



UNIA

OPERATING AND MAINTENANCE MANUAL

DISC CULTIVATOR

ARES P / ROLLER UP



UNIA Sp. z o.o.

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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:
disc cultivator

ARES P / ARES ROLLER UP

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

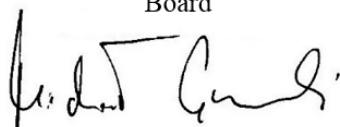
PN-EN 14017+A2:2009

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This CE Declaration of Conformity is no longer valid if the machine has been modified or reconstructed without the manufacturer's consent.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

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 must be equipped with the weights on the front axis! 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




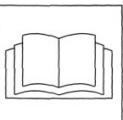

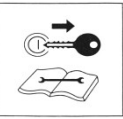



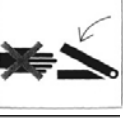




- Service the machine when it is lowered onto the ground! If the machine is coupled with the tractor, engine of the tractor must be off and brakes on!
- Use only tools in good technical condition and genuine materials and spare parts for servicing.
- Always protect the machine with appropriate supports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

A			Read through 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

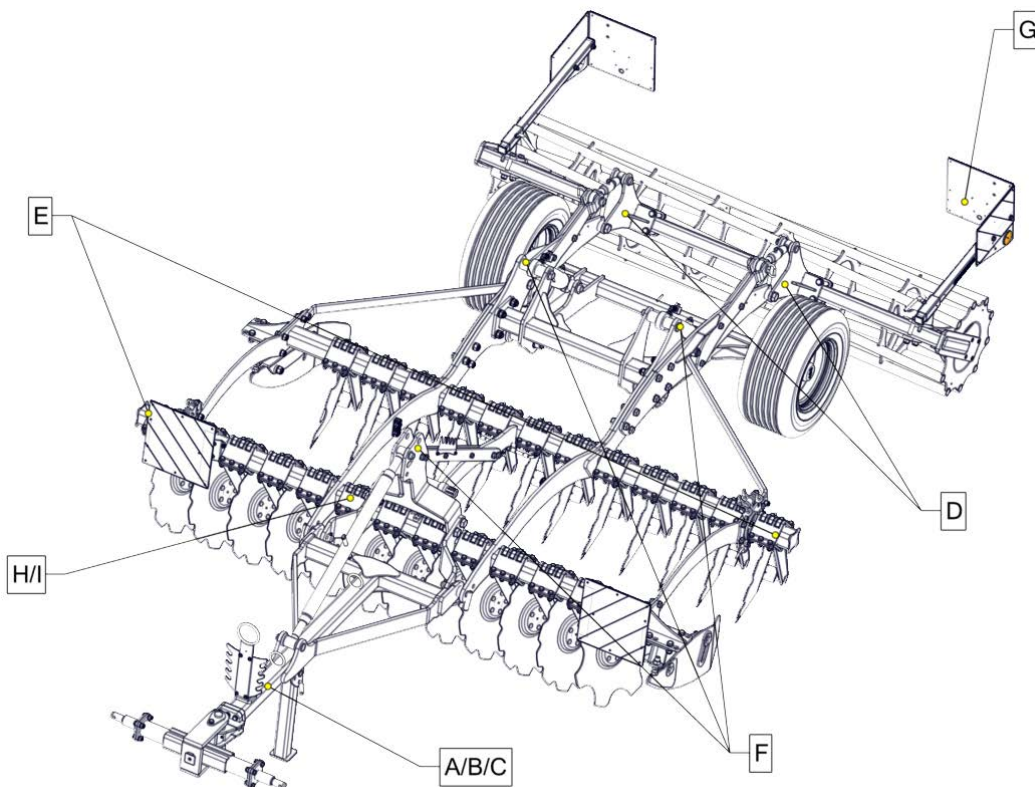
- | | | |
|---|---|--|
| H | <p>UWAGA
PROSIMY O REGULARNE SMAROWANIE PUNKTÓW SMARNYCH</p> <p>ATTENTION
PLEASE OIL REGULARLY LUBRICATION POINTS UNDER THE OPERATING MANUAL</p> <p>ACHTUNG
WIR BITTEN REGELMÄßIG DIE SCHMEIRSTELLEN LAUT BETRIEBSANLEITUNG ZU SCHMIEREN</p> | Lubricate the machine on regular basis |
|---|---|--|

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

For the machines that exceed the allowable transport width 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.



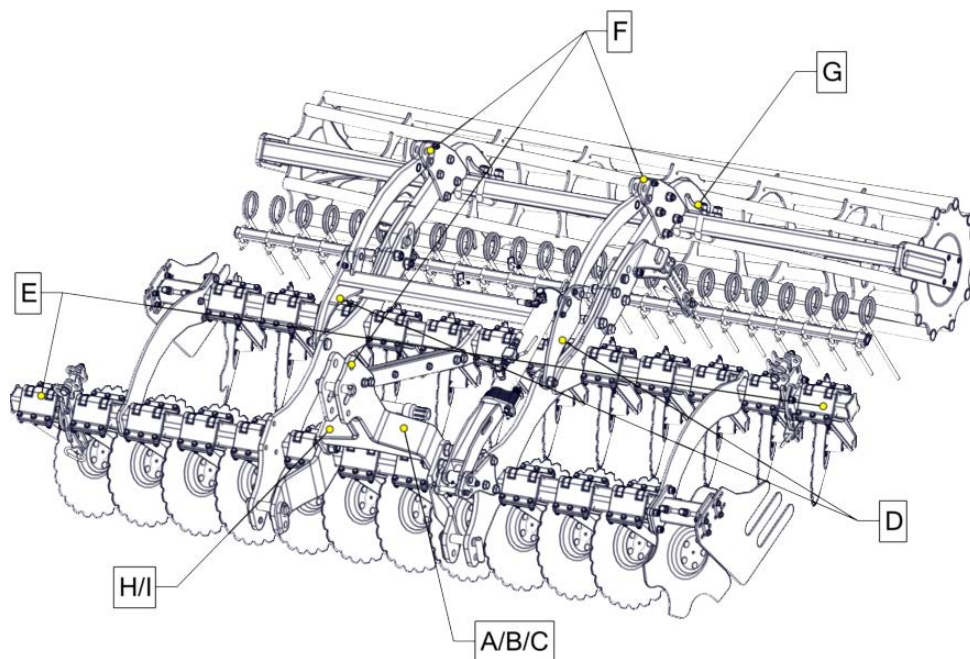




Fig 1: Safety symbols

1.6 Nameplate

The unit data can be found on the nameplate

 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	<input type="text"/>				
TYP / TYPE	<input type="text"/>				
ROK PROD. / YEAR	<input type="text"/>				
NUMER / SERIAL NO.	<input type="text"/>				
MADE IN EU					

2. Technical and Identification Data

ARES P – disc or disc/tine units of a compact design. It is available both in the drawn or semi-mounted versions and is provided with the drawbar, cultivator section, chassis and tillage roller.

