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OPERATOR'S MANUAL

TRAILED DISC MOWER

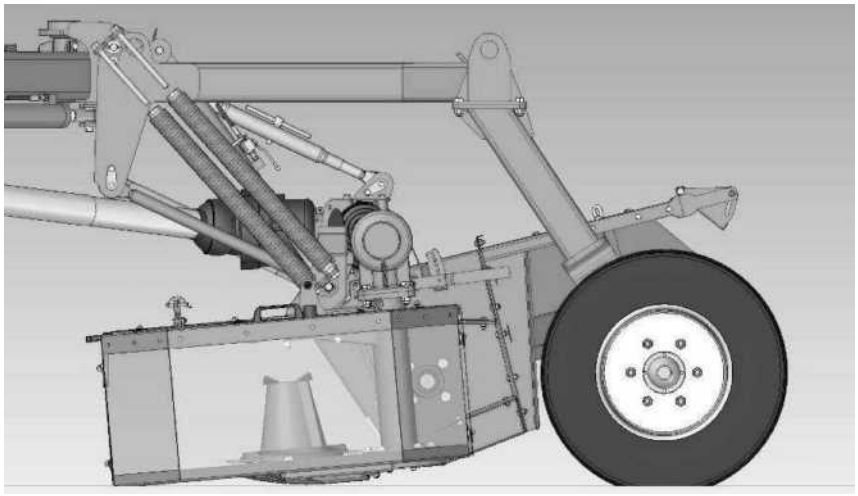
KDC 260	**- 2,6 m**		
KDC 260 S	**- 2,6 m**	**KDC 301 W T**	**- 3,0 m**
KDC 260 S T	**- 2,6 m**	**KDC 340**	**- 3,4 m**
KDC 300	**- 3,0 m**	**KDC 340 W**	**- 3,4 m**
KDC 300 W	**- 3,0 m**	**KDC 340 S**	**- 3,4 m**
KDC 300 S	**- 3,0 m**	**KDC 340 S T**	**- 3,4 m**
KDC 300 S T	**- 3,0 m**	**KDC 340 W T**	**- 3,4 m**
KDC 300 W T	**- 3,0 m**	**KDC 341 W T**	**- 3,4 m**

W – Mowers with swath rollers
S – Mowers with swath conditioners
T – Mowers with conveyor

Serial no.:

IN236EN002
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 use.

Well-proven design and quality materials ensure high reliability and durability of SaMASZ machines.

We congratulate you on the purchase of your new SaMASZ mower and wish you much pleasure and the very best experience resulting from its operation.

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1. IDENTIFYING THE MACHINE

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

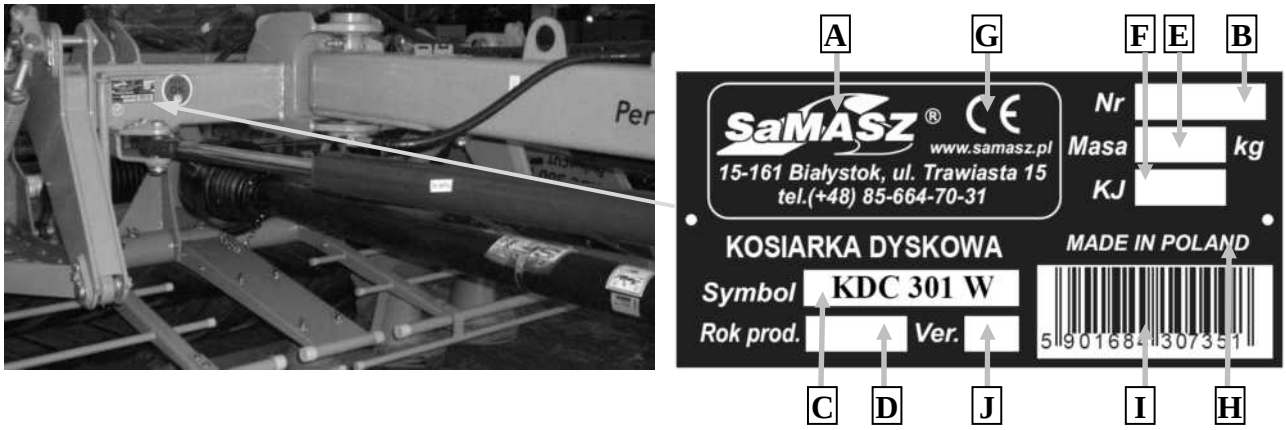


Fig. 1. Data plate placement

Data plate includes:

A. full name of the manufacturer,
B. id number,
C. mower symbol,
D. date of manufacture,
E. weight,
F. quality management sign,
G. CE marking means, that the mower is conform with Directive 2006/42/EC and harmonized standards,
H. country of manufacture,
I. bar code.

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 should be considered the mower's basic equipment and should be kept for further reference. If the mower is handed over to another operator, it should be in working condition, along with operator's manual, CE declaration of conformity and its basic equipment.
- Prior to operating the mower its user must familiarize himself with this manual as well as common work safety rules.
- The mower is manufactured in accordance with safety standards requirements.
- Respecting recommendations herein shall ensure full operation safety.
- If you have any questions concerning commission and operation of the mower, please contact the manufacturer.
- Operator's manual remains an integral part of the mower equipment.

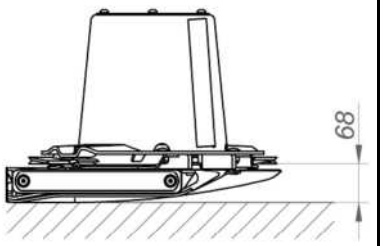
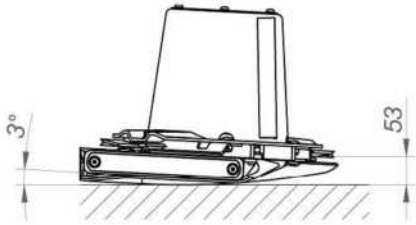
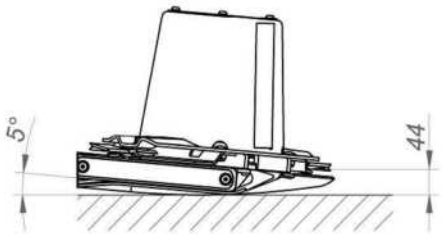
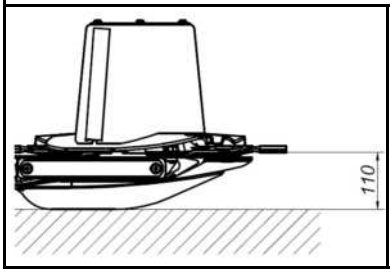
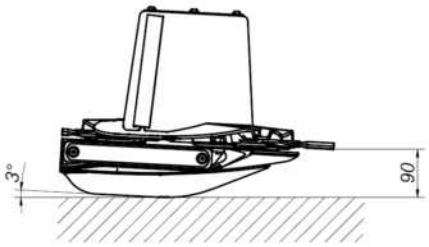
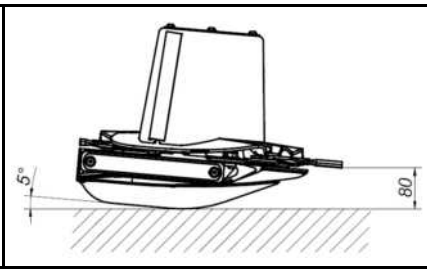
GENERAL PRECAUTION
When operating the mower warnings and safety rules marked with this sign herein should be respected.

NOTE:
Operating the mower without previous familiarizing with its contents as well as by unauthorized personnel, particularly by children, is strictly forbidden.

3. DESIGNATION

1. Mower is equipped with **„Perfect Cut”** cutterbar. Table 1 provides differences in mowing height depending on angle at which cutterbars operate.

Tab. 1. Mowing heights depending on cutterbar and its inclination angle

„Perfect Cut” Cutterbar		
0 angle	3° inclination	5° inclination
Standard mowing height		
		
Optional height with using topping skid		
		

- Rotational suspended disc mower is designed for mowing the following: common grass, medick, etc on meadows and on stone free fields as well as forming swath out of these. Meadow being mowed should be even, previously prepared by rolling. With advantage of high grass the first and the second row should be cut at height of 6 - 7 cm, while with great share of lower grass – at 5 cm. Therefore, the final row should be cut a little bit higher so 7 - 8 cm from the ground.
- Trailed front mower with swath conditioner/rollers is designed for mowing the following: common grass, medick, etc on meadows and on stone free fields as well as forming swath out of these. As a result of shifting the consequent forage layers due to operating flails/roller grass stalks are being broken and/or crushed as well as are loosing wax layer. It makes grass drying process simpler and faster by approx 30 - 40%. Rollers are particularly recommended for mowing papilionaceous grasses such as medick.
- Meadow being mowed should be even, previously prepared by rolling and other processing.

NOTE: Mow very rare grass with zero angle inclination.

NOTE:
Use of the mower for purposes other than mentioned herein is forbidden. Different use than the above mentioned shall be considered as improper and may lead to revoking of the warranty. The mower should be operated, maintained and repaired only by personnel who are learned with its detailed specifications and safety rules and procedures. Willful modifications to the mower may lead to revoking of the warranty.

3.1. Technical data

Tab. 2a. Technical data of trailed disc mowers

Mower type	**KDC 260**	**KDC 300**	**KDC 340**
Operating width	2,60 m	3,00 m	3,40 m
Number of knives	12 (6x2)	14 (7x2)	16 (8x2)
Tractor's PTO rpm	1000 rpm – standard 540 rpm– option		
Minimal cooperating tractor power	52 kW (70 HP)	67 kW (90 HP)	81 kW (110 HP)
Operating capacity at V = 12km/h	~ 3,2 ha/h	~ 3,6 ha/h	~ 4,0 ha/h
Transport length	6,20 m	6,40 m	6,80 m
Transport width	2,60 m	3,00 m	3,50 m
Width in operating position	3,15 m	3,50 m	4,00 m
Weight	1550 kg	1650 kg	1755 kg
3-point linkage category	II		
Admissible transport speed	30 km/h		
Recommended tire pressure	1,8 bar	2,2 bar	2,4 bar

Mower type	**KDC 260 S**	**KDC 300 S**	**KDC 340 S**
Operating width	2,60 m	3,00 m	3,40 m
Number of knives	12 (6x2)	14 (7x2)	16 (8x2)
Tractor's PTO rpm	1000 rpm – standard 540 rpm – option		
Minimal cooperating tractor power	52 kW (70 HP)	67 kW (90 HP)	81 kW (110 HP)
Operating capacity at V = 12km/h	~ 3,2 ha/h	~ 3,6 ha/h	~ 4,0 ha/h
Transport length	6,30 m	6,30 m	6,90 m
Transport width	2,60 m	3,00 m	3,50 m
Width in operating position	3,15 m	3,50 m	4,00 m
Weight	1850 kg	1910 kg	2095 kg
Conditioner/roller rears	~ 800 rpm		
3-point linkage category	II		
Admissible transport speed	30 km/h		
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**
Operating width	3,00 m	3,00 m	3,40 m	3,40 m
Number of knives	14 (7x2)	14 (7x2)	16 (8x2)	16 (8x2)
Tractor's PTO rpm	1000 rpm – standard 540 rpm – option			
Minimal cooperating tractor power	67 kW (90 HP)	67 kW (90 HP)	81 kW (110 HP)	81 kW (110 HP)
Operating capacity at V = 12km/h	~ 3,6 ha/h	~ 3,6 ha/h	~ 4,0 ha/h	~ 4,0 ha/h
Transport length	6,40 m	6,40 m	6,90 m	6,90 m
Transport width	3,00 m	3,00 m	3,50 m	3,50 m
Width in operating position	3,50 m	3,50 m	4,00 m	4,00 m
Weight	1965 kg	2100 kg	2110 kg	2280 kg
Conditioner/roller rears	~ 857 rpm			
3-point linkage category	II			
Admissible transport speed	30 km/h			
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**
Operating width	2,60 m	3,00 m	3,40 m
Number of knives	12 (6x2)	14 (7x2)	16 (8x2)
Tractor's PTO rpm	1000 rpm – standard 540 rpm – option		
Minimal cooperating tractor power	60 kW (80 HP)	74 kW (100 HP)	89 kW (120 HP)
Operating capacity at V = 12km/h	~ 3,2 ha/h	~ 3,6 ha/h	~ 4,0 ha/h
Transport length	7,20 m	7,20 m	7,70 m
Transport width	2,60 m	3,00 m	3,50 m
Width in operating position	3,15 m	3,50 m	4,00 m
Weight	2250 kg	2350 kg	2495 kg
Conditioner/roller rears	~ 800 rpm		
3-point linkage category	II		
Admissible transport speed	30 km/h		
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**
Operating width	3,00 m	3,00 m	3,40 m	3,40 m
Number of knives	14 (7x2)	14 (7x2)	16 (8x2)	16 (8x2)
Tractor's PTO rpm	1000 rpm – standard 540 rpm – option			
Minimal cooperating tractor power	74 kW (100 HP)	74 kW (100 HP)	89 kW (120 HP)	89 kW (120 HP)
Operating capacity at V = 12km/h	~ 3,6 ha/h	~ 3,6 ha/h	~ 4,0 ha/h	~ 4,0 ha/h
Transport length	7,20 m	7,30 m	7,80 m	7,80 m
Transport width	3,00 m	3,00 m	3,50 m	3,50 m
Width in operating position	3,50 m	3,50 m	4,00 m	4,00 m
Weight	2420 kg	2500 kg	2550 kg	2680 kg
Conditioner/roller rears	~ 857 rpm			
3-point linkage category	II			
Admissible transport speed	30 km/h			
Recommended tire pressure	2,2 bar	2,2 bar	2,4 bar	2,4 bar

