NEU-P

Pneumatic seed drill
on harrow

MANUAL OF THE USER

COMMISSIONING, MAINTENANCE AND DOSING

*Thank you for your trust in **SOLÀ.***

We have designed this seed drill to give you the best performance and reliability in the field.

In this manual you will find all the information you need for use, maintenance and adjustments.

Our aim is for you to make the most of all its features and get the best results from every sowing.

ISO 9001

BUREAU VERITAS
Certification

Certified quality system

1st Edition - July 2025
Ref.: CN-811175/GB
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1. INTRODUCTION

Before starting to work with the **NEU-P SEED DRILLER** it is necessary to READ THE INSTRUCTIONS AND RECOMMENDATIONS in this manual. This will reduce the risk of accidents, prevent damage to the seed drill due to incorrect use, increase its performance and service life.

The manual must be read by all persons involved in operation (including preparation, repair of faults in the field and general care of the machine), maintenance (inspection and servicing) and transport.

For your own safety and that of the machine, always observe the technical safety instructions. **SOLÀ** accepts no liability for damage or malfunctions resulting from failure to comply with the instructions given in this manual.

In the first chapters you will find the Technical Characteristics and Safety Instructions, as well as Basic Concepts for Sowing. The sections on commissioning and maintenance contain the basic knowledge required to operate the machine.

SOLÀ RESERVES THE RIGHT TO MODIFY THE ILLUSTRATIONS AND TECHNICAL DATA IN THIS MANUAL IF IT IS CONSIDERED THAT SUCH MODIFICATIONS CONTRIBUTE TO IMPROVE THE QUALITY OF THE SEED DRILLS.

In this manual you will find three types of safety and hazard symbols:

TO FACILITATE THE WORK WITH THE SEED DRILL.

TO PREVENT DAMAGE TO THE SEED DRILL OR OPTIONAL EQUIPMENT.

TO AVOID INJURY TO PERSONS.

2. SAFETY INSTRUCTIONS

2.1 SAFETY SYMBOLS

You will find the following warning signs on the machine:

CAREFULLY READ AND COMPLY WITH THE OPERATING INSTRUCTIONS AND SAFETY ADVICE GIVEN IN THE OPERATING INSTRUCTIONS.

STAND CLEAR OF THE REAR OF THE TRACTOR DURING COUPLING.
DANGER OF SERIOUS INJURY.

POSSIBILITY OF PENETRATION OF PRESSURISED HYDRAULIC FLUID. MAINTAIN PIPELINES IN GOOD CONDITION.
DANGER OF SERIOUS INJURY.

STOP THE TRACTOR ENGINE AND PREVENT IT FROM STARTING DURING MAINTENANCE OR REPAIR WORK ON THE SEED DRILL.

DO NOT ACCESS THE LADDER WHILE THE MACHINE IS IN OPERATION.
DANGER OF INJURY.

DANGER OF CRUSHING IF WORKING UNDER THE MACHINE, NEVER STAND UNDER THE SEEDING EQUIPMENT.
DANGER OF SERIOUS INJURY.

DO NOT STAND UNDER THE ROW MARKERS OR WITHIN THEIR RANGE.
DANGER OF SERIOUS INJURY.

COUPLING POINT FOR TRANSPORT HANDLING BY CRANE.

2.2 USE ACCORDING TO DESIGN

- The **NEU-P** seed drill has been specifically designed for sowing cereals and other grain seeds.

- The manufacturer shall not be liable for any damage caused by other applications of the machine.

- All statutory provisions relating to machine safety, traffic regulations, health and safety at work must be complied with.

- Modifications made at the user's expense will void the manufacturer's warranty for possible defects or damage.

2.3 SAFETY INSTRUCTIONS

BEFORE STARTING WORK, ALWAYS CHECK THE SAFETY OF THE MACHINE AT WORK AND WITH REGARD TO TRAFFIC.

CHECK THAT THERE ARE NO PERSONS IN THE WORKING AREA OF THE MACHINE AND ITS SURROUNDINGS.

WHEN USING PUBLIC ROADS, RESPECT TRAFFIC SIGNS AND REGULATIONS.

IT IS STRICTLY FORBIDDEN TO CLIMB ON THE MACHINE DURING WORK AND TRANSPORT.

BEFORE STARTING WORK, FAMILIARISE YOURSELF WITH ALL THE DRIVE UNITS AND THEIR FUNCTION.

PAY PARTICULAR ATTENTION WHEN COUPLING AND UNCOUPLING THE MACHINE TO THE TRACTOR.

THE POWER TAKE OFF TRANSMISSION MUST BE PROTECTED AND IN GOOD CONDITION. PREVENT THE PROTECTIVE TUBE FROM ROTATING BY SECURING IT WITH THE CHAIN PROVIDED FOR THIS PURPOSE.

ONLY FIT THE POWER TAKE-OFF TRANSMISSION WITH THE ENGINE STOPPED ON THE TRACTOR.

BEFORE SWITCHING ON THE POWER TAKE OFF, MAKE SURE THAT NOBODY IS IN THE VICINITY.

NEVER LEAVE THE DRIVER'S SEAT OF THE TRACTOR WHILE DRIVING.

DO NOT DEPOSIT FOREIGN ROW UNITS IN THE HOPPER OF THE MACHINE.

BEFORE WORKING ON THE HYDRAULIC SYSTEM, DEPRESSURISE THE CIRCUIT AND STOP THE TRACTOR ENGINE.

THE TUBES AND HOSES OF HYDRAULIC CIRCUITS UNDERGO NATURAL AGEING UNDER NORMAL CONDITIONS. THE USEFUL LIFE OF THESE ROW UNITS SHOULD NOT EXCEED 6 YEARS. PERIODICALLY OBSERVE THEIR CONDITION AND REPLACE THEM AFTER THIS TIME.

LIFT THE SEED DRILL, THE FRONT AXLE OF THE TRACTOR IS UNLOADED. MAKE SURE THAT THERE IS SUFFICIENT LOAD ON THE FRONT AXLE TO PREVENT IT FROM TIPPING OVER. IN THIS SITUATION, CHECK THE STEERING AND BRAKING ABILITY.

DURING TRANSPORT WITH THE SEED DRILL RAISED, LOCK THE LOWERING CONTROL. BEFORE LEAVING THE TRACTOR, SET THE MACHINE DOWN ON THE GROUND AND REMOVE THE STARTER KEY.

WHEN CARRYING OUT MAINTENANCE WORK WITH THE MACHINE RAISED, ALWAYS USE SUFFICIENT ROW UNITS TO PREVENT THE MACHINE FROM LOWERING.

3. GENERAL DESCRIPTION OF THE MACHINE

3.1 GENERAL VIEW

1- Hopper.

2- Calibration box.

3- Doser.

4- Metering unit head.

5- Turbine.

6- Turbine air filter.

7- Sowing coulters.

8- Spring harrow.

9- Sowing depth adjustment.

10- Work lamps.

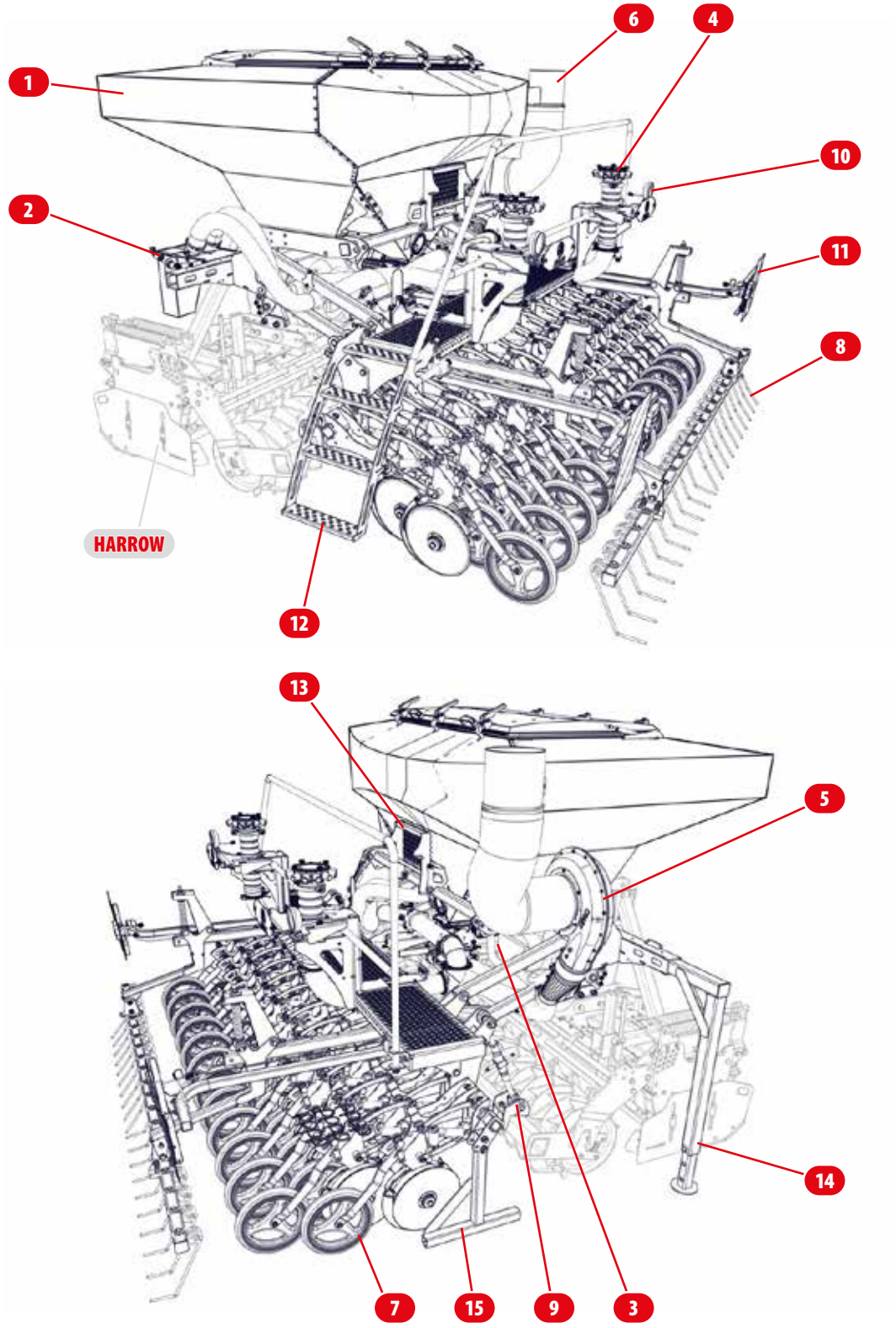
11- Signage for public roads.

12- Platform access ladder.

13- Hopper access platform.

14- Front foot rest.

15- Rear foot rest.



3.2 IDENTIFICATION OF THE MACHINE

All machines have an IDENTIFICATION PLATE on the frame, which specifies:

a. Name and address of manufacturer.
b. Machine model.
c. Type of machine.
d. Serial number.
e. Year of manufacture (last two digits).

3.3 TECHNICAL CHARACTERISTICS

MODEL	TINES			SUFFOLK CULTERS			DISCS			DOUBLE DISCS			
	300/24	350/28	400/32	300/24	350/28	400/32	300/24	350/28	400/32	300/20	300/24	350/24	400/28
TRANSPORT WIDTH (CM)	300	350	400	300	350	400	300	350	400	300		350	400
NUMBER OF ROWS	3						2						
LENGTH OF TRANSPORT(CM)	-			-			356			331			
NUMBER OF ROWS	24	28	32	24	28	32	24	28	32	20	24		28
MAX. ROWS SPACING (CM)	12.5									15	12.5	15	
SEED HOPPER CAPACITY (L)	2000												
REFILL HEIGHT (CM)	228												
REFILL OPENING (CM)	147X82												
DOSER DRIVE	Electrical ISOBUS												
TURBINE	Hydraulic turbine (30 l/min)												
SPRING HARROW	Double row of straight tines			Double row of angled tines			Double row of angled tines			Simple angled row of tines			
COUPLING CATEGORY	III												
WEIGHT OF THE MACHINE WITHOUT HARROW (KG)	-	-	-	-	-	-	1.520	1.575	1.730	1.585	1.600	1.615	1.825
NUMBER OF HARROW ROTORS	12	14	16	12	14	16	12	14	16	12		14	16
HARROW DRIVE SPEED	IN 750/1000 - OUT 346/462												
HARROW GEAR BOX	Gear System												
HARROW ROTOR BEARINGS	Dual System												
WEIGHT OF THE HARROW (KG)	1.726	1.931	2.130	1.726	1.931	2.130	1.726	1.931	2.130	1.726		1.931	2.130
WEIGHT OF THE MACHINE WITH HARROW (KG)	-	-	-	-	-	-	3.246	3.506	3.860	3.311	3.326	3.546	3.955
CENTRE OF GRAVITY (m)	>1,00			>1,00			1,01			1,06			
MAXIMUM RECOMMENDED POWER (HP) (1)	220			220			220			220			

3.4 TRACTOR REQUIREMENTS

WARNING: DANGER OF ACCIDENT DUE TO OVERLOADING THE TRACTOR. MAINTAIN THE PERMISSIBLE TRACTOR VALUES FOR AXLE LOADS, TOTAL WEIGHT, TYRE LOAD CAPACITY AND AIR PRESSURE.

Check the suitability of the tractor before starting up.

Electrical System/Control Unit

Power supply	12 V
Lighting	7-pole power socket.
Control unit	ISOBUS certified AEF
Electrical power	50 A at ISOBUS socket (ISO 11783-2)

Hydraulics

TRACTOR	NEU-P
Double-acting control units	- Row marker (optional)
Double-acting control units with adjustable flow rates	- Hydraulic motor for blower fan. Flow rate: 20-30 l/min. - Hydraulic motor for blower fan in the hopper. Flow rate: 25-35 l/min.
Pressureless return (max. 5 bar)	- 1 general return
Type of oil	Mineral hydraulic oil
Maximum system pressure	210 bar

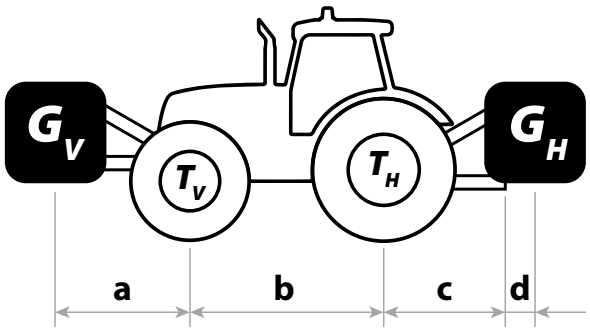
3.4.1 CALCULATING THE BALLAST CHARGE

The maximum permissible total weight, the maximum axle loads and the load-bearing capacity of the tractor tyres must not be exceeded when attaching or coupling implements. The front axle of the tractor must always be loaded with at least 20% of the tractor's unladen weight.

- Before travelling on the road, check that the tractor used is suitable for this implement and that it is not overloaded.

- Weigh the implement separately. As there may be different equipment, the weight of the implement must be determined by weighing it.

Required data



T_L	Tractor unladen weight.
T_V	Front axle load of the unladen tractor.
T_H	Tractor rear axle load when unladen.
G_H	- Total weight of rear implement (see technical data tables).
G_V	Total front implement weight/front weight.
a	Distance from the point of gravity of the front implement/front weight to the centre of the front axle.
b	Tractor wheelbase.
c	- Distance from the centre of the rear axle to the centre of the lower link sphere.
d	- Distance from the centre of the lower link sphere to the centre of gravity of the rear implement (see technical data tables).
x	Tractor manufacturer's instructions for the minimum rear ballast load. If there are no instructions, enter 0.45.

* All weights expressed in kilograms (kg).
* All dimensions expressed in metres (m).

Calculations

1. Calculation of the minimum load with ballast at the front for rear implement:

$$G_{Vmin} = \frac{[G_H - (c + d)] - (T_V - b) + (0{,}2 - T_L - b)}{a + b}$$

Record the result in the table.

2. Calculation of the cargo with minimum ballast at the rear for front implement:

$$G_{Hmin} = \frac{(G_V - a) - (T_H - b) + (x - T_L - b)}{b + c + d}$$

Record the result in the table.

3. Calculation of the actual front axle load:

$$T_{Vtat} = \frac{[G_V - (a + b)] + (T_V - b) - [G_H - (c + d)]}{b}$$

Record in the table the calculation results obtained from the actual front axle load and the permissible front axle load of the tractor as specified in the tractor operating instructions.

4. Calculation of the actual total weight:

$$G_{tat} = G_V + T_L + G_H$$

Record in the table the calculation results obtained from the total weight and the permissible total weight of the tractor indicated in the tractor operating instructions.

5. Calculation of the actual rear axle load:

$$T_{Htat} = G_{tat} - T_{Vtat}$$

Record in the table the calculation results obtained from the actual rear axle load obtained and the permissible rear axle load specified in the tractor operating instructions.

Controlling calculations

Check the calculated values additionally by weighing them: Weigh the combination of tractor and hitched or mounted machine to calculate the weight of the front and rear axles.

Compare the calculated values with the allowed values. These include:

- Total weight allowed.
- Maximum front and rear axle load.

The calculated values must not exceed the values permitted by the tractor:

	CALCULATIONS		MANUAL TRACTOR DATA		
	Actual value as calculated		Permissible value according to operating instructions		Cargo capacity of the pneumatic x2
Minimal front ballasting (with rear-mounted implement)	G_{Vmin}=____ kg				
Minimum rear ballast (with front implement)	G_{Hmin}=____ kg				
Total weight	G_{tat}=____ kg	≤	_____ kg		
Front axle load	T_{Vtat}=____ kg	≤	_____ kg	≤	_____ kg
Rear axle load	T_{Htat}=____ kg	≤	_____ kg	≤	_____ kg

WARNING: LOSS OF STEERING CONTROL ON THE FRONT AXLE. A MINIMUM FRONT AXLE WEIGHT IS REQUIRED, THIS VALUE MUST EXCEED 20 % OF THE UNLADEN WEIGHT OF THE TRACTOR (0.2 x T_L).

