

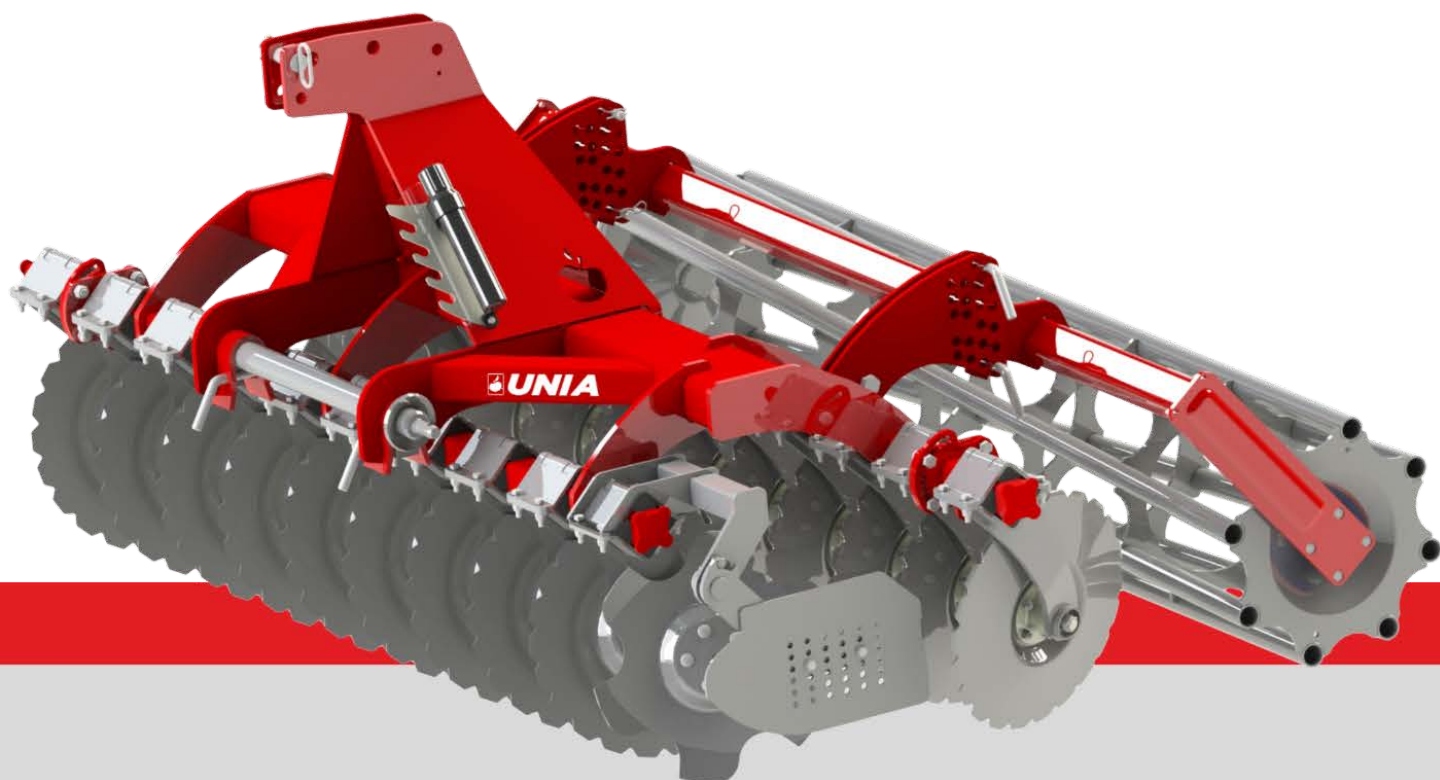


UNIA

OPERATING AND MAINTENANCE MANUAL

DISC CULTIVATOR

ARES L



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:
disc cultivator

ARES L

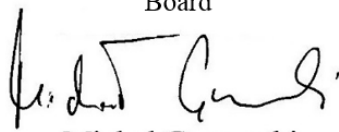
type / model :
manufacturing year :
serial no. :

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This CE Declaration of Conformity is no longer valid if the machine has been modified or reconstructed without the manufacturer's consent.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

OPERATING AND MAINTENANCE MANUAL

Machine identification data:

Type	<input type="text"/>
Production year	<input type="text"/>
Serial no.	<input type="text"/>



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



- Always pay 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



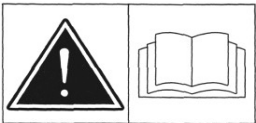
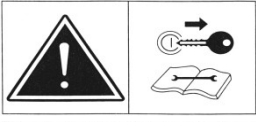





- Service the machine when it is lowered onto the ground! If the machine is coupled with the tractor, engine of the tractor must be off and brakes on!
- Use only tools in good technical condition and genuine materials and spare parts for servicing.
- Always protect the machine with appropriate supports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

1.4 Transport on highways



- 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!
- Pay special attention when passing and overtaking other vehicles and on curves (the unit is rigidly 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 3m! For machines with a transport width above 3m, a permission to move on highways issued by the appropriate road administration is required!

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

UWAGA
PROSIMY O REGULARNE SMAROWANIE PUNKTÓW SMARNYCH

ATTENTION
PLEASE OIL REGULARLY LUBRICATION POINTS UNDER THE OPERATING MANUAL

ACHTUNG
WIR BITTEN REGELMÄßIG DIE SCHMEIRSTELLEN 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 - 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.