3.2. Design and operating principle

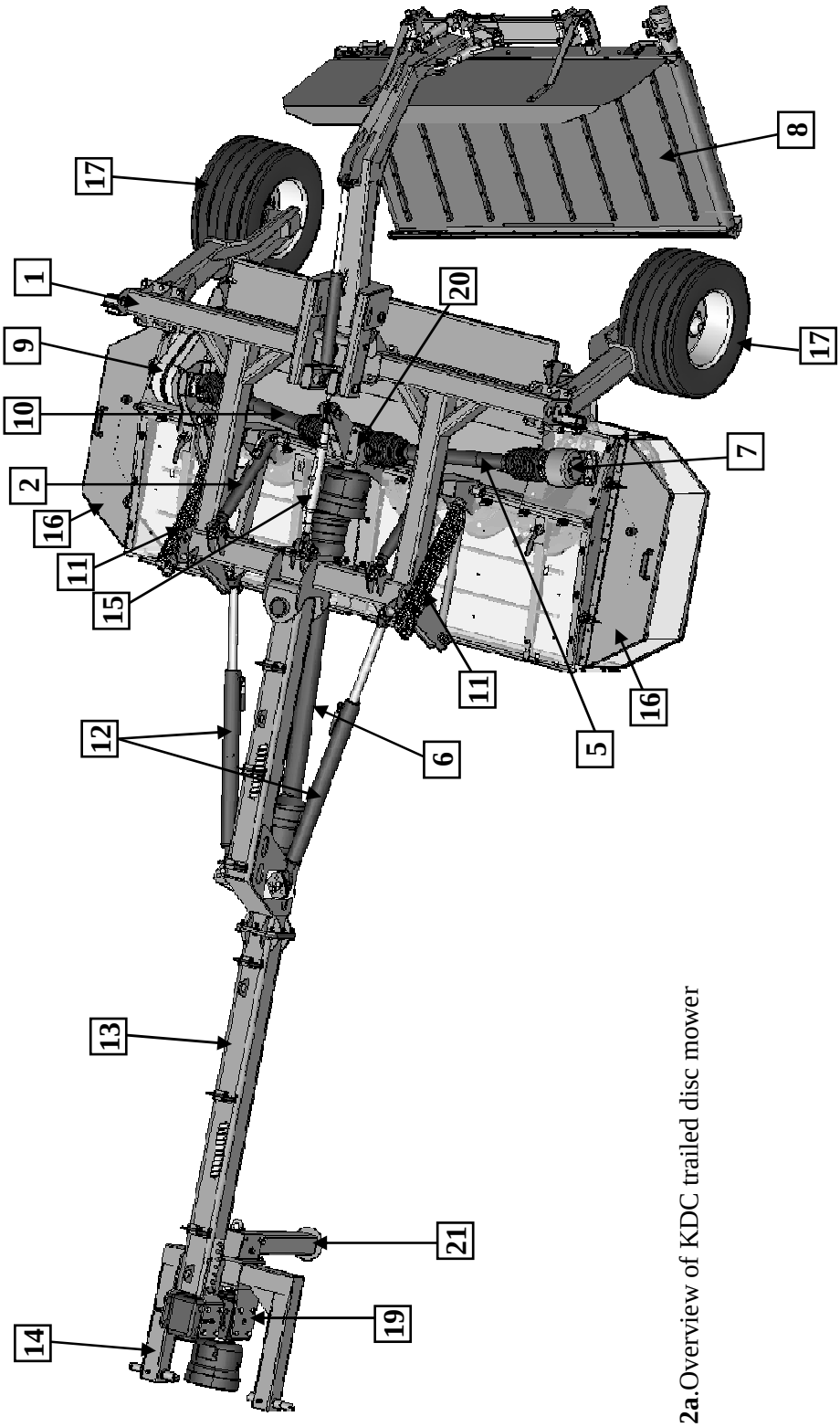


Fig. 2a.Overview of KDC trailed disc mower

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
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

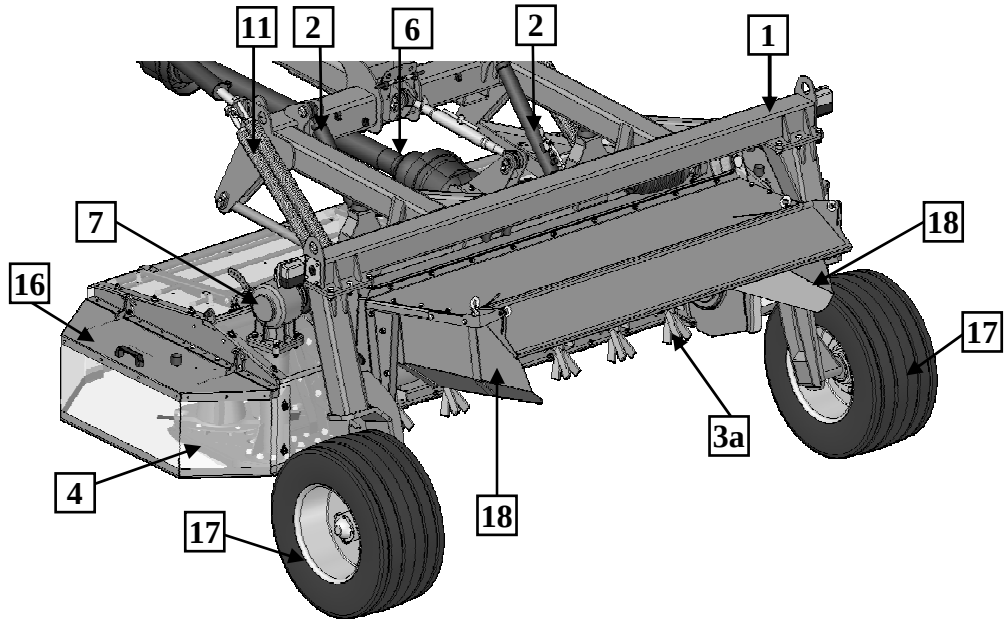


Fig. 2b. Design of KDC 260 S, KDC 300 S and KDC 340 S trailed disc mower with swath conditioner

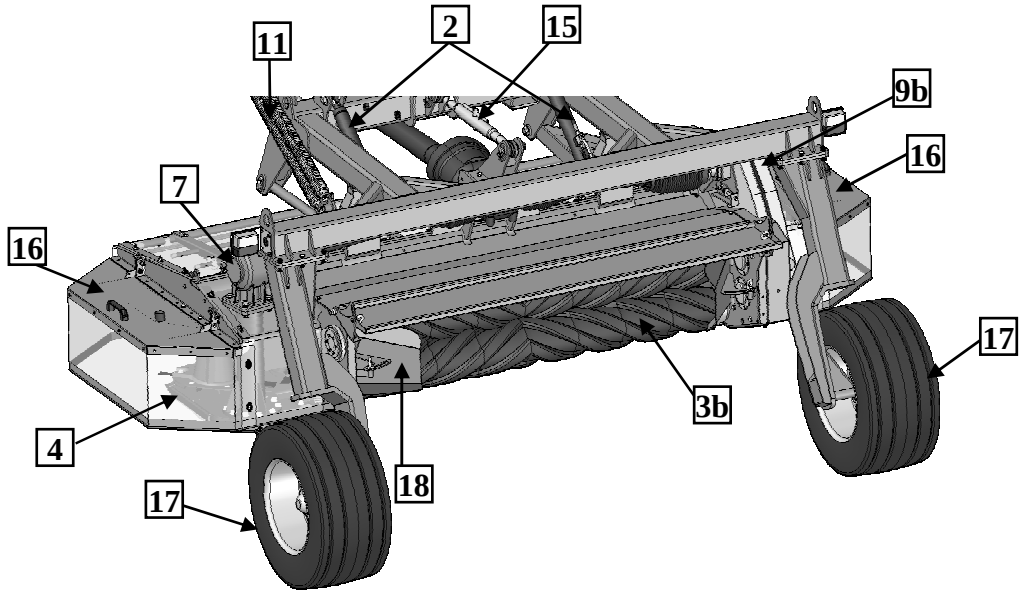


Fig. 2c. Design of KDC 300 W, KDC 340 W, KDC 301, and KDC 341 W trailed disc mower with swath conditioner

Hitch (**14**) is designed to mount the mower on 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 mounted on 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. Equipment and spare parts

Mowers are sold with the following standard equipment:

- warranty card,
- operator's manual with spare part list,
- cutting knives: two sets per mower – left and right knives,
- connecting holders for warning triangle,
- PTO shaft with overload friction clutch,
- spray paint (150 ml).

Optional equipment (on extra charge):

- warning triangle,
- high mowing slides.

Tab. 3. Recommended PTO shaft. Manufacturer: Bondioli & Pavesi

Mower	Power	Length	Momentum	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

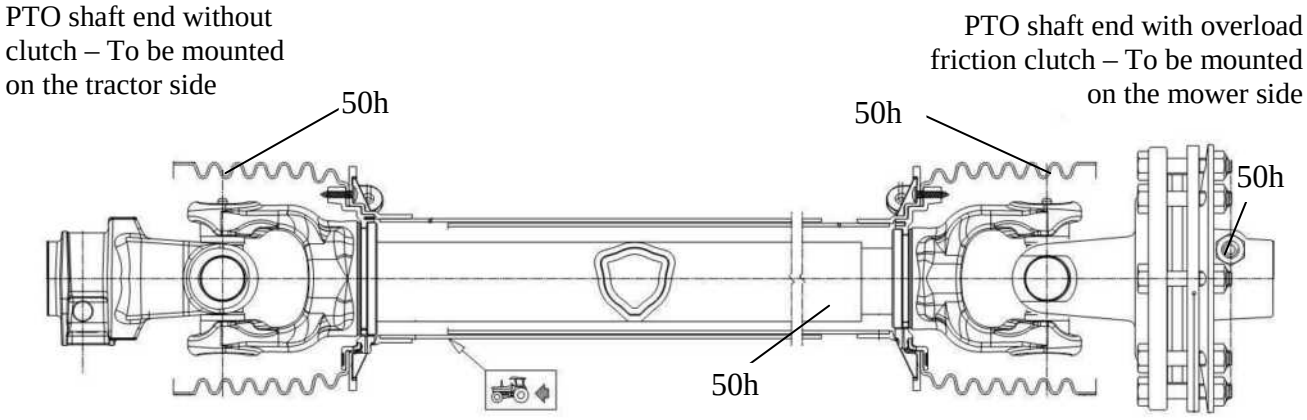


Fig. 3. Shaft lubrication. Shaft connection

NOTE:
PTO shaft lubrication frequency must be respected. Lubrication points are marked on **Fig. 3** to be lubricated every 50 hours.
PTO shaft shall also be lubricated prior to and after period of longer idleness.

PTO shafts of other brands with equivalent technical parameters may be used on the SaMASZ permission.

NOTE:
Optional extra equipment should be ordered separately.

4. SAFETY ADVICE AND WARNING

4.1. Safety rules and regulations

- Any operation with the hydraulic lift lever should be conducted from the operator's seat; DO NOT move the lever from outside of the tractor.
- In case of tractors equipped with EHR, controlling with hydraulic lift is conducted with a button located outside the tractor's cabin. When operating, please be extremely careful.
- Operating without safety guards and is not permitted. Neither operation with damaged or raised guard is permitted (danger of stones, etc. being thrown out).
- Start mowing only when the tractor's PTO shaft reaches its nominal value of 1000 rpm or 540 rpm depending on the machine version.
- Do not exceed 1050 rpm or 600 rpm on the shaft.
- No unauthorized personnel is allowed to remain within the danger area of at least 50 m. Keep particular caution when operating near roads and in stony areas.
- Any maintenance and -adjustment work is allowed only with the drive disconnected and discs in complete standstill. **Caution: Cutting knives keep rotating for several minutes after the engine is stopped.**
- When driving on public roads always respect the local traffic regulations concerning warning lights-, while the mower shall be equipped with required safety devices. When transported the mower shall have remote warning -light device and warning triangle mounted.
- Front axis of the tractor should be well 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.
- Condition of guards and its mounting should be checked regularly.

NOTE:
Any service and repair operations must be conducted with the tractor drive disconnected and cutterbar on the ground and all rotating parts in the complete standstill.

NOTE:
Keep the children away from the mower both in operation and standstill.

- The bolts and other fasteners should be inspected on regular basis. Operating with damaged or worn fasteners is not admissible.
- The tractor engine must never be left running without supervision. Before leaving the tractor, turn the engine off and take the ignition key out (Dz. U. nr 12/98 poz. 51).
- When operating the mower, please comply with the Resolution of the Minister of Agriculture and Food Economy of 12-01-1998 on work safety when operating tractors, machines, technical instruments and devices used in farming Dz. U. nr 12/98 poz. 51.
- In the event of any break in the machine operation, the drive should be disconnected (Dz. U. nr 12/98 poz. 51).
- When operating the mower, the tractor should always be equipped with operator's cabin.
- Mower should not be operated when the tractor-mower set is not well balanced.
- The mower shall never be started, with people or animals near the machine.
- The safety guard shall never be lifted before the rotating drums are in complete standstill. Tractor's engine must be stopped.
- Always comply with safety decals describing hazards, and warning signs placed on the machine.

- Prior to starting the tractor make sure that each drive is disconnected while the hydraulics control levers are in neutral position.
- It is forbidden to drive the mower backwards when operating.
- Never get onto the mower.
- For operating and transport drive permissible slope shall be 8°.
- Never stand between the tractor and the mower, unless tractor-mower aggregate is protected against shifting with the tractor's parking brake.
- Any maintenance checkups and regulations may be conducted only when the mower is disassembled and on the ground.
- If any part of the mower needs to be replaced, use only genuine spare parts according to spare part list.
- Pay particular attention to PTO shaft guards and mower and tractor spline shaft guards. Never operate with damaged guards.
- Hydraulic hoses should be inspected on regular basis and if any damage is found or they expire, replace these with new ones. Expiry period for hydraulic hose should be no longer than 5 years.
- Never use scotch tape to repair damaged hydraulic hoses.
- When connecting hydraulic hoses to tractor hydraulic connectors make sure, that either tractor or mower hydraulics are pressure free.
- When servicing hydraulic unit, always wear protective gloves and eyewear. Hydraulic oil leaking under pressure (16 MPa) may permeate through the skin and cause its infection thereafter. If such is experienced, immediately visit a doctor.
- The mower should be stored under roof and in manner that effectively prevents animals and people from being injured.
- Before starting the mower, make sure there are no animals underneath the guard.
- In the event of fatal failure, please contact technical service, and if an accident (here: road accident) occurs, respect first aid rules and contact responsible authorities.
- Mower should be kept clean, so as to avoid danger of fire.
- When operating the mower, control damages to structures, protective aprons, chains, rubber elements and if need be, replace these with new ones, even not completely worn out elements.
- When mounting the mower on a tractor, danger of wounding is present. It is recommended for the operator to wear protective gloves.
- Prior to approaching operation with the machine, make sure that all safety guards are not damaged and fitted in place.
- Do not leave agricultural machinery on slopes or other descents without providing protection against its free runaway.
- When operating over a stony field or nearby roads there exists a risk of throwing out stones or other objects, which may pose a danger for passing-by vehicles on the road or for passers-by. Therefore keep the safe distance.
- The operator is not allowed to leave the tractor while driving.
- Check pressure in the machine's wheels regularly.
- In the event of any break in the equipment operation, turn off the drive.

4.2. Conditions of mounting mower on tractor

- Prior to the mounting operation, check whether the tractor's and the mower's hitch categories are compatible and make sure that tractor's hitch load is adequate for the machine aggregated.
- Prior to mounting the machine, examine technical condition of the mower's hitch assembly and tractor's 3-point linkage.
- Use only genuine pins and cotters to mount the mower on a tractor.

4.3. Transport

- Any modifications in the mower's position are possible only if no unauthorized personnel is around (children in particular).
- For transport mount warning triangle for a slow driving vehicle on the mower.
- Prior to putting the mower to transport position make sure, that the tractor PTO is disconnected and all the rotating parts in complete standstill.
- Driving speed should always be adjusted to current road conditions.
- Do not exceed permissible speed of 30 km/h.

WARNING:
It is forbidden to drive on public roads, if the mower's transport width is more than 3 m (for: KDC 340, KDC 340 S/W, KDC 340 ST/WT).

4.3.1. Relocating mower onto another vehicle for transport

Both the carrier and the driver shall be responsible for the mower transport safety. Any equipment and parts must be secured properly for transport.

