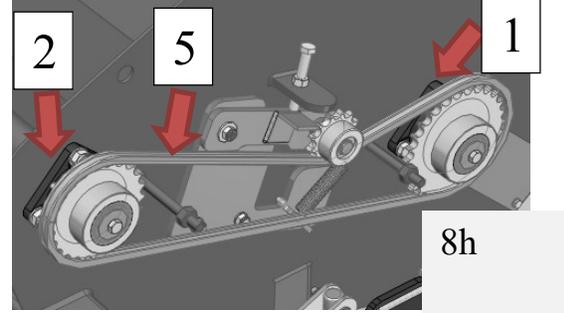
Bolt strength	6.8	8.8	10.9	12.9
Metric thread	Tightening torque [Nm]			
M5	4,5	5,9	8,7	10
M6	7,6	10	15	18
M8	18	25	36	43
M10	37	49	72	84
M12	64	85	125	145
M14	100	135	200	235
M16	160	210	310	365
M18	220	300	430	500
M20	310	425	610	710
M22	425	580	820	960
M24	535	730	1050	1220

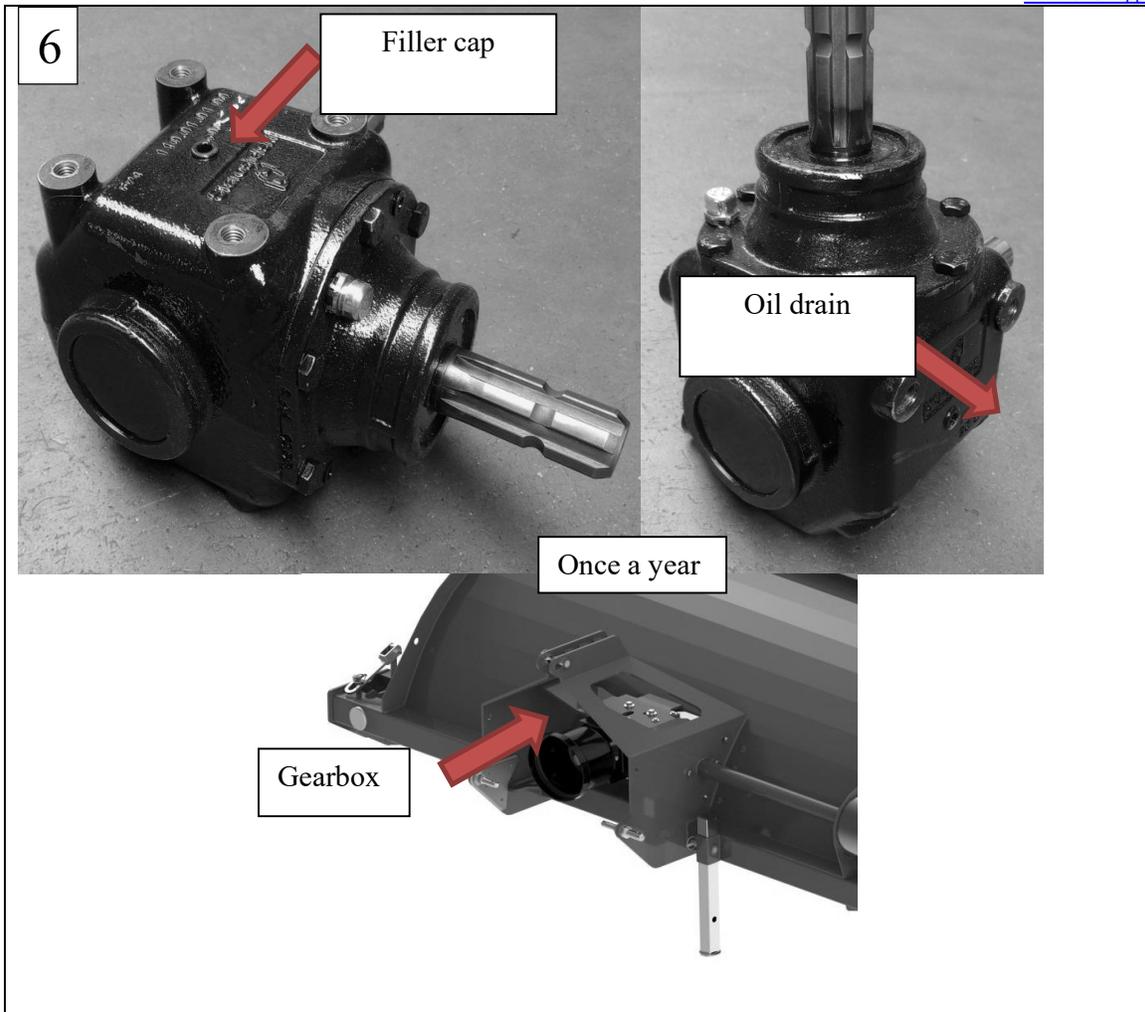
All safety signs placed on the machine and a triangular sign for low-speed vehicles must be kept clean.

7.4 Lubrication

To ensure proper operation, the machine must be carefully and properly greased. All points equipped with ball grease nipples must be filled with LT43 solid grease using a grease gun. The chain, however, must be greased over the entire surface using NLGI 2 solid lubricant. Carry out greasing according to the following table.:

Table 3. Points and the frequency of their lubrication expressed in working hours.

 <p>1</p>	<p>8h</p>	 <p>2</p>	<p>8h</p>
 <p>3</p>	<p>8h</p>	 <p>3</p>	<p>8h</p>
 <p>4</p>	<p>8h</p>	 <p>2 5 1</p> <p>8h</p>	



Lubrication points:

- | | |
|-----------------------------------|----------------------------|
| 1. Tedding shaft bearing housings | 2 grease nipples |
| 2. Drive shaft bearing housings | 2 grease nipples |
| 3. Wheel suspension | 4 grease nipples |
| 4. Wheel adjustment | 2 grease nipples |
| 5. Chain | the entire surface |
| 6. Cutterbar | oil SAE 90 API GL-4 - 1,2l |

Check the oil level in the gearbox every 50 operating hours. At the same time, it is recommended to change the oil in the gearbox at least once a year. The recommended oil is SAE 90 API GL-4 in the amount of 0.9l.

It is important to check the clearance of the axles and shafts. In the event of noticeable play, replace the bearings (always in pairs) with new ones according to the spare parts catalogue. Lubricate 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 removing the dirt.

7.5 Regulacja szerokości przetrząsanej masy.

In order to adjust the width of the swath roll created from the shaken mass, the rear flaps should be adjusted accordingly. Each flap is equipped with 12 holes for adjustment. To adjust the flaps, set the width of the flaps (marked with the letter A) according to the expected width of the swath roll you want to obtain, then select the matching hole on the flap to this width and insert the flap rod (marked with the letter B) as shown in Fig.5.