4. BASIC CONCEPTS FOR SOWING

4.1 LAND

THE BETTER CONDITIONED THE SOIL, THE BETTER THE SOWING QUALITY. GOOD WORK CANNOT BE CARRIED OUT ON LARGE CLODS OF EARTH OR VERY UNEVEN FURROWS. ALTHOUGH **SOLÀ** MACHINES CAN WITHSTAND HARD WORK UNDER ADVERSE CONDITIONS, THE SOWING WILL NOT BE OF GOOD QUALITY IF THE SEED BED IS NOT IN THE RIGHT CONDITION.

4.2 SEED

IT IS ESSENTIAL TO USE QUALITY SEED THAT IS CLEAN AND, IN THE CASE OF BARLEY, WELL DEBURRED.

4.2.1 SEED DOSAGE ADJUSTMENT

With the use of high quality certified seed, it is not sufficient to establish the weight in kilograms to be distributed with the machine, as the final harvest result will depend on the number of plants that reach full maturity.

Each plant requires a certain amount of soil space from which it will obtain nutrients. Thus, too little plant density can be just as bad as too much. To decide how many kilos per hectare to sow, we need to know the number of plants per square metre that we are going to sow.

As a guideline, the number of plants recommended for wheat and barley, in rainfed conditions, is as follows:

AUTUMN	SPRING
Early sowing, 200 plants per^{m2}	Early sowing, 310 plants per^{m2}
Late sowing, 265 plants per^{m2}	Late sowing, 445 plants per^{m2}

It should be noted that tillering is always lower in spring and therefore the amount to be sown should be increased.

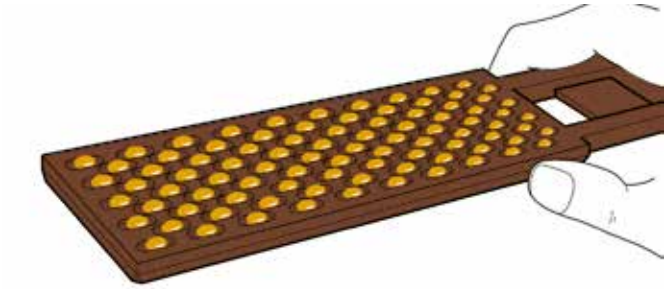
MAQUINARIA AGRÍCOLA SOLÀ, S.L., RECOMMENDS THE FARMER TO GET ADVICE FROM GOOD SPECIALISTS IN THIS FIELD.

SEED DOSAGES MUST BE ADJUSTED TO EACH SOIL ACCORDING TO ITS TEXTURE, FERTILISATION LEVEL, RAINFALL, SOWING TIME, GRAIN QUALITY, GERMINATION AND TILLERING POWER, ETC.

It should also be borne in mind that the germination capacity of the seed is variable and depends on many factors. Experimentally it can be estimated at between 70 and 80, which in practice is equivalent to multiplying the number of grains to be sown by 1.43 or 1.25 respectively.

The following is a practical method for determining the kilos per hectare to be distributed on the basis of the number of plants per square metre to be obtained.

1- Insert the "grain counter" into the seed bag to fill it.
2- When removing it, run your hand over it so that only one grain remains in each cavity (100 grains in total).



3- Repeat the operation 10 times to obtain 1,000 grains.
4- Weigh the 1,000 grains on a precision scale.

The weight obtained in GRAMS is called the OPERATING WEIGHT. Knowing the grains per square metre that we are going to sow, the kilos per hectare that we must adjust in the doser controller are:

$$\textbf{KG/Ha} = \frac{\text{grains per}^{m2} \times \text{OPERATING WEIGHT}}{100}$$

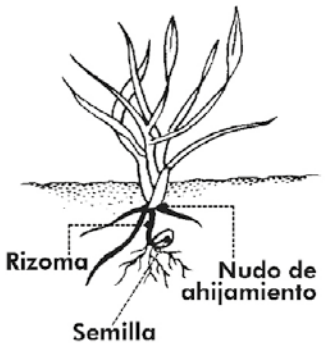
4.3 DEPTH

GOING TOO DEEP IS A COSTLY MISTAKE, AS THE RHIZOME CANNOT REACH THE SURFACE AND THE PLANT DIES.

Sowing depth influences tillering, plant vigour, frost and drought resistance: the tillering node is always 1 to 2 cm below the surface, regardless of the depth at which the seed is buried.
It is not because we sow deeper that we get deeper roots. Only a few roots grow from the lower part of the seed. The main mass grows at the tillering node almost at the soil surface.

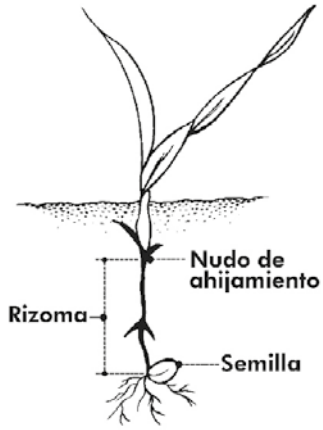
Sowing at normal depth: 2 to 4 cm

- Thick stem, short rhizome and good frost resistance.
- Multiple tillering of 3 to 6 offspring and many leaves, between 6 and 10.
- Large rooting, 5 cm wide and 10-12 cm deep.
- Fewer grains per square metre of sowing results in more ears.



Sowing slightly deeper: between 5 and 6 cm

- Thin stem, rhizome exposed to frost.
- Delayed and poor tillering, 1 or no offspring and few leaves, about 3 or 4.
- Regular rooting, 3 cm wide and 5 cm deep.
- We need more grains per square metre to obtain the same number of ears as in the first case.



Very deep sowing: 8 to 10 cm

- Very slender stem. No tillering and only one leaf.
- The grain reserves are depleted in a long rhizome that can be easily cut by ice.
- Poor rooting, 1 cm wide and 3 cm deep.
- We need twice as many grains per square metre to obtain the same number of ears as in the first case.

WARNING

IN VERY COLD AREAS, SUCCESSIVE FROSTS CAN CAUSE THE TOP LAYER OF SOIL TO BECOME LOOSE, WITH THE DANGER OF LOOSENING THE PLANT'S INCIPIENT ROOTS AND CAUSING ITS DEATH. IN THESE CASES, A SLIGHTLY DEEPER SOWING DEPTH MAY BE RECOMMENDED OR, IF POSSIBLE, A ROLLER SHOULD BE USED TO COMPACT THE SOIL AND PROVIDE BETTER SHELTER FOR THE SEED.

WHEN THE MACHINE STARTS RUNNING, NO SEEDS ARE DEPOSITED IN THE FURROWS DURING THE FIRST METRE. ON THE OTHER HAND, WHEN THE MACHINE IS STOPPED, THE GRAINS THAT STILL RUN DOWN THE TUBES WILL ACCUMULATE IN THE LAST METRE. THIS MUST BE TAKEN INTO ACCOUNT IN ORDER TO ACHIEVE A UNIFORM FINISH.

ALWAYS WORK AT A UNIFORM SPEED. SUDDEN ACCELERATIONS AND DECELERATIONS DISTRIBUTE THE SEED UNEVENLY.

5. COMMISSIONING

5.1 TRACTOR COUPLING TO THE NEU-P

THE **NEU-P**HARROW PLUS SEED DRILL IS FITTED WITH CATEGORY 3 COUPLINGS.

WHEN COUPLING AND UNCOUPLING, MAKE SURE THAT THERE ARE NO PERSONS OR OBJECTS BETWEEN THE TRACTOR AND THE SEED DRILL.

FOR COUPLING MANOEUVRE, FOLLOW THE STEPS BELOW:

Fit the quick coupling balls on the two lower bolts.
Then coupling the seed drill at the 3 points.
After coupling the seed drill, you must **ADAPT THE TRANSMISSION**. To do this you must:

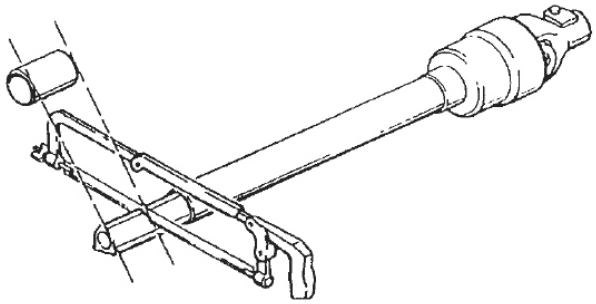
1- Dismount and insert one end into the tractor's power socket and the other into the harrow. Find the minimum travel length "L" by raising and lowering the hydraulic elevator.
2- Cut the excess plastic and metal to the same size on both parts and reassemble the transmission.
3- Drive the elevator and check that the transmission travel is correct.
4- Secure the universal joint to the tractor using the attachment chain.
5- Connect the hydraulic hoses and electrical connector to the tractor. Route the monitor cable to the tractor cab and connect the monitor.

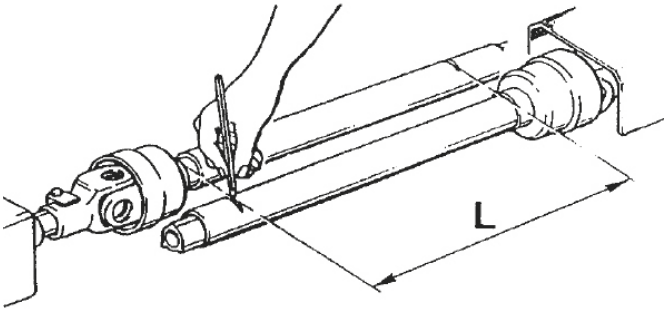
IMPORTANT: CONNECT THE FREE RETURN OF THE TURBINE. IF THIS CONNECTION IS NOT MADE AND PRESSURE IS APPLIED TO THE HYDRAULIC CIRCUIT OF THE TURBINE, THE MOTOR MAY BE DAMAGED.

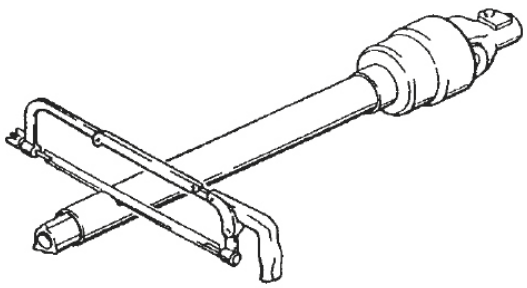
WHEN HANDLING THE TRANSMISSION, ALWAYS DO SO WITH THE TRACTOR ENGINE AT A STANDSTILL. ALWAYS WORK WITH THE TRANSMISSION PROTECTED AND IN GOOD CONDITION. AVOID TWISTING THE TRANSMISSION PROTECTION TUBE BY FIXING IT WITH THE CHAIN.

DISENGAGE THE TRACTOR POWER TAKE OFF WHEN LEAVING THE SEED DRILL ON THE GROUND TO PREVENT THE TRANSMISSION FROM OPERATING AT TOO STEEP AN ANGLE OF INCLINATION (MAX. 35°).

WHEN ENGAGING THE TRACTOR POWER TAKE-OFF GENTLY. SUDDEN STARTS CAN CAUSE SERIOUS DAMAGE.

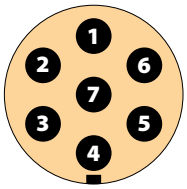






5.2 ELECTRICAL CONNECTIONS

Table and schematic of the 7-pin connector:



Pin No	FUNCTION
1	Left indicator
2	NOT USED
3	Mass
4	Right indicator
5	Right position light
6	Brake
7	Left position light

5.3 HYDRAULIC CONNECTIONS

For the hydraulic connection of the machine, the following is required:

- For **DEPLOYING AND FOLDING THE ROW MARKERS**: a simple output.
- For **HYDRAULIC DRIVE TURBINE**: one output and one free return at maximum pressure 1.5 bar.

The hydraulic connections are identified by the colour of the hydraulic plug:

CO-LOUR	DESCRIPTION
BLUE	Hydraulic circuit of the row markers.
RED	Hydraulic circuit for the turbine.

FOR THE CONNECTION OF THE OIL RETURN OF THE TURBINE ENGINE, THE SUPPLIED ADAPTER PLUG MUST BE USED.

THE FREE RETURN PRESSURE TO THE TRACTOR MUST NOT EXCEED 1.5 BAR, OTHERWISE DAMAGE TO THE MACHINE MAY OCCUR.

5.4 TRANSPORT POSITION

For the transport of the machine, you must:

1- Check that the ladder to access the hopper is folded down.
2- Fold the row markers.
3- Raise the machine hydraulically.

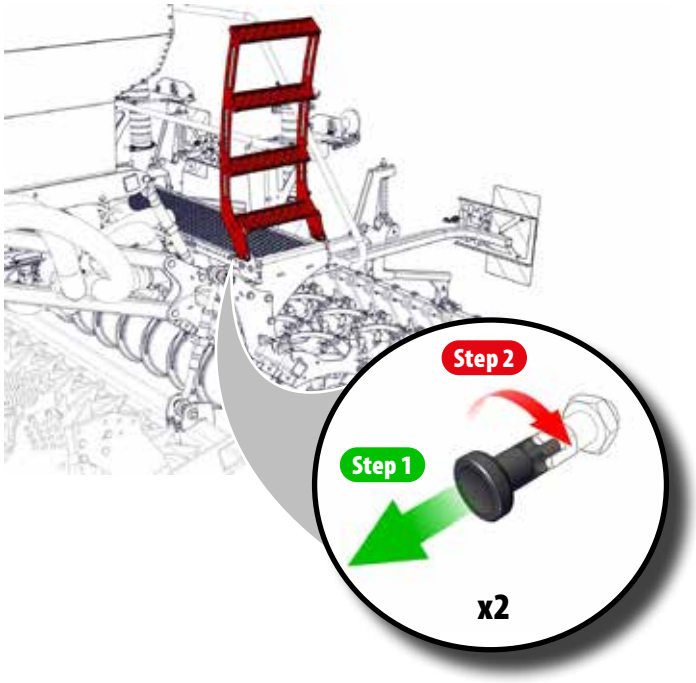
CHECK THE CORRECT FUNCTIONING OF THE SIGNAL LIGHTS.

ENSURE THAT THE ROW UNITS ARE CORRECTLY FIXED, BLOCKING THEIR MOVEMENT.

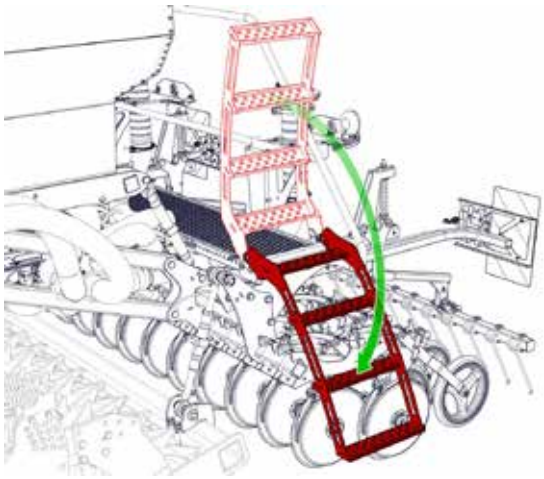
5.5 LOADING OF THE HOPPER

To load the hopper, follow the steps below:

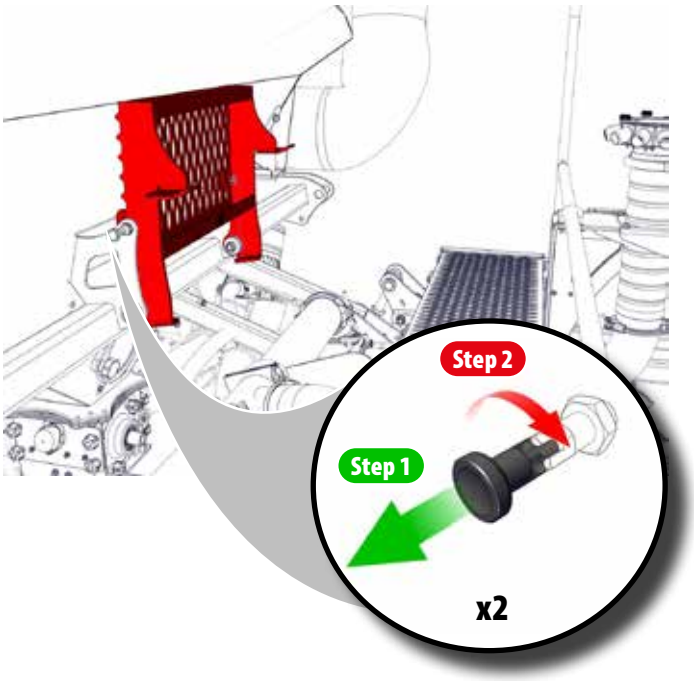
1- Unlock the ladder.



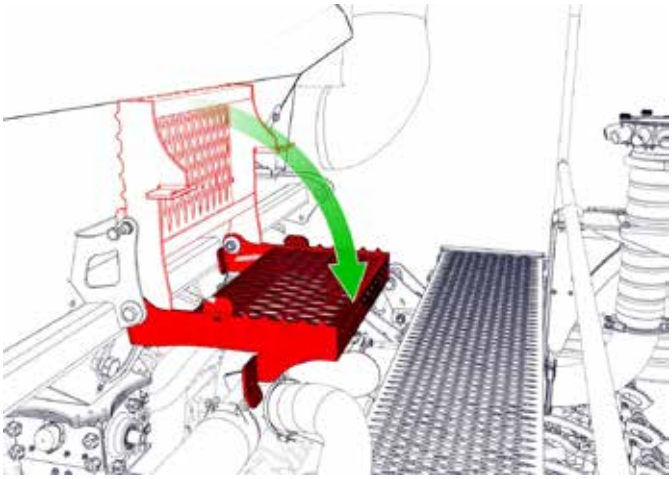
2- Unfold the ladder to access the platform.



