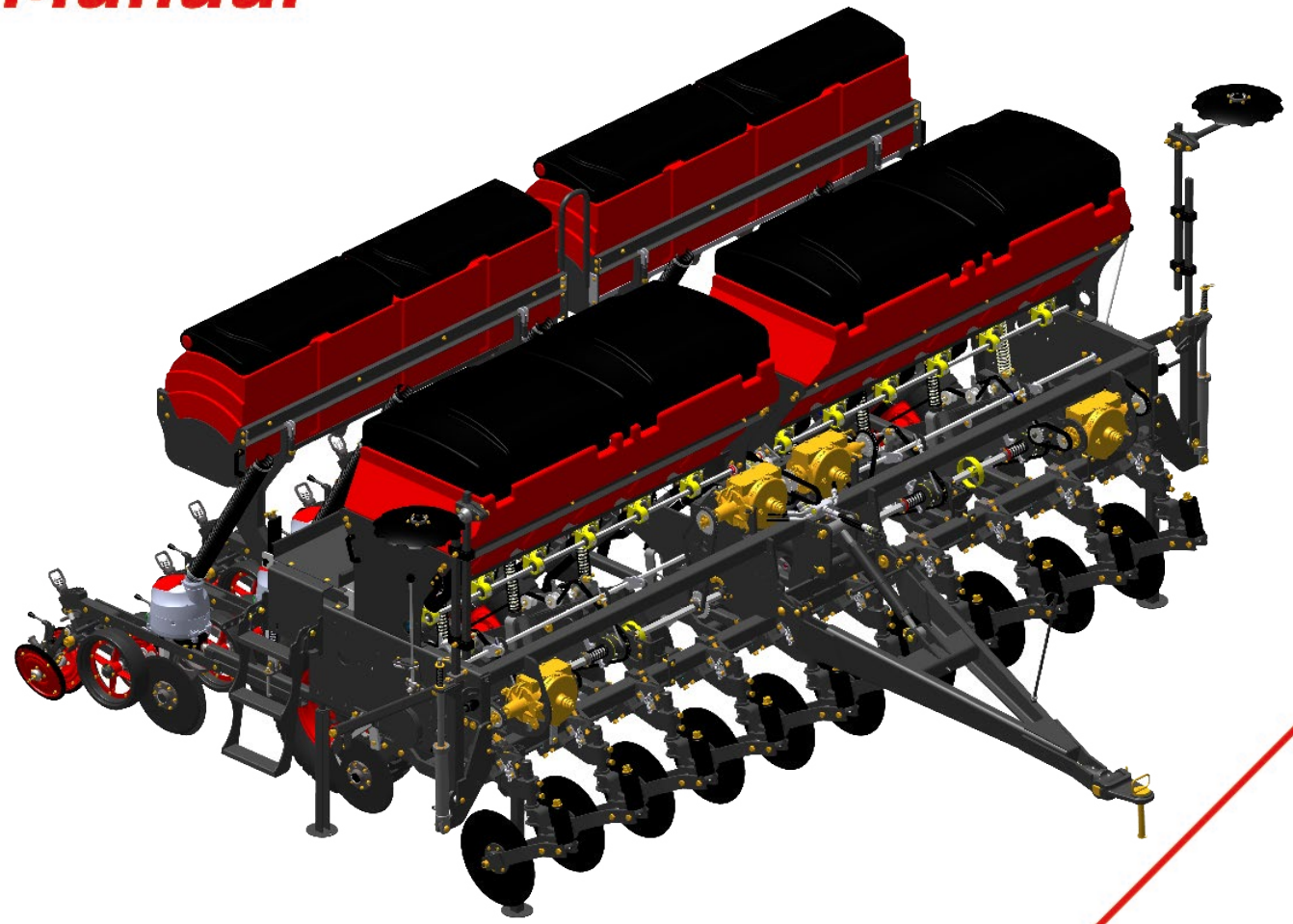
Instruction Manual



PP SOLO 3rd SEED BOX - BALDAN / TITANIUM

Precision Row Crop Planter

BALDAN

▪ Presentation

We thank you for your preference and congratulate you on the excellent choice you have just made, as you have purchased a product manufactured with **BALDAN IMPLEMENTOS AGRÍCOLAS S/A** technology.

This manual will guide you through the procedures that are required from your purchase to the procedures operational use, safety and maintenance.

BALDAN guarantees that it has delivered this implement to the dealer complete and in perfect condition.

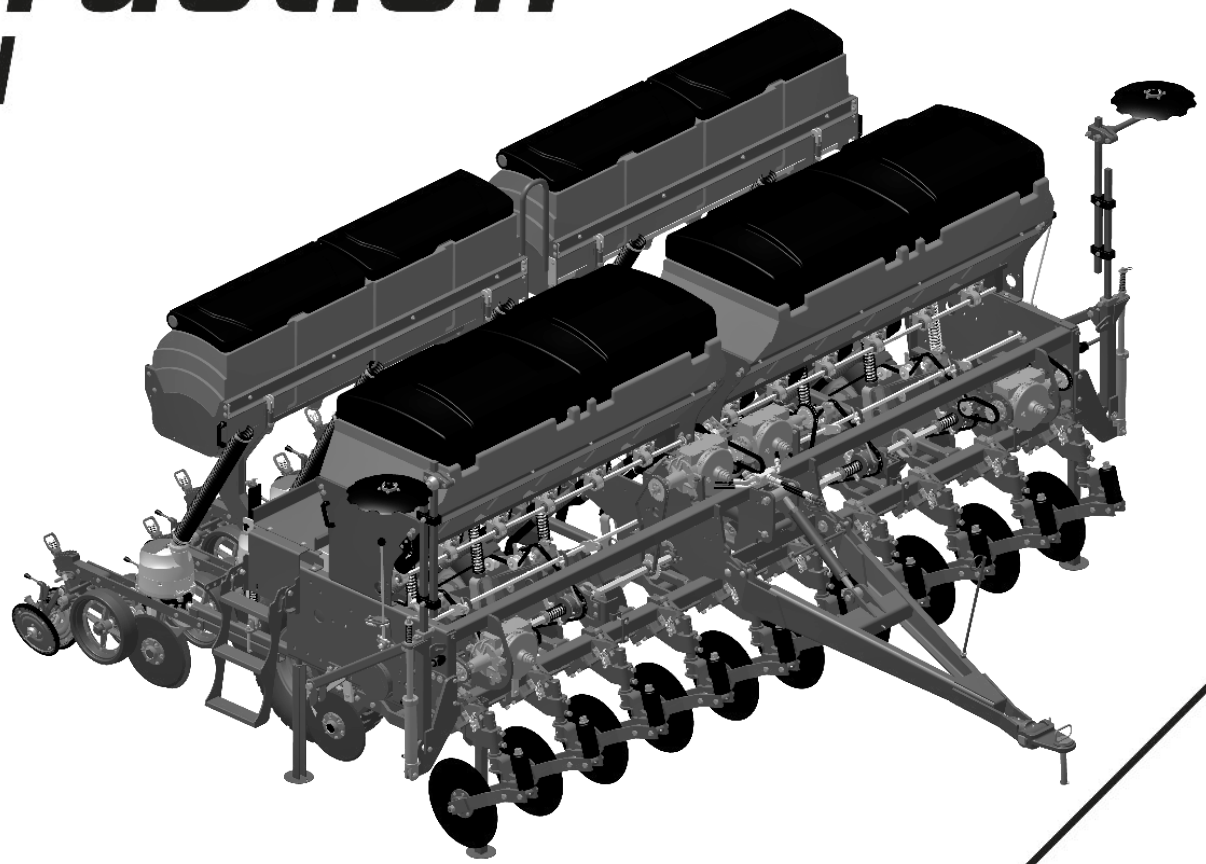
The dealer took responsibility for its safekeeping and conservation during the period it was in his possession, and also for the assembly, retightening, lubrication, and general overhaul.

In the technical delivery, the dealer must guide the user customer about maintenance, safety, his obligations in eventual technical assistance, the strict observance of the warranty term and the reading of the instruction manual.

Any request for warranty service should be made to the dealer where it was purchased.

We reiterate the need to read the warranty certificate carefully and to observe all the items in this manual, as this will increase the life of your implement.

Instruction Manual



PP SOLO 3rd SEED BOX - BALDAN / TITANIUM

Precision Row Crop Planter

BALDAN IMPLEMENTOS AGRÍCOLAS S/A.
CNPJ: 52.311.347/0009-06
Insc. Est.: 441.016.953.110

Scan the QR Code on the identification plate of your device and access this Instruction Manual online.

BALDAN

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▪ Baldan Warranty

BALDAN IMPLEMENTOS AGRÍCOLAS S/A ensures the dealer normal performance of the implement for a period of six (6) months as of the delivery date on the retail invoice to the first final consumer.

During this period, **BALDAN** undertakes to repair defects in material and/or of manufacture of its liability, including labor, freight and other expenses of the dealer's liability.

In the warranty period, request and replacement of eventual defective parts shall be made to the dealer of the area, who will submit the faulty piece to **BALDAN** analysis.

When this procedure is not possible and the resolving capacity of the dealer is exhausted, the dealer will request the support of **BALDAN** Technical Assistance through a specific form distributed to dealers.

After analyzing the replaced items by **BALDAN** Technical Assistance, and concluding that it is not a warranty, then the dealer will be responsible for the costs related to the replacement; as well as material expenses, travel including accommodation and meals, accessories, lubricant used and other expenses arising from the call out to Technical Assistance, and **BALDAN** company is authorized to carry the respective invoice in the name of the resale.

Any repairment carried in the product within the dealer warranty deadRow will only be authorized by **BALDAN** upon previous budget presentation describing parts and workforce to be executed.

The product is excluded from this term if it is repaired or modified by representatives not belonging to the **BALDAN** dealer network, as well as the application of non-genuine parts or components to the user's product.

This warranty is void where it is found that the defect or damage is caused by improper use of the product, failure to follow instructions or inexperience of the operator.

It is agreed that this warranty does not cover tires, polyethylene tanks, cardan, hydraulic components, etc., which are equipment guaranteed by their manufacturers.

Manufacturing and/or material defects, object of this warranty term, will not constitute, under any circumstances, grounds for termination of a purchase agreement, or for indemnification of any nature.

BALDAN reserves the right to change and/or perfect the technical characteristics of its products, without previous notice, and without obligation to proceed in the same way with the products previously manufactured.

▪ General Information

• To the owner

BALDAN IMPLEMENTOS AGRÍCOLAS S/A is not responsible for any damaged caused by accident due to usage, transportation, or in the improper or incorrect transportation of its implement, whether by negligence and/or inexperience of any person.

Only people with complete knowledge of the tractor and the implement should carry their transportation and operation.

BALDAN is not responsible for any damaged caused in unpredictable or unrelated situations to the normal use of the implement.

The incorrect handling of this equipment may result in severe or fatal accidents. Before running the equipment, carefully read the instructions contained in this manual. Make sure that the person responsible for the operation is instructed as the correct and safe handling. Also make sure that the operator has read and understood the instructions manual of the product.

⚠ ATTENTION

NR-31 - SAFETY AND HEALTH AT WORK IN AGRICULTURE, LIVESTOCK FARMING, FORESTRY, FOREST EXPLORATION AND AQUACULTURE.

This Regulatory Standard has the purpose of establishing precepts to be observed in the organization and work environment, compatible to the planning and development of agriculture, livestock, forestry, forest exploitation and aquaculture with safety and health and work environment.

MR. OWNER OR OPERATOR OF THE EQUIPMENT.
Read and carefully comply with provisions of NR-31.

For more information, refer to the site and read NR-31 in full.
http://portal.mte.gov.br/legislacao/normas-regulamentadoras-1.htm

BALDAN

▪ Safety rules

• To the operator

THIS SYMBOL INDICATES IMPORTANT SAFETY WARNING. IN THIS MANUAL, WHENEVER YOU FIND IT, READ THE FOLLOWING MESSAGE CAREFULLY AND PAY ATTENTION TO THE POSSIBILITY OF PERSONAL ACCIDENTS.

⚠ ATTENTION

Carefully read the instructions manual tolearn about the recommended safety practices.

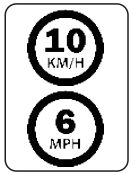
⚠ ATTENTION

Only start to operate the tractor when you are properly seated and with the seat belt locked.

⚠ ATTENTION

Do not perform adjustments while the seeder in operation. When performing any service on the seeder, switch off the tractor first. Use appropriate tools.

⚠ ATTENTION



When transportation the seeder, do not exceed 10Km/h or 6 MPH, avoinding risks of injury and accident.

⚠ ATTENTION

Do not transport people on the tractor or over the equipment.

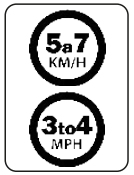
⚠ ATTENTION

There are risks of severe injuries due to tipping when working in sloped terrains. Do not over speed.

⚠ ATTENTION

When checking hoses for leaks, use a piece of cardboard or wood, never use your hands. Avoid incision of fluid in the skin.

⚠ ATTENTION



When working with the seeder, do not exceed of 5 to 7 Km/h or 3 to 4 MPH, avoiding risks of injury and accidents.

⚠ ATTENTION

Do not work with the tractor if the front has insufficient ballast to the rear equipment. Should there be a trend to lift, add weights or ballasts to the front or the front wheels.

⚠ ATTENTION

Before performing any maintenance in your equipment, make sure it is properly stopped. Avoid being run over.

⚠ ATTENTION

Always maintain places of access and work free of residues such as oil or grease to prevent accidents.

⚠ ATTENTION

Before working on or transporting the seeder, check for people or obstructions near the machine.

▪ Safety Rules

⚠ ATTENTION | FOLLOW ALL RECOMMENDATIONS, WARNINGS, AND RECOMMENDED SAFETY PRACTICES IN THIS MANUAL, UNDERSTAND THE IMPORTANCE OF YOUR SAFETY. ACCIDENTS MAY CAUSE DISABILITIES OR EVEN DEATH. REMEMBER, ACCIDENTS CAN BE AVOIDED!

⚠ ATTENTION

Avoid heating parts near fluid Rows.
The heating can cause the material to be brittle, ruptures, and discharges of the pressurized fluid, which can cause burns and injuries.

⚠ ATTENTION

Never use chemical products without proper protection, thus avoiding contact with the skin.

⚠ ATTENTION

Pressurized hydraulic oil under may cause serious injury if leaks occur.
Periodically check the condition of the hoses. If there is evidence of leaks, replace them immediately. Before connecting or disconnecting hydraulic hoses, relieve system pressure by activating the control with the tractor off.

⚠ ATTENTION

Keep the articulation area free while the seeder is in operation.
In sharp turns, keep the tractor wheels from touching the head.

⚠ ATTENTION

Be careful when handling the seeder support foot, as there is a risk of accidents.

⚠ ATTENTION

Do not operate the seeder if the transmission guards are not properly attached.
Only remove guards to proceed with gear replacement, put them back immediately.
Do not make adjustments with the seeder in motion.

⚠ ATTENTION

Improper waste disposal affects the environment and ecology as it will pollute rivers, canals, or the soil.
Find out how to properly recycle or dispose of waste

PROTECT THE ENVIRONMENT!

⚠ ATTENTION

Always stay away from the active elements of the seeder (discs), they are sharp and can cause accidents.
When carrying out any work on discs, wear safety gloves on your hands.

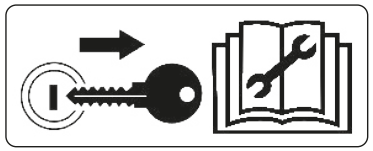
⚠ ATTENTION

Never weld the wheel with a mounted tire, as heat can increase air pressure and cause the tire to explode.
When inflating a tire, position yourself next to the tire, never in front of it.
When inflating the tire, always use a containment device (inflation cage).

▪ Safety Rules

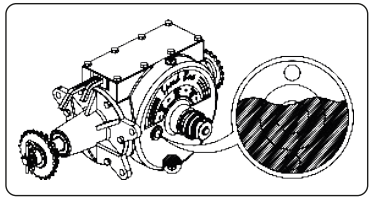
⚠ ATTENTION | FOLLOW ALL RECOMMENDATIONS, WARNINGS, AND RECOMMENDED SAFETY PRACTICES IN THIS MANUAL, UNDERSTAND THE IMPORTANCE OF YOUR SAFETY. ACCIDENTS MAY CAUSE DISABILITIES OR EVEN DEATH. REMEMBER, ACCIDENTS CAN BE AVOIDED!