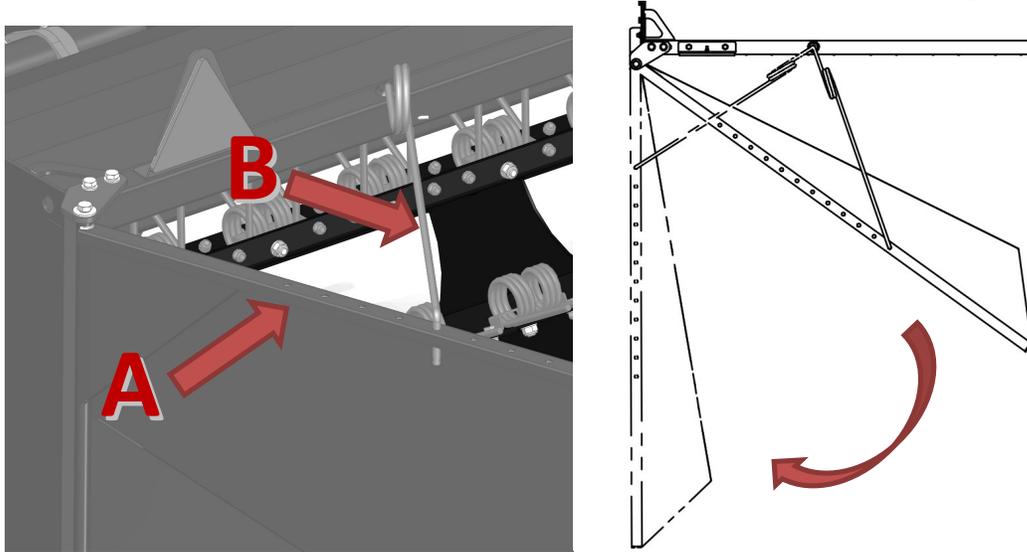


Fig. 5. Adjustment of the rear flaps



7.6 Post-season maintenance

It covers all activities listed under after-work maintenance. Additionally, the machine should be stored under a roof on a flat and hard surface. Pay attention to the tightness of the paint coat. In the event of defects, clean these places and fill in the gaps by applying a fresh layer of protective paint.

7.7 Scraping, environment

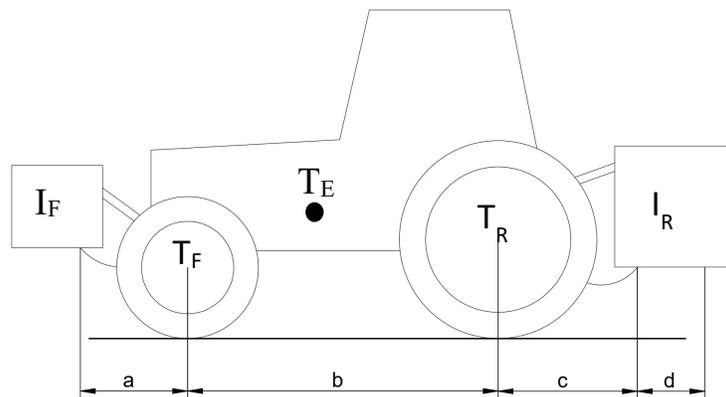
If the machine is completely worn out and does not allow for further use, it should be withdrawn from use. This also applies to current repairs and replacement of damaged parts. For this purpose, the machine must be thoroughly cleaned and drained of operating fluids and transported for disposal. Then disassemble the machine, sort the parts according to the type of materials used. Separated parts should be delivered to a scrap yard or utilization point.

The machine is a product that is fully environmentally friendly. The materials used for production are 97% recyclable. Worn machine parts must be disposed of in accordance with local environmental regulations. Throughout the entire service life, care must be taken to prevent oil leakage, which may contaminate the environment.

7.8 Stateczność agregatu ciągnik-przetraszarka zgrabiarka

To verify the overall stability, the following equation can be used to calculate the minimum front load $I_{F,min}$, expressed in kg, to achieve a front axle load equal to 20% of the tractor's empty weight.

$$I_{F,min} = \frac{[I_R \times (c+d)] - (T_E \times b) + (0.2 \times T_E \times b)}{a+b}$$



Explanation:

TE-tractor empty mass[kg]

TF- Front axle load of an unloaded tractor [kg]

TR- Rear axle load of an unloaded tractor [kg]

IF- weight of the front mounted machine/front weights [kg]

IR- weight of the rear mounted machine/rear weights [kg]

a- The distance between the center of gravity of the front-mounted machine/front weights and the center of the front axle [m]

b- tractor wheelbase [m]

c- The distance from the center of the rear axle to the center of the rear suspension ball joints[m]

d- The distance between the center of the rear suspension ball joints and the center of gravity of the rear-mounted machine / rear weights [m]

8. SPARE PARTS CATALOGUE

HOW TO ORDER SPARE PARTS

The order should include:

- Exact shipping address,
- Part index and quantity
- Ordering party's details (full name, phone number, etc)

OPTIONAL INFORMATION – MAY SPEED UP ORDER AND SHIPPING TIME:

- Tedder serial number and year of manufacture (according to plate on the machine)



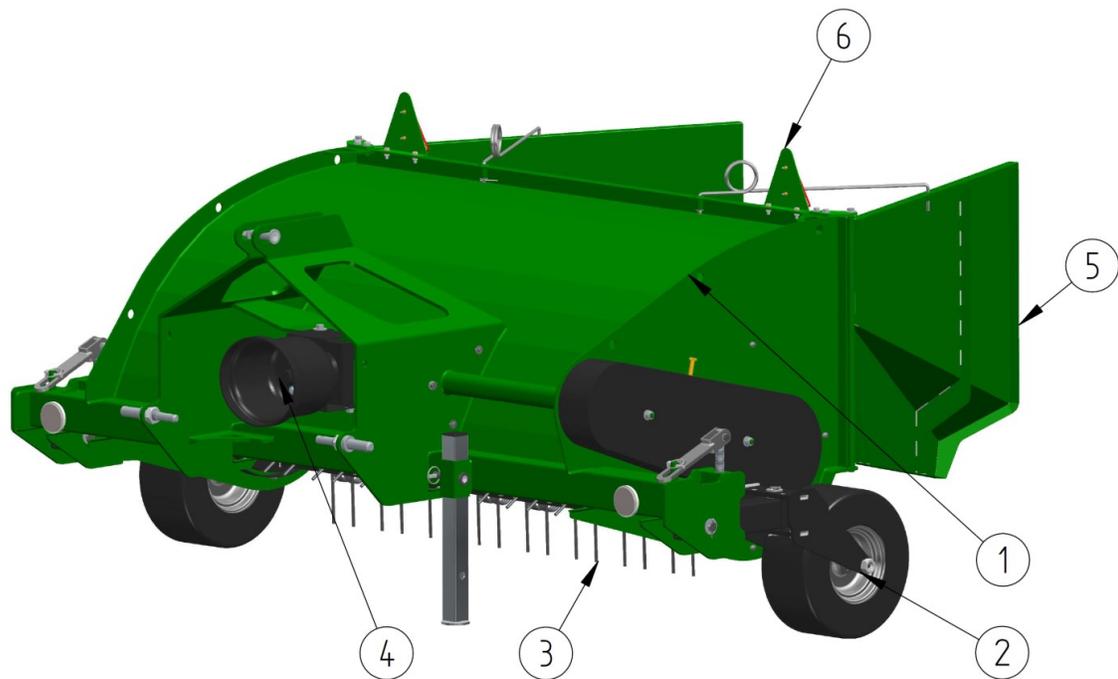
Spare parts should be ordered at the points of sale of the machines or from the manufacturer. Only the use of original manufacturer parts is a guarantee for a safe one and reliable operation of the device. The use of non-original parts or repairing damaged parts will void the warranty.

