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OPERATOR'S MANUAL



TRAILED DISC MOWER

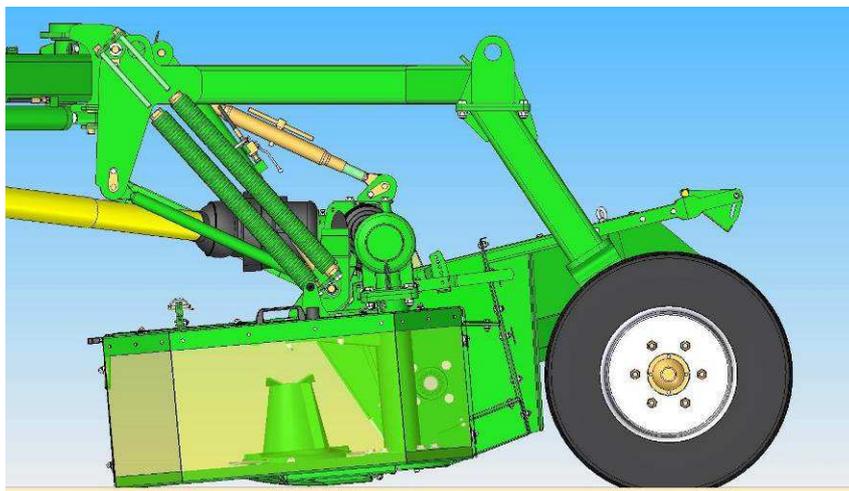
KDC 260	- 8' 6"		
KDC 260 S	- 8' 6"	KDC 301 W T	- 9' 10"
KDC 260 S T	- 8' 6"	KDC 340 / 341	- 11' 2"
KDC 300	- 9' 10"	KDC 340 W	- 11' 2"
KDC 300 W	- 9' 10"	KDC 340 S	- 11' 2"
KDC 300 S	- 9' 10"	KDC 340 S T	- 11' 2"
KDC 300 S T	- 9' 10"	KDC 340 W T	- 11' 2"
KDC 300 W T	- 9' 10"	KDC 341 W T	- 11' 2"

W – Roller conditioner
S – Tine conditioner
T – Belt conveyor

Serial no.:

IN236USA002
10.04.2015
EDITION NO. 2.

Original manual



It is recommended to incline cutterbar by approx. 5° towards mowing direction.
Operation on horizontal position is permissible.
Other position leads to serious damaging of cutterbar.



DO NOT
TURN MOWER'S
DRIVE ON UNTIL
IT IS IN OPERATING POSITION



DO NOT
OPERATE THE MOWER WITH
UNAUTHORIZED
PERSONNEL PRESENT WITHIN 50 M OR
LESS



ATTENTION:
Keep this manual for future reference.

Design and high quality of materials ensure high reliability and durability of SaMASZ machinery.

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1. IDENTIFYING THE MACHINE

Data plate is mounted to the mower's main frame in the place shown on **Figure 1**.



Fig. 1. Data plate location

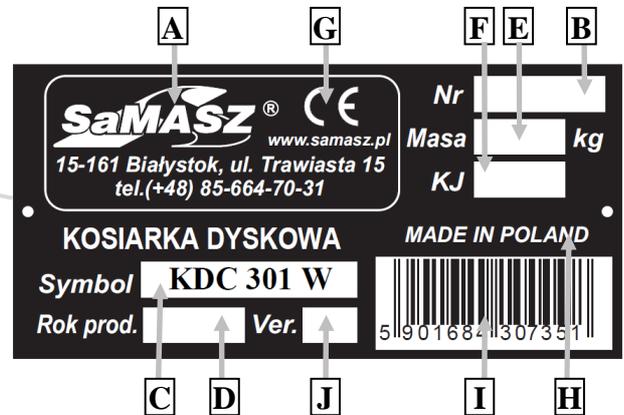


Fig. 2. Data plate

Data plate includes:

- A. manufacturer,
- B. serial number,
- C. mower symbol,
- D. manufacture date,
- E. weight,
- F. quality management sign,
- G. CE marking means, that the mower is conform with Directive 2006/42/EC and harmonized standards,
- H. Place of manufacture,
- I. barcode.



NOTE:

In case the operator's manual is unclear or illegible all necessary information can be obtained from manufacturer or the dealer.

2. INTRODUCTION

- ❑ This operator's manual is essential for safe and proper use of this mower and should be read before anyone operates this mower. It should be kept near the mower for future use. If the mower is used by another operator, it should be in working condition and include this operator's manual and all other basic equipment.
- ❑ Operator's manual is attached to every machine in order that the operator can familiarize himself with design, working principles, service and adjustment of the mower. The operator should be familiar with common safety rules and procedures.
- ❑ The mower is manufactured according to international safety rules.
- ❑ Compliance with the safety precautions in this operator's manual will help to enable safe operation.
- ❑ Please contact your dealer if you have any queries relating to the operation and service of the mower.



GENERAL PRECAUTION

When operating the mower warnings and safety rules marked with this sign herein should be respected.



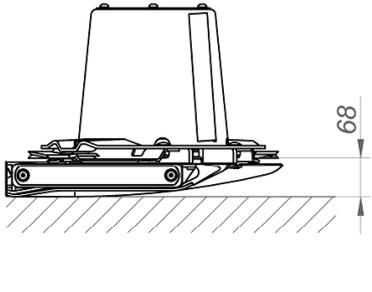
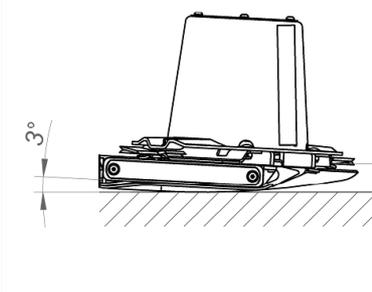
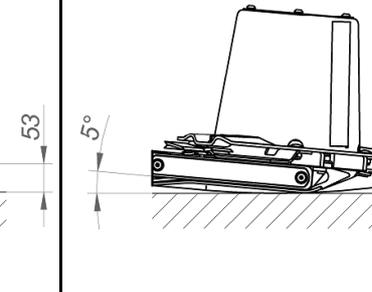
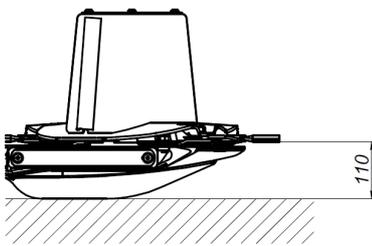
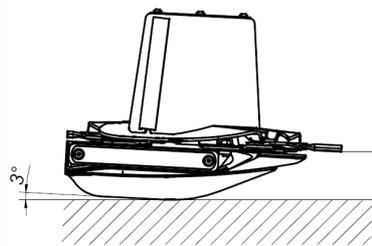
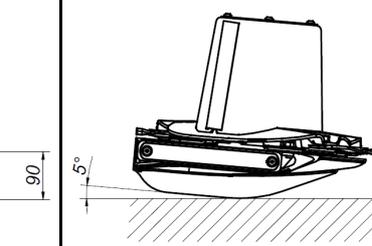
NOTE:

Operating the mower without having been familiarized with its contents as well as by unauthorized personnel, particularly by children, is strictly forbidden.

3. PROPER AND INTENDED USE

 Mower is equipped with **Perfect Cut** cutterbar. The mowing height differences, depending on the inclination angle of the cutterbar are shown in Table 1.

Tab. 1. Mowing heights depending on cutterbar's inclination angle.

Perfect Cut Cutterbar		
No inclination	3° inclination	5° inclination
Standard mowing height		
		
Optional height with use of topping skid		
		

- ❑ Rotational suspended disc mower is intended mow green fodder such as grass and alfalfa on permanent grassland (pastures), on crop fields without rocks, and to form loose rows of cut fodder. The pasture or field being mown should be even and best if prepared by rolling. In the event there is a majority of tall grass, the first and second mowing should be done at a height of 2.4" - 2.8", while with a majority of short grass, at a height of 2". The last mowing should be done a little higher - at 2.8" - 3.1" from the ground.
- ❑ Trailed front mower with tine/roller conditioner is intended to mow green fodder such as grass and alfalfa on permanent grassland (pastures), on crop fields without rocks, and to form loose rows of cut forage. As a result of the passing of the layers of the green fodder through the flails or rollers, the grass stems are broken and a layer of wax is removed. This facilitates and speeds up the drying process of the fodder by approximately 30 to 40%. The use of rollers is especially recommended when mowing legumes such as alfalfa. Rollers are particularly recommended for mowing grass legume such as alfalfa.
- ❑ The pasture or field being mown should be even and best if prepared by rolling.

NOTE: Grass, which has not grown much should be mowed with zero angle inclination.


WARNING:

Use of the mower for purposes other than described above is forbidden. Improper use can be dangerous and may lead to voiding of the warranty. Mower should be operated and repaired only by people familiar with its detailed specifications and with all applicable safety rules and regulations and with the relative dangers. Unauthorized modifications to the mower will lead to voiding the warranty.

3.1. Technical data

Tab. 2a. Specification of trailed disc mowers

Mower type	KDC 260	KDC 300	KDC 340 / 341
Working width	8' 6"	9' 10"	11' 2"
Number of knives [pcs]	12 (6x2)	14 (7x2)	16 (8x2)
Tractor PTO rpm	1000 rpm – standard 540 rpm– option		
Tractor power required	52 kW (70 HP)	67 kW (90 HP)	81 kW (110 HP)
Working capacity at V = 8 mph	~ 3,2 ha/h	~ 3,6 ha/h	~ 4,0 ha/h
Transport length	20' 4"	20' 12"	22' 4"
Transport width	8' 6"	9' 10"	11' 6"
Width in working position	10' 4"	11' 6"	13' 2"
Weight	1550 kg	1650 kg	1755 kg
3-point linkage category	II		
Admissible transport speed	17 mph		
Recommended tire pressure	1,8 bar	2,2 bar	2,4 bar

Mower type	KDC 260 S	KDC 300 S	KDC 340 S
Working width	8' 6"	9' 10"	11' 2"
Number of knives [pcs]	12 (6x2)	14 (7x2)	16 (8x2)
Tractor PTO rpm	1000 rpm – standard 540 rpm – option		
Tractor power required	52 kW (70 HP)	67 kW (90 HP)	81 kW (110 HP)
Working capacity at V = 8 mph	~ 3,2 ha/h	~ 3,6 ha/h	~ 4,0 ha/h
Transport length	20' 8"	20' 8"	22' 8"
Transport width	8' 6"	9' 10"	11' 6"
Width in working position	10' 4"	11' 6"	13' 2"
Weight	1850 kg	1910 kg	2095 kg
Conditioner/roller rpm	~ 800 rpm		
3-point linkage category	II		
Admissible transport speed	17 mph		
Recommended tire pressure	1,8 bar	2,2 bar	2,4 bar

Mower type	KDC 300 W	KDC 301 W	KDC 340 W	KDC 341 W
Working width	9' 10"	9' 10"	11' 2"	11' 2"
Number of knives [pcs]	14 (7x2)	14 (7x2)	16 (8x2)	16 (8x2)
Tractor PTO rpm	1000 rpm – standard 540 rpm – option			
Tractor power required	67 kW (90 HP)	67 kW (90 HP)	81 kW (110 HP)	81 kW (110 HP)
Working capacity at V = 8 mph	~ 3,6 ha/h	~ 3,6 ha/h	~ 4,0 ha/h	~ 4,0 ha/h
Transport length	20' 1"	20' 1"	22' 8"	22' 8"
Transport width	9' 10"	9' 10"	11' 6"	11' 6"
Width in working position	11' 6"	11' 6"	13' 2"	13' 2"
Weight	1965 kg	2100 kg	2110 kg	2280 kg
Conditioner/roller rpm	~ 857 rpm			
3-point linkage category	II			
Admissible transport speed	17 mph			
Recommended tire pressure	2,2 bar	2,2 bar	2,4 bar	2,4 bar

Tab. 2b. Technical data of trailed disc mowers with conveyors

Mower type	KDC 260 S T	KDC 300 S T	KDC 340 S T
Working width	8' 6"	9' 10"	11' 2"
Number of knives [pcs]	12 (6x2)	14 (7x2)	16 (8x2)
Tractor PTO rpm	1000 rpm – standard 540 rpm – option		
Tractor power required	60 kW (80 HP)	74 kW (100 HP)	89 kW (120 HP)
Working capacity at V = 8 mph	~ 3,2 ha/h	~ 3,6 ha/h	~ 4,0 ha/h
Transport length	23' 8"	23' 8"	25' 3"
Transport width	8' 6"	9' 10"	11' 6"
Width in operating position	10' 4"	11' 6"	13' 2"
Weight	2250 kg	2350 kg	2495 kg
Conditioner/roller rpm	~ 800 rpm		
3-point linkage category	II		
Admissible transport speed	17 mph		
Recommended tire pressure	2,0 bar	2,2 bar	2,4 bar

Mower type	KDC 300 W T	KDC 301 W T	KDC 340 W T	KDC 341 W T
Working width	9' 10"	9' 10"	11' 2"	11' 2"
Number of knives [pcs]	14 (7x2)	14 (7x2)	16 (8x2)	16 (8x2)
Tractor PTO rpm	1000 rpm – standard 540 rpm – option			
Tractor power required	74 kW (100 HP)	74 kW (100 HP)	89 kW (120 HP)	89 kW (120 HP)
Working capacity at V = 8 mph	~ 3,6 ha/h	~ 3,6 ha/h	~ 4,0 ha/h	~ 4,0 ha/h
Transport length	23' 8"	23' 11"	25' 7"	25' 7"
Transport width	9' 10"	9' 10"	11' 6"	11' 6"
Width in operating position	11' 6"	11' 6"	13' 2"	13' 2"
Weight	2420 kg	2500 kg	2550 kg	2680 kg
Conditioner/roller rpm	~ 857 rpm			
3-point linkage category	II			
Admissible transport speed	17 mph			
Recommended tire pressure	2,2 bar	2,2 bar	2,4 bar	2,4 bar

3.2. Design and working principle

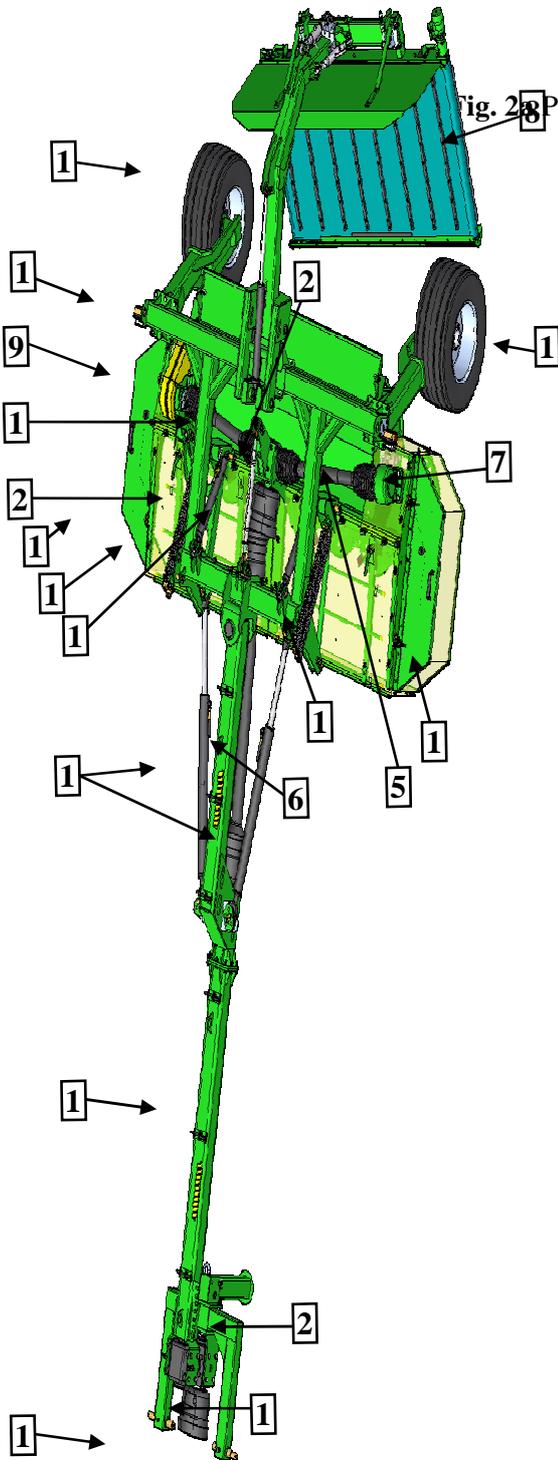


Fig. 2 8 Parts of KDC trailed disc

- 11 – Support springs
- 12 – Turning hydraulic cylinders
- 13 – Tiller
- 14 – Hitch
- 15 – Adjustment link
- 16 – Safety guards
- 17 – Wheels
- 18 – Swath guides
- 19 – Intersecting axis gear
- 20 – Intersecting axis gear
- 21 – Support leg