⚠ ATTENTION



Remove the ignition key before performing any maintenance on the seeder. Protect yourself from possible injury or death, caused by an unexpected start of the seeder.
If the seeder is not properly engaged, do not start the tractor.

⚠ ATTENTION



Check the oil level daily.
Change the Speed Box oil after the first 30 hours of work, then every 1500 hours, always using ISO VG 150 mineral oil at 40°C (amount of oil used 1.8 liters).
Only use the original fuse from the factory, as only this one has a controlled hardness.

⚠ ATTENTION

The degradation of the environment reflects on everyone. May our daily actions come to recover it. Make sure chemical handling does not contribute to this degradation.

⚠ ATTENTION

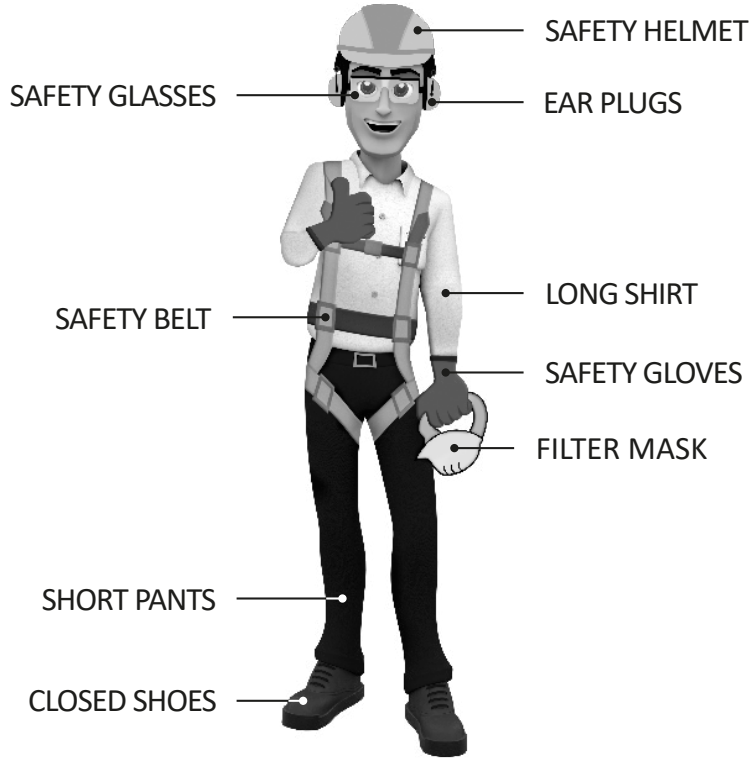
Avoid accidents caused by the intermittent action of Row markers.
When activating the seeder, check that there are no people under the Row markers or in their area of action.

▪ Safety Rules

• PPE Equipment

⚠ ATTENTION | **DO NOT WORK WITH THE PLANTER WITHOUT FIRST WEARING PPE (SAFETY EQUIPMENT). IGNORING THIS WARNING MAY CAUSE HEALTH DAMAGES, SERIOUS ACCIDENT, OR DEATH.**

When performing certain procedures with the seeder, place the following PPE (Safety Equipment) below:



NOTE | **All PPE must have a certificate of autheanticity.**

! IMPORTANT

For the specific case of pesticides, different PPEs are mandatory according to the worker's exposure in the stages of transportation, storage, preparation and application of the mixture. All PPE must have a certificate of authenticity.

▪ Warnings

⚠ When operating the seeder, do not allow people to remain too close or on top of it.

⚠ When servicing the machine, wear PPE.

⚠ Do not wear loose clothing, as they may become entangled in the seeder.

⚠ When starting the tractor engine, be properly seated in the operator's seat and aware of the full knowledge of the correct and safe handling of both the tractor and the seeder. Always put the shift lever in the neutral position, disconnect the control gear from the PTO and put the hydraulic controls in the neutral position.

⚠ Do not start the tractor engine indoors without adequate ventilation as exhaust fumes are harmful to health.

⚠ When maneuvering the tractor to engage the seeder, make sure you have the necessary space and that no one is very close, always do the maneuvers at idle and be prepared to brake in an emergency.

⚠ Do not make adjustments with the seeder in operation.

⚠ When working on slopes, be careful to always maintain the required stability. In the event of imbalance, reduce acceleration, turn the wheels to the side of the slope and never raise the seeder.

⚠ Always drive the tractor at safety compatible speeds, especially when working on rough or sloping terrain, always keep the tractor hitched.

⚠ When driving the tractor on roads, keep the brake pedals interconnected.

⚠ Do not work with the tractor with a light rear. If the rear tends to lift, add more weights to the rear wheels.

⚠ When leaving the tractor, shift to neutral and set the parking brake.

⚠ Any and all maintenance on the seeder must be done with the seed stopped and the tractor turned off.

⚠ All refueling or inspection must be done with the seeder stopped and the tractor turned off, using the means of safe access.

⚠ Do not drive on highways, especially at night. Use warning signs all along the way.

⚠ If it is necessary to travel with the seeder on highways, consult the traffic authorities.

⚠ Do not allow people who have not been trained to use the seeder, that is, who do not know how to operate it correctly.

⚠ Do not transport or work with the seeder close to obstacles, rivers or streams.

▪ Warnings

⚠ The transportation of people on self-propelled machines and implements is forbidden.

⚠ Transporting people on self-propelled machines and implements is prohibited.

⚠ Changes to the original characteristics of the seeder are not authorized, as they may alter safety, operation, and affect the useful life.

⚠ Read carefully all the safety information in this manual and on the seeder.

⚠ Only operate the seeder if all guards are installed and correctly.

⚠ Do not under any circumstances remove the seeder protection components.

⚠ Always check that the seeder is in perfect condition. In case of any irregularity that could interfere with the operation of the seeder, provide proper maintenance before any work or transport.

⚠ Maintenance and especially inspection in risk areas of the seeder, must be carried out only by a trained or qualified worker, observing all safety guideRows. Before starting maintenance, disconnect all drive systems from the seeder.

⚠ Periodically check all components of the seeder before using it.

⚠ According to the equipment used and the working conditions in the country or in areas of maintenance, precautions are necessary. Baldan has no direct control over precautions, so it is the responsibility of the owner to put the safety procedures into practice while working with the seeder.

⚠ Check the minimum tractor power recommended for each seeder model. Only use tractors with power and ballast compatible with the load and terrain topography.

⚠ During the transport of the seeder, travel at speeds compatible with the terrain and never exceeding 10 km/h, this reduces maintenance and consequently increases the life of the seeder.

⚠ Alcoholic beverages or some medications may cause loss of reflexes and change the operator's physical condition. Therefore, never operate this seeder under the use of these substances.

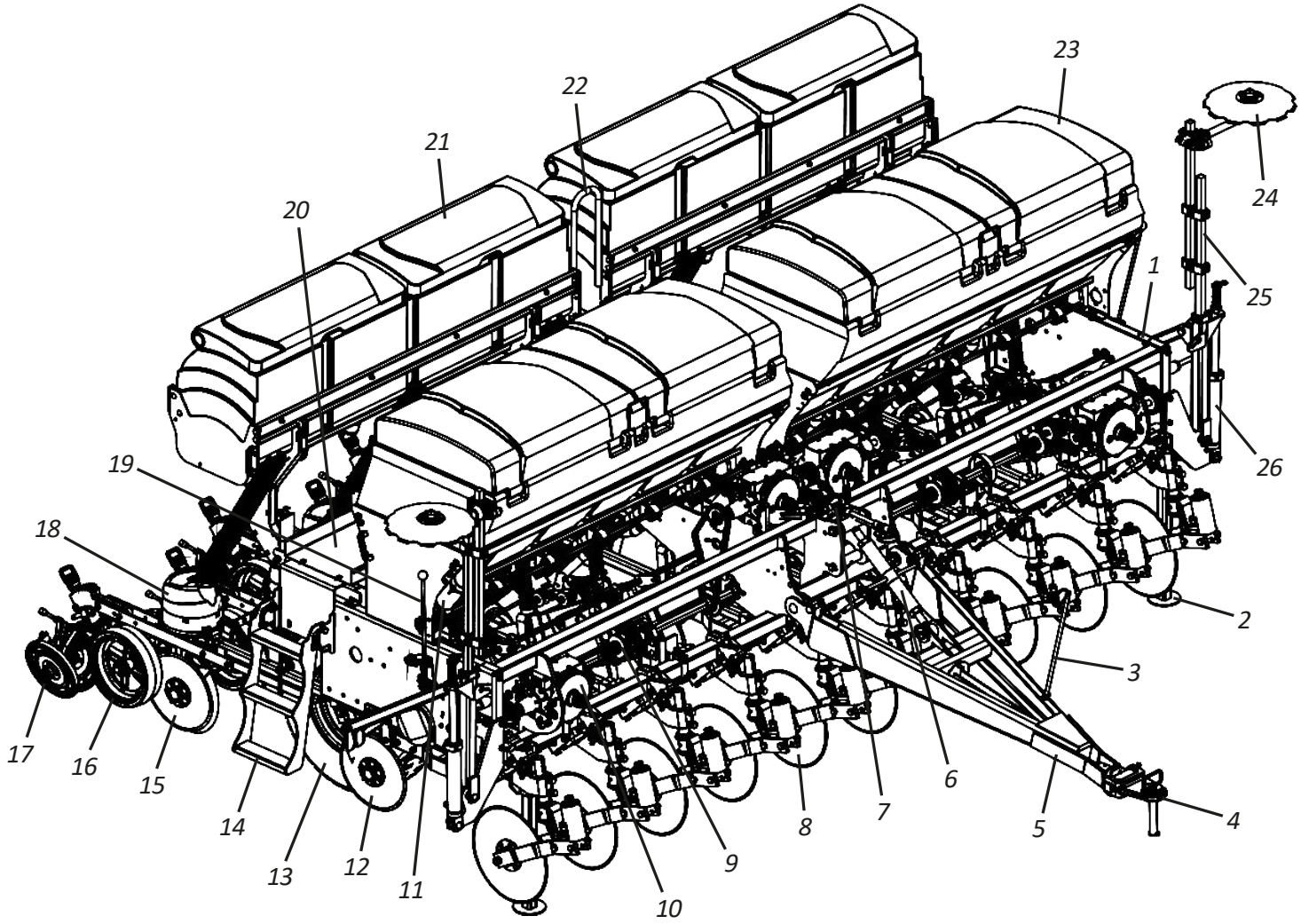
⚠ Read or explain all procedures in this manual to a user who cannot read.

If in doubt, contact After Sales.
Telephone: 0800-152577 / E-mail: posvenda@baldan.com.br

▪ Components

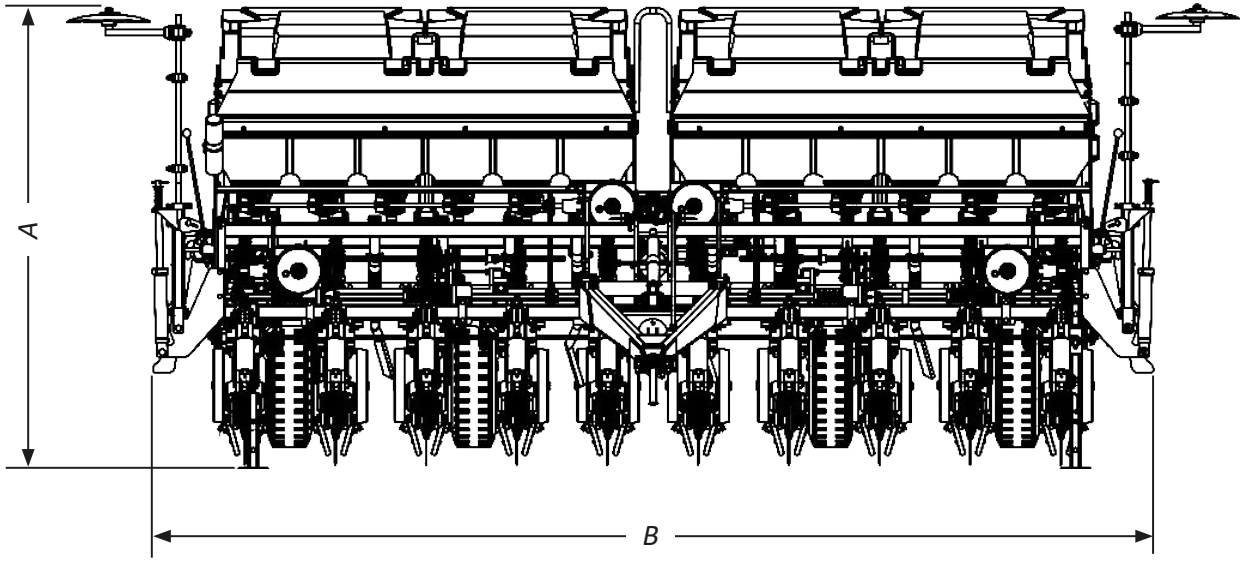
• PPSOLO 3rd SEED BOX (TITANIUM) - Precision Row Crop Planter

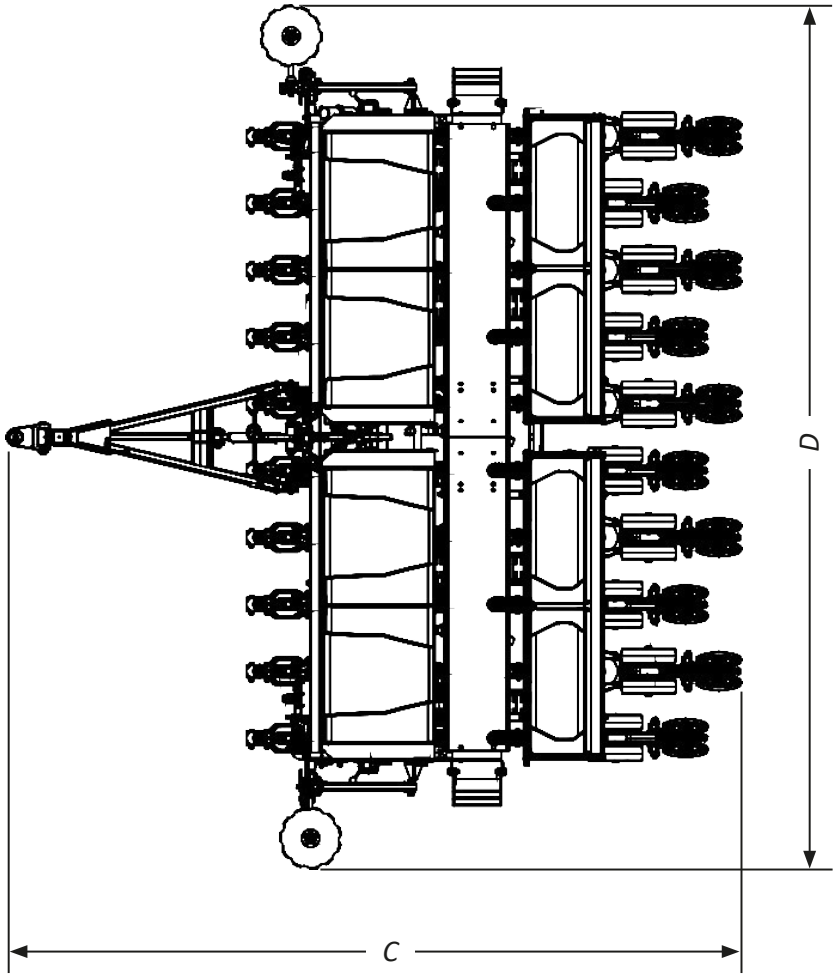
1. Main frame
2. Support
3. Hose support
4. Shackle
5. Hitch drawbar
6. Regulator
7. Central valve
8. Cutting disc
9. Turnstile
10. Speed Box
11. Manual container
12. Double fertilizer disc
13. Tire
14. Ladder
15. Double seed disc
16. Depth limiting wheel
17. Wheel type “V”
18. Batcher Titanium
19. Closing lever
20. Platform
21. Seed hopper
22. Platform handrail
23. Fertilizer hopper
24. Row marker disc
25. Row marker
26. Row marker cylinder



▪ Dimensions

• PPSOLO 3rd SEED BOX (TITANIUM) - Precision Row Crop Planter





Model	Nr of Rows	Measure A (mm)	Measure B (mm)	Measure C (mm)	Measure D (mm)
PPSOLO 4000	8	2170	4285	5103	5125
PPSOLO 4500	10	2170	4965	5103	5810
PPSOLO 5000	12	2170	5945	5197	6780
PPSOLO 5500	13	2170	6445	5197	7280
PPSOLO 6500	15	2170	7100	5284	8096
PPSOLO 7500	17	2170	8000	5284	8979

▪ Specifications

• PPSOLO 3rd SEED BOX (TITANIUM) - Precision Row Crop Planter

Model	Nr of Lines	Useful Width (mm)	Working Width (mm)	Total Width (mm)	Fertilizer Box Capacity (L)		3rd Seed Box Capacity (L)	Spacing Between Rows (mm)	Working Depth (mm)	Number of Wheels	Estimate Weight (Kg)	Tractor Power (Hp)
					Polyethylene	Metallic						
PPSOLO 4000	8	3390	3800	4300*	1240	1400	810	415	0 - 120	2	3450	90 - 100**
PPSOLO 4500	10	4060	4480	5000*	1500	1750	972	415	0 - 120	4	4365	100 - 110**
PPSOLO 5000	12	4950	5350	6000*	1860	2100	1140	415	0 - 120	4	5300	120 - 150**
PPSOLO 5500	13	5400	6300	6500*	1860	2100	1296	415	0 - 120	4	5820	130 - 160**
PPSOLO 6500	15	6300	6715	7300*	2250	2600	1458	415	0 - 120	6	8200	160 - 190**
PPSOLO 7500	17	7200	7615	8200*	2610	3000	1620	415	0 - 120	6	8480	170 - 200 **

Wheelset ..... 700 x 16 x 10LS BL

(*) The overall width dimensions (mm) include the seeder with row marker. The seeder without row marker must have 200 mm reduced in dimensions.
(**) Approximate power Cv depends on normal planting situations and may vary according to the type of soil, topography etc.