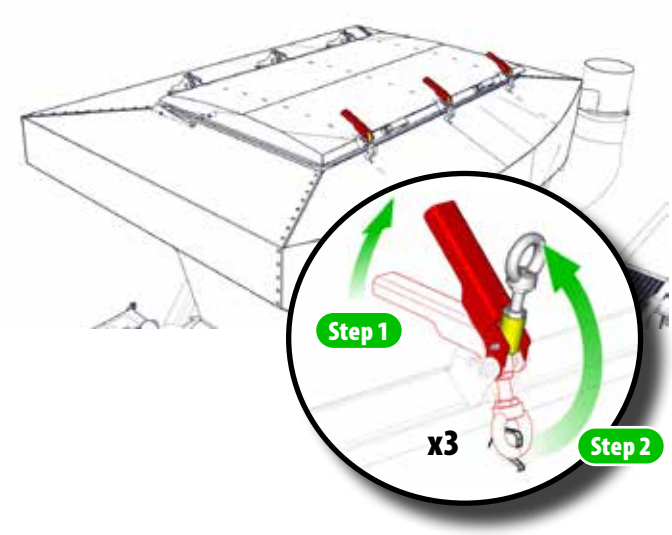
3- Unlock the step.



4- Unfold the step to access the hopper.

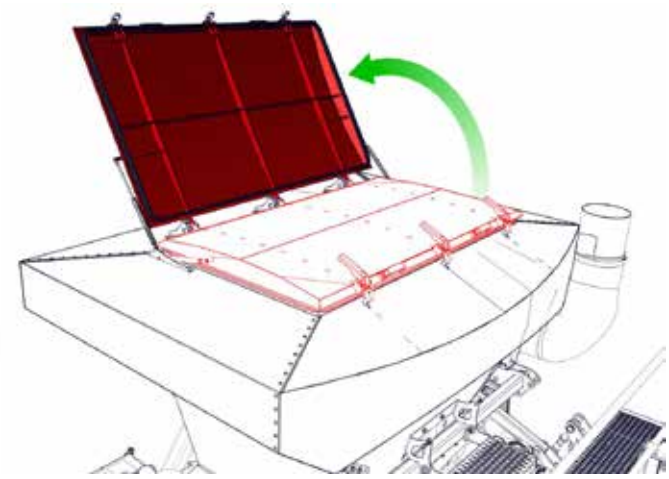


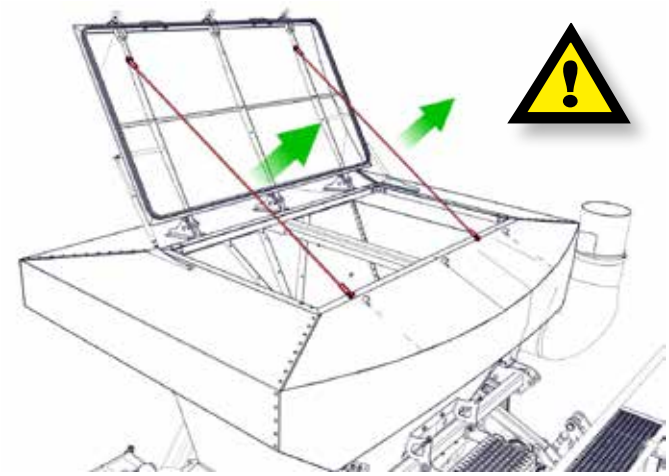
5- Unlock the closings of the lid.



6- Open the lid.

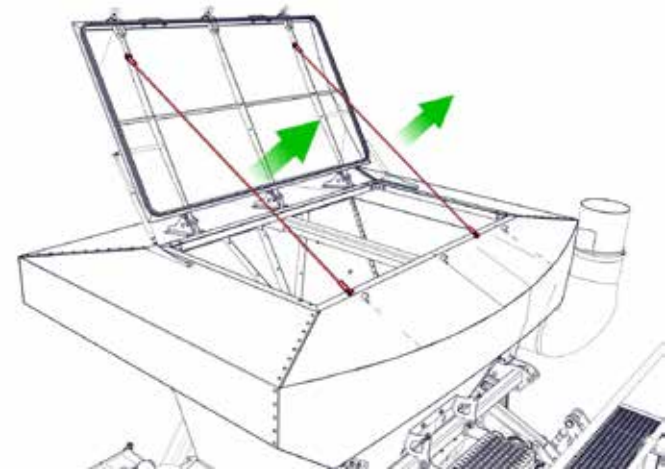
IMPORTANT: WHEN OPENING THE LID, HOLD THE ROPE GENTLY.

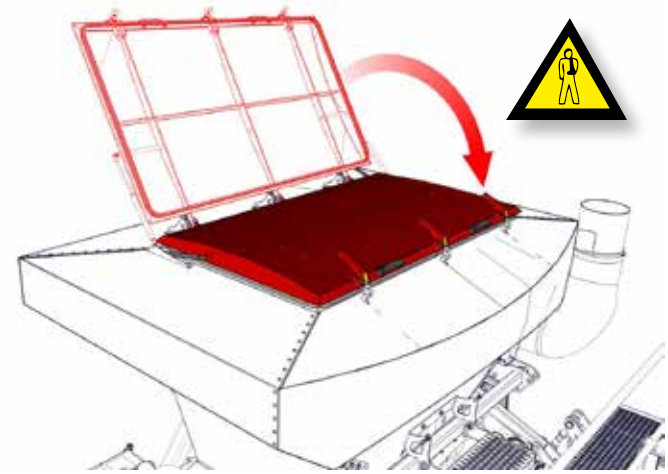




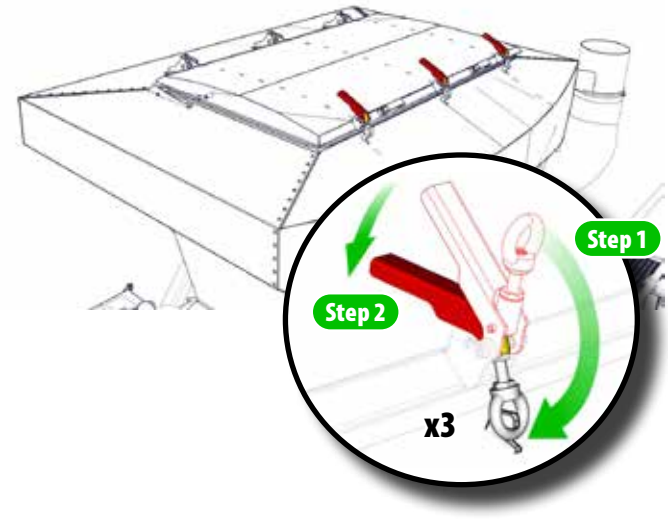
7- Load the hopper with product, using gloves and a protective mask. Once the cargo has been loaded, you can close the lid by pulling the ropes.

IMPORTANT: DANGER OF SERIOUS INJURY DUE TO ENTRAPMENT WHEN CLOSING THE LID.

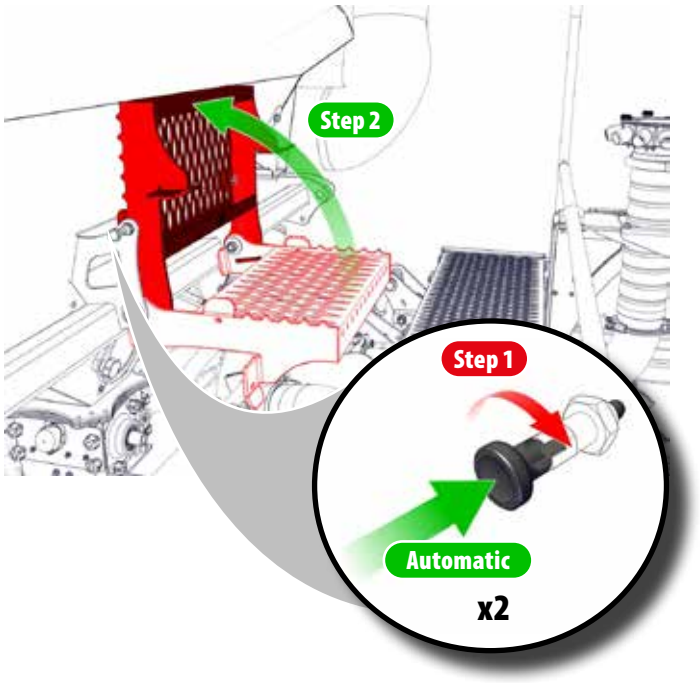




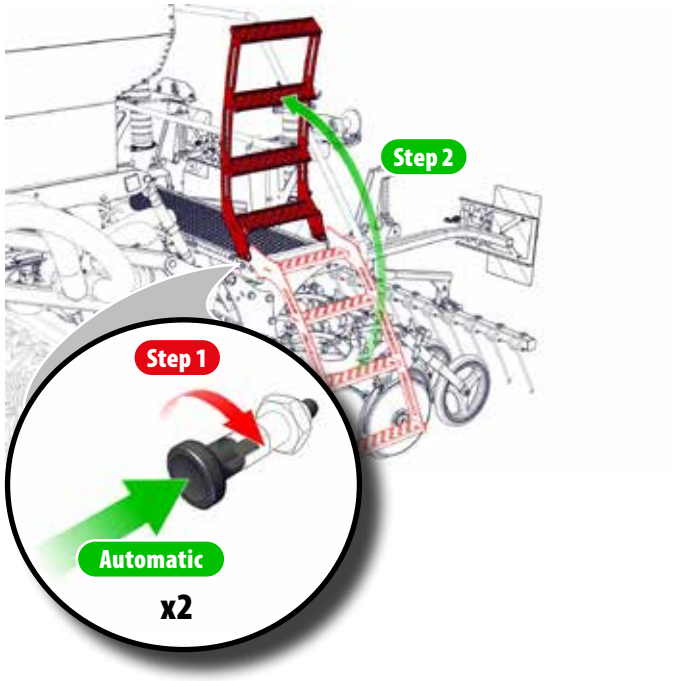
8- Fit the rings of the closings into the hooks of the hopper. Then press the handle to lock the closings of the lid.



9- Turn the lock and fold the step.



10- Turn the lock and fold the ladder.



6. DOSERING

6.1 ROLLER DOSER

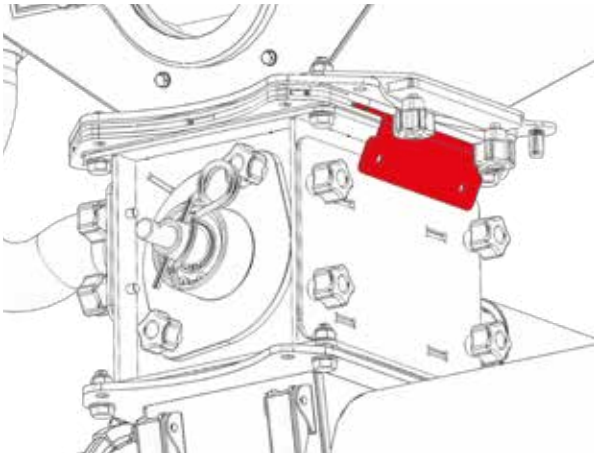
This doser has a roller that can be configured in sectors. There areseveral types of sectors:

There areseveral types of scrapers:

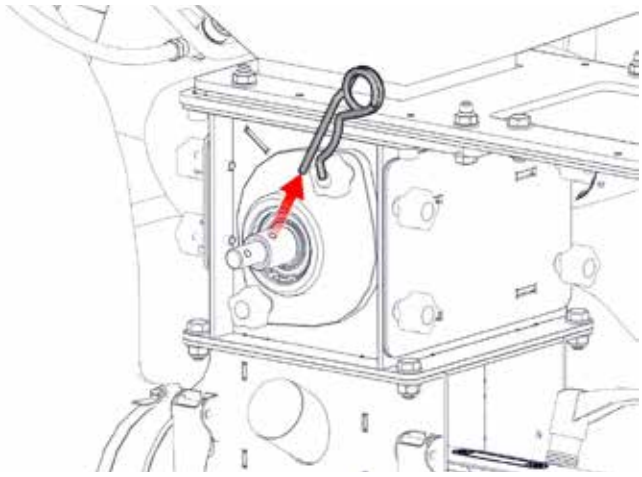
CAUTION: A RED SCRAPER IS FITTED INSIDE THE DOSER AS STANDARD. IN CASE OF CONTINUOUS BREAKAGE OF THE FUSES OF THE DOSER MOTOR, REPLACE THE RED SCRAPER WITH THE YELLOW ONE.

To set the number of sectors to adapt the doser to the desired dosage, follow the steps below:

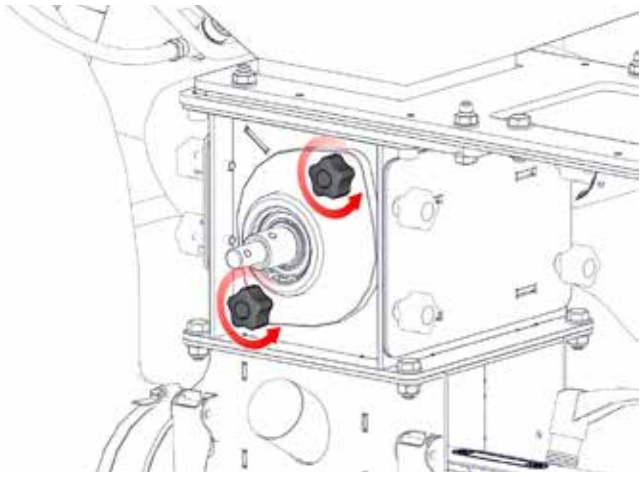
1- Close the chopper.



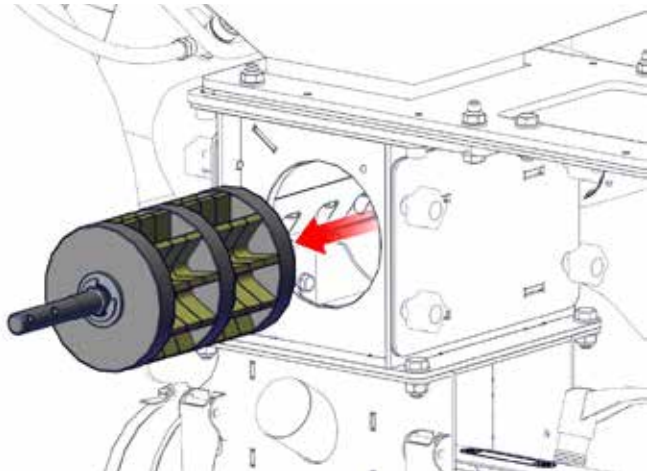
2- Remove pin "R".



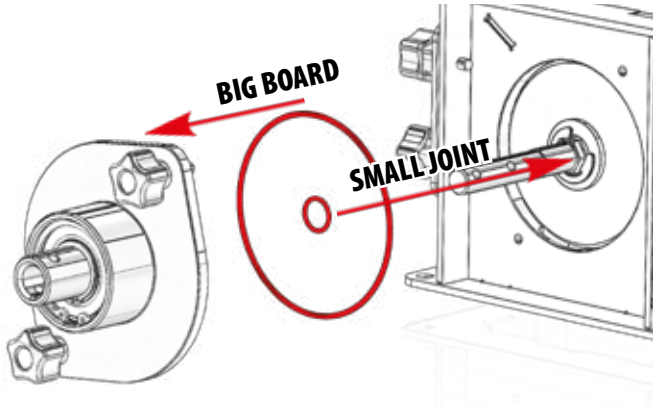
3- Remove the two knobs.



4- Pull out the side support and remove the roller.

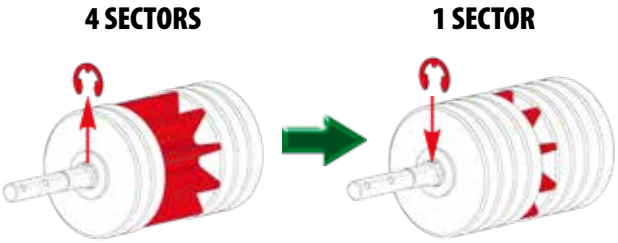


WHEN REMOVING THE ROLLER BE CAREFUL NOT TO LOSE THE O-RINGS ON THE SHAFT (SMALL) AND ON THE SIDE SUPPORT (LARGE), REASSEMBLE THE SEALS CORRECTLY WHEN ASSEMBLING THE ROLLER.



5- Assemble the number of sectors required according to the desired dosage. To change the configuration of the sectors, remove a retaining ring, install the desired sectors and replace the retaining ring.

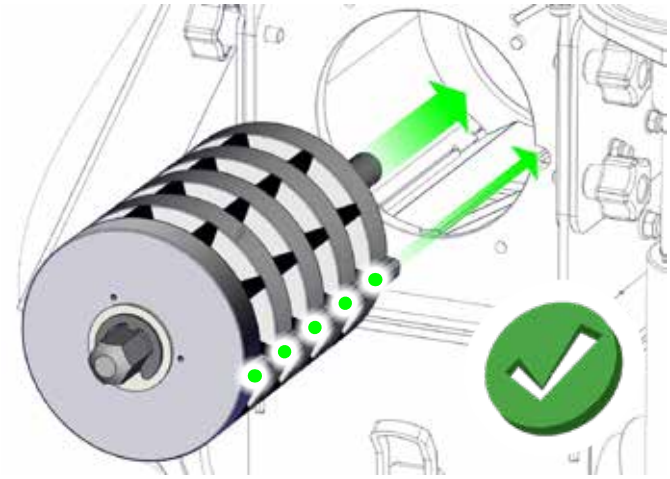
FOR DETERMINING THE NUMBER OF SECTORS TO BE MOUNTED, SEE PARAGRAPH 6.2. FLOW RATE PRE-TEST.