The machines are supplied in the following versions:

- **ARES P XXL** – two rows of the XXL discs set in parallel (ø660), protected by rubber shock absorbers and with a tillage roller, acc. to the requirements. The machine is available in the following widths: 3-3.5-4 m.
- **ARES P TX** – two rows of the TX discs set in parallel (ø660, spring protected and with a tillage roller, acc. to the requirements. The machine is available in the following widths: 3-3.5-4 m.
- **ARES P TWIX** – two rows of double TWIX discs (ø660/ø610), set in parallel, spring protected and with a tillage roller, acc. to the requirements. The machine is available in the following widths: 3-4 m.

ARES P can also be available in the following versions:

- **LONG** – in addition, one row of CX tines with narrow coulters is located between the disc rows. Spot adjustment of the working depth is possible. The machine is available in the following widths: 3-3.5-4 m.
- **DRIVE** – tyre roller acts as a chassis and tillage roller

ARES ROLLER UP – disc unit of a compact design. It is available in the mounted version and is provided with the cultivator section and tillage roller.

The machines are supplied in the following versions:

- **ARES ROLLER UP XL** – two rows of the XL discs, set in parallel (ø560), protected with rubber shock absorbers and a system for lifting the tillage roller, as required. Width of the machine: 3 m.
- **ARES ROLLER UP XXL** – two rows of the XXL discs, set in parallel (ø660), protected with rubber shock absorbers and a system for lifting the tillage roller, as required. Width of the machine: 3 m.
- **ARES ROLLER UP TX** – two rows of the TX discs, set in parallel (ø660), spring protected and with a system for lifting the tillage roller, as required. Width of the machine: 3 m.

- **ARES ROLLER UP TWIX** – two rows of double TWIX discs (ø660/ø610), set in parallel, spring protected and with a system for lifting the tillage roller, as required. Width of the machine: 3 m.