In order to have the mower relocated safely onto another vehicle, please follow these rules:

- the mower should be seized by any lifting device only in places indicated on the machine by the hook sign (**Fig. 4**),

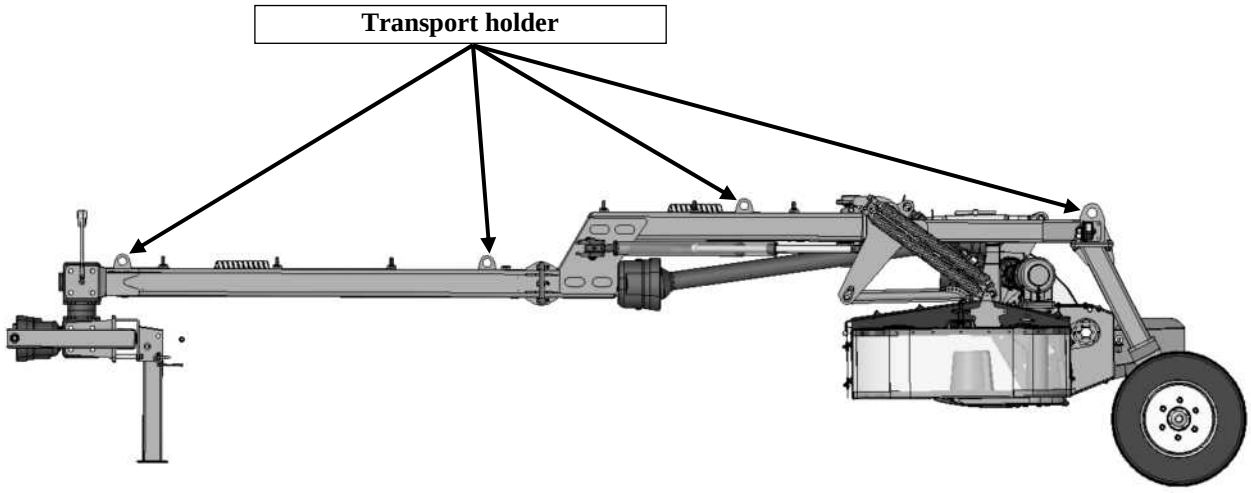


Fig. 4. Transport holders of KDC mower

- to lift the mower, use only lifting devices with hoisting capacity bigger than the mower weight provided on data plate. It also applies to ropes and chains used for lifting,
- collapsible elements should be locked in transport position,
- when relocating the mower onto another vehicle, there should be no unauthorized personnel permitted to remain within the danger area,
- the mower should be protected from shifting on the vehicle's trailer.

NOTE:
Securing both the danger area and activity performed shall lie under the responsibility of the person in charge of the mower transporting.

4.4. Operating parts

- Prior to operating the mower check the knife and the knife holder condition.
- Worn or damaged knives or knife holders should be replaced immediately with new ones.

4.5. PTO shaft

- Before operating learn provisions found in bar manufacturer's manual placed on the bar.
- Use only the mower's manufacturer recommended PTO shafts featuring guards in good technical condition.
- In order to operate safely use only fully technically fit, undamaged PTO shafts. Damaged PTO shaft shall be repaired or replaced with new one.

4.6. Hydraulic assembly

- Caution! Hydraulic assembly is under pressure! Hydraulic oil under pressure may permeate through skin and cause serious injury, therefore skin and eyes should be protected in particular. In case of injuries caused by a liquid under pressure, call a doctor immediately.
- Hydraulic hoses can be connected to 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 just simply restart the tractor's hydraulic valves several times, once the tractor is off.
- When dismounting the machine from the tractor, set the equipment aside, deflate the pressure from hydraulics and turn tractor's engine off.
- When controlling for hydraulic assembly's malfunction and looking for oil leaks, it is forbidden to touch any potential leaks until the entire assembly is under pressure.
- **Note! It is recommended to use 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. Tarpaulin guards

Due to their storing, SaMASZ manufactured mowers feature standard tarpaulin guards (**1**) for self-mounting. In order to mount the guard properly put it on a mower and secure with catches (**2**) and with front guard (**3**) **Fig. 5**.

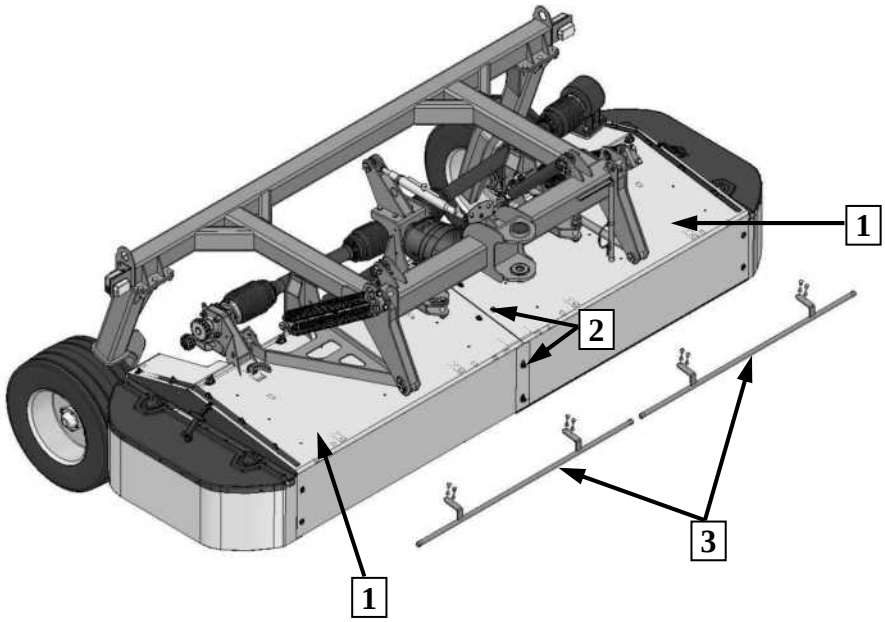


Fig. 5. Mounting tarpaulin guard on mower

4.8. Residual risk

Despite the fact, that SaMASZ Białystok company – the manufacturer of the mower takes the responsibility for the mower design and manufacturing, in order to eliminate hazard, certain risk when operating the mower is unavoidable. Residual risk results from incorrect or improper behavior of the mower operator.

Major source of risk follows performance of these operations:

- operation of mower by minors as well as not being learned with content of the operator's manual,
- operation of mower by persons under influence of alcohol or other abusive substances,
- not keeping caution while transporting and relocating the mower during operation,
- transport of persons remaining on the machine,
- presence of persons and animals within the mower operation range,
- performing operations related to servicing and adjustment with engine on.

4.8.1. Danger of catching

This kind of risk occurs when the mower position is changed, when operating near rotating parts, operating without safety guards. When operating, maintenance and regulation works are conducted always wear protective gloves, footwear and clothing with no loose parts, belts, etc.. Always comply with safety decals placed on the mower.

4.8.2. Danger of wound

This kind of risk appears when operating parts with sharp edges are replaced. For any repair and maintenance works always wear safety gloves.

4.8.3. Danger of liquid ejection out of hydraulics

When connecting hydraulic hoses to and from the tractor hydraulic connectors make sure, that either tractor or mower hydraulics are pressure free.

When servicing hydraulic unit, always wear protective gloves and eyewear. Inspect hydraulic hoses regularly.

NOTE:
Residual risk results from incorrect behavior of the mower's operator.

4.8.4. Bans

Bear in mind the following bans when operating the mower:

- do not unblock the mower, make any adjustments or repairs when the mower is operating,
- never change the sequence of operation and maintenance works specified in the operator's manual,
- never operate the mower when its working condition is poor or has safety guards damaged,
- never get your limbs close to mower's rotating parts,
- during the mower repair and maintenance works always comply with the descriptions included in the operator's manual, while conducting them with the tractor drive disconnected,
- prior to approaching any works, focus your attention solely on the tasks to do,
- never operate the mower being under influence of alcohol, drugs, or strong medicines,
- wear clothing that is not too loose, nor too tight. Too loose clothing elements may be pulled in by the mower's rotating parts,
- the mower cannot be operated by children nor handicapped people.
  When describing residual risk, the mower shall be considered a machine, which until the moment of production launching had been designed and manufactured in accordance with top technology until the day of the mower manufacture.

NOTE:
There is possibility of residual risk if not complying with specified instructions and bans.

4.8.5. Residual risk assessment

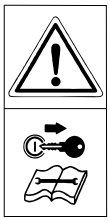
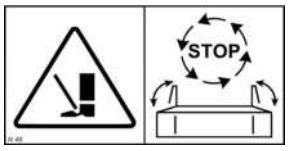
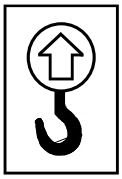
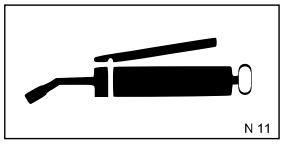
Keep the following recommendations:

- learn operator’s manual thoroughly,
- do not allow any person to remain on the machine when operating and driving,
- do not allow any person to remain within the mower's operating range,
- perform any works related to machine's adjustment, maintenance and lubrication with engine off,
- perform machine repair works if skilled in such respect,
- operate the machine, if learned the operator’s manual,
- protect the machine against access of children and any unauthorized personnel,
- and in result residual risk when operating the mower may be limited to necessary minimum.

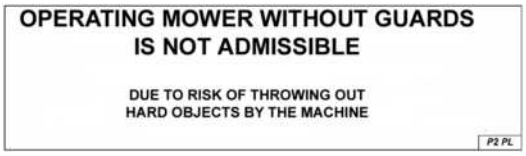
When the risk of being exposed to noise cannot be avoided or eliminated by any group protective means or organization of work, employer (operator) must:
1) provide the operator with individual means of noise protection, if the noise level in work place exceeds 80 dB.
2) provide the operator with individual means of noise protection and supervise its proper use, if the noise level in work place reaches or exceeds 85 dB.

4.9. Warning decals

NOTE:
a) all warning decals (labels) should be clean and legible,
b) lost or damaged decals (labels) must be replaced with new ones,
c) new decals (labels) may be ordered at the manufacturer,

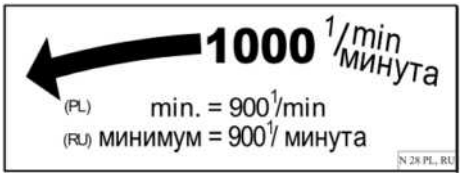
 N-1 Be extremely careful when PTO shaft is rotating	 N-2 **Warning:** cutting knives! Do not get near to the operating mower	 N-3 Prior to operation commencement read the operator's manual carefully	 N-4 Prior to approaching any maintenance or repair works, turn the machine off
 N-5 **Warning:** belt gear, keep particular attention	 N-6 **Warning:** pulling-in parts	 N-7 Operating the mower is forbidden with presence of any unauthorized personnel within the danger area of 50 m	 N-9 **Warning:** rotor
 N-23 **Warning:** power lines	 N-48 Stay a way from mower's inclination area	 N-40 Transport holder for moving the mower	 N-49
 N-50 Do not remain in the mower swinging area	 N-52 Wear protective gloves	 N-11	 N-117 Avoid contact with liquid coming out under pressure

N-196 Recommended tire pressure mower KDC 260, KDC 260S	N-197 Recommended tire pressure mower KDC 260S(T) i KDC 300	N-198 Recommended tire pressure mower KDC 300S(T), KDC 300W(T), KDC 301W(T) i KDC 340	N-199 Recommended tire pressure mower KDC 340S(T), KDC 340 W(T), KDC 341W(T)
 N-167 Do not go onto safety brackets and guards	 N-168 Do not touch the machine before the rotating parts have not come to a complete standstill	 N-57	 N-202 Admissible transport speed