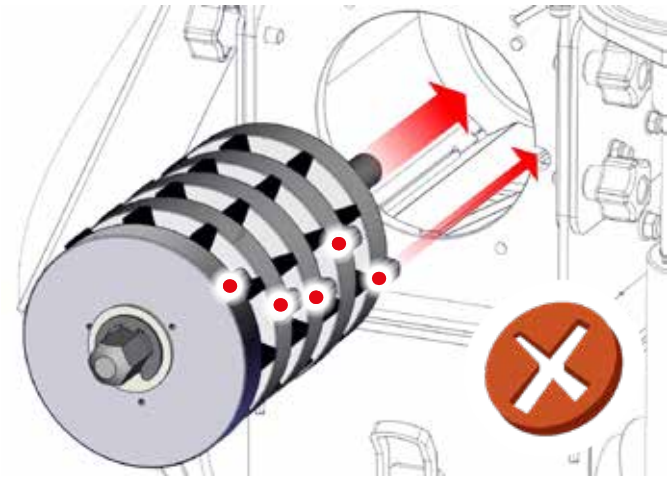


ENSURE THAT THE CIRCLIP IS SECURELY MOUNTED IN ITS HOUSING.

6- Reassemble the roller.

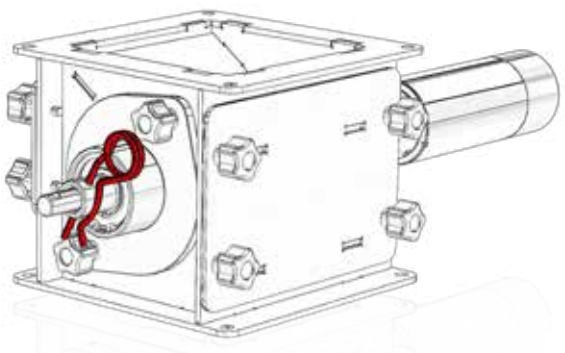
IMPORTANT: TO ASSEMBLE THE ROLLER INTO THE DOSER, IT IS NECESSARY TO ALIGN THE WHITE ROLLER SOCKETS WITH THE NOTCH OF THE DOSER.





7- Mount the side support and the pin "R".

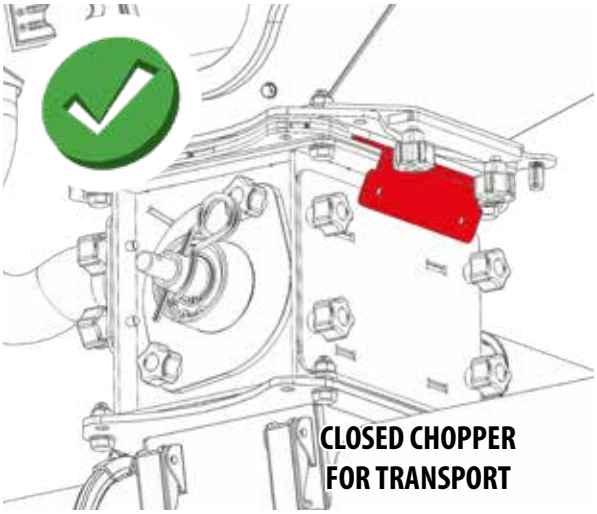
DO NOT FORGET THE PIN **"R",** WITHOUT IT THE DOSER WILL NOT WORK.

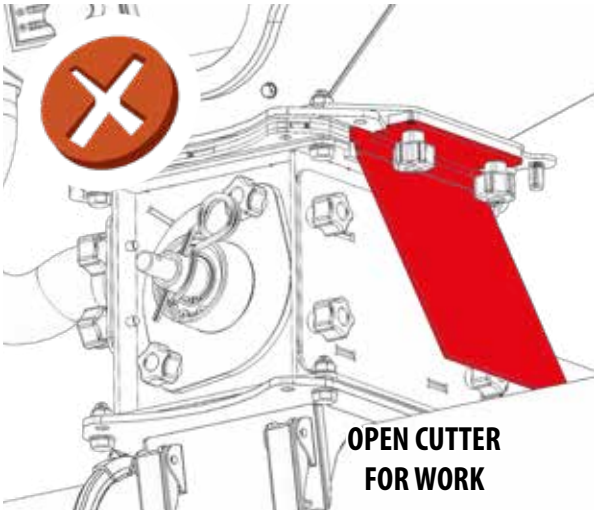


6.2 FLOW RATE PRETEST

In order to carry out the test, a number of steps must be taken beforehand:

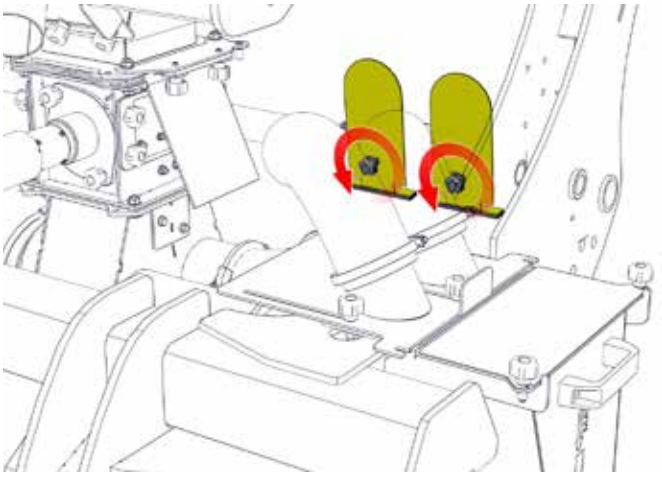
1- Coupling the machine to the tractor in a slightly raised position (without the seeding equipment touching the ground).
2- Put the cutter in transport position.



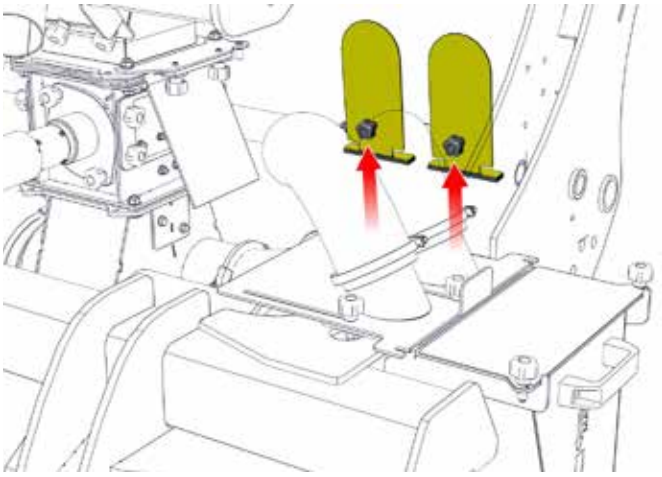


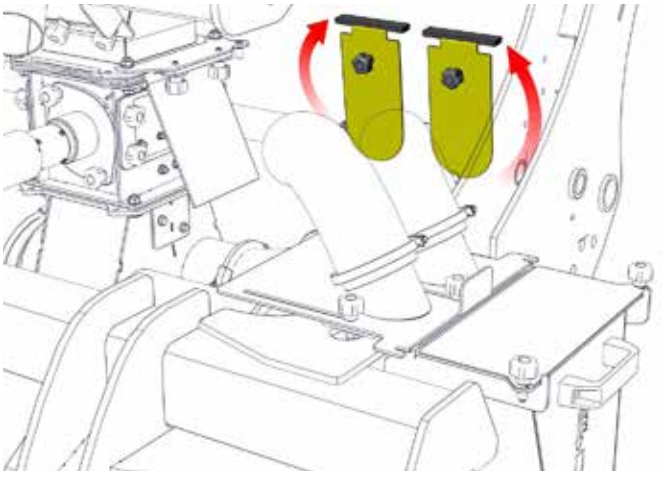
3- Fill the hopper with product.

4- Rotate the main pneumatic circuit lugs by loosening the knobs.

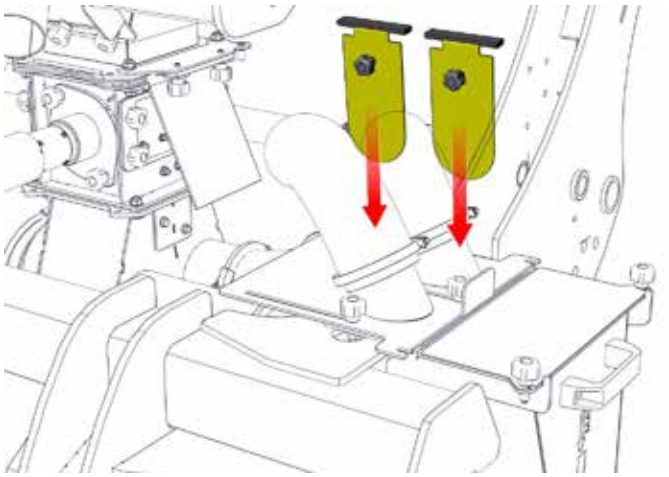


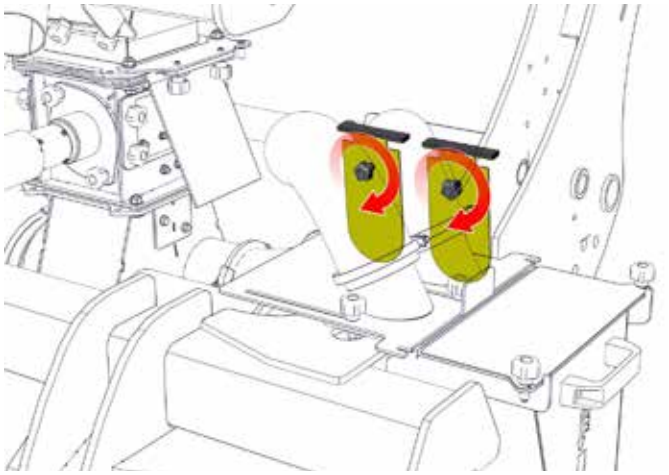
5- Remove the cutters and turn them.



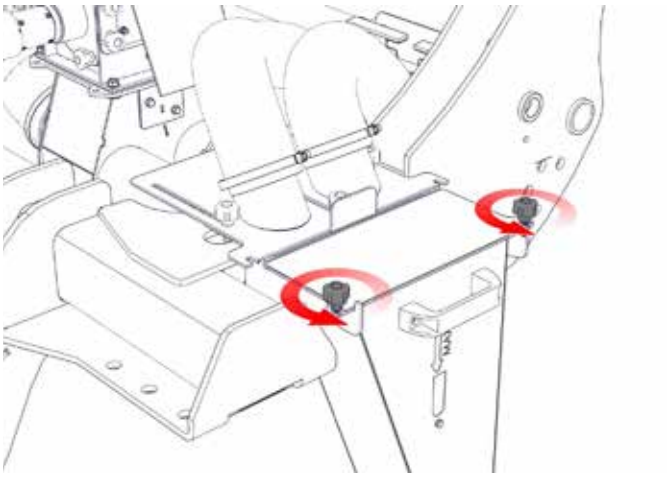


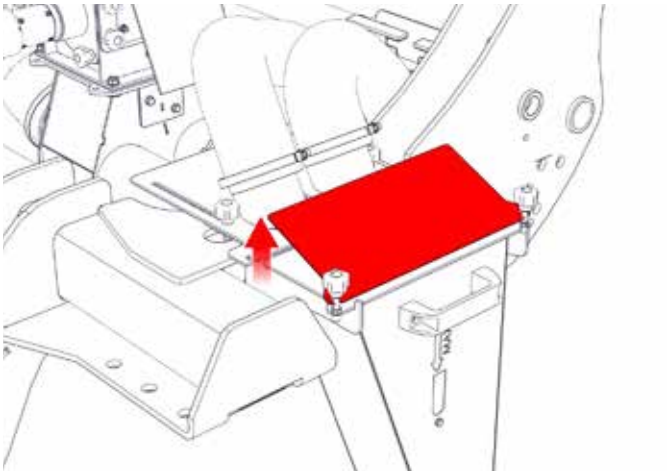
6- Insert the cutters into the slots and tighten the knobs to fix them.



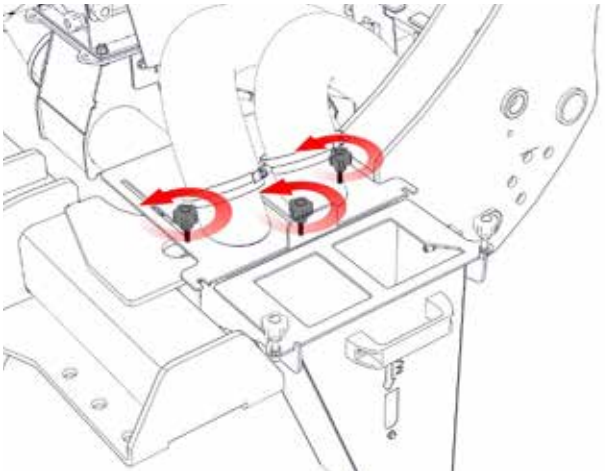


7- Move the shunt to the calibration box. To do this, loosen the knobs to remove the calibration box cover.

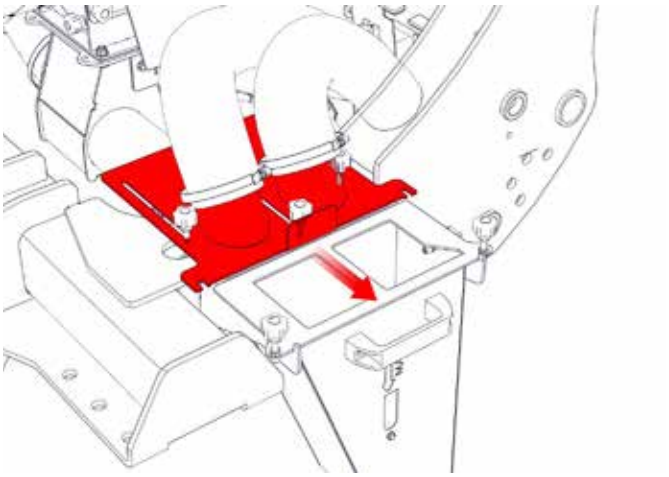


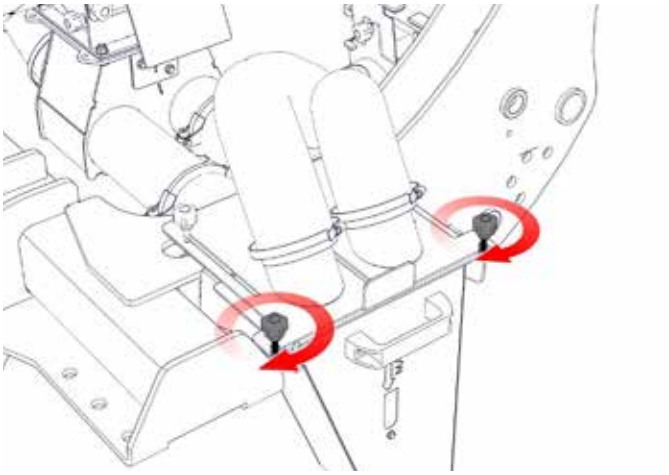


8- Loosen the knobs on the bypass cover.

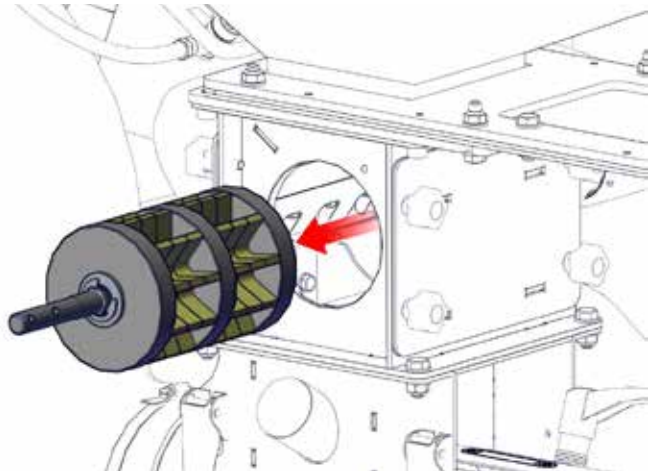


9- Move the shunt over the calibration box and tighten the knobs to fix it.

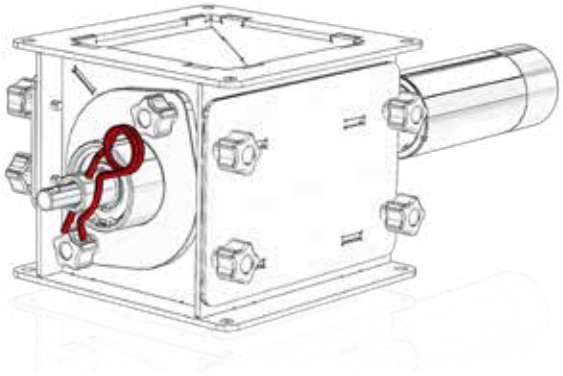




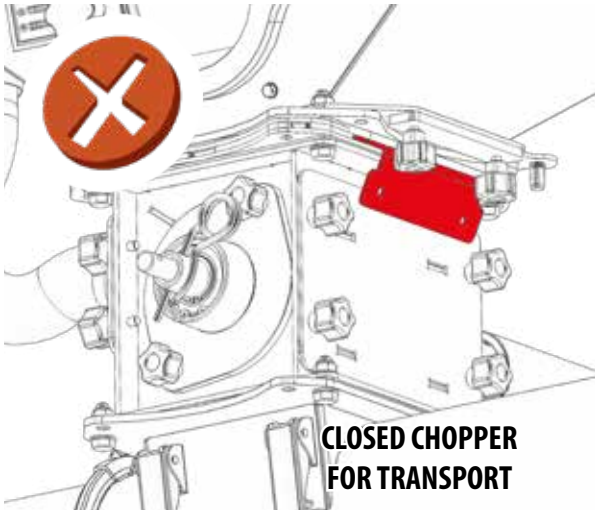
10- Remove the roller to observe the type of sectors and the quantity installed.