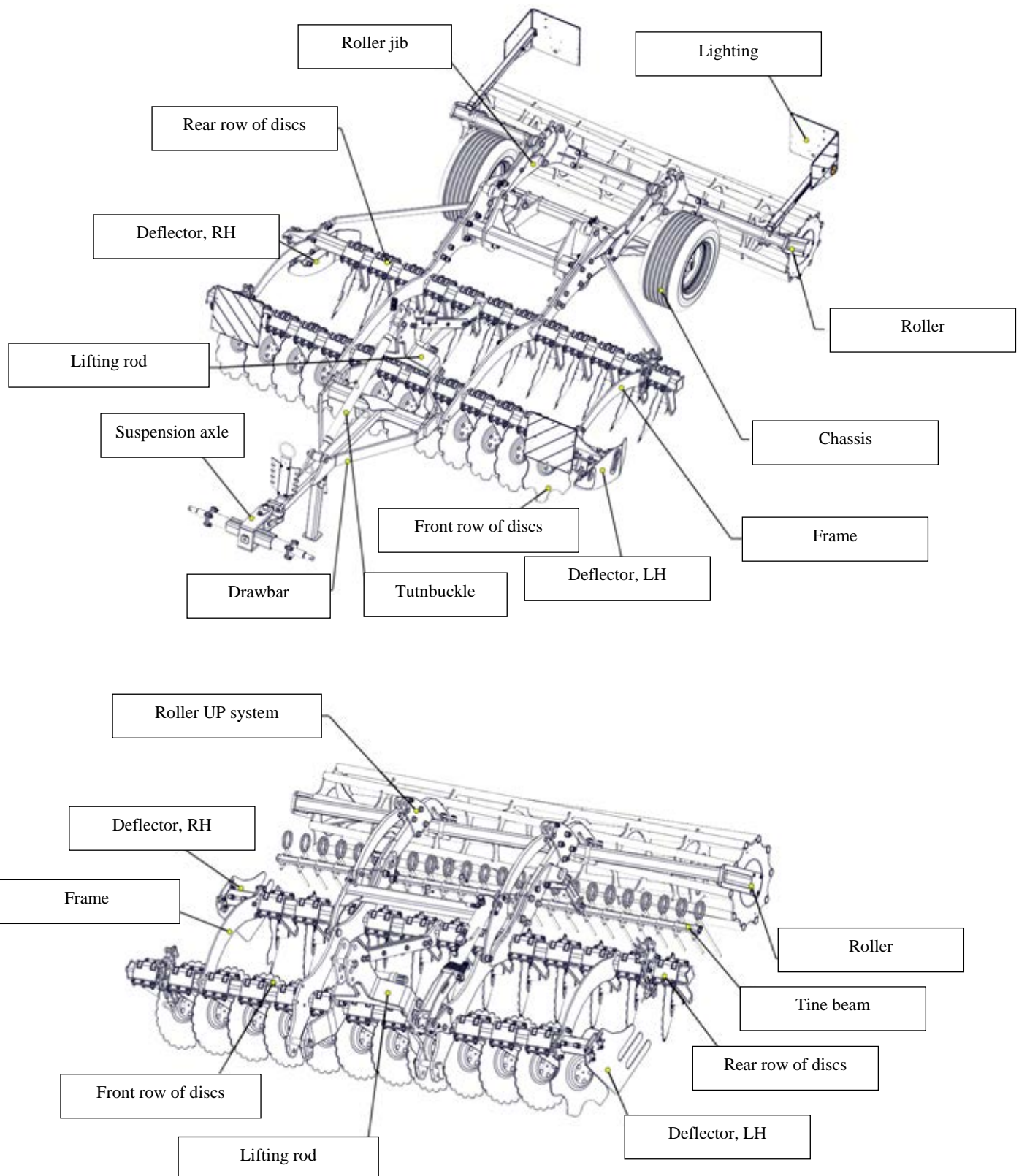


Fig:2 Construction

2.1 ARES Specifications

Item	Parameters		U/m	Type of unit					
				ARES P 3	ARES P 3,5	ARES P 4	ARES P 3 LONG	ARES P 4 LONG	ARES P 3 ROLLER UP
1	Type of unit		-	semi-mounted					mounted
2	Working width		m	3	3,5	4	3	4	3
3	No. of XL/XXL/TX/Twix discs		pcs.	24	28	32	24	32	24
4	Disc row spacing		mm	1200			-	-	1050
	No. of tines (ARES LONG)		pcs.				4	6	
5	Working depth		cm	5÷15					
6	Coulter disc dia.		cm	XXLø660; TX ø660; TWIXxø660/610 XLø560; XXLø660; TX ø660; TWIXxø660/610					
7	Inter-disc pitch		cm	25					
8	Working speed		km/h	8÷15					
10	Effective capacity		ha/h	2,8÷4,5	2,8÷5,3	3,2÷6,0	2,8÷4,5	3,2÷6,0	2,8÷4,5
11	Power demand		KM	130÷150	135÷160	140÷170	180÷210	210÷250	130÷150
12	Dimensions	L	cm	645			705		308
		W - ARES P XL/XXL; W - ARES P TX/TWIX		369	419	452	369	452	369
				300	350	400	300	400	300
		H		150			165		147
13	Working width	W - ROLLER UP XL/XXL; W - ROLLER UP TX/TWIX		369 300	419 350	452 400	369 300	452 400	369 300
14	Weight, XL		kg	-	-	-	-	-	2000
	Weight, XXL		kg	2720	2900	3130	3165	3900	2100
15	Weight, TX		kg	3340	3720	4100	3790	4790	2320
16	Weight, TWIX		kg	3420	-	4210	3870	4900	2380

3. Operating Manual

3.1 First Start

Before the first start of the machine:

- read the Operating Manual thoroughly
- check technical condition of the machine, and in particular, condition of its working parts, protecting mechanisms and the hydraulic system. When finding any damaged or worn parts, replace them 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 fitting of the quick-connectors of the hydraulic hoses of the machine to the sockets on the tractor
- check, whether the disc coulters, rollers and spindles (turnbuckles) can rotate without any jams
- check the pressure in tyres acc. to the manufacturer's recommendations
- check, whether the components requiring lubrication are lubricated
- check, whether the machine attachment system fits the tractor attachment system
- empty the hydraulic system and refill it with oil identical to oil contained in the tractor the machine will be connected to

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!

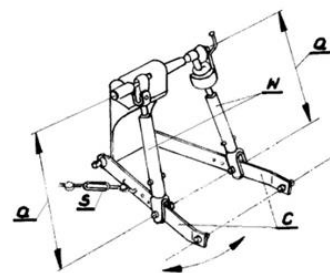


Fig. 3: Tractor lifting rod

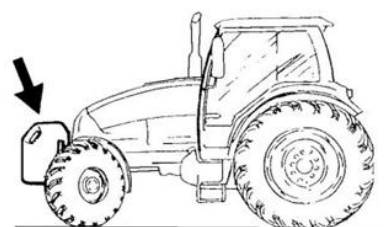


Fig. 4: Front axle weight

3.3 Connection and Disconnection

3.3.1 Mounted Machines

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

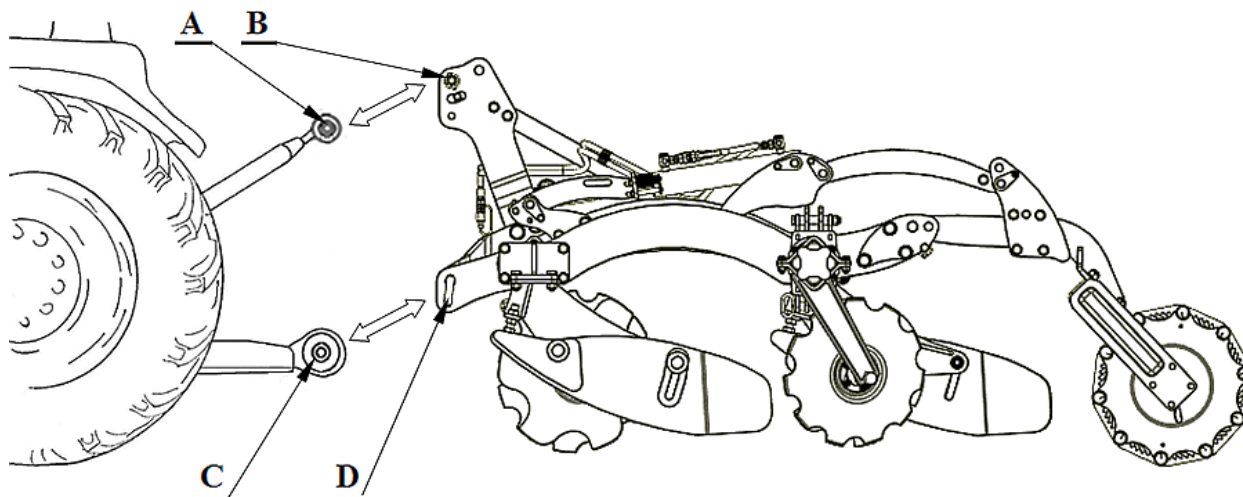


Fig:5 Connecting the mounted machine

a) Mounting

- Shift the tractor hydraulic system to the position adjustment
- Back the tractor to a distance that allows connection of the tractor tow bars [C] to the frame plates [D] and the upper connector [A]
- Connect the tractor tow bars [C] and secure them in the frame plates [D] with bolts and cotter pins
- Connect the upper tractor connector [A]. Select position of the upper bolt [B] in the carriage acc. to the terrain. During work of the cultivator, the upper fixing point should be located higher than the point of fixing this connector to the tractor

b) Disconnecting

- Lower the machine on a plain and hard surface
- Depressurize the machine hydraulic system by means of the free (floating) position of the tractor hydraulic levers
- Disconnect the hydraulic hoses, tractor tow bars [C] and the tractor upper connector [A]

3.3.2 Semi-Mounted Machines

The tractor should stand on hard and plain surface in order to connect and disconnect the machine to/from the tractor correctly.