- 1 – Linkage
- 2 - Lifting hydraulic cylinders
- 3a – Swath conditioner, 3b - Swath rollers
- 4 – Cutterbar
- 5 – Cutterbar drive shaft
- 6 – PTO shaft
- 7 – Cutterbar drive's intersecting axis gear
- 8 – Conveyor
- 9 – Swath conditioner/roller chain gear
- 10 – Swath conditioner/roller drive shaft

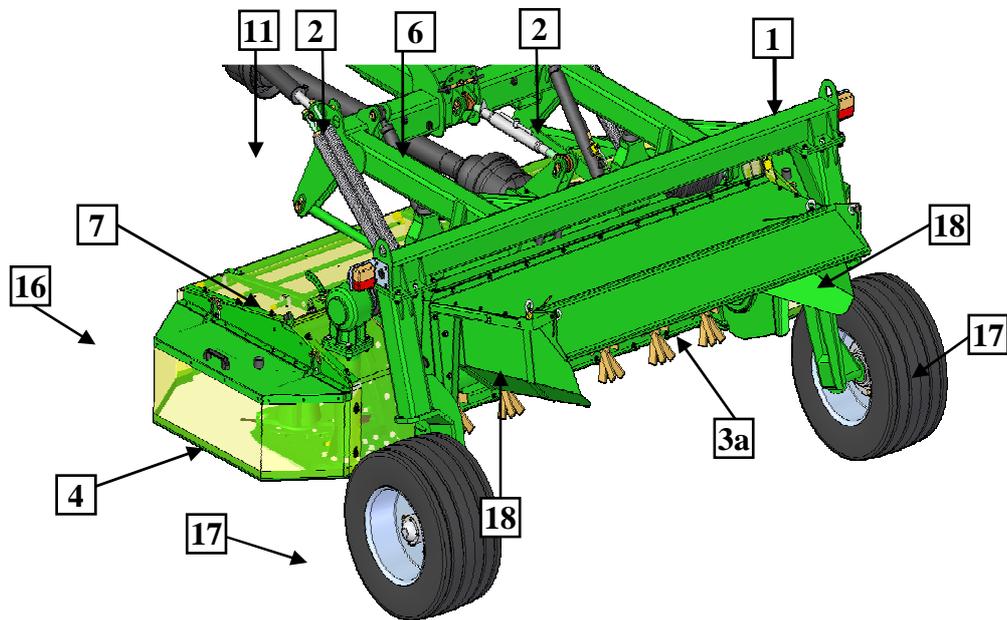


Fig. 2b. Parts of KDC 260 S, KDC 300 S and KDC 340 S trailed disc mower with swath conditioner

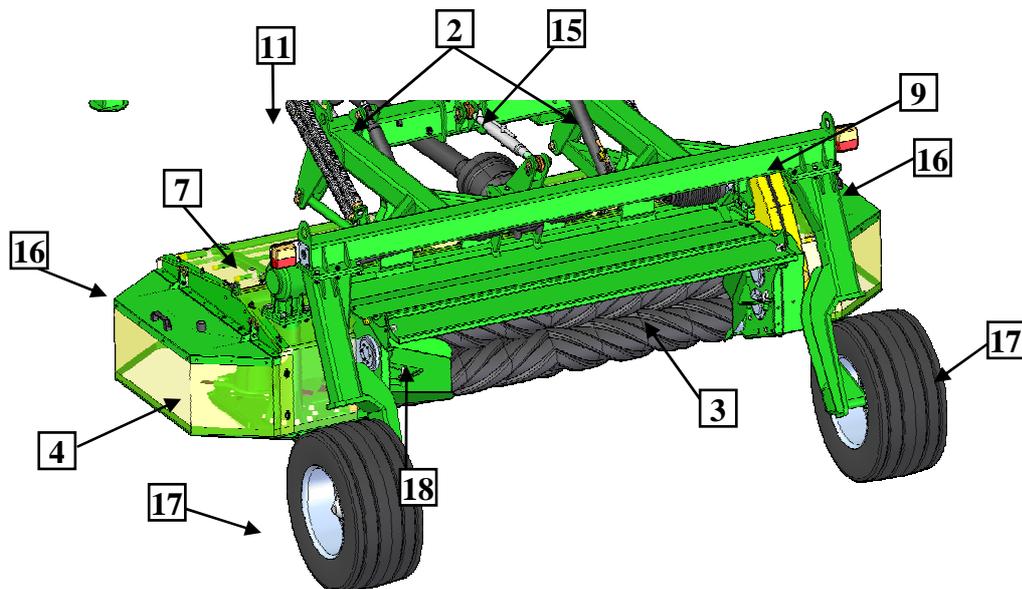


Fig. 2c. Parts of KDC 300 W, KDC 340 W, KDC 301, and KDC 341 W trailed disc mower with swath conditioner

Hitch (14) enables attachment of the mower to a tractor. Drive onto cutterbar (4) is transmitted from the tractor's rpm through PTO shaft onto intersecting axis gear (19), drive shaft located on tiller (13), wide-angle PTO shaft (6) onto intersecting axis gear (20), cutterbar drive shaft (5) and intersecting axis gear (7). Cutterbar has discs mounted with two rotary knives each. Extreme most discs have additionally mounted swath guiding drums. Moreover drive from tractor's rpm through intersecting axis gear (20), drive shaft (10) and chain gear (9) is transmitted onto swath conditioner (3a) or rollers (3b). Cutterbar is attached to linkage (1). Protective guard (16) is mounted over the cutterbar. Maneuvering with the mower when driving is possible owing to two hydraulic cylinders (12) which connect tiller to mower's linkage.

3.3. Standard equipment and spare parts

The mowers are sold with the following standard equipment:

- warranty card
- operator's manual with spare part catalogue
- cutting knives: two sets per mower – left and right knives
- connecting holders for warning triangle
- PTO shaft
- spray paint (150 ml)
- SMV sign – warning triangle

Optional equipment:

- topping skids
- belt conveyor
- cutting disc with instep

Tab. 3. Recommended PTO shafts for KDC mowers - Bondioli & Pavesi

Mower	Power	Length	Moment um	Symbol	Clutch	Remarks
	HP	mm	Nm			
KDC 260 S (T) KDC 300 S/W (T) KDC 301 W(T) KDC 340 S/W (T) KDC 341 W(T)	74	650-885	710	8G7T065CE007003	Friction clutch = 1200 Nm	1000 rpm
KDC 260 S (T) KDC 300 S/W (T) KDC 301 W(T) KDC 340 S/W (T) KDC 341 W(T)	47	650-885	830	8G7T065CE007002	Friction clutch = 1450 Nm	540 rpm

PTO shaft end without clutch – To be mounted on the tractor side

PTO shaft end with overload friction clutch – To be mounted on the mower side

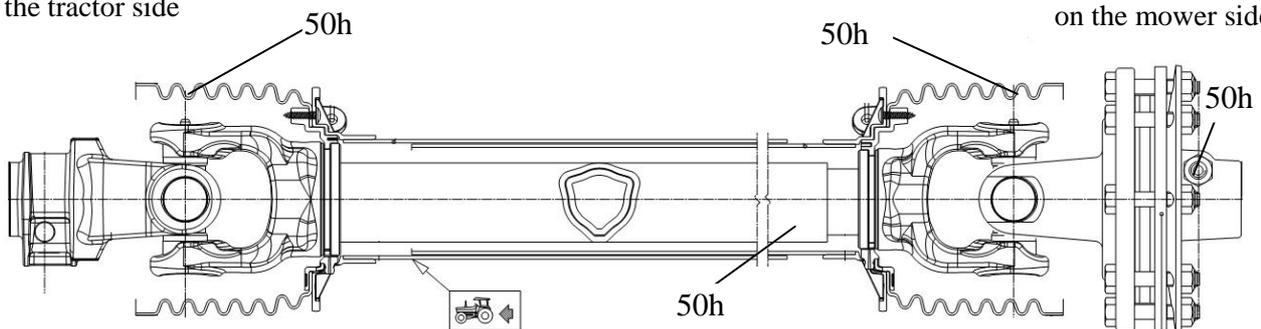


Fig. 3. PTO shaft lubrication points; Mounting directions.

NOTE:

PTO shaft lubrication frequency must be respected. Lubrication points marked on **Fig. 3** should be lubricated every 50 hours.

PTO shaft shall also be lubricated before and after longer idleness periods.



PTO shafts of other brands with equivalent parameters could be used after first obtaining SaMASZ permission.



NOTE:

Optional extra equipment should be ordered separately.

4. SAFETY PRECAUTIONS

 **WARNING** The following precautions are for your safety. They must be read carefully and followed by every person who operates or maintains the machine. Failure to follow these safety precautions could result in serious injury or death to the operator, maintenance person or bystanders and property damage to the machine and surrounding property.

Safety Signal Words

This manual and the safety labels attached to this equipment utilize signal words that signify safety hazards with different levels of severity. Below are the words used and the definitions for these words:

- **DANGER** indicates a hazardous situation which, if not avoided, will result in death or serious injury.
- **WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury.
- **CAUTION** indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
- **NOTICE** is used to address practices not related to physical injury.

4.1. General safety rules and regulations



The following descriptions are for your safety: They must therefore be read carefully and applied every time you use the machine.

- ❑ The machine has been designed for use by one single operator.
- ❑ When using, servicing, repairing, moving or storing the machine, the operator must wear safety footwear, safety gloves plus ear protection and dusk mask if necessary.
- ❑ During use, the machine may give rise to dust, especially if the soil is dry. You are advised to use a tractor with a cab fitted with filters in the ventilation system. Failing this, wear a dust mask with filter to protect your respiratory tract
- ❑ Front axis of the tractor should be weighted to keep the balance. If need be, use front wheel weights.
- ❑ In order to keep steering conditions, impact on front axis should be at least 20% of the complete tractor.
- ❑ Be extremely careful whenever using hydraulic lift lever or buttons. Any operation with hydraulic lift lever should be done from operator's seat; **DO NOT** move the lever from outside of a tractor.
- ❑ In case of tractors equipped with EHR, operating with hydraulic lift is done by the buttons mounted outside the tractor's cabin. When operating be extremely careful.
- ❑ When switching from mowing to transport position, remove the entire PTO shaft or at least one end of the shaft from the tractor's PTO so it cannot turn.
- ❑ When attaching the mower to a tractor, the operator should wear protective gloves.
- ❑ **DO NOT** operate the mower unless all safety guards are in place and operational. In addition, any damaged protective aprons should be replaced with a new one

- Start mowing only when tractor's PTO reaches its normal 1000 rpm. DO NOT exceed 1050 PTO rpm.
 - No person (except operator) should stand within danger area which is a minimum of 164' 1" from any operating part, especially when operating near roads and in areas with stones and other debris. Be certain that children and animals are at a safe distance away from the machine.
- IMPORTANT:** Maintenance and adjustment should ONLY be done after the following has occurred:
1. tractor's engine has been stopped and ignition key has been taken out,
 2. all rotating parts have come to complete standstill (NOTE: cutting knives will rotate for several minutes after engine is turned off),
 3. the cutterbar is on the ground.
- Never tamper with or remove safety devices on the machine or make them inoperable.
 - Before starting work and periodically thereafter, replace any damaged, missing and/or worn knives and knife holders.
 - When driving on public roads always comply with local traffic regulations, especially those concerning warning lights.
 - When the mower is lifted for repair on 3-point linkage, it should be secured against falling by mechanical support or by chain.
 - The bolts and other fasteners have to be periodically checked and, if necessary, tightened or replaced. DO NOT work with damaged or worn fasteners.
 - Never lift the mower on tractor linkage when the drive is operating and the cutting discs are rotating.
 - When operating the mower, the tractor should always be equipped with operator protection that is required by laws and regulations.
 - Never start the mower when the mower blades are off the ground.
 - Before you start the tractor make sure that all drives are turned off and the levers that turn the hydraulics are in neutral position.
 - Never leave tractor's engine running without supervision. Before you leave the tractor, turn off the engine and remove the key from tractor's ignition.
 - DO NOT operate the mower when driving the tractor backwards.
 - Permissible inclination of the mower on a slope when working and during transport is 8°. Exceeding this incline can result in mower tipover.
 - Never stand between tractor and mower unless tractor and mower are secured against moving by the tractor's brake.
 - If any maintenance must be done under an elevated mower, it must be blocked or otherwise secured against falling.
 - When the parts of the mower need replacement, use only original spare parts as described in the spare parts list. Pay particular attention to PTO shaft's guards and mower's and tractor's spline shaft guards.
- Hydraulic hoses are potentially very dangerous. Do the following to minimize any hazards:
1. Hydraulic hoses should be periodically checked and if any damage to the hoses have occurred or if they have been used more than 5 years, replace with new ones.
 2. Never use scotch tape to repair hydraulic hoses.
 3. When connecting hydraulic hoses to tractor's hydraulic connectors, make sure that the tractor's or mower's hydraulic system is not under pressure.
- The mower should be stored under a roof and in a way as to not be hazardous bot people or animals.

- In the event of an accident involving this mower in a field or on a road, follow all applicable first aid procedures and contact SaMASZ technical service.
- Mower should be kept clean, so as to avoid danger of fire.

4.2. Conditions of mounting mower on tractor

- Prior to the mounting operation, be sure that the tractor and mower hitches are compatible and that the tractor's hitch load is adequate for the machine which is to be mounted or attached.
- Prior to mounting the machine, examine the technical condition of the mower's hitch assembly and tractor's 3-point linkage.
- Use only genuine cotter pins to mount the mower on a tractor.

4.3. Transport

The lifting, handling and transporting operations can be very dangerous unless they are carried out with the utmost caution. Have all persons not involved in the actual work move away from the area and limit the zone where the operations are to be carried out. Also make sure that the area in which the operations take place is clear and that there is a sufficient escape route, i.e. a free, safe zone to which the operators can quickly move if the load should fall.

