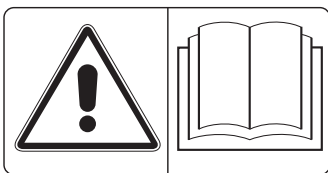




ARBOS

USE AND MAINTENANCE MANUAL

MEK-X



Code 58310241

Rev.00



Translation of the original instructions



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Indice

1.	INTRODUCTION	05
1.1.	GENERAL INFORMATION	05
1.2.	COPYRIGHT	05
1.3.	INFORMATION ABOUT THE MANUAL	05
1.4.	MANUAL UPDATING	05
2.	WARRANTY	06
2.1.	CONDITIONS OF WARRANTY	06
2.2.	WARRANTY INVALIDATION	06
3.	MACHINE PARTS	07
3.1.	IDENTIFICATION DATA PLATE AND CE MARKING	08
3.2.	INFORMATION ABOUT THE MACHINE	08
3.3.	TECHNICAL SPECIFICATIONS	10
3.4.	STORAGE	11
3.5.	FIRST USE OR RESTART AFTER A LONG PERIOD OF INACTIVITY	11
3.6.	SCRAPPING	11
4.	SAFETY AND ACCIDENT-PREVENTION RULES	12
4.1.	SAFETY SIGNS	14
4.1.1.	LOCATION OF THE PICTOGRAMS	14
4.1.2.	DESCRIPTION OF THE PICTOGRAMS	14
4.2.	MOVEMENT AND TRANSPORT	16
4.3.	DRIVING ON A PUBLIC ROAD	16
5.	BEFORE USE	17
5.1.	CONTROLS	17
5.2.	VISIBILITY	17
6.	PREPARING THE MACHINE	18
6.1.	CONNECTING THE MACHINE TO THE TRACTOR	18
6.2.	HYDRAULIC CONNECTIONS	19
6.3.	ELECTRICAL CONNECTIONS	19
6.4.	STARTING-UP THE MACHINE	19
6.5.	SOWING	19
6.6.	REFILLING THE TANK	20
6.7.	SEED TANK DRAIN	20
6.8.	LOW LEVEL SENSOR	21
6.9.	DETACHING FROM THE MACHINE	21
7.	ADJUSTMENTS	21
7.1.	FEELER ADJUSTMENT	21
7.2.	SEED DISPENSER ROLLER ADJUSTMENT	22
7.3.	SEED SPEED GEARBOX	22
7.4.	ADJUSTING THE AMOUNT OF SEEDS TO BE DISTRIBUTED	23
7.4.1.	READING ADJUSTMENT TABLE	23
7.4.2.	TRANSMISSION PARTS ADJUSTMENT TABLE	25
7.4.3.	ADJUSTMENT GRAPHS	26
7.4.4.	GEAR SPEED TABLE FOR SOWING TEST	29
7.5.	TEST FOR CHECKING THE QUANTITY TO BE DISTRIBUTED	29
7.6.	SOWING EXCLUSION FROM HALF THE MACHINE	30
7.7.	SOWING DEPTH ADJUSTMENT	31
7.8.	SEED COVERING HARROW ADJUSTMENT	32
7.9.	ADJUSTING THE ROW MARKER	32
7.9.1.	CONFIGURING THE ROW MARKER	33
7.9.2.	ROW MARKER PREPARATION	33
7.9.3.	SETTING THE POSITION OF THE ROW MARKER	33
7.9.4.	SETTING THE ROW MARKER DISC	34
8.	MAINTENANCE	35
8.1.	MAINTENANCE INTERVENTIONS WHICH MAY BE CARRIED OUT BY THE OPERATOR	36
8.2.	FREQUENCY OF INTERVENTIONS	36
8.3.	SPARE PARTS	37

1. INTRODUCTION

1.1. GENERAL INFORMATION

This manual describes how the machine works and provides instructions on how to execute the main operations correctly, as well as ordinary and periodic maintenance.

This manual is divided into chapters which are easy to identify and consult.

The indications provided in this manual are intended for a professional user, who must have specific knowledge of the modalities of use of the machine and must be authorised, instructed and suitably trained.

The use of original accessories and spare parts is recommended. Besides invalidating the warranty, the use of non-original spare parts could be dangerous, reducing the duration and performance of the machine.

1.2. COPYRIGHT

The copyright for this manual belongs to the machine's Manufacturer. This manual contains texts, drawings and technical illustrations that cannot be disclosed or transmitted to third parties, in whole or in part, without prior written authorisation from the machine's Manufacturer.

1.3. INFORMATION ABOUT THE MANUAL

This manual is to be considered an integral part of the machine and must accompany it if it is resold and until it is destroyed.

In case of loss or damage to this manual, request a new copy from the manufacturer (insert manufacturer's name, address and telephone number) or from the dealer (insert dealer's name, address and telephone number).

The relevant pictograms are displayed on the machine and the operator must ensure that these are kept in perfect condition and replaced when illegible.



This symbol indicates that it is necessary to pay maximum attention to the issue in question.

The **EC Declaration of Conformity** is attached to this manual (if the machine is CE marked).

Some devices described in the manual may not be included with your machine, due to the chosen fittings and the market for which the machine is intended.

1.4. MANUAL UPDATING

The information, descriptions and illustrations in this manual reflect the state of the machine at the time it is sold.

The Manufacturer reserves the right to make changes, at any time, to the machines for commercial or technical reasons. These alterations do not obligate the Manufacturer to intervene as regards commercial vehicles sold up to that point nor to consider this manual inadequate.

Any integration that the manufacturer considers appropriate to make at a later stage must be kept together with this manual and considered an integral part of it.

2. WARRANTY

2.1. CONDITIONS OF WARRANTY

- On delivery, check that the equipment has not been damaged during transportation and that all accessories are present and intact.
- Any claims must be made in writing within 8 days of receipt.
- The warranty against any defects in the materials is valid for one year from the date the machine is delivered.
- The warranty does not include shipment expenses (the material travels at the risk of the addressee).
- Any damage caused to people or objects are excluded from the warranty.
- The warranty is limited to the repair or free replacement of the faulty part.
- The retailer and the user are not entitled to any indemnification from the manufacturer for any damages (costs for work, transport, defective job, direct or indirect incidents, no profit on harvests, etc.).

2.2. WARRANTY INVALIDATION

Besides the indications provided in the supply contract, the warranty is invalidated in the following cases:

- If the limits referred to in the technical data table or in other tables in the manual are exceeded.
- If the instructions described in this manual are not followed carefully.
- In case of incorrect use, faulty maintenance or mistakes made by the customer.
- If non-original spare parts are used.
- The contractual warranty is not applied if the above conditions are not respected, even only partially.
- The use of spare parts not approved by the manufacturer invalidates all warranties and releases the manufacturer or retailer from all liability for malfunctions or accidents.
- Removing or modifying the guards and protective devices releases the manufacturer from all liability for damage to objects or people.

However, the manufacturer is available to ensure immediate and accurate technical support and all that may be necessary to ensure maximum performance and optimal operation of the equipment.

3. MACHINE PARTS

1. Three-point hitch
2. Transmission wheel
3. Seed tank
4. Seed level sensor in hopper
5. Towbar
6. Support feet
7. Transport table light kit
8. Tank loading system with footboard
9. Seed collecting trays
10. Fertiliser gearbox
11. Seed gearbox
12. Coulter
13. Seed-covering harrow

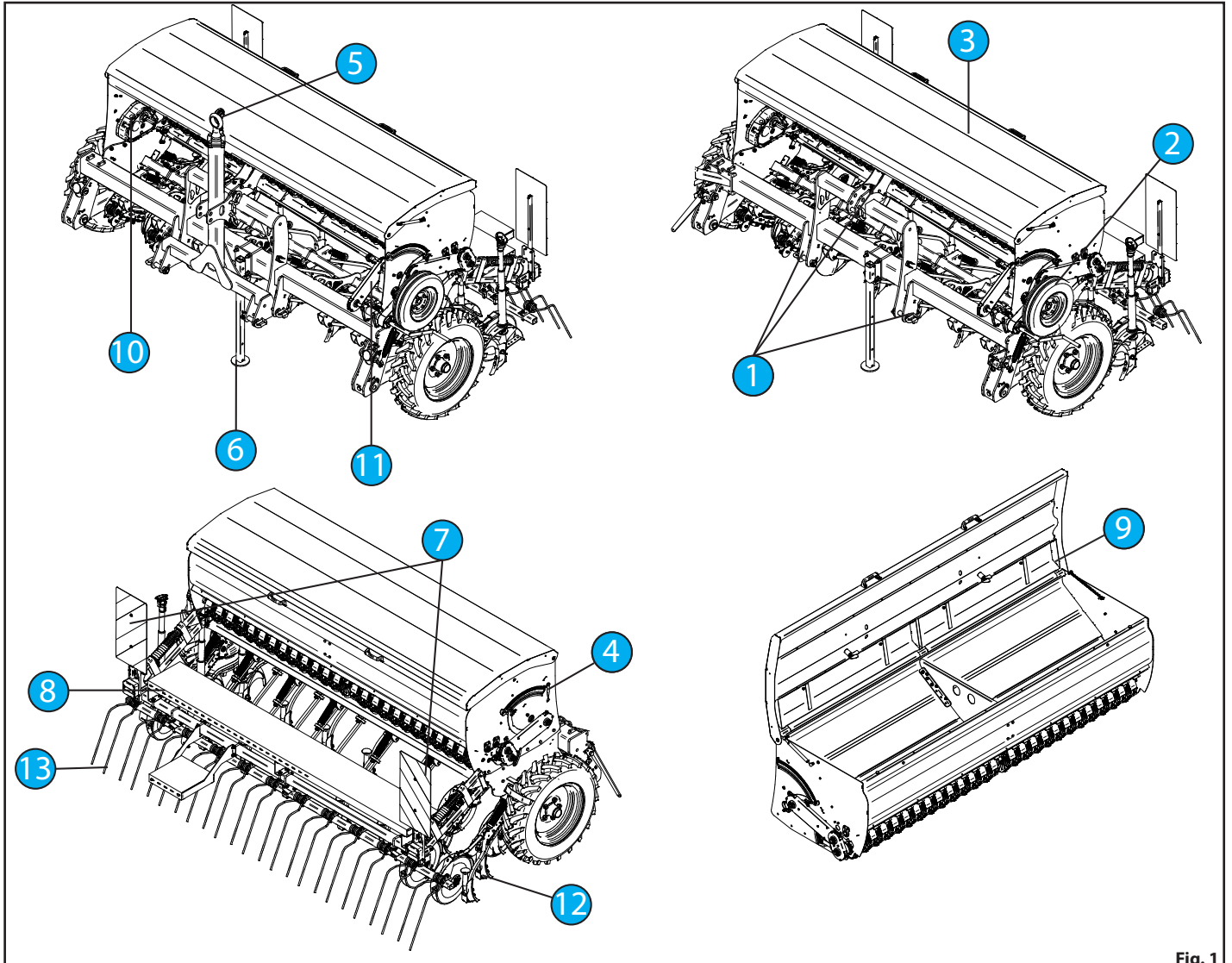


Fig. 1

3.1. IDENTIFICATION DATA PLATE AND CE MARKING

Each machine is equipped with an identification plate (**Fig. 2**) providing the following data:

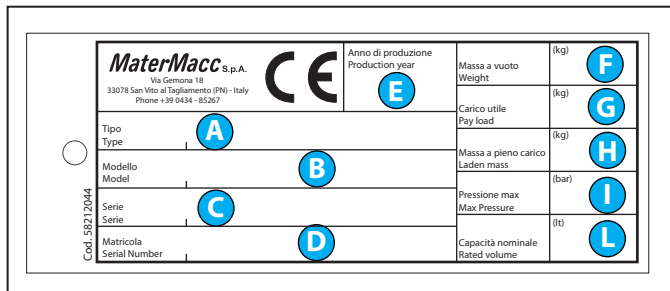


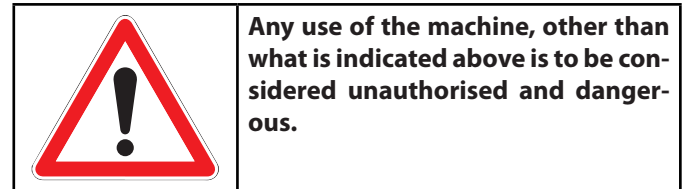
Fig. 2

- A) Machine type**
- B) Machine model**
- C) Machine series**
- D) Serial no.**
- E) Year:** Year the machine was manufactured
- F) Unloaded weight:** weight of the machine unloaded and fully kitted out.
- G) Effective weight:** weight of the machine fully kitted out and with the tank full.
- H) Permitted loaded weight:** total weight of the machine with the tank full.
- I) Maximum pressure:** maximum pressure of the spray system, expressed in bars.
- L) Nominal capacity of the tank:** expressed in litres.

3.2. INFORMATION ABOUT THE MACHINE

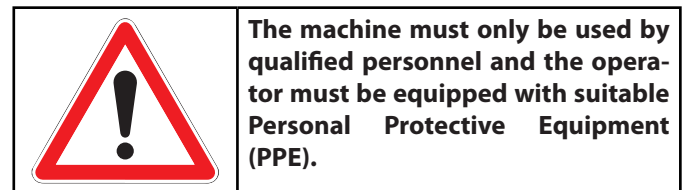
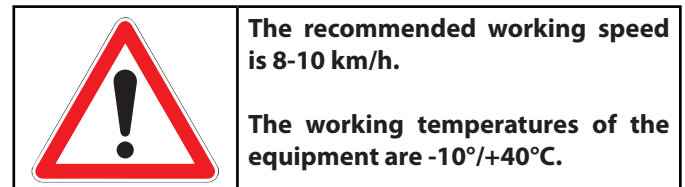
The machine has been designed and constructed exclusively for sowing on soil.