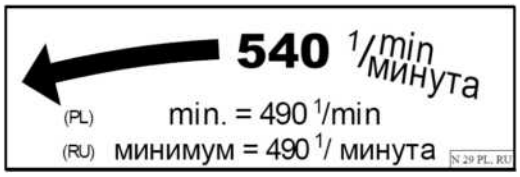


P-2

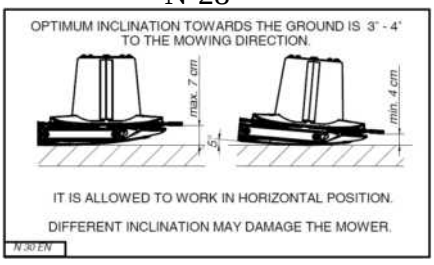
P-3



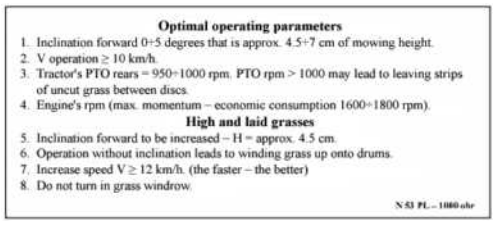
N-28



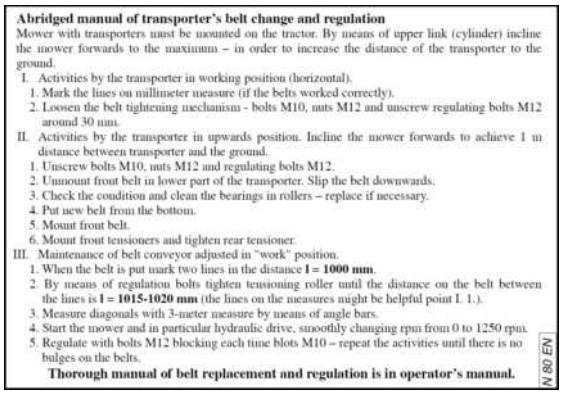
N-29



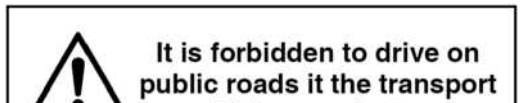
N-30 – Cutterbar **"Perfect Cut"**



N-53



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

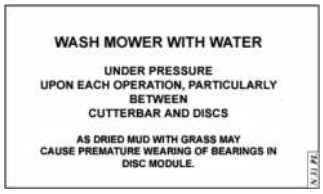


N-162

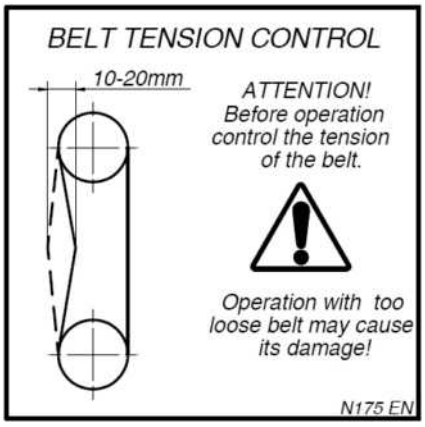
N-55

N-77 - Tightening of conveyor's belt

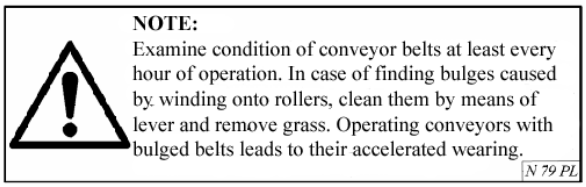
N-93



N-31



N-175 – Belt tension control



N-79 - Decal onto conveyor

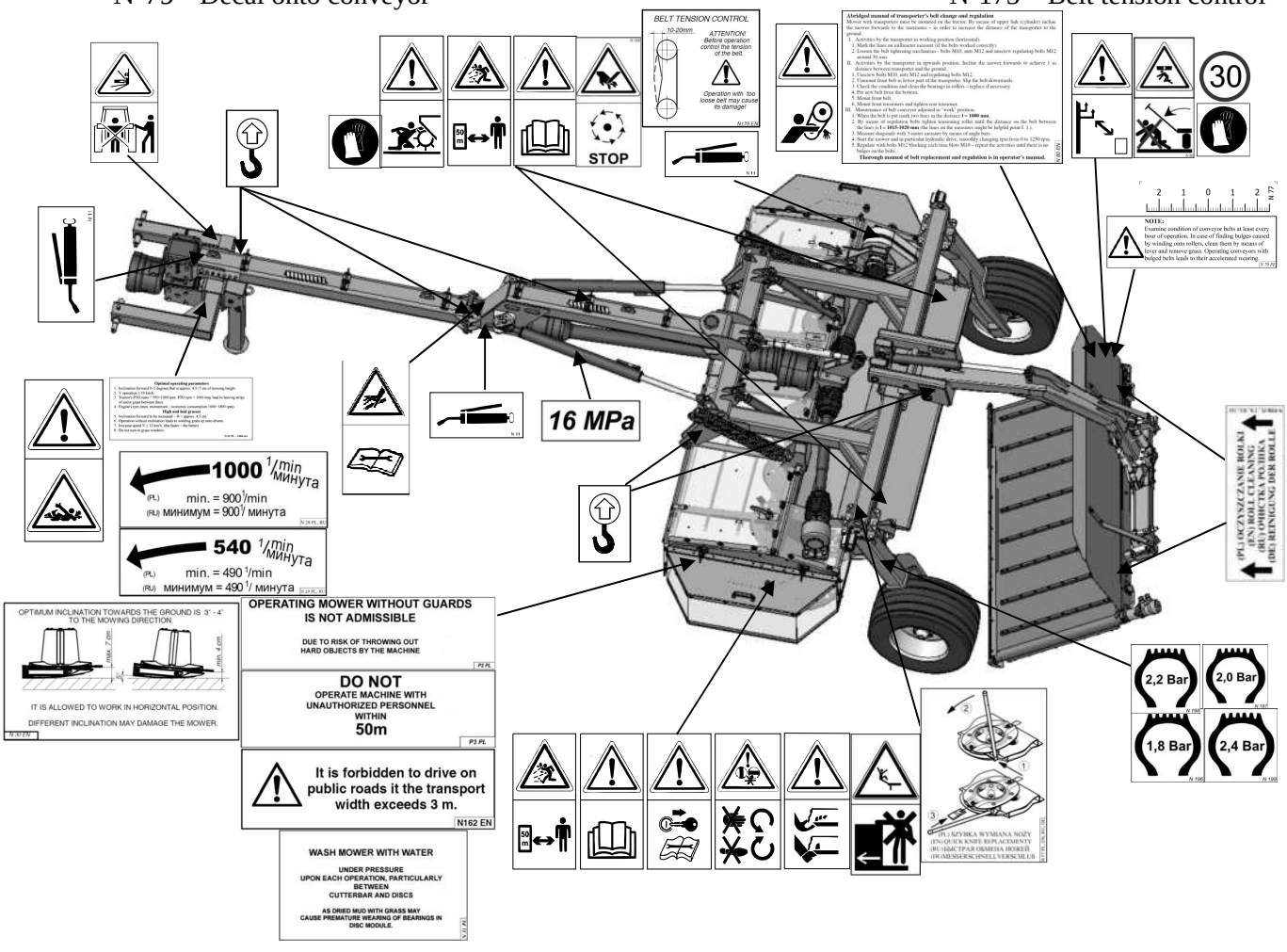


Fig. 6. Placement points of warning signs on trailed disc mowers

NOTE:
Any assembly used for the mower repair should hold all warning decals provided by the manufacturer.

5. OPERATION

5.1. Mounting mower on tractor

- Mount the mower on the tractor with use of 3-point linkage frame. Therefore drive the tractor near the mower's catch and connect pins (**P**) on the catch with links (**C**) on the tractor, and then secure them with cotters 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.

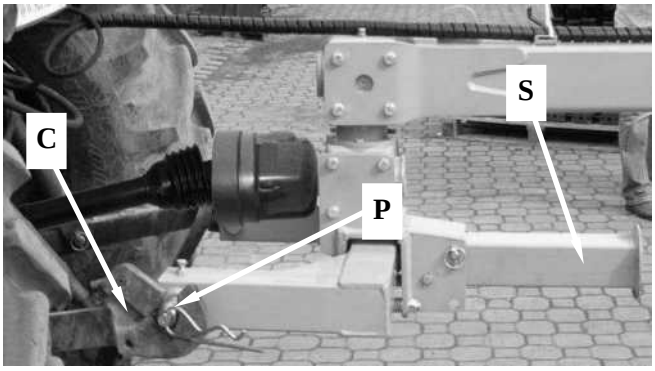


Fig. 7. Mower mounted on tractor

5.2. Preparing mower for transport

In order to prepare mower for transport:

1. With use of hydraulic cylinders get mower behind tractor.
2. Lift mower's side guards to vertical position (**Fig. 8a**).
3. Lift cutterbar by means of cylinders.
4. Close hydraulic valves located nearby cylinders (**Fig. 8b**).
5. 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.
6. When maneuvering, pay special attention to area around tractor-mower aggregate.
7. 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

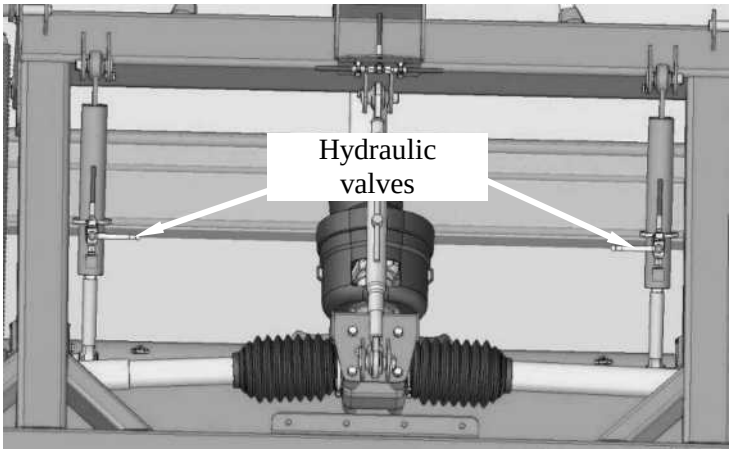


Fig. 8b. Mower's hydraulic valves

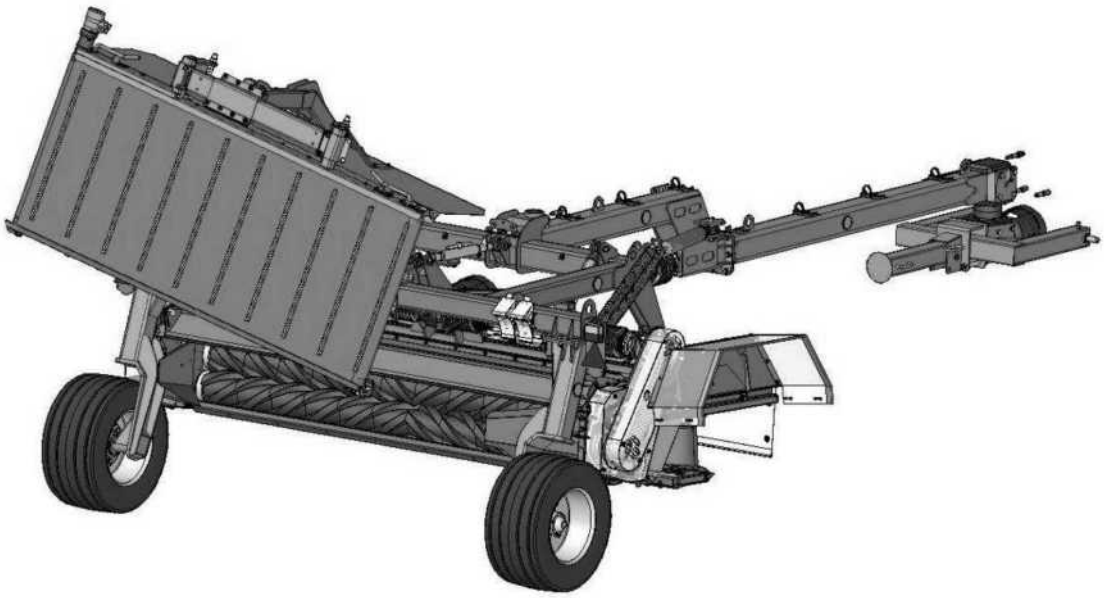


Fig. 9. Mowers in transport position

5.3. Preparing mower for transport on public roads

To meet safety precautions concerning transport on the public roads the rake should be equipped with warning triangle, attached at the rake'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 on public roads respect provisions valid in the country of use.

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

5.4. Mounting PTO shaft

PTO shaft should be mounted with friction clutch from the mower side.

The guard should be protected against rotating by securing the shaft set chains to immovable parts of the tractor and the mower.

NOTE:
If need be shorten PTO shaft as provided in corresponding operator's manual (**Fig. 10**).

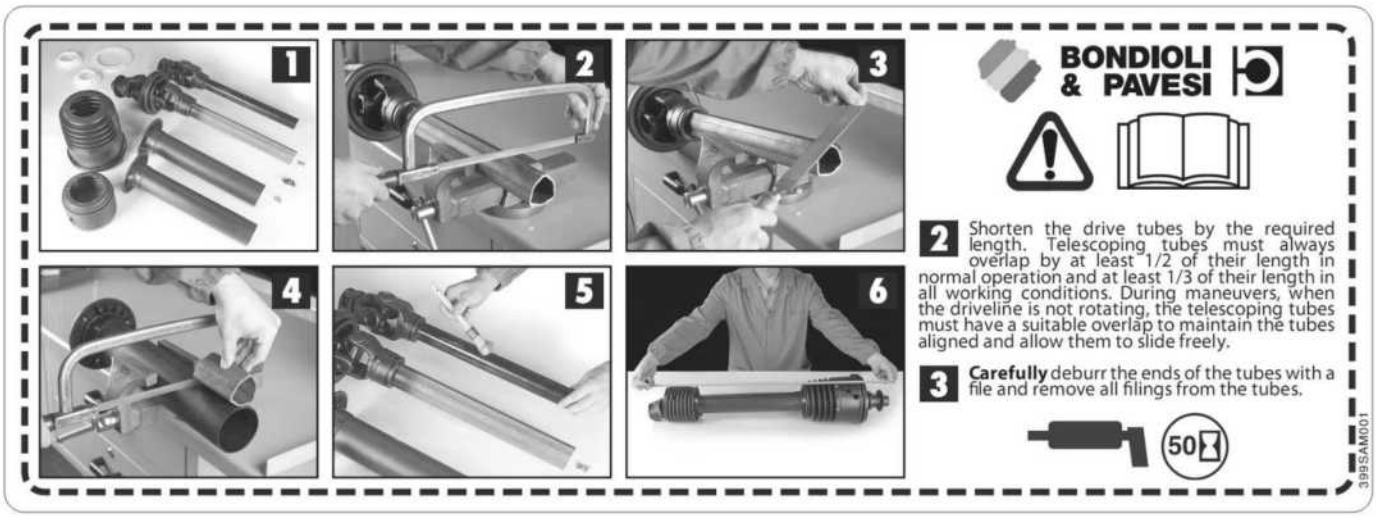


Fig. 10. PTO shaft shortening instructions

NOTE:
Use machines with correspondingly designed driving PTO shafts. Prior to the work commencement, safety guards should be inspected whether they (in the tractor, the mower and the PTO shaft) are placed correctly and are not damaged. Damaged or missing parts must be replaced with genuine ones. Make sure that the -PTO shaft is mounted properly. Approaching the rotating parts is strictly forbidden, as it may lead to serious injuries or even cause death. For any service and repair works of the shaft and the mower, the tractor engine and its drive must be disconnected Prior to the operation commencement, read the operator's manuals of both the machine and the PTO shaft.

NOTE:
PTO shafts should be mounted with overriding friction clutch on the mower side.

5.5. Preparing mower for operation

NOTE:
During storing of the machines in company SaMASZ the cylinders are protected by special grease in order to secure them against weather which may cause their premature wear. Before starting the operation excess grease should be removed from the cylinders.

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.

NOTE:
Folding the mower back is forbidden, as it leads to faster wearing of the cutterbar or even its damaging.

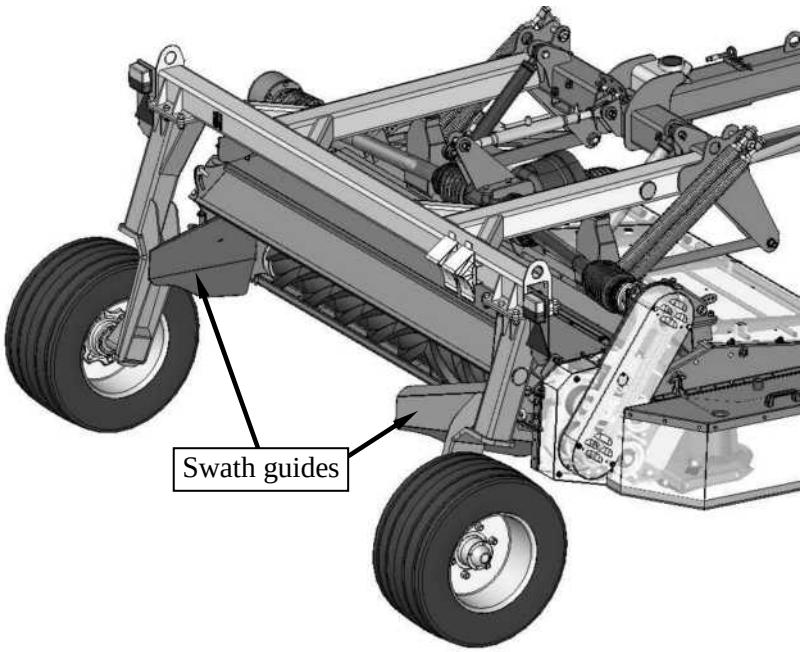


Fig. 11. Swath guides

5.6. Operation

Dear User,

If operating disc mower is your first experience (previously operating with double drum mower) then what you need is a piece of certain advice:

1. The biggest advantage of disc mowers is their lower power consumption by about 20%, lower inertia moments and possibility of setting up mowers with larger mowing widths.
2. Some slight disadvantage might be considered less attractive, uneven stubble (upon harvest) especially if laid grass needs to be mowed. Straight grass might however be mowed with mower's horizontal setting and then the stubble is straight but not as nice looking as with double or quadruple drum mower, as knives work horizontally to the ground and bowed grasses are deflected by wind, while after mowing these get up anew what may give impression of inaccurate mowing.
   Each mower should be given tolerance for leaving some slight piece of uncut grass at knives which cut grass forward.
   Such occurrence is normal. For disc mowers it is both theoretically and physically impossible to achieve such attractive looking stubble as for double drum mowers for knives work either horizontally or under small angle of up to 8° in relation to the ground, and in double and quadruple drum mowers angled over the ground (even 23°).
   Despite these "disadvantages" farmers all around the world are more and more convinced by disc mowers while modern technologies allow manufacturing very solid mowers (even up to 1000%).