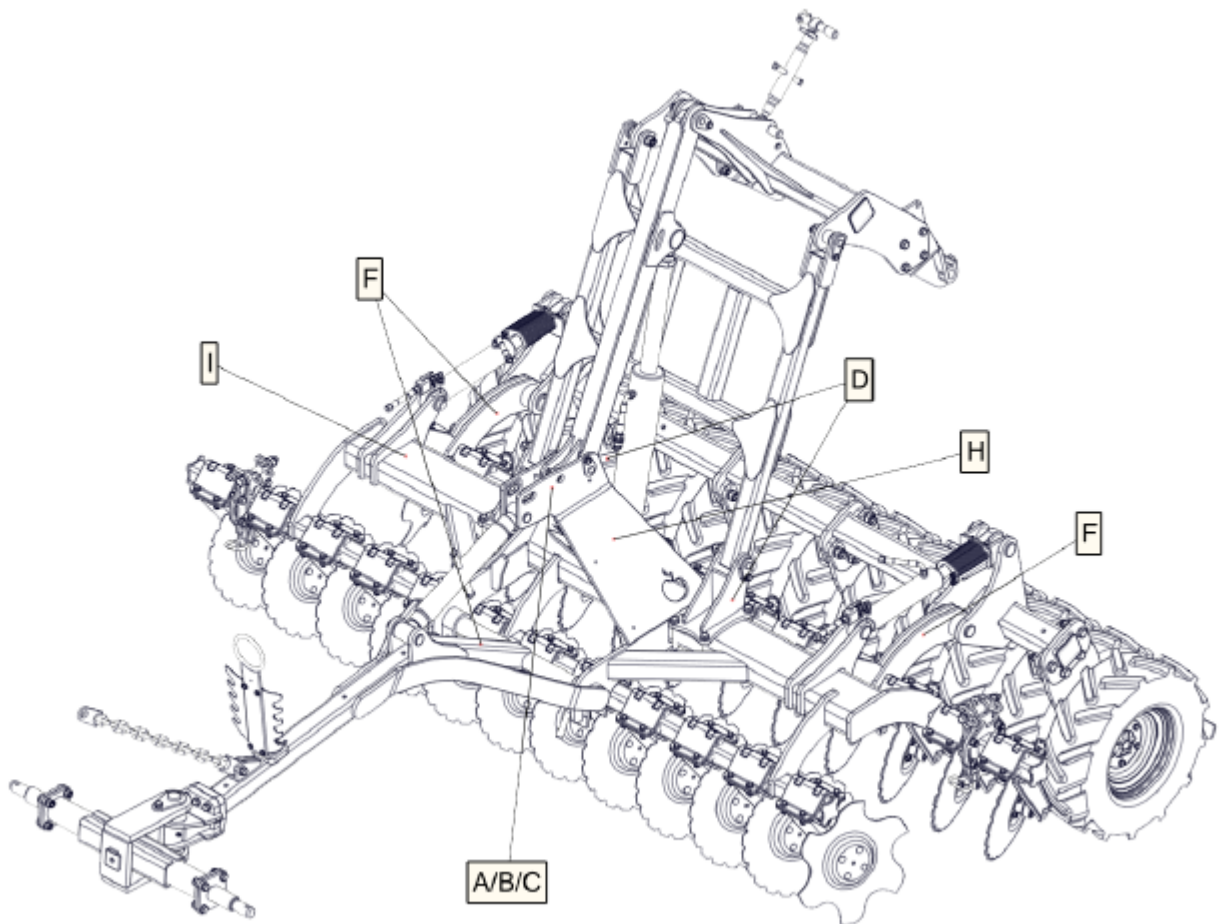


Fig. 1. Safety symbols ARES L DRIVE

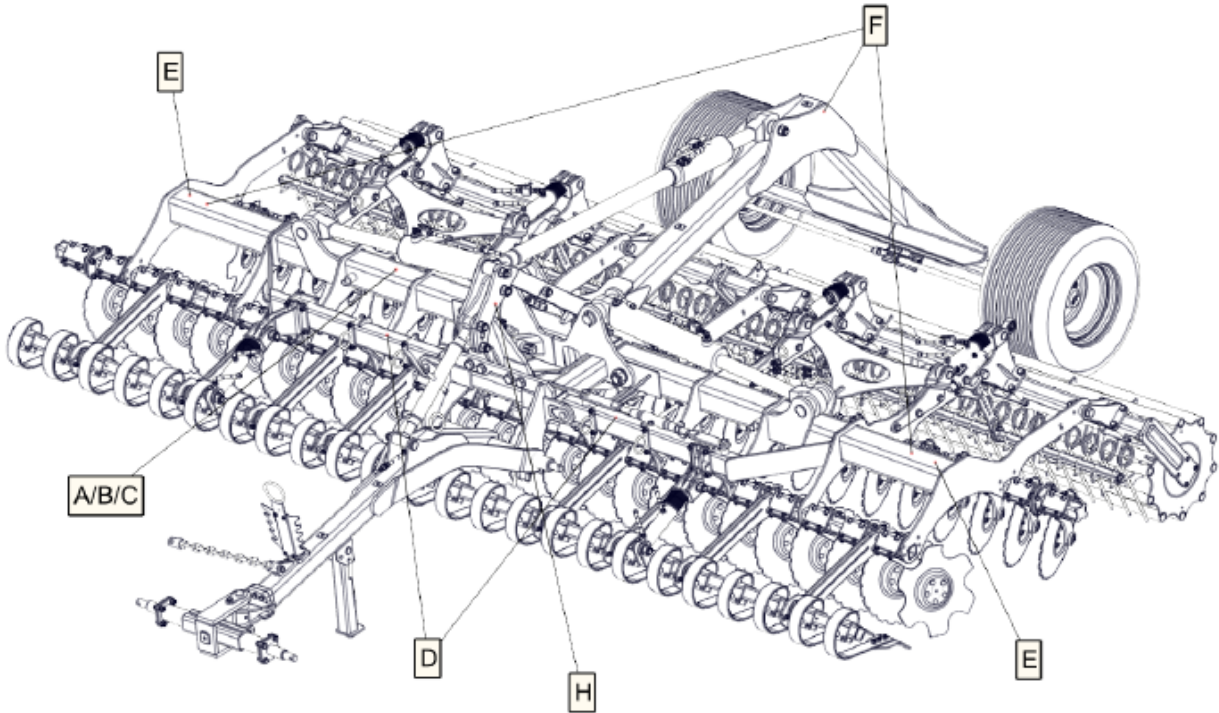


Fig. 2. Safety symbols ARES L H

1.6 Nameplate

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

	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.	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	
MADE IN EU		

2. Technical and Identification Data

ARES L – disc cultivator;

- 2.5 m; 3.0 m; 3,5m; 4,0m; - rigid version
- 4.0 m; 6.0 m; – hydraulically folded version

Standard equipment:

- Suspension axle:
 - $\varnothing 60-825/\varnothing 28\text{mm}$ (version 2.5÷3)
 - $\varnothing 60-825/\varnothing 36\text{mm}$ (version 3.5÷4)
 - $\varnothing 70-825/\varnothing 36\text{mm}$ (version 4.5÷6)
- 2 rows of CLASSIC toothed discs, protected by rubber shock absorber
- $\varnothing 500$ mm pipe roller (version 2.5÷4)
- $\varnothing 600$ mm pipe roller (version 4.5 / 6.0)
- mechanical adjustment of working depth
- rigid frame

Accessories at extra charge:

Table 1

Accessories at extra charge	ARES L					
	2,5	3,0	3,5	4,0	4,5	6,0
hydraulic front board (only w. DRIVE system or in semi-mounted version)	+	+	+	+	+	+
DRIVE system	-	+	+	+	+	+
set of AGRESSIVE discs $\varnothing 485/4$ mm	+	+	+	+	+	+
chassis w. wheels 10.0/80-12 and 1 800 mm long drawbar	+	+	+	+	-	-
chassis w. wheels 480/45-17 and 2 200 mm long drawbar and air brake	-	-	-	-	+	+
set of side deflectors	+	+	+	+	+	+
supports for the seeder	+	+	+	+	-	-
internal deflector	+	+	+	+	-	-
HYDROPAK – seeder coupler	+	+	+	+	-	-
hydraulic adjustment of the working depth (4 points adjustable)	-	-	-	-	+	+
suspension axle, $\varnothing 60-825/\varnothing 36\text{mm}$	+	+	-	-	-	-
suspension axle, $\varnothing 60-965/\varnothing 36\text{mm}$	-	-	+	+	+	+
polyurethane shock absorbers	+	+	+	+	+	+
warning plates kit	+	+	+	+	+	+
warning plates kit with lamps	+	+	+	+	+	+
possibility of mounting the ETA seeder	+	+	+	+	+	+