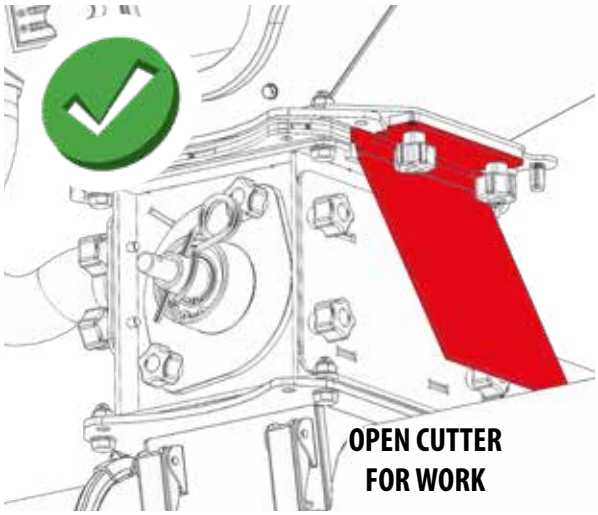


11- Replace the roller on the doser and set the pin to "R".



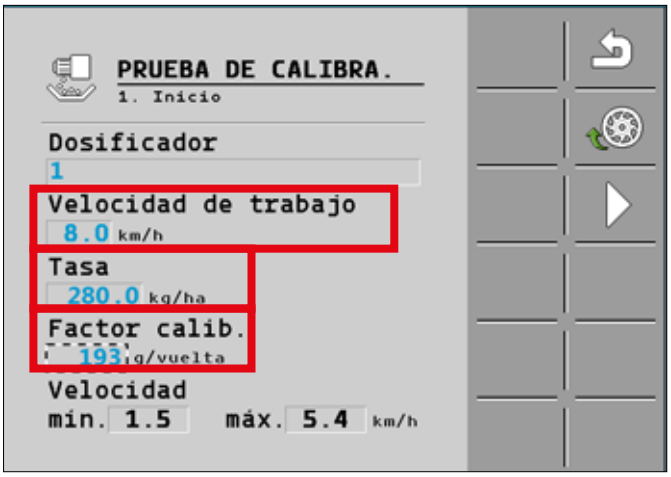
12- Place the cutter in working position.





13- To continue with the calibration, see the ISOBUSmanual (see section TESTING THE CALIBRATION). The following valuesmust be entered:

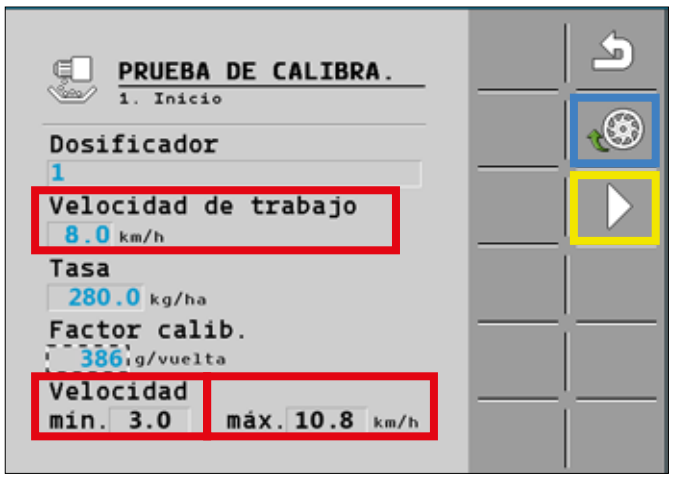
- **WORKING SPEED** desired (Km/h).
- Desired **dosage (** Kg/Ha) ,
- **CALIBRATION FACTOR**, this value can be found depending on: the specific weight of the product to be used; the type and number of sectors mounted on the roller, (see section 6.3 CALIBRATION FACTOR TABLE ROLLER DOSER).



A VALUE FOR THE CALIBRATION FACTOR MUST BE ENTERED. IF THE FACTOR IS NOT CORRECT, THE CALIBRATION CANNOT BE PERFORMED.

THE RATE IS WHAT THE MACHINE WILL DISTRIBUTE IN TOTAL PER HECTARE.

14- Once the 3 desired values have been entered, check the minimum and maximum working speeds on the controller screen. When the desired working speed is in the middle of these two values (in red), open the guillotine door and fix it by means of the screw, fill the doser cells (press the icon "PRELLENADO", in blue) and then carry out the test (press the icon "PLAY", in yellow).



IF THE DESIRED SPEED IS HIGHER THAN THE MAXIMUM SPEED INDICATED BY THE CONTROLLER, MORE SECTORS OF THE SAME TYPE MUST BE MOUNTED ON THE ROLLER OR THE TYPE OF SECTORS MUST BE CHANGED.THE CALIBRATION FACTOR MUST THEN BE CHANGED TO THE NEW CONFIGURATION (SEE SECTION 6.3 CALIBRATION FACTOR TABLE).3 CALIBRATION FACTOR TABLE FOR THE ROLLER DOSER).

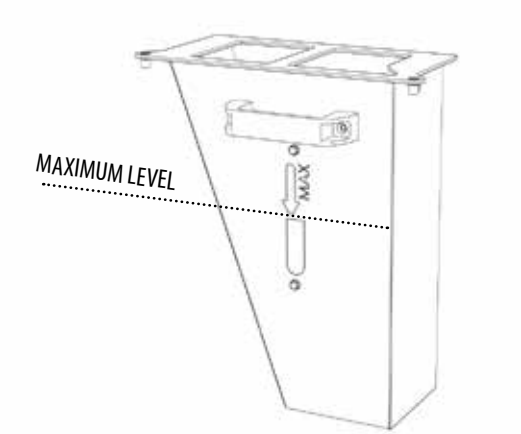
IF THE DESIRED SPEED IS BELOW THE MINIMUM SPEED INDICATED BY THE CONTROLLER, WE MUST REMOVE SECTORS ON THE ROLLER OR CHANGE THE TYPE OF SECTORS, THEN THE CALIBRATION FACTOR MUST BE CHANGED TO THE NEW CONFIGURATION (SEE 6.3 CALIBRATION FACTOR TABLE FOR THE ROLLER DOSER).

15- Activate the turbine.

16- With the controller configured and the turbine active. Press andhold the calibration button to start the calibration test.

PRESS AND HOLD THE BUTTON TO COLLECT THE MAXIMUM AMOUNT OF PRODUCT, THE MORE PRODUCT YOU CAN COLLECT, THE MORE ACCURATE THE CALIBRATION TEST WILL BE.

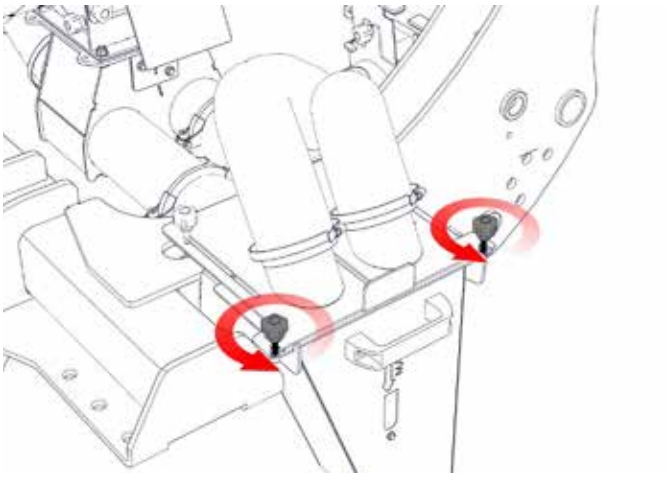
IMPORTANT: DO NOT EXCEED THE MAXIMUM LEVEL INDICATED ON THE LEVELLER BOX. IF YOU SOW SMALL SEEDS AND THESE ESCAPE THROUGH THE HOLES IN THE BOX, YOU MUST USE THE LEVELLER BOX FOR FINE SEEDS.



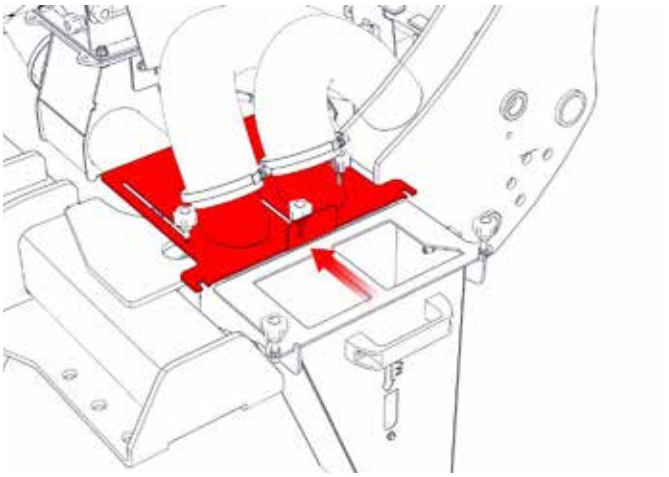
IMPORTANT: REPEAT THE CALIBRATION TEST EXPLAINED IN THE MONTOR MANUAL UNTIL THE DESIRED VALUE IS ACHIEVED.

At the end of the flow rate tests, return the pneumatic circuit to the working position. To do so, you must:

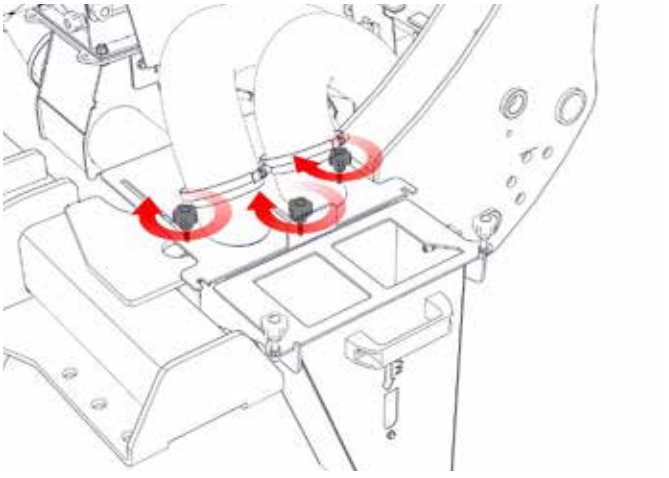
17- Loosen the knobs.



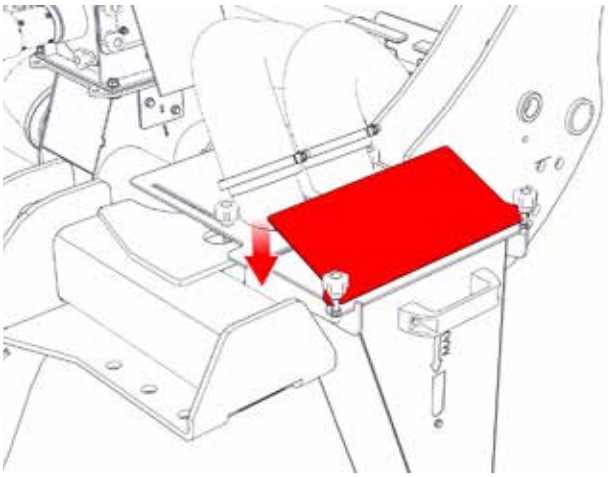
18- Move the shunt to the working position.

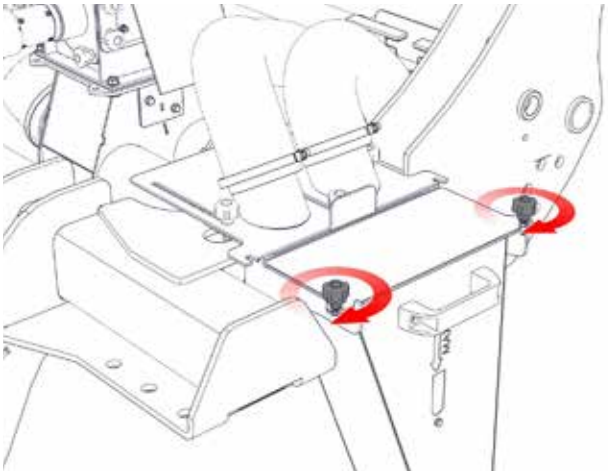


19- Tighten the knobs to fixthe bypass.

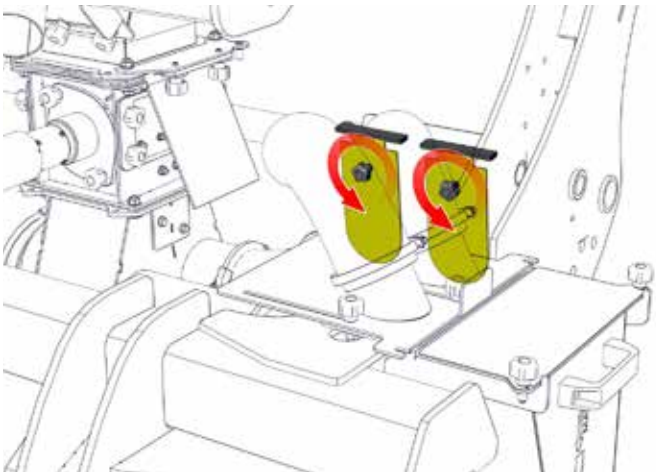


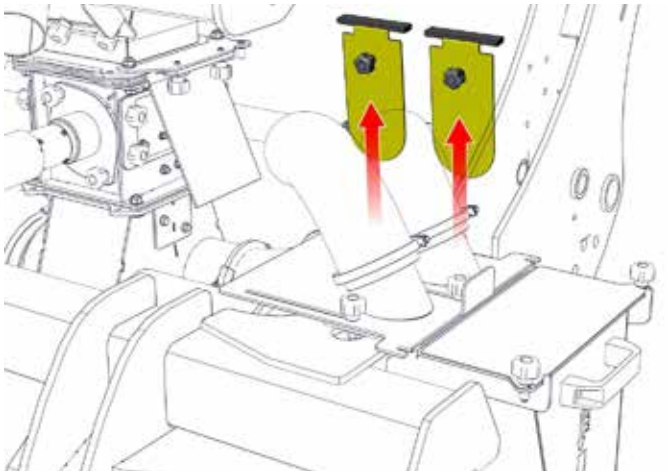
20- Fit the cover of the calibration box and fix it with the knobs.

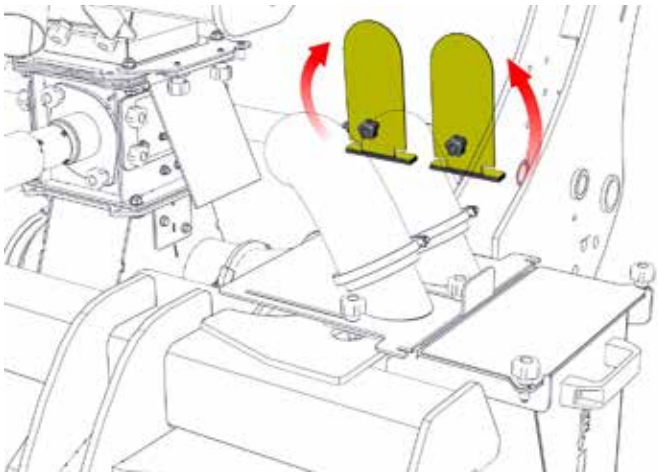


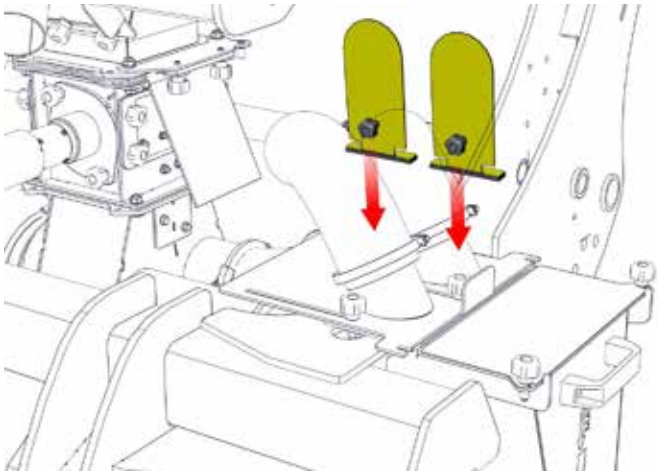


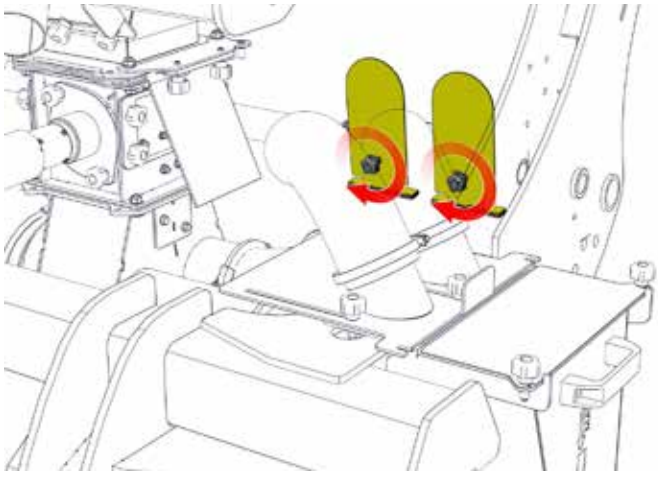
21- Relocate the main pneumatic circuit plugs by loosening the knobs, removing the plugs, turning the plugs, lowering the plugs and making sure that the foam covers the groove, then tightening the knobs to fix the plugs.