It can be coupled with any tractor equipped with a tow hook, compliant with standards, and with a minimum power as specified in the technical specifications table.



The machine is suitable for sowing:

- **Cereals** (wheat, barley, rye, oats, rice);
- **Forage and fine seeds** (rape, clover, alfalfa, rye-grass);
- **Large seeds** (soya, peas).



The machine is designed to sow on surfaces with an incline of up to 10%.

Correct operation cannot be guaranteed on inclines exceeding 10%.

Operators are reminded of the following:

- Reduce the advancing speed;
- Frequently check that the pipes are free and there is no clogging or obstructions;
- Check that the amount of seed distributed per hectare corresponds to the settings made;
- Do not under any circumstances operate on an incline which could compromise machine stability.

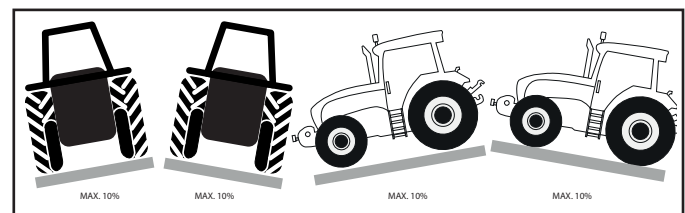


Fig. 3

	Make sure that the terrain is free of the following: • stones or masses of a diameter exceeding 8-10 cm. • tree stumps protruding more than 10 cm. • metal elements of any kind (mesh, cables, ropes, chains, pipes, etc.).
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Good machine operation is ensured by the correct use and suitable maintenance of the machine itself. To ensure good operation and a long service life of the equipment, it is recommended that the information provided in this manual be strictly observed.

	The Manufacturer declines all liability for events caused by negligence or failure to observe Standards and Regulations
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3.3. TECHNICAL SPECIFICATIONS

The data related to the various **MEK-X** seeder models is reported below.

MODEL	NO. OF ROWS	ROW SPACING (mm)	TRANS- PORT WIDTH (cm)	Weight (kg)			Power required (CV)	Seed capacity (litres)	WHEELS	Wheel pres- sure (PSI)
				Coulters	Disc	Double disc				
MEK-X 250	17	140	255	470	540	625	50	420	7.50X16	69
	18	130		480	550	645				
MEK-X 300	20	150	320	545	625	720	70	500	7.50X16	69
	21	140		560	640	745				
	23	130		575	655	770				
	25	120		590	670	795				
MEK-X 350	25	140	350	660	740	865	90	580	7.50X16	69
	27	130		675	755	890				
	29	120		690	790	925				
MEK-X 400	29	140	420	760	840	985	100	670	7.50X16	69
	31	130		775	855	1010				
	33	120		790	870	1055				

Fig. 4

The technical data presented is not in any way binding. The Manufacturer reserves the right to change specifications without prior notice.

3.4. STORAGE

If the machine is not used for long periods, it must be stored in a place not exposed to atmospheric agents and protected in order to avoid damage.

Before storage it is recommended that the machine be cleaned carefully and all the mechanical parts lubricated sufficiently to protect them from rust.

Check that the storage temperature is between 0°C and 50°C. Before storing the machine for long periods:

- **Empty the hopper;**
- **Wash the equipment with abundant water, in particular the chemical substances tanks, then dry it;**
- **Check it carefully and replace any damaged or worn parts;**
- **Grease the vacuum pump strap and replace if necessary;**
- **Grease all the mechanical parts and the blocking pins;**
- **Grease the transmission chains, oil the transmission chains and use a lubricant over all non-painted parts;**
- **Keep the machine in a sheltered area, if possible, on a flat, sturdy surface;**
- **Check that all nuts and bolts are correctly tightened;**
- **Protect the equipment with a sheet;**
- **Remove the control console from the tractor cab.**

3.5. FIRST USE OR RESTART AFTER A LONG PERIOD OF INACTIVITY

Before using the machine for the first time or after a long period of inactivity:

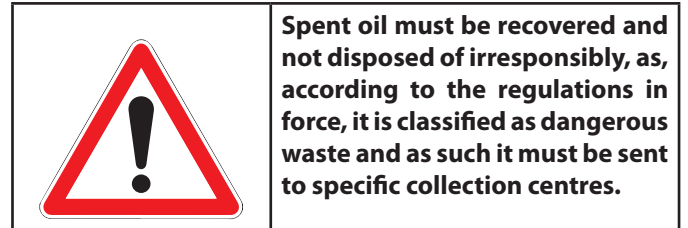
- **Verify that the machine has no damaged parts;**
- **Check that the mechanical units are in good condition and show no sign of rust;**
- **Check that the light bars operate correctly (if present);**
- **Carefully grease all the mobile parts;**
- **Check that there are no oil leaks from connections or pipes;**
- **Check that all the protective devices are correctly in place;**
- **Set the seeder into action and let the engine idle, the flow of air frees the ducts of condensate and removes any impurities.**

3.6. SCRAPPING

In case of scrapping, the machine must be disposed of in specific waste disposal sites, in compliance with the legislation in force.

Before scrapping, plastic or rubber parts must be separated.

Remove any waste oil and dispose of it at an appropriate collection centre.



For the collection of waste oil, it is mandatory to refer to the "Obligatory Consortium of Used Oils".

The parts made only of plastic, aluminium and steel can be recycled if collected by the specific centres.

4. SAFETY AND ACCIDENT-PREVENTION RULES

Correct use of the appliance, careful attention to the rules listed below, and strict application of all precautions to prevent any dangerous situations or the risk of accidents and injuries ensure better long-term operation of the appliance and reduce the likelihood of faults to a minimum.

Matermacc declines any responsibility, objective or subjective, where the rules governing behaviour provided in this manual are not applied or respected.

- The machine is not recommended for use in fields other than the agriculture sector.
- The machine must be used by a single operator driving the tractor.
- Any use which differs from the one specified is considered improper.
- The machine must only be used by authorised, instructed and properly trained personnel. The assigned operator, in addition to having read the instructions provided in this manual, must undergo adequate training on the use of the machine and must have a valid driving licence. The operator must contact the manufacturer should they have any doubts on the use of the machine with or understanding the present manual.
- The manual must be kept somewhere so that it is accessible and in proximity, so that the operator can consult it at any time, where necessary. If the manual is misplaced or damaged, contact the Matermacc Company for a replacement copy.
- The operator must ensure that during operation, no persons or animals are in close proximity to the machine. Never operate the machine near persons stopped or in transit within the machine operating area.
- Do not use the machine if suffering from fatigue, ill or under the effects of alcohol, prescribed medication or drugs.
- This machine is only used during the day. If there is an exceptional requirement to use the machine at night or in conditions of reduced visibility, the lighting system provided with the tractor, or an auxiliary lighting system, must be used.
- Any arbitrary modification made to the machine takes away all responsibility from the Matermacc Company for damages or injuries which may be experienced by operators, third parties and objects.
- Before you switch the machine on, check it every time.
- The Matermacc Company cannot list every improper use which may reasonably lead to a potential hazard.
- The label applied to the machine provides a list of important instructions: please observe them to ensure your safety.
- Make sure that the emergency pictograms are readable. Clean them and replace them, when necessary, with new labels. Before using the machine, ensure that all safety devices are in the correct place and in good condition; where they are faulty or damaged, immediately replace them.
- Before descending from the tractor and before every

maintenance operation, activate the stationing parking brake, turn the engine off, remove the ignition key from the dashboard and take care of it.

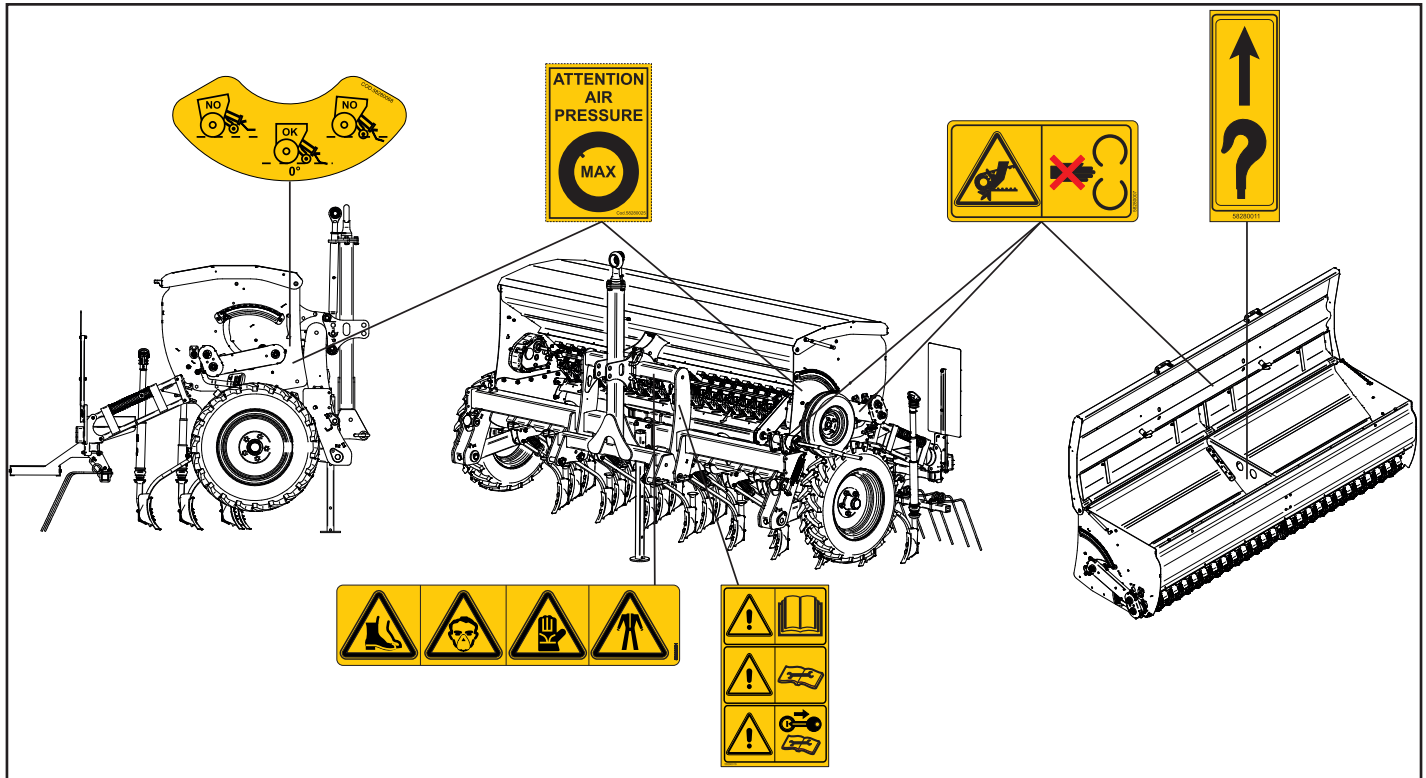
- Personnel must use the safety provisions and individual protection devices when using or carrying out maintenance of the machine.
- We recommend that operators of the machine do not wear items of clothing which may become tangled in the aforementioned.



- During use, the machine may emit dust. It is advised to verify the filters on the cabin ventilation system periodically or use suitable protection systems for the respiratory tracts such as anti-dust masks.
- During use, the operator must have sufficient visibility on working areas considered as dangerous, therefore it is opportune to keep the mirrors supplied on the tractor clean and in a perfect state.
- The machine must not be left unsupervised where the traction engine is on.
- Keep the machine clean from foreign material (detritus, tools, various objects), that could damage the functioning or cause damages to the operator.
- Avoid using it on muddy or soft ground.
- Verify the wear of the hydraulic tubes. Replace them if deteriorated.
- Do not use the controls or flexible tubes as handles; these components are mobile and do not offer a stable support.
- Any modifications to the machine may raise safety concerns. In such an instance, the operator will be wholly responsible for any incidents.
- It is strictly forbidden to remove or tamper with safety devices.
- Check that the emergency pictograms are in good condition. If the pictograms become damaged, they must be replaced with new originals requested from the manufacturer and placed in the position indicated in the use and maintenance manual.
- Pay attention to the risk of unintentional contact of the seeder's arms with high voltage cable.
- Never use the machine to transport people, animals or objects.
- Attach the machine, as provided for, to a tractor that has a suitable power and configuration by means of the appropriate device (lifter) and is in compliance with regulations.
- The attachment pins category of the equipment must correspond to that of the lifter attachment.
- Pay attention when operating in areas with the arms lifted.

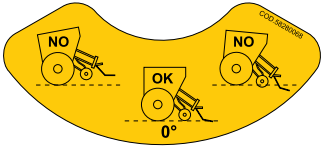
- Attach the machine, as provided for, to a tractor that has a suitable power and configuration by means of the appropriate device (lifter) and is in compliance with regulations.
- Pay the maximum attention during the equipment coupling and uncoupling phases.
- It is strictly prohibited to stand between the tractor and the attachment to manoeuvre the lifting control from outside.
- It is strictly prohibited to stand between the tractor and the machine with the engine on and cardan inserted.
- Do not remove the protection grid inside the loading hopper, in order to avoid risks of possible contact with mobile elements.
- The application of an additional equipment to the tractor involves a different distribution of the masses on the axles. Therefore it is advisable to add suitable ballasts to the front part of the all-purpose tractor in order to balance the masses on the axles.
- Respect the maximum mass provided for on the axles, the mobile mass, transportation regulations and the Highway Code.