Baldan reserves the right to change and/or improve the technical characteristics of its products, without prior notice, and without ob ligation to do so with previously manufactured products. Technical specifications are estimates and reported under normal working conditions.

INTENDED USE OF PPSOLO 3RD SEED BOX - TITANIUM

PPSOLO 3rd SEED BOX - TITANIUM was developed to accurately sow summer crops.
PPSOLO 3rd SEED BOX - TITANIUM must only be driven and operated by a properly instructed operator.

PROHIBITED USE OF PPSOLO 3RD SEED BOX - TITANIUM

To avoid damage, serious accident or death, DO NOT transport people on any part of **PPSOLO 3rd SEED BOX - TITANIUM.**
It is NOT permitted to use **PPSOLO 3rd SEED BOX - TITANIUM** to attach, tow, or push other implements or accessories.
PPSOLO 3rd SEED BOX - TITANIUM should NOT be used by an inexperienced operator who does not know all the driving, command and operation techniques.

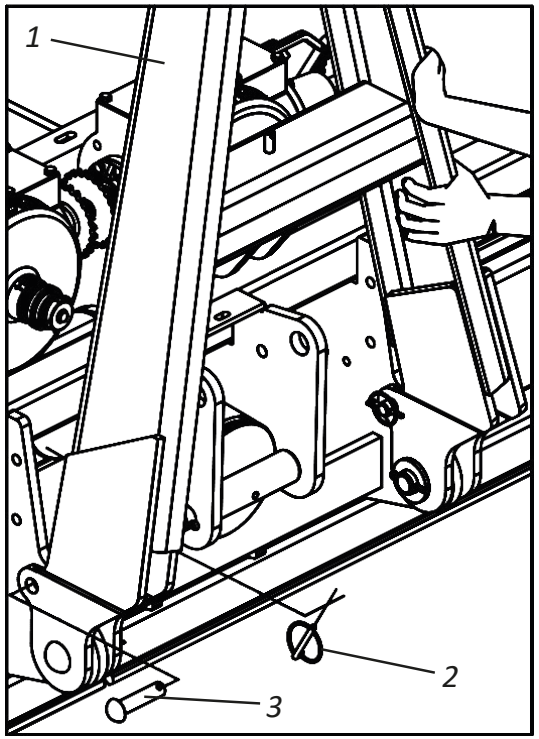
▪ Assembly

PPSOLO 3rd SEED BOX - TITANIUM leaves the factory semi-assembled, with some components still to be assembled, which must be assembled according to the instructions below.

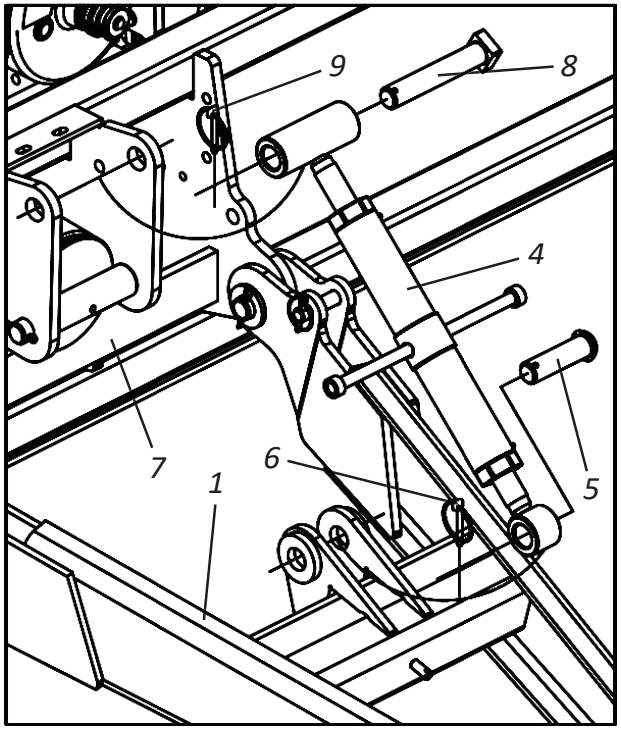
• Assembling the coupling head (Models 4000/4500)

To assemble the coupling head (1) in **PPSOLO 3rd SEED BOX - TITANIUM**, proceed as follows:

01 - Place the hitch header (1) in the working position, removing the lock with ring (2) and the pin (3) that were placed to transport the seeder.



02 - Then, insert the regulator (4) into the hitch header (1), securing it with the pin (5) and lock with ring (6) and into the upright support (7) with the pin (8) and lock with ring (9).

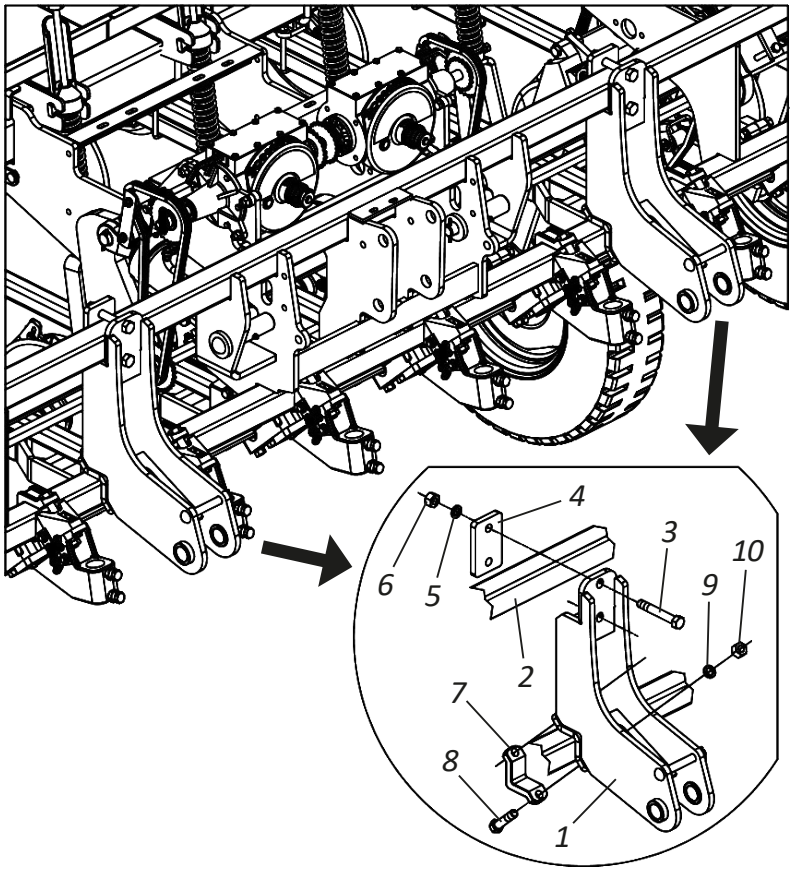


▪ Assembly

• Assembling the coupling head (Models 5000/5500)

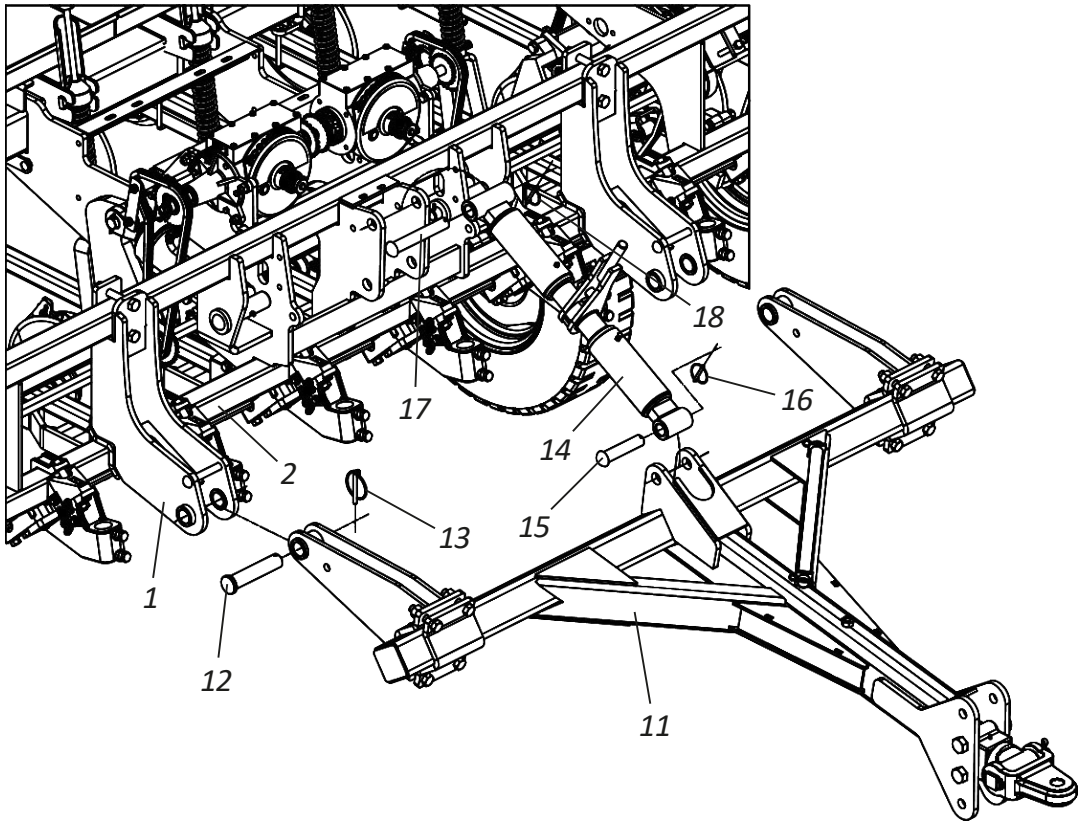
To assemble the coupling head (1) in **PPSOLO 3rd SEED BOX - TITANIUM**, proceed as follows:

01 - Attach the supports (1) to the upright (2), securing them using screws (3), plate (4), spring washers (5), nuts (6) and clamp (7), screws (8), spring washers (9) and nuts (10).



02 - Then, insert the coupling header (11) into the supports (1), securing it using the pins (12) and the lock with ring (13).

03 - Finish by inserting the regulator (14) into the coupling header (11), securing it with the pin (15) and lock with ring (16) and into the upright support (2) with the pin (17) and lock with ring (18).



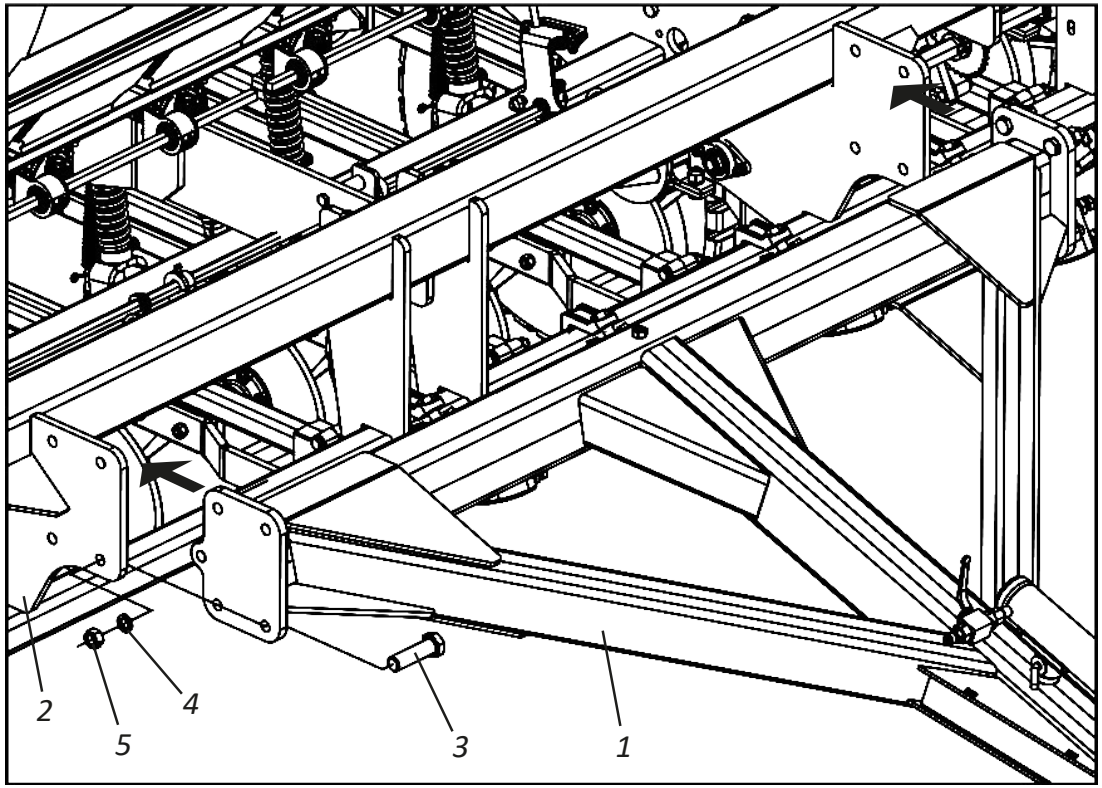
▪ Assembly

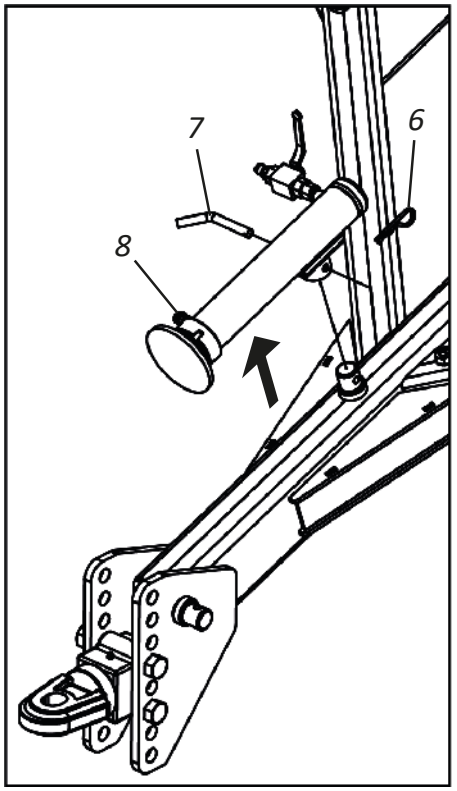
• Assembling the coupling head (Models 6500/7500)

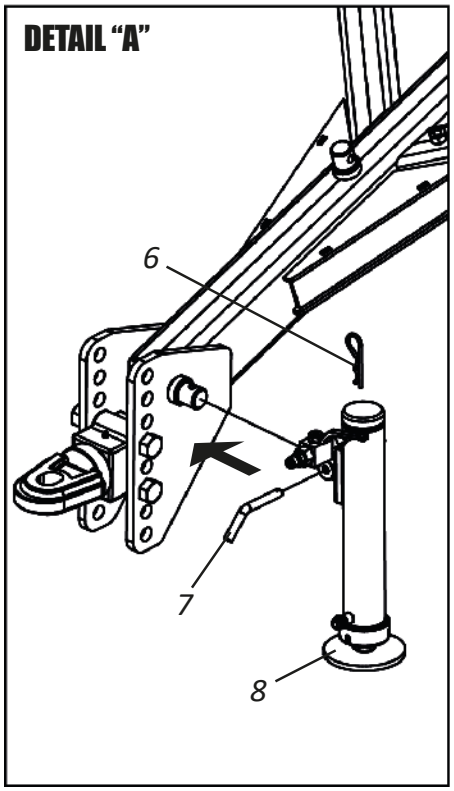
To assemble the coupling head (1) in **PPSOLO 3rd SEED BOX - TITANIUM**, proceed as follows:

01 - Attach the hitch header (1) to the chassis (2), securing it using screws (3), spring washers (4) and nuts (5).