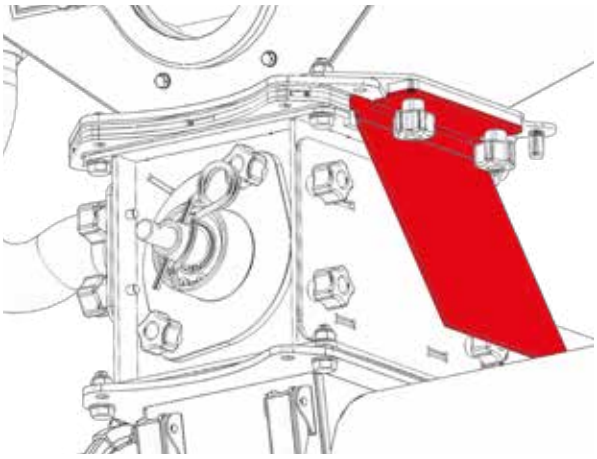




IMPORTANT: AFTER THE CALIBRATION IS COMPLETED, START THE TURBINE AND CHECK THAT THERE IS AIR FLOW TO THE SOWING COULTERS.

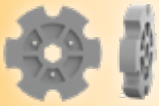
CHECK THE TIGHTNESS OF THE SEALING PLUGS. THESE SHALL BE REPLACED WHEN SIGNS OF DETERIORATION ARE DETECTED IN ORDER TO ENSURE PROPER SEALING.

22- Open and fix the cutter.



IMPORTANT: AFTER THE FIRST HECTARE OF WORK, THE DESIRED PRODUCT CONSUMPTION MUST BE CHECKED.

6.3 TABLE CALIBRATION FACTOR CALIBRATION FACTOR ROLLER DOSER

SECTOR TYPE	TYPE OF CULTIVATOR	SPECIFIC WEIGHT (g/L)	CALIBRATION FACTOR ACCORDING TO QUANTITY OF SECTORS PER ENGINE (g/vule)								SCRAPER TYPE AND MOUNTING TYPE			RPM TURBINE
			1	2	3	4	5	6	7	8	RED	AMARILO	BLUE	
	WHEAT	770	27	54	81	108	135	162	189	216	✓ T1	✗	✗	3.500
	BARLEY	680	24	48	72	96	120	144	168	192	✓ T1	✗	✗	3.500
	LENTJAS	880	31	62	93	124	155	186	217	248	✓ T1	✗	✗	3.500
	PEAS	840	29	58	87	116	145	174	203	232	✗	✓ T2	✗	3.500
	FERTILISER SPREADER	1000	64	128	192	256	320	384	448	512	✗	✓ T2	✗	3.500
	WHEAT	770	49	98	147	196	245	294	343	392	✓ T1	✗	✗	3.500
	BARLEY	680	44	88	132	176	220	264	308	352	✓ T1	✗	✗	3.500
	AVENA	500	32	64	96	128	160	192	224	256	✓ T1	✗	✗	3.500
	PEAS	840	54	108	162	216	270	324	378	432	✗	✓ T2	✗	3.500
	FERTILISER SPREADER	1000	83	166	249	332	415	498	581	664	✗	✓ T2	✗	3.500
	WHEAT	770	64	128	192	256	320	384	448	512	✓ T2	✗	✗	3.500
	BARLEY	680	56	112	168	224	280	336	392	448	✓ T2	✗	✗	3.500
	AVENA	500	42	84	126	168	210	252	294	336	✓ T2	✗	✗	3.500
	PEAS	840	70	140	210	280	350	420	490	664	✗	✓ T2	✗	3.500
	JUDIAS	750	62	124	186	248	310	372	434	496	✗	✗	✓ T2	3.500
	WHEAT	770	13	27	40	54	67	81	94	108	✓ T1	✗	✗	3.500
	BARLEY	680	12	24	36	48	59	71	83	95	✓ T1	✗	✗	3.500
	LENTJAS	880	15	31	46	62	77	92	108	123	✓ T1	✗	✗	3.500
	PEAS	840	15	29	44	59	73	88	103	117	✗	✓ T2	✗	3.500
	RAPE	650	1	2	-	-	-	-	-	-	✗	✓ T3	✗	3.000
	MEADOW CLOVER	770	1	2	-	-	-	-	-	-	✗	✓ T3	✗	3.000
	NABOS	700	1	2	-	-	-	-	-	-	✗	✓ T3	✗	3.000
	RAPE	650	2	4	-	-	-	-	-	-	✗	✓ T3	✗	3.000
	MEADOW CLOVER	770	2	4	-	-	-	-	-	-	✗	✓ T3	✗	3.000
	NABOS	700	2	4	-	-	-	-	-	-	✗	✓ T3	✗	3.000

Position of the scrapers according to the type of installation.

THE QUANTITIES INDICATED IN THE TABLES SHOULD BE CONSIDERED AS INDICATIVE ESTIMATES.

NEXT TO THE CALIBRATION BUTTON, YOU WILL FIND A QR CODE INSTALLED ON THE MACHINE. BY SCANNING IT, YOU WILL ACCESS A QUICK GUIDE TO PERFORM THE CALIBRATION.

https://solagrupo.com/es/c/flag-index-tablas-dosificacion-elektra-101

7. SOWINGDEPTHADJUSTMENT

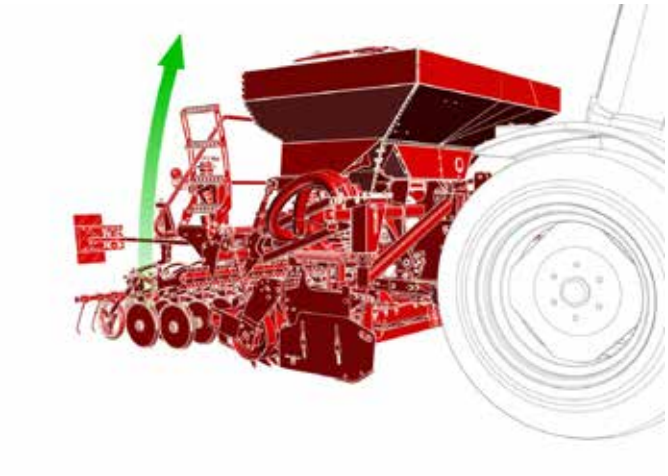
THE SEED DRILL SHOULD ALWAYS WORK HORIZONTALLY, WITH ALL THE COULTERS PENETRATING THE GROUND EQUALLY.

THE MACHINE IS FITTED WITH SUPPORT FEET, THESE SHOULD ONLY BE USED TO DISCONNECT OR CONNECT THE HARROW TO THE SEED DRILL. NEVER WORK WITH THE FEET FITTED, AS THIS MAY CAUSE DAMAGE TO THE MACHINE.

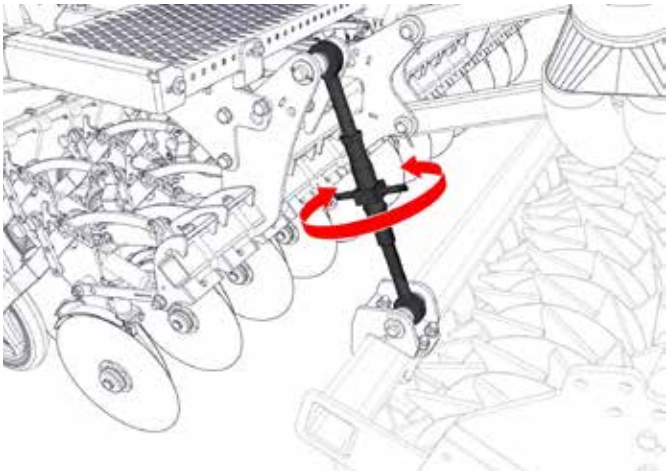
7.1 MAIN SPINDLES

In the seeding equipment there are 2 spindles for depth control of all row units. For the depth adjustment you have to:

1- Elevate the machine.



2- Turn the spindles to raise or lower the seeding equipment relative to the harrow.



TO ADJUST BOTH SIDES EQUALLY, IT IS ADVISABLE TO MEASURE BOTH SPINDLES.

7.2 SOWING COULTERS

There are several types of coulters, each type is designed for optimum sowing depending on the soil to be sown.

Types may include:

7.2.1 TINES

Fixed sowing coulters:

These coulters allow the working pressure to be changed by means of the nut on the underside of the spring (1).

The sowing depth is defined by the main adjustment spindles.

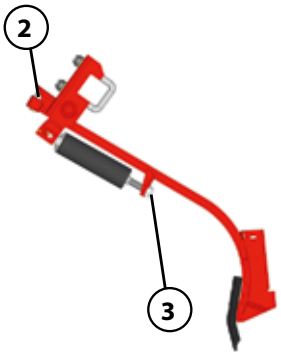
Adjustable sowing coulters:

These coulters match the tractor wheels. They are adjustable in depth, allowing greater working depth.

1- Act on the nut with a spanner to loosen the screw (2).

2- Act on the stop screw for the depth control (2).

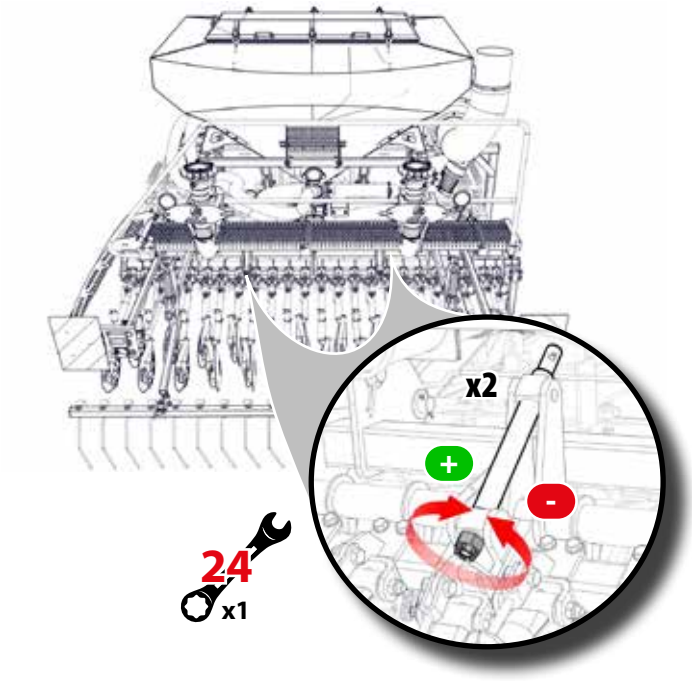
3- Tighten the lock nut to fix the position (2).



To adjust the working pressure of the coulter, adjust the nut (3).

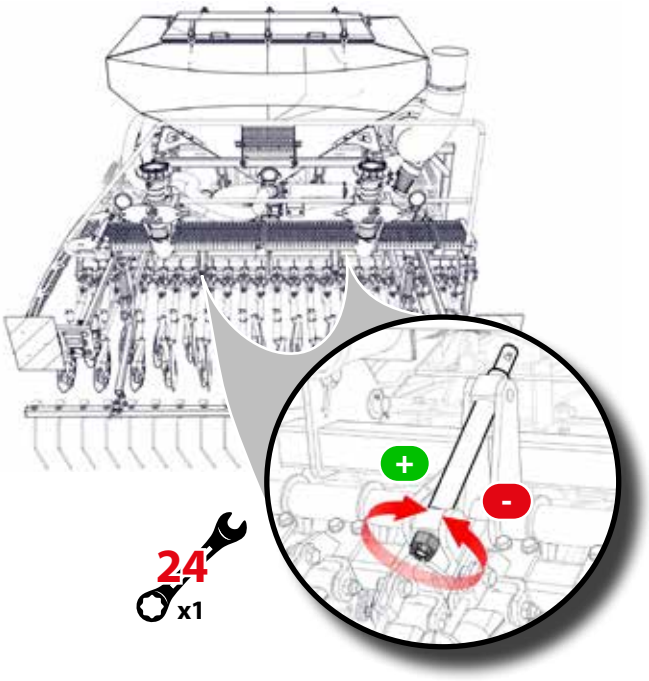
7.2.2 DISCS

The pressure on the floor can be adjusted by means of 2 spindles.
To rotate the spindle, the nut must be turned clockwise to give more working pressure, and counterclockwise to reduce the pressure.

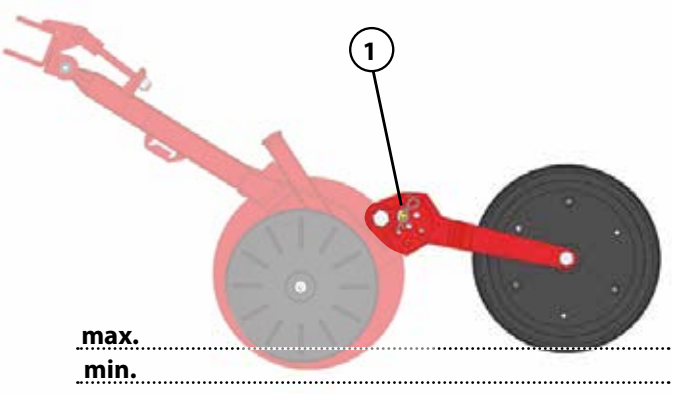


7.2.3 SUFFOLK COULTER

The pressure on the floor can be adjusted by means of 2 spindles.
To rotate the spindle, the nut must be turned clockwise to give more working pressure, and counterclockwise to reduce the pressure.



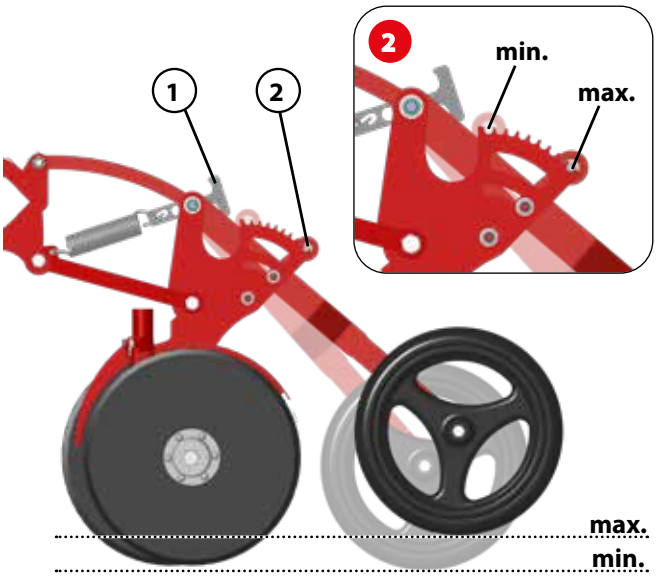
As optional equipment, there is a wheel for independent depht control wheel for each sowing unit, which can be operated on the bolt (1) to change the position of the bolt.



7.2.4 DOUBLE DISCS

The pressure on the floor can be adjusted by means of the lever (1) and the spring can be adjusted in two positions.

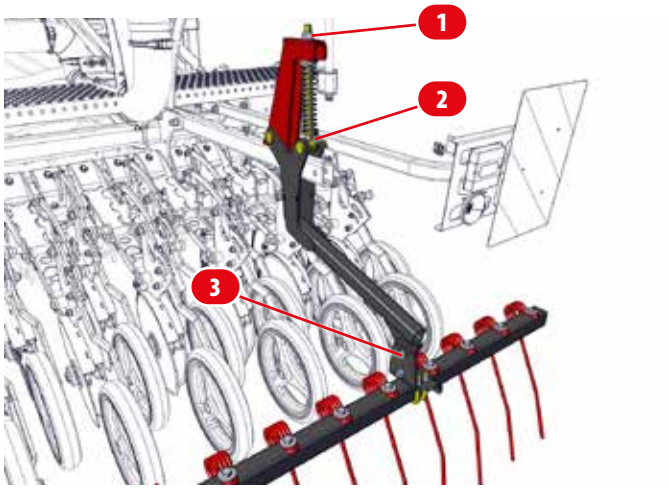
To adjust the depth of each coulter independently, act on the plunger (2).



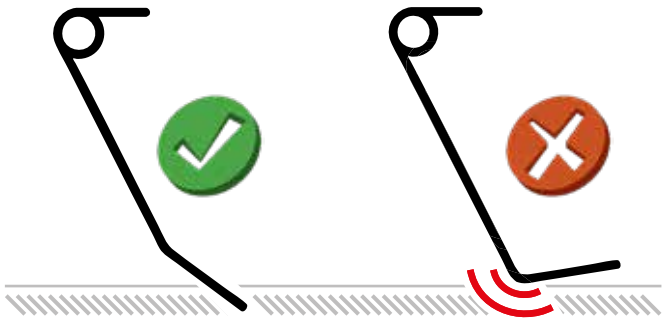
7.3 SPRING HARROW

The spring harrow has various settings to suit different types of soil.

IN HEIGHT, by acting on the upper nut (1).
IN PRESSURE, by means of the lower nut of the tensioner (2).
THE INCLINATION OF THE TINES, acting on the screw (3) that holds the tine-holder bar.