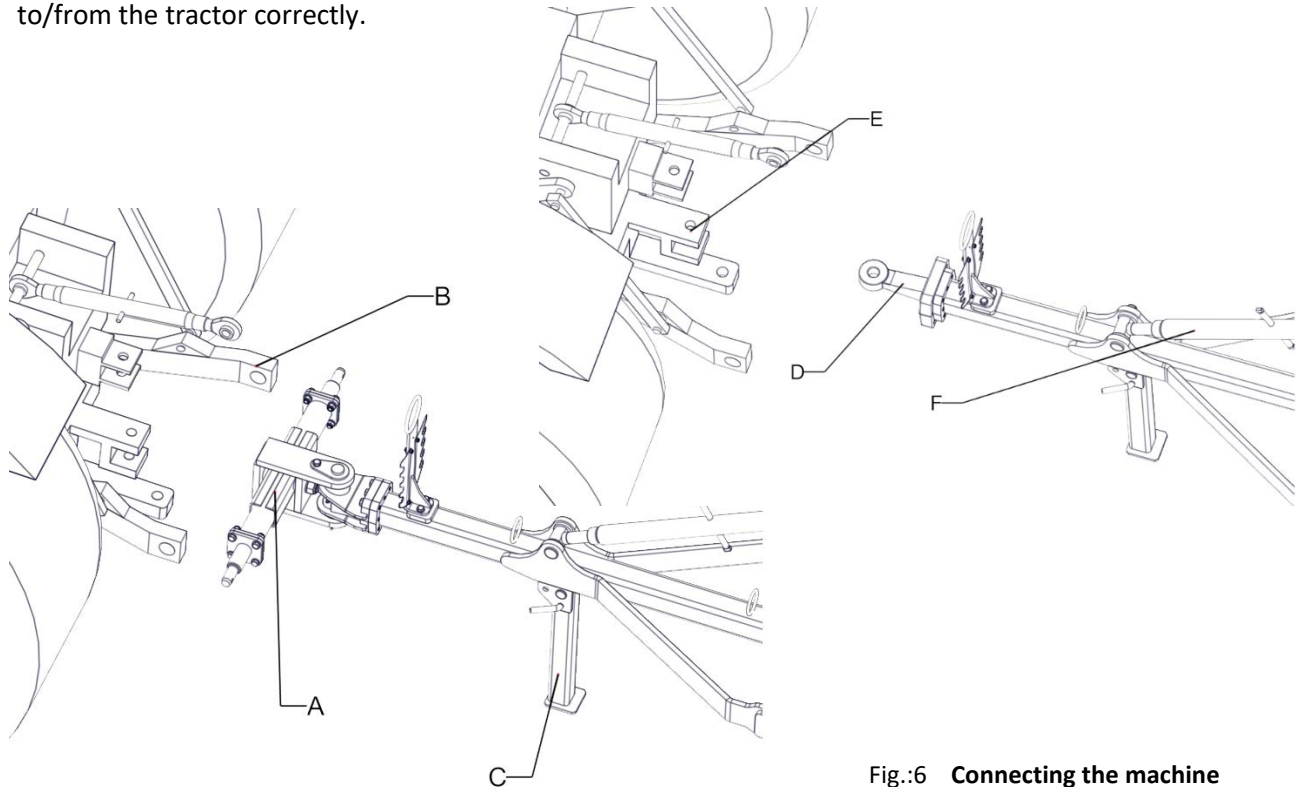


Fig.:6 Connecting the machine

a) Mounting

- shift the tractor hydraulics to the position control
- back the tractor to a distance that allows connection of the hitch axle [A] (tow hitch type [D]) to the tractor lower links (lift arms) [B] (with the tractor tow hitch type [E])
- secure the hitch axle [A] (tow hitch type [D]) in the tractor lower links (lift arms) [B] (with the tractor tow hitch type [E]) with bolts and cotter pins
- connect the machine hydraulic hoses to the tractor external hydraulic system and check the hoses for tightness. Check lifting, lowering and unfolding of the machine. Remember to connect all hoses to all tractor 2-way hydraulic connectors in pairs
- lift and secure the support [C]

b) Disconnection

- lower and secure the support [C]
- lower the machine 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 hoses
- disconnect the hitch axle [A] (tow hitch type [D])

3.4 Transport on highways

3.4.1 Mounted Machines

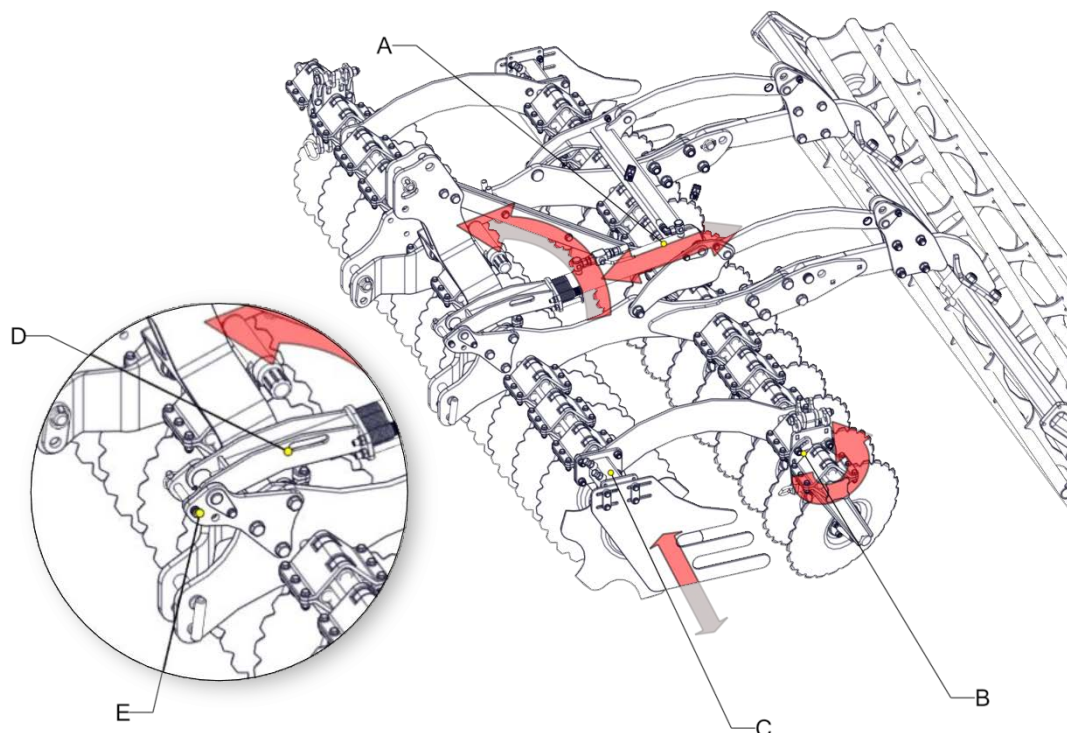


Fig. 7: Transport

Depending on the accessories, width of the machine can exceed 3.0m

- After finishing your work, lift the machine off the ground (10cm) and clean it out of soil and dirt
- Apply pressure to the cylinder **[A]**, extending it
- Fold the frame extensions **[B]** with the external discs (XL and XXL coulters). Remove the cotter pin and the bolt, rotate the extension of 180° on the hinge and secure it in the upper position with the bolt and the cotter pin
- Loosen the set screws and insert the deflector **[C]** (accessory)
- Pul out the securing bolt **[E]** and shift the stop **[D]** to the transport position (i.e. vertical); secure the mechanism with the bolt **[E]** again.
- 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 tow bars (stabilizers) of the tractor accordingly before driving; they should limit the excessive side movements of the unit
- Observe the 'Road Traffic Law' regulations when driving on highways