Fig. 12a. Mower in operating position

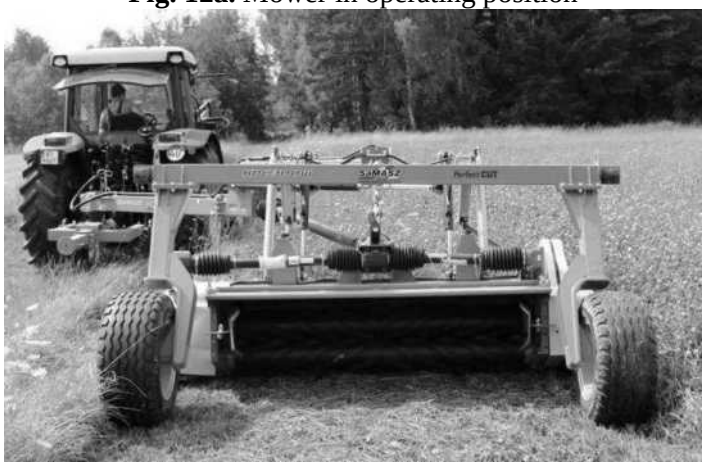


Fig. 12b. Mower in operating position

5.6.1. Basic information on mowing

Optimal operating parameters

1. Inclination forward 0÷5 degrees that is approx. 4.5÷7 cm of mowing height.
2. V operation ≥ 10 km/h.
3. PTO rears = 950÷1000 rpm. PTO rears > 1000 rpm may lead to leaving pieces of uncut grass between discs. (on Client's special request: PTO rears = 480 ÷ 540 rpm. PTO rears > 540 rpm may lead to leaving pieces of uncut grass between discs.
4. Engine's rpm (max. momentum – economic consumption 1600÷1800 rpm).

High and laid grasses

1. Inclination forward to be increased – H = approx. 4.5 cm.
2. Operation without inclination leads to winding grass up onto drums.
3. Increase speed V ≥ 12 km/h. (the faster – the better)
4. Do not turn in grass windrow.

- Optimal angle of cutterbar in relation to the ground should be between 0° and 5°. With inclination bigger than 5° minor unevenness in mowed grass is likely. It slightly impairs attractiveness of stubble after mowing however has hardly any impact on mower's operation. With inclination of the cutterbar to the other side quality of mowing is significantly impaired and in extreme situations the mower is completely unable to operate. What is more, this may lead to damaging slides and cutterbar.
- Too high a tractor's PTO rpm cause major air swirls which bow the grass against discs, and this lead straight to impairing mowing quality.
- Too low a tractor's PTO rpm cause impairing of mowing quality, and in extreme cases the mower stops operating (due to low line speed of knife).
- In case of mowing low grasses head guard should be lifted in order to reduce air blows which are generated on discs and also reduce the guard's pressure onto grass being cut.
- On soft meadows reduce the cutterbar's pressure onto the ground by adjusting support springs.

NOTE:
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 field, which may influence the mower 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 mentioned conditions. In order to remove the machine clogging, cutterbar should be lowered onto the ground while the drive must be disconnected with ignition key off.

5.6.3. Driving with mower over windrows when taking turns

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

5.7. Dismounting machine from tractor

NOTE:
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 machine

The mower should be stored on paved surface, under dry, roofed place to protect it from precipitations.

6. MOUNTING AND ADJUSTMENTS

6.1. Mounting knives

Knives should be mounted in accordance with scheme provide on **Figures 13**, **14**, **15**, **16**. Cutting knives should be mounted with principle, that the knife upon grass cutting should lift it up (cutting edge should be lower).

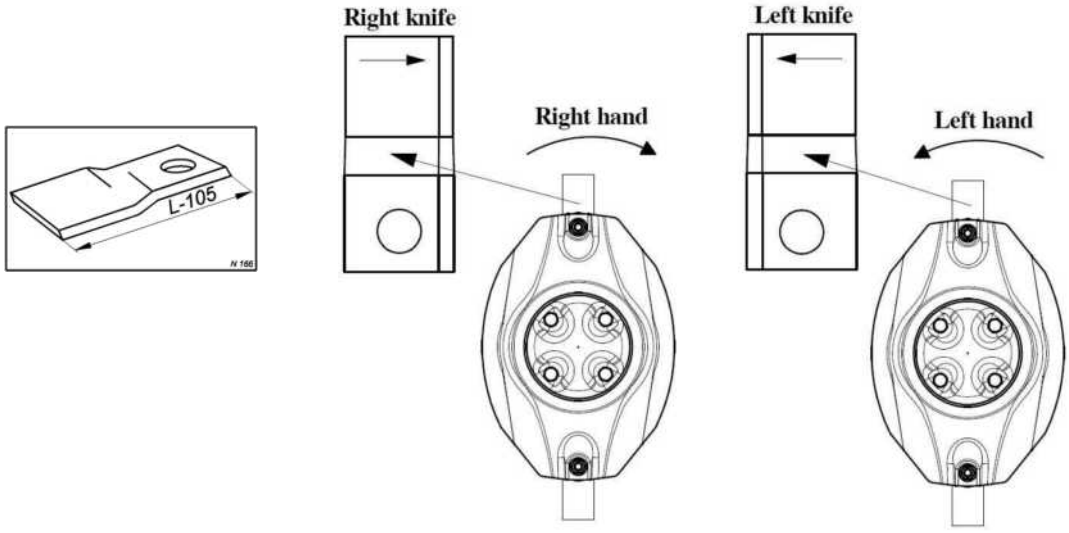


Fig. 13. Mounting cutting knives

NOTE:
Use only SaMASZ genuine cutting knives.

NOTE:
Condition of knives and holders should be checked each time before commencing any operation. Damaged or worn elements pose danger of throwing and are as well health and life threatening.

6.2. Replacing knives

Worn and/or damaged knives must be replaced immediately as shown on **Fig. 14**. Knives should be replaced in pairs so proper disk balance is kept. On replacing knives pin of knife's holder shall be examined carefully. If holder's pin is worn (**Fig. 23**), both holders or the pins must be replaced with new ones.

NOTE:
Pay attention, whether the mower is not vibrating when operating for this proves, that disc (discs) operates only for 1 knife. Long-term operation will lead to serious damaging of the cutterbar. This is not covered by warranty. Have breaks while operating and check whether the knife set is complete.

NOTE:
When replacing knives the engine must be off and the cutterbar must lie on the ground. The PTO shaft connecting the mower to the tractor must be off. Discs should be perpendicular to cutterbar.

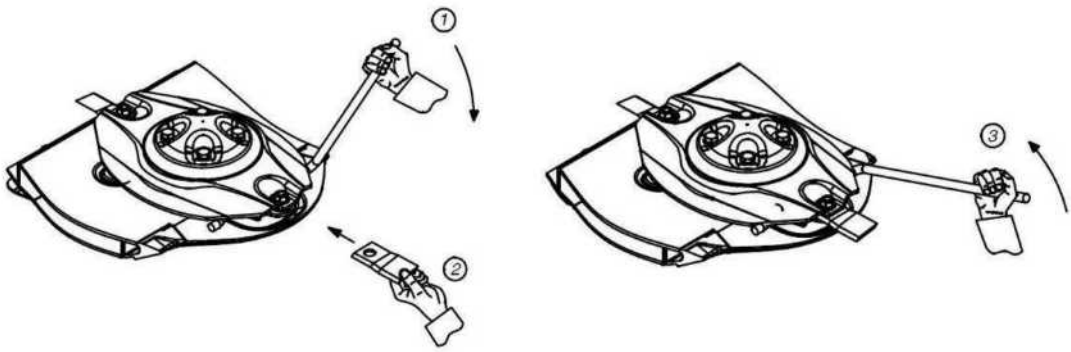


Fig. 14. Cutting knife quick replacement

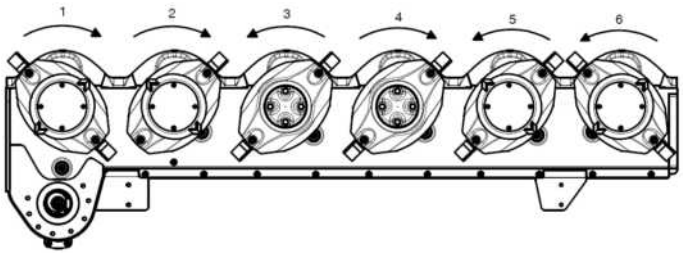


Fig. 15. Disc rotation directions on mower's cutterbar with cutting width of 2.6 m

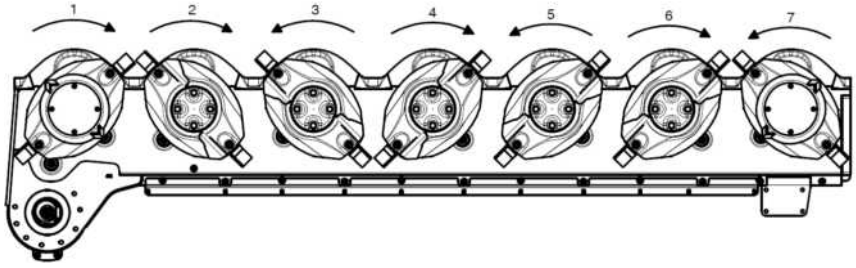


Fig. 16. Disc rotation directions on mower's cutterbar with cutting width of 3.0 m

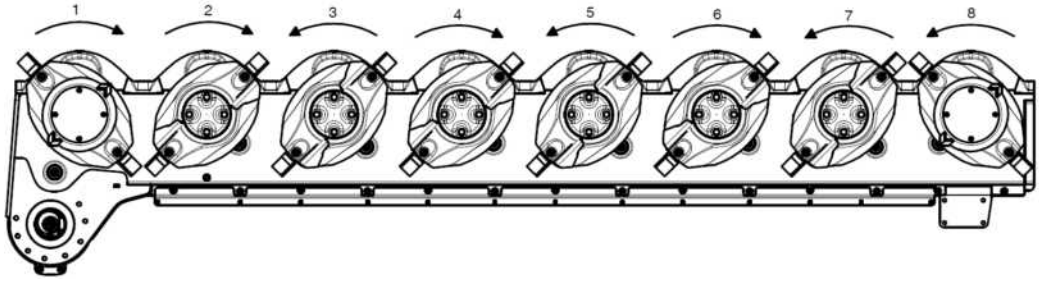


Fig. 17. Disc rotation directions on mower's cutterbar with cutting width of 3.4 m

NOTE:
Due to various windrow widths in offered mowers (and therefore various rotation directions of discs), prior to mounting knives check rotation directions of each disc (**Fig. 15**, **Fig. 17**).

NOTE:
Improper mounting of knives will lead the mower to choke. When mounting pay particular attention to knife rotating freely on the holder's pin.

NOTE:
Due to high rpm of discs, knife holders should be replaced in pairs and of the same weight – each holder has own weight marked. Otherwise, as a result of improper balancing, disc vibrations and damages to bearings are likely.

6.3. Swath width adjustment

In order to set swath width, adjustment of swath guides (**1**) (**Fig. 18**) should be performed (applies to: KDC 260 S (T), KDC 300 S (T), 340 S (T)):

- loosen eye screw (**2**) of swath guide,
- set swath guide (**1**) as needed,

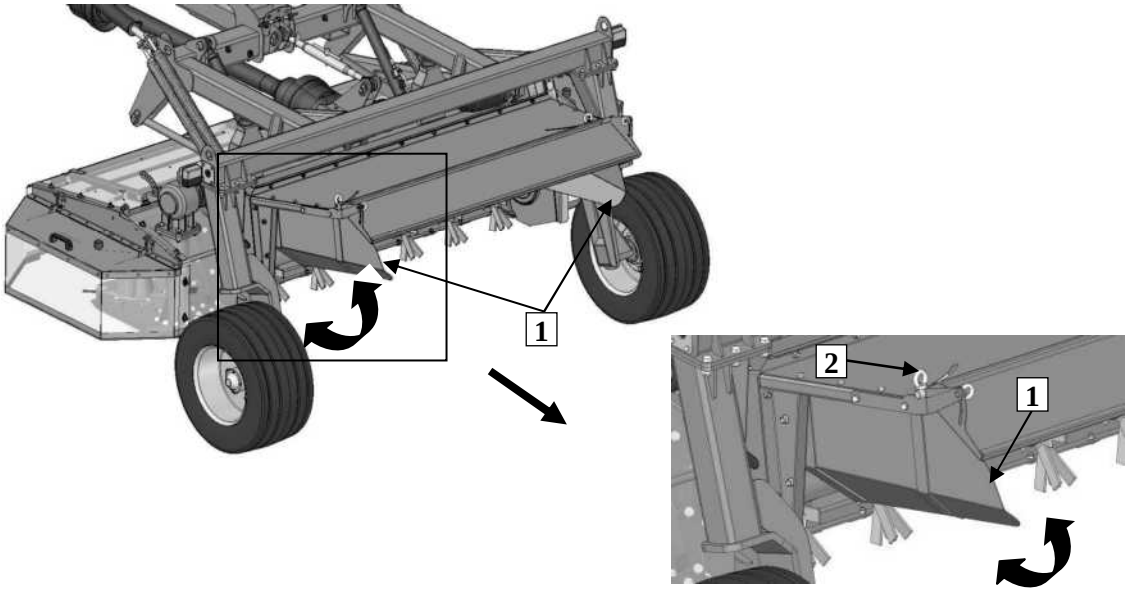


Fig. 18. Adjustment of swath guides: 1- swath guide, 2 - adjustment bolt

In order to set swath width, perform adjustment of swath guides (**1**) (**Fig. 19**) (applies to KDC 300 W (T), KDC 340 W (T)):

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

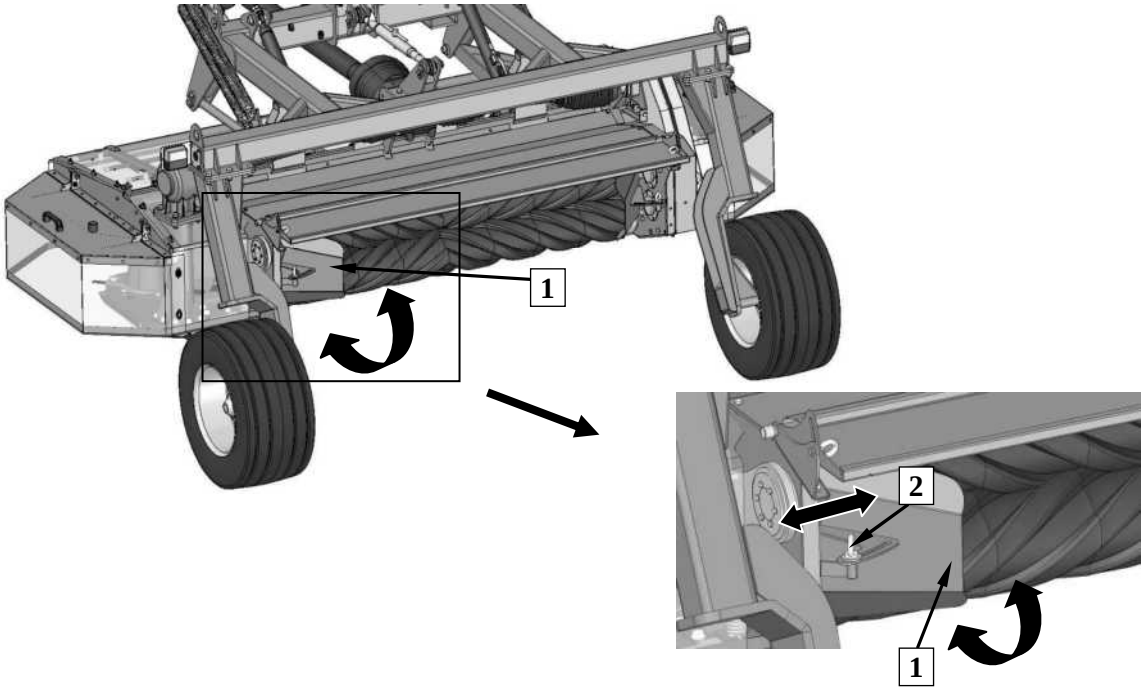
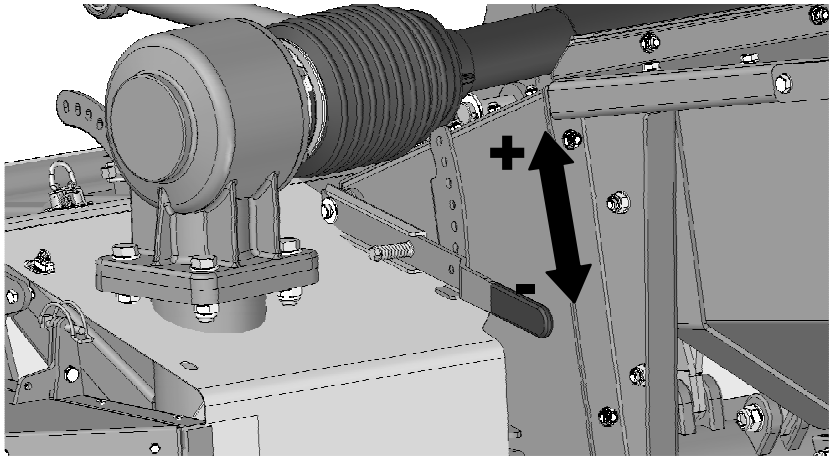


Fig. 19. Adjustment of swath guides: 1- swath guide, 2 - adjustment bolt

6.4. Adjustment of clearance between conditioner plate and roller

(Applies to **KDC 300 S (T) i KDC 340 S (T)**)

Depending on size and quantity of cut grass, it may be necessary to modify settings of conditioner plate. The higher, denser the grass, the bigger the clearance between plate and roller should be. Proper setting should be performed experimentally, so conditioner is not choking and PTO shaft overload clutch is not turning on. Manner of conditioner plate adjustment is provided on **Figure 20**.