TO CORRECTLY COVER THE FURROW WHERE THE SEED HAS BEEN DEPOSITED AND TO AVOID PREMATURE WEAR, IT IS IMPORTANT TO ADJUST THE INCLINATION OF THE TINES OF THE SPRING HARROW. ONCE THE ADJUSTMENT HAS BEEN MADE, IT IS RECOMMENDED TO WALK A FEW METRES IN WORKING POSITION TO CHECK THE RESULT.



7.4 ROW MARKERS

The row marker coulters are extendable for adjustment on:

LENGTH (horizontal distance between the disc and the outside sowing disc coulter).
ORIENTATION OF THE DISCS (angles of attack).

KEEP HYDRAULIC LINES IN GOOD CONDITION. PRESSURISED OIL CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY.

NEVER STAND WITHIN THE DEPLOYMENT RADIUS OF THE ROW MARKER.

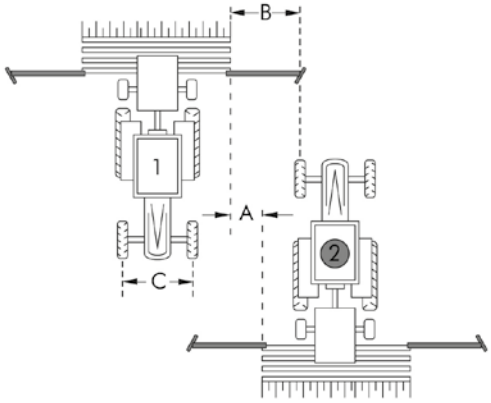
IT IS NOT ADVISABLE TO ORIENTATE THE DISCS TOO MUCH AS THIS COULD LEAD TO SERIOUS MALFUNCTIONS.

CARRY OUT THE CALCULATION WITH THE MEASUREMENTS EXPRESSED IN CENTIMETRES.

To calculate the horizontal distance between the row marker disc and the centre of the extreme row unit (B), apply the following formula:

$$B = \frac{A \times (\text{number of coulters} + 1) - C}{2}$$

A= distance between the centre of the coulters.
B= horizontal distance between the row marker disc and the outside sowing unit.
C= tractor track gauge.

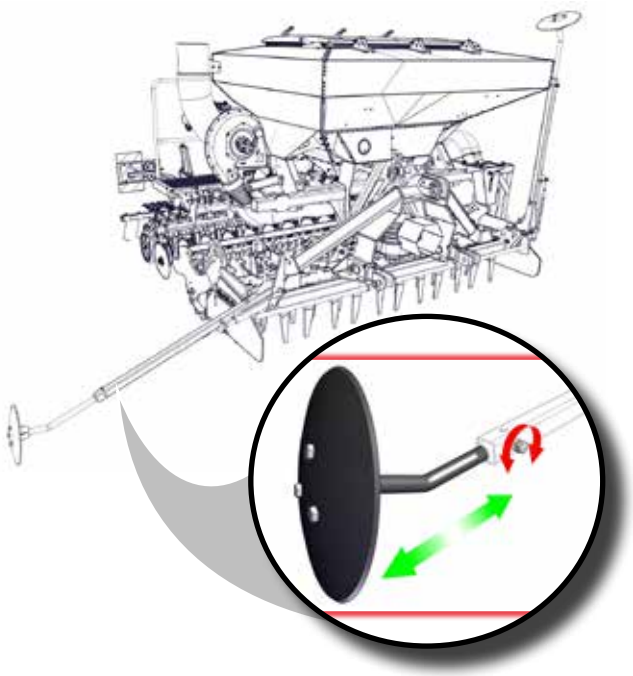


To adjust the distance of the row marker, proceed as follows:

1- Loosen the lock nut and the screw.
2- Place the row marker disc at the distance **B** previously calculated.

B= DISTANCE BETWEEN THE DISC OF THE ROW MARKER AND THE FIRST SOWING ELEMENT CLOSEST TO THE ROW MARKER.

3- Fix the bolt and lock nut at the end of this operation.



8. PNEUMATIC SYSTEM

The pneumatic system, driven by a hydraulic turbine, generates the necessary air flow to transport the seed through the pipes from the doser to the sowing furrow. This section details the requirements that must be met to ensure good sowing quality and to prevent clogging and possible damage to the components.

The table below shows the range of values in which you should work.

WORKING WIDTH (cm)		300	350	400
OIL SUPPLY	Minimum output pressure (bar)	130		
	Maximum return pressure (bar)	1,5		
	Oil flow rate (l/min)	36		
HYDRAULIC MOTOR	Cubic capacity (cm3)	8		
	Speed (rpm)	3.000 - 3.500		

THE MAXIMUM RETURN PRESSURE IS 1.5 BAR. IF THIS PRESSURE IS EXCEEDED, THE MOTOR MAY FAIL.

CONNECTION

Connect the quick coupling of the small turbine hose to a pressure output of the tractor. Connect the 1/2" hose with the large quick coupling to an unpressurised return line (max. 1.5 bar).

REGULATION

The rotational speed of the turbine is controlled by regulating the hydraulic output of the tractor.
Adjust the turbine speed according to the table above.

IF THE OIL HEATS UP TOO MUCH BECAUSE THE FLOW RATE PUMPED BY THE TRACTOR IS TOO GREAT OR THE OIL RESERVOIR IS TOO SMALL, IT WILL BE NECESSARY TO INSTALL AN INDEPENDENT HYDRAULICS.

IF THE FLOW RATE OF THE TRACTOR'S HYDRAULIC PUMP IS NOT SUFFICIENT TO SUPPLY THE TURBINE MOTOR OR IF IT CANNOT ALSO DRIVE ANOTHER ROW UNIT, AN AUXILIARY UNIT WITH A PTO-DRIVEN PUMP AND AN OIL TANK WITH COOLER MUST BE INSTALLED.IF THE TRACTOR'S HYDRAULIC PUMP IS NOT ABLE TO SUPPLY THE TURBINE ENGINE OR IF IT CANNOT ALSO DRIVE ANOTHER NECESSARY COMPONENT, AN AUXILIARY EQUIPMENT WITH A POWER TAKE-OFF DRIVEN PUMP AND AN OIL TANK WITH COOLER MUST BE INSTALLED.

9. GUIDE FOR DISCONNECTING AND CONNECTING THE HARROW

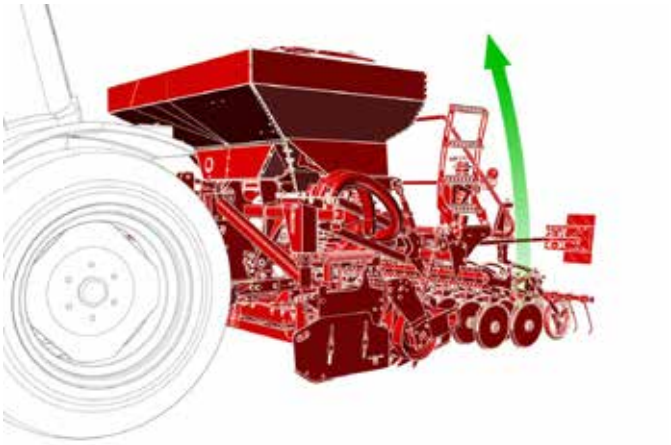
9.1 DISCONNECTING THE HARROW FROM THE SEED DRILL

The machine is fitted with support feet to prevent the seed drill from tipping over when it is not connected to the harrow.

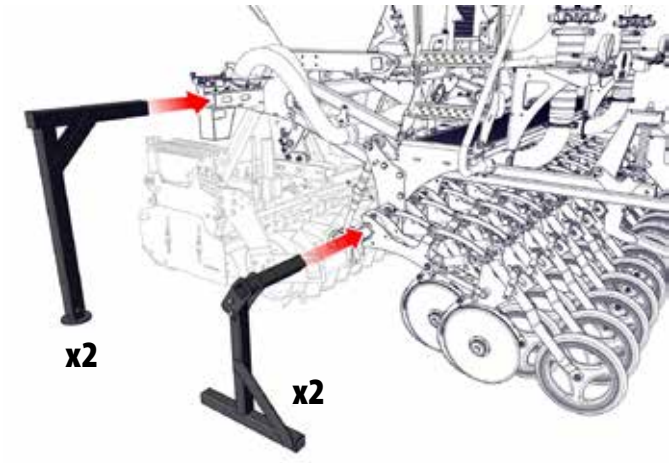
WARNING: PERFORM THIS OPERATION ON LEVEL AND FIRM GROUND.

To disengage the harrow from the seed drill, follow the steps below:

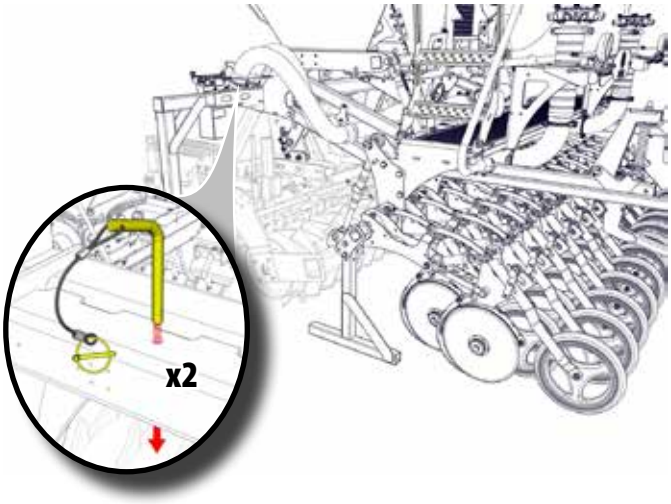
1- Coupling the machine to the tractor and elevating it.



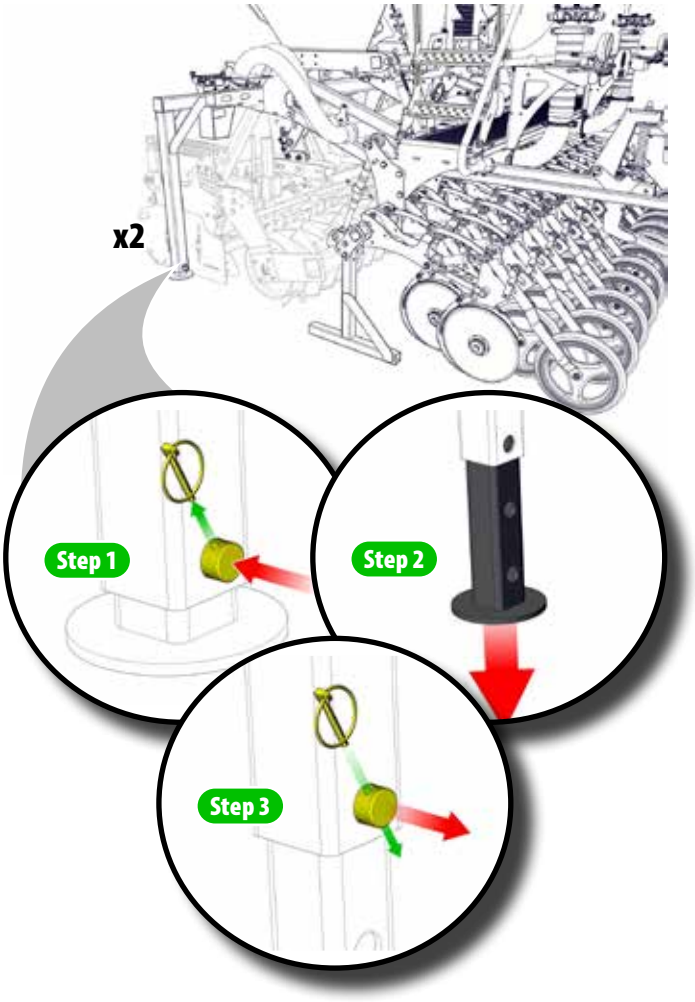
2- Mount the 2 front support feet on the side of the frame and 2 rear support feet on the side of the seeding equipment.



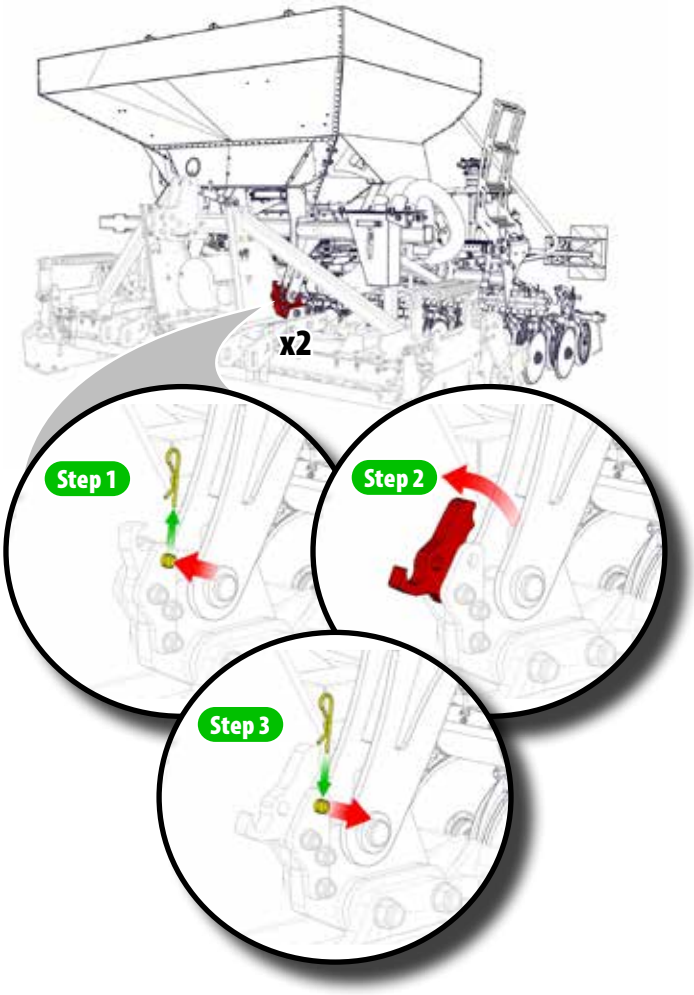
3- Fix the front support feet with a bolt and a ring pin.



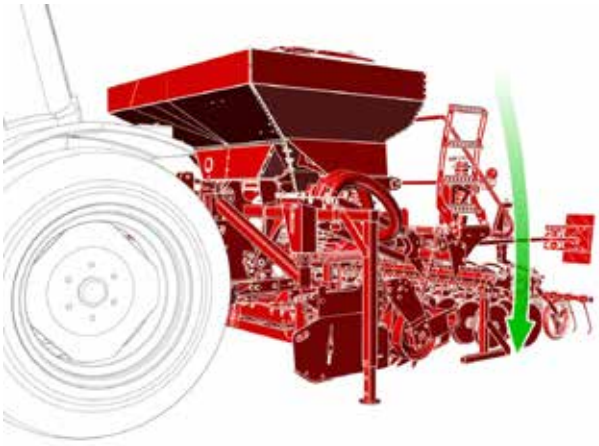
5- Extend the front support feet by acting on the pin and bolt. Extend the support foot so that it is one point below the harrow blades.



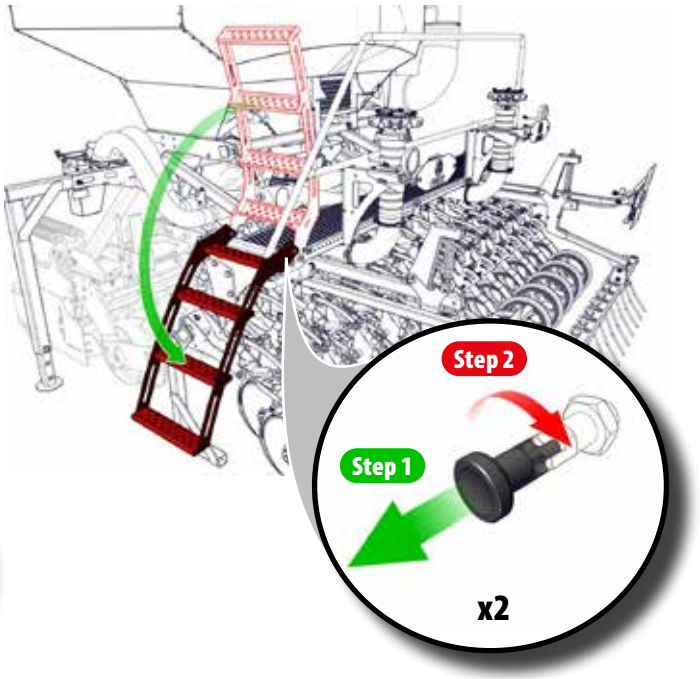
5- In the harrow, open the 2 safety triggers.



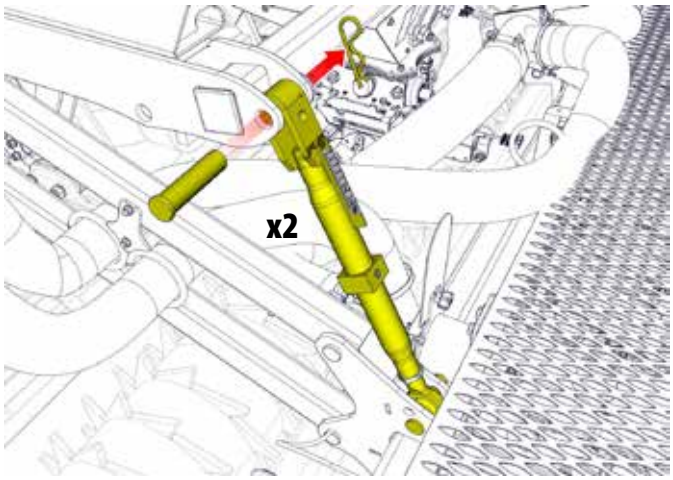
6- Lower the machine to the ground. Check that the support feet are in contact with the ground; if not, repeat the previous operation until the machine rests on these feet.