4.1.1. LOCATION OF THE PICTOGRAMS



4.1.2. DESCRIPTION OF THE PICTOGRAMS

CAUTION - RISK OF TOXIC SUBSTANCES.	
	
LIFTING POINT	
TYRE PRESSURE	
CORRECT MACHINE ANGLE	

4.2. MOVEMENT AND TRANSPORT

If the machine needs to be transported over a long distance, it can be loaded onto a truck or other form of transport.

When moving the machine, lift it using a hoist or suitable crane with sufficient lifting capacity. The coupling points can be identified by the symbol "lifting point".

- Machine loading and unloading operations can be dangerous unless carried out with extreme care. Ensure that there are no unauthorised persons in the area. Clear the loading and unloading area and ensure it is cordoned off.
- Ensure that the means available are suitable and intact.
- Ensure that the working area is clear and there is a suitable "escape route", namely, a clear safe area the operators can reach immediately should the machine fall.
- Ensure operators are wearing suitable PPE, suitable clothing and the protections indicated (gloves, protective shoes, helmet, etc.).
- The surface where the machine is to be loaded/unloaded must be perfectly level to prevent the risk of the load moving unintentionally.
- When moving the machine, lift it by hooking it to the designated connections using a hoist or suitable crane with sufficient lifting capacity.

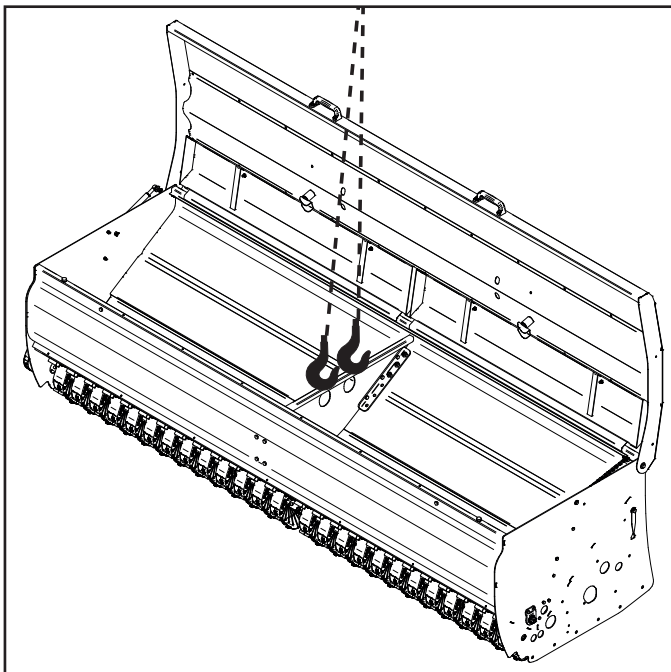
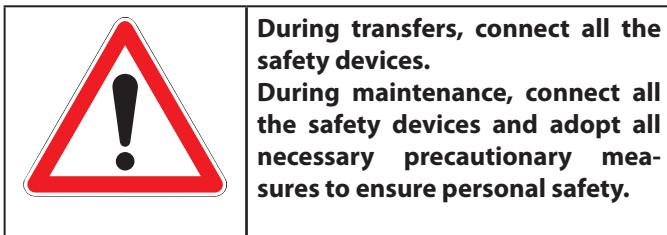


Fig. 6

4.3. DRIVING ON A PUBLIC ROAD



If it is necessary to drive on a public road, it is mandatory to strictly respect the relevant highway code, paying particular attention to the speed.

When driving on the road, respect the relevant highway code for the specific country.

Any accessory used for transportation must be equipped with specific signals and adequate protective devices.

- Before starting to drive, install any optional light bars.
- It is mandatory to equip the machine with a yellow or orange flashing light.
- Check the tyre pressure and restore the pressure if necessary.
- Check that the towing eyelet of the seeder and the tow hook of the tractor have been coupled correctly.
- Check that the female plate connection (FLAT-FACE) is always connected to the tank return before moving the machine.
- Before starting to drive on a public street from a non-paved or dirty surface, the tractor wheels must be cleaned carefully and any mud present must be removed.
- When driving on a public street, the machine must be in the transport position and the power socket of the tractor must be unplugged.
- The weight of the machine modifies the stability of the combination tractor-seeder, influencing the steering ability as well as the braking ability, it is thus important to proceed with a moderate speed.
- It is very important to remember that road-holding and steering and braking abilities may be influenced, even heavily, by the presence of any equipment which is being carried or towed.
- On bends, pay particular attention to the centrifugal force on the machine with or without the carried equipment, especially on sloping streets or terrain.
- For transportation, set and fix the chains on the lifting side arms of the tractor; verify that the lids on the seed and fertiliser tanks are well sealed; put the control lever on the hydraulic lifter in the blocked position.
- Transport outside the working area must be carried out with the equipment in transport position. This also implies that all hydraulic connection must be unplugged from the tractor.

- If fully-loaded or semi-loaded equipment blocks the visibility of the signalling devices and illumination of the tractor, these devices must be adjusted on the equipment, in compliance with the relevant highway code.



When transporting the machine on the road, the hopper must be empty and travel at a maximum speed of 25 Km/h.

5. BEFORE USE



Verify that during the work, all the machine parts function correctly. Please note that most accidents and damages are caused by slackening of the fixing parts.

- As there is a general settling of all the mechanical parts and the hydraulic connections during the first period of use, it is essential that inspections are carried out on the machine with maximum precision.
- Before using the machine, make sure that no animals or people are standing within the working area.
- it is strictly prohibited to take off and/or modify the protective devices on the machine.
- Do not use the machine when ill, tired or under the effect of medications, drugs or alcohol.
- Before using the machine, it is essential to learn the layout of the controls on the panel and their function.
- While opening or closing the folding frame, do not stand in the vicinity of the machine for any reason whatsoever.
- The machine must be used by a single operator driving the tractor.

5.1. CONTROLS

All the controls are highlighted by the specific labels indicating their function and explaining their actions and positions in the cabin through pictorials.

5.2. VISIBILITY

The working areas can be checked through the tractor rear-view mirrors and within the operator's range of vision.



CAUTION - driving in reverse gear may create blind spots which are not visible through the rear mirrors

6. PREPARING THE MACHINE



Before using the machine, familiarise yourself with the controls and operating abilities.

- In every situation, the operator's entire body must be completely inside the cabin, in order to reduce the possibility of being exposed to any external dangers.
- Before coming down from the tractor and before every operation of maintenance and regulation, action the parking brake, switch the engine off, remove the ignition key from the dashboard and wait for all the mobile elements to stop.
- The safety of the operator and those around the machine depends on the operator's judgement and prudence in using the machine. Therefore, it is necessary to know the position and the functions of all the controls.
- The machine must always be in a perfect state of operation and must be repaired with original spare parts only.
- This agricultural equipment can only operate through connection to an agricultural tractor equipped with a tow bar, compliant with standards, and a hydraulic distributor with a relief valve calibrated to 180bar.
- The equipment is particularly suited to direct sowing and sowing on land which has been prepared (minimal tilling or traditional tilling).
- The machine can be equipped with various accessories.
- The fundamental concept of "modularity" has been developed and combined with that of "simplicity", in terms of both construction and "ease of use".
- The hopper can be used as single tank to contain one type of product (seeds or granular fertilizer) and, thanks to an internal bulkhead, a double tank for the synchronised distribution of two different products.
- Seed distribution is variable, depending on the specific requirements.
- Working speed is determined by a combination of different factors such as: type of seed (weight and dimensions), condition of the land.

6.1. CONNECTING THE MACHINE TO THE TRACTOR

Make sure that only a tractor with a suitable configuration for towing the machine is used.

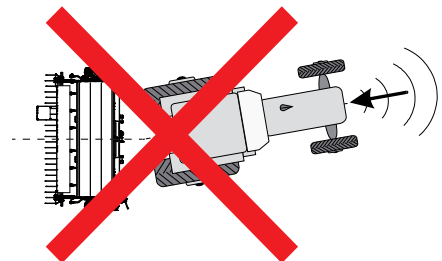


During use, adjustments, maintenance, repairs or movement, the operator must use adequate personal protective equipment (PPE)



Connection operations to the tractor could be dangerous. Be extremely careful to carry out the entire operation following the instructions.

NO



OK

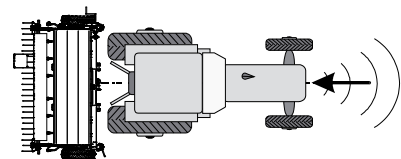


Fig. 7

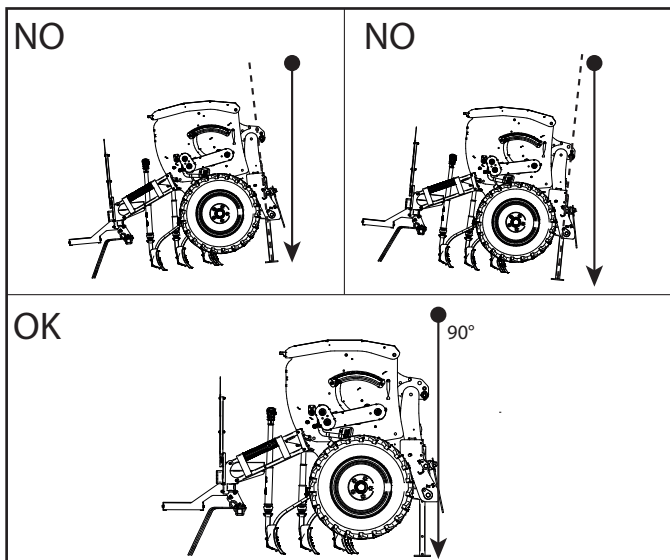
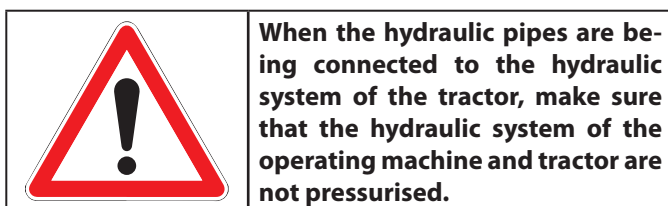


Fig. 8

To couple the tractor to the machine, the operator must move the tractor with the reverse gear until it reaches the connections on the machine with the back lifters (**Fig. 6**).

- Engage the parking brake of the tractor, switch the engine off, remove the ignition key and step down.
- Insert the pivots and the relative pins/split pins.
- Connect the third point (tightener) of the machine to the tractor, lift the machine until the power take-offs of the machine and tractor are at the same height, and adjust the tightener, bringing the machine into a horizontal position.
- Block the tractor lifters, in order to stop the machine swinging sideways, as this would compromise the stability of the unit.

6.2. HYDRAULIC CONNECTIONS



- The hydraulic connections between the tractor and the machine must be identifiable by colour so as to eliminate the risk of incorrect connections. If the tubes are incorrectly attached there could be a risk of accident.
- During transport by road, the hydraulic connections between the tractor and the machine must be disconnected and fixed in the appropriate support.

The quick-fit connections of the hydraulic system can be identified by the coloured plug as follows:

- **BLUE (2 pipes):** side folding tabs, to be connected to the dual-effect distributor.
- **GREEN:** lifting of rear carriage and towbar, to be connected to a single-effect distributor with floating function.

- **YELLOW:** fan delivery, to be connected to a priority distributor with flow control, suitable for hydraulic motor actuation (continuous flow approx. 22 litres) and heat exchanger.
- **FLAT-FACE FEMALE CONNECTION:** fan return and other circuits, with max. resistance of 4bar.
- **RED (if row markers are present):** hydraulic row marker, to be connected to the dual-effect distributor.

6.3. ELECTRICAL CONNECTIONS

For the connection, select a point of the electrical installation that guarantees a power capacity of at least **5A**.

Make sure that the cross section of the main cables and any connecting plugs are adequate and protected by fuses to ensure correct operation.

6.4. STARTING-UP THE MACHINE

Before using the machine, familiarise yourself with the controls and operating abilities.

Before starting work, make sure that there are no people or animals in the working area.

Before starting the job, check that ALL the protections of the machine are integral and in perfect working order.

6.5. SOWING

Once the seeder is correctly coupled to the tractor, you can prepare it for sowing.

Preliminary operations

- Check that all transmission drive lines are connected correctly.
- Load the seed tanks, ensuring that no foreign objects enter the tanks.
- Free the row tracer arms (if present).

Adjustment

To obtain correct seed density per hectare (Kg/Ha), the distribution organs must be properly adjusted, namely:

- Feeler adjustment.
- Seed dispenser roller adjustment.
- Slide gates adjustment
- Variator setting.

Setting up

- Perform a **TEST** to check the amount of seed to be distributed.
- Turn the drive wheel to send part of the seed from the hopper to the dispensers and from these to the individual coulters.
- Make sure all the coulters dispensed seeds.

