

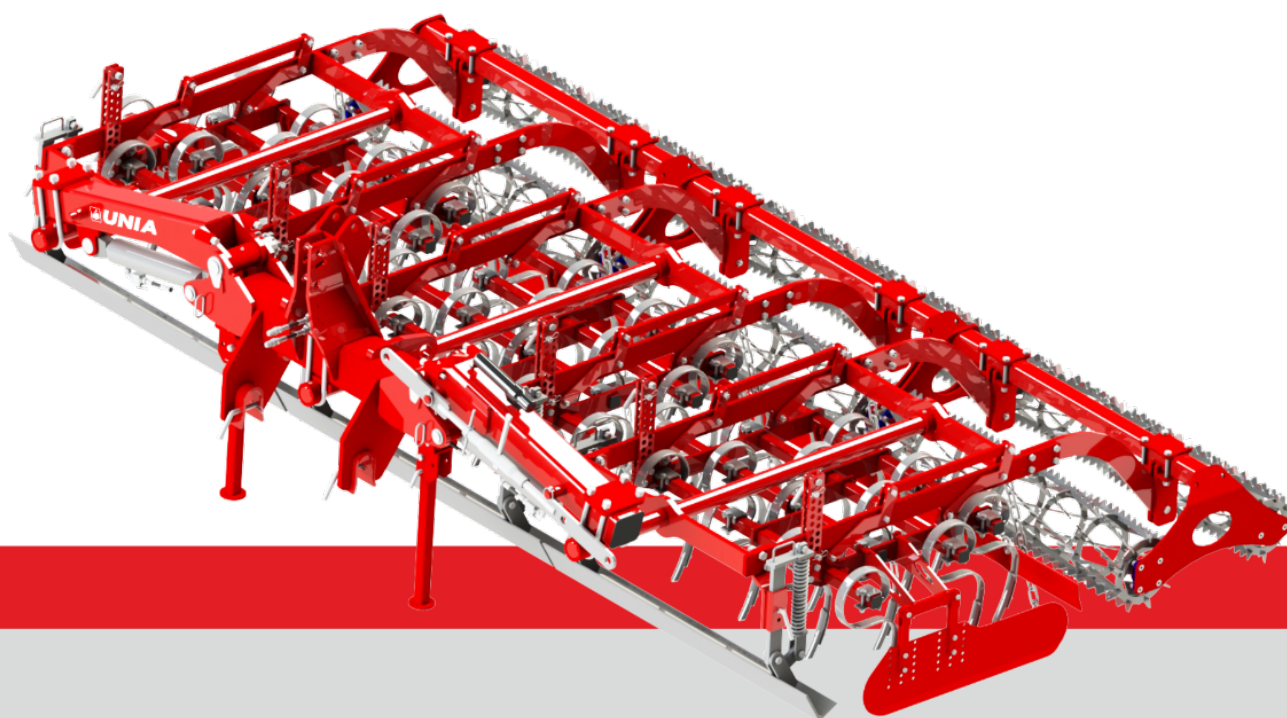


UNIA

OPERATING AND MAINTENANCE MANUAL

TINE CULTIVATOR / DISC CULTIVATOR

MAX / MAX T



UNIA Sp. z o.o.

Szosa Toruńska 32/38, 86 – 300 GRUDZIĄDZ

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Before starting machine read the operating manual and follow the safety instructions contained in it.

**VERSION
ENG 01/2018**

CE Declaration of Conformity

CE Declaration of Conformity

UNIA Sp. z o.o.

st. Szosa Torunska 32/38
86 – 300 Grudziadz, Poland

Herewith declare with full responsibility that our product:
cultivating unit

MAX / MAX T

type / model :

manufacturing year :

serial no. :

is in compliance with the Ordinance of the Minister of Economy of October 21, 2008 (Journal of Laws No. 199, item 1228) and the EU Directive 2006/42/EC of May 17, 2006 and the Ordinance of the Minister of Infrastructure of May 4, 2009 (Journal of Laws No. 75/2009, item 639) and the following standards:

PN-EN ISO 12100:2012

PN-EN-ISO 13857:2010

PN-ISO 3600:1998

PN-EN-ISO 4413:2011

PN-ISO 11684:1998

PN-EN 349+A1:2010

PN-EN ISO 11688-1:2010

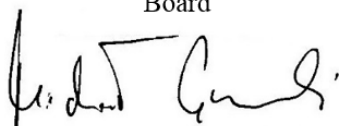
PN-EN 14017+A2:2009

PN-EN ISO 4254-1:2016-02

PN-EN 13739-1:2012

This CE Declaration of Conformity is no longer valid if the machine has been modified or reconstructed without the manufacturer's consent.

Member of the Management
Board



Michał Guzowski

Member of the Management
Board



Michał Piotrowski

Grudziadz, 05.12.2017

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MAX / MAX T

MAINTENANCE AND OPERATING MANUAL

Machine identification data:

Type	
Production year	
Serial no.	



This maintenance and operating manual is an integral part of the machine. It is important that the manual is always in the possession of the machine user. Access to the manual should be provided to machine operators and cooperating persons while operation, regulation, repairs and renovations.



Before starting the machine please read the operating manual and follow the recommendations and instructions regarding safety and proper usage of the machine.

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PREFACE:

When buying the machine, check completeness of its accessories that include the following components:

- Operating Manual
- Warranty Card

1. Precautions

1.1 Before you Begin to Use Your Machine



- Read the instruction manual.
- Pay always special attention to the text and illustrations marked with this symbol!
- These machines are intended for agricultural use only. Any use outside of this purpose shall be considered as not intended use. Learn how to use your machine correctly and carefully!
- The machine may be dangerous when driven by not authorized individual or when operated carelessly.

1.2 Health and safety regulations

- Before each start, check whether the tractor and machine are safe for road traffic and operation!
- The tractor working with the machine should be equipped with the weights on the front axis or on the front lift. Balance of the tractor with the attached machine, its steerability and braking ability must always be kept.
- When connecting and disconnecting the machine to/from the tractor, its lifting and lowering on the hydraulic lift of the tractor, setting the machine in the transport and working positions and on the headlands, ensure that no bystanders and in particular children are present in the vicinity of the machine. Perform these operations slowly, without sudden jerks!
- Never stay between the tractor and cultivator when the tractor's engine is running!
- The machine may only be operated, maintained and repaired by the personnel who know its construction and are aware of the existing hazards!
- There are some places where crushing or cutting may occur on the parts actuated by the forces other than the human force (e.g. the hydraulic system). When connecting the hydraulic hoses to the hydraulic system of the tractor, always ensure that the hydraulics is depressurized! Check positions of the control levers of the tractor hydraulic system. Only actuate the hydraulically operated attachments when there is nobody present within their range of operation! Check the hydraulic hoses on regular basis and replace them with new items when damaged or worn!
- When driving on highways with the machine attached, lock the operating lever against its lowering!
- The attached warning and indicating signs contain information on safe work: they are intended for your safety!
- Before you start work, learn thoroughly operation of all devices and actuators and functions

of the machine. It is too late for this after you start work!