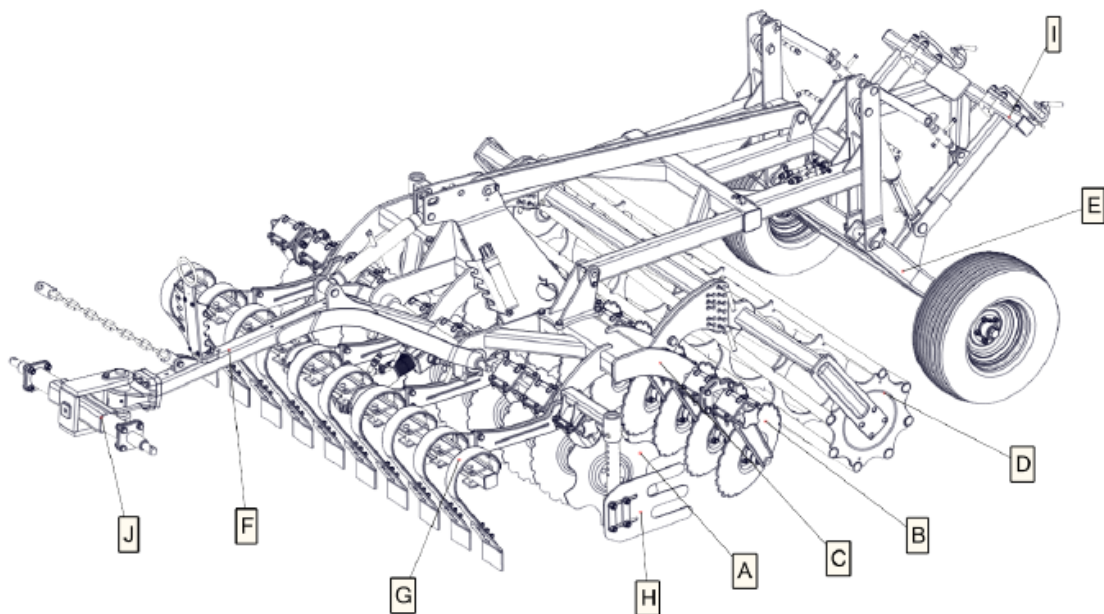


Fig. 3. Construction of ARES L (2.5; 4.0)

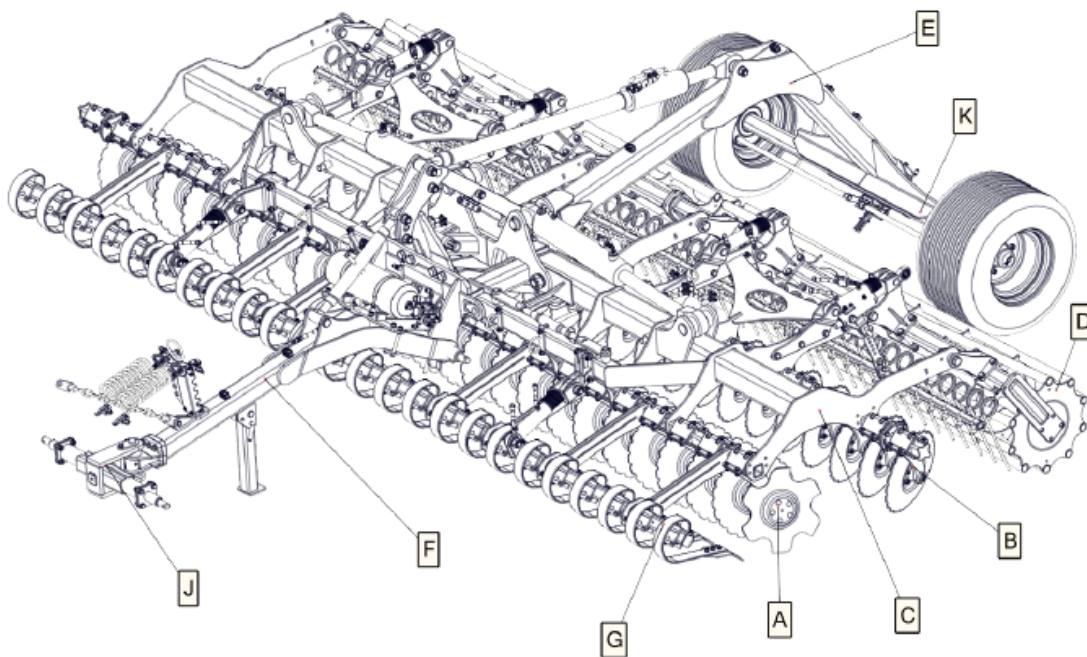


Fig. 4. Construction of ARES L (4.0H; 6.0H)

Table2

A	Disc front row	G	Front skid (option)
B	Disc back row	H	Deflector (option)
C	Frame	I	Seeder hanger (option)
D	Compacting roller	J	Suspension axle (option)
E	Chassis (option)	K	Axle with brake (ARES L 4.5H; 6.0H) (option)
F	Drawbar (option)		

2.1 ARES L specifications

Table 3

Item	Parameters		U/m	Type of unit					
				ARES L 2.5	ARES L 3.0	ARES L 3.5	ARES L 4.0	ARES L 4.5H	ARES L 6.0H
1	Type of cultivator		-	mounted / semi-mounted					
2	Working width		m	2.5	3.0	3.5	4.0	4.5	6.0
3	Number of coulter discs		pcs.	20	24	28	32	36	48
4	Max working depth		cm	13					
5	Coulter disc dia.		mm	485/510					
6	Inter-disc pitch		cm	25					
7	Working speed		km/h	10-15					
8	Number of levelling fingers		pcs.	-	-	-	-	36	48
9	Max. lifting capacity of hydropak		kg	ARES L – 1400 kg / ARES L DRIVE – 2000 kg					
10	Roller type	Pipe ø500	-	+	+	+	+	-	-
		Pipe ø600	-	-	-	-	+	+	
		Rubber ø500	-	+	+	+	+	+	+
		Packer ø500	-	+	+	+	+	+	+
		Spiral ø470	-	+	+	+	+	-	-
		Spiral ø600	-	+	+	+	+	+	+
		U-roller ø600	-	-	-	-	-	+	+
		T-roller ø620	-	-	-	-	-	+	+
		Spiral, alternating ø600	-	-	-	-	-	+	+
		U-roller, alternating ø600	-	-	-	-	-	+	+
T-roller, alternating ø600	-	-	-	-	-	+	+		

OPERATING AND MAINTENANCE MANUAL ARES L

	Pipe-string ø500/400		-	-	-	-	+	+
11	Effective capacity	ha/h	2.5-3.75	3.0-4.5	3.5-5.25	4.0-6.0	4.5-6.75	6.0-9.0
12	Power demand	kW	54-65	59-73	73-88	81-96	96-118	110-132
		HP	75-90	80-100	100-120	110-130	130-160	150-180
13	Operators	people	one					
14	Overall dimensions without accessories	L	220	220	220	220	285	285
		W	285	335	385	435	500	650
		H	136	136	136	136	148	148
15	Transport width	m	2.5	3.0	3.5	4.0	3.0	3.0
16	Weight with pipe roller and without accessories	kg	900	1000	1150	1280	2950	3420

Note: ARES L drive (3.0 ;3.5; 4.0; 4.5; 6.0) – semi-mounted unit on tyre roller ø670mm

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
- the tightening torque of the nut of the replaceable hub is **300 Nm**, in order to extend the service life of the bearings it is necessary to systematically check this value during machine operation, and also when replacing elements
- 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 (if any)
- check, whether the components requiring lubrication are lubricated
- check, whether the machine attachment system fits the tractor attachment system

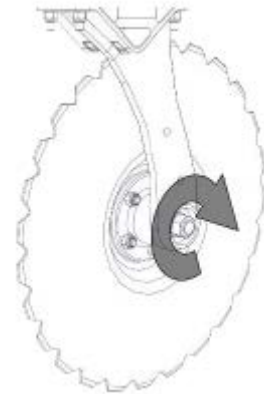


Fig. 5. Tightening torque of the nut of the replaceable hub

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!