Checks while sowing

Once all the previously mentioned operations have been carried out, the seeder is ready to work. However we recommend you run a few meters in both directions to make sure that you are sowing as required. In particular:

- The coulters supply lines are positioned correctly and there should be no constrictions or breaks along all the lines;
- Sowing depth corresponds to the desired one;
- The coverage of the seed is sufficient;
- The driving wheel turns in a constant and uniform way;
- Avoid turning corners and driving in the reverse, when the machine is under ground. ALWAYS LIFT the machine to change direction and move in reverse gear.
- Ensure that sowing speed is aligned with the type of ground being worked in order to avoid any machine breakage or damage.
- It is forbidden for people to stand or work in proximity of containers with chemical substances, or open containers when the seeder is operating, or about to be operated.

6.6. REFILLING THE TANK

The tanks can be refilled manually.

Remember that when lifting weights exceeding **25 kg**, more than one operator is required.



During tank loading and unloading, the operator must use adequate PPE (gloves, overalls, masks, etc.).

- The tanks must be filled when the land to be sowed has been reached.
- Before refilling the tank, follow the instructions for calculating the minimum front ballast to apply on the tractor in order to ensure the necessary stability for the tractor-seeder.
- Lower the lifter completely and activate the tractor's parking brake.
- All the tank's loading and unloading operations are carried out on the land to be sowed, with the seeder stopped on the land, the frame open, parking brake engaged, engine off and ignition key removed from the control panel.
- It is advisable to carry out these operations in a flat area without obstacles.
- Ensure that nobody can approach the chemical substances.
- Make sure no foreign objects enter the tank during the filling operations.
- Do not overload the hopper beyond the permitted maximum load.

6.7. SEED TANK DRAIN

To empty the seeds from the hopper; follow the instructions below:

- Act on the lever **14** at both ends to lower the grain descent line support **16**.

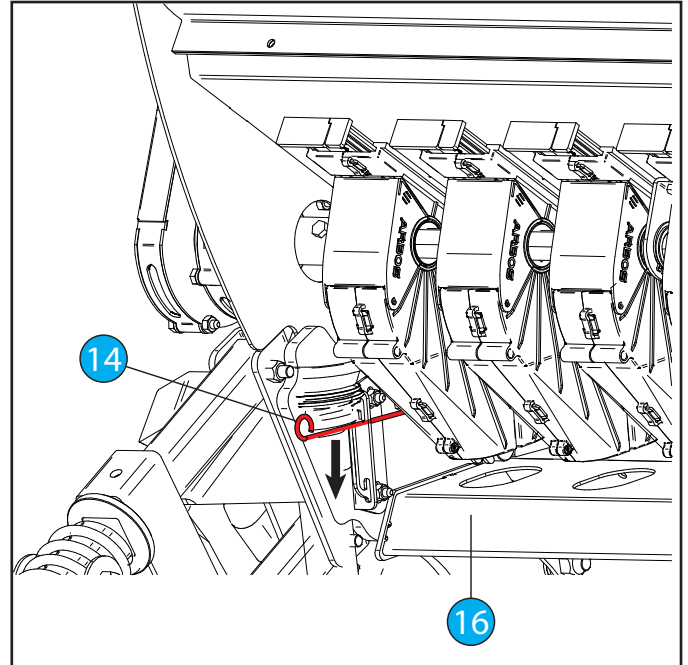


Fig. 9

- Release the seed collection tank **17** and position it below the seed outlets.

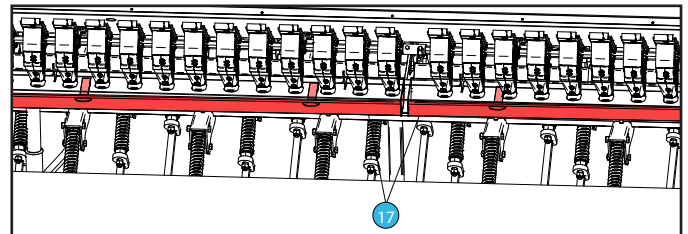


Fig. 10

- Move the lever **15** of the dispenser to the empty position (**POS A**, beyond position 7) to empty the hopper.

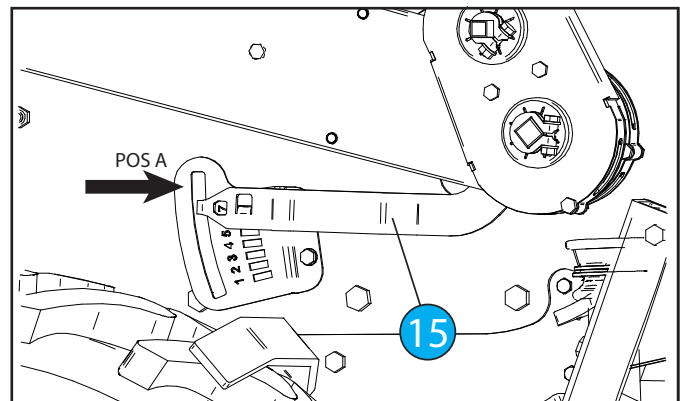


Fig. 11

- When the operation has been completed, re-position the bush housing and the dispenser lever in the work position.

6.8. LOW LEVEL SENSOR

The seeder is equipped with a device which controls the seed level inside the hopper.

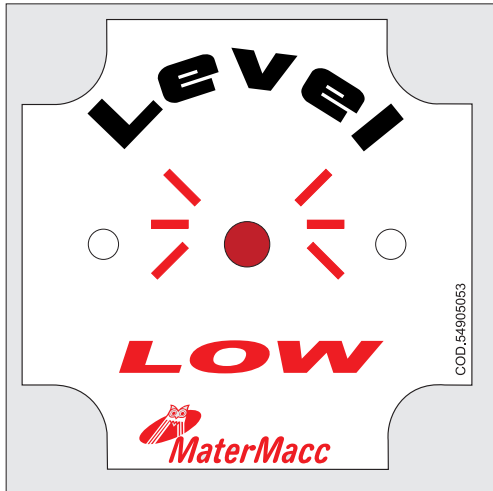


Fig. 12

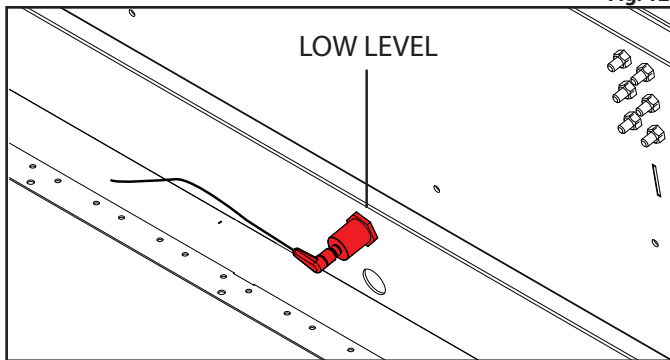


Fig. 13

6.9. DETACHING FROM THE MACHINE

When you park the machine, it is necessary to:

- Apply the tractor parking brake;
- Place the machine on flat ground, making sure that it is stable;
- Stop the tractor engine;
- Extract the ignition key from the control panel and keep it safe;
- Come down from the driving position;
- Carefully unload all the seeds;
- Remove the pin and pivot and detach the tie-rod (third point);
- Remove the anti-thread pins and connection pivots and then the back hydraulic lifting arms of the tractor from the connection points on the machine;
- get back into the tractor cab;
- start the tractor and move away carefully
- Protect the equipment with a sheet.



The land on which the machine is parked must be flat and within a protected area so that only those authorized may approach it.

7. ADJUSTMENTS

To obtain correct seed density per hectare (Kg/Ha), the distribution organs must be properly adjusted (gearbox, feelers, graduated slide gates).

7.1. FEELER ADJUSTMENT

The adjustment lever of the feelers acts on a graduated scale **from 1 to 7**.

On the basis of the type of seed used for sowing, position the feelers according to the indications provided in the adjustment table.

Correctly positioned feelers ensure fluid and constant seed distribution.

To obtain the best seed distribution, check the position of the feelers regularly, setting the lever to position 1 and checking that they are all in the same position in relation to the separator inside the distributor. If this is not the case, correct the error by acting on the screw **18** behind the distributor.

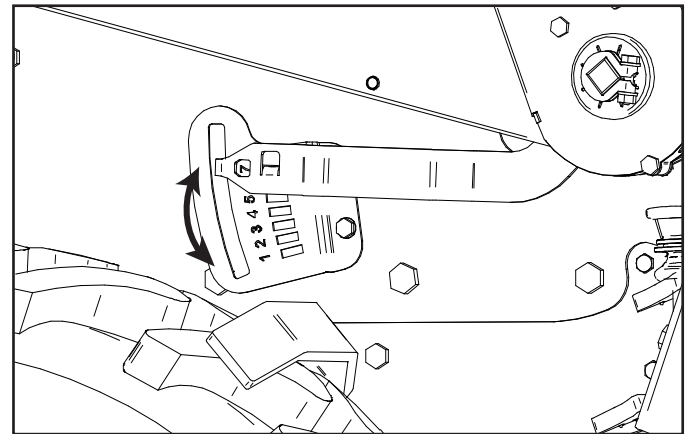


Fig. 14

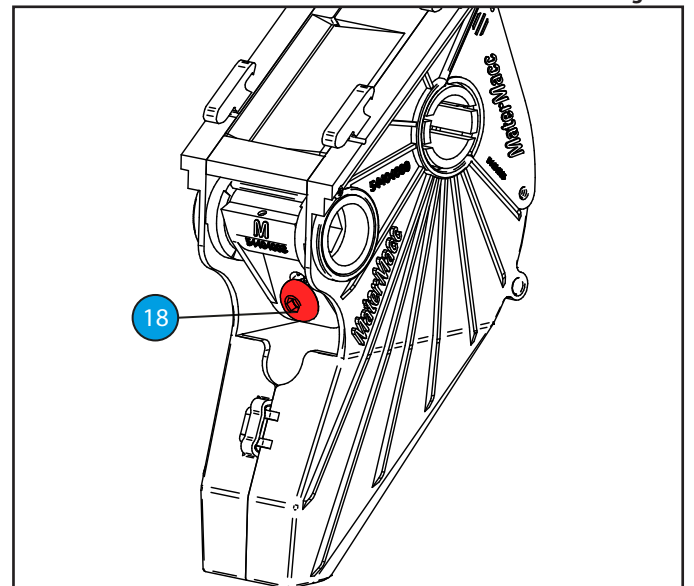


Fig. 15

Do not adjust the feelers with the distributors full of seed. If necessary, close the slide gates, empty the dispensers, adjust the feelers and reset the slide gates as before.

7.2. SEED DISPENSER ROLLER ADJUSTMENT

Depending on the type of seed, set the graduated slide gates (**W** and **N**) according to the indications provided in the table (see page 23).

To set the type of dispenser roller, act on the green (**W**) and yellow (**N**) slide gates.

By acting on the green slide gates (**W**), the settings for sowing large seeds and large amounts will be modified.

By acting on the yellow slide gates (**N**), the settings for sowing smaller seeds and smaller amounts will be modified.

The position of the slide gates ensures a regular flow of the seed into the distributor.

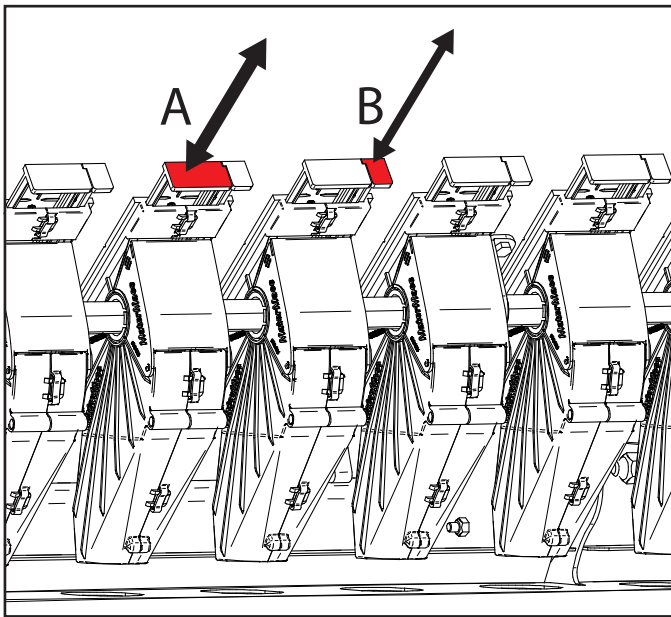


Fig. 16

7.3. SEED SPEED GEARBOX

The variator adjusts the speed of rotation of the distribution rollers and thereby the amount of seed distributed, acting on the adjustment lever which has a scale of 0 to 100.

- Loosen the knob **26**
- Bring the lever to the full scale (100)
- Bring the lever to 0
- position it correctly on the value identified (on the basis of the amount to be distributed)
- Lock the lever and tighten the knob **26**

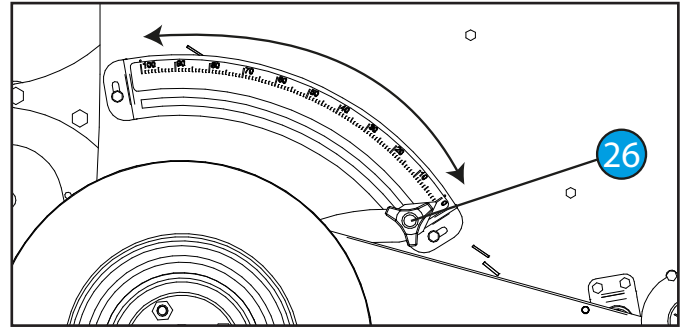


Fig. 17

7.4. ADJUSTING THE AMOUNT OF SEEDS TO BE DISTRIBUTED

7.4.1. READING ADJUSTMENT TABLE

Depending on the features of the seeder, a specific seed distribution adjustment table is provided. It can be found inside the cover.