02 - Then, release the lock (6) and the pin (7) and remove the hydraulic jack (8) and fix it in the support position, as shown in detail "A" and lock it again with the pin (7) and lock (6).







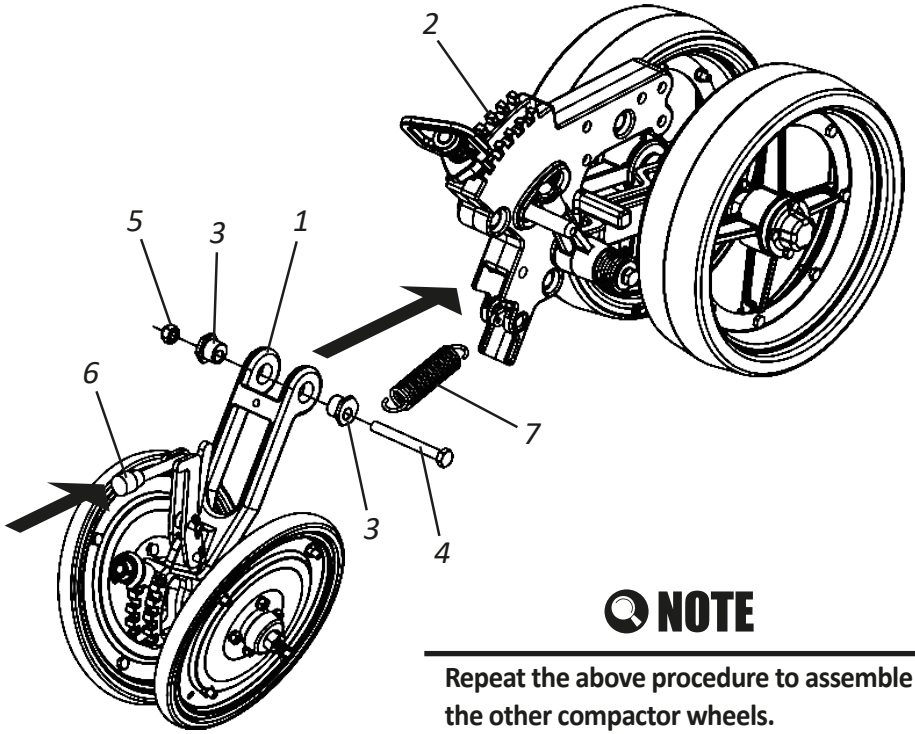
▪ Assembly

• Assembly of the compactor wheels

To mount the "V" wheel support (1), proceed as follows:

01 - Couple the "V" wheel support (1) to the depth wheel cart (2), placing the bushings (3), fixing them through the screw (4) and nut (5).

02 - Then, put the lever (6) fully forward and engage the spring (7) in the support (2).



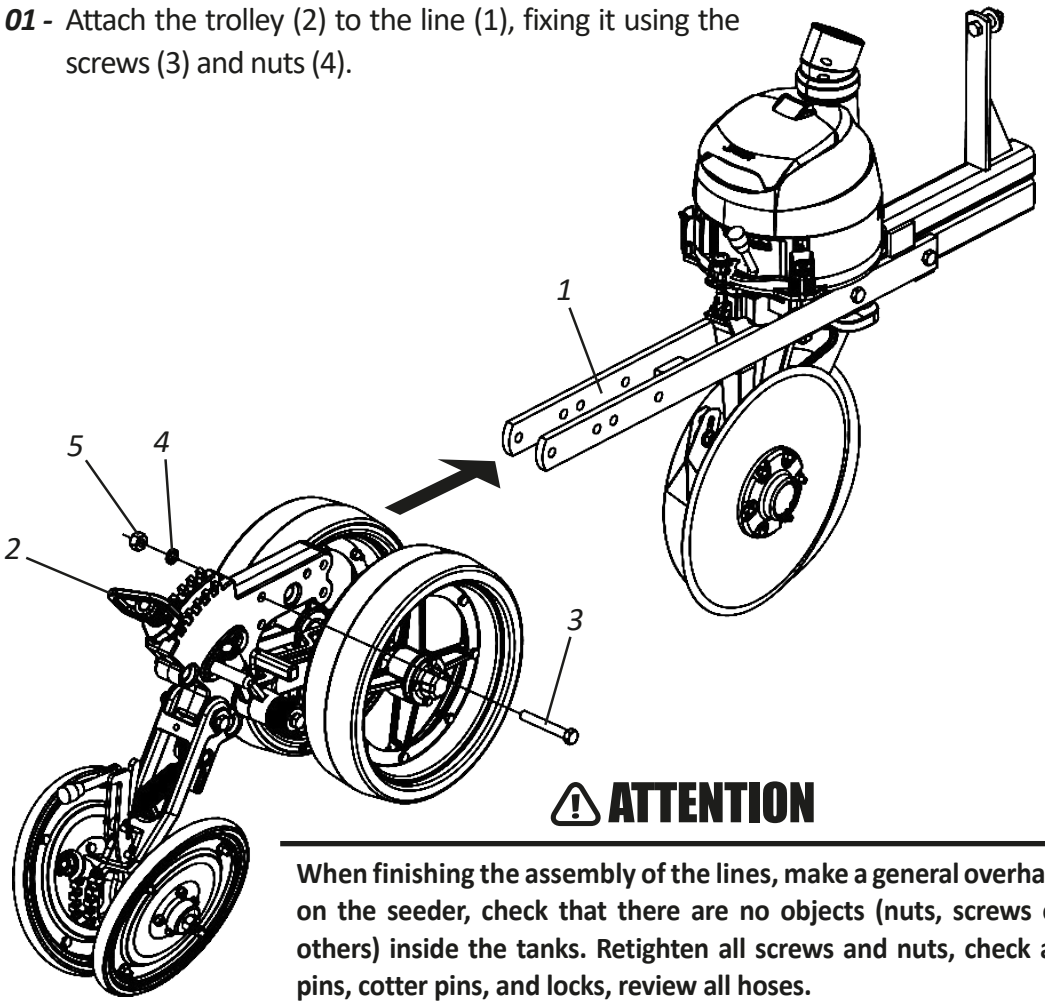
NOTE

Repeat the above procedure to assemble the other compactor wheels.

• Assembly of the lines

To assemble the line (1), proceed as follows:

01 - Attach the trolley (2) to the line (1), fixing it using the screws (3) and nuts (4).



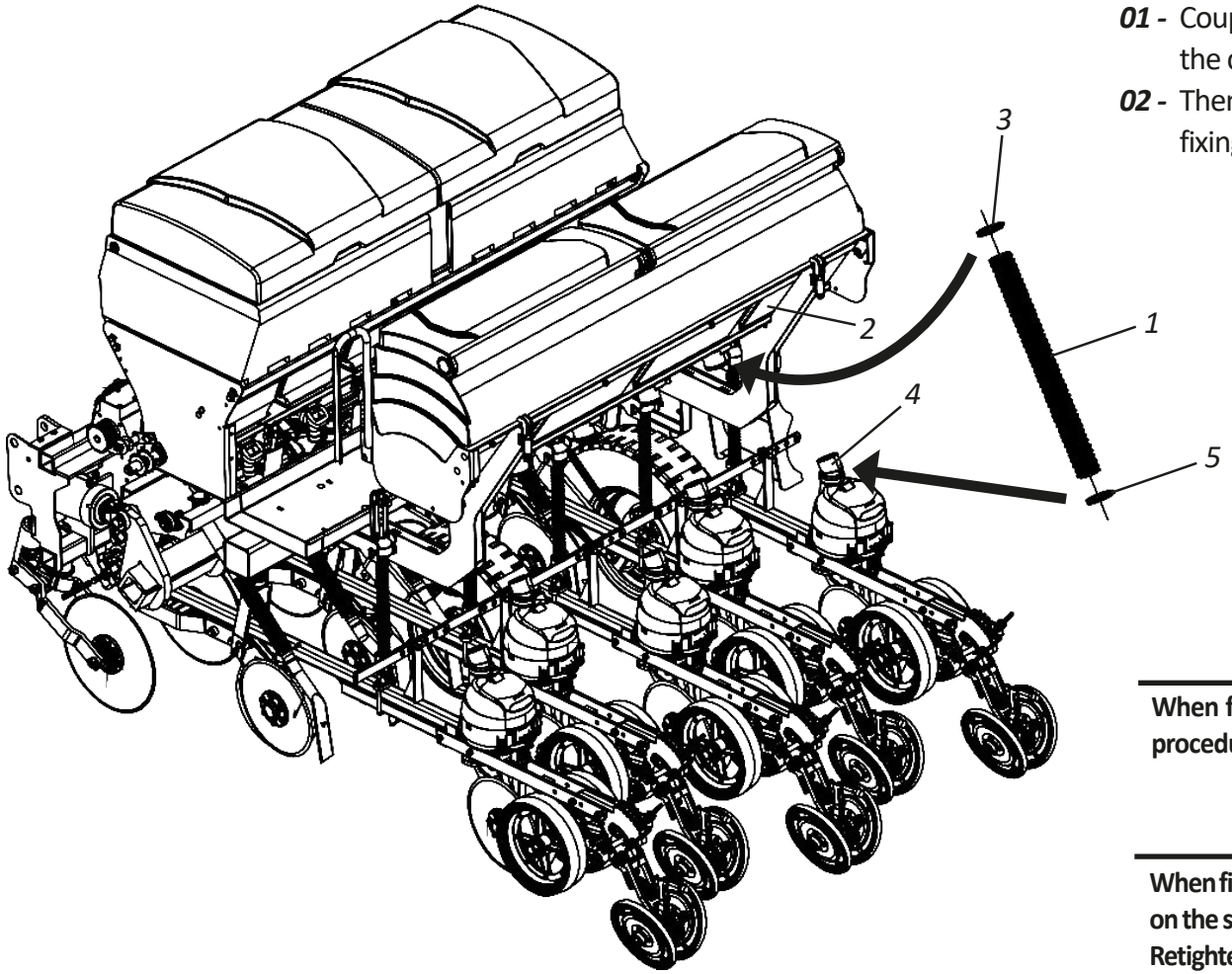
ATTENTION

When finishing the assembly of the lines, make a general overhaul on the seeder, check that there are no objects (nuts, screws or others) inside the tanks. Retighten all screws and nuts, check all pins, cotter pins, and locks, review all hoses.

▪ Assembly

• Assembly the conductive seed hoses

When finishing the assembly of the lines, fix the conductive seed hoses (1), for this, proceed as follows:



01 - Couple the conductive seed hose (1) in the upper seed tank (2), through the clamp (3).

02 - Then, connect the conductive seed hose (1) to the lower seed tank (4), fixing through the clamp (5).

NOTE

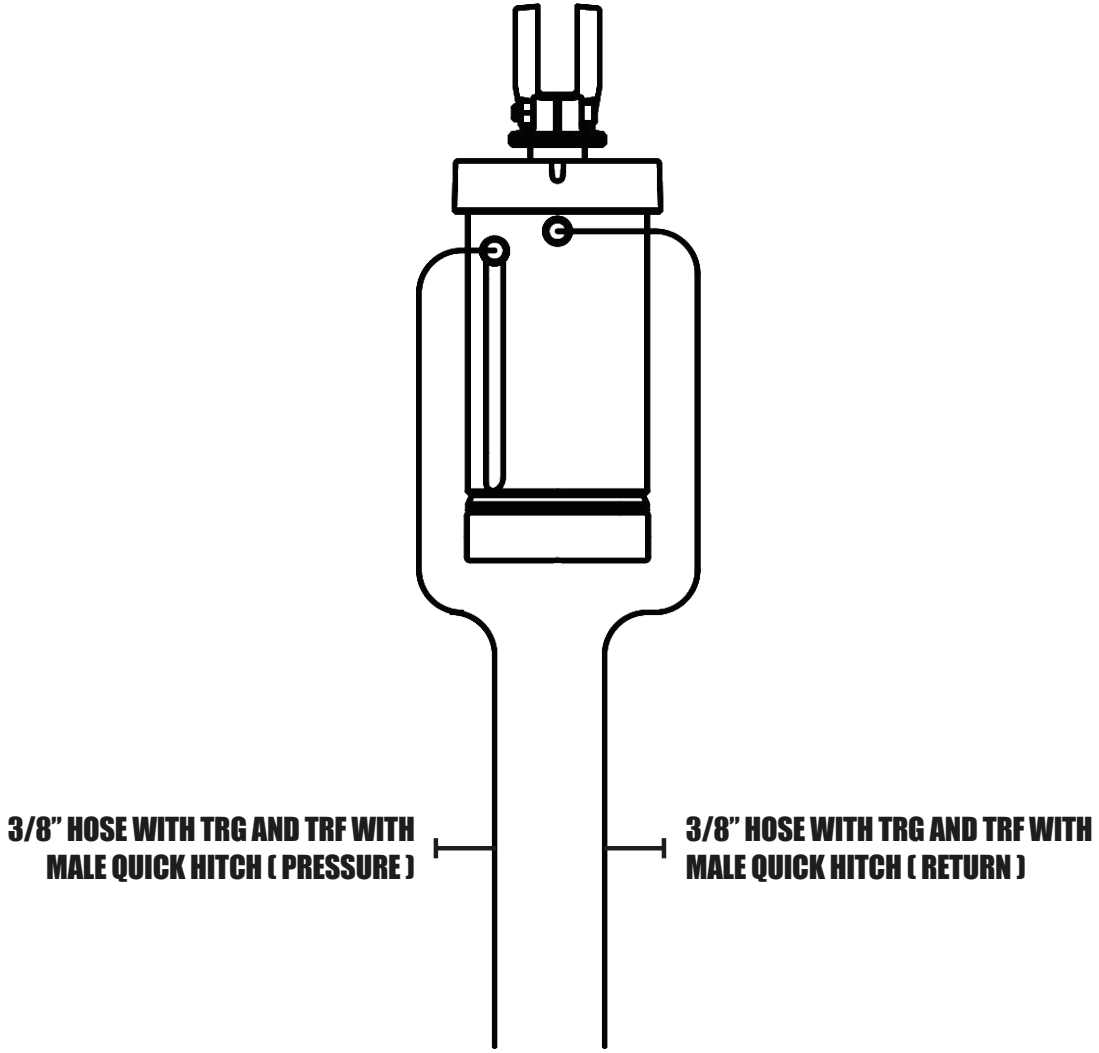
When finishing the assembly of the conductive seed hoses (1), perform the same procedureon the other lines.

⚠ ATTENTION

When finishing the assembly of the conductive seed hoses (1), make a general overhaul on the seeder, check that there are no objects (nuts, screws or others) inside the tanks. Retighten all bolts and nuts, check all pins, cotter pins and locks, check all hoses.