3.4.2 Semi-Mounted Machines

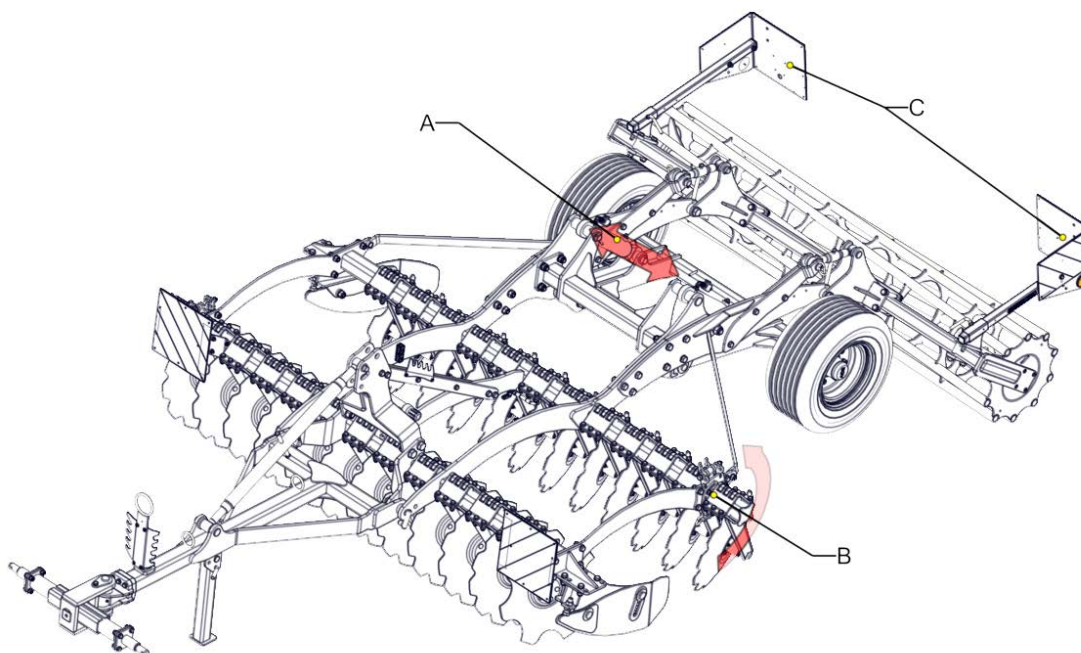


Fig.8: Transport A

- Depending on the accessories, width of the machine can exceed 3.0m
- After finishing your work, lift the machine off the ground with the chassis cylinders **[A]** and clean it out of soil and dirt
- Fold the frame extensions **[B]** with the external discs (XL and XXL coulters). Remove the cotter pin and the bolt, rotate the extension of 180° on the hinge and secure it in the upper position with the bolt and the cotter pin
- Clean the warning components (lighting) **[C]** of dirt (accessory)
- 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 tow bars (stabilizers) of the tractor accordingly before driving; they should limit the excessive side movements of the unit
- Observe the 'Road Traffic Law' regulations when driving on highways

4. Adjustment of the Cultivator

4.1 Working Depth Adjustment

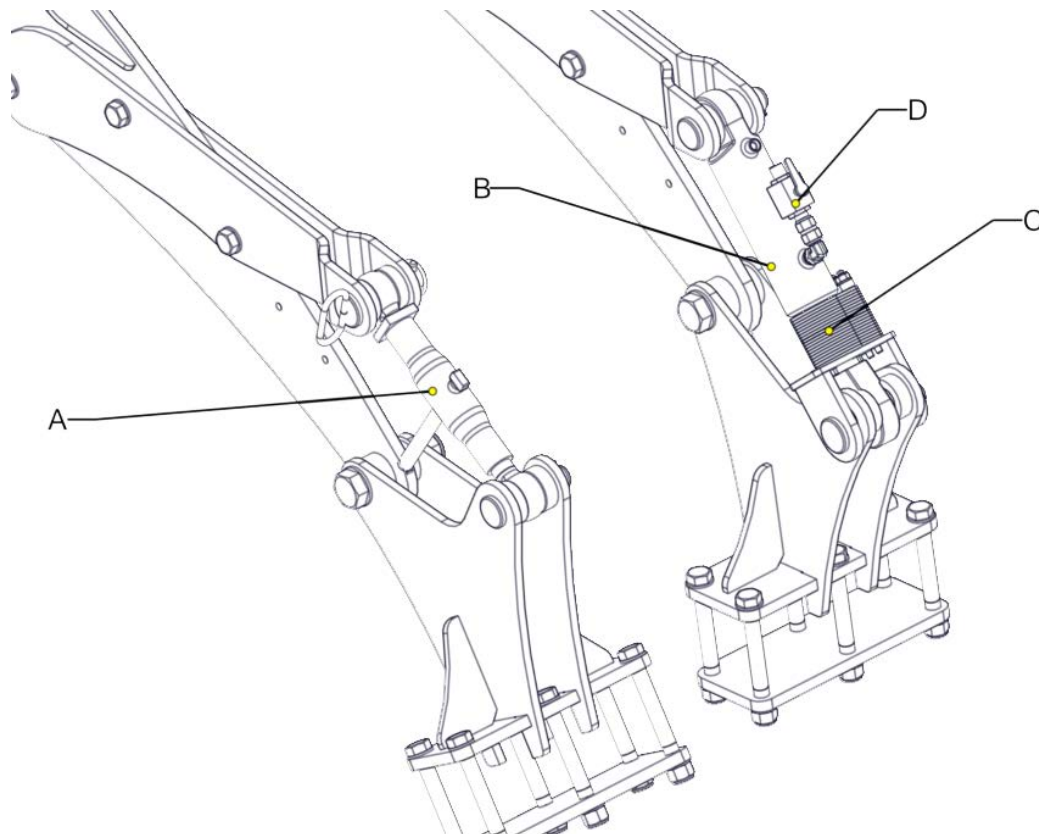


Fig.:9 **Depth adjustment on the roller**

- Adjustment with the turnbuckle consists of rotating the turnbuckle **[A]** to left or right side, through which the machine rear roller is lifted up or lowered
- Perform hydraulic adjustment by pressurizing the cylinder **[B]** from the tractor cab, which extends the cylinder. Then, put on the required number of stops **[C]** and pressurize the cylinder **[B]** again to slide it back to the stops **[C]**. Through this, you can raise or lower the rear roller of the machine. Secure the cylinder **[B]** against dropping down with the lever **[D]**.