Users are reminded that the tables supplied are by way of example as, for the same type of seed, the amount to be distributed may change depending on the specific weight, moisture, quality and type of soil.

The tables indicate the position to set the gear depending on the type of seed, row spacing and the amount of seeds to be distributed.

Sowing table key:

- 1) Seeder adjustment table.
- 2) Distribution table by type of seed.
- 3) Row spacing.
- 4) Amount to distribute.
- 5) Position of gear.
- 6) Table for performing sowing test.
- 7) Row spacing table for the machine model

MEK-X

250 - 300 - 350 - 400

Cod. 58212005

!! ATTENZIONE !!
È importante leggere il libretto d'uso prima di effettuare una prova di semina.
I valori della tabella sono indicativi, si raccomanda pertanto, di compiere una prova di rotazione.

!! ATTENTION !!
Please, read the user's manual before carrying out a seeding test.
The chart values are indicative therefore we suggest to do a rotation test.

!! ATTENTION !!
Il est important de lire le livre D'UTILISATION avant de faire une essai de semis.
Les valeurs du tableau sont approximatives, nous recommandons de faire un essai de rotation.

!! ACHTUNG !!
Vor Ausführung eines Saattests sollte unbedingt die Bedienungsanleitung gelesen werden.
Die Werte in der Tabelle sind Richtwerte, daher wird empfohlen, einen Rotationstest durchzuführen.

!! ATENCION !!
Es importante leer el manual de utilización antes de hacer una prueba de siembra.
Los valores de la tabla son aproximados, por lo tanto se recomienda, una prueba de rotación.

!! ВНИМАНИЕ !!
Важно ознакомиться с руководством по эксплуатации перед пробным посевом.
Приведенные в таблице значения являются ориентировочными, поэтому рекомендуется выполнить пробную операцию.

5

Numero file Number rows Nombre rangs Reihenzahl Número hileras Hileras	Interfila Spacing Ecartement Abstand Distancias Hileras Междурядья (mm)
MEK-X 250	17 140
	18 130
	20 150
MEK-X 300	21 140
	23 130
	25 120
MEK-X 350	25 140
	27 130
	29 120
MEK-X 400	29 140
	31 130
	33 120

1

Semente Seeds Saargut Semence Semilla Семена	W	3-A	2
Fumento - Wheat - Ble - Weizen - Trigo - Пшеница	W	3-A	2
Orzo - Barley - Orge - Gerste - Cabada - ячмень	W	3-A	1
Avena - Oat - Avoine - Hafer - Avena - Овес	W	4-A	1
Segale - Rye - Seigle - Roggen - Centano - Рожь	W	3-A	1
Soia - Soya - Soya - Soia - Soia - Soyabohne - Soya - Soja	W	3-A	1
Piselli - Peas - Pois - Erbeen - Arveja - Гречка	W	3-A	1
Farro - Spelled - Épeautre - Dinkel - Espelta - Пшеница	W	4-A	1
Loietto - Darnel - Ryegrass - Weidelgras - Cizaña - Плевен	W	4-A	1
Colza - Colza - Colza - Raps - Colza - Panc	N	1-C	1
Trifoglio - Red Clover - Trefle - Rotklee - Trebol - Клевер	N	1-C	1
Erba Medica - Lucerne - Luzerne - Pfiementgras - Alfalfa - Люцерна	N	1-C	1

7

GEAR BOX POSITION	120	130	140	150
10	32	29	27	24
15	49	45	41	37
20	68	62	57	51
25	87	80	73	66
30	108	100	91	82
35	130	120	109	99
40	153	141	129	117
45	178	163	149	135
50	203	187	170	154
55	229	211	192	174
60	256	236	215	195
65	285	262	239	216
70	314	289	264	239
75	344	316	289	261
80	375	345	315	285
85	407	374	342	309
90	440	405	369	334
95	473	436	398	360
100	508	467	427	386

Kg/Ha

3

GEAR BOX POSITION	120	130	140	150
10	20	19	17	15
15	33	30	28	25
20	46	43	39	35
25	60	56	51	46
30	75	69	63	57
35	90	83	76	69
40	106	98	89	81
45	123	113	103	93
50	140	129	117	106
55	157	145	132	120
60	176	162	148	134
65	195	179	164	148
70	214	197	180	163
75	235	216	197	178
80	255	235	215	194
85	277	255	233	210
90	299	275	251	227
95	322	296	270	245
100	345	318	290	262

Kg/Ha

2

GEAR BOX POSITION	120	130	140	150
10	13	12	11	10
15	20	18	16	15
20	27	25	23	21
25	35	32	29	27
30	43	40	36	33
35	52	48	44	40
40	62	57	52	47
45	71	66	60	54
50	82	75	69	62
55	92	85	77	70
60	103	95	87	78
65	115	105	96	87
70	126	116	106	96
75	139	127	116	105
80	151	139	127	115
85	164	151	138	125
90	177	163	149	135
95	191	176	160	145
100	205	189	172	156

Kg/Ha

6

GEAR BOX POSITION	120	130	140	150
10	2	2	2	2
15	3	3	3	3
20	5	4	4	4
25	6	6	5	5
30	8	7	6	6
35	9	8	8	7
40	11	10	9	8
45	12	11	10	9
50	14	13	12	11
55	16	14	13	12
60	17	16	15	13
65	19	18	16	15
70	21	20	18	16
75	23	21	20	18
80	25	23	21	19
85	28	25	23	21
90	30	27	25	23
95	32	30	27	24
100	35	32	29	26

Kg/Ha

TEST

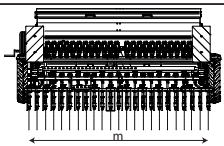
MOD.	Ha.	MOD. (⊕)	(⊕)
MEK-X 250	1/100	7.50x16"	32,4
MEK-X 300	1/100	7.50x16"	25,9
MEK-X 350	1/100	7.50x16"	22,2
MEK-X 400	1/100	7.50x16"	19,4

Pesare la quantità di seme raccolto nelle vaschette e moltiplicare X100 per ricavare i Kg/ha.
Weigh the amount of seeds collected in the container and multiply it x100 in order to obtain the kg / ha.
Peser la quantité de semence recueillies dans les bacs, et le multiplier X 100 afin d'obtenir le Kg/ha.

Die in den Wannen gesammelte Samenmenge auswiegen und mit 100 multiplizieren, um kg/ha zu erhalten.
Pesar la cantidad de semilla recogida en la tolva y multiplicar X 100 para obtener los Kg / Ha.
Взвесить количество собранных в емкость семян и умножить на X100 для получения значения кг/га.

X 100 = Kg/ha

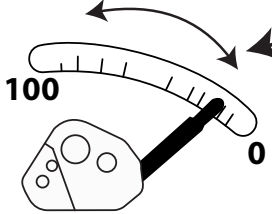
Page 23



	Numero file Number rows Nombre rangs Reihenzahl Numero hileras Номер файла	Interfila Spacing Ecartement Abstand Distancias Hileras Междурядье (mm)
MEK-X 250	17	140
	18	130
MEK-X 300	20	150
	21	140
	23	130
MEK-X 350	25	120
	25	140
	27	130
MEK-X 400	29	120
	29	140
	31	130
	33	120

Frumento - Wheat - Ble - Weizen - Trigo - Пшеница

GEAR BOX POSITION	Interfila - Spacing - Ecartement - Abstand - Distancias Hileras - Междурядье (mm)			
	120	130	140	150
10	32	39	27	24
15	49	45	41	37
20	68	62	57	51
25	87	80	73	66
30	108	100	91	82
35	130	120	109	99
40	153	141	129	117
45	178	163	149	135
50	203	187	170	154
55	229	211	192	174
60	256	236	215	195
65	285	262	239	216
70	314	289	264	239
75	344	316	289	261
80	375	345	315	285
85	407	374	342	309
90	440	405	369	334
95	473	436	398	360
100	508	467	427	386
	Kg/Ha			



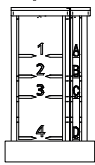
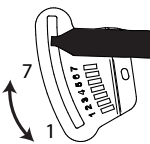
Quantità seme - Quantity of seed -
 Quantité de semence - Aussaatmenge -
 Cantidad de semilla - Количество семян

- 1) Type of machine (working width, row spacing)
- 2) Amount to distribute (Kg/Ha).
- 3) Position the gearbox lever (0-100)

7.4.2. TRANSMISSION PARTS ADJUSTMENT TABLE

To obtain correct seed coverage, the following distribution parts must be adjusted:

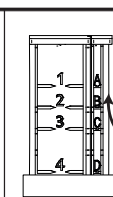
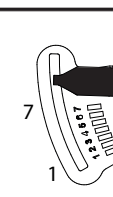
- 1) Seed dispenser roller.
- 2) Outlet closing plates
- 3) Feeler adjustment lever

	1	2	3
Semente Seeds Saargut Semence Semilla Семена			
Frumento - Wheat - Ble - Weizen - Trigo - Пшеница	W	3-A	2
Orzo - Barley - Orge - Gerste - Cabada - ячмень	W	3-A	1
Avena - Oat - Avoine - Hafer - Avena - Овес	W	4-A	1
Segale - Rye - Seigle - Roggen - Centano - Рожь	W	3-A	1
Soia - Soya - Soya - Soiabhone - Soya - Соя	W	3-A	1
Piselli - Peas - Pois - Erbeen - Arveja - Горох	W	3-A	1
Farro - Spelled - Épeautre - Dinkel - Espelta - Полба	W	4-A	1
Loietto - Darnel - Ryegrass - Weidelgras - Cizaña - Плевел	W	4-A	1
Colza - Colza - Colza - Raps - Colza - Раяс	N	1-C	1
Trifoglio - Red Clover - Trefle - Rotklee - Trebol - Клевер	N	1-C	1
Erba Medica - Lucerne - Luzerne - Pflimengraf - Alfalfa - Люцерна	N	1-C	1

Example of transmission organs adjustment

Type of seed "OAT"

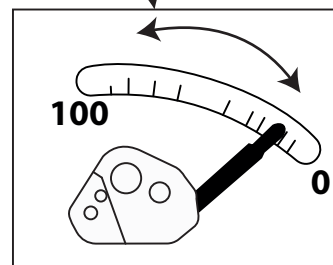
- Use the large distribution roller "W"
- Set the plates to "4-A"
- Set the feeler lever to **position 1**

Semente Seeds Saargut Semence Semilla Семена			
Avena - Oat - Avoine - Hafer - Avena - Овес	W	4-A	1

Example of how to read the graph

- Type of seed "OAT".
- Spacing between rows **120 mm**.
- To distribute **120 Kg/Ha**.
- Look for the value closest to 120 Kg/Ha in the 120 mm row spacing column. In this case we have **123 Kg/Ha**.
- On the same row, find the corresponding value to set the gear to.
- Set the gear lever to **position 55**.

Avena - Oat - Avoine - Hafer - Avena - Овес				
GEAR BOX POSITION	In/Interfila - Spacing - Ecartement - Abstand - Distancias Hilas - Междурады (mm)			
	120	130	140	150
10	1	15	14	12
15	26	24	22	20
20	36	33	30	28
25	47	43	40	36
30	58	54	49	44
35	70	65	59	53
40	83	76	70	63
45	96	88	80	73
50	109	101	92	83
55	123	114	104	94
60	138	127	116	105
65	153	141	129	117
70	169	156	142	129
75	185	171	156	141
80	202	186	170	154
85	220	202	185	167
90	238	219	200	181
95	256	236	215	195
100	275	253	231	209
Kg/Ha				



7.4.3. ADJUSTMENT GRAPHS

Fumento - Wheat - Ble - Weizen - Trigo - Пшеница				
GEAR BOX POSITION	Interfila - Spacing - Ecartement - Abstand - Distancias Hileras - Междурядье (mm)			
	120	130	140	150
10	32	29	27	24
15	49	45	41	37
20	68	62	57	51
25	87	80	73	66
30	108	100	91	82
35	130	120	109	99
40	153	141	129	117
45	178	163	149	135
50	203	187	170	154
55	229	211	192	174
60	256	236	215	195
65	285	262	239	216
70	314	289	264	239
75	344	316	289	261
80	375	345	315	285
85	407	374	342	309
90	440	405	369	334
95	473	436	398	360
100	508	467	427	386
	Kg/Ha			

Orzo - Barley - Orge - Gerste - Cebada - ячмень				
GEAR BOX POSITION	Interfila - Spacing - Ecartement - Abstand - Distancias Hileras - Междурядье (mm)			
	120	130	140	150
10	22	20	18	17
15	35	32	29	26
20	49	45	41	37
25	64	59	54	49
30	80	73	67	61
35	97	89	81	73
40	114	105	96	87
45	133	122	112	101
50	152	140	128	116
55	172	159	145	131
60	193	178	162	147
65	215	198	180	163
70	237	218	199	180
75	259	239	218	197
80	283	260	237	215
85	306	282	257	233
90	330	304	278	251
95	355	327	298	270
100	380	350	319	289
	Kg/Ha			