The manufacturer reserves the right to make design changes to the parts shown in the individual assembly drawings of the parts catalogue. These changes may not always be up-to-date in the operating instructions and the parts catalogue. Individual spare parts drawings may deviate from the actual state.

TALEX Spółka z ograniczoną odpowiedzialnością

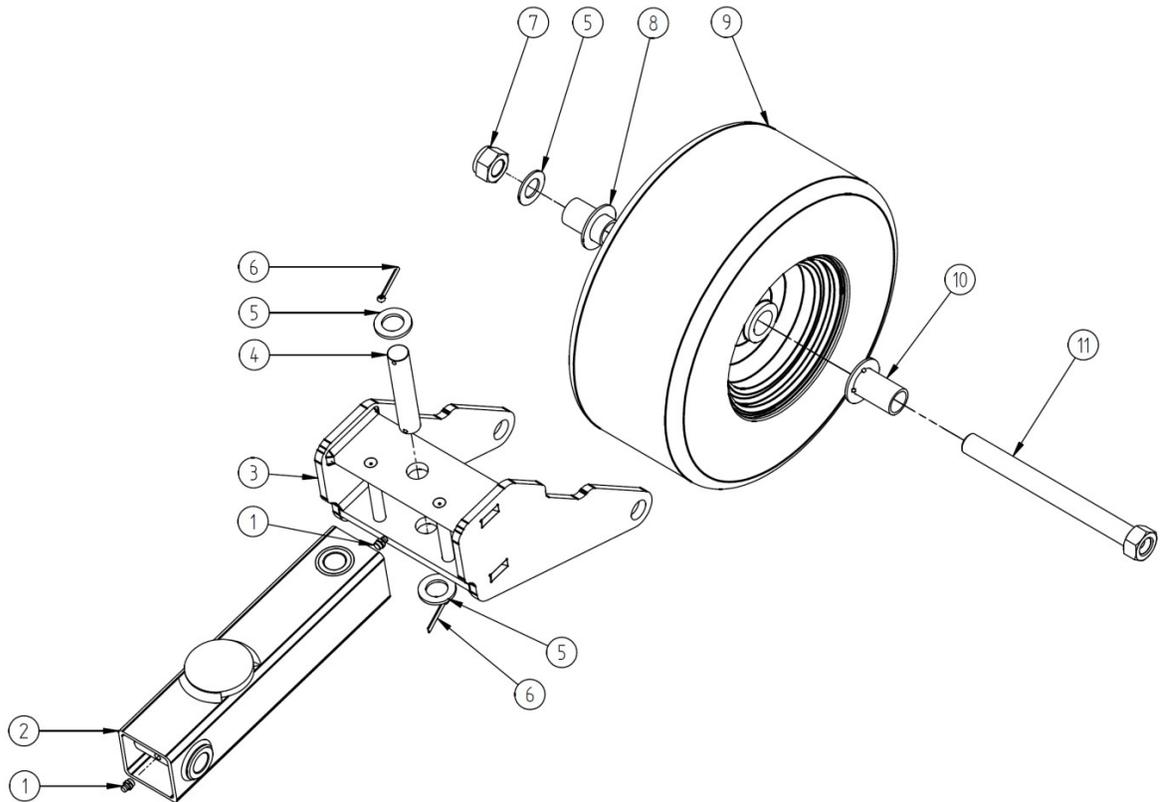
Dworcowa 9c
77-141 Borzytuchoń
Tel. (059) 821 13 40
www.talex-sj.pl
e-mail: biuro@talex-sj.pl

8.1 General construction



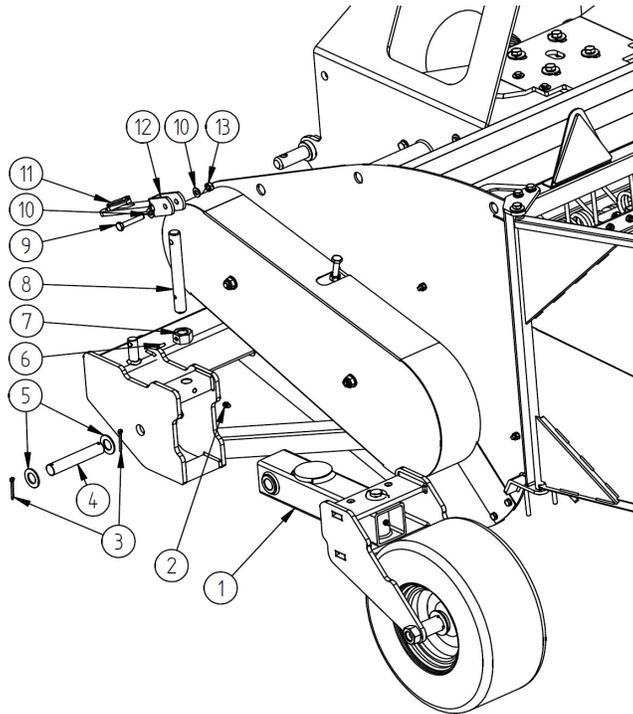
Pozycja	Nazwa	Indeks	Nr rozdziału
1.	Body	P001194	-
2.	Wheel assembly	-	Rozdział 8.2
3.	Shaft unit	P001212	Rozdział 8.3
4.	Transmission unit	-	Rozdział 8.4
5.	Covers	-	Rozdział 8.5
6.	Other	-	Rozdział 8.6

8.2 Wheel unit



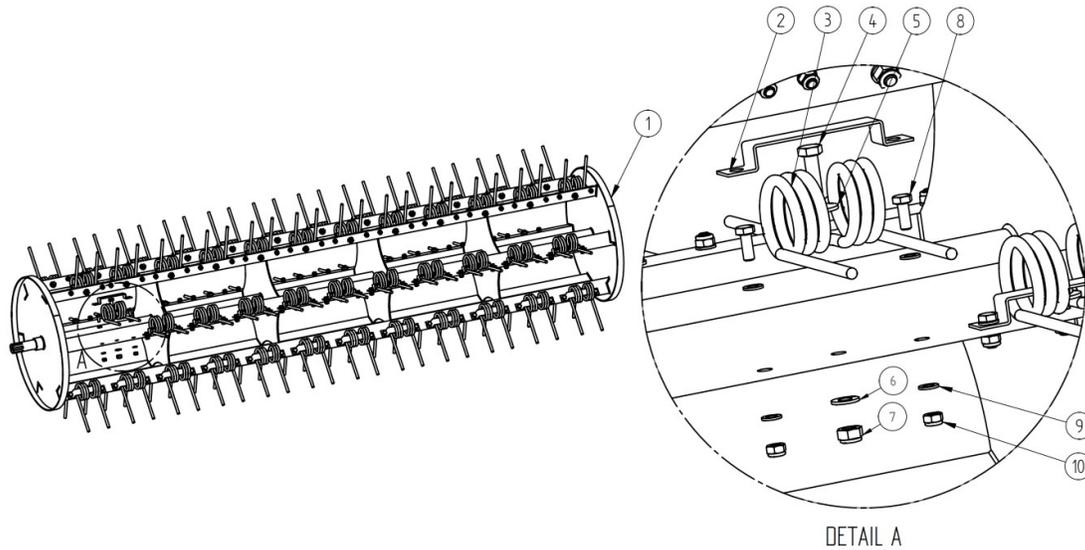
Pos.	Description	Index	Quantity
1.	Grease nipple M10x1	T000643	2
2.	Swingarm	P570153	1
3.	Wheel holder	P001268	1
4.	Swingarm pin 130	P570174	1
5.	Plain washer M25-galv.	T000464	3
6.	Pin 5x40	T000985	2
7.	M24 galv. Self locking nut	T000290	1
8.	Wheel axle distance I	P570165	1
9.	Wheel 16x6,5-8ST-316PR TT/TR13	T000092	1
10.	Wheel axle distance II	P570162	1
11.	Complete wheel axle	P570168	1