- Avoid wearing any loose clothing, which could be caught by rotating components of the machine.
- Always keep the machine clean in order to avoid fire!
- Always check the surroundings before you start operation. Make sure that you have sufficient visibility!
- Never back or reverse the tractor when the machine is lowered to the working position. When reversing, pay attention to the components that protrude far away and do not use the independent brakes of the tractor!
- Check air pressure in the wheels of the tractor and cultivator regularly.
- Never transport people on the machine and load it with any additional weights when operating the machine or transporting it!
- Check and attach the traffic equipment, such as lighting, warning devices and possible protective devices.
- Observe the admissible axial loads, total weights and transport dimensions.
- Check tightness of screws and nuts on regular basis and tighten them if required.
- Always use appropriate tools and wear safety gloves when changing tools.
- The spare parts must be conforming to the revisions specified by the manufacturer. This may only be provided by the genuine spare parts. Use typical protection devices and pins for securing all bolts of the unit (tractor + machine). Never use any temporary means of protection, such as screws, bars, wires etc., which can cause damage to the machine or tractor during transport and cause a safety hazard for other road users!
- Attach and disconnect the machine to/from the tractor after having parked the machine on a flat and hardened surface and with the tractor engine stopped. Store the machines unfolded.
- Store the machine in the locations inaccessible for unauthorized people or animals when not in use.
- Besides the above guidelines, follow the general safety rules!

1.3 Servicing



- Service the machine when it is lowered onto the ground! If the machine is coupled with the tractor, engine of the tractor must be off and brakes on!
- Use only tools in good technical condition and genuine materials and spare parts for servicing!
- Always protect the machine with appropriate supports when performing any maintenance or repair work on the machine lifted up!




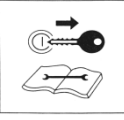

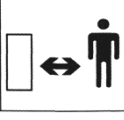

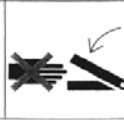




1.4 Transport on highways



- Never exceed the speed limits allowed on highways and follow traffic regulations of the respective country!
- Pay special attention when passing and overtaking other vehicles and on curves (the unit is pivotally connected to the tractor)!

- The machine, as the part of the vehicle that protrudes outside the rear side outline of the tractor covering the rear lamps of the tractor, poses a threat for other vehicles in the traffic.
- When transporting the machine on highways, always use warning lights, distinguishing plate and side reflectors.
- Maximum width of the machine, which can be moved on highways is specified in the detailed regulations of the country of use. They should be observed.

1.5 Safety symbols

- A   Read the Operating Manual thoroughly before operating the machine
- B   Stop the tractor engine and take away the ignition key before any servicing and repair work
- C   Keep safe distance off the machine
- D   Never reach into the crushing area as long as the components can move
- E   Stay away of the machine tilting area
- F  Points of attaching hooks of the lifting equipment
- G  Speed limit sign

H

UWAGA
PROSIMY O REGULARNE SMAROWANIE
PUNKTÓW SMARNYCH
ATTENTION
PLEASE OIL REGULARLY LUBRICATION POINTS
UNDER THE OPERATING MANUAL
ACHTUNG
WIR BITTEN REGELMÄßIG DIE SCHMEIERSTELLEN LAUT
BEDIENUNGSANLEITUNG ZU SCHMIEREN

Lubricate the machine on regular basis

ACCORDING TO THE ROAD SAFETY REGULATIONS (REGULATION OF THE MINISTER OF INFRASTRUCTURE OF 31/12/2002 - JOURNAL OF LAWS NO. 32 OF 2002, ITEM 262), DRIVE ON HIGHWAYS ONLY AFTER HAVING OBTAINED AUTHORIZATION FROM THE COMPETENT HIGHWAYS ADMINISTRATION BODY WHERE THE JOURNEY BEGINS.

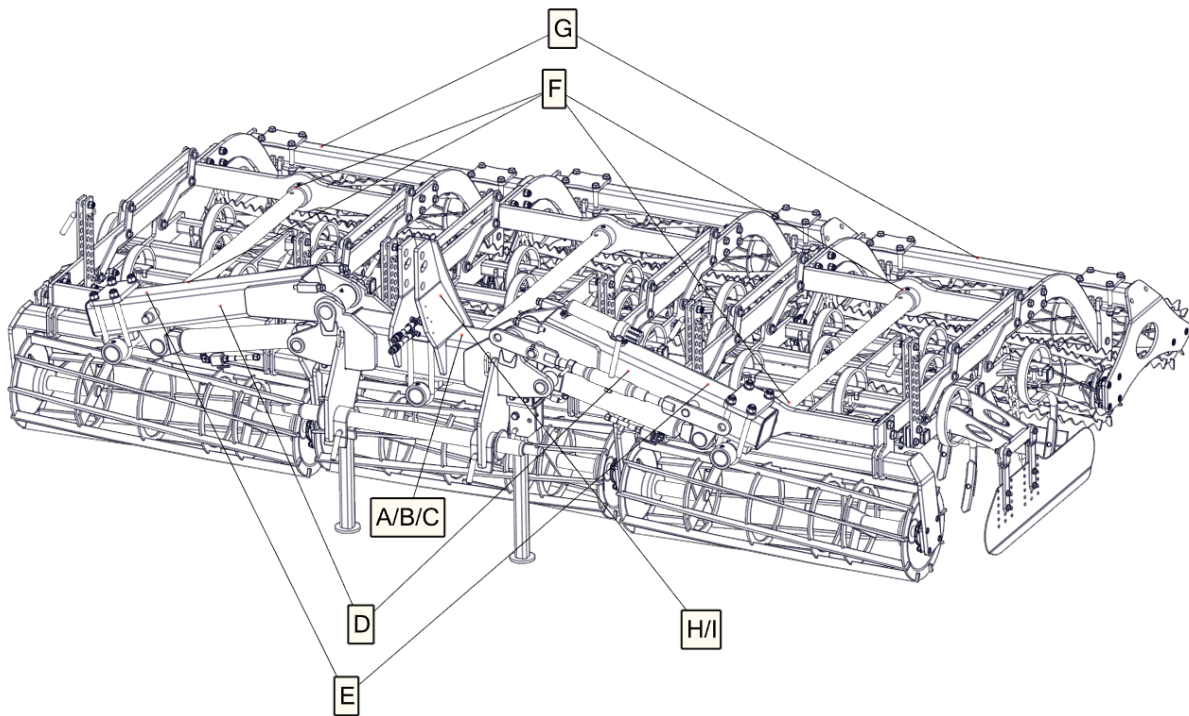


Fig. 1. Safety symbols - MAX / MAX T



For the machines that exceed the allowable transport width of 3.0m



Safety signs and inscriptions should be protected against damage, dirt and overpainting. Replace any damaged or illegible signs and inscriptions with new ones that are available from the manufacturer or vendor of the machines

1.6 Nameplate

The unit data can be found on the nameplate, which is mounted on its front.