Avena - Oat - Avoine - Hafer - Avena - Овес				
GEAR BOX POSITION	Interfila - Spacing - Ecartement - Abstand - Distancias Hileras - Междурядье (mm)			
	120	130	140	150
10	16	15	14	12
15	26	24	22	20
20	36	33	30	28
25	47	43	40	36
30	58	54	49	44
35	70	65	59	53
40	83	76	70	63
45	96	88	80	73
50	109	101	92	83
55	123	114	104	94
60	138	127	116	105
65	153	141	129	117
70	169	156	142	129
75	185	171	156	141
80	202	186	170	154
85	220	202	185	167
90	238	219	200	181
95	256	236	215	195
100	275	253	231	209
	Kg/Ha			

Segale - Rye - Seigle - Roggen - Centano - Рожь				
GEAR BOX POSITION	Interfila - Spacing - Ecartement - Abstand - Distancias Hileras - Междурядье (mm)			
	120	130	140	150
10	20	19	17	15
15	33	30	28	25
20	46	43	39	35
25	60	56	51	46
30	75	69	63	57
35	90	83	76	69
40	106	98	89	81
45	123	113	103	93
50	140	129	117	106
55	157	145	132	120
60	176	162	148	134
65	195	179	164	148
70	214	197	180	163
75	235	216	197	178
80	255	235	215	194
85	277	255	233	210
90	299	275	251	227
95	322	296	270	245
100	345	318	290	262
	Kg/Ha			

Soia - Soya - Soja - Soiabhone - Soya - Соя				
GEAR BOX POSITION	Interfila - Spacing - Ecartement - Abstand - Distancias Hileras - Междурядье (mm)			
	120	130	140	150
10	26	24	22	20
15	43	40	36	33
20	61	56	51	46
25	81	74	68	61
30	102	93	85	77
35	124	114	104	94
40	148	136	124	112
45	173	159	146	132
50	200	184	168	152
55	229	210	192	174
60	258	238	217	196
65	290	266	243	220
70	322	296	271	245
75	356	328	299	271
80	392	361	329	298
85	429	395	361	326
90	468	430	393	356
95	508	467	427	386
100	549	505	462	418
Kg/Ha				

Piselli - Peas - Pois - Erbeen - Arveja - Горох				
GEAR BOX POSITION	Interfila - Spacing - Ecartement - Abstand - Distancias Hileras - Междурядье (mm)			
	120	130	140	150
10	28	26	24	22
15	47	43	39	35
20	66	61	56	51
25	88	81	74	67
30	111	102	94	85
35	136	125	114	104
40	162	149	136	123
45	190	175	160	144
50	219	202	184	167
55	249	229	209	189
60	281	258	236	213
65	313	288	263	238
70	346	319	291	263
75	381	350	320	289
80	416	382	349	316
85	452	415	379	343
90	488	449	410	371
95	525	483	441	399
100	563	518	473	428
Kg/Ha				

Farro - Spelled - Épeautre - Dinkel - Espelta - Полба				
GEAR BOX POSITION	IntInterfila - Spacing - Ecartement - Abstand - Distancias Hileras - Междурядье (mm)			
	120	130	140	150
10	9	9	8	7
15	15	14	12	11
20	20	19	17	16
25	27	24	22	20
30	33	31	28	25
35	40	37	34	31
40	48	44	40	36
45	55	51	46	42
50	64	58	53	48
55	72	66	61	55
60	81	75	68	62
65	91	83	76	69
70	101	93	84	76
75	111	102	93	84
80	122	112	102	92
85	133	122	111	101
90	144	133	121	110
95	156	144	131	119
100	168	155	141	128
Kg/Ha				

Loietto - Darnel - Ryegrass - Weidelgras - Cizaña - Плевел				
GEAR BOX POSITION	Interfila - Spacing - Ecartement - Abstand - Distancias Hileras - Междурядье (mm)			
	120	130	140	150
10	13	12	11	10
15	20	18	16	15
20	27	25	23	21
25	35	32	29	27
30	43	40	36	33
35	52	48	44	40
40	62	57	52	47
45	71	66	60	54
50	82	75	69	62
55	92	85	77	70
60	103	95	87	78
65	115	105	96	87
70	126	116	106	96
75	139	127	116	105
80	151	139	127	115
85	164	151	138	125
90	177	163	149	135
95	191	176	160	145
100	205	189	172	156
Kg/Ha				

Colza - Colza - Colza - Raps - Colza - Panc				
GEAR BOX POSITION	Interfila - Spacing - Ecartement - Abstand - Distancias Hileras - Междурядье (mm)			
	120	130	140	150
10	2	2	2	2
15	3	3	3	3
20	5	4	4	4
25	6	6	5	5
30	8	7	6	6
35	9	8	8	7
40	11	10	9	8
45	12	11	10	9
50	14	13	12	11
55	16	14	13	12
60	17	16	15	13
65	19	18	16	15
70	21	20	18	16
75	23	21	20	18
80	25	23	21	19
85	28	25	23	21
90	30	27	25	23
95	32	30	27	24
100	35	32	29	26
Kg/Ha				

Trifoglio - Red Clover - Trefle - Rotklee - Trebol - Клевер				
GEAR BOX POSITION	Interfila - Spacing - Ecartement - Abstand - Distancias Hileras - Междурядье (mm)			
	120	130	140	150
10	2	2	2	2
15	4	3	3	3
20	5	4	4	4
25	6	6	5	5
30	8	7	7	6
35	9	9	8	7
40	11	10	9	8
45	13	12	11	10
50	15	13	12	11
55	16	15	14	12
60	18	17	15	14
65	20	19	17	16
70	23	21	19	17
75	25	23	21	19
80	27	25	23	21
85	30	27	25	22
90	32	29	27	24
95	35	32	29	26
100	37	34	31	28
Kg/Ha				

Erba Medica - Lucerne - Luzerne - Pfiemenfgraf - Alfalfa - Люцерна				
GEAR BOX POSITION	Interfila - Spacing - Ecartement - Abstand - Distancias Hileras - Междурядье (mm)			
	120	130	140	150
10	2	2	2	2
15	4	3	3	3
20	5	4	4	4
25	6	6	5	5
30	8	7	7	6
35	9	9	8	7
40	11	10	9	8
45	13	12	11	10
50	15	13	12	11
55	16	15	14	12
60	18	17	15	14
65	20	19	17	16
70	23	21	19	17
75	25	23	21	19
80	27	25	23	21
85	30	27	25	22
90	32	29	27	24
95	35	32	29	26
100	37	34	31	28
Kg/Ha				

7.4.4. GEAR SPEED TABLE FOR SOWING TEST

The table below shows the number of revolutions that the seeder gear must make to carry out a sowing test with the machine stationary.

MODEL	Ha.	Wheel model	Number of revolutions 
MEK-X 250	1/100	7.50X16"	32.4
MEK-X 300	1/100	7.50X16"	25.9
MEK-X 350	1/100	7.50X16"	22.2
MEK-X 400	1/100	7.50X16"	19.4



SPEED (BY WAY OF EXAMPLE): 1 REVOLUTION/SECOND

7.5. TEST FOR CHECKING THE QUANTITY TO BE DISTRIBUTED

For accurate sowing, run a sowing test.



The test should be carried out with the machine stopped.

During this test, be VERY CAREFUL where there are moving parts.

After having set the machine according to the type of seed, and following the indications in the sowing table, proceed as follows:

- Lift the machine leaving the transmission wheels free to turn.
- Act on the lever **14** at both ends to lower the grain descent line support **16**.

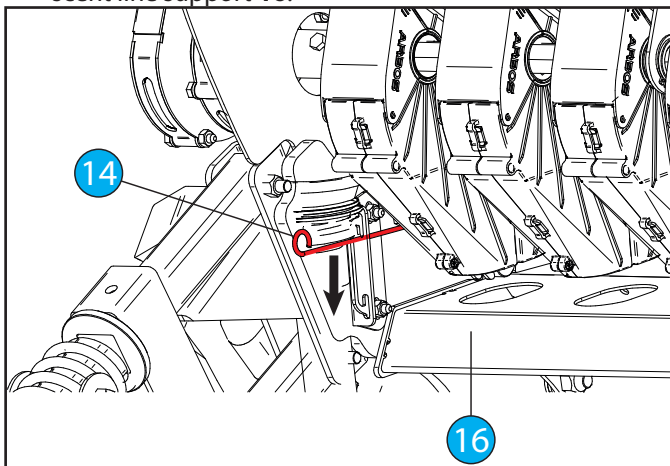


Fig. 18

- Release the seed collecting trays **17** from the cover and position them below the seed outlets.

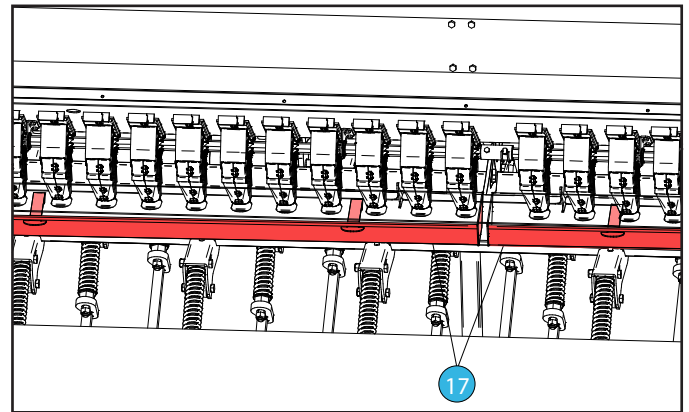


Fig. 19

- Refill the hopper to at least half its capacity.
- Before beginning the test, turn the transmission wheel a few times using the designated handle to load the distributors. Then unload the seed collection trays and reposition them below the distributors.
- Turn the handle the number of revolutions indicated in the table based on the type of machine.

MODEL	Ha	Wheel model	Handle revolutions
MEK-X 250	1/100	7.50X16"	32.4
MEK-X 300	1/100	7.50X16"	25.9
MEK-X 350	1/100	7.50X16"	22.2
MEK-X 400	1/100	7.50X16"	19.4

The values in the table are always to be considered BY WAY OF EXAMPLE.

- Weigh the seeds collected in the trays and multiply the number by **100**. The result is the amount of Kg/Ha.
- If the weight is greater or less than desired, simply decrease or increase the value to be set on the gearbox.

7.6. SOWING EXCLUSION FROM HALF THE MACHINE

In order to perform finishing jobs, the machine is equipped with a system for excluding distributors on the right part of the machine from sowing.

To exclude the right part of the machine, disconnect the pin and position it as shown in fig. 20.