„+" - increasing clearance plate - roller
„–" - reducing clearance plate - roller

Fig. 20. Conditioner plate adjustment

6.5. Replacement of flails in conditioner roller

(Applies to **KDC 260 S**, **KDC 300 S and KDC 340 S**)

Prior to commencing any operation, on each occasion 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 wearing of bearings as well as the shaft itself.

To replace flails **3** unscrew nuts **2**, remove bolts **4** and mount brand new flails **3** (**Fig. 21**).

NOTE:
In order to tighten screw connection use new bolt M16x65 gal. cl. 10.9 and nut M16 gal. cl. 8, **tighten until play is cleared.**

To disassemble a flail unscrew with open wrench (24) a nut (M16 gal. cl. self-protected 10.9), take bolt M16x90 cl. 10.9. out and take flail out. To mount a new flail, perform the above sequence in opposite way (**Fig. 21**).

1. Conditioner roller
2. Nut 6 - M16 self-protecting gal. cl. 8.
3. Welded flail
4. Bolt with head 6 M16x65 gal. cl. 10.9 - spec.
5. Flail's insert

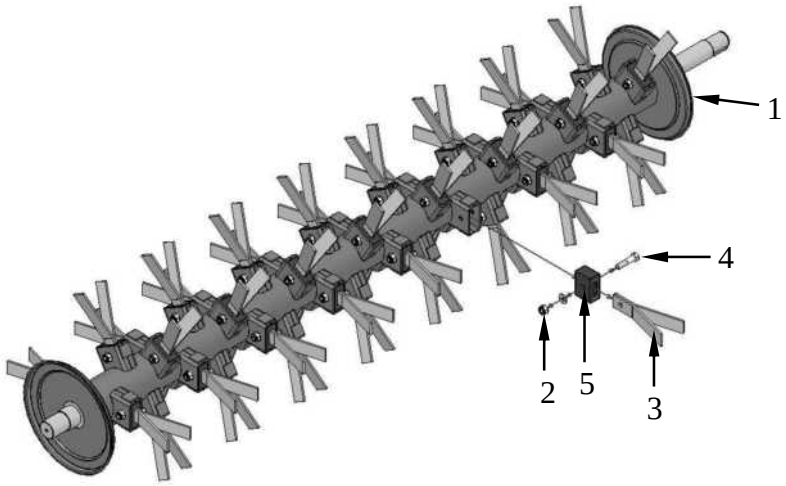


Fig. 21. Replacement of flails in conditioner roller

6.6. Adjustment of impact force between rollers

(Applies to **KDC 300 W (T) and KDC 340 W (T)**)

Factory set impact force of rollers should be enough. If it turned out to be too low or too high, it is possible to correct it by modifying spring tension **S** (**Fig. 22**) with nut **N**. Modification of impact should be performed at both sides of roller and with the same value (nut twists).

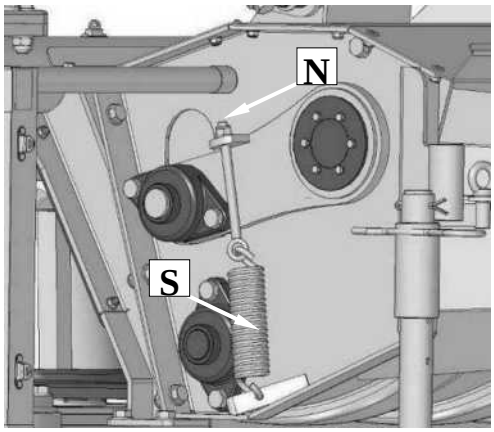


Fig. 22. Adjustment of impact force of rollers

6.7. Operating service

6.7.1. Examining condition of knives and holder pins

All knives should be of the same length and weight. Replace them, if necessary, only in sets of the same length and weight.

Knife holder pin cannot be worn more than provided on **Figure 23**. Too big a pin wearing is enough for a knife holder to be replaced.

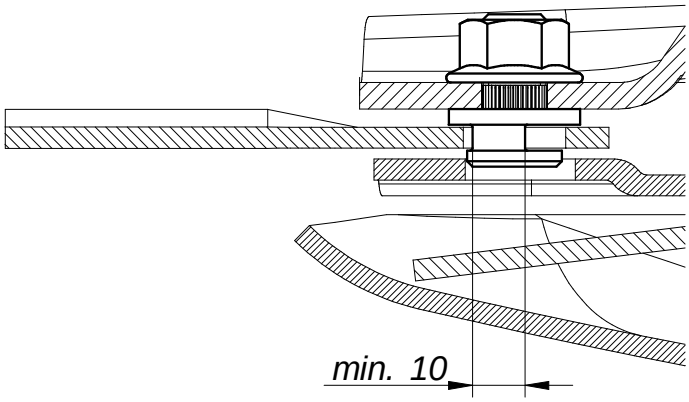


Fig. 23. Permissible wear of knife holder pin

6.7.2. Examination of tightening chain of conditioner chain gear and rollers

(Applies to **KDC 300 S/W and KDC 340 S/W**)

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

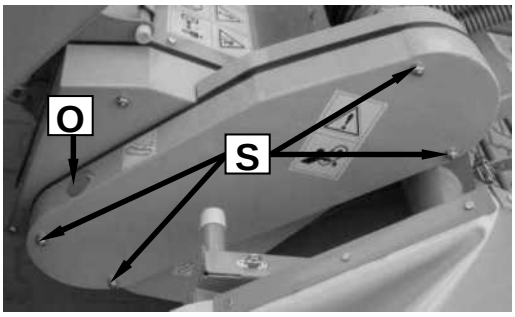


Fig. 24a. Protective guard of drive chain

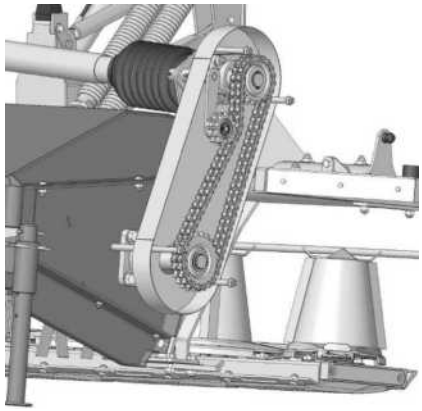


Fig. 24b. View of properly tightened drive chain

Tighten the chain with tightening bolt and nut **N**. Chain tightening can be examined through an eye **O** (**Fig. 24a**). In order to have a more accurate chain tightening examination take drive chain guard out (**Fig 24a**) upon loosening four bolts **S**. Properly tightened chain scheme is provided on **Fig. 24b**, once pressed with a thumb in the middle section it should deflect by approx. 5 mm.

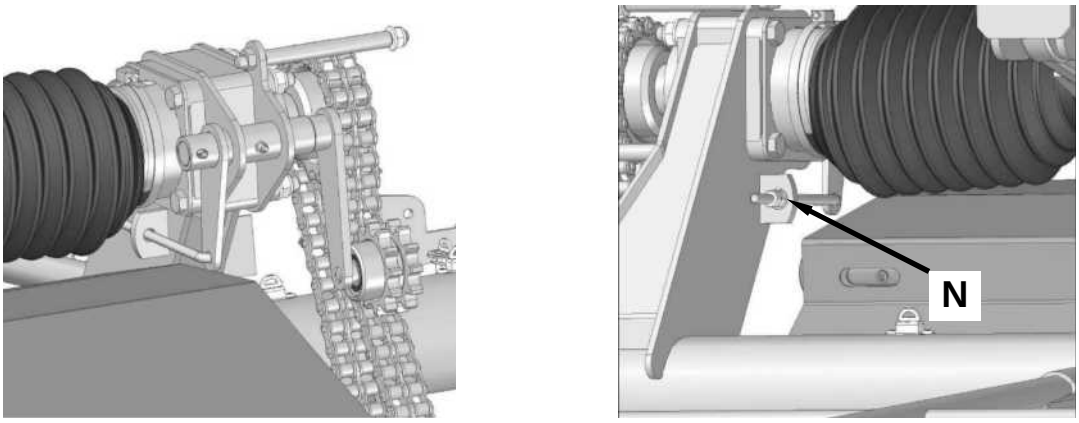


Fig. 25. Adjustment of tightening chain of conditioner chain gear and rollers

6.7.3. Control and tension of cogbelt (for: KDC 260 S, KDC 301 W, KDC 300 S, KDC 341 W, KDC 340 S)

When starting for 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 decal N175.

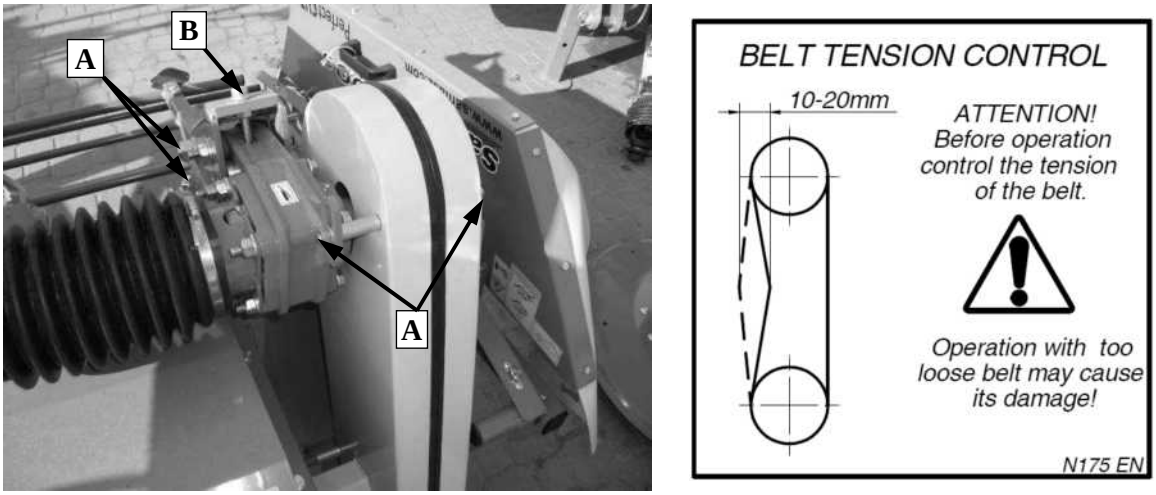


Fig. 26. Control and tension of cogbelt

Procedure when tensioning the cogbelt:

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

6.7.4. Daily maintenance

Upon daily completion of operation the following should be performed:

- remove grass, dirt and mud from the mower,
- inspect all visible external parts and assemblies and their connection; all loosen screws shall be tightened while worn or damaged parts replaced,

- use high pressure water cleaning to wash the mower after each mowing , especially inside the disc and the cutterbar, because grass with mud may cause premature wearing of bearings in the hub of slide plate and on vertical shaft,
- inspect condition of the cutterbar,
- lubricate the PTO shaft telescopic tubes with STP grease,
- if necessary, lubricate the other parts and assemblies in accordance with the lubrication instructions (item 7).

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

6.7.5. Off-season maintenance and storing

Upon completion of operation:

- 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,
- detach hydraulic and electrical hoses out of the tractor and hang them onto corresponding holders on the 3-point linkage frame,
- detach the mower from the tractor (reverse procedure as in case of attaching the mower to the tractor see item 5.1), and then drive the tractor away.

It is recommended to store the mower on paved ground, preferably in roofed places, inaccessible to unauthorized personnel. Machine should be stored in dry place, in the event if it is exposed to precipitations, apply lubrication regularly.

At the end of the season the mower should be cleaned, washed and dried. Carefully grease unpainted surfaces and 3-point linkage pins.

Moreover:

- perform any necessary paintwork repair,
- examine oil level in axis gears and cutterbar (item 7). If leaks are found remove them immediately and refill the oil. If water is found in the oil, it must be replaced; otherwise the gears, bearings and shafts could be exposed to corrosion what in result could lead to further failures.
- perform periodic checkups of the mower and protect all operating parts with grease in order to prevent their baking and creating any sources of corrosion, which significantly influences mower's proper operation.

6.8. Conveyor control and adjustment

6.8.1. Cleaning method of belt and rollers

NOTE:
Check conveyor belts condition once per hour of operating. In the event of finding bulges caused by rolling the grass onto rollers, clean it with use of lever and remove the grass. Using conveyors with bulged belts may lead to their premature wearing.
Conveyor belts are not subject to warranty.