	UNIA	Sales Department Phone: +48 564510500 e-mail: info@uniamachines.com uniamachines.com	 
Producent / Producer UNIA Sp. z o.o. 86-300 Grudziądz, ul. Szosa Toruńska 32/38			
MODEL			
TYP / TYPE			
ROK PROD. / YEAR			
NUMER / SERIAL NO.			
MADE IN EU			

2. Technical and Identification Data

MAX / MAX T – MAX tine unit and MAX T disc unit are designed for loosening and levelling the soil. Each section is provided with a ground-following system, so it perfectly adapts to the ground, on which it works.

The machines are delivered in the following versions:

- 3.0m; 4.0m; 4.5m; 6m; 7.5m; and 9m

Table 1.

STANDARD EQUIPMENT		MAX	MAX T
hitch axle	ø60-825/ø28 mm	3 - 4 H	3
	ø60-825/ø36 mm	4.5 H - 9 H	4 H
	ø70-825/ø36 mm		4,5 H – 9H
front string roller, ø390 mm		+	
4-row SV tine section		+	
two rows of AGRESSIVE ø460 mm discs			+
levelling bar behind the tine/disc section		+	+
rear double string roller, ø320/280 mm		+	+
rigid frame (Version 3)		+	+
hydraulically foldable frame (Versions H 4 – 9 H)		+	+
ground-following system in each section		+	+
rear toothed skid (only in the version with alternating Crosskill / Crosskill roller)		+	+

Table 2.

OPTIONAL EQUIPMENT (AT EXTRA COST)	MAX	MAX T
front levelling bar (instead of front string roller)	+	
set of SX tines	+	
set of SZ tines	+	
spiral roller, ø470 mm	+	+
double Crosskill roller, ø320/320 mm	+	+
Crosskill / String roller	+	+
chassis with 340/55-16 wheels and 2100 mm long drawbar (H 4.5 ÷ H 6)	+	+
chassis with 480/45-17 wheels and 2100 mm long drawbar (H 9)	+	+
set of track openers, only for the version with chassis (H 4,5; H 6; H 9)	+	+
hitch axle, ø60-825/ø36 mm (Versions 3÷H 4)	+	+
hitch axle, ø70-960/ø36 mm (Versions H 4.5÷H 9)	+	+
set of warning plates	+	+
set of warning plates with lighting	+	+

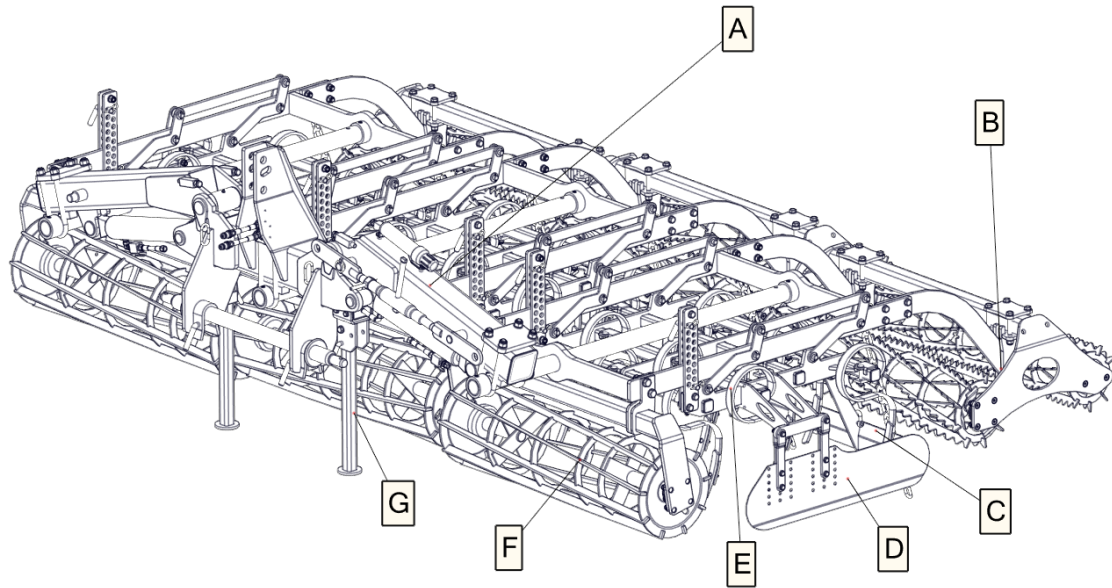


Fig. 2. Construction of MAX

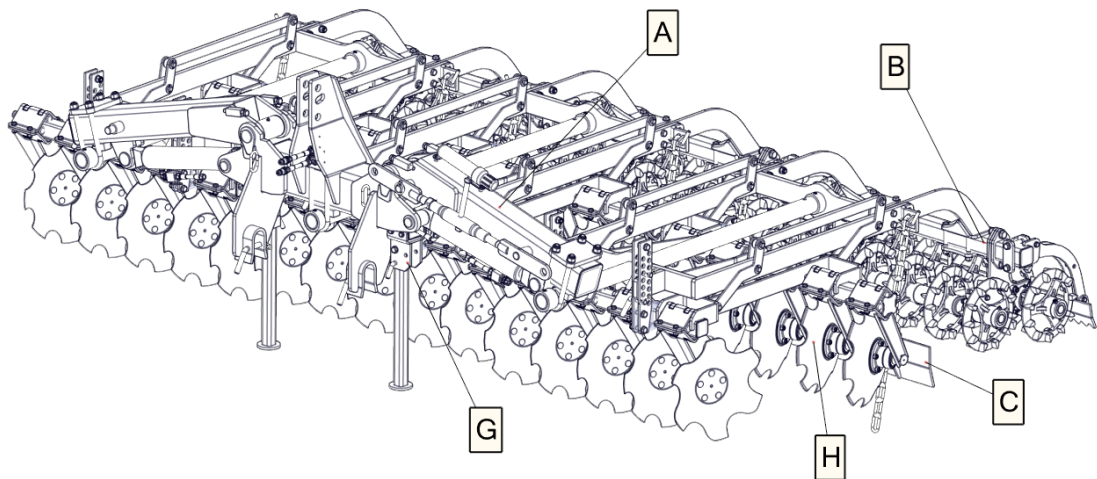


Fig. 3. Construction of MAX T

A	Frame
B	Rear roller
C	Skid
D	Deflector (option)
E	Tine section
F	Front roller or front skid
G	Support
H	Disc section
-	Chassis with drawbar (option)

2.1 MAX Specifications

Table 4.