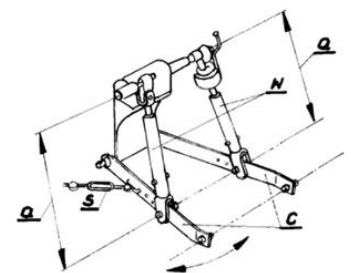


Fig. 6: Tractor lifting rod

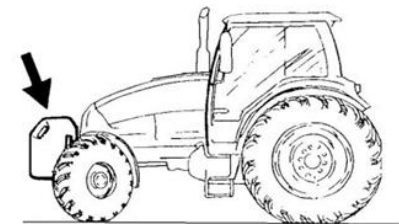


Fig. 7: Front axle weight

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.

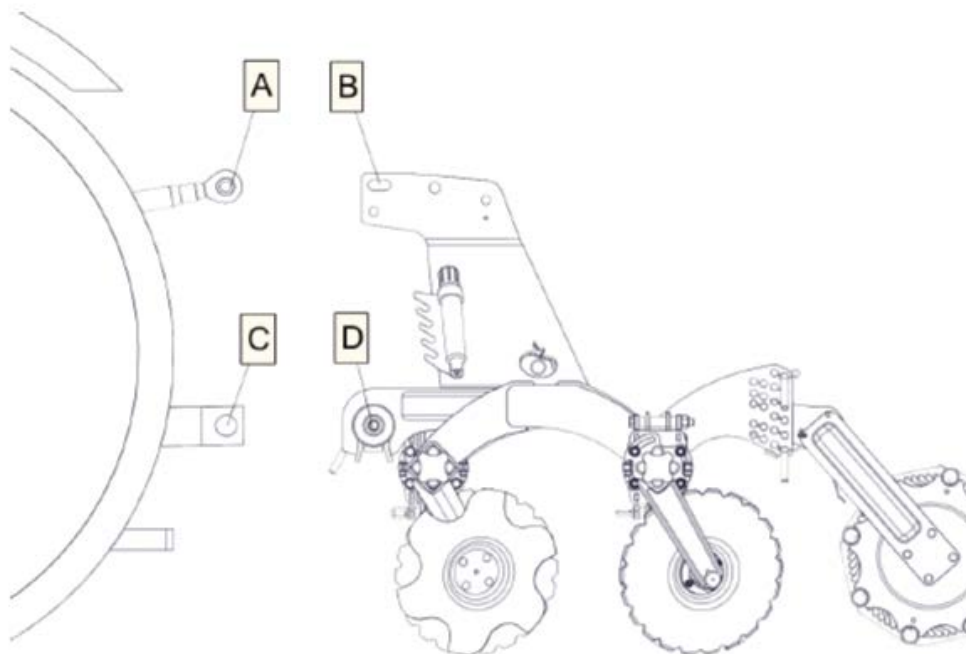


Fig. 8. Connecting the mounted machine

a) Mounting

- Shift the tractor hydraulic system to the position adjustment
- Disconnect the suspension axle **[D]** from the machine and attach it to the tractor's lower link **[C]**
- Back the tractor to a distance that allows connection of the suspension axle **[D]** to the frame plates and the upper connector **[A]**
- Secure the suspension axle **[D]** in the frame plates by means of bolts and cotter pins
- Connect the upper tractor connector **[A]**. The position of the upper bolt **[B]** in the carriage should be fastened according to the terrain. During the machine operation, 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, suspension axle **[D]** and the tractor upper connector **[A]**

3.3.2 Semi-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.

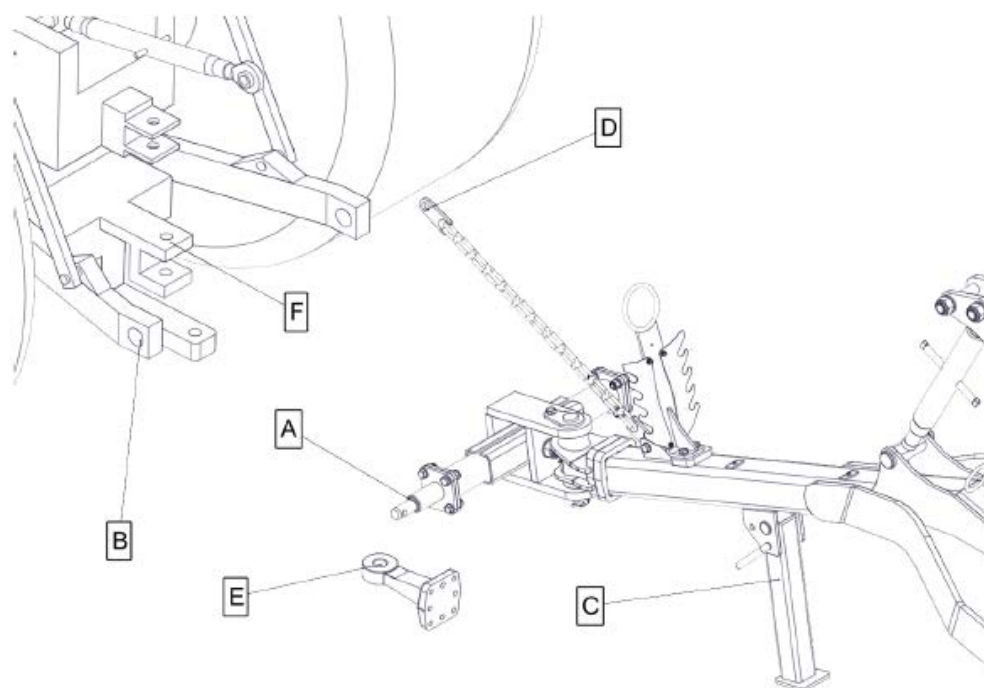


Fig. 9. Connecting semi-mounted/trailed machine

a) Mounting

- shift the tractor hydraulics to the position control
- back the tractor to a distance that allows connection of the suspension axle [A] (tow hitch type [E]) to the tractor lower links B (with the tractor tow hitch type [F])
- secure the hitch axle [A] (tow hitch type [E]) with the tractor links [B] (with the tractor tow hitch type [F]) with cotter pins (bolt and cotter pin - hitch)
- connect safety chain [D] to the right place on the tractor
- 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) Disconnecting

- lower and secure the support [C]
- lower the machine onto a flat and hard surface
- disconnect safety chain [D]
- depressurize the cultivator hydraulic system by shifting the tractor hydraulic levers to their free (floating) position
- disconnect the hydraulic hoses and hitch axle [A] (tow hitch type [E])

3.4 Transport on highways

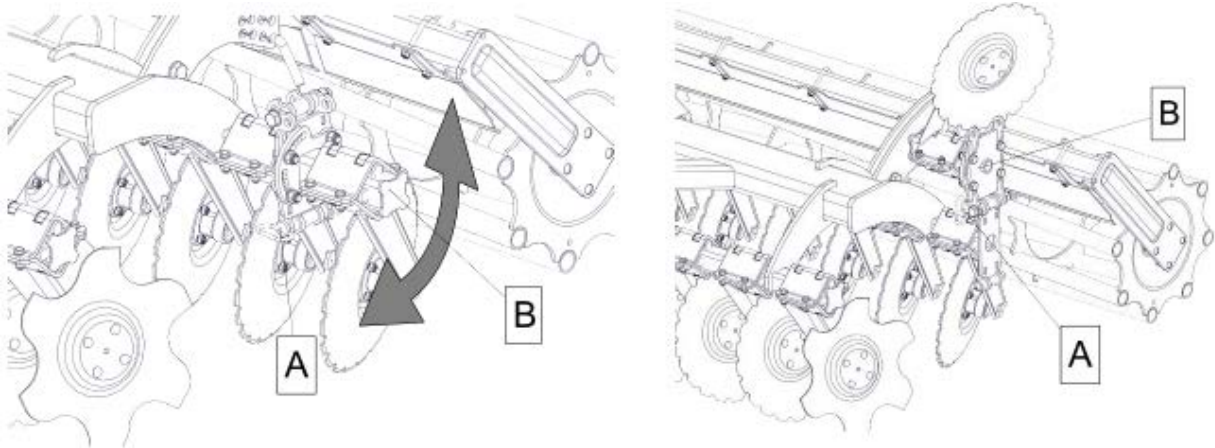


Fig. 10. Transport – folding of the external disc

- external discs must be folded for transport **[B]** in the transport position and secured with pins **[A]**