The safety hooks and ropes used to lift the machine must be of an adequate carrying capacity

To minimize the risk of serious injury or death, do the following:

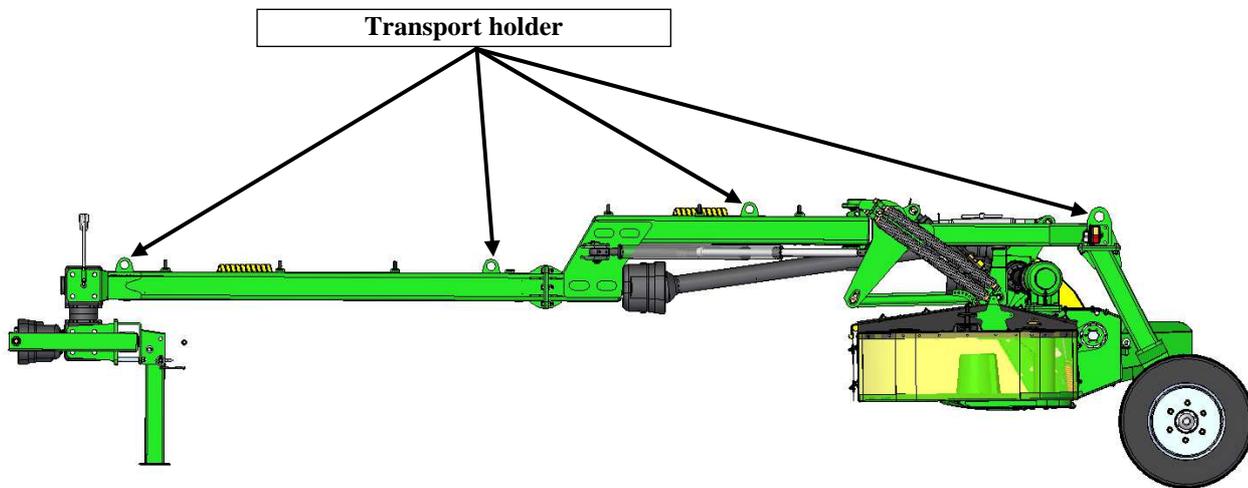
- When the machine is converted from the transport position to the work position and vice versa, you could be pinched or crushed by some of its parts. Take extra care when carrying out these maneuvers and have all persons keep well clear of the danger zone.
- Do not change position of the mower until there are no people or animals around (pay particular attention to children).
- While transporting the mower, put a warning plate with combined lights and reflectors and warning triangle on the mower.
- During transport, always put the mower in its proper and safe transport position. See section 5.3.
- Before putting the mower in transport position, make sure that the tractor's PTO is turned off and all rotating parts have come to a complete stop.
- Do not drive over 30 km/h (17 mph). Drive slower if road conditions are poor, especially on irregular surfaces or steep slopes.
- The behavior of the tractor on the road, such as its turning and braking capacities, are affected by the implements mounted.
- When driving on the road after work, check to make sure that the tires and soil working tools are clean to prevent the road surface from becoming dirty.

Make sure that the machine is not damaged during transport.

4.3.1. Putting the mower onto another vehicle for transport

The driver and the carrier are responsible for the mower's transport safety. Equipment and parts must be secured during transport. To put the mower onto another vehicle in a safe way, please obey the following rules.

- Transport should be done by qualified and specifically trained personnel,



- ❑ For mower lifting, use only lifting devices with hoisting capacity larger than mower's weight shown in data plate. This also applies to ropes and chains used for lifting,
- ❑ Do not lift if transport belts, belt suspensions, ropes are damaged. Whenever damage to these parts occurs, replace with new ones,
- ❑ When mounting slings, chains, handles etc., always set the machine's center of gravity properly,
- ❑ To safely support the machine, use ropes of adequate length so that the angle between them is no greater than 120° , and the angle between the strand and the vertical is no greater than 60° ,
- ❑ Lift the machine with the utmost caution and move it slowly,
- ❑ No one should be within the range of action of the lifting equipment when any transporting operations are being carried out,
- ❑ Collapsible parts should be blocked in transport position,
- ❑ When the mower is on the vehicle's trailer, the machine should be secured against moving.

**NOTE:**

Securing both the danger area and providing activity performance in a safe manner shall lie under the responsibility of the person in charge of the mower transportation.

4.4. Working parts

- Before operating the mower, check knife's and knife holder's condition.
- Worn or damaged knives or knife holders should be immediately replaced with new ones.

4.5. PTO shaft

- Before operating, read bar manufacturer's manual placed on the bar. Follow all safety precautions in that manual.
- Use only PTO shafts recommended by mower's manufacturer with guards in good condition.
- In order to operate safely, use only undamaged PTO shafts and shields. Damaged PTO shafts and shields must be repaired or replaced with new ones before use.

4.6. Hydraulic assembly

- Hydraulic assembly is under high pressure. Hydraulic oil under pressure may penetrate skin and cause serious injury or death. Skin and eyes should be protected when working around this assembly.
- In case of injury caused by a liquid under pressure, call a doctor immediately.
- Hydraulic hoses can be connected to the tractor's hydraulics provided that both the tractor's and the mower's hydraulic assemblies are not under pressure. To remove the pressure from the hoses, start the tractor's hydraulic valves several times with the tractor off.
- When unmounting the machine from the tractor, put the equipment aside, deflate the pressure from hydraulics and turn tractor's engine off.
- When looking for oil leaks, do so safely. Use a cardboard card. Do not touch any potential leaks until the entire hydraulic assembly has been relieved of pressure.
- Use only hydraulic oil featuring oil purity class 9 - 10 in accordance with NAS 1638.

When using hydraulic hoses:

- Avoid stretching the hoses when operating.
- Do not allow hydraulic hoses to get deflected.
- Do not expose hydraulic hoses to contact with any sharp edges.
- If damaged or worn, replace the hoses with new ones.
- Useful life for hydraulic hoses is 5 years from their production date.

4.7. Safety curtains

SaMASZ mowers feature standard safety curtains (1) for self-fitting. In order to put the curtain properly put it on the mower and secure with catches (2) and with front guard (3) **Fig. 5**. Examine condition of curtains and their mounting on a regular basis. Fix immediately if damaged and replace if missing. Do not operate mower without safety curtains.

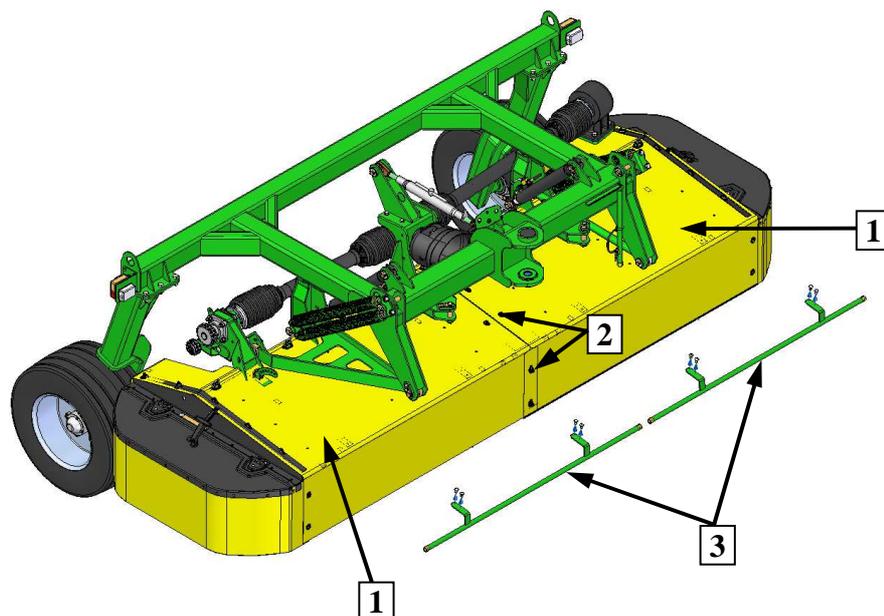


Fig. 5. Mounting safety curtain guard on the mower

4.8. Residual risk

Despite the fact that SaMASZ Białystok, the manufacturer of the mower, has taken great care in the design and manufacturing of the mower, certain risks during mower operation and maintenance are unavoidable. A major source of risk that could result in serious injury or death can occur during the performance of these operations.

Major source of risk follows performance of these operations:

- operation of mower by minors,
- operation by individuals who have not read the operator's manual and safety labels,
- operation of mower by persons under influence of alcohol or other substances,
- not being cautious during transportation and moving mower during operation,
- transport of persons who are on the machine,
- presence of persons and animals within the mower operation range,
- performing servicing and machine adjustments with the engine on.

4.8.1. Danger of machine entanglement

This risk occurs when (1) changing position of a mower, (2) operating near rotating parts, and (3) working without safety guards. During operation, maintenance and adjustment, always wear protective gloves, shoes and clothes without loose parts, belts and so on. Always comply with safety labels placed on the mower.

4.8.2. Danger of cutting injury

This risk occurs during replacement of working parts with sharp edges. During any maintenance work, always use safety gloves.

4.8.3. Danger of injury from liquid ejection out of hydraulic system

During connection of hydraulic hoses to hydraulic connectors, be sure that tractor's or mower's hydraulic system is not under pressure. Regularly check hydraulic hoses for leaks.

4.8.4. Forbidden actions

During mower's operation, do not do the following:

- never unblock the mower, make any regulations or repairs of the mower while it is in motion,
- never change order of operation and maintenance activities described in operator's manual,

- never operate the mower when it is not in working order or has damaged safety guards,
- never get your hands and legs close to rotating parts of the mower,
- during repair and maintenance of the mower, always comply with descriptions included in operator's manual. Always do these activities when the tractor's drive is off,
- never operate the mower under influence of alcohol, drugs, or strong medicine that impair your attention,
- do not wear clothes or jewelry that are too loose or too tight. Too loose clothing or jewelry may be pulled in by the rotating parts of the mower,
- the mower should not be operated by children or by handicapped people,

When describing residual risk, the mower complies with the state of the art in technology on the date it was manufactured.

4.8.5. Residual risk assessment

Residual risk occurs from not complying with the instructions and safety precautions. Such risk can be minimized by doing the following:

- thorough familiarizing yourself with operator's manual,
- allow no persons on the machine when operating,
- allow no persons within the mower operation range,
- adjust, maintain and lubricate the machine with the engine off,
- only skilled persons should perform repairs of the machine,
- children and strangers must keep away when the machine is operating



When the risk of exposure to noise cannot be avoided or eliminated by any protective means or organization of work, employer (farmer) must:

- 1) provide the operator with individual means of noise protection, if the noise level in work place exceeds 80 dB.
- 2) provide the operator with individual means of noise protection and supervise the correctness of its usage, if the noise level in work place reaches or exceeds 85 dB.

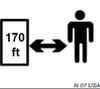
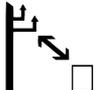
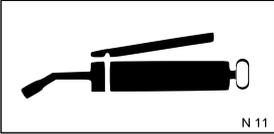
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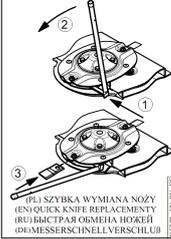
Safety labels and their meaning

Safety labels are critical to safe use of this mower. They must be read, understood and followed.

Also, be sure that:

- All warning decals are clean and legible,
- All lost or damaged decals are replaced by ordering new decals from your dealer or supplier,
- All persons using this mower have read the section of this manual explaining the meanings of these labels,
- All spare part used for repair of the mower should have all safety labels provided by the manufacturer.

  <p>N-1 Be extremely careful when PTO shaft is rotating</p>	  <p>N-2 Caution: cutting knives. Approach during operation is forbidden</p>	  <p>N-3 Read the operator's manual before putting the mower into operation</p>	  <p>N-4 While making repairs the machine must be stopped</p>
  <p>N-5 Caution: belt gear, keep particular attention</p>	  <p>N-6 Caution: pulling-in parts</p>	  <p>N-7 Operating is forbidden when any person is within the danger area of 164'</p>	  <p>N-9 Caution: rotor</p>
  <p>N-23 Watch out: power lines</p>	  <p>N-48 Stay a way from mower's inclination area</p>	 <p>N-40 Signs indicating transport holders</p>	  <p>N-49 Never stand near tractor's 3-point linkage while steering tractor's lift</p>
  <p>N-50 Do not stay in the swinging area of mower's parts</p>	  <p>N-206 Wear protective gloves</p>	 <p>N-11</p>	  <p>N-117 Avoid fluid escaping under pressure. Consult technical manual for service procedures</p>

 <p>1,8 Bar N 196</p> <p>N-196 Recommended tire pressure for mower KDC 260, KDC 260S</p>	 <p>2,0 Bar N 197</p> <p>N-197 Recommended tire pressure for mower KDC 260S(T) and KDC 300</p>	 <p>2,2 Bar N 198</p> <p>N-198 Recommended tire pressure for mower KDC 300S(T), KDC 300W(T), KDC 301W(T) and KDC 340</p>	 <p>2,4 Bar N 199</p> <p>N-199 Recommended tire pressure for mower KDC 340S(T), KDC 340W(T), KDC 341W(T)</p>
 <p>N-167 Do not go onto safety brackets and guards</p>	 <p>N-168 Do not touch the machine before the rotating parts have not come to a complete standstill</p>	 <p>N-57</p>	 <p>N-201 Admissible transport speed 25 MPH</p>

OPERATING MOWER WITHOUT GUARDS IS NOT ADMISSIBLE

DUE TO RISK OF THROWING OUT HARD OBJECTS BY THE MACHINE

P2 PL

P-2

DANGER

OPERATING WHEN ANY PERSON REMAINS IN THE DANGER AREA OF

170 ft

P3 USA

P-3

1000 U/min rpm

(DE) min. = 900 U/min
(EN) min. = 900 rpm

N 28 DE, EN

N-28

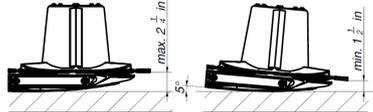
540 U/min rpm

(DE) min. = 490 U/min
(EN) min. = 490 rpm

N 29 DE, EN

N-29

OPTIMUM INCLINATION TOWARDS THE GROUND IS 3° - 4° TO THE MOWING DIRECTION



max. 2 1/4 in.
min. 1 1/2 in.

IT IS ALLOWED TO WORK IN HORIZONTAL POSITION. DIFFERENT INCLINATION MAY DAMAGE THE MOWER.

N 30 USA

N-30 – Cutterbar "Perfect Cut"

Optimum work parameters

- Inclination towards the front 0-5 degrees which stands for 1 1/2 in + 2 3/4 in of mowing height.
- Operation speed ≥ 7 mph.
- PTO rpm = 950-1000 rpm. PTO rpm > 1000 may cause stripes of uncut grass between the discs.
- Tractor's rpm (max. moment – economical fuel consumption) 1600-1800 rpm.

High and inclined grass

- Highten the cutterbar's inclination to – H = about 1 1/2 in.
- Operation without cutterbar's inclination may cause winding of grass on the forming drums.
- Speed up to V ≥ 8 mph. (the faster – the better).
- Do not take turns in the mowed grass.

N 53 USA – 1000 rpm

N-53

Abridged manual of transporter's belt change and regulation
Mower with transporters must be mounted on the tractor. By means of upper link (cylinder) incline the mower forward to the maximum – in order to increase the distance of the transporter to the ground.

- Activities by the transporter in working position (horizontal).
 - Mark the lines on millimeter measure (if the belts worked correctly).
 - Loosen the belt tightening mechanism - bolts M10, nuts M12 and unscrew regulating bolts M12 around 1ft ¼ in.
- Activities by the transporter in upward position. Incline the mower forward to achieve 3 ft distance between transporter and the ground.
 - Unscrew bolts M10, nuts M12 and regulating bolts M12.
 - Unmount front belt in lower part of the transporter. Slip the belt downward.
 - Check the condition and clean the bearings in rollers – replace if necessary.
 - Put new belt from the bottom.
 - Mount front belt.
 - Mount front tensioners and tighten rear tensioner.
- Maintenance of belt conveyor adjusted in "work" position.
 - When the belt is mounted mark two lines in the distance 1 = 3 ft ¼ in.
 - By means of regulation bolts tighten tensioning roller until the distance on the belt between the lines is 1 = 3 ft ¼ in - 3ft ½ in (the lines on the measures might be helpful point I. 1.).
 - Measure diagonals with 3-meter measure by means of angle bars.
 - Start the mower and in particular hydraulic drive, smoothly changing rpm from 0 to 1250 rpm.
 - Regulate with bolts M12 blocking each time bolts M10 – repeat the activities until there is no bulges on the belts.

Through manual of belt replacement and regulation is in operator's manual.