Item	Parameter		U/m	Machine type					
				MAX 3.0	MAX 4.0	MAX 4.5	MAX 6.0	MAX 7.5	MAX 9.0
1.	2.		3.	4.	5.	6.	7.	8.	9.
1.	Machine type		-	mounted	mounted	mounted/ semi-mounted	mounted/ semi-mounted	mounted	mounted/ semi-mounted
2.	Working width		m	3.0	4.0	4.5	6.0	7.5	9.0
3.	No. of tines	SV	pc.	32	36	48	64	80	96
		SX*		12	18	18	24	30	36
		SZ*		12	18	18	24	30	36
4.	Max working depth	SV	cm	up to 8					
		SX*		up to 8					
		SZ*		up to 8					
5.	Tine pitch	SV	mm	94	111	94			
		SX*		250	222	250			
		SZ*		250	222	250			
6.	Roller type	front	-	string roller, ø 400 (levelling bar* instead of front string roller)					
		rear	-	double string roller, ø320mm/ø280mm Crosskill, ø320mm/string roller, ø280mm* double Crosskill, ø320mm alternating roller* spiral roller, ø470m*					
7.	Working speed		km/h	7 ÷ 11					
8.	Transport speed		km/h	see par. 1.4. Transport on Highways					
9.	Effective capacity, W ₁		ha/h	2.1÷3.3	2.8÷4.4	3.15÷4.95	4.2÷6.6	5.25÷8.25	6.3÷9.9
10.	Power demand		HP	90÷100	110÷120	120÷150	160÷180	200÷220	240÷260
11.	Operator(s)		No.	tractor driver					
12.	Dimensions	L	mm	3000	3000	3000	3000	3100	3100
		W	mm	3000	4000	4500	6000	7500	9000
		H	mm	1300	1300	1300	1300	1400	1400
13.	Weight /without equipm./ approx.		kg	1600	2100	2300	3000	5500	6200
14.	Tractor class		kN	14	18	20	32	42	50

* - OPTION

2.2 MAX T Specifications

Table 5.

Item	Parameter		U/m	Machine type					
				MAX T 3.0	MAX T 4.0	MAX T 4.5	MAX T 6.0	MAX T 7.5	MAX T 9.0
1.	2.		3.	4.	5.	6.	7.	8.	9.
1.	Machine type		-	mounted	mounted	mounted/ semi-mounted	mounted/ semi-mounted	mounted	mounted/ semi-mounted
2.	Working width		m	3.0	4.0	4.5	6.0	7.5	9.0
3.	No. of discs, Ø460		pc.	24	30	36	48	60	72
4.	Max working depth		cm	up to 13					
5.	Disc pitch		mm	125	133	125			
6.	Roller type	rear	-	double string roller, ø320mm/ø280mm Crosskill, ø320mm/string roller, ø280mm* double Crosskill, ø320mm, alternating* spiral, ø470mm*					
7.	Working speed		km/h	7 ÷ 11					
8.	Transport speed		km/h	see par. 1.4. Transport on Highways					
9.	Effective capacity, W ₁		ha/h	2.1÷3.3	2.8÷4.4	3.15÷4.95	4.2÷6.6	5.25÷8.25	6.3÷9.9
10.	Power demand		HP	90÷110	130÷150	150÷180	180÷200	230÷240	250÷280
11.	Operator(s)		No.	tractor driver					
12.	Dimensions	L	mm	3000	3000	3000	3000	3100	3100
		W	mm	3000	4000	4500	6000	7500	9000
		H	mm	1300	1300	1300	1300	1400	1400
13.	Weight /without equipm./ approx.		kg	1650	2200	2400	3100	5700	6400
14.	Tractor class		kN	15	18	20	36	46	54

* - OPTION

3. Operating Manual

3.1 First Start

Before the first start of the machine:

- Read the Operating Manual thoroughly,
- Check the technical condition of the unit, and, above all, the condition of its working parts, mechanisms protecting tines against overloading and the hydraulic system. In the event of any damage or wear, the parts must be replaced with new ones,
- Check tightening of all screws, bolts and nuts. Tighten any loose nuts especially at the beginning of operation of the machine,
- Check whether the quick-connectors of the hydraulic hoses of the machine fit the sockets on the tractor
- Ensure that the disc coulters, shafts, turnbuckles (adjustment screws), etc. rotate without jamming
- Check whether the components requiring lubrication are lubricated,
- Check whether the machine attachment system fits the tractor attachment system.

3.2 Preparation of the Unit (Tractor + Machine)

- Pressure in the tractor wheels must be equal on the same axle in order to provide uniform working depth of the machine,
- The tractor lower links (c) must be stiffened (lock the oblong holes) and at the same height above the ground level,
- Set the lifting rods of the tractor links (w) so that you can pull down the lower links below the hitch axle in order to achieve the required working depth, while obtaining sufficient lifting height of the links for transport,
- Mount the front axle weights in order to keep balance of the tractor and the machine,
- Quick-connectors of the machine hydraulic hoses must fit the sockets on the tractor,
- The hitch axle should be in the middle of the machine,
- Category of the lower articulated joint of the hitch axle must be the same on both the tractor and the machine sides!

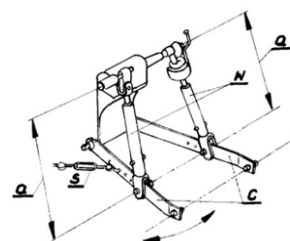


Fig.4. Tractor lifting rod

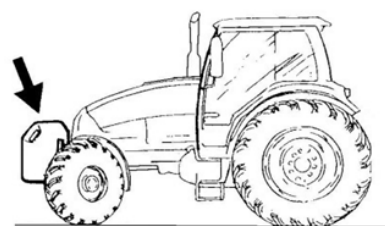


Fig.5. Front axle weight

3.3 Mounting and Disconnection of Machines

3.3.1 Mounted Machines

The tractor should stand on a hard and plain surface in order to connect the machine to it in a correct and safe way.