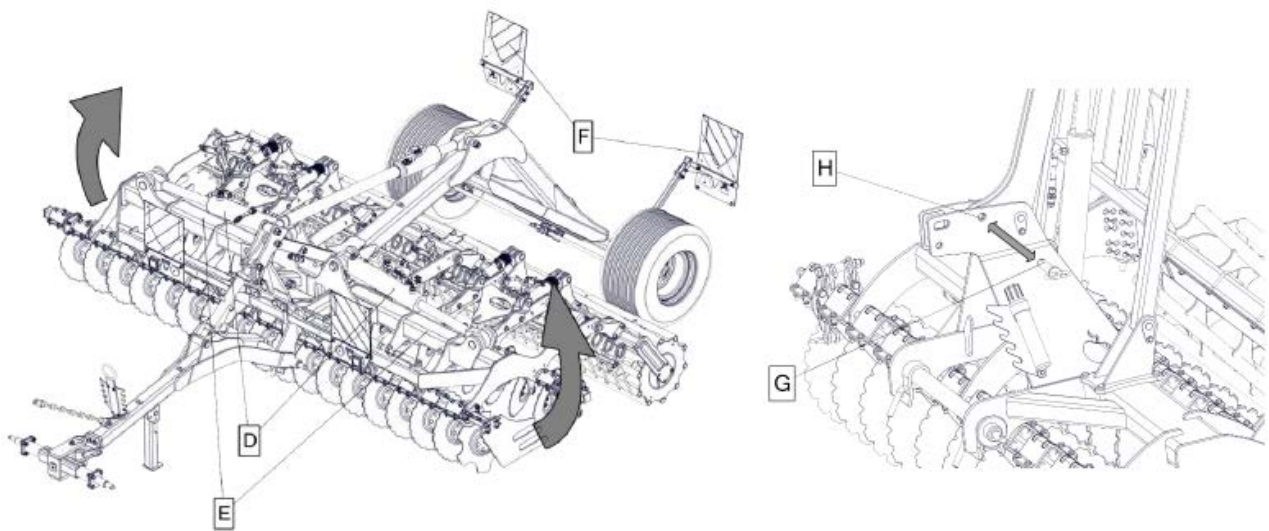


Fig. 11. Transport

- for transport, side sections **[D]** of hydraulically folding machines should be folded into the transport position by means of the hydraulic system **[C]**, and then the outermost frames should be secured against unfolding with the help of the locking link and pins
- the unit equipped with hydropak has protection against lowering of the arms; for transport a pin **[G]** should be placed in the hole **[H]** and secured with a cotter pin
- the machine consisting of an agricultural tractor and an agricultural machine connected with it must meet the requirements identical to that of the tractor itself
- it is forbidden to drive the machine (tractor + cultivator) on public roads without proper marking **[F]**
- before driving, adjust the tensioning chains of the tractor's side links (stabilizers), they should limit excessive oscillations of the unit from side to side
- warning plates with lamps **[F]** should be dismantled for work in the field, so that they are not damaged and secured with pins

3.5 Adjustment of the Cultivator

3.5.1 Working Depth Adjustment on the roller

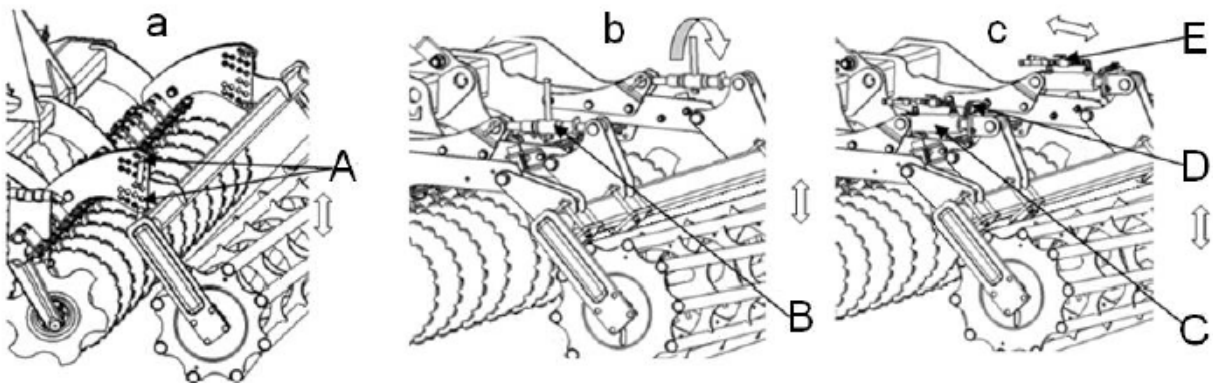


Fig. 12. Working depth adjustment on the roller

- a- adjustment by means of pins
b - mechanical adjustment; c - hydraulic adjustment

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

3.5.2 Working depth adjustment on the drawbar (chassis option, drive)

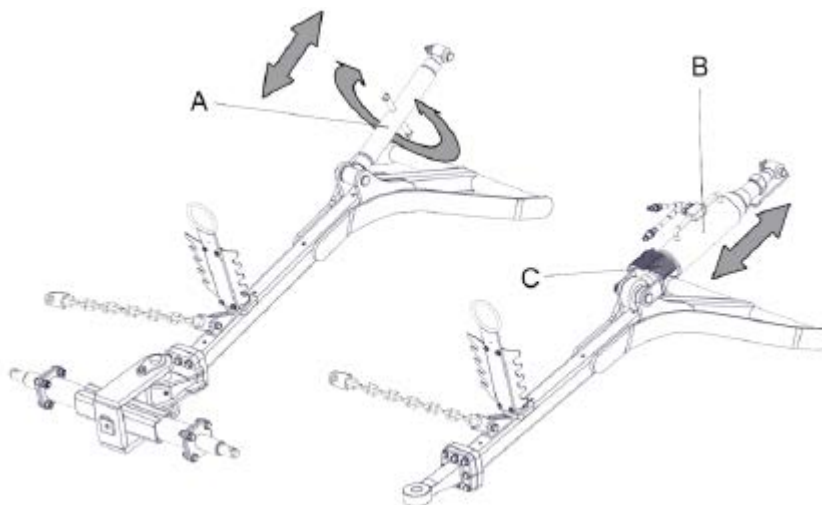


Fig. 13. Depth adjustment on the drawbar (chassis option, drive)

Once the machine working depth is set on the roller in the ARES L unit, equipped with a chassis with a drawbar, adjust also the correct depth on the drawbar. The determinant is the parallel position of the frame when working against the ground.