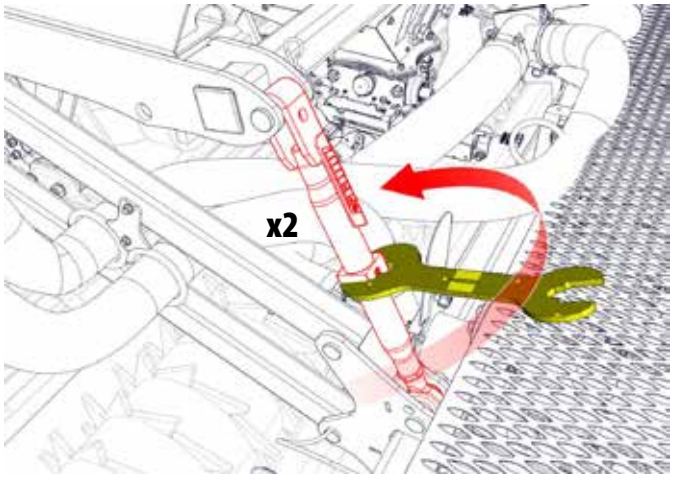
7- Unfold the ladder by unlocking the locks.



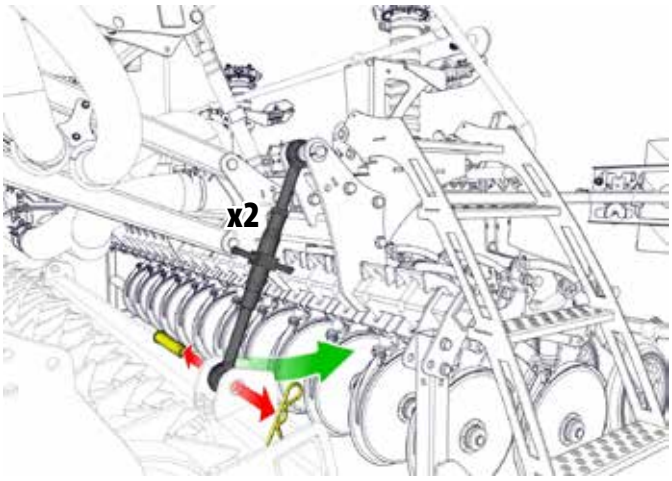
8- Mount the 2 turnbuckles supplied with the machine, between the frame of the seed drill and the seeding equipment



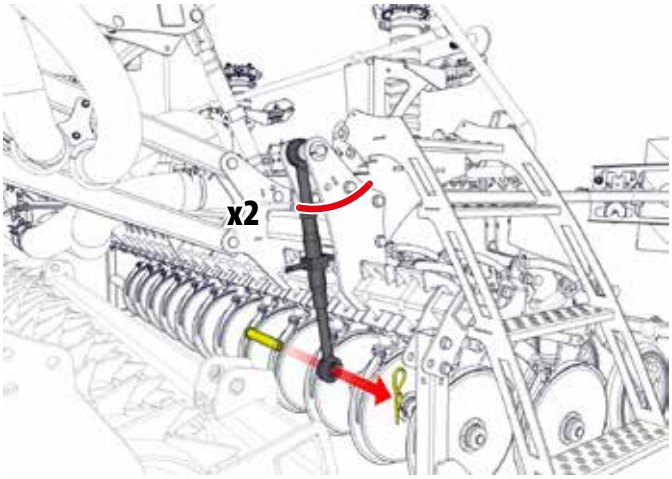
9- Tighten both tensioners equally counterclockwise until the bolt indicated in step 10 is free and can be removed.



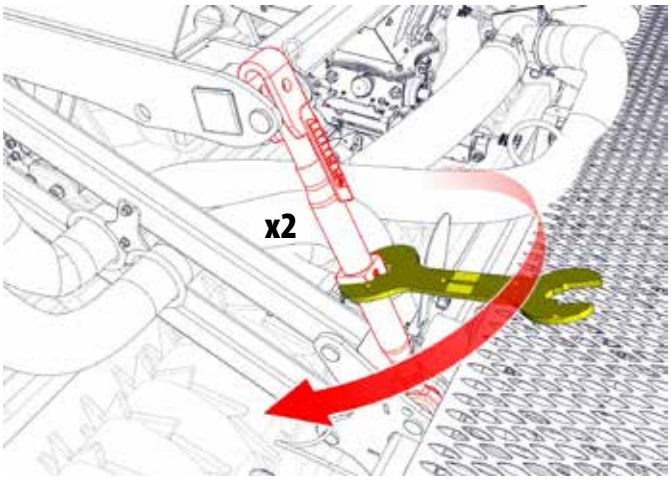
10- Remove the pins, pull out the bolts and move the main spindles aside for depth control.

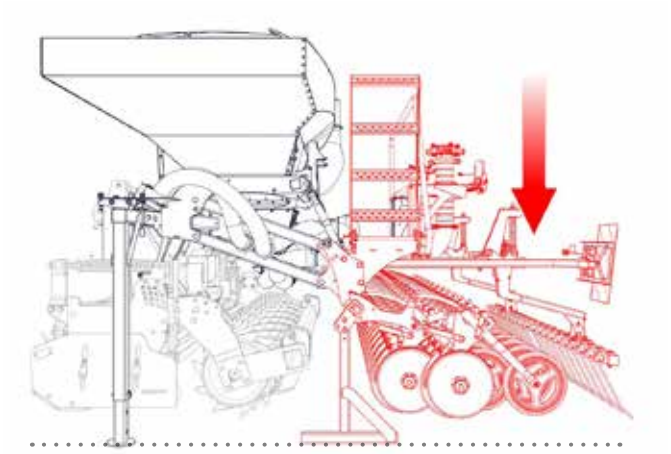


11- Assemble the bolt to the turnbuckle together with the pin and then fix the turnbuckle to the seeding equipment by means of flanges.

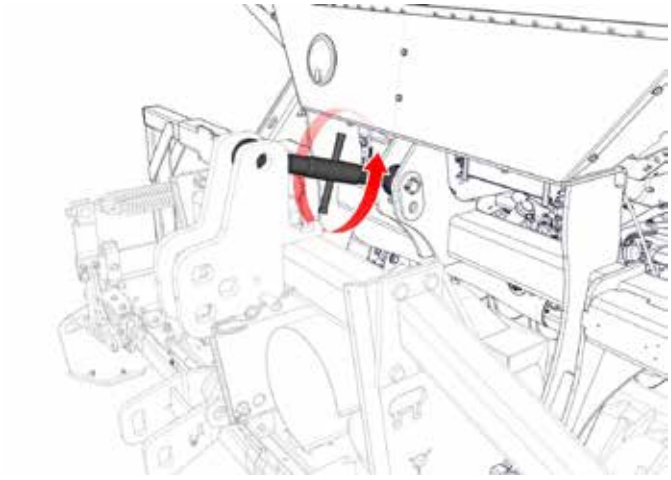


12- Adjust the 2 tensioners equally clockwise until the rear support feet rest on the ground.

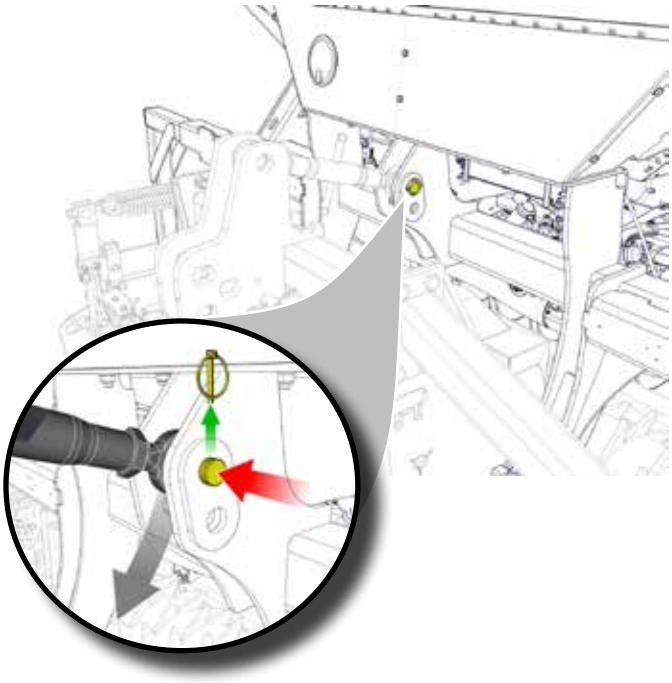




13- Loosen the third point turnbuckle until the bolt from step 14 is released.

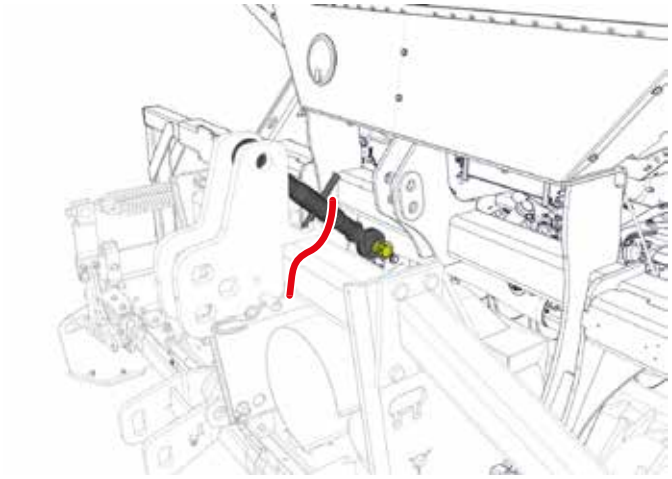


14- Disconnect the turnbuckle from the top link by pulling out the pin and removing the bolt.

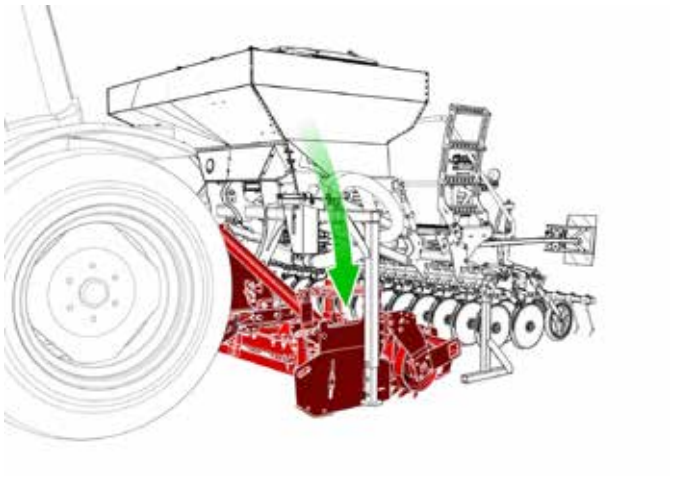


IMPORTANT: AT THIS POINT THE SEED DRILL IS DISCONNECTED FROM THE HARROW.

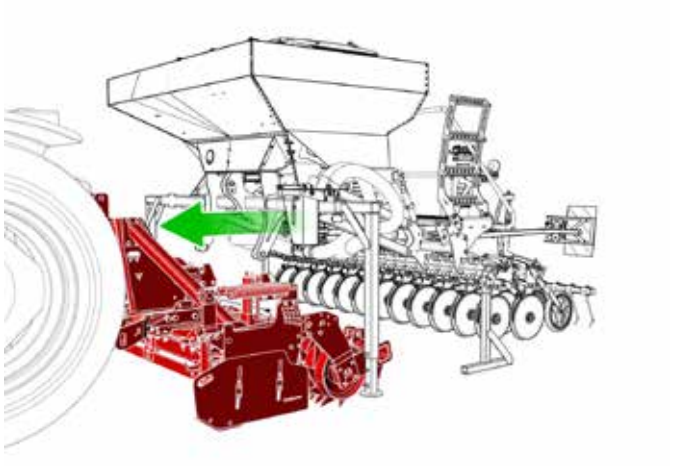
15- Assemble the bolt to the turnbuckle together with the pin and then fix the turnbuckle to the harrow frame.



16- Hydraulically lower the harrow to release it from the seed drill.



17- Move forward a few metres.



WARNING: BEFORE DRIVING THE TRACTOR FORWARD, CHECK THAT NO CABLES OR HYDRAULIC LINES ARE TRAPPED AND COULD BE DAMAGED.

9.2 CONNECT THE HARROW WITH THE SEED DRILL

To connect the harrow to the seed drill, reverse the steps in section 9.1 DISCONNECTING THE HARROW FROM THE SEED DRILLING SYSTEM.

BEFORE REMOVING THE SUPPORT FEET, YOU WILL NEED TO ELEVATE THE MACHINE TO FACILITATE THE REMOVAL OF THE FEET AND POSSIBLE BACKWARD COLLAPSE.

SUPPORTING FEET FITTED WHILE THE MACHINE IS SOWING CAN CAUSE DAMAGE TO THE MACHINE. ONLY USE THE SUPPORT FEET FOR SWITCHING OFF THE HARROW.

10. MAINTENANCE

IN THE EVENT OF A FAULT, STOP THE MACHINE IMMEDIATELY AND REMOVE THE KEY FROM THE IGNITION. GET OFF THE TRACTOR AND VISUALLY CHECK THE EXTENT OF THE PROBLEM. CARRY OUT THE NECESSARY OPERATIONS ON THE MACHINE BEFORE RESTARTING IT.

MAINTENANCE OPERATIONS MUST BE CARRIED OUT IN PROPERLY EQUIPPED WORKSHOPS, WITH THE MACHINE STATIONARY AND BY QUALIFIED PERSONNEL.

REPAIRS MUST NOT BE CARRIED OUT WITHOUT SUFFICIENT KNOWLEDGE. THE INSTRUCTIONS GIVEN IN THIS MANUAL MUST BE FOLLOWED, AND IN THE ABSENCE OF SUCH INSTRUCTIONS, CONTACT THE SUPPLIER OR EXPERT PERSONNEL.

WHEN CARRYING OUT MAINTENANCE OR REPAIR WORK ON THE MACHINE, THE OPERATOR SHALL WEAR APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT (PPE) (SUFFOLK COULTER, GLOVES, HEADPHONES, DUST MASK AND GOGGLES).

AVOID WEARING LOOSE-FITTING CLOTHING THAT COULD BECOME ENTANGLED WITH THE MOVING ROW UNITS OF THE MACHINE.

Before carrying out any work on the machine, the following factors must be taken into account:

- Maintenance and repair work on the machine must be carried out on flat, compact ground, with the tractor engine switched off and the key out of the ignition.

- The elevator device chosen must be suitable for the operations to be carried out. Ensure that safety regulations are complied with.

- Use the necessary protective equipment for each task to be performed.

- If compressed air is used to clean the machine or if parts are to be painted by airbrushing, a mask and protective goggles must be worn.

- For operations to be carried out at heights of more than 1.5 metres above the ground and which cannot be accessed via the machine access points (hopper access ladder), you must use ladders or, failing that, platforms in accordance with the regulations in force.

- Prolonged and/or repeated contact of fuels and lubricants with the skin is harmful. In case of accidental contact of these products with eyes or other sensitive parts, wash the affected area thoroughly with water. In case of ingestion, contact medical services.

10.1 FREQUENCY OF REVIEWS

The interval of the interventions indicated below is indicative and may vary depending on the type of service, use of the machine, environment, temperature, climatic conditions, among other factors.

Proper maintenance of the machine ensures optimal operation and a long service life.

KEEP THE SEEDING EQUIPMENT CLEAN, ACCUMULATION OF SOIL, STONES, GRASS, ETC. CAN CLOG THE SOWING LINES.

THESE OPERATIONS MUST BE CARRIED OUT WITH THE TRACTOR ENGINE AT A COMPLETE STANDSTILL AND THE IGNITION KEY SWITCHED OFF.

AFTER THE FIRST 10 HOURS OF WORK, RETIGHTEN THE BOLTS OF THE ANCHORAGES OF THE ROW UNITS, THE THREE-POINT LINKAGE, THE WHEELS AND THE ROW MARKER SUPPORTS.

- DAILY

In humid weather conditions, before loading the machine with seed, switch on the turbine for a few minutes to remove moisture from the row units and the pneumatic circuit.
Before starting work, check that there are no obstructions in the metering unit head or in the tubes that transport the seed to the coulters. Foreign objects in the head or the obstruction of a tube will cause a lack of seed in the furrow.

- START OF THE SEASON

Check the general function of the machine. For this purpose, carry out a check with the seed drill empty of seed.
Check that the plastic parts are in good condition, as these can cause damage to the person or machine.
Check that the mechanics are in good condition and free of rust.
Clean the parts that come into contact with the seed, such as the hoppers and the dosers, with pressurised air and/or a brush.
Check that the signal lights are working properly.
Check that the couplings and lines in the hydraulic circuit are not leaking oil.

- PERIODICALLY

Before cleaning the seed drill with compressed air, make sure that no seed or fertiliser remains in the hoppers and metering units.
Check the condition of all screws and bolts, especially those in contact with the floor. Tighten all screws and bolts.
Check that there is no material residue, dust, etc. in the dosers and in the suction circuit. The accumulation of residues can damage the suction system.
Check parts for general wear and replace worn parts.
Check the condition of hydraulic cables and hoses.

- END OF SEASON

Wash the machine thoroughly with pressurised air, making sure that no seeds remain in the hopper, doser and ducts. Pay special attention to the parts that are in contact with chemicals.
Paint metal components that have lost their paint due to wear and tear.
To store the machine properly, cover it with a tarpaulin and store it in a dry environment.
Thoroughly inspect all parts and replace damaged or worn parts.

NOTES

DATE	NOTES

This manual is also available in digital format via the QR installed on your machine, together with the monitor manual and the spare parts book.

https://solagrupo.com/es/QRDocs/NEU-P

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