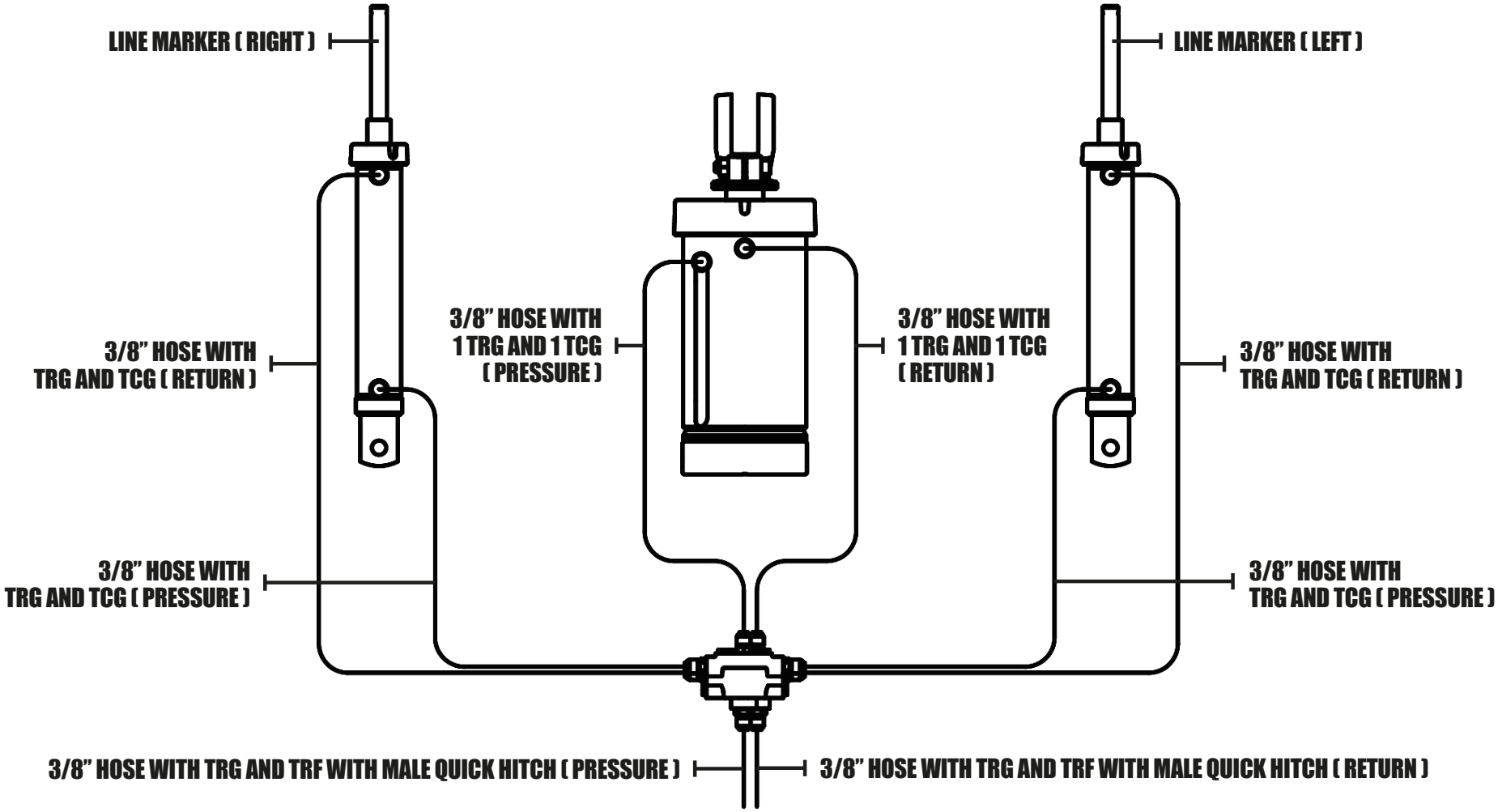
▪ Assembly

- Assembly of the hydraulic system without line marker (Models 4000/4500)



▪ Assembly

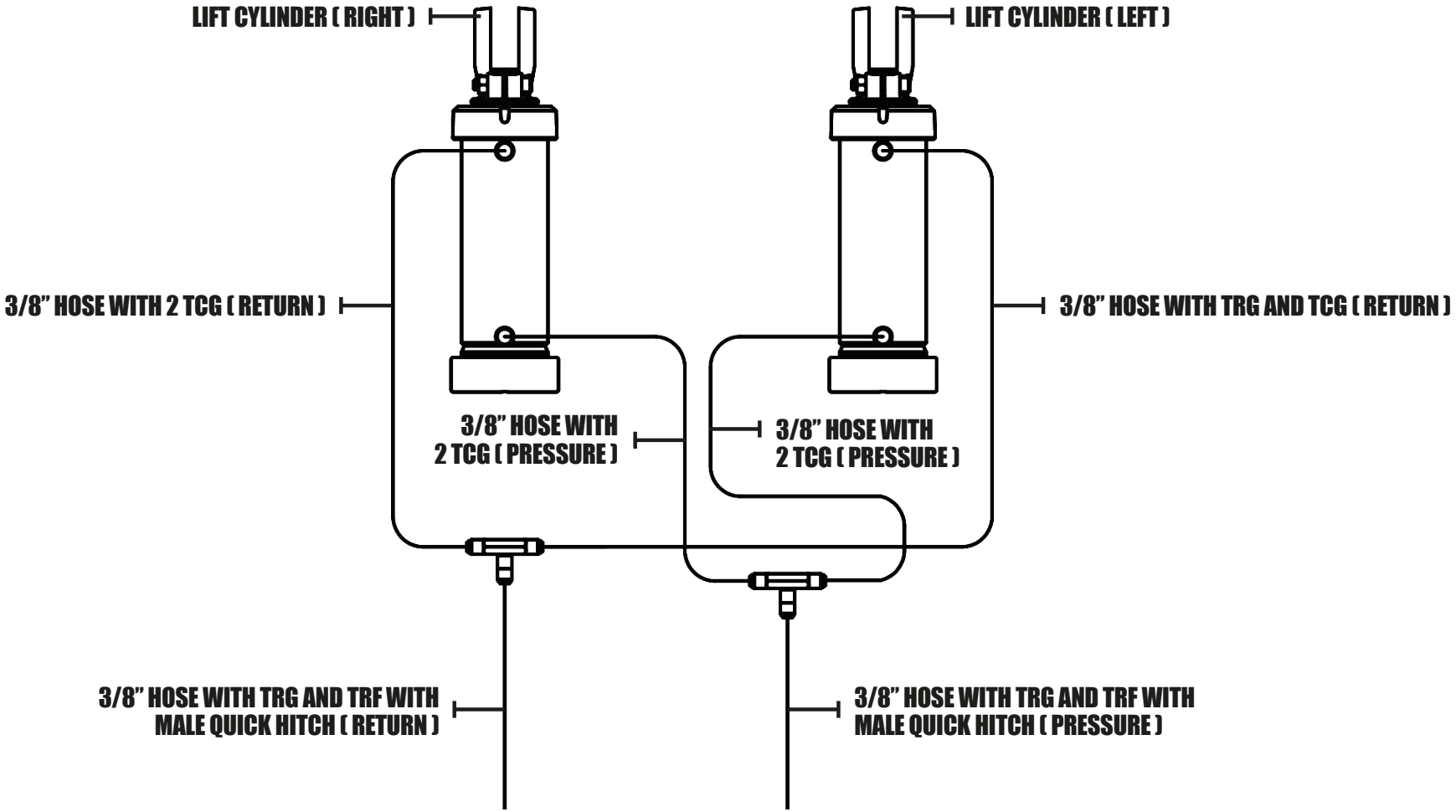
• Assembly of the hydraulic system with line marker (Models 4000/4500)



OBS: THE EXPRESSIONS "RIGHT" AND "LEFT" ARE NAMED LOOKING BEHIND THE SEEDER.

▪ Assembly

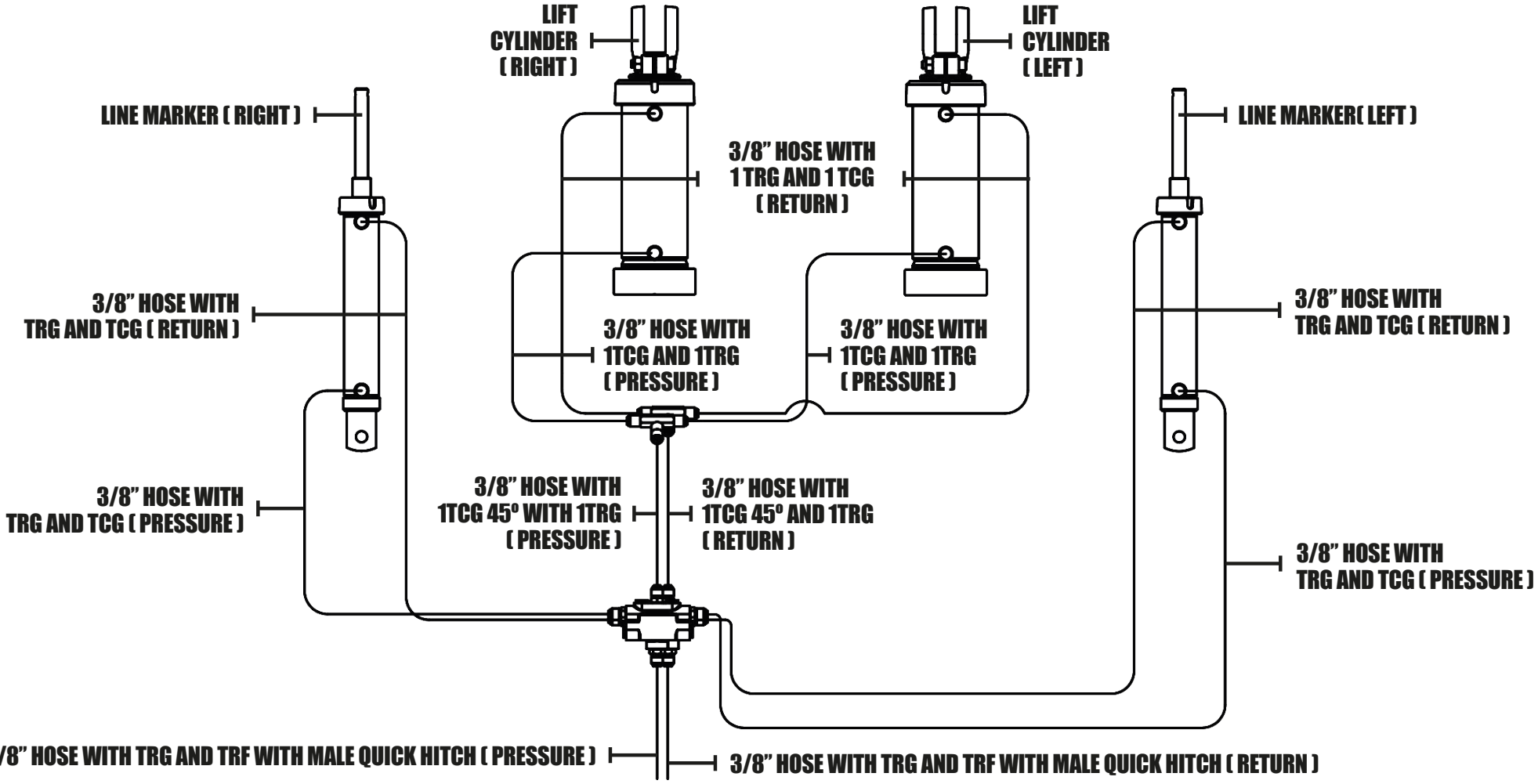
- Assembly of the hydraulic system without line marker (Models 5000/5500)



OBS: THE EXPRESSIONS "RIGHT" AND "LEFT" ARE NAMED LOOKING BEHIND THE SEEDER.

▪ Assembly

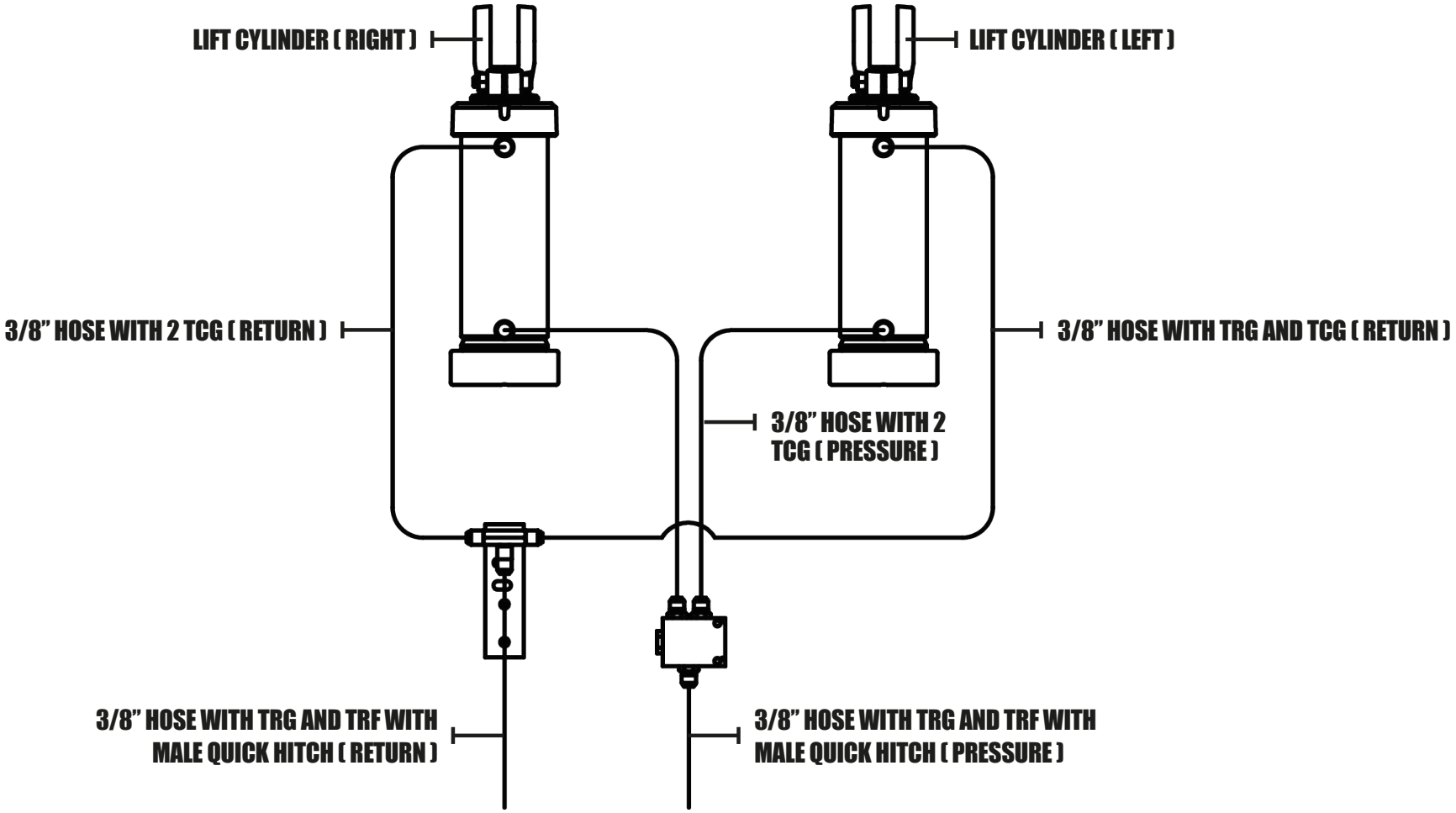
• Assembly of the hydraulic system with line marker (Models 5000/5500)



OBS: THE EXPRESSIONS "RIGHT" AND "LEFT" ARE NAMED LOOKING BEHIND THE SEEDER.