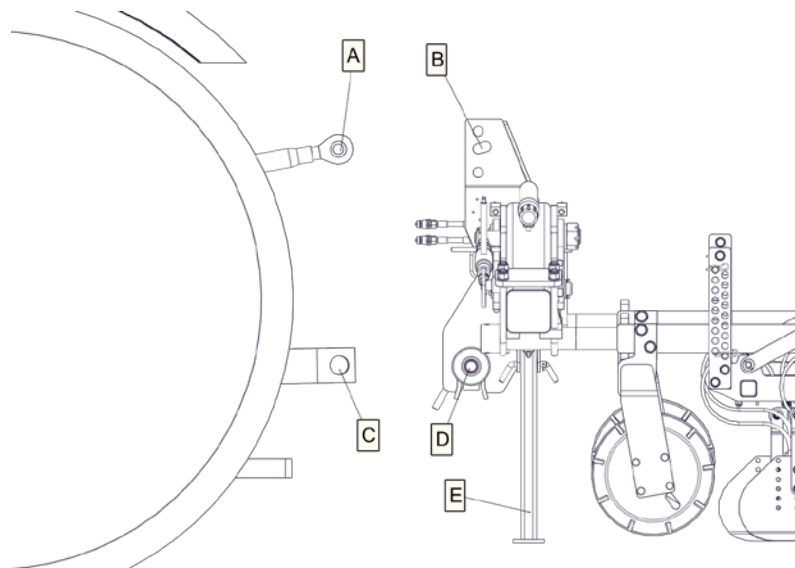


Fig. 6. Connecting of the mounted machine

a) Mounting

- Shift the tractor hydraulics to the position adjustment,
- Disconnect the hitch axle [D] from the unit and put it on the tractor lower link
- Back the tractor to a distance that allows connection of the hitch axle [D] to the frame plates and the upper link [A] of the tractor,
- Secure the hitch axle in the frame plates with bolts and cotter pins,
- Connect the upper tractor connector [A]. Select position of the upper bolt [B] in the carriage acc. to the requirements and terrain. During work of the cultivator, the upper fixing point should be located higher than the point of fixing this connector to the tractor,
- Connect the hydraulic hoses of the unit (if any) to the tractor's external hydraulics and check the tightness of the hoses. Check the lifting, lowering and operation of the unit's hydraulics. Remember to connect all hoses to all tractor 2-way hydraulic connectors in pairs,
- Lift and secure the supports [E]

b) Disconnecting

- Lower and secure the supports [E],
- Lower the cultivator onto a flat and hard surface,
- Depressurize the cultivator hydraulic system by shifting the tractor hydraulic levers to their free (floating) position,
- Disconnect the hydraulic lines of the unit (if any) from the tractor's external hydraulics,
- Disconnect the hitch axle and the tractor upper link.

3.3.2 Semi-Mounted Machines (Chassis with Drawbar)

The tractor should stand on a hard and flat surface in order to connect the machine to the tractor in a correct and safe way.

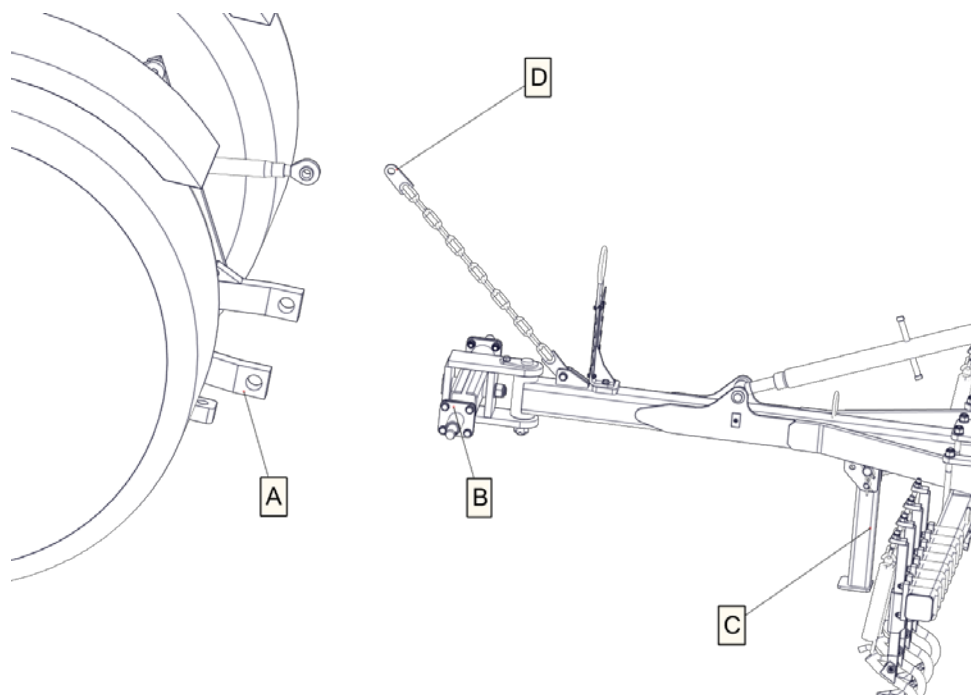


Fig. 7. Connection of the semi-mounted machine

a) Mounting

- Shift the tractor hydraulics to the position adjustment,
- Back the tractor to a distance that allows connection of the hitch axle [B] to the lower links [A] of the tractor,
- Secure the hitch axle [B] in the tractor links [A] with bolts and cotter pins,
- Hook the safety chain [D] to the appropriate place on the tractor,
- Connect the hydraulic hoses of the machine to the tractor's external hydraulics and check the tightness of the hoses. Check the lifting, lowering and operation of the machine's hydraulics. Remember to connect all hoses to all tractor 2-way hydraulic connectors in pairs,
- lift and secure the support [C]

b) Disconnecting

- Lower and secure the support [C]
- Lower the machine onto a plain and hard surface
- Disconnect the safety chain [D]
- Depressurize the machine hydraulic system using the free (floating) position of the tractor's hydraulic levers
- Disconnect the hydraulic hoses
- Disconnect the hitch axle [B]