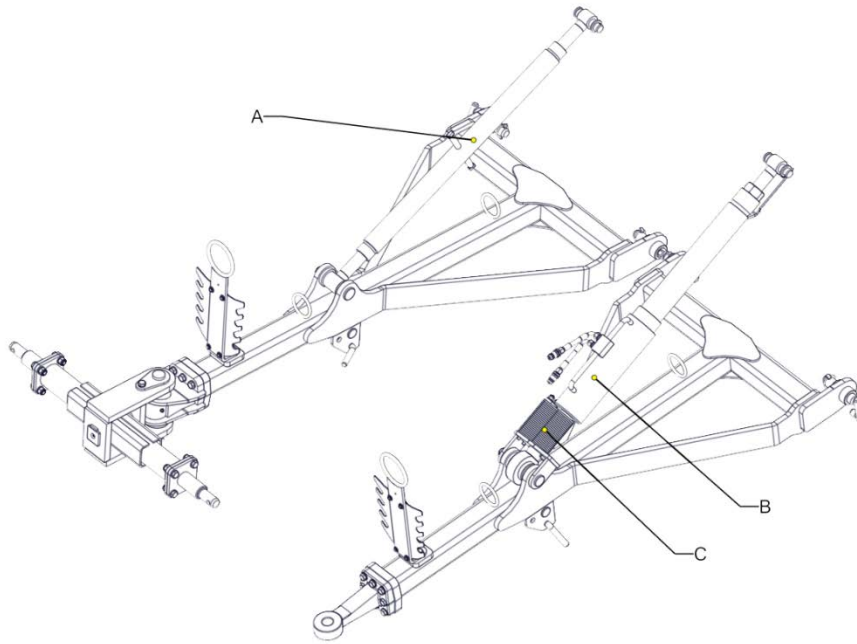


Fig.:10 **Depth adjustment on the drawbar**

Once the machine working depth is set on the roller in the ARES P unit, adjust also the correct depth on the drawbar. Parallel position of the frame during work is the determinant.

- In order to adjust with the turnbuckle, rotate the turnbuckle **[A]** to the left or right, through which the machine front part is lifted up or lowered down
- Hydraulic adjustment consists of applying pressure from the tractor cab to the cylinder **[B]** causing its extension. Then, put on the desired number of the stops **[C]** and reapply pressure to the cylinder **[B]**. The cylinder comes back to the stops **[C]**, through which, the machine is lifted up or lowered down.

4.2 CX-B Heavy-Duty Tine

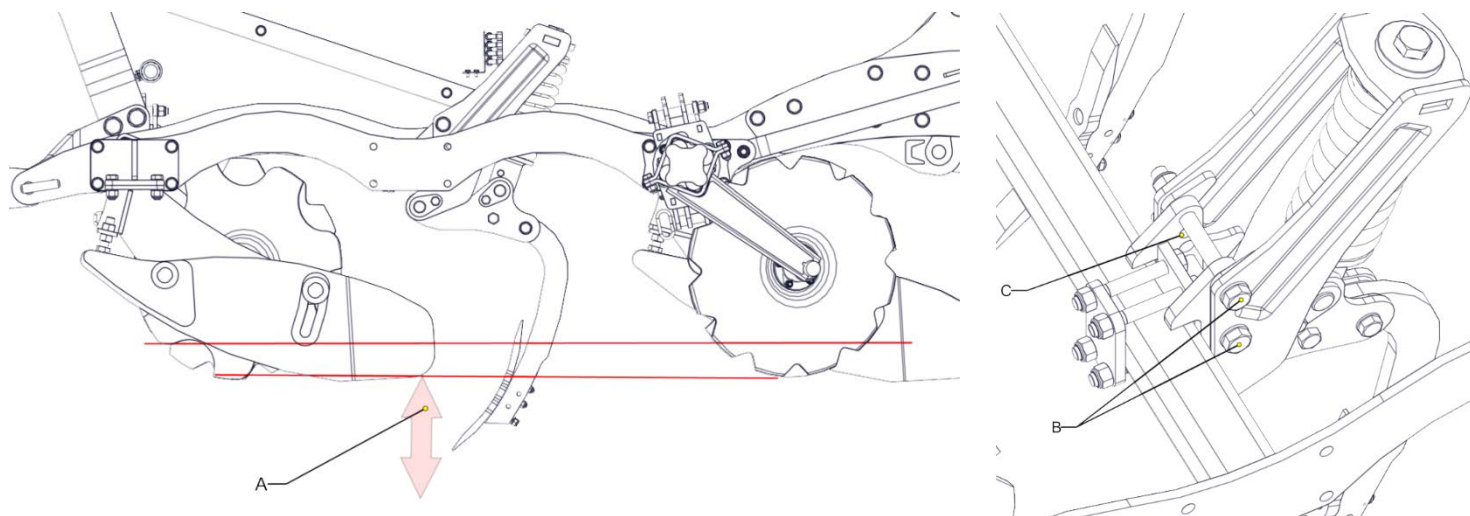


Fig.:11 Adjustment of tine

Ares P Long unit is supplied with a row of heavy-duty tines with narrow coulter operating below the coulter discs. When setting the tine working depth **[A]**, remember to add the disc working depth.

You can adjust the tine working range in increments, in 3 positions, i.e. **13cm 16.5 cm and 20cm** below the discs. In order to reset the tine:

- Remove the bolts **[B]**
- Shift the holder up- or downwards, aligning the relevant tine holes with the holes in the holder **[C]**
- Tighten the bolts **[B]**



Pay special attention when changing the setting of the tine working depth, due to the location of the mechanism inside the machine and its weight.

- Tines of ARES P Long feature automatic protection against overload in the form of a compression spring.
- Overload protection is preset to 5500N (550kg) of the trigger force on the coulter share point.

THIS SETTING MUST NOT BE CHANGED!

- Only trained personnel may disassembly the protection device.
- Any intervention in the mechanism may result in serious personal injury or even death.
- Check all screw connections around the tine and tighten any loose connections before each use.
- A sheared bolt [K], which breaks after exceeding a limit value is an additional safety measure.