▪ Assembly

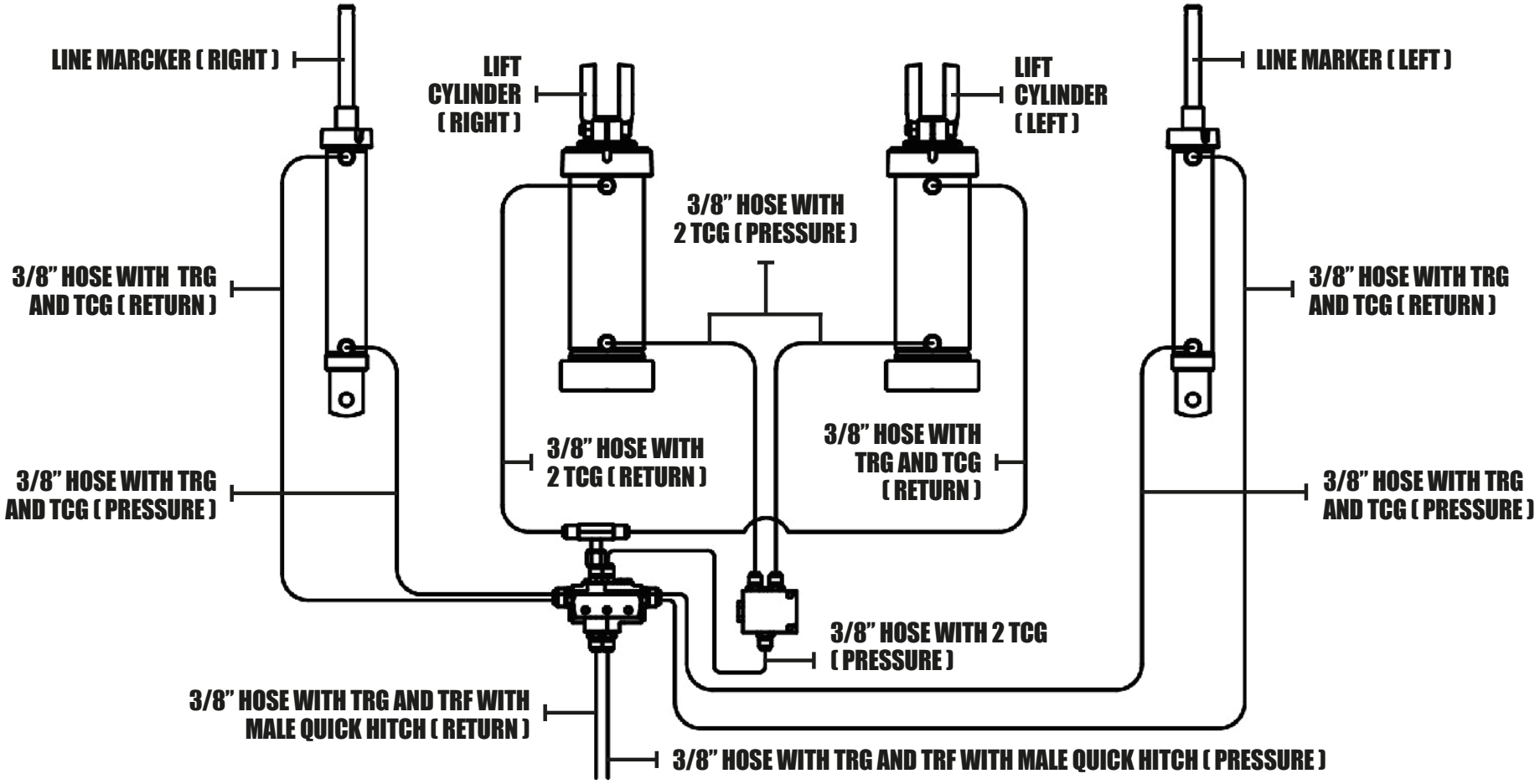
- Assembly of the hydraulic system without line marker (Models 6500/7500)



OBS: THE EXPRESSIONS "RIGHT" AND "LEFT" ARE NAMED LOOKING BEHIND THE SEEDER.

▪ Assembly

- Assembly of the hydraulic system with line marker (Models 6500/7500)



OBS: THE EXPRESSIONS "RIGHT" AND "LEFT" ARE NAMED LOOKING BEHIND THE SEEDER.

▪ Assemby

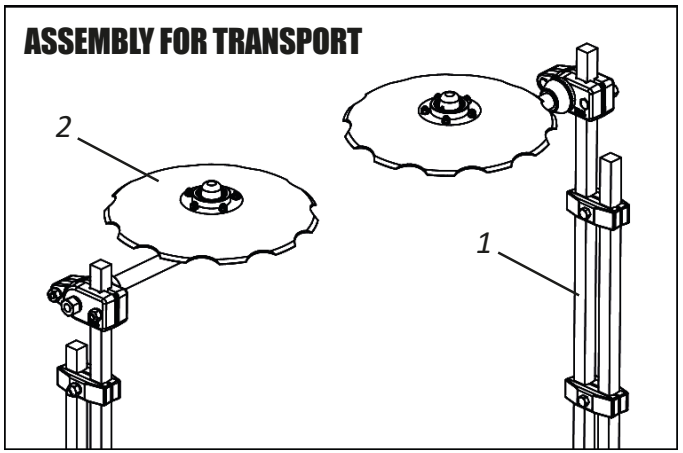
• Assembly of the line marker cutting disc

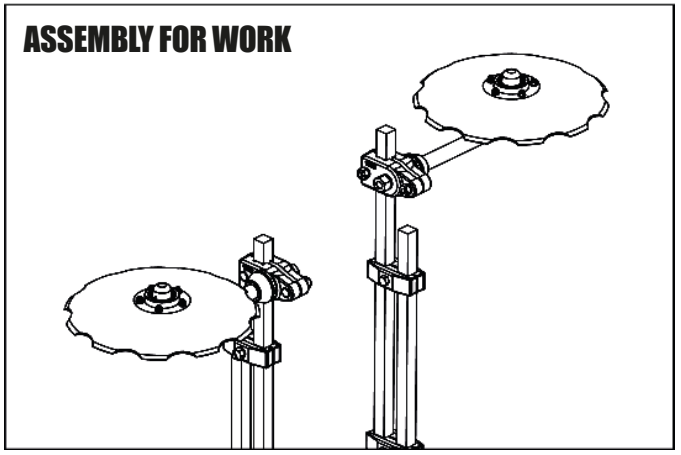
The seeders leave the factory with the line markers (1) fitted. The disks (2) are mounted inversely to their respective markers to avoid the risk of accidents in the transport of the seeder.

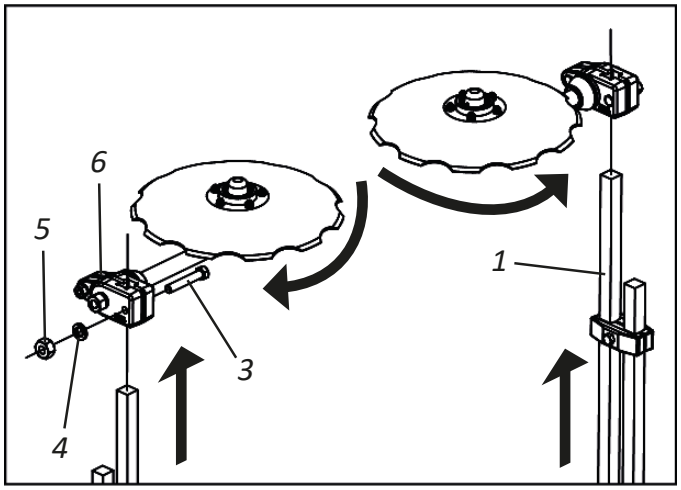
Before starting to work with the seeder, change the discs (2) in the row markers (1), to do this, proceed as follows:

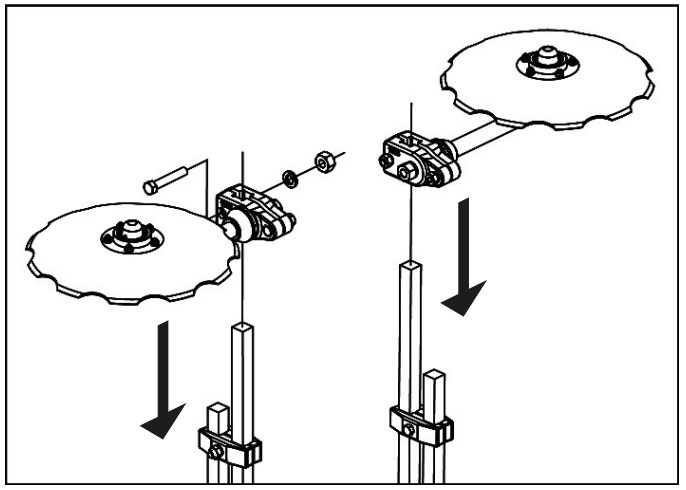
01 - Loosen the screws (3), lock washers (4) and nuts (5).

02 - Then, remove the disc supports (6), turn them 180° and mount them again on the line markers (1) fixing through the screws (3), pressure washers (4) and nuts (5).









⚠ ATTENTION

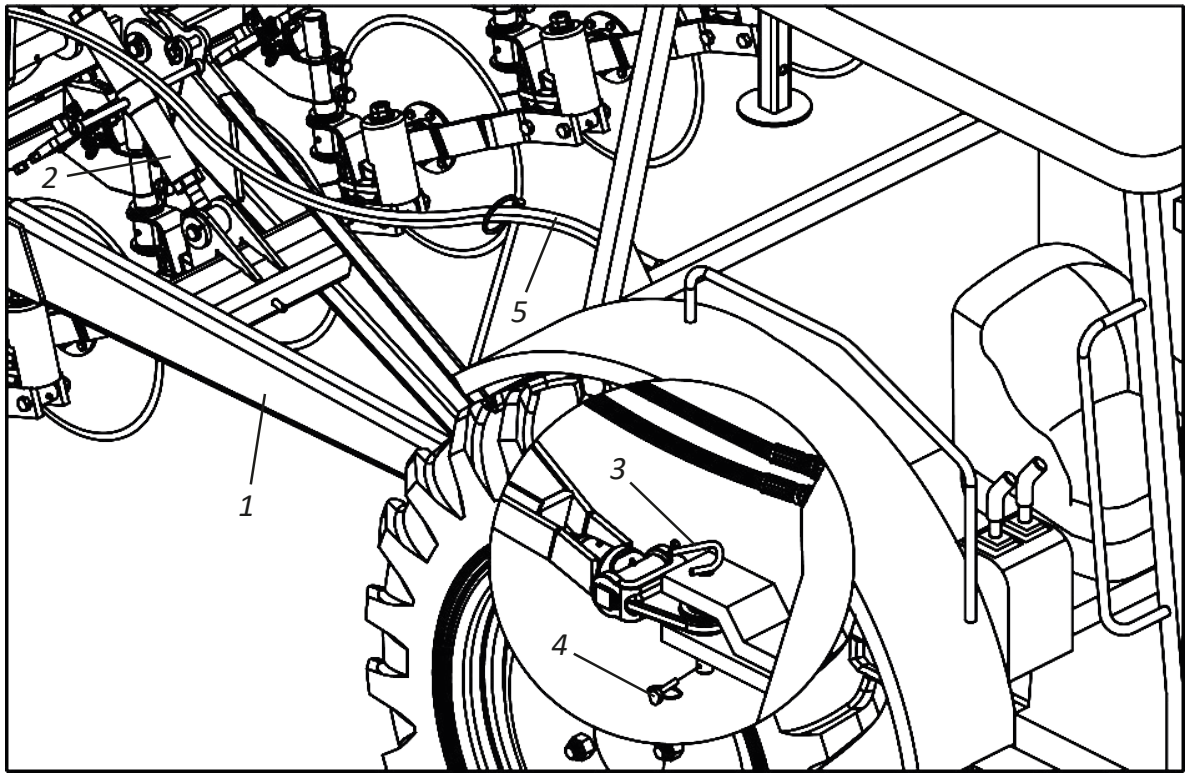
PPSOLO 3rd SEED BOX - TITANIUM discs are sharp and can cause accidents. When reversing the position of the line marker discs, use PPE equipment (Safety Equipment) mainly gloves on your hands.

▪ Hitch

• Tractor hitch (Models 4000/4500)

Before attaching the **PPSOLO 3rd SEED BOX - TITANIUM** to the tractor, check that the tractor is equipped with a set of weights or ballast on the front or on the front wheels to avoid lifting the tractor. The rear wheels will give the tractor greater stability and traction on the ground.

To connect the **PPSOLO 3rd SEED BOX - TITANIUM**, proceed as follows:



01 - Level the coupling header (1) of the seeder in relation to the tractor coupling through the adjustments (2) of the coupling jumel. Then, slowly approach the tractor to the tractor in reverse, paying attention to the application of the brakes.

02 - Proceed the coupling of the seeder to the tractor, fixing it through the coupling pin (3) and lock (4).

03 - Finalize, coupling the hoses (5) to the tractor's quick coupling.

NOTE

When engaging the seeder, look for a safe and easily accessible place, always use reduced gear with low acceleration.

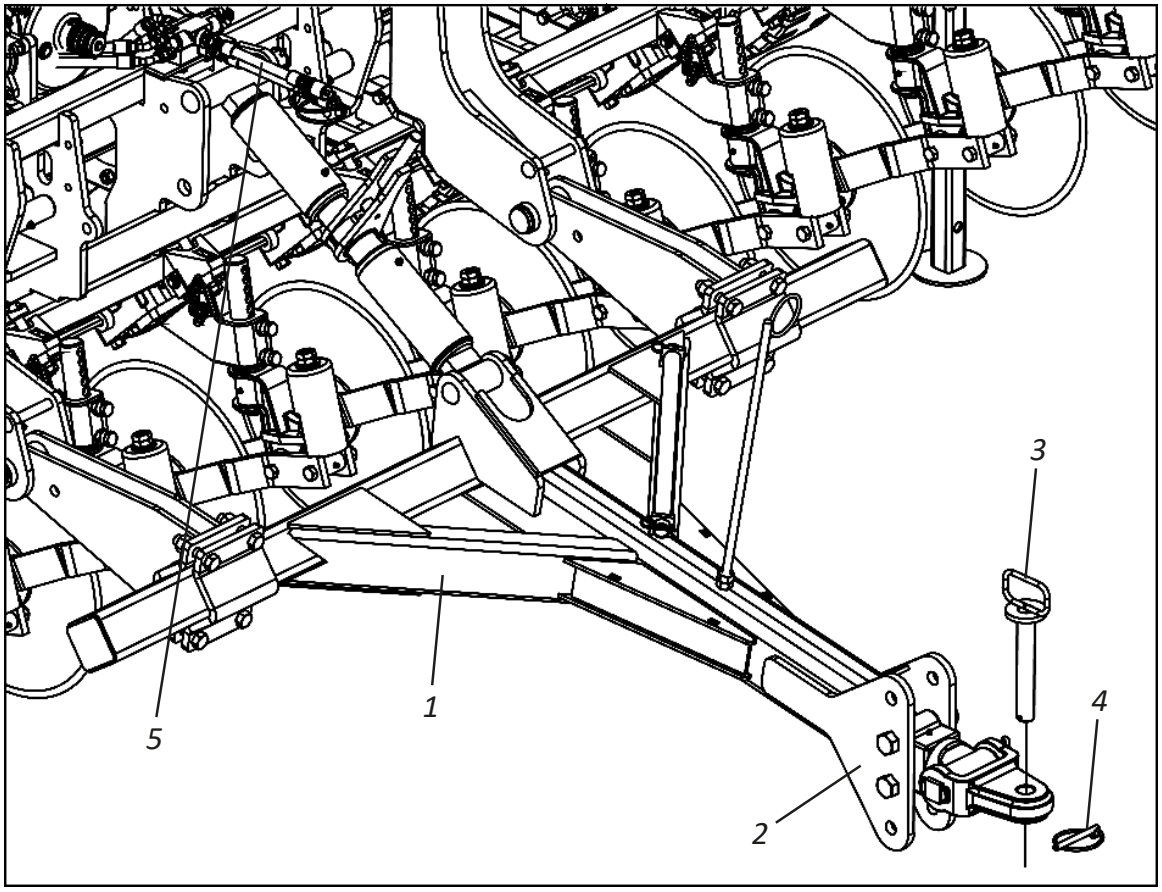
⚠ ATTENTION **Before connecting or disconnecting the hydraulic hoses, turn off the engine and relieve pressure from the hydraulic system by fully operating the control levers. When relieving system pressure, make sure that no one is close to the equipment's movement area.**

▪ Hitch

• Tractor hitch (Models 5000/5500)

Before attaching the **PPSOLO 3rd SEED BOX - TITANIUM** to the tractor, check that the tractor is equipped with a set of weights or ballast on the front or on the front wheels to avoid lifting the tractor. The rear wheels will give the tractor greater stability and traction on the ground.

To connect the **PPSOLO 3rd SEED BOX - TITANIUM**, proceed as follows:



01 - Level the coupling header (1) of the seeder in relation to the tractor coupling through the adjustments (2) of the coupling jumel. Then, slowly approach the tractor to the tractor in reverse, paying attention to the application of the brakes.

02 - Proceed the coupling of the seeder to the tractor, fixing it through the coupling pin (3) and lock (4).

03 - Finalize, coupling the hoses (5) to the tractor's quick coupling.

⚠ ATTENTION

Before connecting or disconnecting the hydraulic hoses, turn off the engine and relieve pressure from the hydraulic system by fully operating the control levers. When relieving system pressure, make sure that no one is close to the equipment's movement area.