N-204



N-205

Use the required Personal Protective

16 MPa



N-80 - Adjustment and replacement of conveyor's belt

N-55

N-77 - Tightening of conveyor's belt

**(PL) OCZYSZCZANIE ROLKI
(EN) ROLL CLEANING
(RU) ОЧИСТКА РОЛИКА
(DE) REINIGUNG DER ROLLE**

N 93B PL, EN, RU, DE

N-93

WASH MOWER WITH WATER
UNDER PRESSURE
UPON EACH OPERATION, PARTICULARLY
BETWEEN
CUTTERBAR AND DISCS
AS DRIED MUD WITH GRASS MAY
CAUSE PREMATURE WEARING OF BEARINGS IN
DISC MODULE.

N 31 PL

N-31

BELT TENSION CONTROL

ATTENTION!
Before operation
control the tension
of the belt.

**Operation with too
loose belt may cause
its damage!**

N175 USA

N-175 – Belt tension control

NOTE:
Examine condition of conveyor belts at least every
hour of operation. In case of finding bulges caused
by winding onto rollers, clean them by means of
lever and remove grass. Operating conveyors with
bulged belts leads to their accelerated wearing.

N 79 PL

N-79 - Decal onto conveyor

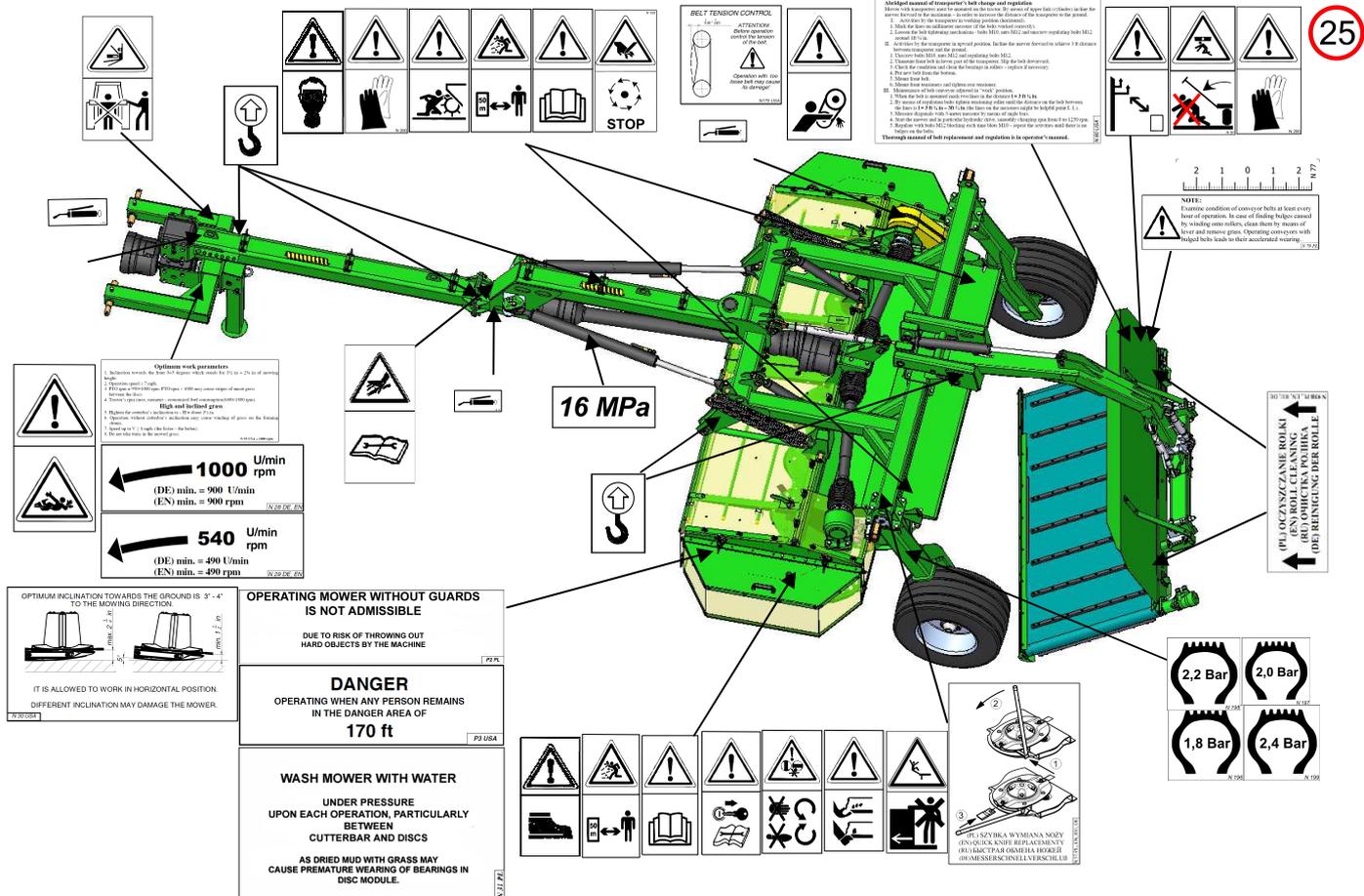


Fig. 6. Placement points of warning signs on trailed disc mowers

**CAUTION:**

Any spare part used for repair of the mower should have all warning decals provided by the manufacturer.

5. OPERATION**WARNING:**

Before beginning to use this machine, do the following:



- Read manual, especially safety precautions in section 4.
- Make sure you are familiar with all controls and functions.
- Make sure all safety devices are in place and working. Fix or replace if not working or damaged.
- Replace protective cover if damaged.

5.1. Attaching the mower to the tractor**WARNING:**

- Only hitch and unhitch machine on a flat surface with compact dirt.
- Keep everyone away from area between mower and tractor.
- Be careful near link road zone of tractor's rear power lift. Contains sharp parts.

- ❑ Attach the mower to the tractor with use of 3-point linkage frame. Therefore drive the tractor near the mower's hitch and connect pins (**P**) on the hitch with links (**C**) on the tractor, and then secure them with cotter pins as shown on **Fig. 7**.
- ❑ Next lift up support leg (**S**) and secure it with pin.
- ❑ Connect hydraulic hoses.
- ❑ Connect the machine's lighting cables to the tractor and check the lights for operation.
- ❑ Connect telescopic articulated shaft. If need be shorten the shaft as per item 5.4.

After the mower has been attached to the tractor, check balance and stability of tractor-mower set. To do that, weigh the set and after that drive on the scales with only front axis of the tractor (the mower must be in transport position – lifted upwards). If the pressure on the front axis is at least 20 % of the whole set's pressure, it means the set is stable. If not, front axis should be balanced.

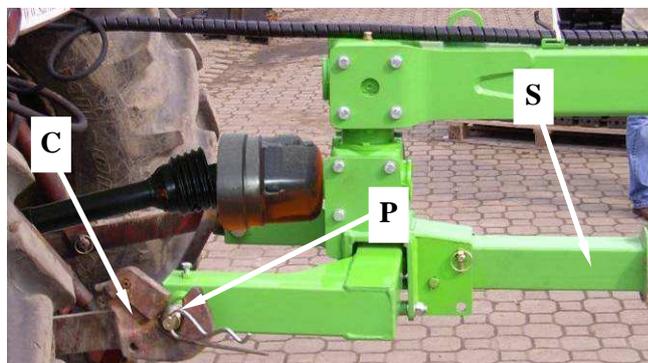


Fig. 7. Connecting mower to the tractor

5.2. Preparing mower for transport

In order to prepare mower for transport:

- ☞ With use of hydraulic cylinders get mower behind tractor.
- ☞ Lift mower's side guards to vertical position (**Fig. 8a**).
- ☞ Lift cutterbar by means of cylinders.
- ☞ Close hydraulic valves located nearby cylinders (**Fig. 8b**).
- ☞ To meet safety precautions concerning transport on the public roads the mower should be equipped with the following devices warning triangle for slow driving vehicles.
- ☞ When maneuvering, pay special attention to area around tractor-mower aggregate.
- ☞ When driving in the evening electric installation should be connected to lights mounted on panels.



NOTE:

When transporting the machine, levers of cut-off valves must be closed. Thanks to it, the mower is protected from accidental dismantling on unexpected motion of both the tractor and the mower – in worst case, it might cause cracks to hydraulic hose and lead to an accident.



Fig. 8a. Mower's side guard lifted for transport

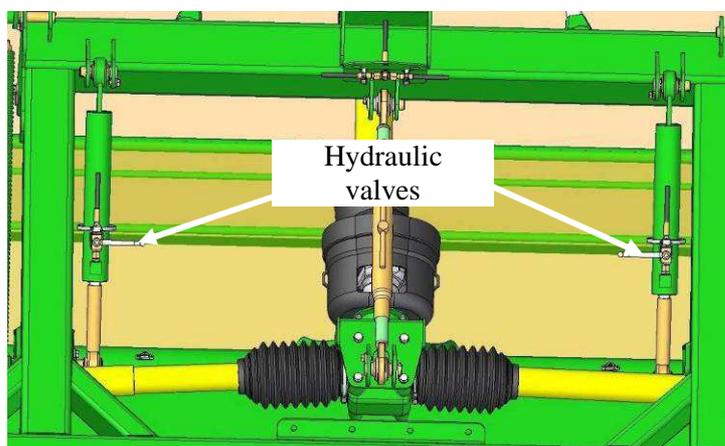


Fig. 8b. Mower's hydraulic valves



Fig. 9. Mower in transport position

5.3. Preparing the mower for transport

To meet safety precautions concerning transport the mower should be equipped with warning triangle, attached at the mower's rear (the plates are standard-delivered with the machine.) To improve safety during the transport the machine should be fitted with a warning triangle – to be purchased at the manufacturer.

When transporting respect traffic provisions valid in the country of use.



NOTE:

If the mower does not have the above warning lights and plates, these can be ordered at the manufacturer.



WARNING:

Legal requirements for transport on public roads may differ from state to state. Check your location's requirements and comply.



WARNING:

Do not drive on public roads if the machine's transport height is more than 13' 2" (when transported, transport height should be lowered on the tractor links).

5.4. Mounting PTO shaft

PTO shaft's end with overrunning clutch should be mounted on mower's side.

When connecting PTO shaft between tractor and mower make sure that external guard tube of the shaft is on the tractor's side. The PTO shaft plastic guards have to be secured by fastening their

small chains to immovable parts of tractor and mower. The PTO shaft must operate at the lowest possible angle. This will ensure that both shaft and the machine last as long as possible.



CAUTION:

If need be, shorten the PTO haft according to its operator's manual given by the shaft's manufacturer (**Fig. 10**).

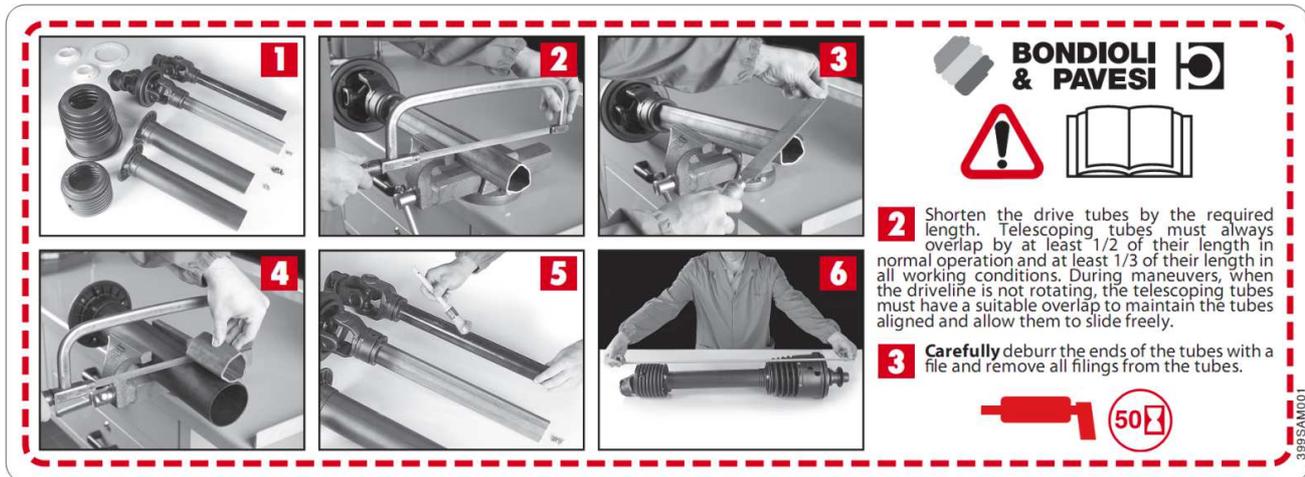


Fig. 10. Instruction of PTO shaft shortening



CAUTION:

Handle all parts with utmost care. Never place your hands or fingers between one part and the other. Wear safety clothes such as gloves, protective footwear and goggles. The operation of shortening must be carried out with the utmost care as the PTO shaft will have to be replaced if the telescopic shafts are shortened to an excessive extent.



CAUTION:

The PTO shaft should be mounted only during operation time and disconnected from tractor PTO for transport and service.



NOTICE:

The manufacturer declines all liability for damage caused by an incorrectly fitted or used PTO shaft.



CAUTION:

Use the machines with PTO shafts designed to drive them. Before the work begins, check the safety guards (in tractor, mower and PTO shaft), if they are placed correctly and are not damaged. Damaged or lost parts must be replaced with genuine ones. Make sure the PTO shaft is properly mounted. It is forbidden to approach the rotating parts, because it may lead to serious injuries or even death. All service and repair operations must be done only after the tractor engine has been stopped and ignition key off, all rotating parts have come to the complete standstill and the cutterbar is on the ground. Before the operation begins, read operator's manuals of both the machine and PTO shaft.

5.5. Preparing the mower for operation

**NOTICE:**

SaMASZ protects the cylinders with special grease against weather which may cause premature wear. Before operating the mower, remove the excess grease from the cylinder piston.

Follow items 5.1, 5.2, 5.4, upon performing these activities the mower is ready for operation. Then:

- ❑ open hydraulic valves (**Fig. 8b**),
- ❑ lower cutterbar freely until cutterbar touches the ground,
- ❑ adjust the cutterbar setting with mower's upper connector onto desired mowing height. Optimal angle of cutterbar in relation to the ground should be between 0° and 5°. This angle is result of tightening or extending the link,
- ❑ with hydraulic cylinders mount the mower on either tractor's left or right,
- ❑ set the desired cutting width by folding guides back (**Fig. 11**) under proper angle,
- ❑ slowly engage the mower's PTO shaft drive until cutting discs reach their nominal rotating speed,
- ❑ engage 2nd tractor gear and start mowing. If operating conditions allow engage the 3rd and if don't engage back to the 1st.

**NOTICE:**

DO NOT pull the cutterbar towards the tractor, because it will lead to cutterbar's premature wear or even its damage.

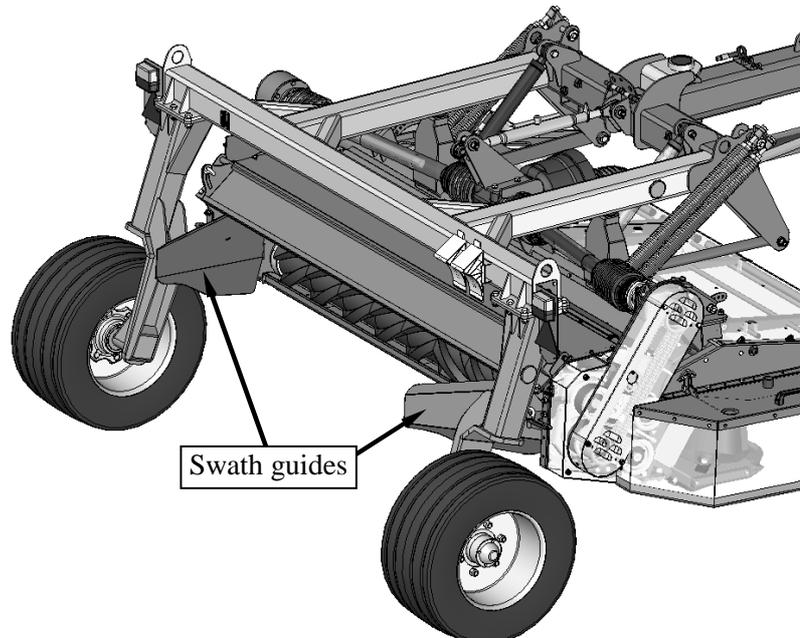


Fig. 11. Swath guides

5.6. Operation (mowing)



WARNING:

The operator must be seated in the tractor's driver's seat when the machine is operating since only from that position is he able safely and properly operate the mower. Before he leaves the driver's seat, the operator must stop the engine, apply the parking brake and turn off the tractor engine.