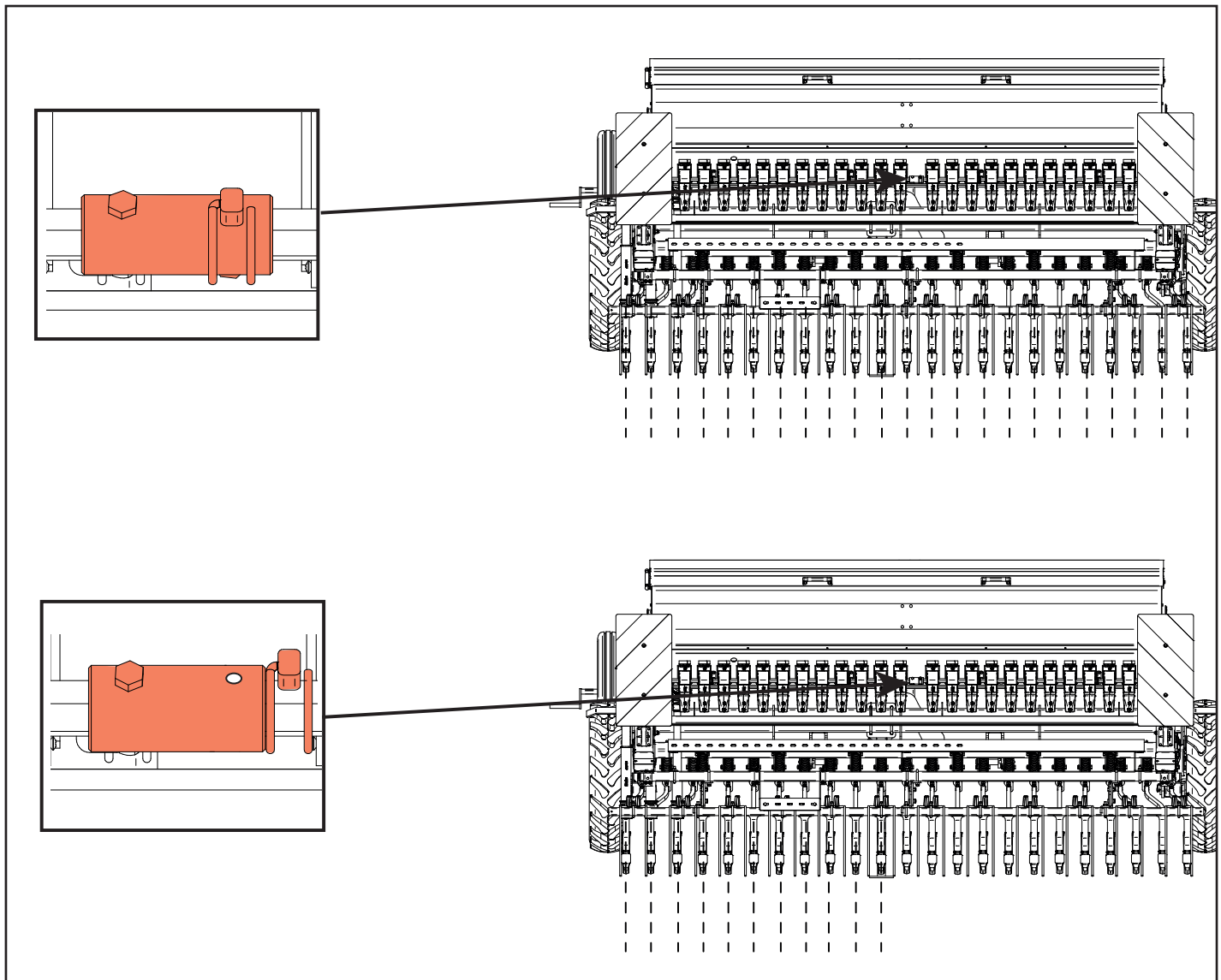


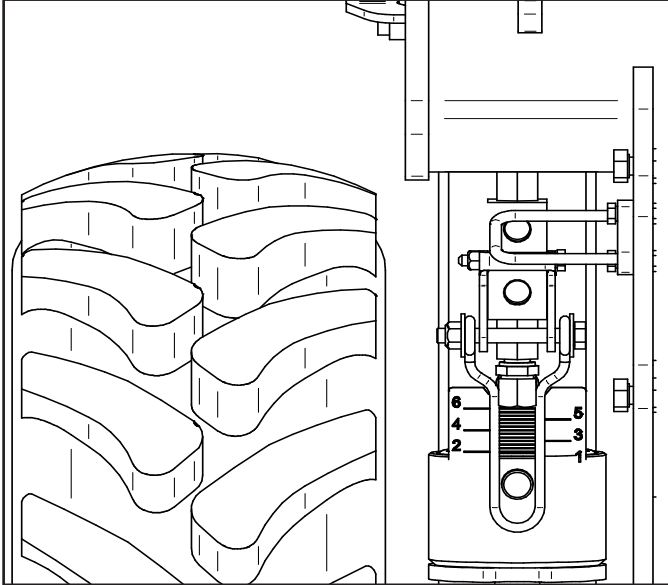
Fig. 20

7.7. SOWING DEPTH ADJUSTMENT

Sowing depth can be adjusted depending on the conditions of the soil and one own habits.

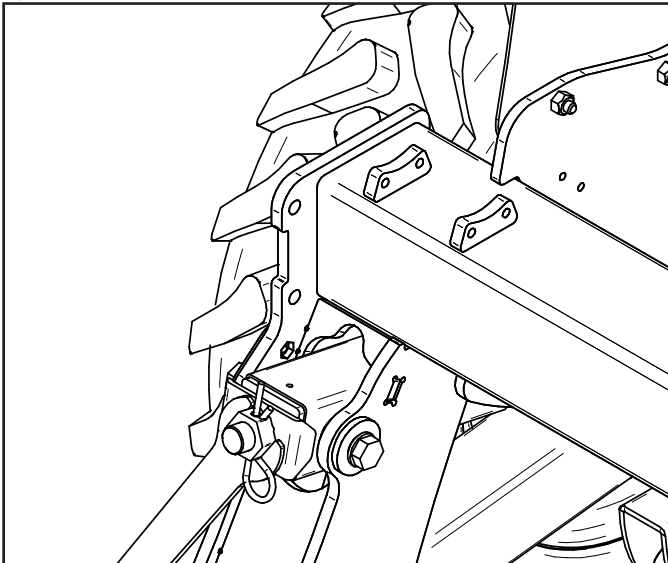


It is recommended that the coulters working behind the wheels of the seeder and tractor be set to a higher pressure and, if necessary, their height be lowered with respect to the others.

A) Towed**Fig. 21**

In the case of a towed machine, first of all raise the seeder fully, turn the ferrule block **21** and let the limiting ferrule rotate **22**. Loosen to reduce the sowing depth, tighten to increase the sowing depth.

When the depth has been set, remember to reposition the block **21**.

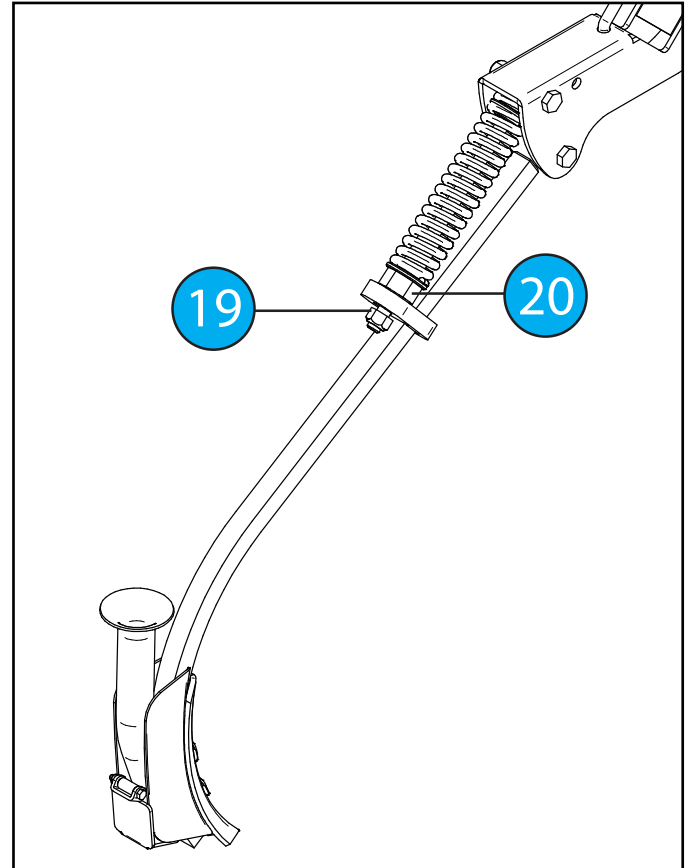
B) Load**Fig. 22**

In the case of a carrying machine, raise the seeder from the ground, remove the "r" pin **23** and the rotation block bracket **24**.

Using the wrench supplied **25** act on the nut **26** to change the sowing depth.

Tighten to reduce the sowing depth, loosen to increase the sowing depth.

When the depth has been set, remember to reposition the parts **23** and **24**.

**Fig. 23**

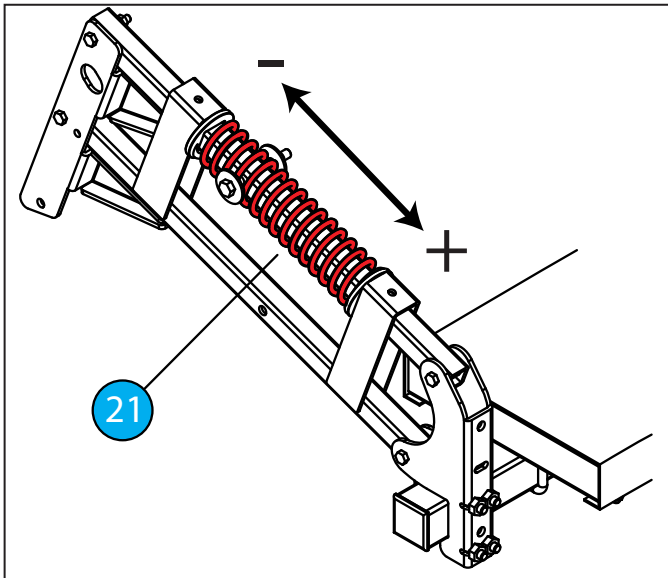
- Acting on the nut **19** modifies the basic height of each individual planting unit.
- By loosening/tightening the nut **20**, it is possible to increase/reduce the load of each individual coulter.

7.8. SEED COVERING HARROW ADJUSTMENT

It is possible to adjust the pressure and inclination with which the teeth of the harrow cut the sown soil.

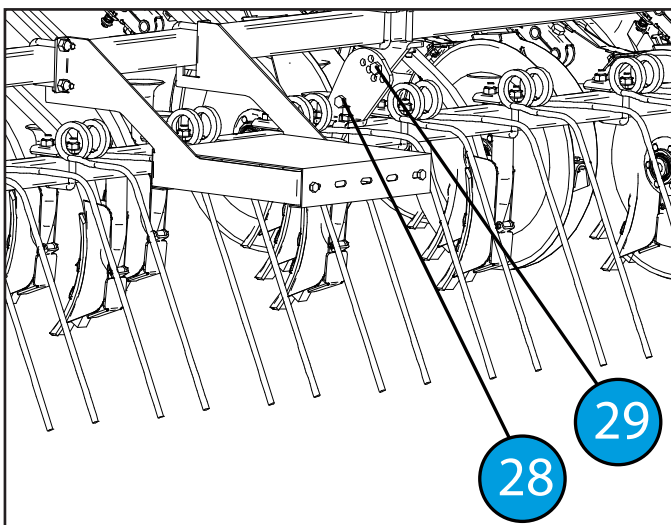
The working pressure of the seed-covering harrow springs can be changed as follows:

- To adjust the harrow pressure, turn spring 27.
- To increase the pressure, move the spring downwards.
- To reduce the pressure, bring the spring upwards.

**Fig. 24**

The angle of the seed covering harrow can be modified by acting on the supports of the adjustment bracket as follows.

- Loosen the screw 28 (but do not remove it).
- Remove the screw 29.
- Set the inclination of the adjustment bracket to the desired position.
- Insert the screw 29 to lock the bracket in position again and tighten screw 28 which was loosened previously.

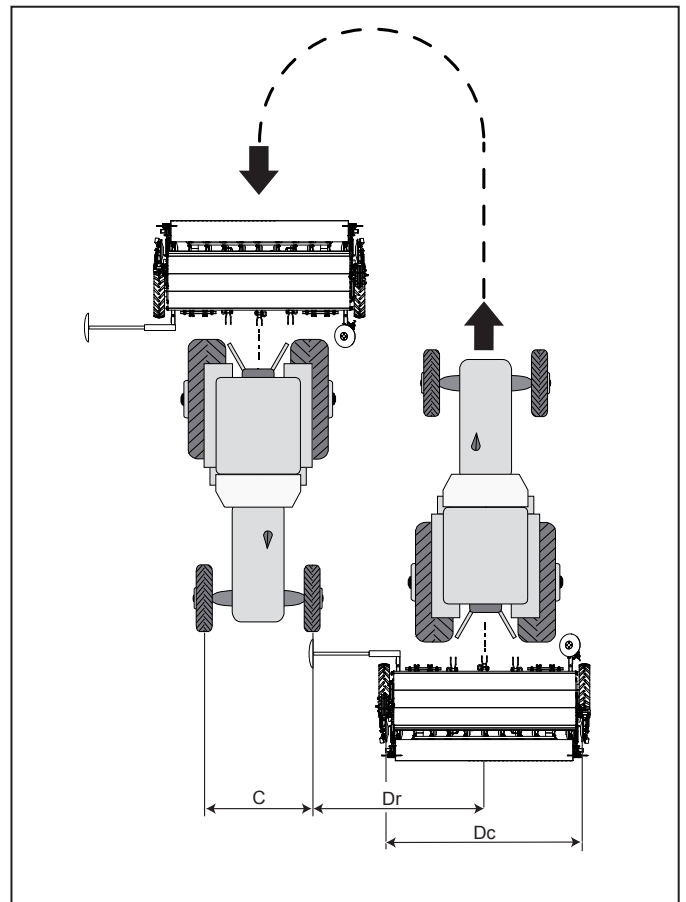
**Fig. 25****7.9. ADJUSTING THE ROW MARKER**

The row marker allows you to mark a line on the ground parallel to the trajectory of the tractor.

When the tractor reaches the end of a row and turns round, it can proceed with one of its front wheels (Fig.6.13) or its centre (Fig.6.14) following the line, as required.

Each time the row marker marks a line on the opposite side.

The row marker arms are inverted with the tractor's hydraulic distributor control.