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

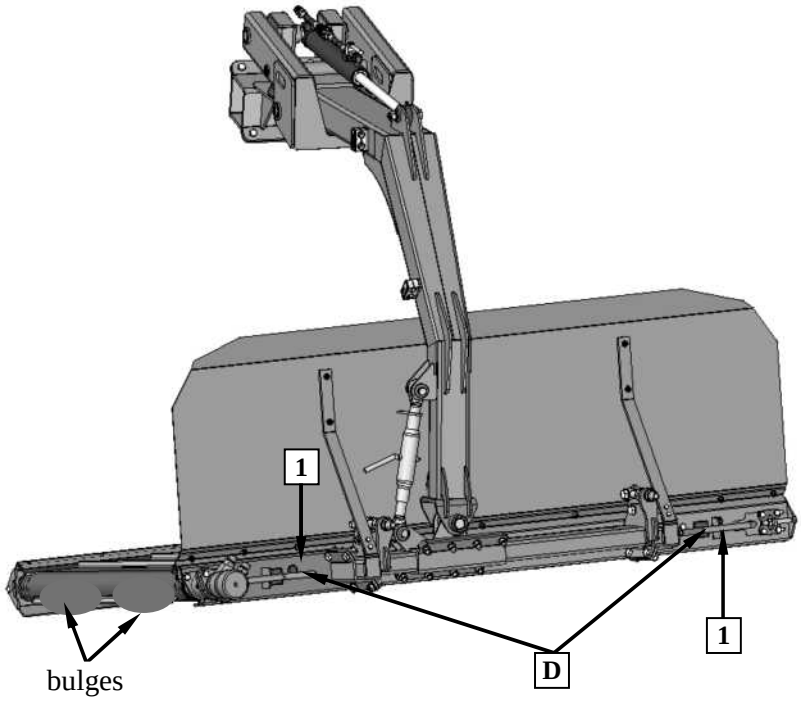


Fig. 27. Cleaning conveyor rollers

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. Removing impurities from inside belt

6.8.2. Conveyor belt replacement and adjustment instruction

KDC 260 ST, KDC 300-340 S/W mower with conveyors must be mounted on a tractor.

I. Steps to be taken when transporting in operating position (horizontal).

1. Using a marker, mark lines on millimeter measures – decal N-79 (unless belts worked well).
2. Loosen tightening mechanism of tightening roller belt – bolts M10 - **S_1**, nuts M12 – **N_2** and unscrew adjustment bolt M12 – **S_2** by approx. 30 mm (**Fig. 29**).

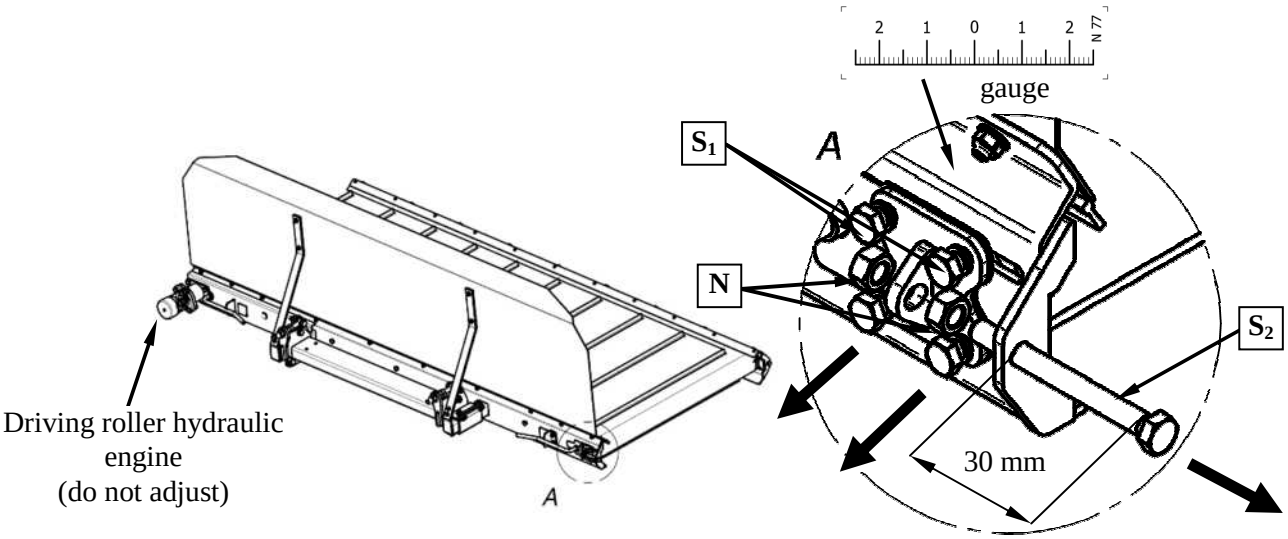


Fig. 29.

1. Unscrew bolts M10 – **S_1**, nuts M12 – **N_2** adjustment bolts M12 – **S_2** of front tighteners (**Fig. 30**).

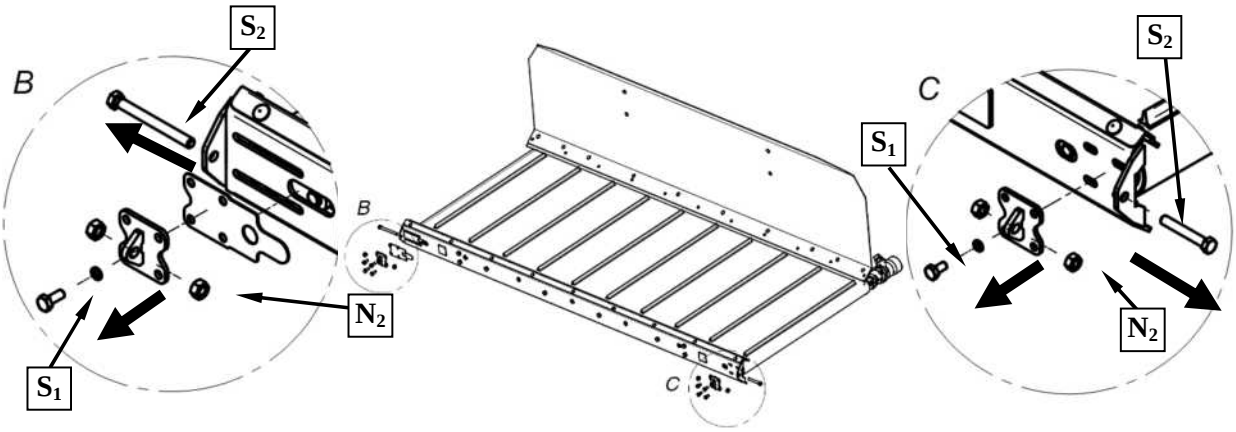


Fig. 30.

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

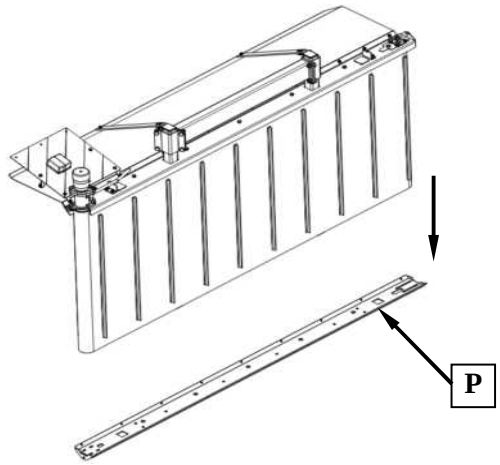


Fig. 31.

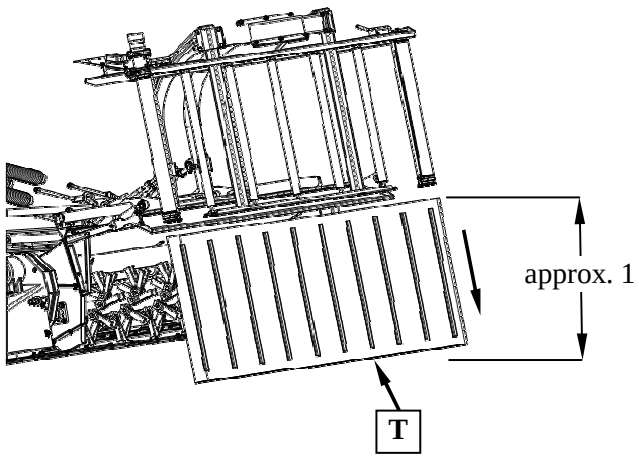


Fig. 32.

3. Clean and check condition of bearings in rollers – worn ones shall be replaced.
4. Mount the new belt upwards.
5. Mount front belt **P**.
6. Mount front tighteners and tighten rear tightener.

II. Steps to be taken with conveyor lifted to horizontal position.

1. Mark two scratches on newly mounted belt in intervals of l **= 1000 mm** (**Fig. 33**).
2. With adjustment screws **S_2** tighten the roller so the distance on belt between marked lines is l **= 1015-1020 mm** (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.

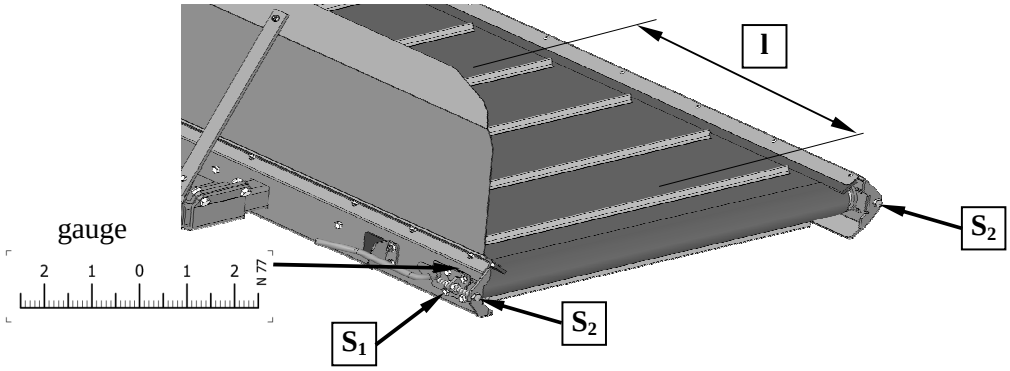


Fig. 33.

3. Measure diagonals with use of 3-meter gauge using angle bars.
4. Start the mower and in particular hydraulic drive, smoothly changing rpm.
5. Use bolts **S_2**, to adjust by locking bolts **S_1** each time – perform these until there are no more bulges on the belt.

NOTE:
Precision is recommended, so belts and their edges worked symmetrically on rollers. Well-adjusted belt cannot be bulged in places where v-belt is guided inside the roller channel.

7. LUBRICATION

7.1. Cutterbar

Cutterbar is filled with oil through plug closed hole **A** (**Fig. 34**). Adequate oil level with horizontal position of the cutterbar is 5÷7 mm from the cutterbar's bottom. Amount of oil to be filled is provided in table.

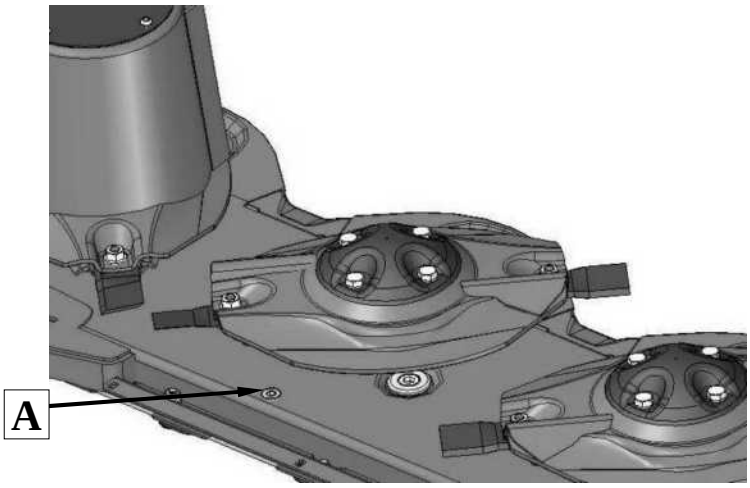


Fig. 34. Points of oil inspection and replacement in cutterbar

Tab. 4. Amount of oil to be filled in cutterbar

Mower type	**Oil volume** [L]	**Oil type**	**Replacement frequency**
KDC 260 S (T)	5.0	80W90	Once every 3 seasons (with intensive operation)
KDC 300 S/W (T)	6.0		
KDC 340 S/W (T)	6.5		

7.2. Intersecting axis gears

Prior to operation (e.g. some more demanding a task) firstly examine oil level and if need be refill it once air vent is taken out **A** in upper section of the gear (**Fig. 35**). Oil level is inspected by opening check plug **B** on the side of the gear. If oil level is too low, refill oil until it is visible in the check opening. Oil level in gear: approx. 1 liter. Plug **C** is used to drain oil.

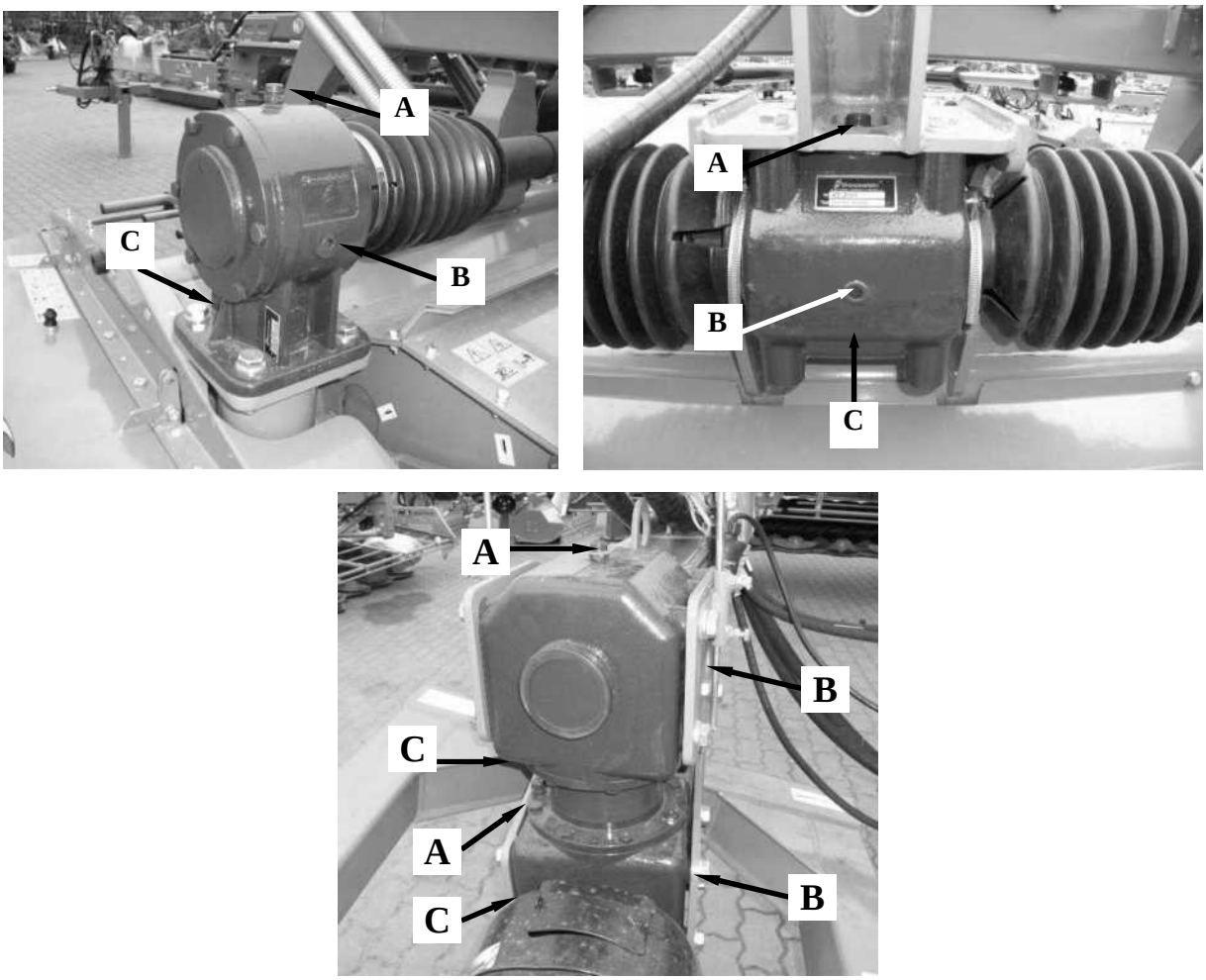


Fig. 35. Points of check and oil replacement in intersecting axis gears

To replace oil in gears:

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

Tab. 5. Amount of oil to be filled in gear

Mower type	**Oil volume** [l]	**Oil type**	**Replacement frequency**
All types	approx. 1	SAE 80W/90, API GL-4	Once every 3 seasons (with intensive operation)

NOTE:
The above provisions should be strictly kept. If discs found on the cutterbar are able to move freely, then high temperature of axis gear should not be a point of concern, as in result of a long-term operation it may reach 60-80°C.