Always use appropriate protective equipment (safety footwear, gloves, ear protection and dust mask).

Before using the machine, make sure that all the safety devices are in their correct positions and in a good condition. These safety devices must be immediately replaced if they are faulty or damaged. In particular, the protective cover must be checked regularly. It must be immediately replaced if it is missing or damaged in any way.

1. Main advantage of disc mowers is their small power demand – 20% less tractor power, small moment of inertia and possibility to manufacture mowers with large working width.

☞ There is however a certain disadvantage - creased stubble, especially when it comes to lying grass. Straight grass may be mowed with horizontal adjustment of the mower and then the stubble will be even, but it will not look as attractive as with 2-drum or 4-drum mowers, because the knives work horizontally to the ground and inclined grass bends because of wind blasts. After the grass is mowed, it stands up, which makes an impression of inaccurate mowing. Every mower may leave stripes of uncut grass when it comes to the knives which cut the grass towards the grass direction.

It is a normal phenomenon. Practically, it is not possible to achieve such attractive stubble as in 2-drum mowers, because the knives work horizontally or at an angle of up to 8° to the ground, and when it comes to 2-drum and 4-drum mowers, slantwise through the ground (even 23°).

Despite these 'disadvantages', disc mowers are 'winning farmers' trust' and modern technologies give an opportunity to manufacture very durable mowers.

3. The most even stubble with very low grasses is obtained with disc mowers when half of the discs rotate to the right and half to the left. A disadvantage of this system is a narrow and thick windrow which needs to be spread out.



Fig. 12a. Mower in operating position



Fig. 12b. Mower in operating position

5.6.1. Essential information concerning mowing

Optimum work parameters

1. Inclination towards the front 0-5 degrees which equates to 1.8" - 2.8" of mowing height.
2. Operation speed around 6 mph or more, if the conditions allow.
3. PTO rpm = 950-1000 rpm. PTO rpm less than 1000 may cause stripes of uncut grass between the disc.
4. Tractor's rpm (max. moment – economical fuel consumption 1600-1800 rpm).

High and inclined grass

4. Heighten the cutterbar's inclination to H = about 1.8".
 5. If there is no inclination the grass will be wedged on the forming drums.
 6. Speed can be more than 8 mph (the faster – the better)
 7. Do not turn in the mowed grass.
- ❑ Optimum inclination of the cutterbar towards the ground is between 0° to 5°. If the inclination exceeds 5°, there might be a slight unevenness of mowed grass. It impairs slightly the quality of mowing and has an influence on the mower's operation. When the cutterbar is pulled in the other direction, it significantly impairs the quality of mowing and in some cases the mower stops mowing. Besides, it may lead to premature wear or even damage of the slides and cutterbar.
 - ❑ When high grass prevails, first and second cut should be mowed at height level 2.4" - 2.8", but when the grass grows low it should be mowed at 2". The last cut should be mowed a little bit higher, 2.8" - 3" above the ground.
 - ❑ Too high a PTO rpm whirls the air, which may cause inclination of the grass in front of discs, which impairs the quality of mowing.
 - ❑ Too low a PTO rpm impairs the quality of mowing and in some cases the mower stops mowing (too low linear velocity of the knife).
 - ❑ In contrast with 2-drum mowers, straight mounting of the mower and full speed are not always possible. Adjust inclination of the mower, PTO rpm, speed and correctness of knife-mounting to get the best results.
 - ❑ In case of mowing soft meadows, the pressure of the cutterbar on the ground should be reduced by adjusting support springs.
 - ❑ Always check to make sure that the ground speed suits the conditions or work and that it does not create a potential source of danger.

- Do not take sharp turns anytime and do not operate in reverse.

**NOTICE:**

Improperly relieved cutting unit of the mower will cause increase of cutterbar pressure on the ground which will lead to faster wear of sliding skids, overload of cutterbar, higher fuel consumption, damage to the stubble and contamination of the fodder.

5.6.2. Mower clogging

When operating the mower, pay attention to variable conditions on the field, which may cause the mower to clog, such as: terrain unevenness, height and density of grass as well as other objects in the grass. In order to avoid clogging, mowing speed should be adjusted to the conditions. In order to take care of machine clogging, lower the cutterbar onto the ground, disconnect the drive and remove the ignition key. When eliminating the mower's clogging wear all appropriate protective gear.

5.6.3. Taking turns on headlands.

Lift the cutterbar by means of hydraulic cylinder (2) (**Fig. 2a**) and take a turn.

5.7. Unmounting the machine from tractor**WARNING:**

When dismounting, make sure there is no person in between the machine and the tractor.

To dismount the machine from the tractor:

- Set the machine onto an even, stable ground,
- Turn the tractor's ignition off and take the key out,
- Secure the machine against moving by placing wedges at wheels,
- Fold out the support leg and protect with safety pin,
- Disconnect the machine's hydraulics and electrics from the tractor,
- Dismount the telescopic articulated shaft and place it on the shaft holder, which is standard-delivered with the machine,
- Detach the machine from the tractor.

5.8. Storing

Mower should be stored in paved dry places, protected against precipitation. Storing the mower on an unpaved surface may cause the mower to lose stability and turnover.

6. MOUNTING AND ADJUSTMENTS

6.1. Mounting knives and timing of the knives

The knives should be mounted as shown on **Fig. 13, 14, 15, 16**. Mount the knives so that cutting edges are directed towards the ground, so that a knife lifts the grass after cutting.

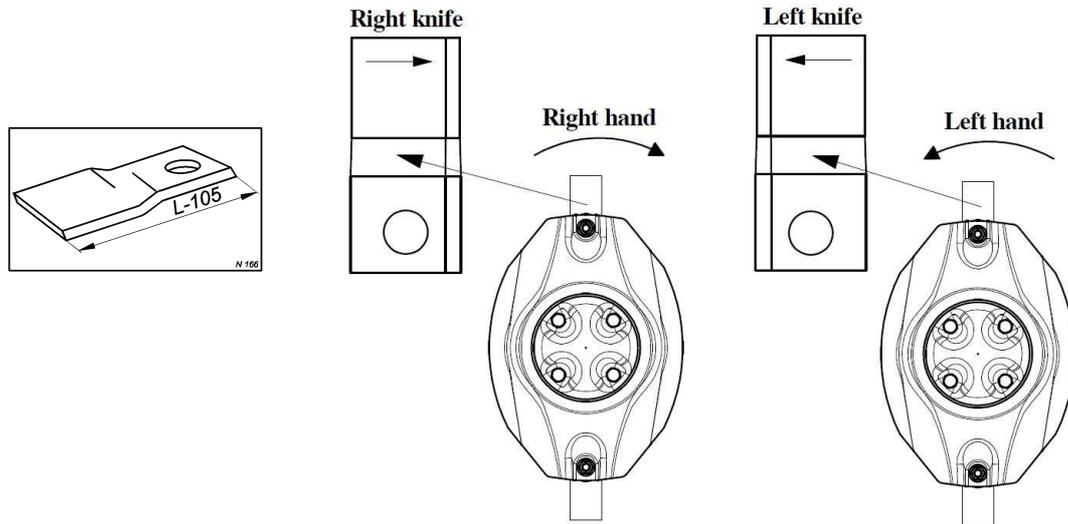


Fig. 13. Mounting of the knives on mowing discs



WARNING:

- Use only knives recommended by manufacturer.
- Check condition of knives and holders before each operation. Worn or damaged knives should be replaced immediately.

6.2. Replacing the knives

Replace knives, if necessary, only in sets, as shown on **Fig. 14**. Make sure all knives in a set are of the same length and weight. The knife holders must not be damaged or deformed. If the knife holder pin is worn too much (**Fig. 23**), please replace it immediately.



NOTICE:

During work, if mower begins to shake, it means that the disc (discs) are operating only with one knife. In that case, using the mower in this condition for a long time could cause serious damage to the cutterbar.



WARNING:

When replacing knives, the engine must be stopped and the cutterbar must lie on the ground. PTO shaft must be disconnected. Discs should be perpendicular to cutterbar.

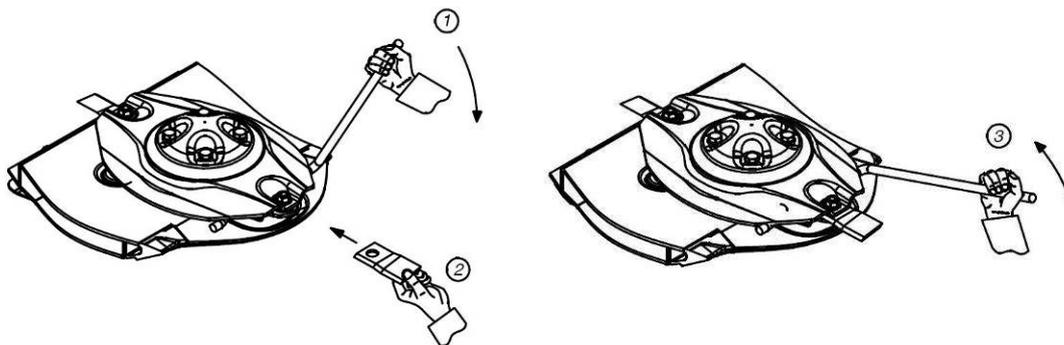


Fig. 14. Quick replacing of the knives with mounting lever

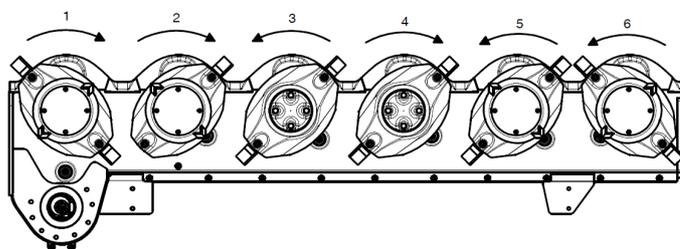


Fig. 15. Discs' turns on mower's cutterbar – swath width of 8' 6"

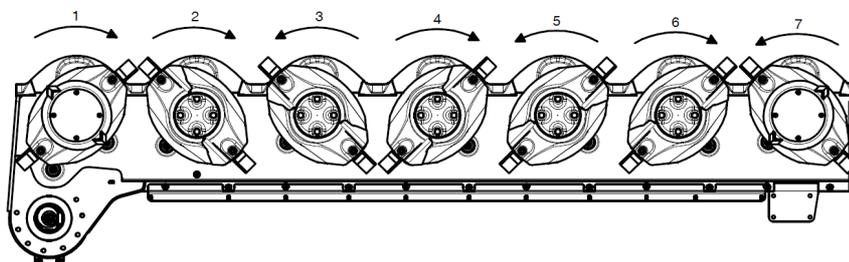


Fig. 16. Discs' turns on mower's cutterbar – swath width of 9' 10"

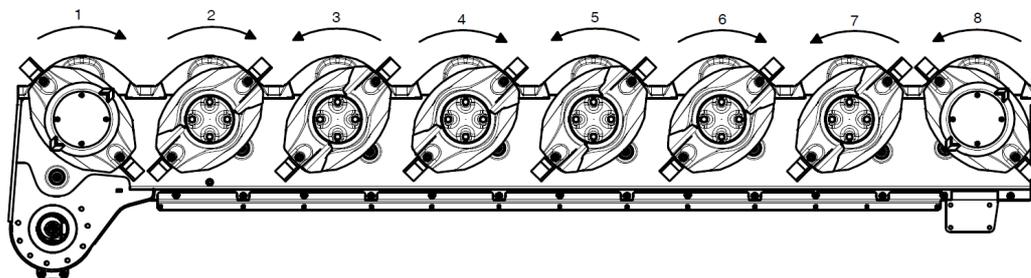


Fig. 17. Discs' turns on mower's cutterbar – swath width of 11' 2"



NOTICE:

Due to various swath widths in offered mowers (and therefore various turns of discs), before mounting the knives first check turns of each disc (**Fig. 15**, **Fig. 17**).



WARNING:

Improper mounting of the knives will make the mower choke. When mounting pay particular attention if the knife rotates freely on the holder's pin.



NOTICE:

Due to high rotary speed of discs, knife holders should be replaced in sets and feature the same weight – each holder has its own weight marked. Otherwise, it is highly likely that due to improper balancing, disc vibrations and damages to bearings will occur.

6.3. Swath width adjustment

In order to set swath width adjust swath guides (1) (**Fig. 18**) (Models: KDC 260 S (T), KDC 300 S (T), 340 S (T)):

- loosen eye screw (2) on swath guide,
- set swath guide (1) as required,

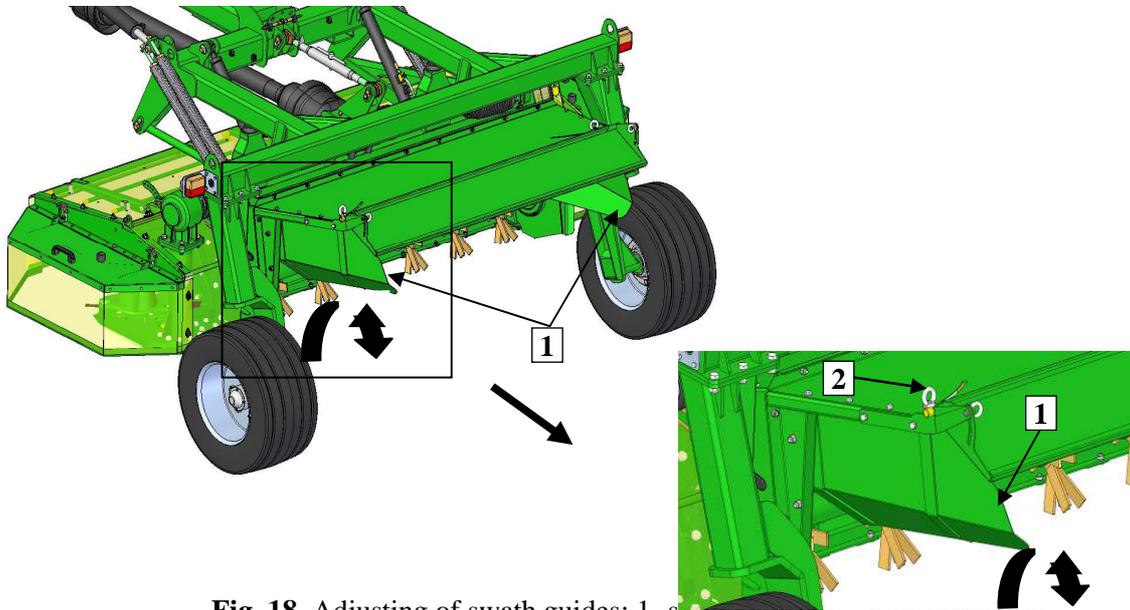


Fig. 18. Adjusting of swath guides: 1- swath guide, 2 - adjustment bolt

In order to set swath width adjust swath guides (1) (**Fig. 19**) (Models: KDC 300 W (T), KDC 340 W (T)):

- loosen eye screw (2) of swath guide,
- set swath guide (1) as needed,
- tighten bolt (2).