8.2.1 Wheel adjustment



Pos.	Name	Index	Quantity
1.	Swingarm unit with the wheel	P001267	2
2.	Grease nipple M10x1	T000643	2
3.	Pin 5x40 galv.	T000985	4
4.	Swingarm pin 140	P570183	2
5.	Plain washer M25-galv.	T000464	4
6.	Spring pin 6x16	T000086	2
7.	Nut M24-8 (under pin) 6*16	P570043	2
8.	Wheel adjustment bolt	P570074	2
9.	Bolt M10x60-8.8 galv.	T000747	2
10.	Plain washer M10 galv.	T000456	4
11.	Universal plug	T000981	2
12.	Knob	P570180	2
13.	M10 galv. Self locking nut	T000292	2

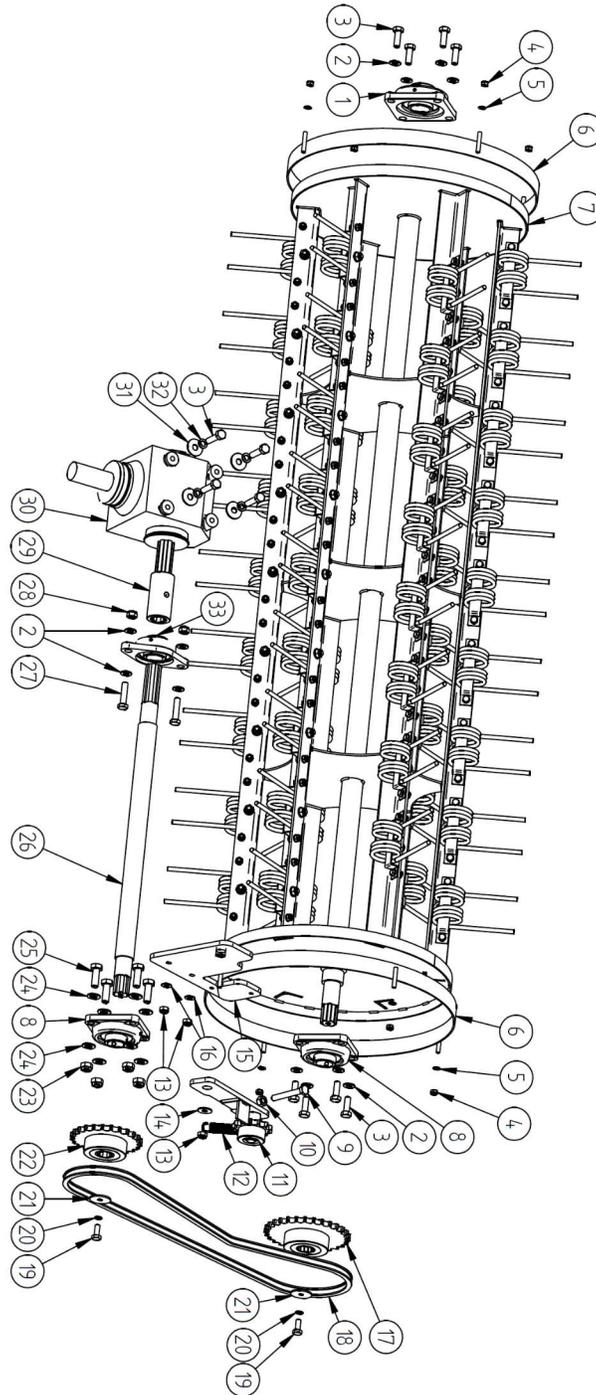
8.3 Working shaft unit



Pos.	Name	Index	Quantity
1.	Working shaft	P001213	1
2.	Tine bracket	P570048	70
3.	Tine	T000664	70
4.	M10x30 8.8 galv. bolt	T000741	70
5.	Thick washer M10 galv.	T000457	70
6.	Plain washer M10 galv.	T000456	70
7.	M10 galv. Self-locking nut	T000292	70
8.	M8x20 8.8 galv. Self-locking nut	T000804	140
9.	Plain washer M8 galv.	T000471	280
10.	M8 galv. Self-locking nut	T000256	140

8.4 Drive transmission unit

8.4.1 Drive unit

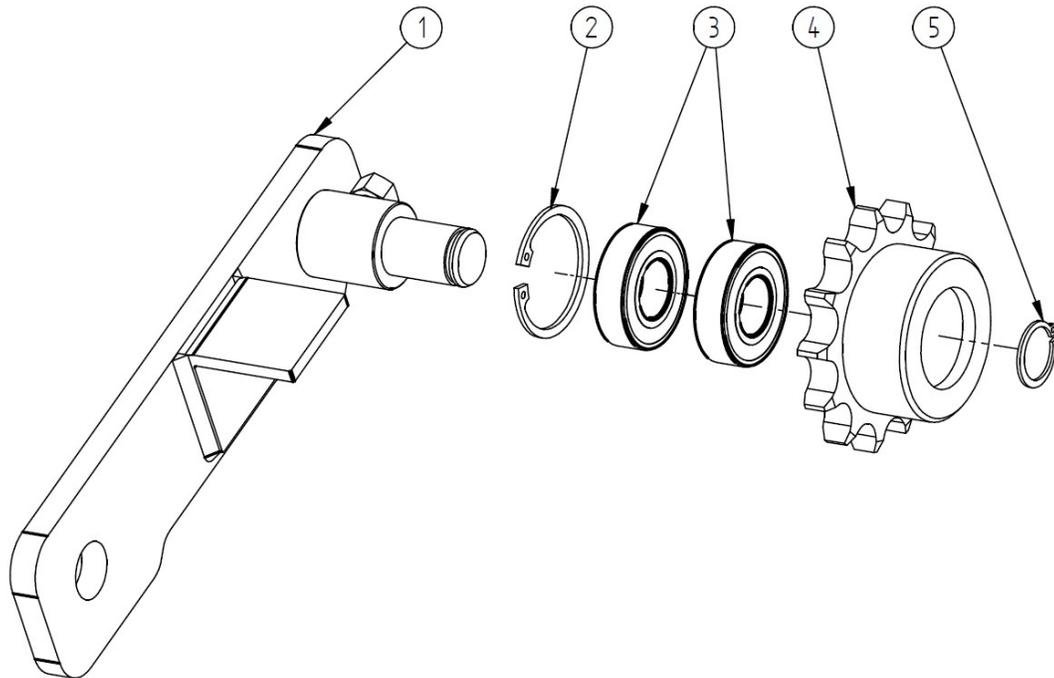




TALEX Sp. z o.o.
ul. Dworcowa 9C
77-141 Borzytuchoń
tel.: +48 59 821 13 40
e-mail: biuro@talex-sj.pl
www.talex-sj.pl