NOTE

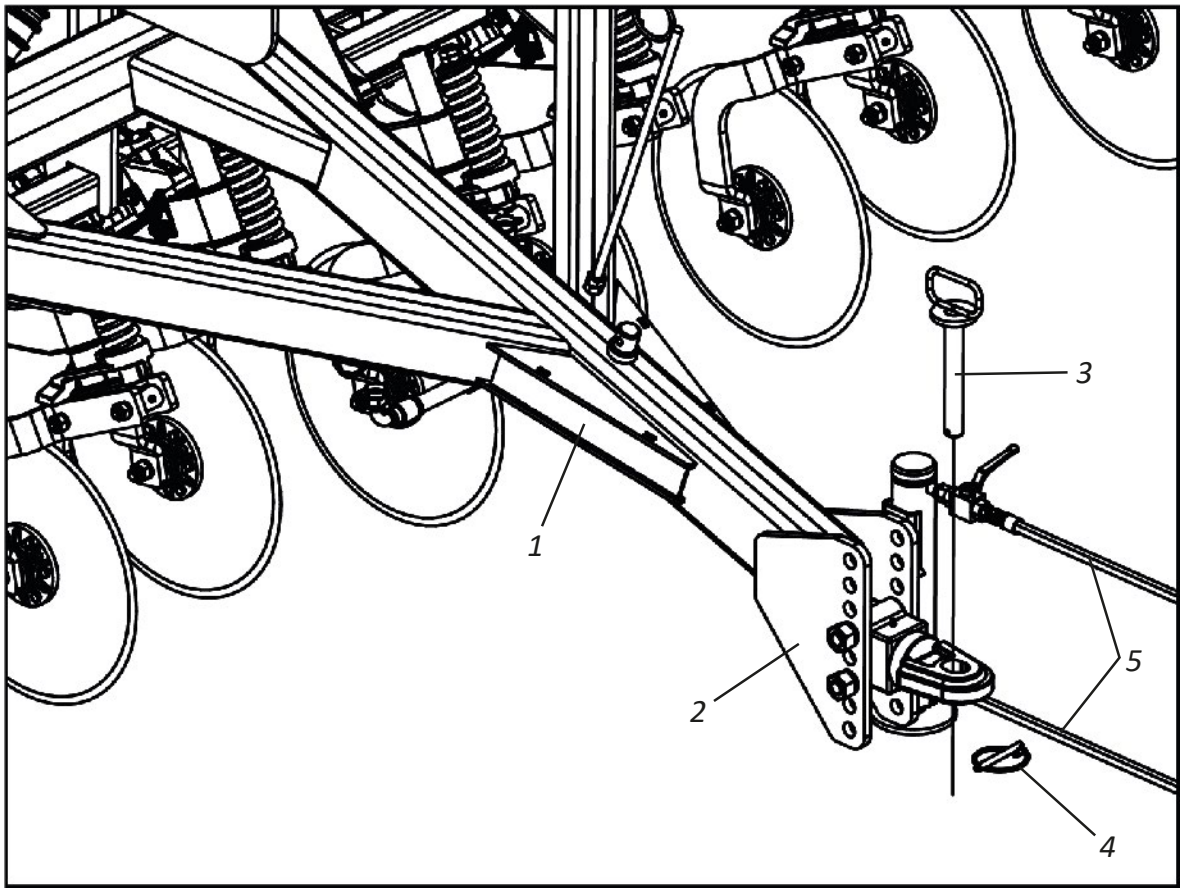
When engaging the seeder, look for a safe and easily accessible place, always use reduced gear with low acceleration.

▪ Hitch

• Tractor hitch (Models 6500/7500)

Before attaching the **PPSOLO 3rd SEED BOX - TITANIUM** to the tractor, check that the tractor is equipped with a set of weights or ballast on the front or on the front wheels to avoid lifting the tractor. The rear wheels will give the tractor greater stability and traction on the ground.

To connect the **PPSOLO 3rd SEED BOX - TITANIUM**, proceed as follows:



01 - Level the coupling header (1) of the seeder in relation to the tractor coupling through the adjustments (2) of the coupling jumel. Then, slowly approach the tractor to the tractor in reverse, paying attention to the application of the brakes.

02 - Proceed the coupling of the seeder to the tractor, fixing it through the coupling pin (3) and lock (4).

03 - Finalize, coupling the hoses (5) to the tractor's quick coupling.

⚠ ATTENTION

Before connecting or disconnecting the hydraulic hoses, turn off the engine and relieve pressure from the hydraulic system by fully operating the control levers. When relieving system pressure, make sure that no one is close to the equipment's movement area.

NOTE

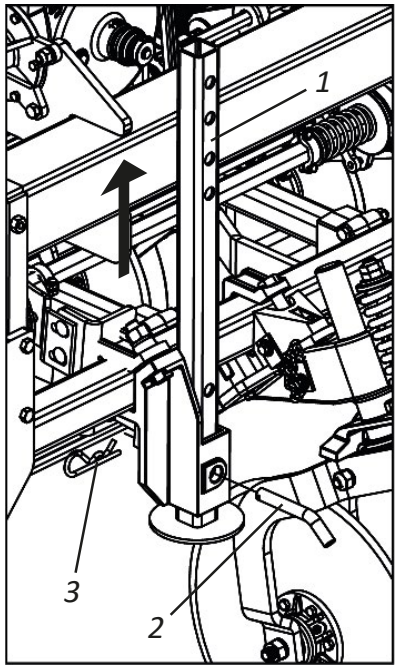
When engaging the seeder, look for a safe and easily accessible place, always use reduced gear with low acceleration.

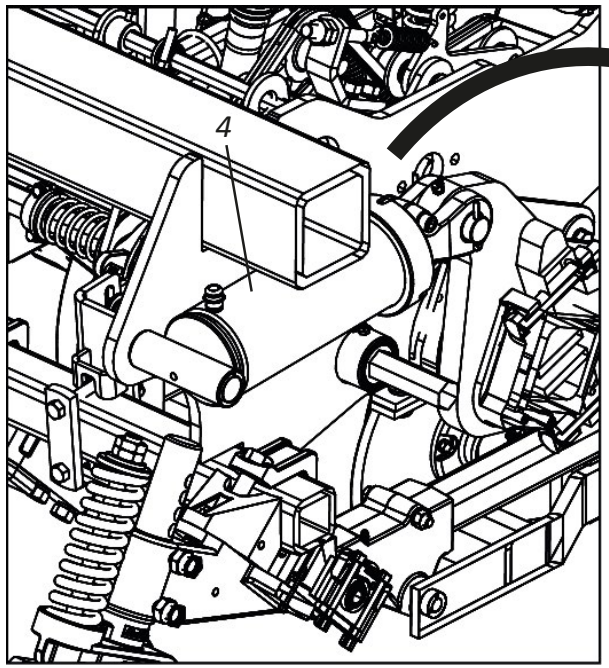
▪ Transport

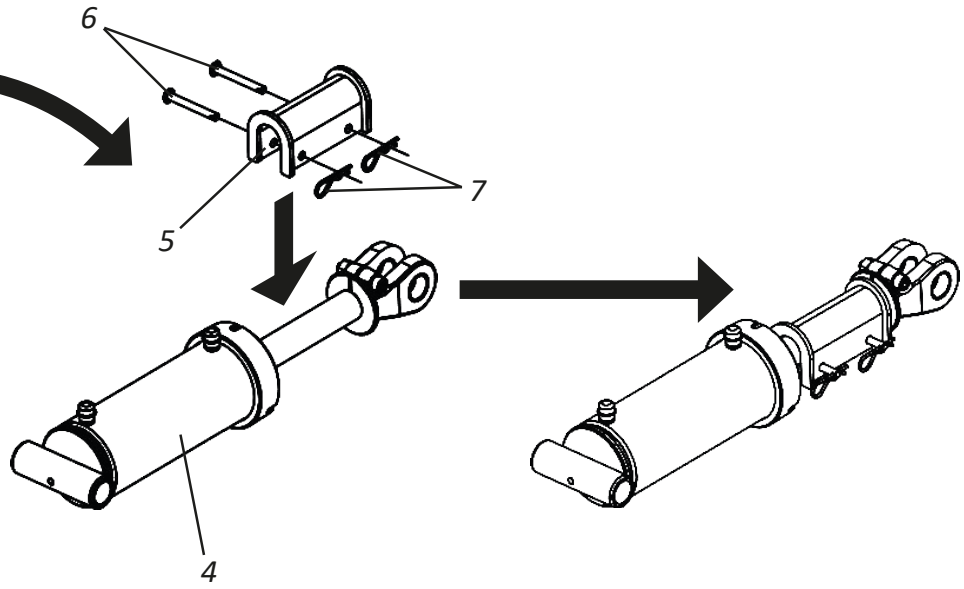
• Preparing for transport

Before transporting the seeder, proceed as follows:

01 - Collect the support bracket (1) and secure with the pin (2) and lock (3).







02 - Then, raise the lines by fully activating the stroke of the hydraulic cylinder (4), place the lock (5) on the rod of the same locking with the pin (6) and lock (7).

⚠ ATTENTION | **Do not transport the seeder without first checking all the procedures mentioned. Do not transport the seeder with the ladderopen, follow the guidelineson page 38.**

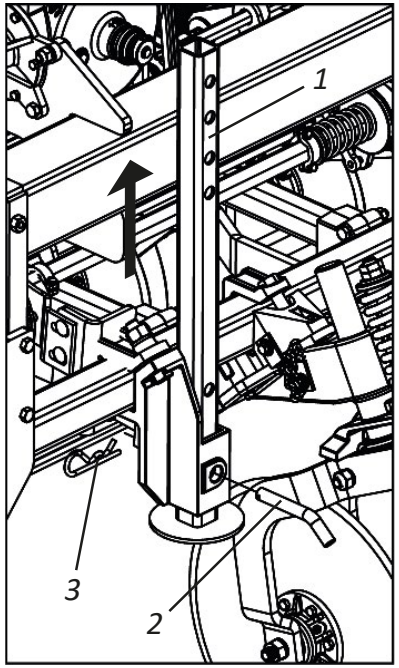
❗ IMPORTANT | **Do not transport the loaded seeder as it may damage the equipment. We recommend that you supply it only at the workplace. If the seeder is going to remain in the field for any reason, we recommend covering it with waterproof tarpaulin to avoid moisture.**

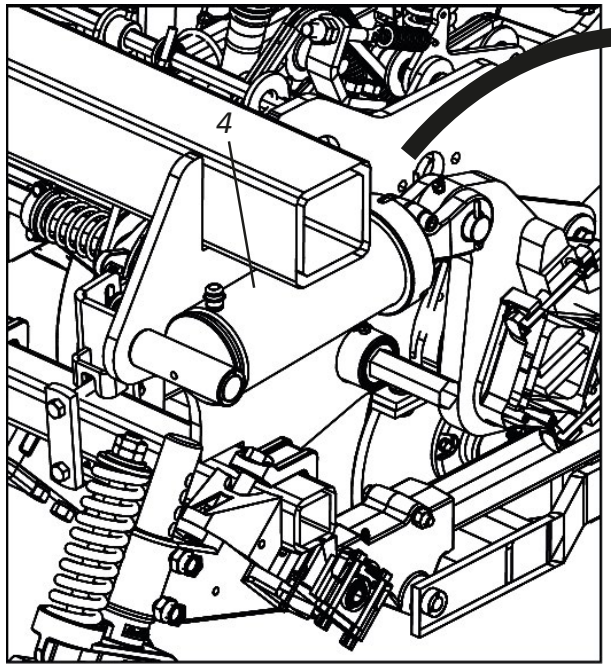
▪ Work

• Preparing for work - Part I

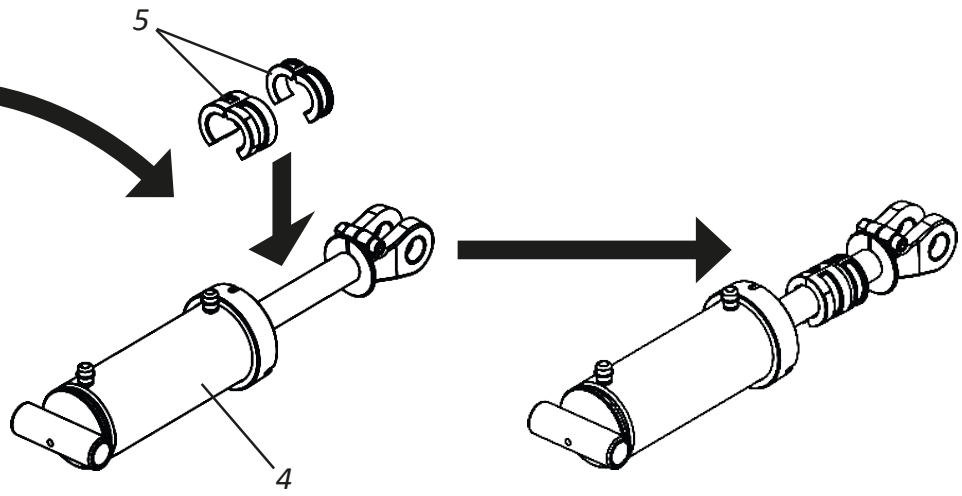
Before working with the seeder, proceed as follows:

01 - Collect the support bracket (1) and secure with the pin (2) and lock (3).





02 - Then, raise the lines by fully activating the stroke of the hydraulic cylinder (4) and place the limiting rings (5) on the rod of the same.



⚠ ATTENTION | **Do not work with the seeder without first checking all the procedures mentioned. Do not work the seeder with the ladderopen, follow the guidelineson page 38.**

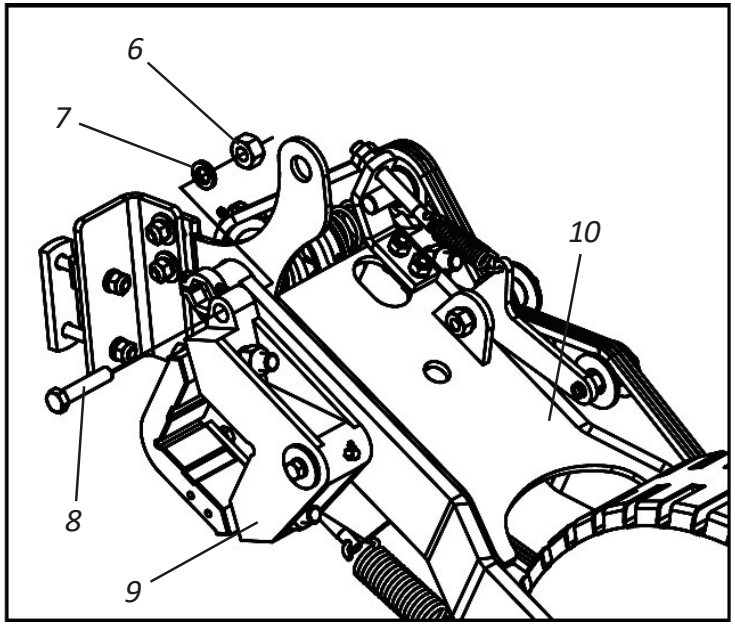
NOTE | **Always place the same number of limit rings (5) on all hydraulic cylinders (4) for lifting the wheels.**

IMPORTANT | **After attaching the limiting rings (5), the seeder will always operate at the same depth in both hard and loose terrain, because the limiting rings (5) are limiting the course of the hydraulic cylinders (4), that is, preventing the oscillation of the wheels. We recommend that you supply it only at the workplace. If the seeder is going to remain in the field for any reason, we recommend covering it with waterproof tarpaulin to avoid moisture.**

▪ Work

• Preparing for work - Part II

03 - Finish by loosening the nut (6), pressure washer (7) and remove the screw (8) from the clamp (9) by loosening the wheel support (10).



⚠ ATTENTION

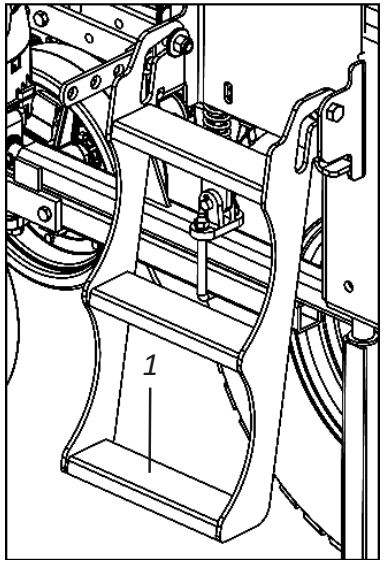
Do not work with the seeder without first removing the screw (8), lock washer (7) and nut (6) from the clamp (9) of the wheel support (10). Ignoring this warning will cause failures in planting the seeder.

• Use of the ladder

The articulated ladder (1) should only be used when filling or maintaining the **PPSOLO 3rd SEED BOX - TITANIUM.** Before using the articulated ladder (1), make sure that the seeder is stopped and the tractor is switched off.