- 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]**. Then, put on the desired number of the stops **[C]** and reapply pressure to the cylinder causing it to slide in and tighten the stops

3.5.3 Working depth adjustment on the tyre roller ARES L 4.5;6.0 DRIVE

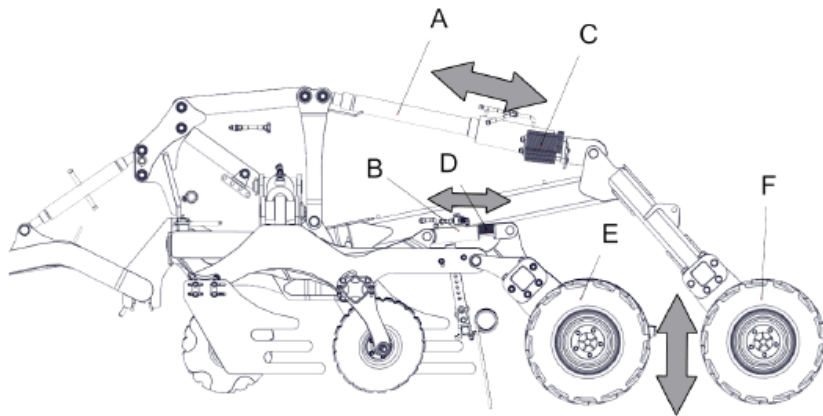


Fig. 17. Working depth adjustment on the tyre roller ARES L 4.5;6.0 DRIVE

To set the working depth of the machine (ARES L 4.5;6.0 DRIVE), you should:

- Apply pressure to the cylinder **[B]** of the side sections **[E]**, causing them to slide out. Set the correct number of stops **[D]**, re-apply the pressure to the cylinder **[B]**.
- Apply pressure to the cylinder **[A]** of the centre section **[F]**, causing it to slide out. Set the correct number of stops **[C]**, re-apply the pressure to the cylinder **[A]**

Set the side sections **[E]** and the centre section **[F]** so that they are at the same height. This guarantees even depth of the machine over its entire width and proper operation of the shafts.

After setting the shafts, adjust the turnbuckle (cylinder) position on the drawbar (see 3.5.2).

3.5.4 Levelling fingers adjustment ARES L 4.5;6.0

Levelling fingers adjustment **[A]** can be done in two directions.

- In vertical direction - pull out the pin **[B]** and lift up or lower the row of levelling fingers **[A]** by locking the pin **[B]** in the corresponding holes.
- In the horizontal direction - pull out the pin **[C]** and move the row of row of levelling fingers **[A]** forward or backward by locking the pin **[C]** in the corresponding holes.

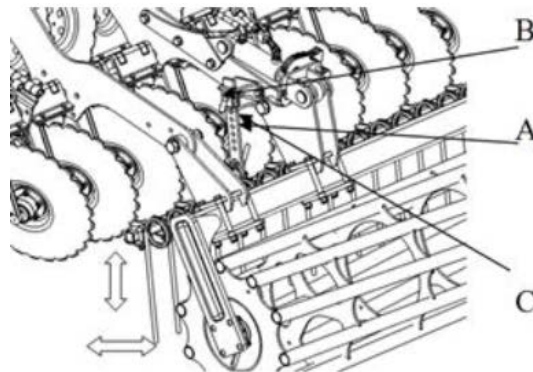
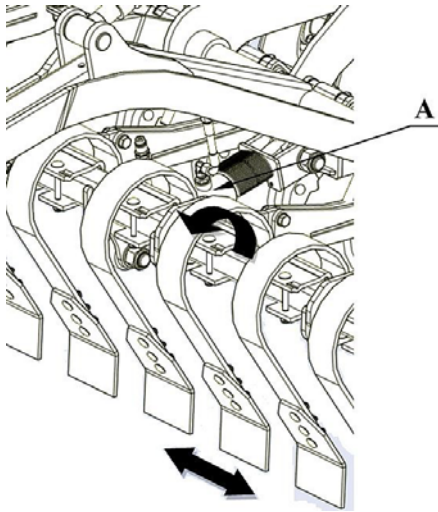


Fig. 15. Levelling fingers adjustment

3.5.5 Front skid adjustment (skid option)



Hydraulic adjustment consists in applying pressure from the tractor's cab to the cylinder **[A]** causing its sliding in/out depending on the required depth of work of the board. Adjust the working depth by sliding out the cylinder.



Do not retract the machine while the skid is buried in the soil. It may cause damage to the unit's components.

Fig. 16. Hydraulic adjustment of the working depth of the skid

3.5.6 Adjustment of the external disc

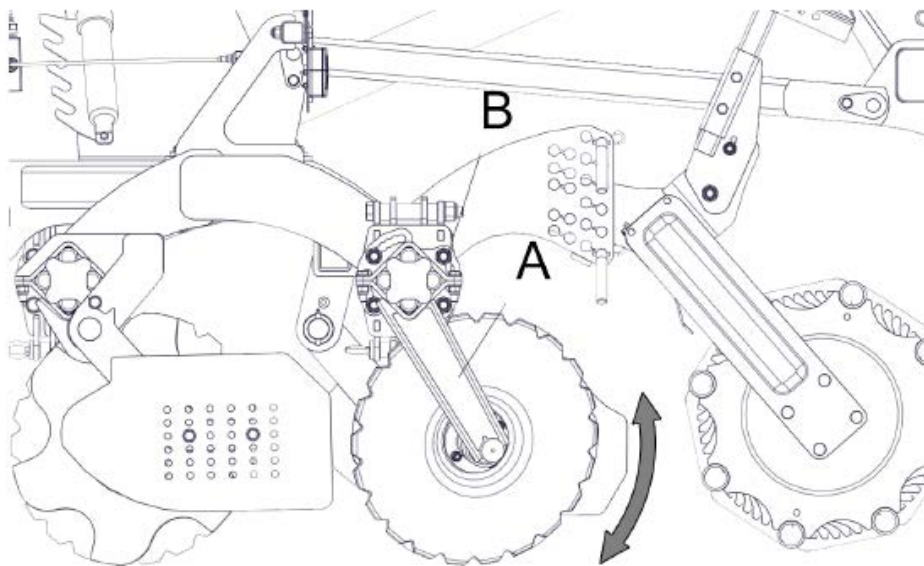


Fig. 17. Adjustment of the external disc

Adjustment of the external disc **[A]** consists of removing the bolts **[B]** and lifting up or lowering the disc together with the beam, by rotating the assembly and locking it again in the selected holes with the bolts **[B]**.

3.5.7 Adjustment of the Folding Hydraulic System ARES L 4.5; 6.0

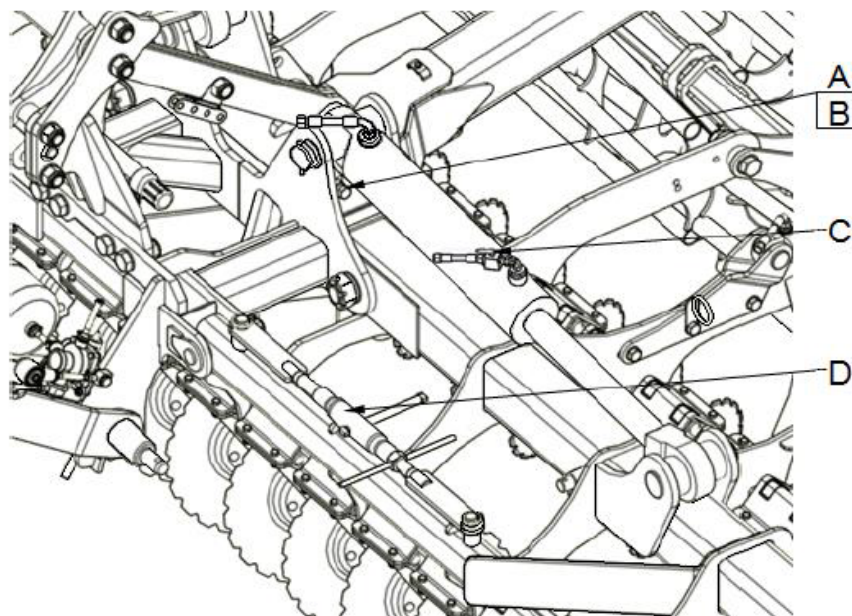


Fig. 18. Adjustment of the folding hydraulic system

Hydraulic adjustment is used to adjust the machine after folding the left and right sections to the transport position. Unlock the nut [B] and unscrew or tighten the screw [A] so that the left and right sections after folding are in the vertical position and lock them with the nut [B]. The lock [D] is used for blocking the machine after folding, while the lever [C] is used for the lock during operation.