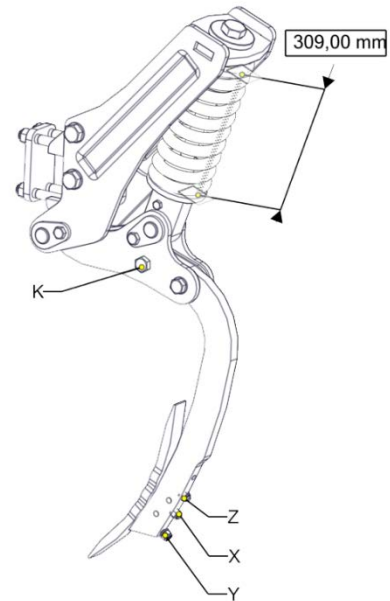


Fig.:12 Working components

USE ONLY GENUINE PROTECTION DEVICES!

- Replace the working components once the unit operation effects deteriorate
- In order to replace the coulter, remove the bolts [X/Y/Z]
- Use a drift to remove the screws from their slots, if they cannot be removed after removing the nuts.

USE ONLY GENUINE SPARE PARTS!

4.3 Deflector

Ares can be provided with 2 types of the side deflector, depending on the coulter used:

- First of the deflectors can be adjusted in 3 planes:
 - By removing the bolts [A] and shifting the entire deflector, together with its arm, it can be moved away from the coulter
 - By removing the bolts [B], you can replace them into the desired holes [C], shifting the deflector towards the ground.
 - By loosening the bolts [B], you can shift the deflector in the holes [D] in the machine work direction

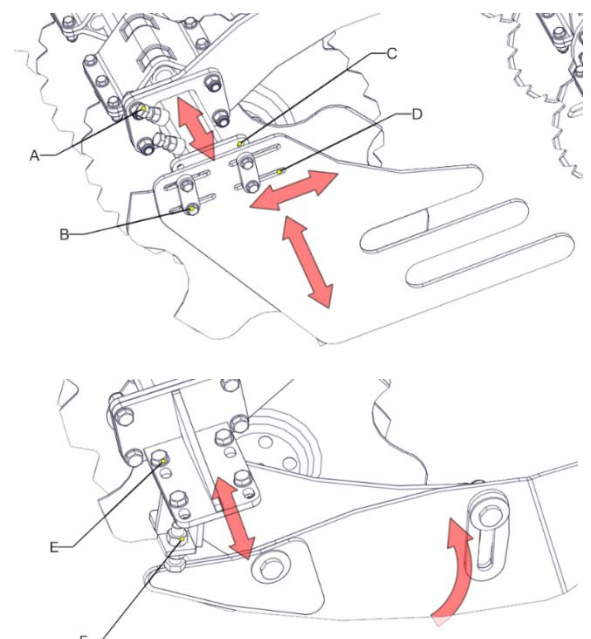


Fig.:13 Deflector

- b) The other of the deflectors can be adjusted in one plane and in one axis of rotation.
- By removing the bolts **[E]**, you can replace them into the desired holes, and adjust the deflector distance to the coulter by shifting the entire deflector, together with its arm.
 - By changing the length of engagement of the bolt **[F]** threads, you can rotate the entire deflector, changing its distance to the ground.

4.4 Adjustment of the External Disc

XL and XXL coulters are available with foldable frame extensions (see par. 3.4 Transport on Highways). The extension design allow also changing the coulter working depth by its rotation.

- Loosen the bolts **[A]**
- Rotate the beam with the coulter disc
- Lock it in the new position
- Tighten the bolts **[A]**

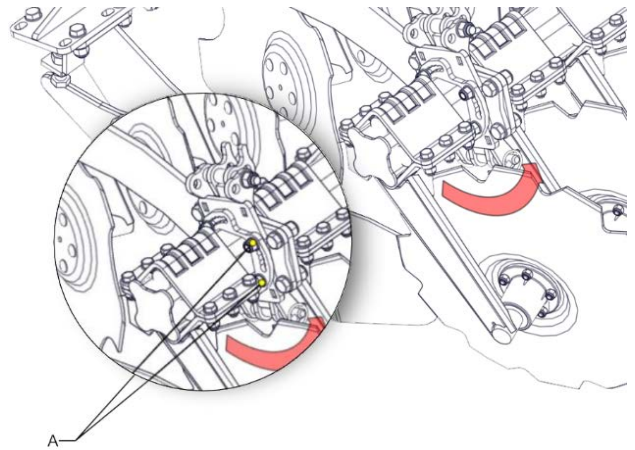


Fig.:14 External disc

4.5 Adjustment of the Tines

Ares Roller UP with the XL coulter disc is provided with a row of tines located between the second row of discs and the roller. You can adjust them in the plane off the ground as well as their angle of inclination.

Adjustment of the distance to the ground:

- Unlock and remove the bolt **[A]**
- Move the tine beam
- Lock it in the new position with the bolt **[A]** and secure

Inclination:

- Unlock and remove the bolt **[B]**
- Rotate the tine beam
- Lock it in the new position with the bolt **[B]** and secure

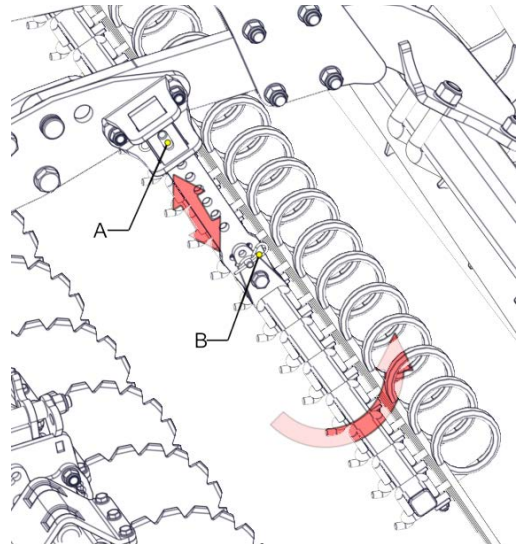


Fig.:15 Tines

4.6 Operation (see par. II Safety)



Before beginning the field work with the machine:

- disassemble the warning signs (together with the screwed brackets) for transport on highways
- unfold the foldable units to the working position
- 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. Besides, it is one of the warranty conditions.
- Always set the machine on a hard and flat surface, supported by wheels and supports before beginning any work at/on it. Disconnect it also from the tractor

CAUTION! THE HYDRAULIC SYSTEM IS PRESSURIZED!

CAUTION! THE LIGHTING SYSTEM IS LIVE!