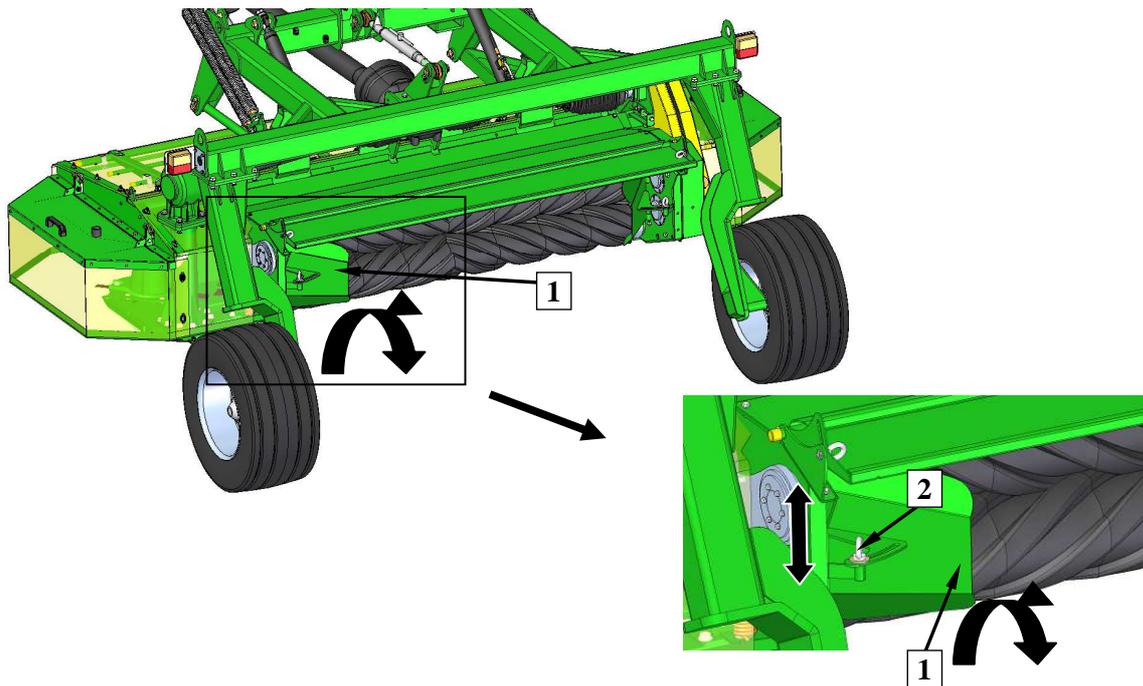
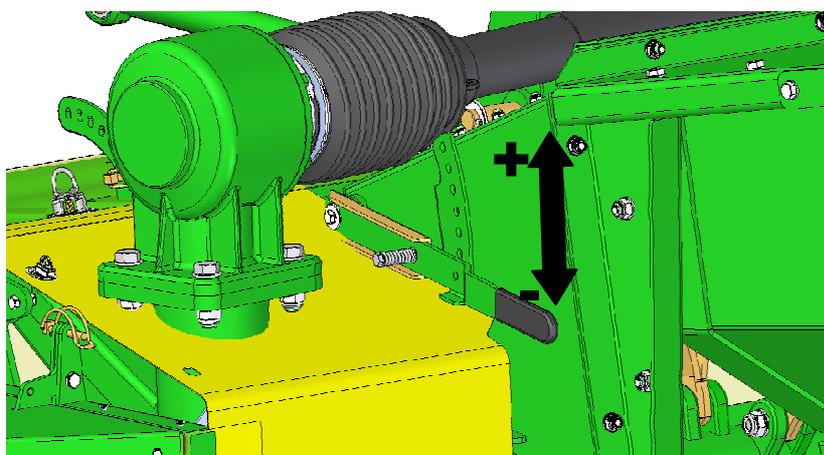


Fig. 19. Adjusting of swath guides: 1- swath guide, 2 - adjustment bolt

6.4. Adjusting space between conditioner's mask and its shaft

(Models: **KDC 300 S (T)** and **KDC 340 S (T)**)

Depending on size and thickness of the mowing grass, it may be necessary to adjust the conditioner's mask. The higher and thicker the grass, the bigger the space between the conditioner's mask and its shaft should be. Proper adjustment should be based on experience, in so as not to block the conditioner and not to activate the friction clutch of PTO shaft. The mask is regulated as shown in **Fig. 20**.



„+” - increasing mask – conditioner space width
„-” - reducing mask – conditioner space width

Fig. 20. Adjusting mask – conditioner space

6.5. Replacing conditioner's tines

(Models: **KDC 260 S**, **KDC 300 S** and **KDC 340 S**)

Prior to commencing any operation, check condition of bolts on which flails are set, as well as condition of flails themselves. If flails or bolts are worn or damaged, it is necessary to replace them. **Bear in mind, that flails should be replaced in pairs (opposite) featuring the same weight in order to keep shaft well balanced.** Not keeping the shaft well balanced may lead to premature wear of the bearings and the shaft.

Replacement of flails (3) consists of unscrewing nuts (2), removing bolts (4) and mounting brand new flails (3) (**Fig. 21**).



NOTE:

A new bolt M16x65 gal. cl. 10.9 and nut M16 gal. cl. 8 should be used to make the connection; **torque down until tight.**

Disassembly of a flail consists of unscrewing a nut (self-locking M16 gal. cl. 10.9) with open wrench (24), removing both bolt M16x90 cl. 10.9. and the flail. Assembly of a new flail consists of performing the above sequence in reverse order (**Fig. 21**).

1. Conditioner's shaft
2. Nut 6 - M16 self-locking gal. cl. 8.
3. Tine
4. Bolt with head 6 M16x65 gal. cl. 10.9 - spec.
5. Flail's insert

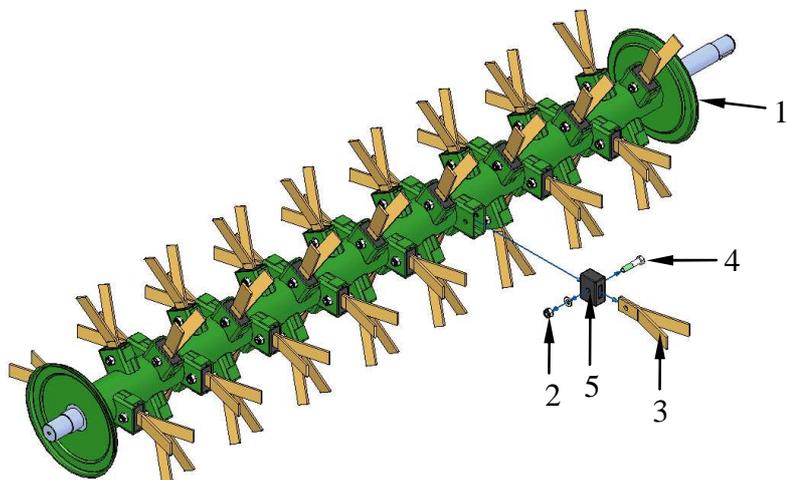


Fig. 21. Parts of tine conditioner

6.6. Adjusting force of the pressure of roller conditioner

(Models: **KDC 300 W (T)** and **KDC 340 W (T)**)

If need be, the force of roller conditioner's pressure can be regulated by changing the tension of springs **S** (**Fig. 22**) by means of nut **N**. Adjustment should be done on both sides of the conditioner.

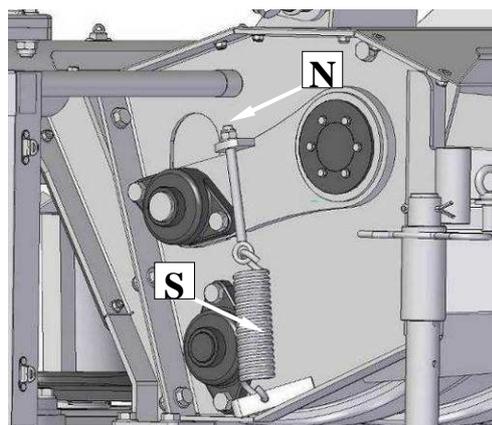


Fig. 22. Adjusting force of the pressure of rollers

6.7. Maintenance and service

6.7.1. Checking the knives and knife holders

All knives should have the same lengths and weights. Always check mower before starting work for damaged, missing and/or worn knives. Replace them, if necessary, only in sets.

If the knife holder pin is worn too much (**Fig. 23**) and/or the knife holder is worn or deformed, replace it immediately.

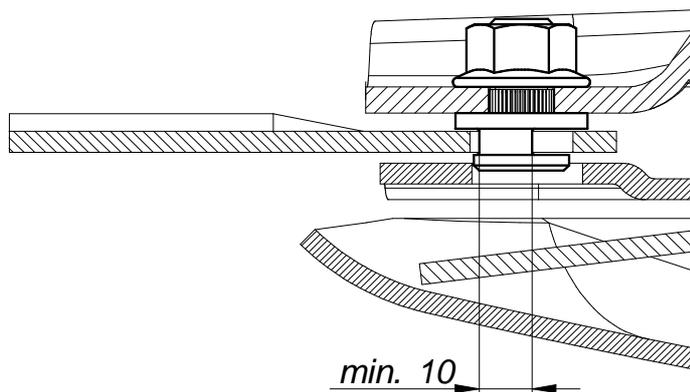


Fig. 23. Permissible wear of knife holder pin

NOTICE:



If the knife is missing or disc cover plate is damaged the vibrations may occur, which can cause cutterbar damage. In that case, warranty claim will be rejected. If the disc or disc cover plate is damaged, the whole set must be immediately replaced (2 knives) with new genuine ones.

6.7.2. Checking the tension of tine and roller conditioners' driving chain

(Models: **KDC 300 S/W** and **KDC 340 S/W**)

Drive from conditioner and rollers driving shaft is transmitted by chain onto conditioner's or rollers' axis. Constant chain tension is provided by tensioner, adjusted with tensioning bolt **N** (**Fig. 25**).

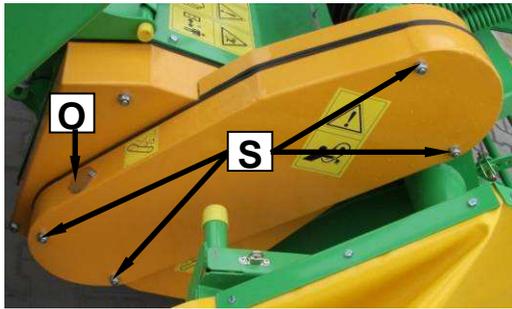


Fig. 24a. Protective guard of drive chain

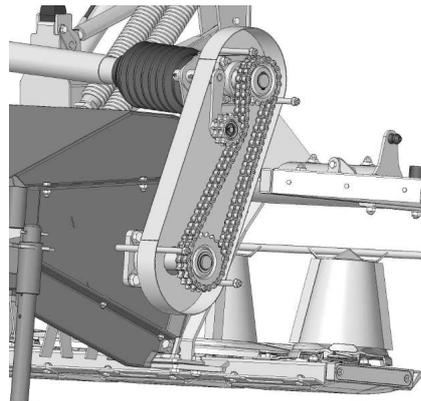


Fig. 24b. View of properly tensioned drive chain

Constant chain tension is provided by tensioner, adjusted with tensioning bolt N. To check chain tension use eye O (Fig. 24a). In order to have a more accurate check take drive chain guard out (Fig. 24a) upon loosening four bolts S. Properly tensioned chain is shown in Fig. 24b. Once pressed with a thumb in the middle section the chain should deflect by approx. 0.2".

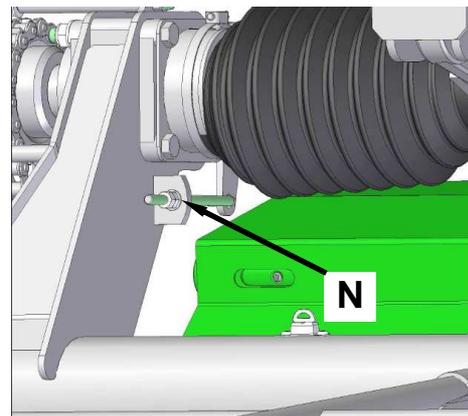
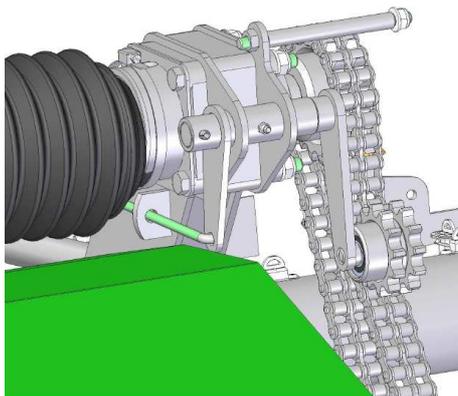


Fig. 25. Adjusting the tension of conditioner's chain gear and rollers

6.7.3. Checking the tension of cogbelt

(Models: KDC 260 S, KDC 301 W, KDC 300 S, KDC 341 W, KDC 340 S)

When starting for the very first time after ca. 2 hours of operation, control tension of cogbelt transmitting the drive onto the conditioner or rollers. If cogbelt tension is too low, tighten it as per label N175.

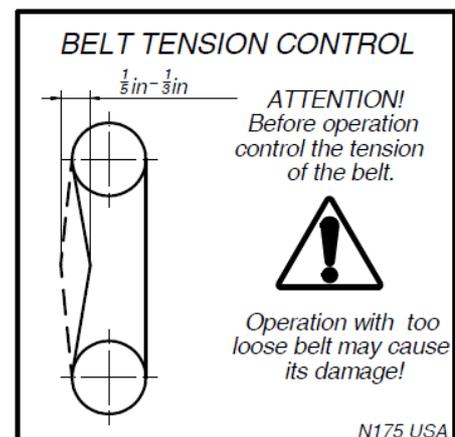
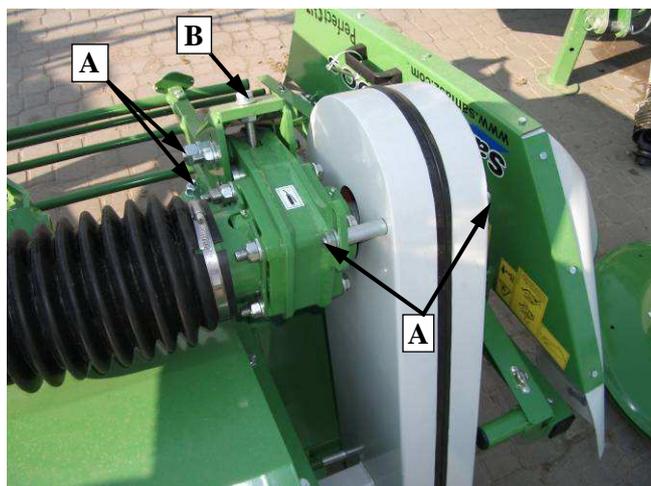


Fig. 26. Control and tension of cogbelt

Procedure for tensioning the cogbelt:

1. Loosen nuts and bolts (**A**).
2. Tighten cogbelt by means of tightening bolt (**B**) and check the belt deflection as per label N175.
3. Tighten nuts and bolts (**A**).

Daily maintenance

When you finish each day of operation carry out the following maintenance:

- check all visible parts and components and their connections; tighten all loose bolts and nuts and replace all damaged and/or worn parts with new genuine ones,
- clean the mower, especially between discs and cutterbar, because grass with mud may damage bearings in disc module,
- remove grass and mud,
- check the cutterbar,
- grease PTO shaft tubes with STP grease,
- if necessary, lubricate the parts and components according to lubrication instructions (chapter 7).

Parts which may cause risk to operator's health and safety are as follows: damaged discs, missing or damaged safety covers, worn or damaged hydraulic hoses, PTO shaft guides, worn knives and knife holder pins.

6.7.5. After-season maintenance and storing of machine

At the end of mowing season the following shall be performed:

- lower the mower's cutterbar onto the ground,
- take the PTO shaft extension out of the tractor rpm or dismount the complete PTO shaft and install it into corresponding holder at the 3-point linkage frame,
- unmount hydraulic and electrical hoses from the tractor and hang them onto corresponding holders on the 3-point linkage frame,
- unmount the mower from the tractor (reverse procedure as in case of attaching the mower to the tractor item 5.1), and then drive the tractor away.