7.3. Roller cog gear

Prior to commencing examination of oil level in roller cog gear unscrew bolts holding protective housing. Prior to work commencement check oil level and in the gear, and if need be, refill after removing the vent **A** (**Fig. 36**) in the upper section of the gear. Oil level is examined by removing the check plug **B** on the gear's back wall. If the oil level is too low refill the oil until it is visible in the check opening **B**. Oil level in gear: approx. 0.5 l. Oil level is checked after the cutterbar is set horizontally on the ground. To drain the oil from the gear use plug **C**, found in lower section of the gear's body.

Tab. 6. Amount of oil to be filled in cog gear

Mower type	**Oil volume** [l]	**Oil type**	**Replacement frequency**
All types	0,5	80W90	Once every 3 seasons (with intensive operation)

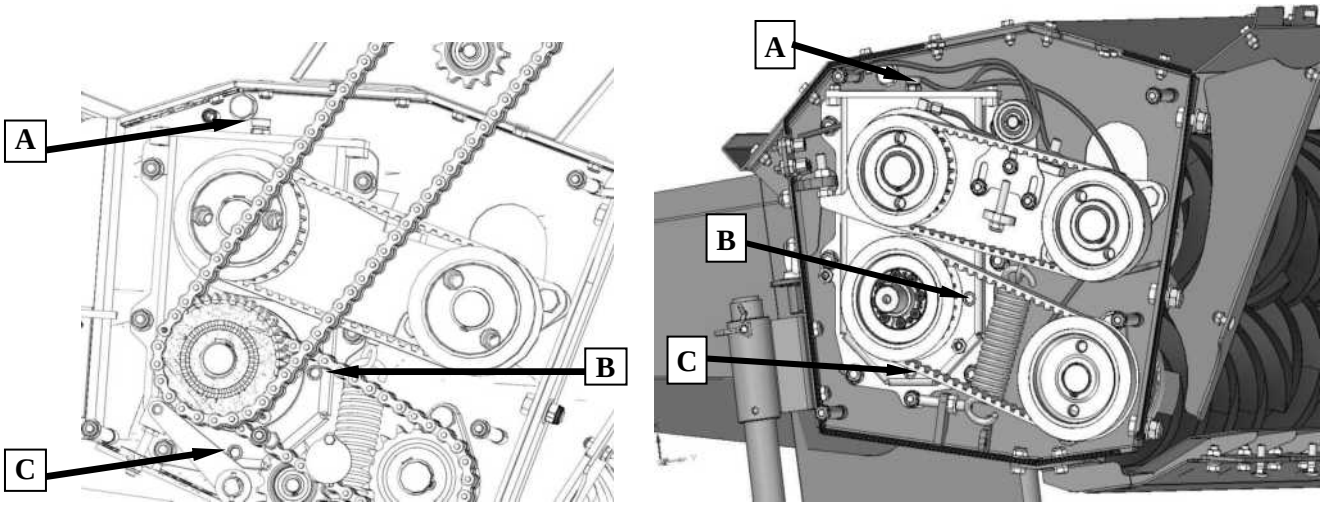


Fig. 36. Points of check and oil replacement in cog gear

7.4. Bearings and joints

Every 50 hours of mower's operation, lubricate bearing beds of conditioner rollers as well as mower's main joints (**Fig. 37- 41**). Manufacturer recommended lubricant is **ŁT43** grease or other equivalent lubricant for rolling and sliding bearings which operate in temperatures between -30° and +130°C.

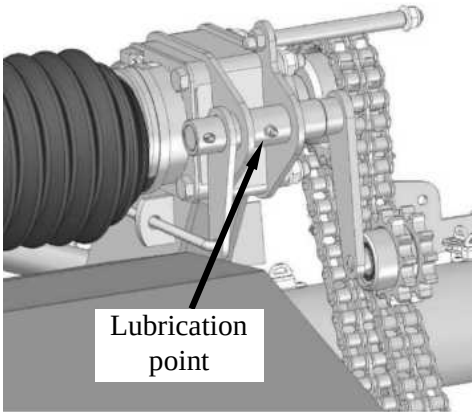


Fig. 37. Lubrication point of tightener

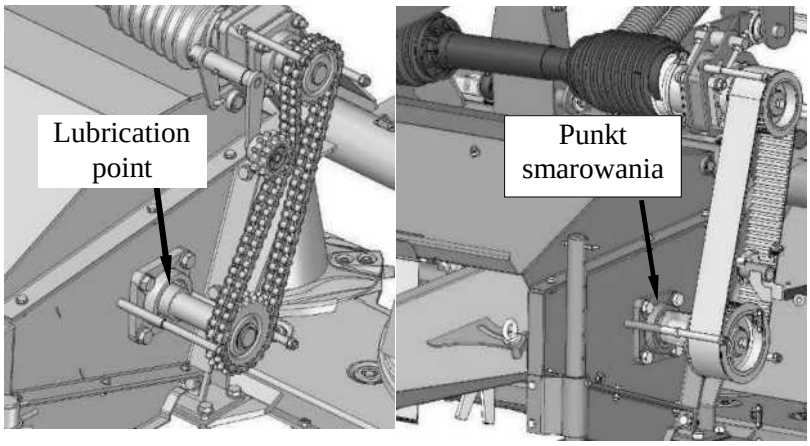


Fig. 38. Lubricating point for self-setting bearing

Lubrication points for conditioner:

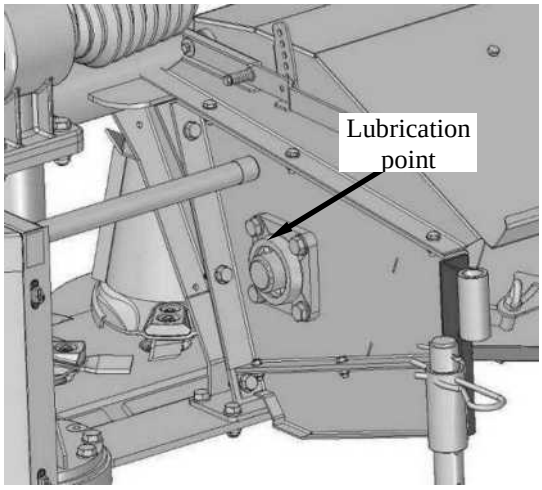


Fig. 39. Lubricating point for self-setting bearing

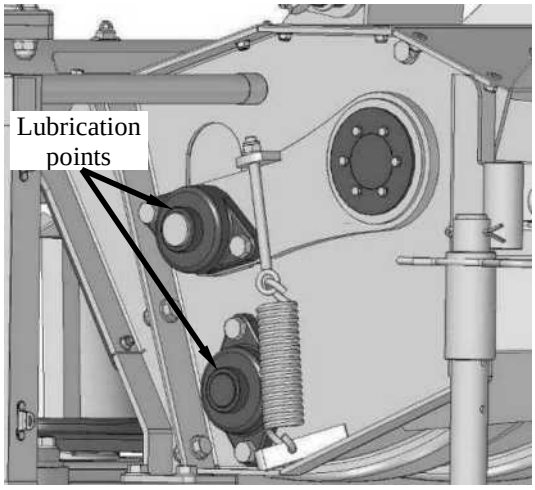


Fig. 40. Lubricating point for self-setting bearings

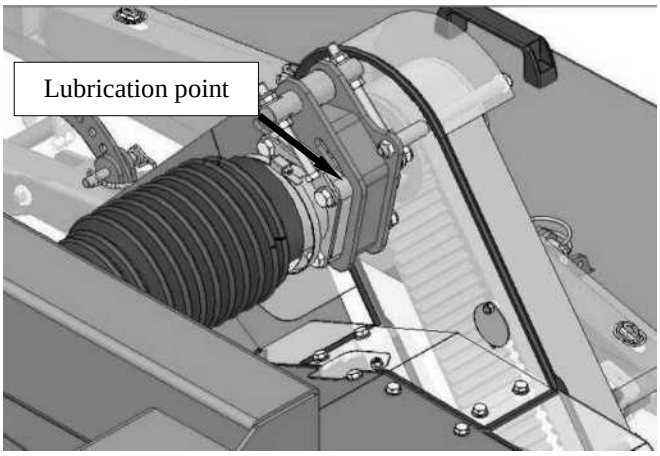


Fig. 41. Lubrication point for non-locating bearing on conditioner and shafts with grease ŁT 43

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 footwear. Also use protective gloves. In case of a contact with skin, immediately wash the infected area with plenty of water with soap.
- 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. DEFECTS AND THEIR REPAIR

Tab. 7. Possible defects and their repairs

Defect type	Reason	Recommendations
Mower fails to mow or leaves strip of uncut grass between discs	Some of knives are missing	Mount knives
	Worn knives	Replace knives with new ones
	Improperly mounted knives (left – right)	Mount knives strictly keeping provisions found in manual
	Too high tractor's engine rpm (the most frequent mistake)	Reduce rpm (down to recommended 1800-2000 rpm)
	Too low operating speed	Increase driving speed above V ≥ 10 km/h
	Damaged tractor's PTO shaft, drive not transmitted	Remove defect
	Laid grass	Low mowing on each occasion
	It is tolerable for a mower with conditioner or rollers to mow improperly in case of very low grass or during a rainfall	
Mower is blocked	Damaged bearings in disc hub	Replace bearings
	Damaged cogs in cutterbar	Examine condition of all cogs
Mower is not mowing even though drive is transmitted from tractor	Torn roller inside gear	Replace gear
	Torn or cut down hollow on cutterbar drive shaft	Put new hollow
Mower works excessively loud	Too low oil level in cutterbar	Examine oil level and refill oil
Mower slows down even though rpm value is stable	Damaged friction clutch in cutterbar	Replace clutch
Conveyor is clogged with grass	Too low conveyor speed	Increase – adjust so as corresponds to grass weight
Mower is clogged with grass – no grass guiding or	Too low mowing speed	Increase driving speed above 10 km/h or more

guiding is uneven	Swath guides are set too narrow	Widen swath guides to the maximum
Leaking cylinder	Dirty oil in hydraulic unit of the tractor	Replace oil in hydraulic unit of the tractor (recommended class of cleanliness of oil according to NAS 1638 is minimum 9-10). Purchase repair kit of the cylinder and replace damaged sealings
Excesive 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. REPAIR AND WITHDRAWAL FROM USE

9.1. Repair

Prior to any repair or service works the mower should be cleaned thoroughly and any grass, dirt or mud removed.

Carefully check nuts and bolts for adequate torque and the pins for wear. Replace screws, v-belts, pins, bushings, discs, holders, knives, etc. if necessary.

9.1.1. Restarting the machine after repairs or longer storing periods

- Make sure that all nuts and screws are tightened with correct torque.
- Make sure that all guards are installed in place.
- As the storing period is over lubricate the whole machine.
- Check pressure in tires.

9.2. Withdrawal from use

If the mower cannot be repaired anymore, it should be withdrawn from use. For this purpose oil from intersecting axis gear and the 3-point linkage frame should be drained and thoroughly clean any excess oil with cleaning agent, take v-belts and any elements made of plastic. These should be delivered to a proper waste treatment company.

Remaining metal parts should be sold to breaker's yard.

NOTE:
Prior to commencing repair works the mower should be disconnected from the tractor.

NOTE:
When unhitching the machine pay particular attention to additional threat such as crush or cut. Special protective equipment must be used: gloves, protective clothing, glasses etc. Pay attention not to allow the machine lose its stability and therefore protect it with supports.

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:
Warranty card without the required information or with corrected or illegible information – **is invalid.**

11.WARRANTY TERMS

11.1. Warranty claim procedure

1. The manufacturer guarantees its products against faults in materials or production.
2. Faults or damages to the mower found within 24 month period from the date of purchase shall be removed free of charge at the purchaser.
3. Faults or damages should be submitted personally, on letter or by telephone. Repairs shall be carried out within 14 days. Any repair which is subject to warranty should be carried out by an authorized SaMASZ dealer.
4. Warranty claims regarding replacing of the product or repayment are considered within 14 days by the Manufacturer.
5. The following cases 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, 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 cost.

d) operation on stony area resulting in e.g. damaging conditioner roller, discs, bending cutterbar (stone with diameter in excess of 140 mm is not able to pass through discs and the roller),
e) running into any obstacle,
f) fortuitous events or other occurrence, for which the Manufacturer does not bear any responsibility,
g) damaging, breaking conditioner roller, conveyor belts.

6. The costs of technical assessment are borne by the Purchaser - if the Manufacturer determines that the product being subject to claim is defect free and what is confirmed by a further expertise.

7. The Manufacturer has the right to cancel the warranty in the following cases:
a) interference to the interior of the mower, modifications to its mechanical design or intentional damages,
b) operating mower with a single knife on a disc,
c) vast damage caused by fortuitous events or others, for which the Manufacturer does not bear any responsibility,
d) using any brands of knives other than genuine SaMASZ knives,
e) lack of required records in the warranty card or filling in the warranty card independently,
f) use of the mower for any purpose other than described in the operator's manual.

8. Manufacturer can break the service agreement with immediate effect when the user does not pay receivables under the agreement in a timely manner and the delay in payment is longer than 30 days from maturity date. Breaking the service agreement by the Contractor for causes lying on the user side makes simultaneous termination of the warranty given for the particular machine.

9. Manufacturer does not bear any compensation responsibility for the loss caused by the machine breakdown during its operation.

NOTE:
Upon purchasing the machine, request your dealer to carefully complete the warranty card with date and location of the purchase as well as the dealer stamp and signature. Otherwise the warranty is invalid.

NOTE:
The warranty claim shall be considered if the following required data is complete: address, date and place of purchase, mower type and invoice number.

NOTE:
When the warranty expires, repairs can be carried out for charge by the entitled repair shops suggested by the dealer. The dealer is obliged to inform the Purchaser on these.

NOTE:
The Manufacturer have right to introduce design modifications.

NOTE:
The SaMASZ company constantly works on development of all of its machines types and models. Therefore, there is always a possibility in change of form, equipment and technology of the delivered machines. No claims can arise from data, drawings and descriptions included herein as well as in the spare part list.
The SaMASZ is not responsible for printing errors.

11.2. Warranty repairs record

Repairs scope and spare parts replaced:

Date, stamp and signature of repair shop.

Date, stamp and signature of repair shop.

Date, stamp and signature of repair shop.