5.2 Replacement of Working Parts



- 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 and springing.

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)

Fastener class					
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 grease for lubrication. Clean lubrication points before pressing the grease. Lubricate at the marked points. If the machine worked less number of hectares, please lubricate it before starting work and after its completion, and at all lubrication points.

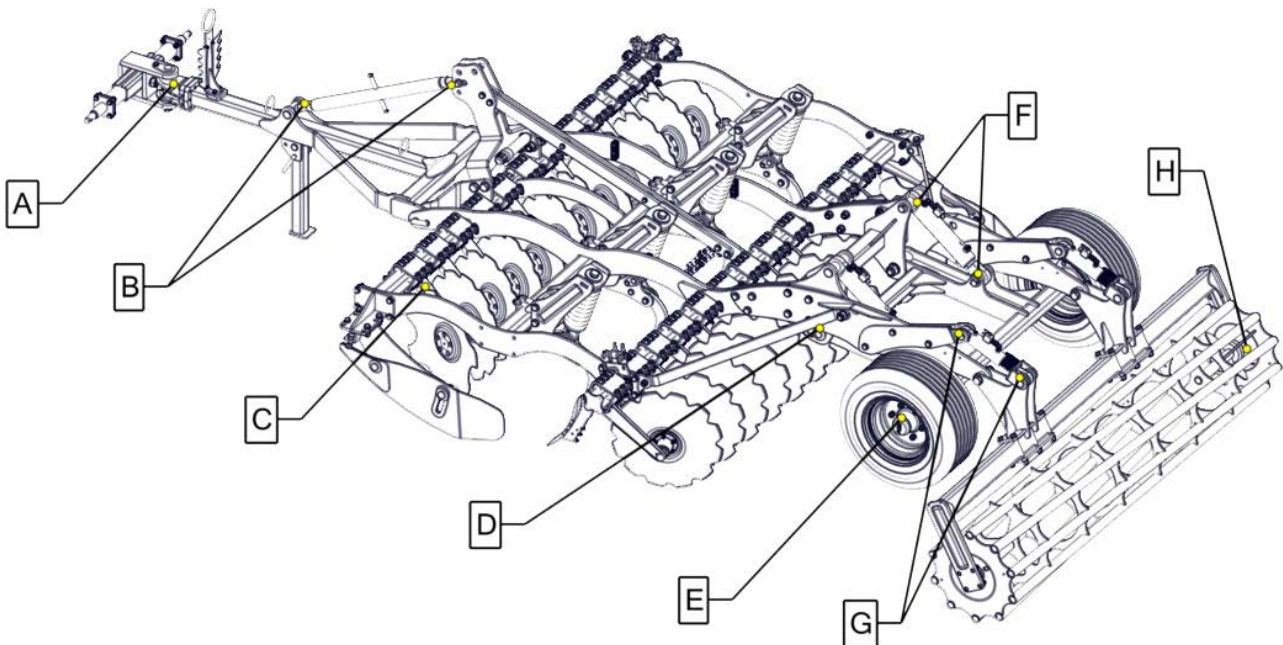


Fig.:16 ARES P, lubrication

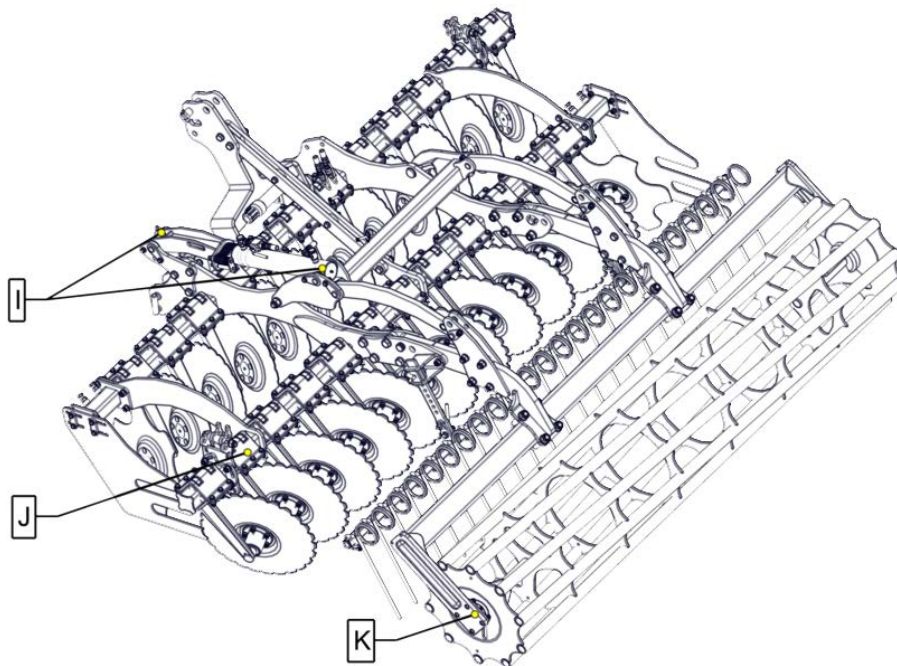


Fig.:17 ARES ROLLER UP

Items not specified (applies to the remaining machines); lubricate every 300 ha.

Item	Designation	Component	Grade of lubricant	Lubrication interval (ha)
1	A	Suspension axle joints (2 pc.)	LT-4S-3 grease	100
2	B	Screws, turnbuckles (cylinder heads)	-II-	200
3	C	Coulter disc bolt (TX/TWIX)	-II-	50
4	D	Chassis bolt	-II-	100
5	E	Wheel hub	-II-	200
6	F	Cylinder heads	-II-	200
7	G	Screws, turnbuckles (cylinder heads)	-II-	200
8	H	Bearings	-II-	20
9	I	Cylinder heads	-II-	200
10	J	Coulter disc bolt (TX/TWIX)	-II-	50
11	K	Bearings	-II-	20

5.7 Storage of the Cultivator

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 lubrication points specified in Table 3
- wash faces of the coulter discs, rollers 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 approximately 20 horizontal rows. Each row is defined by two parallel dashed lines, creating a series of uniform gaps for letter height. The lines are evenly spaced across the entire page, providing a guide for consistent letter formation. There is no text or other markings on the page.

This image shows a full page of a handwriting practice worksheet. It consists of approximately 20 horizontal rows. Each row is defined by two parallel dashed lines, creating a series of uniform gaps for writing. The lines are evenly spaced across the entire page, providing a guide for letter height and placement. There is no text or other markings on the page.

UNIA 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



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