3.4 Access to the Field – Transport

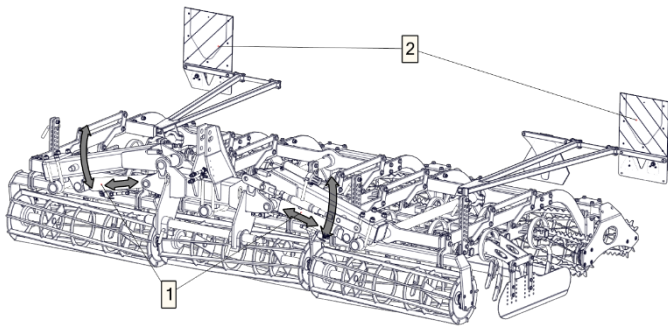


Fig. 8. Transport – MAX / MAX T – folding

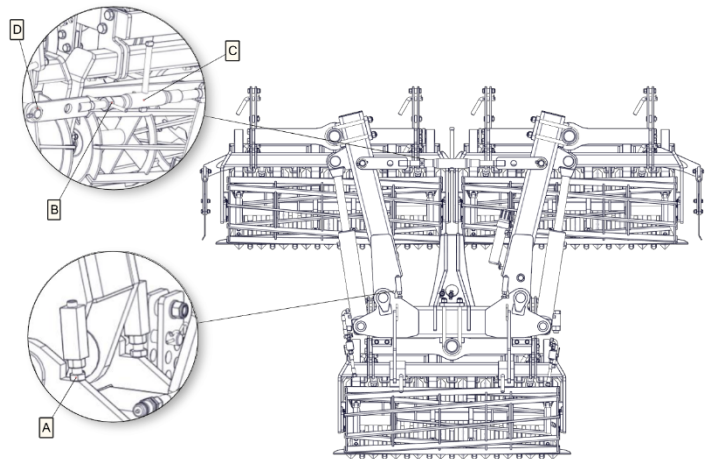


Fig. 9. Transport – MAX / MAX T- securing the machine

- Width of the machine can exceed 3.0m depending on the accessories,
- For transport, side sections of **MAX**, **MAX T** – 4.0; 4.5; 6.0; 7.5; and 9.0m units should be folded into their transport positions by means of the hydraulic system **[1]** (+chassis hydraulics (in the semi-mounted version)), and then the outermost frames must be secured against unfolding with the help of the mechanical transport lock cable,
- The bolt **[A]** is used to adjust the position of the folded arms. In order to adjust the position properly, loosen the lock-nut, then set the screw **[A]** position and tighten the lock-nut,
- In **MAX T** 3.0; 4.5; 6.0; 7.5; and 9.0m cultivation units, fold the coulter disc beam extensions into their transport position and secure them with the bolts before transport! See par. 3.5.4. below,
- after adjusting the position of the arms, set the length of the mechanical lock. To do this, loosen the nut **[B]**, set the length by turning the turnbuckle **[C]** and tighten the nut **[B]**. Secure the adjusted lock with a bolt **[D]**,
- Clean the machine from soil and other debris after finishing work,
- Clean the warning components (lighting) **[2]** (optional accessories) from dirt
- Warning plates with lighting **[2]** should be dismantled for work in the field, so that they will not be damaged,
- A unit consisting of a tractor and agricultural machine connected to it must meet the same requirements as the tractor alone,
- Adjust the chains tensioning the side links (stabilizer arms) of the tractor accordingly before driving; they should limit the excessive side movements of the machine
- Observe the 'Road Traffic Law' regulations when driving on highways.

3.5 Adjustment of the Cultivating unit

3.5.1. Working Depth Adjustment

The adjustment of the working depth of both the tine and disc sections in the **MAX** and **MAX T** units is the same and is carried out by means of the bolts **[A]**. To change the working depth, insert the bolts **[A]** into the appropriate holes **[B]**.

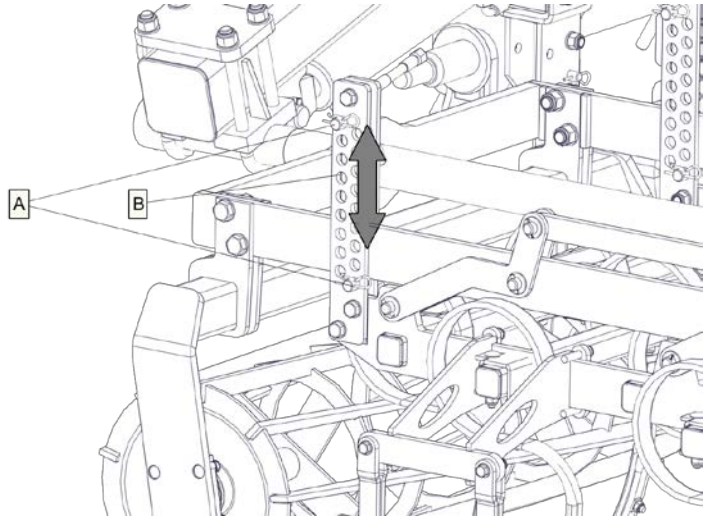


Fig. 10. Working depth – MAX / MAX T

3.5.2. Adjustment of the Rear Skid Working Depth

The position of the rear skid depends on the working depth of the cultivator sections. For final soil levelling, adjust the rear skid using the bolts **[B]** by inserting them in the appropriate chain links **[A]**.

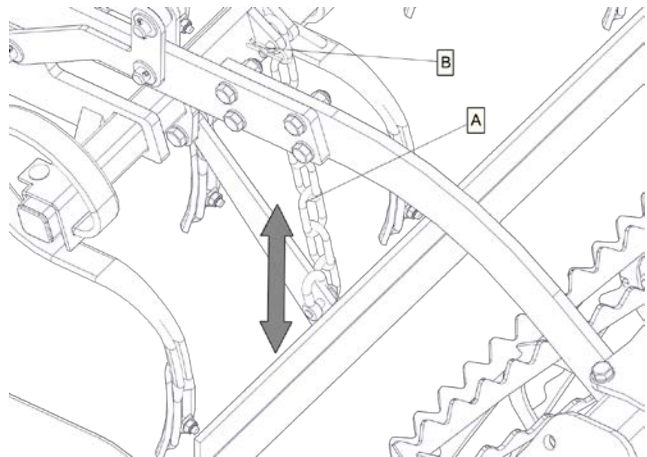


Fig. 11. Depth of the MAX rear skid

3.5.3. Adjustment of the MAX Deflector (Option)

In order to adjust the position of the deflector, remove the bolts **[A]** and set the appropriate position, match the holes **[B]** appropriately, and tighten the bolts **[A]**.

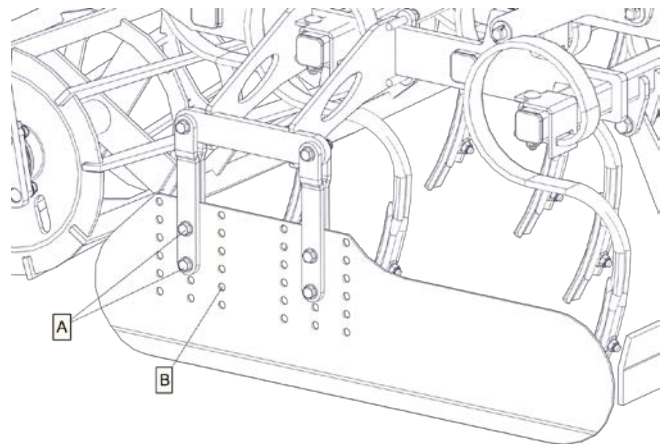


Fig. 12. Adjustment of the MAX deflector (option)