Pos.	Name	Index	Quantity
1.	UCF 208 bearing	T000207	1
2.	Plain washer M12 galv.	T000458	12
3.	M12x35-8.8 galv. bolt	T000756	12
4.	M8 galv. Self-locking nut	T000256	8
5.	Plain washer M8 galv.	T000471	7
6.	Steel flat ring	P570057	2
7.	Working shaft	P001212	1
8.	Bearing UCF 207	T000206	2
9.	Bolt M12x90-8.8 galv.	T002091	1
10.	Nut M12 galv.	T000267	1
11.	Tightener	P001263	1
12.	Tightener spring	T000677	1
13.	Nut M10 galv. Self-stopping	T000292	3
14.	Enlarged washer M10	T000457	1
15.	Tightener base	P570119	1
16.	Plain washer M10 galv.	T000456	2
17.	Chain wheel Z-29	P570127	1
18.	Chain 12B1	P001693	1
19.	Bolt M10x25-8.8 galv.	T000740	2
20.	Spring washer M10 galv.	T000450	2
21.	Chain wheel protection	P570123	2
22.	Chain wheel Z-24	P570124	1
23.	Nut M14 galv. Self-stopping	T000293	4
24.	Plain washer M14 galv.	T000459	8
25.	Bolt M14x40-8.8 galv.	T000767	4
26.	Drive shaft	P570130	1
27.	Bolt M12x50-8.8 galv.	T000760	2
28.	Nut M12 galv. Self-stopping	T000291	2
29.	Bush	P570131	1
30.	Transmission	T000506	1
31.	Enlarged washer M12 galv.	T000442	4
32.	Spring washer M12 galv.	T000451	4
33.	Bearing UCFL 207	T000208	1

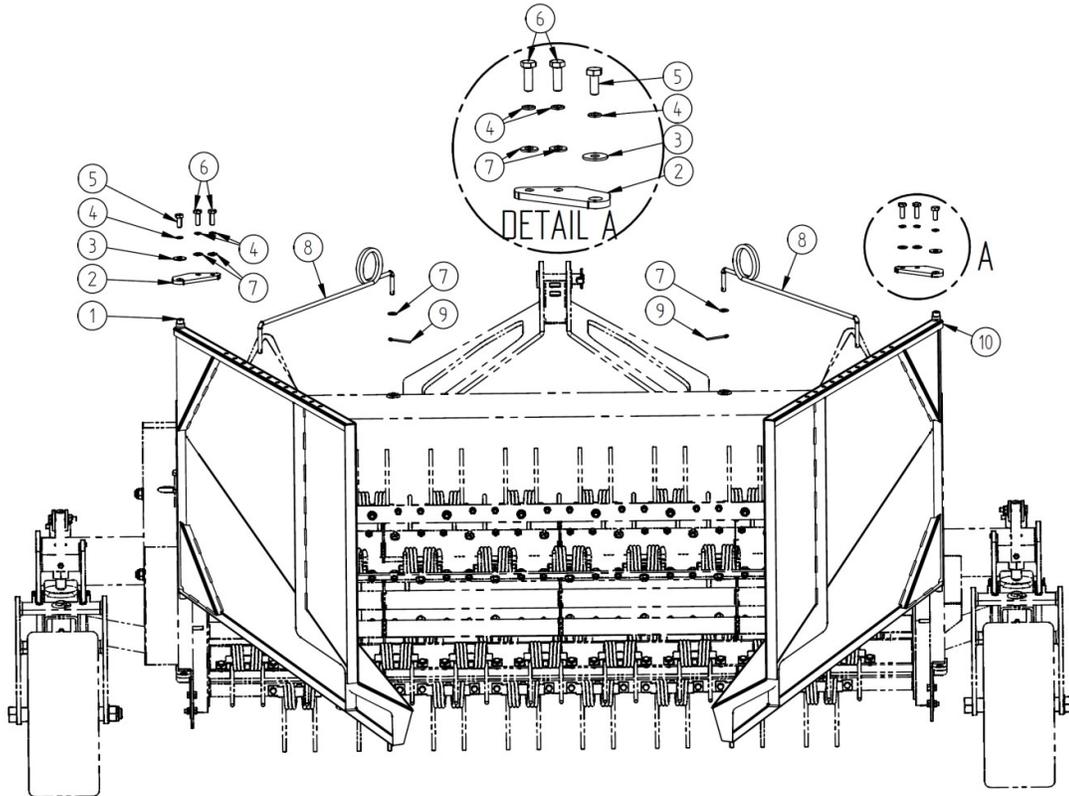
8.4.2 Tightener



Pos.	Name	Index	Quantity
1.	Tightener base I	P001264	1
2.	Snap ring W43	T000428	1
3.	Bearing 6004-2RS	T000211	2
4.	Chain wheel Z=13	T000095	1
5.	Snap ring Z20	T000409	1