Mower should be stored in standstill position, so it is supported onto supporting leg and the cutterbar (**Fig. 28**). It is recommended to store the set on paved ground, preferably in roofed places, inaccessible to unauthorized personnel or animals.

If the machine is stored for a long period of time before first operation, its technical condition should be examined and special attention should be paid to the hydraulics and the drive. Paint the area where the paint is missing, hydraulic hoses checked and lubricated.

Additionally:

- remove any traces of rust and paint the area,
- check the oil level in the angle drives and the cutterbar (Section 7). If leaks are discovered, they should be repaired immediately and lost oil replaced. If water in oil is discovered, immediately change the oil as it could cause corrosion of internal mechanisms such as gear wheels, bearings, or shafts, and cause breakdowns,
- periodically inspect the mower and lubricate moving parts in order to protect them from corrosion which adversely affects the proper operation of the mower,
- check hydraulic hoses regularly. Replace any damaged or old hoses. In any case, you should replace hoses that have been in use more than 5 years from the date of their manufacture printed on the hose.

6.8. Conveyor control and adjustment

6.8.1. Cleaning belts and rollers

**NOTICE:**

Check the condition and the conveyor belts condition after each hour of operation. If you find bulges caused by rolling the grass onto rollers, clean them by using the lever and remove the grass. Using conveyors with bulged belts may lead to their premature wearing.

NOTE: Conveyor belts are not covered by warranty.

1. In order to clean roller switch lever **D**, rotate belt to **1** and hold down until bulges disappear (**Fig. 27**). This should also be performed from the other side of conveyor if necessary.

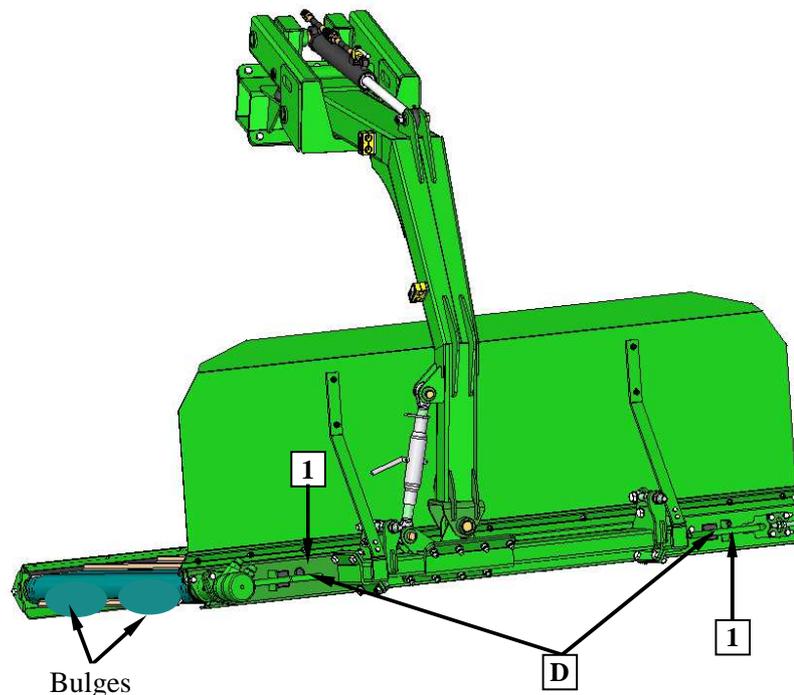


Fig. 27. Cleaning of conveyor rollers

2. Impurities inside belt are removed once conveyor is in vertical position. Belt is deflected with hand and then impurities are removed with a hook wire.



Fig. 28. Removal of impurities inside the conveyor belt

1.1.1. Conveyor belt replacement and adjustment instruction

KDC 260 ST, KDC 300-340 S/W mower with conveyors must be suspended onto tractor.

- I. The adjustment of the belt conveyor should be done only when the conveyor is in its working position (horizontal)

Using a marker, mark lines on millimeter measures – decal N-79 (if belts worked well).

Loosen tightening roller mechanism – bolts M10 - S₁, nuts, M12 – N₂ and loosen adjustment bolt M12 – S₂ by approx. 1.2” (Fig. 29).

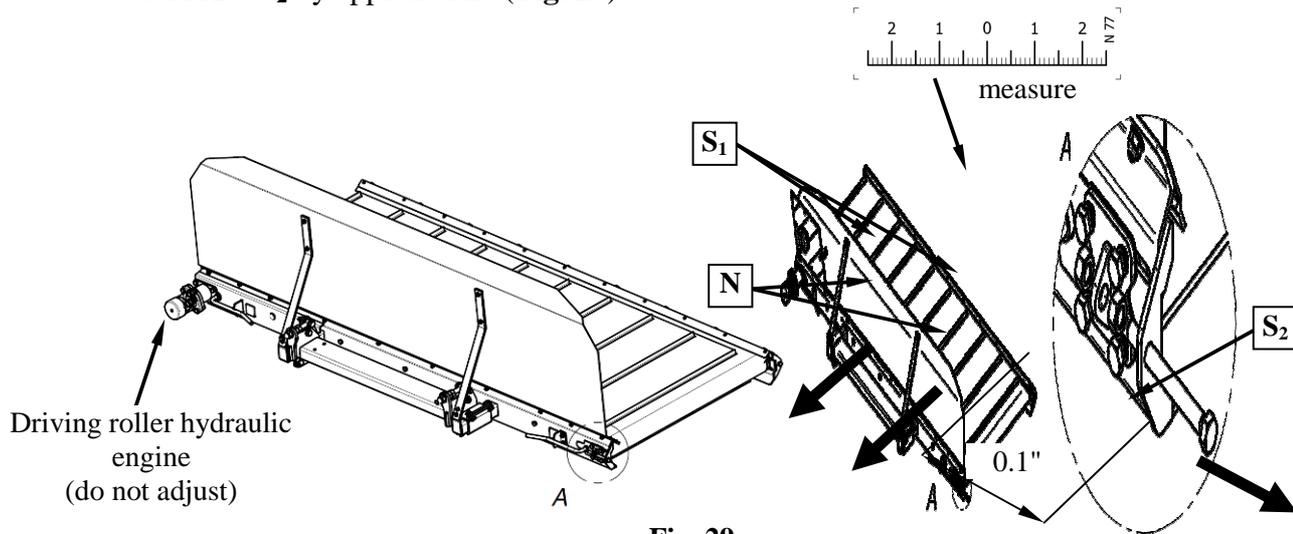


Fig. 29.

- II. Steps to be taken when transporting in vertical position. Mower shall be leaned to the front so the distance between conveyor and the ground is approx. 3' 3".

1. Loosen bolts M10 – S₁, nuts M12 – N₂ adjustment bolts M12 – S₂ of front tensioners (Fig. 30).

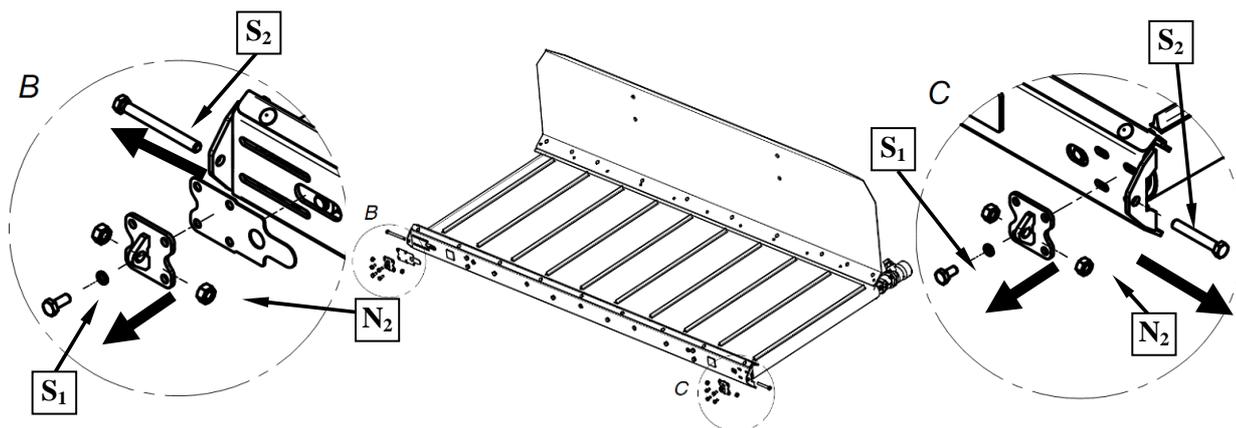


Fig. 30.

2. Dismount front belt in lower part of the conveyor **P** (Fig. 31). Slide belt **T** down (Fig. 32).

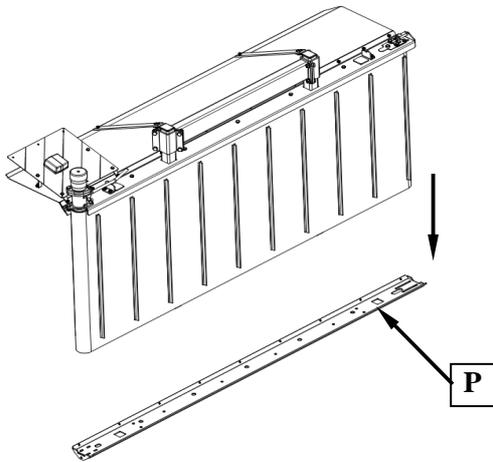


Fig. 31.

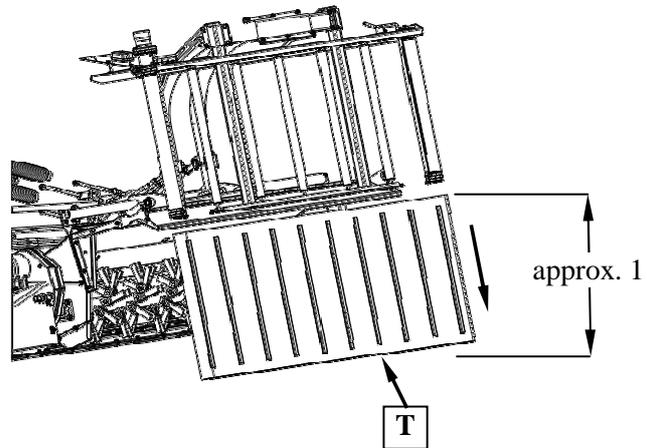


Fig. 32.

- ☞ Clean and check condition of bearings in rollers – worn ones shall be replaced.
- ☞ Mount the new belt upwards.
- ☞ Mount front belt **P**.
- ☞ Mount front tensioners and tighten rear tensioner.

III. Maintenance of belt conveyor adjusted in "work" position.

1. Mark two lines on newly mounted belt in intervals of $l = 3.9''$ (Fig. 33).
2. With adjustment screws S_2 tighten the roller so the distance on belt between marked lines is $l = 3' 4'' - 3' 4.2''$ (lines on measures from item I. 1 may prove to be helpful). The distance between the lines may differ on both edges of conveyor's belt.

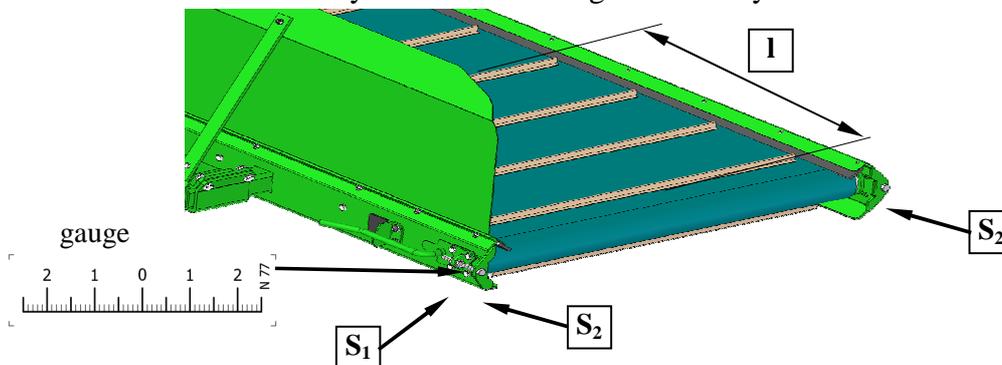


Fig. 33.

3. Measure diagonals with use of 9' 10" measure using angle bars.
4. Start the mower and in particular hydraulic drive, gradually increasing rpm.
5. Adjust with screws S_2 , locking screws S_1 each time – to be repeated until fine tuned, so there are no bulges on the belt.



IMPORTANT:

Precision is recommended, so belts and their edges work symmetrically on rollers. Well-adjusted belts cannot bulge in places where v-belt is guided inside the roller channel.

7. LUBRICATION

7.1. Cutterbar

Refilling oil in the cutterbar is done through the inlet **A** (**Fig. 34**). oil level is 0.2" - 0.3" from the cutterbar bottom.

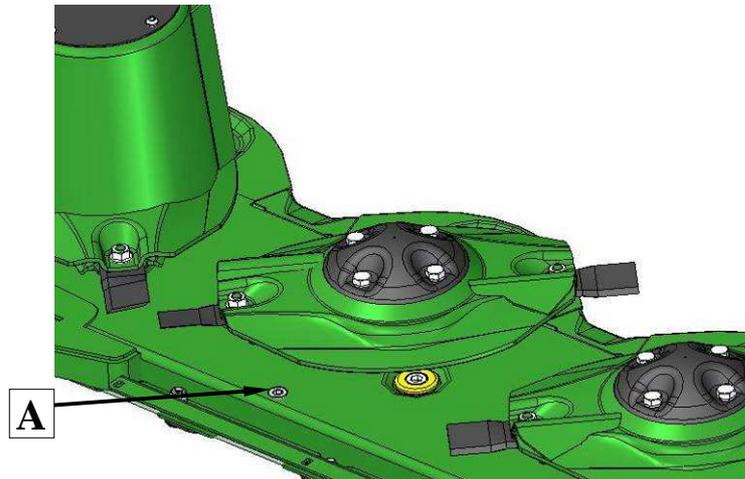


Fig. 34. Cutterbar oil inlet A

Tab. 4. Oil capacities

Mower type	Oil capacity [l]	Oil type	Lubrication frequency
KDC 260 S (T)	5.0	80W90	Once every 3 seasons (if working intensively, more frequently)
KDC 300 S/W (T)	6.0		
KDC 340 S/W (T)	6.5		

7.2. Intersecting axis gears

Every day before starting work check the oil level and, if needed, refill after having removed the vent **A** on the top of the gear (**Fig. 35**). The oil level can be checked through check opening **B** on the side of the gear. Please refill the oil until it is visible in the check opening. Oil level in gear: approx. 1 liter. Removing the old oil from the gearbox is done through the outlet **C**.