3.5.4. Unfolding/Folding the Outermost Disc of MAX T

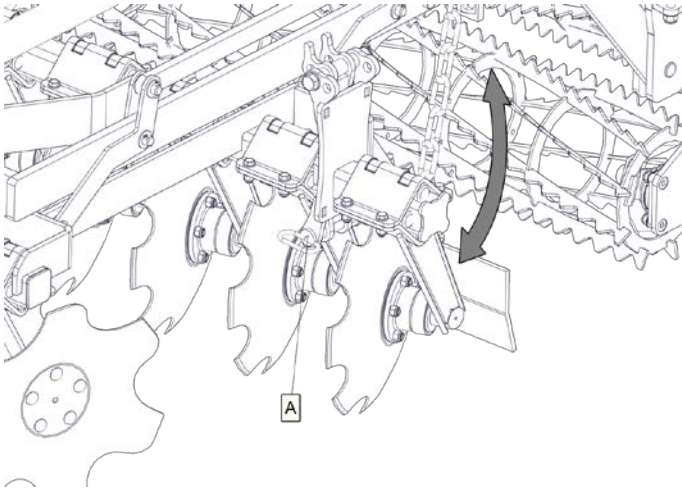


Fig. 13. Outermost disc unfolded

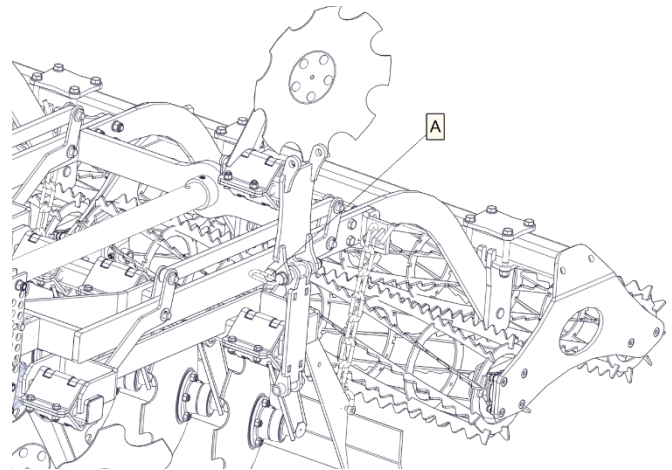


Fig. 14. Outermost disc folded

- remove the cotter pin from the bolt [A]
- fold the extension with the coulters disc to its transport position
- insert the bolt [A] as in Fig. 14 above, and secure it with the cotter pin

3.5.5. Adjustment of the Working Depth of the Tractor Track Openers (Option)

The working depth of the track openers should be selected depending on the depth of the tracks and the working depth of the machine. You can lower and lift the track opener by means of two bolts [A]. Remove the bolts [A], set the height of the track openers accordingly and tighten the bolts matching them to the recesses [B].

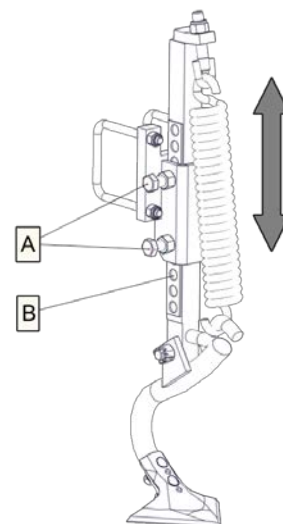


Fig. 15. Adjustment of the track opener

3.5.6. Levelling the Machine Sections

In order to obtain the correct position of all sections relative to the ground, adjust the right and left frames with the bolt [A]. To make adjustment, loosen the nut [B] and screw in/unscrew the bolt [A], adjusting the appropriate position; tighten the nut [B].

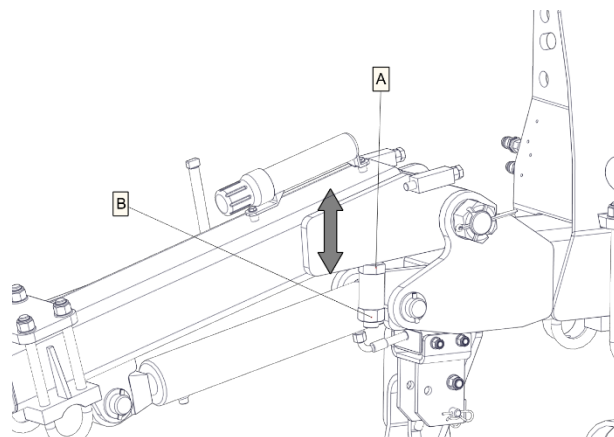


Fig. 16. Levelling the sections

3.5.7. Levelling the Machine (Chassis Option)

In order to level the machine, change the length of the turnbuckle [A] by turning it in the desired direction.

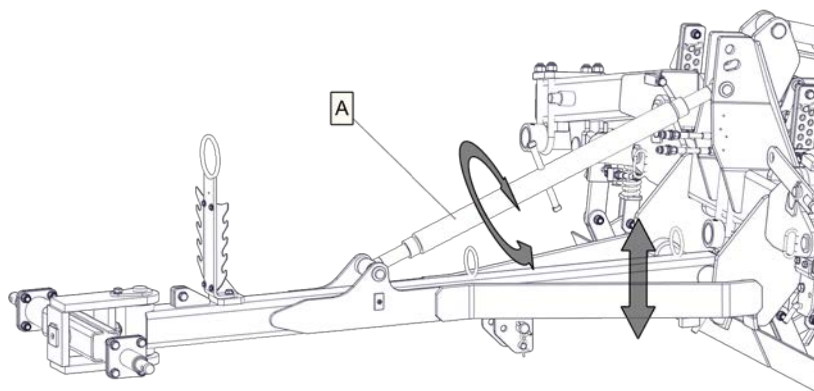


Fig. 17. Levelling the machine (chassis option)

3.5.8. Brake Adjustment (Chassis with Brake Option)

When the air actuator free stroke too is large, you can adjust it by removing the circlip [1], loosening the expander lever [2] and shifting it in the opposite direction to the braking motion, so that the lever takes a position perpendicular to the axis of the brake cylinder at the moment of braking.

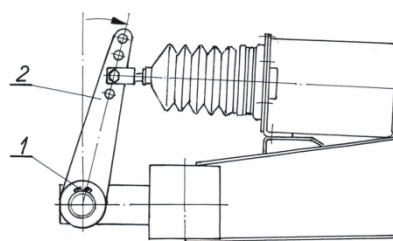


Fig. 18. Brake adjustment (chassis with brake option)

4. Operation

Before beginning the field work with the machine:

- disassemble the warning signs (together with the screwed brackets) for transport on highways,
- switch the hydraulic system to the position or mixed control mode.

Adjust the cultivator during the first passage. When the unit is correctly levelled, its frame is parallel to the ground. When the cultivator becomes clogged with excessive amount of plant debris, clean it by lifting up on the tractor hydraulic lift for a while.

5. Servicing and Maintenance

5.1 General



- always use the genuine spare parts since they are of the proper quality and fit the machine correctly. It is one of the warranty conditions.
- always set the machine on a hard and equal surface, supported on its wheels and supports before beginning any work at it. Also, disconnect the machine from the tractor.

CAUTION! THE HYDRAULIC SYSTEM IS PRESSURIZED!

CAUTION! THE LIGHTING SYSTEM IS LIVE!

5.2 Replacement of the Machine Components



- replace all working parts (wearing parts) in due time to protect the other, more expensive assemblies against wear.



- contact the manufacturer's service department in order to replace any component of the hydraulic system.

5.3 Hydraulic System

- drain all oil remaining in the hydraulic system before first start and fill the system with oil recommended and used in the tractor connected to the machine,
- check the hydraulic system and cylinders for leaks every day and remove any leakages as soon as possible,
- take care of the cleanliness of the cylinders and especially their piston rods,
- set the machine in the parking position, and depressurize the system before beginning any work at the hydraulic system,
- only connect and disconnect the hoses to and from the tractor when the hydraulic system is depressurized,
- replace the hydraulic hoses after five years of operation of the machine at the latest.