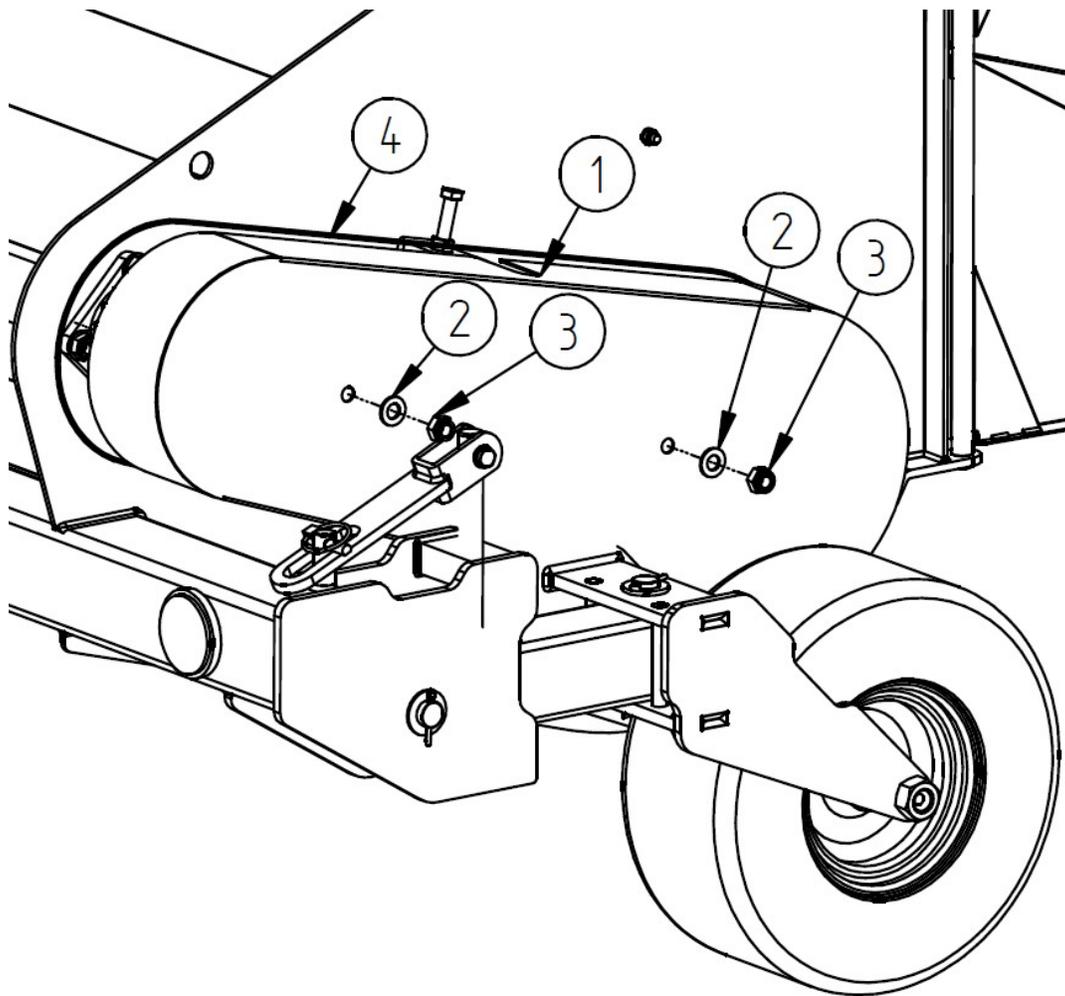
8.5 Covers

8.5.1 Rear Covers



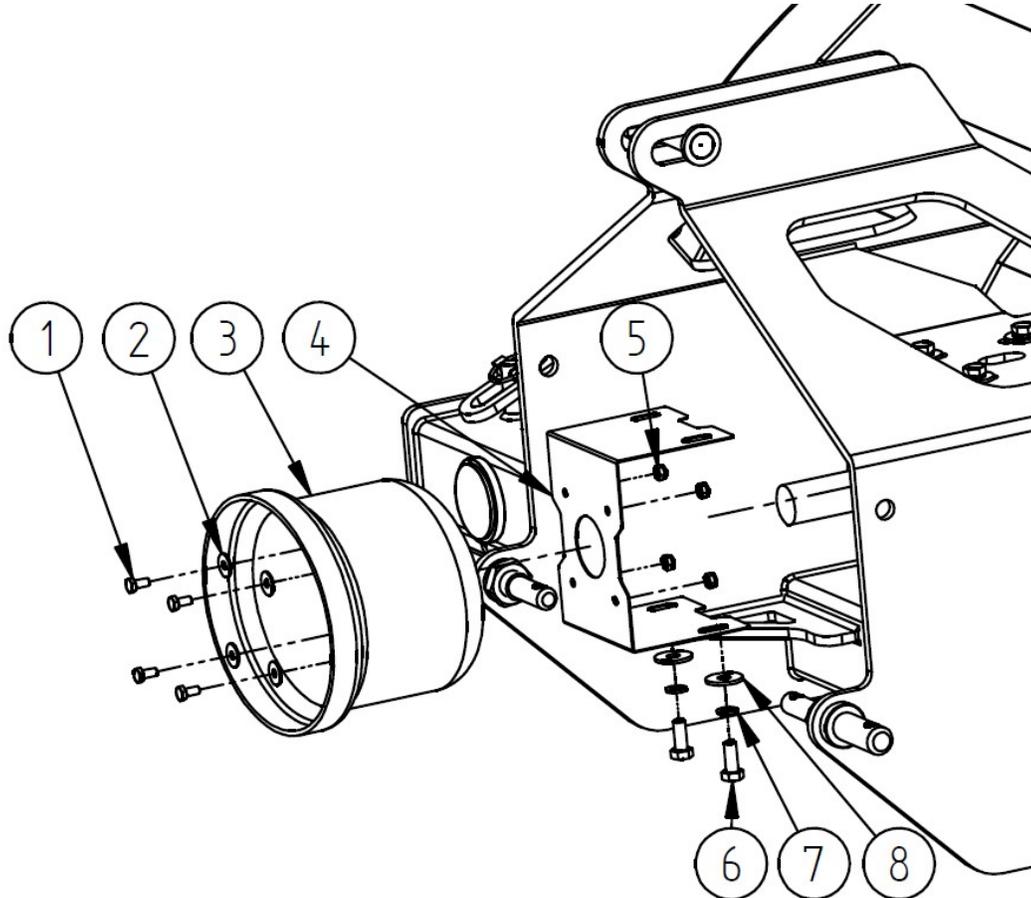
Pos.	Name	Index	Quantity
1.	Left flap	P001228	1
2.	Upper hinge	P001226	2
3.	Enlarged washer M10 galv.	T000457	2
4.	Spring washer M10 galv.	T000450	6
5.	Bolt M10x25-8.8 galv.	T000740	2
6.	Bolt M10x30-8.8 galv.	T000741	4
7.	Plain washer M10 galv.	T000456	6
8.	Flap spring	T002453	2
9.	Cotter 5*40 galv.	T000985	2
10.	Right flap	P001219	1