**Fig. 26**

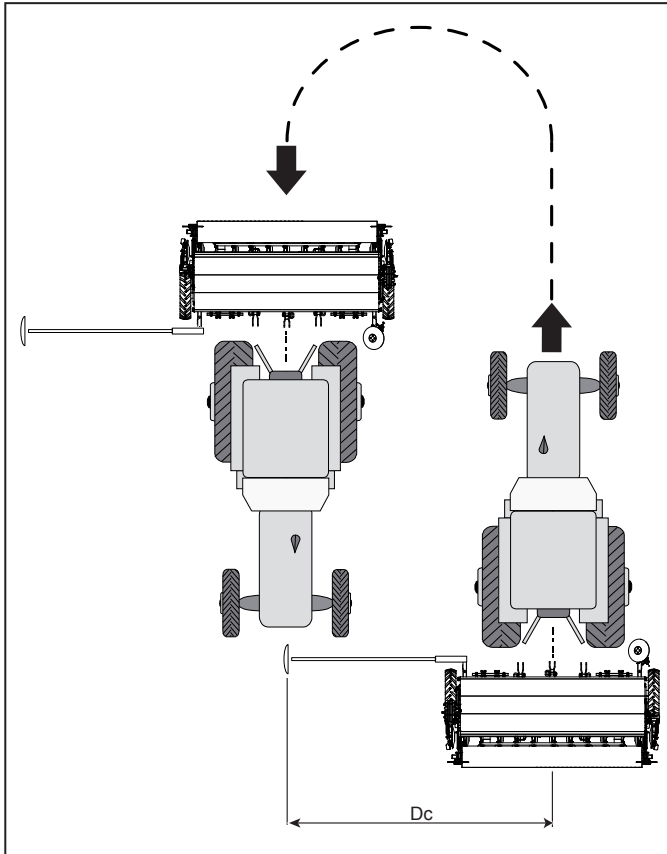


Fig. 27

7.9.1. CONFIGURING THE ROW MARKER

Row marker with line aligned with the wheel of the tractor

To calculate the distance at which to set the row marker disc, you need to take the following into account:

Dc = Work width

Dr = Distance between the centre of the machine and the track

C = Front track of the tractor

$$Dr = Dc - (C/2)$$

Example:

Dc = 300 cm

C = 170 cm

$$Dr = 300 - (170/2) = 215 \text{ cm}$$

Row marker with line aligned with the centre of the tractor

Dc = Work width

7.9.2. ROW MARKER PREPARATION

- Park the tractor on level ground, engage the handbrake, ensure the seeder is raised above the ground and then turn off the engine.
- Connect the hydraulic pipes to the tractor's hydraulic system, making sure the tractor's hydraulic system is not pressurized.
-

7.9.3. SETTING THE POSITION OF THE ROW MARKER

- Loosen the screw **30** as much as needed to slide the disc extension.
- Move the extension to the length desired.
- Fix the disc extension by tightening the screw **30**.
- Repeat the same operations for the other arm

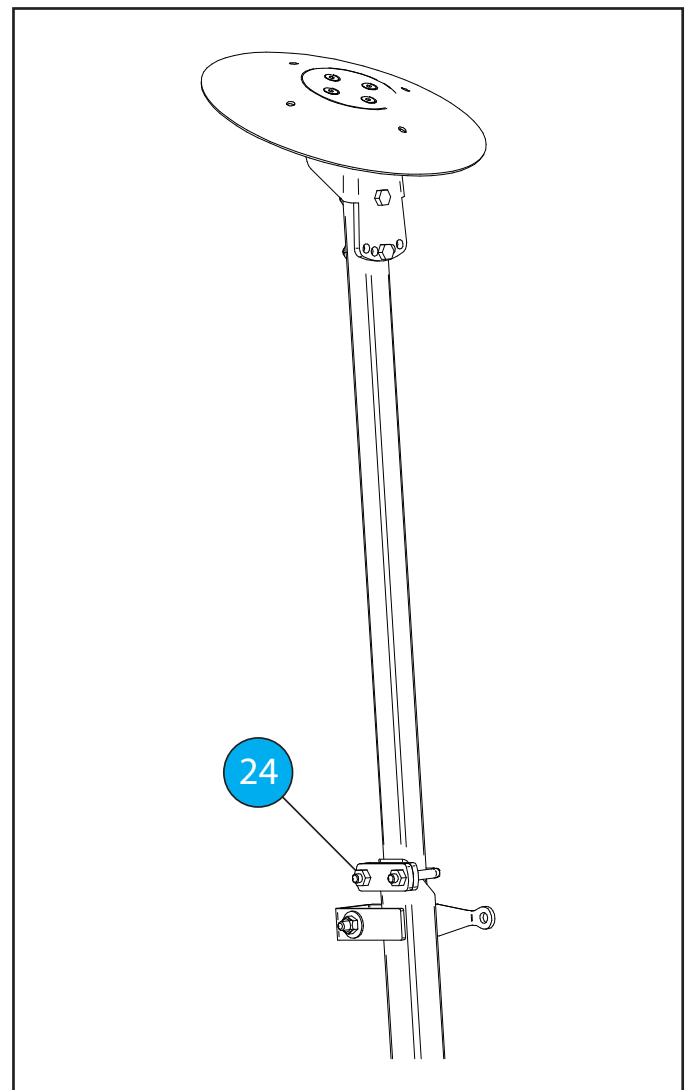


Fig. 28

7.9.4. SETTING THE ROW MARKER DISC

In the presence of more or less rugged lands, adjust the row marker disc as follows:

- Remove the screw **31**.
- Position the disc as required.
- Insert the screw **31** to block the disc.
- Repeat the same operations for the other arm.

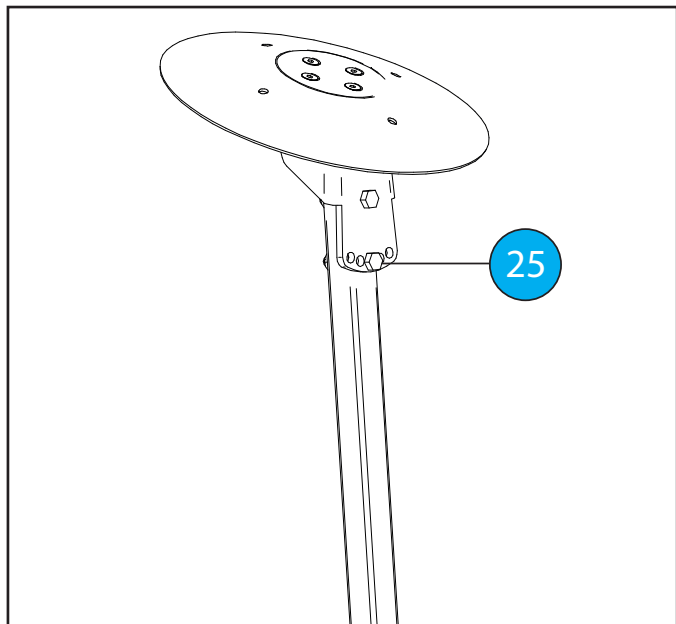


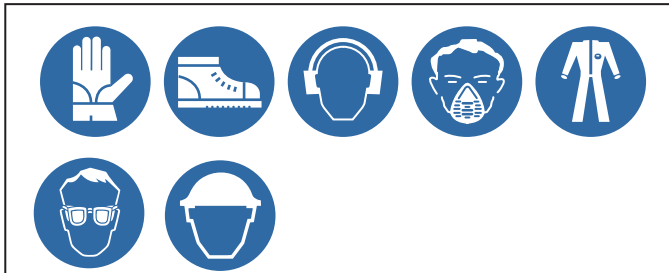
Fig. 29

8. MAINTENANCE



In case of damage, the operator must stop the machine, take out the ignition key, come down from the tractor and determine the entity of the problem and then proceed with any work required on the machine.

Please note that all maintenance operations must be carried out by qualified and trained workers, with the machine off. It is also very important that all maintenance and repair work is not carried out outside but in a specifically equipped workshop.



During use, regulation, maintenance, repair or movement, the operator must use adequate personal protective equipment.

Before starting any maintenance operation, the following instructions must be followed:

During maintenance, the machine must be placed on a flat and even surface;

- Turn off the tractor engine, engage the drum brake and remove the ignition key from the panel;
- Always make correct use of PPE (protective shoes, overalls and gloves, anti-dust mask);
- Use all the accident-prevention means relative to the operation under way;
- Where using compressed air to clean the machine, you must use protective eyewear;
- When machine maintenance requires access to parts that cannot be reached from standing on the ground, or points higher than 1.50 m, use ladders or platforms that comply with the regulations in force;
- Do not carry out unfamiliar repairs. Always follow instructions and where they are missing, contact the manufacturer or expert personnel;
- Do not use lifting points other than those specified;
- Make sure that the chosen lifting device is suitable for the operations to be carried out and complies with the safety regulations;
- Do not keep the engine of the machine running in closed areas with no ventilation system able to eliminate the exhaust gases building up in the air;

- Avoid long and repeated skin contact with fuels/lubricants/fluids, since these could generate inflammation or other skin pathologies;
- Do not ingest fuels/lubricants/fluids. In case of accidental contact with the eyes, carefully wash the area with water;
- Do not weld in closed areas or with inadequate ventilation;
- Do not weld on or near painted surfaces to avoid the propagation of toxic fumes. Remove the paint with specific products, then wash the surface and leave to dry;
- When using compressed air, always wear goggles with side shields, and a mask in order to avoid the danger of personal lesions due to dust particles. It is recommended that the machine be cleaned in ventilated areas.



FOR ANY MAINTENANCE OPERATIONS WHICH NEED TO BE CARRIED OUT BELOW THE SEEDER, CORRECTLY POSITION THE MECHANICAL BLOCKS PROVIDED 16 - 19 ON THE HYDRAULIC PISTONS AND LOWER THE MACHINE.

8.1. MAINTENANCE INTERVENTIONS WHICH MAY BE CARRIED OUT BY THE OPERATOR

The interventions described in the following paragraphs do not require a technical specialisation. The operator must know and accurately perform the operations as per the indications and must have turned off the machine.

Periodical checks and maintenance operations must be carried out in the periods and manners described and are the responsibility of the operator.

Failure to observe maintenance periods and manners will compromise the correct functioning and life of the machine, thus invalidating the warranty.

Increase the frequency of maintenance interventions in case of hard use (frequent arrests and start-ups, very hard terrain, etc.).

- Regularly check that the signs and safety disposals on the machine are in a good state and that nothing endangers their correct functioning.
- Regularly check the condition of painted and galvanised parts of the seeder. Avoid leaving residues from chemical products on the machine.
- Regularly paint all of the parts for joining and fixing (rods, screws, nuts, etc.) also inspect that these are well tight and correctly positioned. Do not use the machine in the instance where fixtures are not in order or correctly attached.
- The gear transmission chains and some pins need to be periodically greased (apply a thin layer of grease on the rollers and on the gear units). In case there is a fertilizer spreader mounted on the machine, periodically grease the roller chains and the gear units of the mechanical operation.
- It is good practice to keep the machine clean; we recommend washing all the individual parts with water after each use.
- This is particularly necessary if a fertilizer spreader is being used (the chemical products are particularly aggressive) and, in this case, cleaning must be carried out at the end of every working day, paying particular attention to washing the tanks, the distributors and all areas in contact with the fertilizer.
- Immediately clean any fertiliser or other chemical/biological product that has dripped on the frame or on the fixing U-bolts, in line with all the safety regulations supplied with the product.
- Check the inflation pressure of the tyres.

8.2. FREQUENCY OF INTERVENTIONS

Below, you will find information on intervention time frames for some operations to be carried out in order to prolong the perfect operation of the seeder. The frequency suggested is purely used by way of example and is subject to change dependent on the type of service, environment, seasonal factors, etc.

NEW MACHINE

- Check the tightening of all the screws and nuts, and that all the transmissions are free to operate.

AT THE BEGINNING OF THE SEEDING SEASON

- Check the state of use of the equipment by starting the seeder unloaded.
- Check the inflation pressure of the tyres.
- Carry out a complete oil change of the gearbox using SAE 15W-40 oil (1Kg).

DAILY

- Wash the seeder with water, particularly all the parts which have been in contact with chemical products, i.e. tanks, distributors, distribution pipes. Check that there are no residues from chemical products inside the distribution components - they may cause blockages and/or malfunctions.

WEEKLY

- Check the state of the transmissions;
- Check the condition of the seed distributors (sprocket and feelers).
- Grease the bushes of the wheel arms and lifting cylinder terminals (towed).

LONG-TERM STORAGE

At the end of the season or where the machine will not be used for an extended period of time, we recommend the following:

- Empty the hopper of all seeds and fertiliser.
- Wash the equipment abundantly with water, particularly the chemical product tanks, and then dry the equipment.
- Carefully check all parts and replace any that are damaged or worn;
- Fully tighten all screws and bolts.
- Oil all of the transmission chains, lubricate all the non-painted parts.
- Grease the bushes of the wheel arms and lifting cylinder terminals (towed) and the sowing depth adjustment jack (carrying).
- Protect the equipment with a cover and place it in a stable dry place, out of reach of those unqualified to use it.
- Keep the sowing parts clean. Built-up dirt, stones, roots, grass, etc. may obstruct the sowing tool, cause the anti-plough disc to malfunction or block the compression wheels.
- Performing these simple operations will be of significant benefit to the user, ensuring the equipment is found in perfect condition at the start of the new season.

8.3. SPARE PARTS

Repair work and part replacement should be carried out using original spare parts requested from an authorised dealer. It is important to remember that any request for spare parts should be accompanied by the following information:

- **machine type;**
- **machine serial number;**
- **spare part item code available from the spare parts catalogue.**

The use of spare parts not approved by the manufacturer invalidates all warranties and releases the manufacturer or retailer from all liability for malfunctions or accidents.

Removing or modifying the guards and protective devices releases the manufacturer from all liability for damage to objects or people.

EC Declaration of Conformity



The company ARBOS S.p.A.

with its legal office at	Via Canale 3
Town	Migiarina di Carpi
Province	Modena
Tel. and fax	+39 0522 640111 - +39 0522 699002

declares under its sole responsibility that the machine:

Type	Model	Series	Identification number	Year
------	-------	--------	-----------------------	------

complies with the health and safety requirements of European Directives

2006/42/EC (repealing and replacing Directive 98/37/EC)

2014/30/UE (electromagnetic compatibility) - For models of machines with electrical/electronic apparatus

For machine compliance, the following harmonised standards have been used:

UNI EN ISO 4254-1:2015, UNI EN 14018:2010,

as well as the technical specification:

ISO 11684 1995

This declaration was drawn up at the office of MATERMACC
at Via Gemona 18, San Vito al Tagliamento (PN), Italy
Tel. and fax (+39) 0434 85267 - (+39) 0434 85517

Documentation deposited by

Date:

The representative
Andrea Bedosti

This statement must be shown on request of the competent authorities.

To avoid that it becomes damaged or illegible it is recommended to cut down the hatch and place it in a protected place.

ARBOS

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