5.4 Lighting

- check the correct connection of the 7-pin plug outputs before the first start,
- check the lighting, plug, wiring and lamps every day,
- check cleanliness of the reflector plates.

5.5 Bolt, screw and nut tightening torques (Nm)

Table 6.

Strength class of bolts					
Size	Pitch P	6.8	8.8	10.9	12.9
1.	2.	3.	4.	5.	6.
M4	0,7	2,4	3,2	4,5	5,2
M5	0,8	4,5	6	8,4	10
M6	1	8	11	15	17
M8	1,25	18	27	34	40
	1	16	21	30	35
M10	1,5	35	46	65	76
	1,25	31	41	57	67
	1	27	36	50	59
M12	1,75	59	79	111	129
	1,25	49	65	91	107
M14	2	92	124	174	203
	1,5	76	104	143	167
M16	2	127	170	237	277
	1,5	104	139	196	228
M18	2	194	258	363	422
	1,5	135	180	254	296
M20	2,5	250	332	469	546
	1,5	172	229	322	375
M22	2,5	307	415	584	682
	1,5	212	282	397	463
M24	3	432	576	809	942
	2	322	430	603	706
M27	3	640	740	1050	1250
	2	480	552	783	933
M30	3,5	755	1000	1450	1700
	2	560	745	1080	1270
M36	4	980	1290	1790	2020
	2	730	960	1340	1500

5.6 Lubrication

Use mineral oils for lubrication. Clean the lubrication points before lubricant injection. Lubricate at the marked points (table no. 7). If the machine worked less number of hectares, please lubricate it before starting work and after its completion, and at all lubrication points.

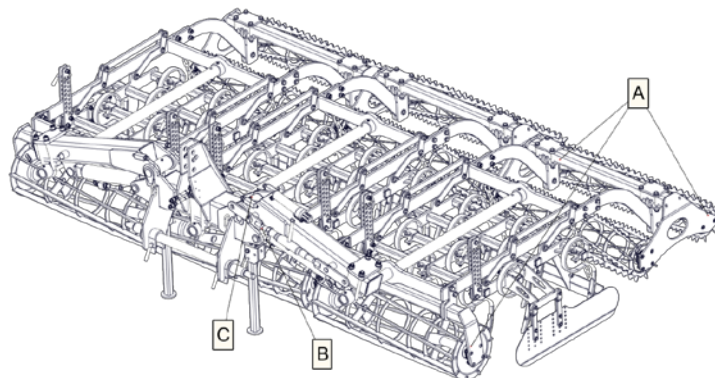


Fig. 20. MAX - Lubrication

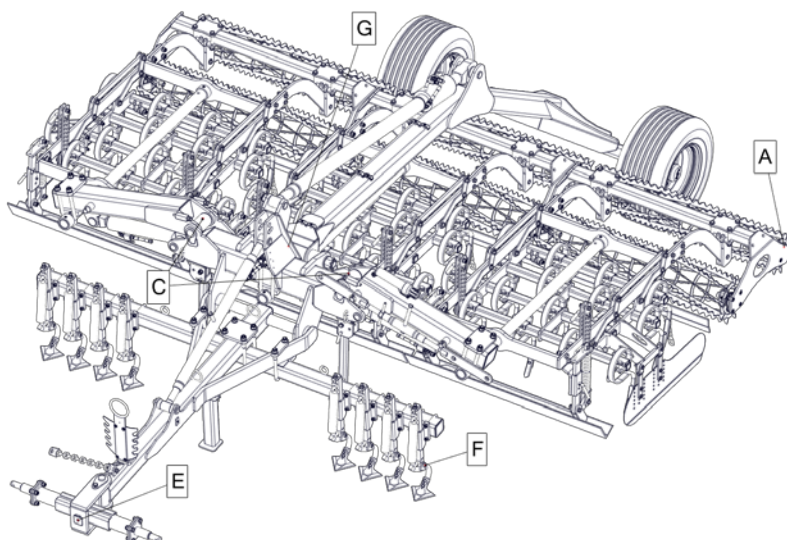


Fig. 21. MAX – lubrication (semi-mounted version)

Table 3.

Item	Designation	Specification	Lubricant grade	Lubrication interval (h)
1	A	Roller bearing assemblies	ŁT-4S-3 grease	200
2	B	Articulated joints of hydraulic cylinders	-II-	200
3	C	Side arm sleeve	-II-	200
4	D	Coulter disc bearings	-II-	200
5	E	Drawbar hitch axle articulated joints (chassis with drawbar option)	-II-	200
6	F	Track opener axle (track opener option)	-II-	200

7	G	Chassis hinge sleeve	-II-	200
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5.7 Storage of the Cultivating unit

Clean the machine from soil each time after finishing work and then inspect all parts and assemblies. Replace any worn or damaged parts with new ones. Tighten any loosen screw connections. Store the machine on hardened surfaces.

After the season:

- clean the cultivator thoroughly
- lubricate the machine at the specified lubrication points
- wash faces of the coulter discs and hitch axle pivots with kerosene and protect them against corrosion applying grease with brush
- repair spot defects of the paintwork by repainting
- when the machine is to be stored outdoors in winter – disassembly the hydraulic cylinder together with the hoses and keep them in a dry, well ventilated and possibly darkened room.

5.8 Disassembly and Disposal

After its working life, the cultivator is to be scrapped. Disassembly should be performed by a specialized company.

5.9 Warranty Conditions and Warranty Services



Agricultural machinery is warranted to the provisions specified in the Instruction Manual for proper operation and maintenance. Under the warranty period, only the genuine parts made by 'UNIA' Grudziądz may be used.

Any modifications or repairs made by the user are not allowed in the warranty period. This may lead to loss of warranty. For more detailed information on how to file a complaint, see the Warranty Card attached to each machine together with its Operating Manual.

The warranty services are performed by: the supplier (dealer) entered to the Warranty Card when buying the machine.

This image shows a full page of a handwriting practice worksheet. It consists of multiple sets of three horizontal dashed lines, providing a guide for letter height and placement. The lines are evenly spaced across the entire page, leaving ample room for writing practice. There is no text or other markings on the page.

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U N I A Sp. z o.o.
st. Szosa Torunska 32/38, 86-300 Grudziadz

QUESTIONNAIRE

Please read the entire questionnaire and write a short answer:

1. Machine serial number
received on.....
2. Have any deficiencies or damages occurred during the transport? If so, please specify what :
.....
.....
3. When did you start work with the machine.....
4. How many [ha] have you worked with the machin.....
5. Tractor power (HP).....
6. Which damages occurred.....
.....
.....
7. What is your general opinion about machine's work
.....
.....
8. What difficulties occur during the operation of the machine
.....
.....
9. Your comments regarding changes, improvements of construction and machine operation
.....
.....
.....
.....
10. Your remarks concerning this manual.....
.....
.....
.....

User address :	Name & surname
	Place
	Postal code
	Province



.....
Date

.....
Signature

UNIA Sp. z o.o.

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