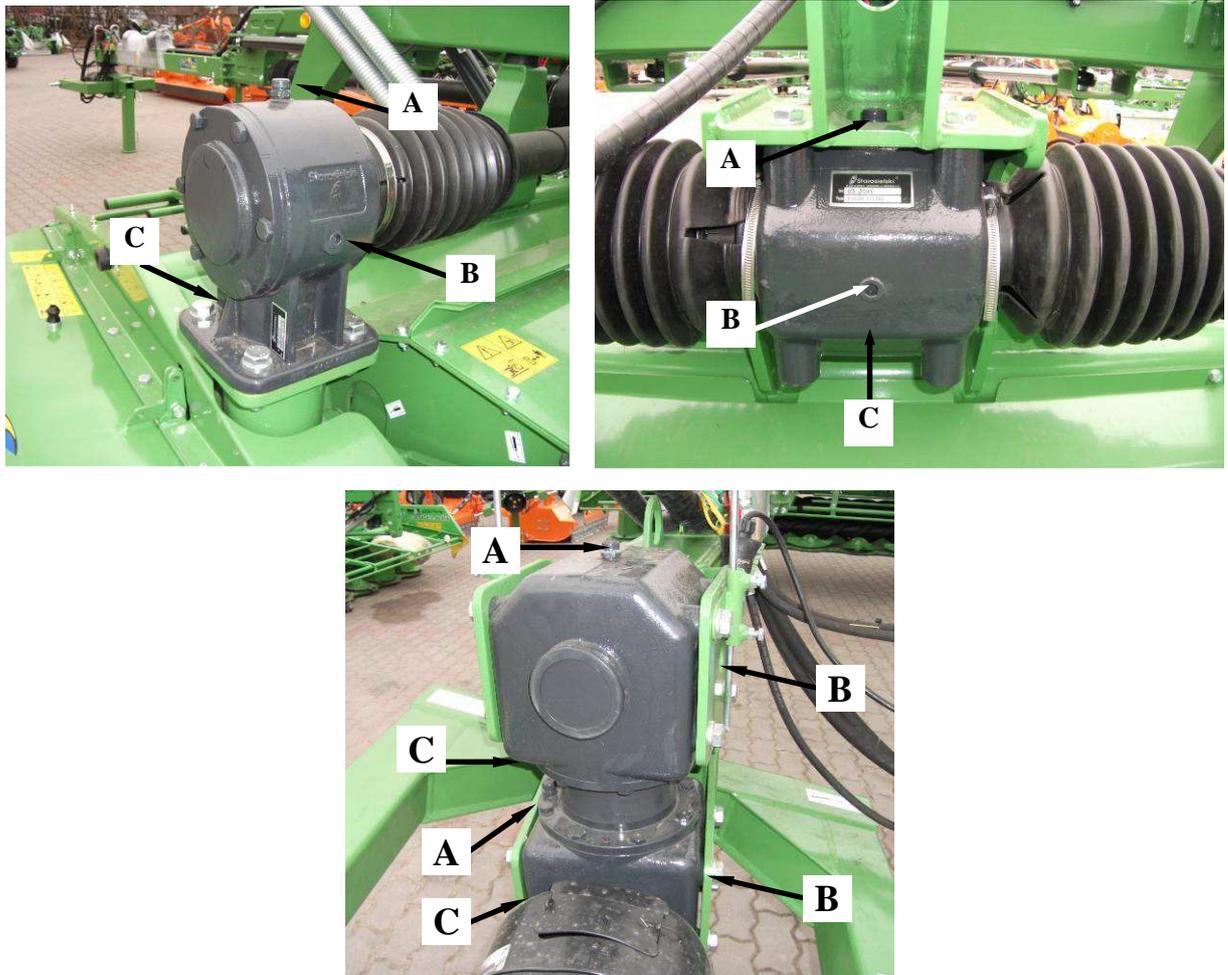


Fig. 35. Intersecting axis gears oil

To replace oil in gears:

- Prepare an adequate tank for the used oil to be disposed,
- Open check opening **B** and outlet **C** (**Fig. 35**),
- Drain oil from the gear,
- Close outlet **C**,
- Refill the oil level until it is visible in the vent **A**,
- Close check opening **B**.

Tab. 5. Oil capacities in intersecting axis gears

Model	Oil capacity [l]	Oil type	Lubrication frequency
All types	approx. 1	SAE 80W/90, API GL-4	Once every 3 seasons (if working intensively more frequently)



IMPORTANT:

The above instructions should be strictly followed. If the discs in the cutterbar rotate loosely, do not worry about high intersecting axis gear temperature; after long working time, it may reach as much as 60-80°C.

7.3. Roller conditioner's gearbox

Before you check the lubrication of the gearbox, remove the safety guard. Every day before starting work, check the oil level and, if needed, refill after having removed the vent **A** (Fig. 36) on the top of the gearbox. The oil level can be checked through the check opening **B** at back wall of the gear. Refill the oil until it is visible in the check opening **B**. The oil level: about 0.5 l. Check oil level when the cutterbar is on the ground. Removing the old oil from the gearbox is done through the outlet **C**.

Tab. 6. Oil capacities in roller conditioner's gearbox

Model	Oil capacity [l]	Oil type	Lubrication frequency
All types	0.5	80W90	Once every 3 seasons (if working intensively)

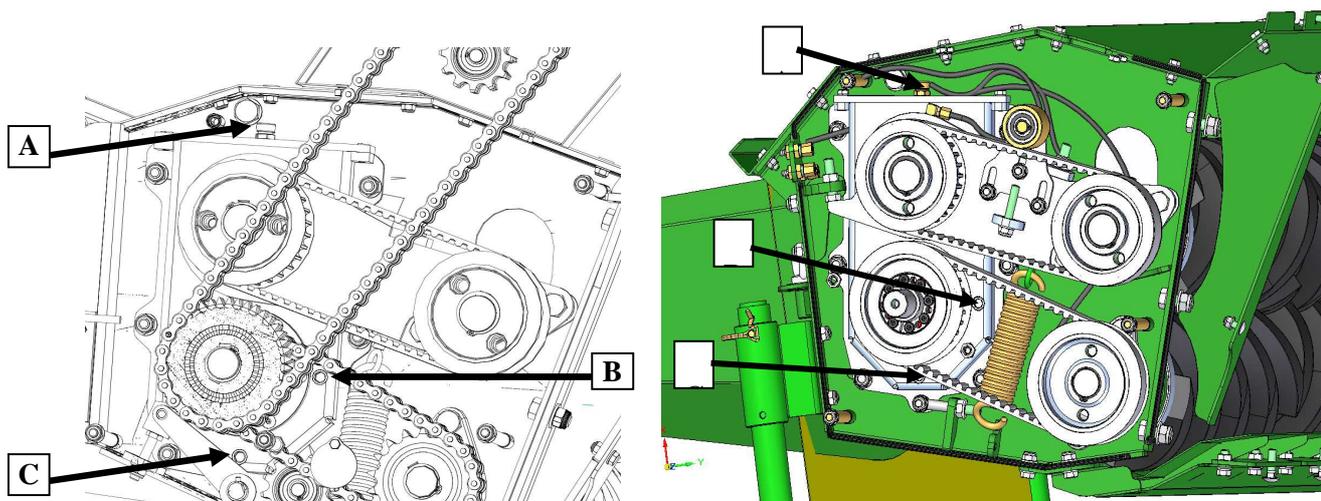


Fig. 36. Roller conditioner's gearbox lubrication points

7.4. Bearings and joints

Every 50 hours of mower's operation, lubricate bearing beds on conditioner rollers as well as mower's main joints (**Fig. 37- 41**). Manufacturer recommended lubricant is **LT43** grease or other equivalent lubricant for rolling and sliding bearings which operate in temperatures between -30° and +130°C.

Fig. 37. Tesnioner lubrication point

Fig. 38. Non-locating bearing lubrication point

Conditioner lubrication points:

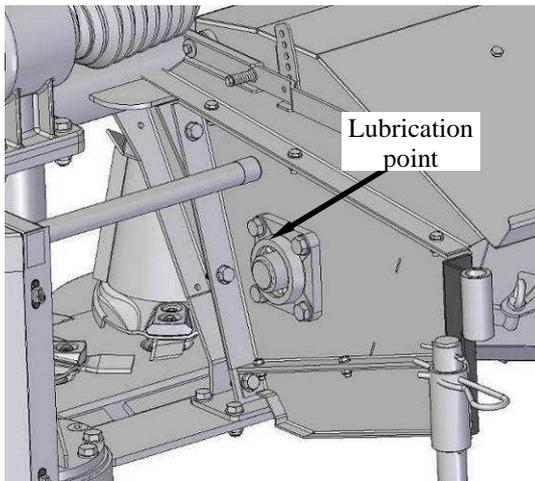


Fig. 39. Non-locating bearing lubrication point

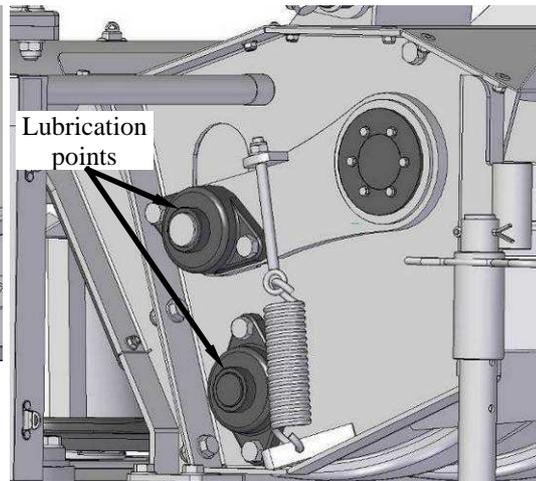


Fig. 40. Non-locating bearing lubrication point

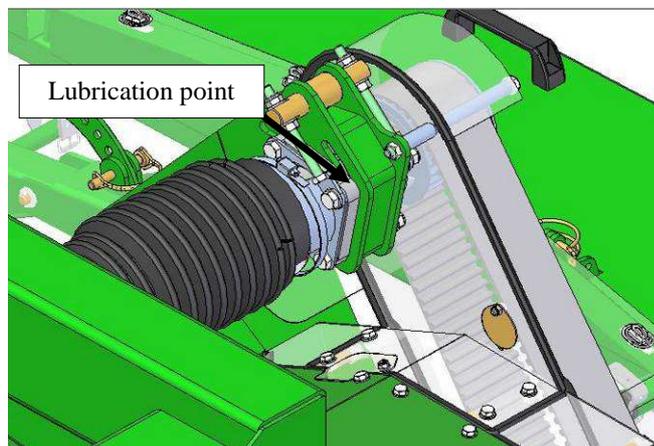


Fig. 41. Non-locating bearing lubrication point on conditioner and shafts to be lubricated with grease LT 43

7.5. Risks present when lubricating

- ❑ If risk of splashing is present, make sure to wear protective eyewear with side guards.
- ❑ When lubricating protect eyes and skin against contact with the substance. Therefore use adequate protective wear with long sleeves and protective shoes. Also use protective gloves. In case of a contact with skin, immediately wash the infected area with plenty of soap water.
- ❑ Do not allow the product to contaminate water outlets, water courses and soils.
- ❑ In case of an unintentional release to the environment plug the leak, limit the spillage, and then collect the oil with non-flammable absorbent material (e.g. sand).
- ❑ The product is flammable. In case of fire, use adequate fire-extinguishing means (e.g. foam, water mist, extinguishing powders). Do not use water jets.
- ❑ Disposal of the used product must be made according to official regulations. Improper disposal of the used oil poses danger to the environment.

8. MALFUNCTIONS AND THEIR REPAIRS

Tab. 7. Malfunctions and their repairs

Malfunction	Reason	Repair
Mower stops working or leaves stripes of uncut grass between the discs	Lack of knives	Put on knives
	Worn knives	Replace knives
	Improperly mounted knives (left – right)	Put on knives strictly according to instructions
	Too high tractor's engine rpm (The most frequent mistake)	Reduce rpm (recommended 1800 - 2000 rpm)
	Too low work speed	Speed up to $V \geq 6$ mph or more
	Damaged tractor's PTO shaft, drive not transmitted	Repair
	Lying grass	The inclination – the angle zero
	Mower with either tine or roller conditioner may mow improperly in case of very short grass or after rain	
Mower is blocked	Damaged bearings in the disc hub	Replace bearings
	Damaged cogs in the cutterbar	Check all cogs
Mower does not work even though drive is transmitted from tractor	Worn roller in the gear	Replace the gear
	Worn or cut down hollow on cutterbar drive shaft	Put a new hollow
Excessive loudness during work	Too low oil level in the cutterbar	Check oil level and refill
Mower slows down even though rpm value is stable	Damaged friction clutch in the cutterbar	Replace the clutch
Conveyor is being blocked with grass	Too low speed	Increase – adjust to the grass weight
Mower is blocked with grass – no grass guiding or	Too low mowing speed	Increase driving speed to 6 mph or more

guiding is uneven	Swath guides set too narrow	Widen swath guides to the maximum
Leaking cylinder	Contaminated oil in the tractor hydraulics	Replace oil in the tractor hydraulics (recommended oil purity class according to NAS 1638 is minimum 9-10). Provide brand new cylinder repair kit and replace worn gaskets
Excessive vibration during work	Damaged PTO shaft	Check the condition of PTO shaft and if need be replace
Oil leak in gear	Not tight assembly	Examine tightness and check oil level

9. DISASSEMBLY AND WITHDRAWAL FROM USE

9.1. Scrapping

If the mower cannot be repaired anymore, it should be withdrawn from use.

To do so, oil from intersecting axis gear and cutterbar should be drained and delivered to a proper waste treatment company. Clean the mower parts, dismantle and dispose properly of all plastic parts. After that, the mower can be scrapped.

10. WARRANTY CARD

TRAILED DISC MOWER

Serial number
Date of manufacture
Manufacturer stamp
QC signature

Date of purchase
Dealer stamp
Dealer signature

The product quality has been checked and meets the required standards and regulations and is permitted for use.

NOTE: A warranty card without the required information or with corrected or illegible information – **is invalid.**

11. WARRANTY TERMS

11.1. Warranty claim procedures

 The manufacturer guarantees its products against faults in materials or production.

 Warranty period is for two years from the date of sale to the purchaser, stated above.

 Any repair which is subject to warranty should be carried out by an authorised SaMASZ dealer. Upon completion of the repair, the dealer must submit a warranty claim within 14 days.

☞ Warranty claims regarding replacing of the product are considered if received within 14 days after it is completed by the manufacturer.

☞ The following situations are not covered by the warranty:

- a) **use of the mower for any purpose other than described in the operator's manual,**
- b) **fortuitous events or other occurrence, for which the Manufacturer does not bear any responsibility,**
- c) **normal wearing of parts such as: mowing discs, slides, knife holders, intersecting axis gears and parts within, bushings and sliding bushes, clutches, joints, cutting knives, v-belts, cogs, driving chains, conditioner flails, rubber elements, rubber and metal dampers, bearings, lower hubs, canvas covers, tires, conveyor belts, guide rubber elements, fastening elements, etc.**

These repairs may be carried out only at the purchaser's cost.

- d) **operation on stoney fields and results such as: damage tine conditioner's shaft, discs, bending of cutterbar (stone with its diameter of 5.5" will not move between the discs and conditioner's shaft),**
- e) **running into any obstacle,**
- f) **too fast lowering of the cutterbar to the ground,**
- g) **transport and accidental damage,**
- h) **breaking, damage of tine conditioner's shaft, conveyor's belt.**

☞ The Purchaser bears the costs of technical evaluation - when the manufacturer finds that a claimed product is free of defects and a technical report confirms that.

☞ The Manufacturer has the right to cancel the warranty in the following cases:

- a) **interference of the interior of the mower, changes of its mechanical design or intentional damages, bending parts of the mower and so on,**
- b) **operating with only 1 knife on the disc or without disc cover plates,**
- c) **damage caused by accidents, running into obstacles or other events, for which the warrantor is not responsible,**
- d) **use of different knives - not original SaMASZ knives,**
- e) **negligent maintenance,**
- f) **use of non-genuine spare or replacement parts that are not specifically designed for the model in question,**
- g) **lack of needed records in the warranty card or filling in the warranty card independently,**
- h) **use of the mower not in accordance with operator's manual or for incorrect purpose, or use of the machine by untrained persons.**

☞ Manufacturer can break the service agreement with immediate effect when the user does not pay the invoice according to that agreement in a timely manner and the delay in payment is longer than 30 days from maturity date. Breaking the service agreement caused by the user also invalidates the warranty.

NOTE:

Please ask your dealer to complete and return the warranty card, otherwise you may lose your warranty rights.

The warranty card is valid only when it contains the following information: address, date and place of purchase, mower type and invoice number.

11.2. **Warranty repairs record**

Repairs description and changed spare parts:

Date, stamp and signature of repair shop.

Date, stamp and signature of repair shop.

Date, stamp and signature of repair shop.