8.5.2 Chain transmission cover



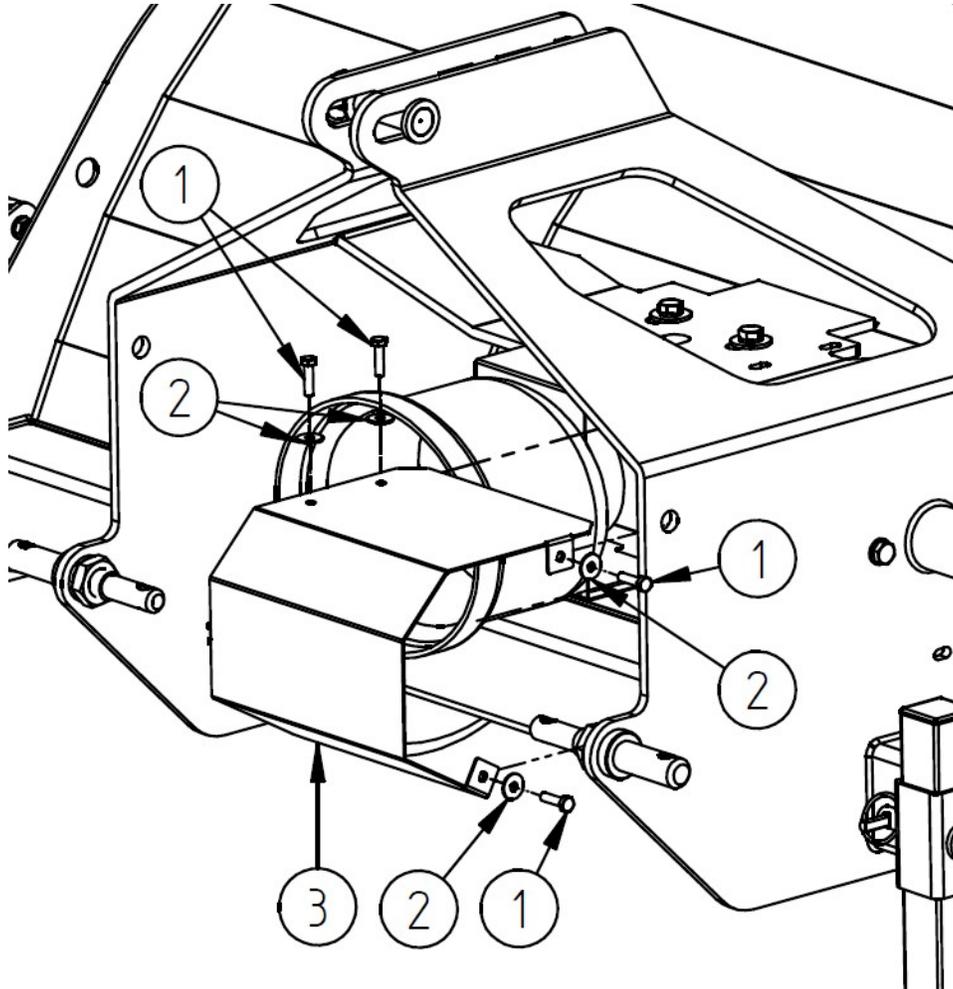
Pos.	Name	Index	Quantity
1.	Chain wheels cover	P001253	1
2.	Plain washer M14 galv.	T000459	2
3.	Nut M14 galv. Self-stopping	T000293	2
4.	Edge protection CAO305	T000356	1

8.5.3 PTO Cover



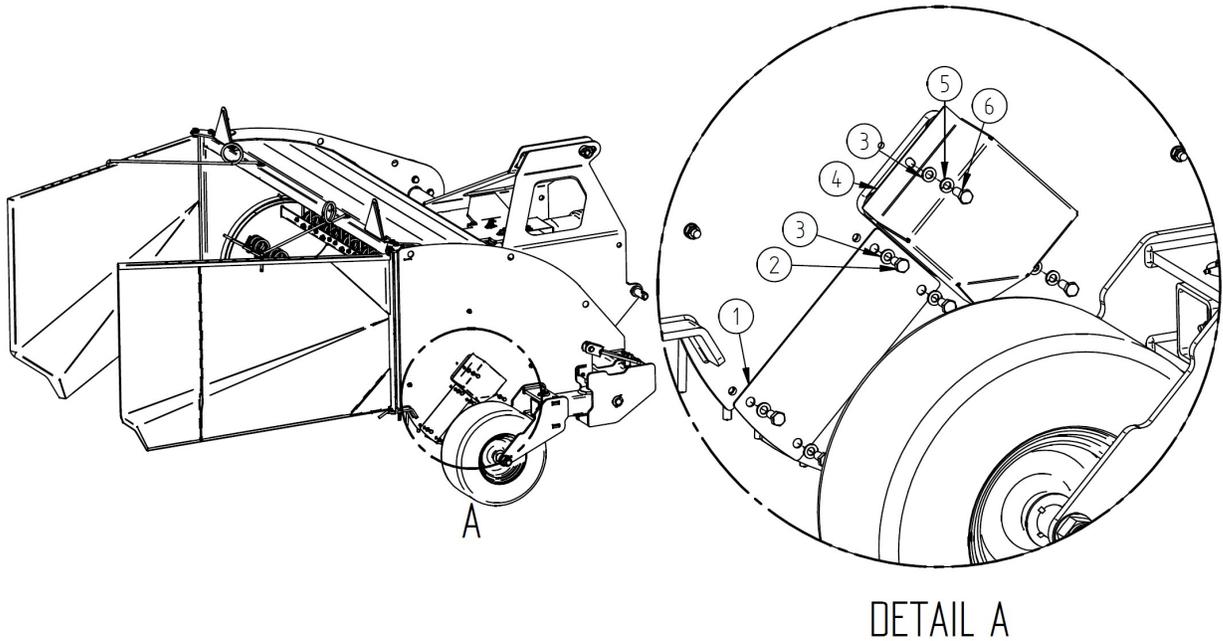
Pos.	Name	Index	Quantity
1.	Bolt M8x16-8.8 galv.	T000803	4
2.	Enlarged washer M8 galv.	T000443	4
3.	PTO cover with service hole	T000344	1
4.	PTO cover mounting	P001342	1
5.	Nut M8 galv. Self-stopping	T000256	4
6.	Bolt M12x30-8.8 galv.	T000755	2
7.	Spring washer M12 galv.	T000451	2
8.	Enlarged washer M12 galv.	T000442	2

8.5.4 Coupler-sleeve cover



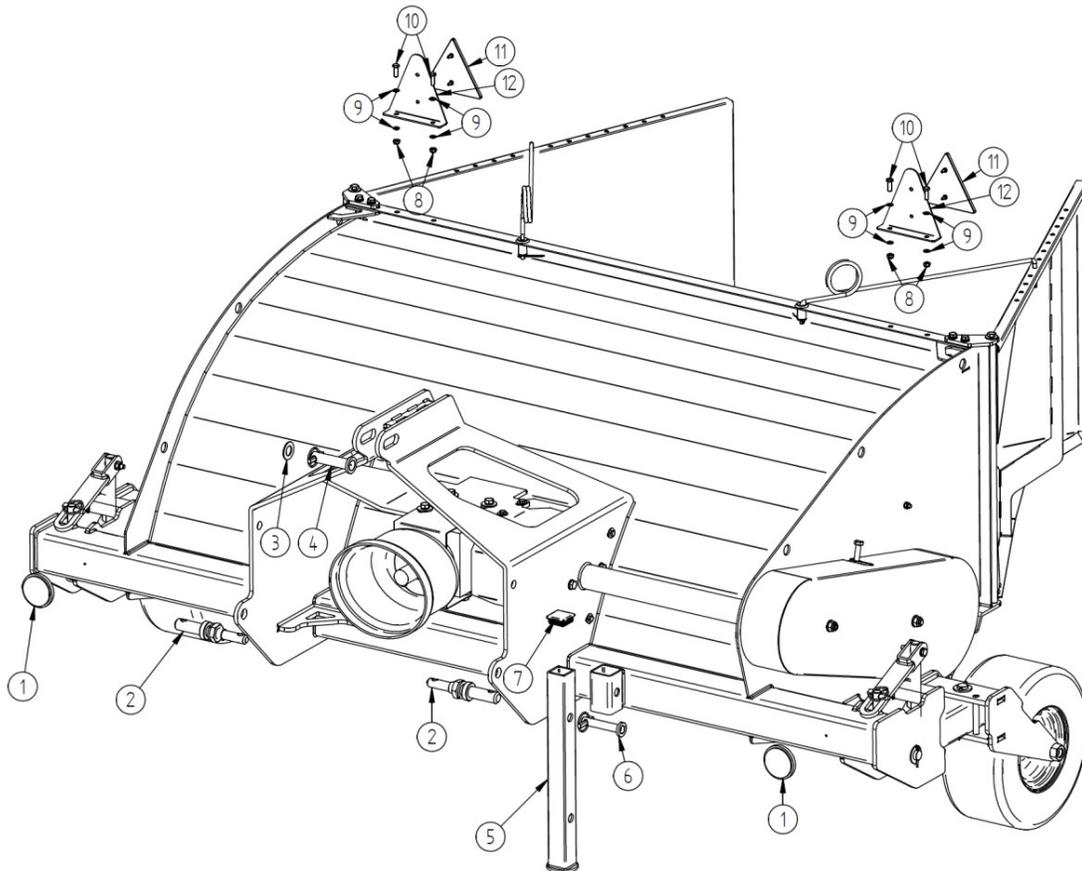
Pos.	Name	Index	Quantity
1.	Bolt M8x30-8.8 galv.	T000807	4
2.	Enlarged washer M8 galv.	T000443	4
3.	Cover under transmission – coupler cover	P001258	1