3.5.8 Deflectors adjustment (deflector option)

a) Disc deflector ARES L 4,5; 6,0

Height adjustment:

- remove the cotter pin
- pull out the pin [B],
- lift up or lower the deflector [A]
- re-lock with the pin [B] on the corresponding holes.

Width adjustment:

- remove the cotter pin
- pull out the pin [C],
- set the position width of the deflector [A]
- re-lock with the pin [B] on the corresponding holes.

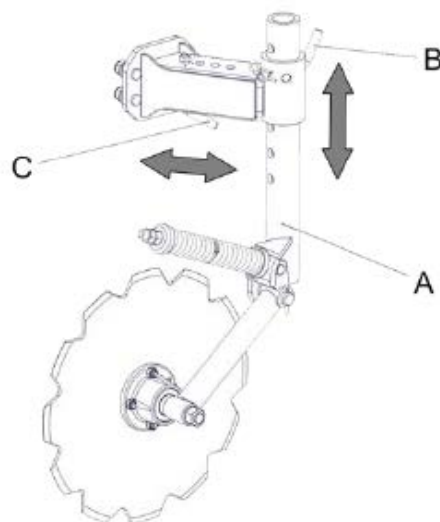


Fig 19. Disc deflector adjustment -
ARES L 4.5; 6.0

b) side deflector ARES L 2.5; 3.0; 3.5; 4.0; (3.0; 3.5; 4.0) DRIVE

To adjust the position of the deflector, unscrew the screws [A] and then set the appropriate position, adjust the holes [B], and tighten the screws [A].

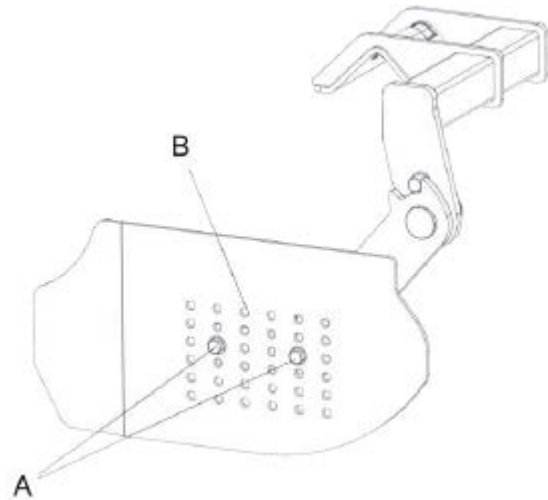


Fig. 20. Side deflector ARES L 2.5;3.0;3.5;4.0 (3.0; 3.5; 4.0) DRIVE

b) side deflector ARES L 4.5; 6.0

To adjust the height and the "front-back" position of the deflector, unscrew the screws [A] and then set the appropriate position of the screws [A] in the holes [B]. Install the screws.

To adjust the position of the deflector, loosen the screws [D] and then extend / retract the deflector arm [C]. Locate the position and tighten the screws [D], tighten the nut.

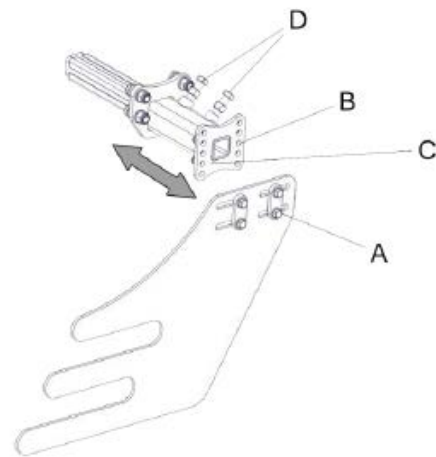


Fig. 21. Side deflector ARES L 4.5; 6.0

3.5.9 Brakes adjustment (chassis with brakes option)

With an excessive idle stroke of the pneumatic cylinder, the adjustment consists in removing the safety ring [1] by loosening the expander lever [2] and moving it in the opposite direction to the braking movement, so that the lever is in a position perpendicular to the brake cylinder axis at the moment of braking.

If the linings are worn out excessively, the brake shoe kit must be replaced. Each time after adjusting, a safety ring must be fitted.

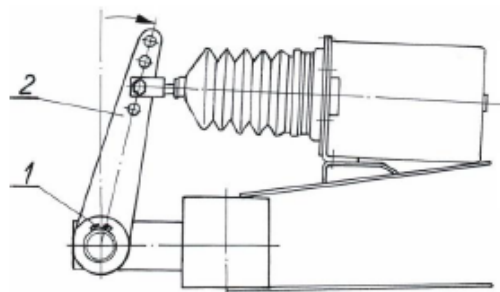


Fig. 24. Brakes adjustment

The service is limited to control the tightness of the system and replacing elements that bear traces of mechanical damage. At least twice a year, and especially before winter, you should dewater the pneumatic system. To do this, unscrew the plug **[1]** Fig. 20 in the lower part of the air tank **[2]** Fig. 20 by 3 to 4 turns. This will squeeze the water collected in the tank. After removing the water, the plug must be re-tightened and the installation checked for leaks.

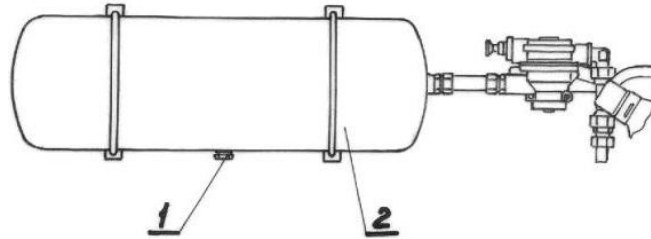


Fig. 23. Dewatering of the pneumatic brake system

3.5.10 Seeder support adjustment (hydropak option - ARES L 2.5; 3.0; 3.5; 4.0)

The seeder support can be adjusted in three directions:

- front-back:

unscrew the screws **[B]**, set the appropriate position of the base, adjust the screws and tighten them

- up-down:

unscrew the screws **[A]**, set the appropriate position of the base, tighten the screws

- tilt angle

loosen the bottom screw **[C]**, unscrew and remove the screw **[D]**, set the appropriate angle of support inclination, adjust the screws **[D]** to the holes **[F]**, tighten the screws

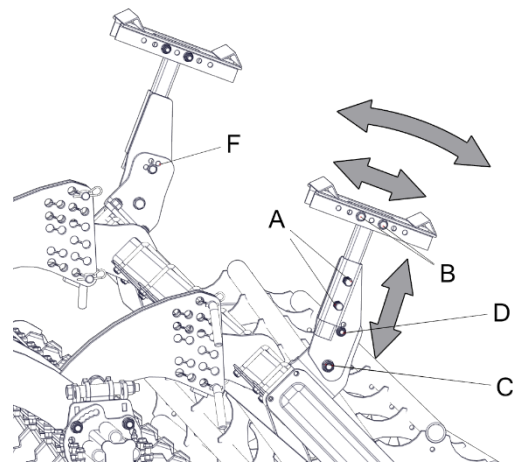


Fig. 24. Seeder support adjustment

3.5.11 Support wheel adjustment (option)

The support wheel **[A]** can be adjusted using the turnbuckle **[B]**. Rotate the turnbuckle so that the support wheel will get up or down.