8.5.5 Bearing and shaft covers



Pos.	Name	Index	Quantity
1.	Working shaft – right cover	P570107	1
1.	Working shaft – left cover (other side)	P570106	1
2.	Bolt M8x16-8.8 galv.	T000803	4
3.	Plain washer M8 galv.	T000471	6
4.	Bearing cover	P570103	1
5.	Spring washer M8 galv.	T000455	2
6.	Bolt M8x20-8.8 galv.	T000804	2

8.6 Other



Pos.	Name	Index	Quantity
1.	White reflector	T000874	2
2.	Lower mounting pivot pin set	P520022	2
3.	Plain washer M25 galv.	T000464	1
4.	Pivot pin $\phi 25$ with cotter	P280053	1
5.	Support leg	P570196	1
6.	Pivot pin $\phi 19$ with cotter	P570059	1
7.	Plug E 50x50x3	T000969	1
8.	Nut M8 galv. Self-stopping	T000256	4
9.	Plain washer M8 galv.	T000471	8
10.	Bolt M8x20-8.8 galv.	T000804	4
11.	Reflective triangle	T000842	2
12.	Triangle support	P570206	2



9 Warranty

WARRANTY CARD

Factory no.	Type
Year of manufacture	Quality Control (KJ)

Under the warranty, the manufacturer undertakes to repair, free of charge, any physical defects revealed during the warranty period, i.e. 12 months from the date of sale.

The manufacturer will be exempt from liability under the warranty in case of:

- Mechanical damage of the machine, which occurred after it was delivered to the user;
- Improper use, maintenance, storage of the machine, in particular if not compliant with the Instruction Manual;
- Execution of any repairs by unauthorized persons and without the consent of the manufacturer;
- Introducing design changes without consulting with the manufacturer;
- Transmission fitting cracks caused by the shaft run-out;

The warranty card is valid provided it has the vendor's signature and the date of sale certified with the company stamp. It must not contain deletions and amendments by unauthorized persons.

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

In the case of an unjustified service call to warranty repair, the related costs will be borne by the user.

The user will file complaints within 14 days from the date of damage/defect directly to the vendor.

The manufacturer will carry out warranty repairs within 14 days from the date of the complaint. The guarantee will be extended by the repair time counted from the date of the complaint until to the date of completion of the service if the defect prevents the use of the machine.

The warranty does not cover elements subject to natural wear, such as wheels, working shaft, tines, bearings, fasteners, bushings and sliding elements, springs, drive chain.

Date of sale: _____



TALEX Sp. z o.o.
ul. Dworcowa 9C
77-141 Borzytuchoń
tel.: +48 59 821 13 40
e-mail: biuro@talex-sj.pl
www.talex-sj.pl

(Day, month, year)

(Signature and stamp of a dealer)

WARRANTY REPAIRS RECORDS

Filled in by the manufacturer

Date of complaint claim: _____

The scope of repair and parts used: _____

Date of complaint processing: _____

Warranty extended until: _____

(signature and stamp of the service)

Date of complaint claim: _____

The scope of repair and parts used: _____

Date of complaint processing: _____

Warranty extended until: _____

(signature and stamp of the service)

Date of complaint claim: _____

The scope of repair and parts used: _____

Date of complaint processing: _____

Warranty extended until: _____

(signature and stamp of the service)

Date of complaint claim: _____

The scope of repair and parts used: _____

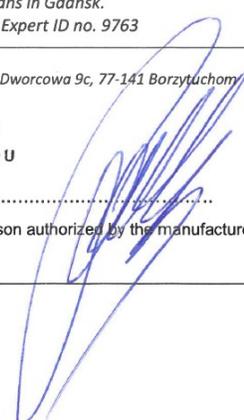
Date of complaint processing: _____

Warranty extended until: _____

(signature and stamp of the service)



10 DECLARATION OF CONFORMITY

Declaration of conformity CE	
Within the meaning of the Machinery Directive 2006/42/CE. Enclosure II, 1.A	
Manufacturer : TALEX Sp. z o.o.	address: <i>Dworcowa 9C 77-141 Borzytuchom</i>
The undersigned hereby declares that the product	
Machine:.....	TEDDER.....
Brand (trade name):	BOCIAN
Function: <i>mown low-stemmed plants tedding, dried and desiccated hay and straw raking, green fodder for haylage baling drying, harvesting of forage by self-propelled forage trailed, aeration of mown plants, reduction of contamination, swath breaking and levelling</i>	
type/model: 225, serial number:.....,	
Meets the requirements of the following EU directives:	
<ul style="list-style-type: none"> • Machine Directive 2006/42/CE from 17.05.2006 . (Dz.U. L 157 from 9.06.2006. p.24) and its change 2009/127/CE from 21.10.2009 . (Dz.U. L 310 from 25.11.2009. 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 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 danger decals • PN-EN ISO 14120:2016-03 Machinery safety -- Covers – General requirements of fixed and non-fixed covers design and construction • PN-EN ISO 4254-10:2011 Agricultural machinery – Safety – Part 10: Rotary tedders and rakes • PN-EN ISO 4254-11:2012 Agricultural machinery -- Safety – Part 11: Agricultural balers 	
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 af wet lacquered covers 2022/08 Edition 02 • QC manual – Quality control manual 2022/08 Edition 02 	
<p><i>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: M.A. Eng. Zbigniew Myszka –SIMP Expert ID no. 9763</i></p>	
<p><i>Person responsible for preparing the technical documentation: Karol Jaworski, Address: Dworcowa 9c, 77-141 Borzytuchom</i></p>	
<p>Karol Jaworski PREZES ZARZĄDU</p>	
<p><i>Borzytuchom 31.07.2023r</i></p>	
(Place and date)	(first name, surname and signature of person authorized by the manufacturer)