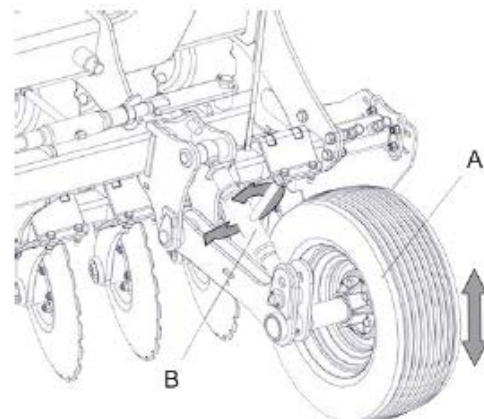


Fig. 25. Support wheel adjustment ARES L 4.5;6.0 (option)

4. Operation

Before beginning the field work with the machine:

- disassemble the warning plates (together with the screwed brackets) for transport on highways
- unfold the foldable units (4.5H; 6.0H) to the working position after disconnection of the locking link,
- switch the hydraulic system to the position or mixed control mode.



- The maximum lifting capacity of the hydropak (optional) of the ARES L machine is 1,400 kg, whereas the ARES L DRIVE machine is 2,000 kg. Do not suspend machines exceeding the given values on the hydropak.

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. The use of original spare parts is a condition for the warranty.

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 and springing.

5.2.1 Bolt, screw and nut tightening torques (Nm)

Table 4

Klasy wytrzymałości śrub					
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

5.3 Lubrication

Use mineral oils for lubrication. Clean the lubrication points before lubricant injection. Lubricate at the marked points in table 5.

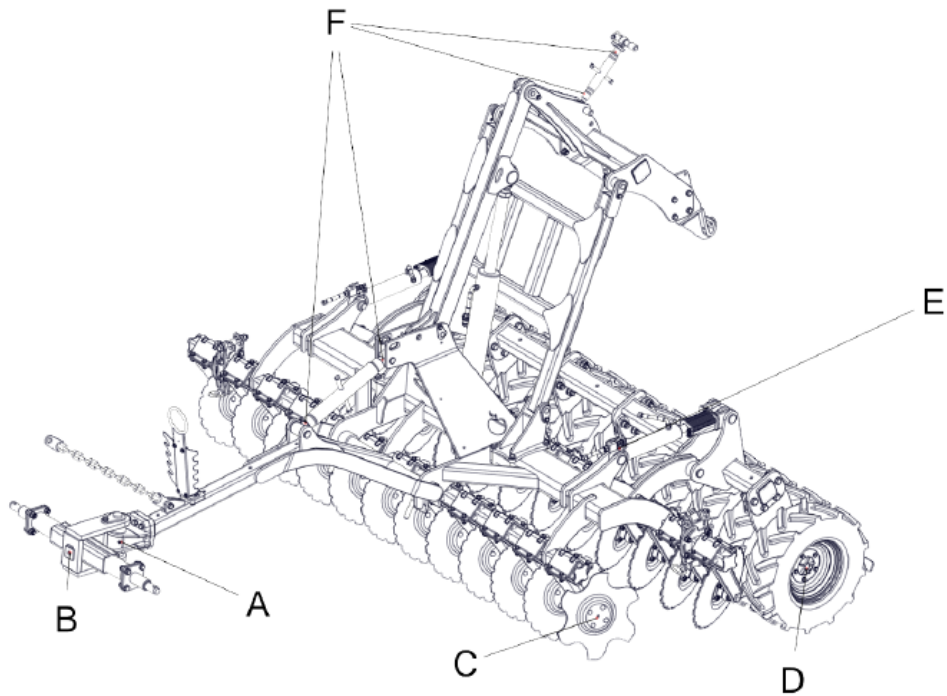


Fig. 26. Lubrication – ARES L (DRIVE)

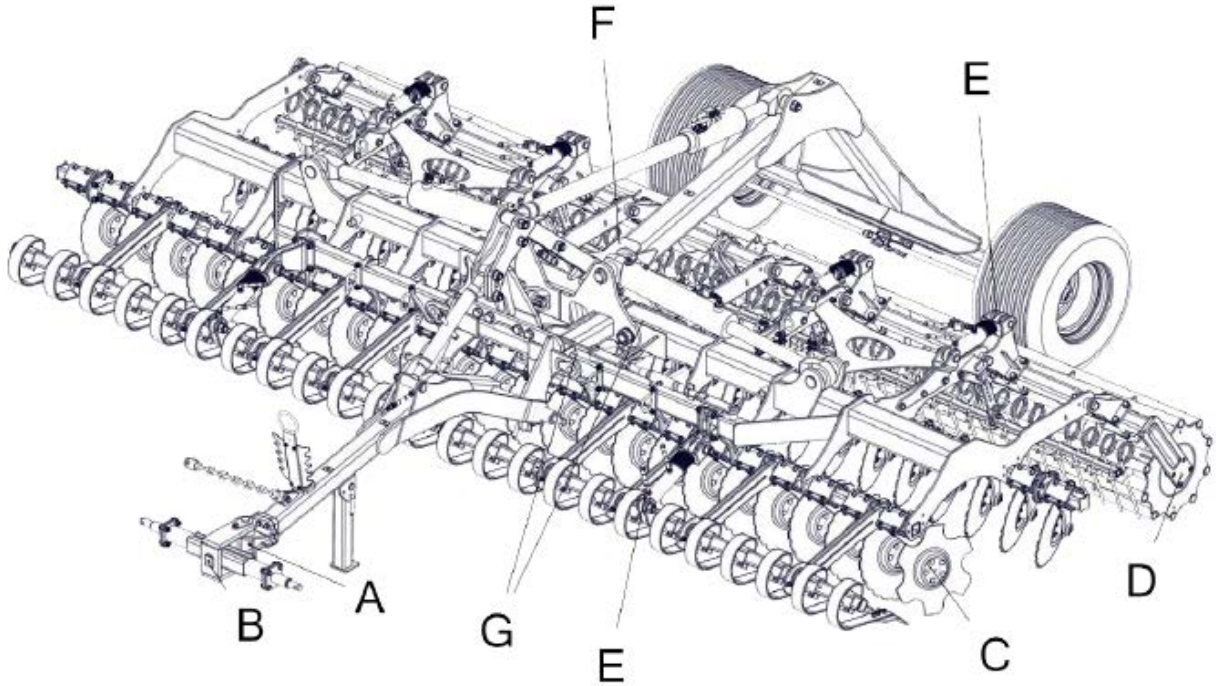


Fig. 27. Lubrication – ARES L 4.5 H; 6.0 H

5.3.1 Lubraction point

Table 5

Item	Designation	Specification	Lubricant grade	Lubrication interval (h)
1	A	Frame joint sleeve	ŁT-4S-3 grease	200
2	B	Frame joint sleeve	-II-	
3	C	Coulter disc hub, bearing unit	-II-	
4	D	Hub, chassis bearing unit, shaft bearing unit	-II-	
5	E	Cylinder's lug	-II-	
6	F	Drawbar joint, tyre roller drawbar pin	-II-	
7	G	Frame joint sleeve	-II-	
Unspecified items lubricate every 300 hectares				

5.4 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 4
- 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

5.5 Disassembly and Disposal

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

5.6 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.

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



UNIA Sp. z o.o.

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