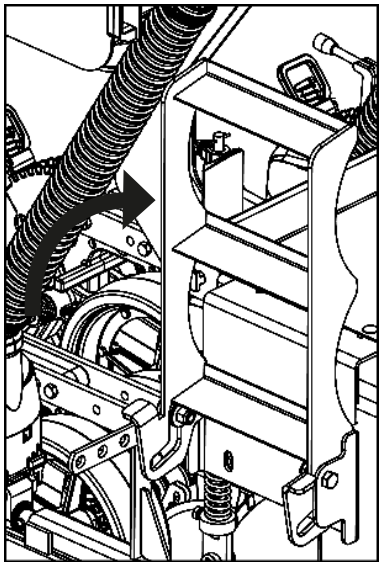
OPEN POSITION:

FOR MAINTENANCE OR SUPPLY OF THE DEPOSIT



CLOSED POSITION:

FOR WORK OR TRANSPORT



⚠ ATTENTION

Do not remain on the ladder when the seeder is working or being transported.

Do not work or transport the seeder with the ladder open.

Do not transport people on the platform, ladder or any other part of the seeder. Ignoring thesewarnings could result in seriousaccidents or evendeath.

❗ IMPORTANT

The articulated ladder (1) should only be used when filling or maintaining tanks. The articulated ladder (1) complies with NBR standards.

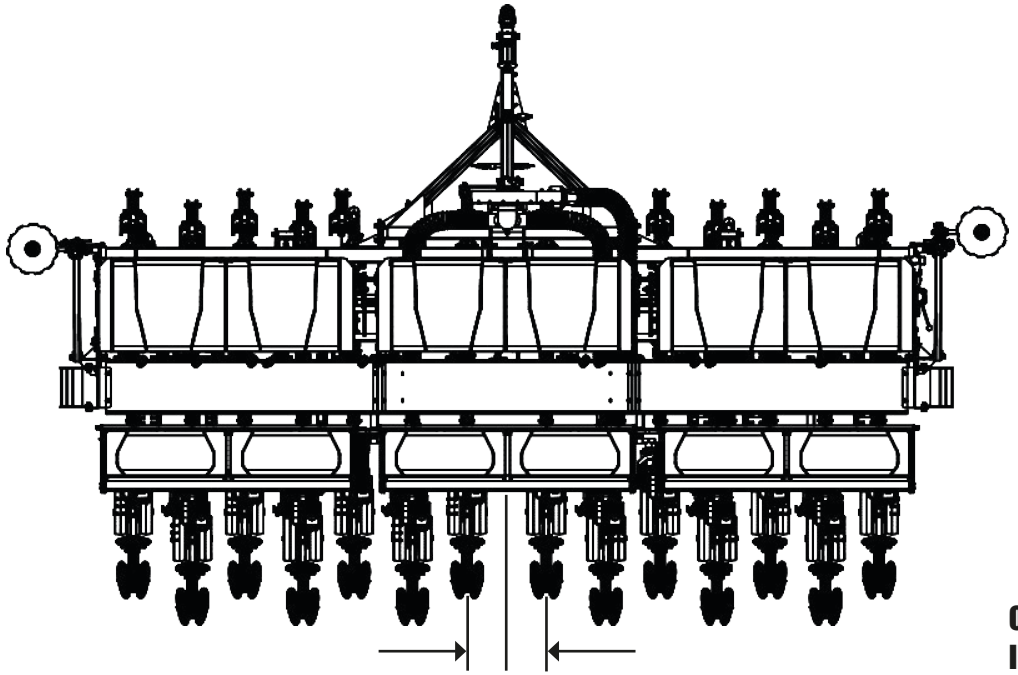
▪ Spacing

• Line spacing

The **PPSOLO 3rd SEED BOX - TITANIUM**, seeders are provided with spacing according to the number of lines requested, and new spacing can be made according to the type of culture desired.

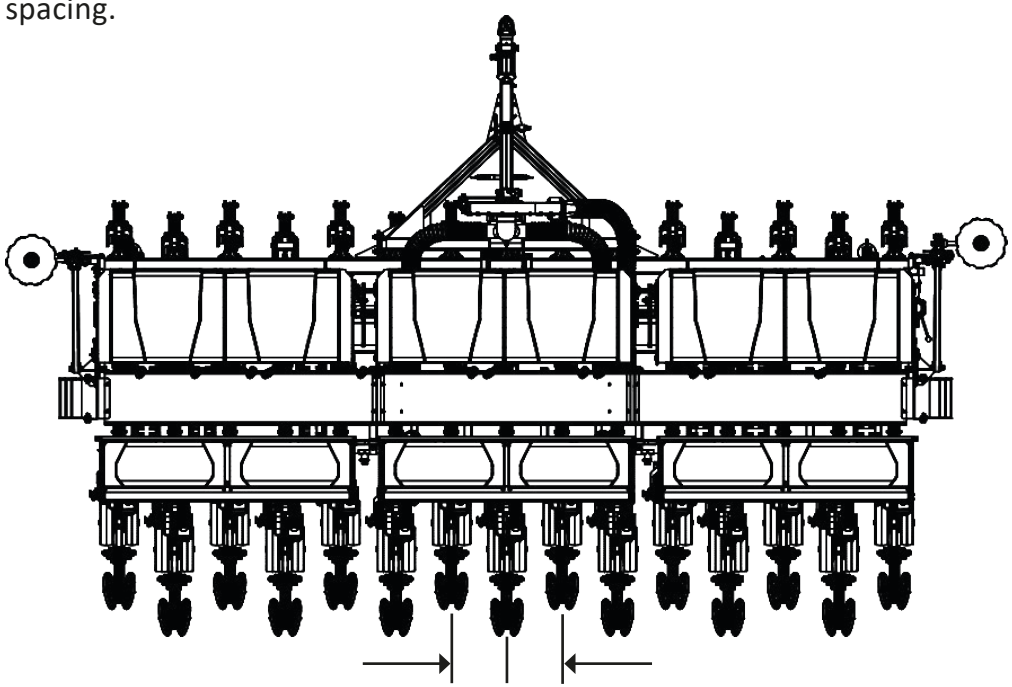
• Number of even lines

Mark the center of the **PPSOLO 3rd SEED BOX - TITANIUM** and divide 1/2 (half) spacing to the left and 1/2 (half) to the right, fixing the first two lines at these points. Then, starting from these, make the assembly of the other lines with the desired spacing.



• Number of odd lines

Attach a line in the center of the **PPSOLO 3rd SEED BOX - TITANIUM** chassis and starting from this, assemble the others with lines with the desired spacing.



ON THE FOLLOWING PAGE, CHECK THE POSSIBLE SPACES, OBSERVING THE ABOVE ASSEMBLY INSTRUCTIONS TO ASSEMBLE THE QUANTITY OF UNIQUE OR UNIQUE LINES.

▪ Spacing

• Spacing tables in milimeters

Model	Lines	Spacing
4000	4	800 / 900 / 1000
	5	700 / 800
	6	500 / 550
	7	500 / 550
	8	415* / 450
	9	415*

Model	Lines	Spacing
4500	5	900 / 1000
	6	550 / 800
	7	600 / 650
	8	500 / 550
	9	415* / 450 / 500
	10	415* / 430* / 450

Model	Lines	Spacing
5000	6	800* / 850 / 900 / 950
	7	700 / 750 / 800
	8	550**
	9	500 / 550 / 600
	10	415* / 450 / 550**
	11	415* / 450 / 500
	12	415* / 430* / 450*
	13	400*

Model	Lines	Spacing
5500	7	800* / 850 / 900
	9	600 / 650
	10	500 / 550
	11	500 / 550
	12	415* / 500
	13	415* / 430* / 450

Model	Lines	Spacing
6500	8	800 / 900
	9	790
	10	600*
	11	600
	12	500* / 550
	14	485
	15	415* / 430* / 450

Model	Linhas	Spacing
7500	9	800 / 850 / 900
	10	750* / 800
	11	600* / 650 / 700
	12	600* / 650
	13	600
	14	500 / 550
	15	500*
	17	415* / 435* / 450

(*) SPACING MARKED WITH AN ASTERISK MIGHT HAVE AN ALTERATION UP TO 25MM AT ANY ROW.
(**) SPACING MARKED WITH AN ASTERISK MIGHT HAVE AN ALTERATION UP TO 30MM AT ANY ROW.

▪ Adjustments

• Line markers adjustment

The regulating of the line markers is important to obtain evenly spaced planting, making so that the edge line of the seeder is at the same spacing as the last planted line, facilitating future operations. To adjust the line markers, proceed as follows:

01 - First of all, you must know the line spacing, the number of lines to be used in the operation and the tractor's front gauge. Use the formula below, followed by an example.

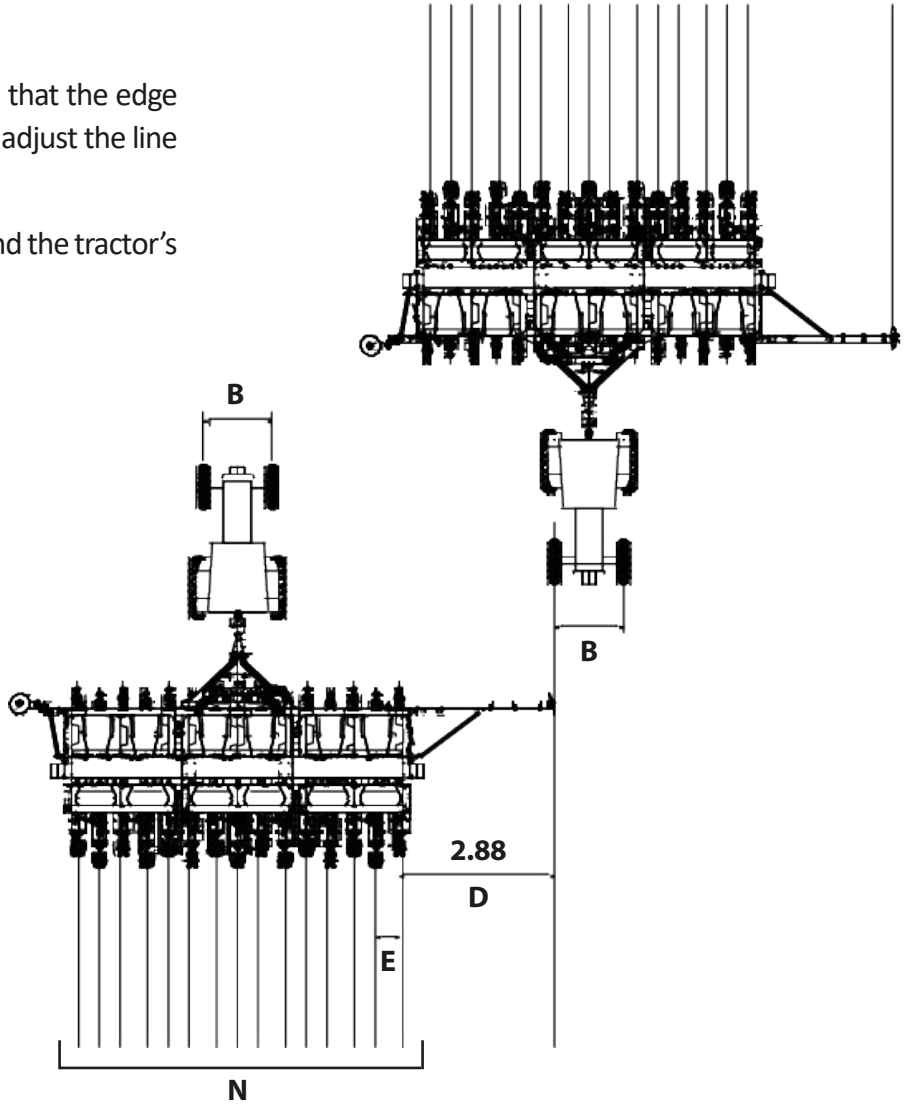
EXAMPLE: For a planting with15 rows in the seeder, spacing of 0.45 mts and the front gauge of the tractor with 1.43 mts, determine:

Formula: $D = \frac{E \times (N+1) - B}{2}$

Resolve: $X = \frac{0.45 \times 16 - 1.43}{2}$

D = 2.88 meter

WHERE:
E = Line spacing (mts)
N = Number of seeder rows
B = Front gauge of tractor
D = Marker distance



02 - Set the 2.88 m line marker disc to the center of the first planting line.

03 - Line markers are alternating, one lowers after the other, so if during planting before the end of the line there is the need to stop work, engage the piston so that the sower goes up and down twice to continue working with the marker on the right side.

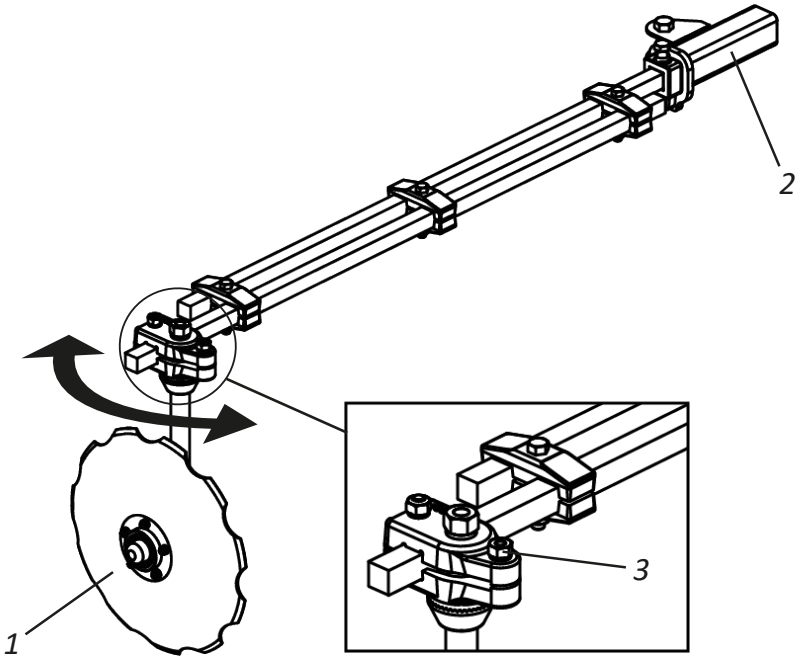
⚠ ATTENTION **Avoid accidents caused by the intermittent action of line markers. When activating the seeder, check that there are no people under the line markers or in their area of action.**

▪ Adjustments

• Adjustment of line marker discs

The discs 1 of the line markers 2 have angular adjustment to facilitate the demarcation work on the ground To adjust the disks 1 of the line markers 2 proceed as follows:

01 - Loosen the nut (3), turn the disc (1) to the desired position.
02 - Then, retighten the nut (3) fixing the disc (1) in the desired position.

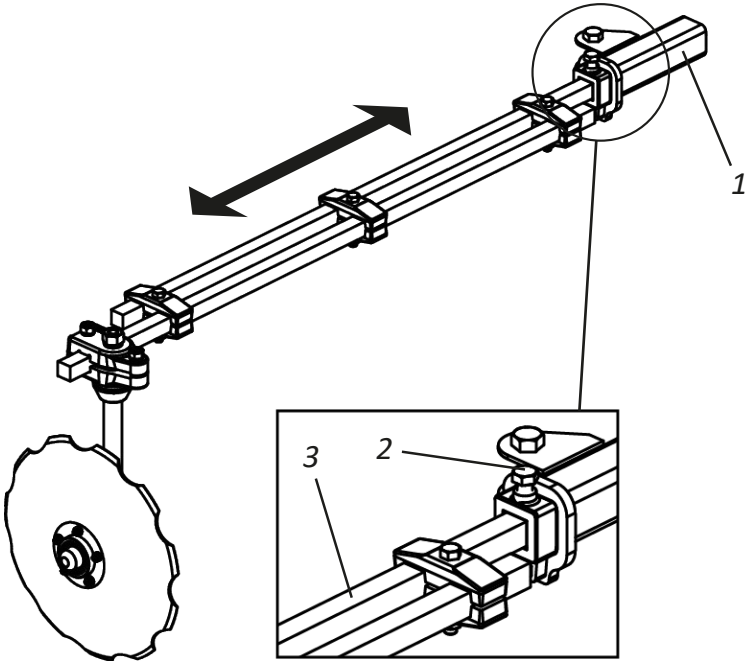


⚠ ATTENTION | **Before making any adjustments to the row marker, make sure it is on the ground, the seeder is stopped and the tractor is off.**

• Adjustment of the line marker bar

The line markers 1 have distance regulation to be adjusted according to the number of lines, spacing and gauge of the tractor To adjust the distance of the line markers 1 proceed as follows:

01 - Loosen the screw (2), move the bar (3) in the desired position.
02 - Then, retighten the screw (2) fixing the bar (3) in the desired position.



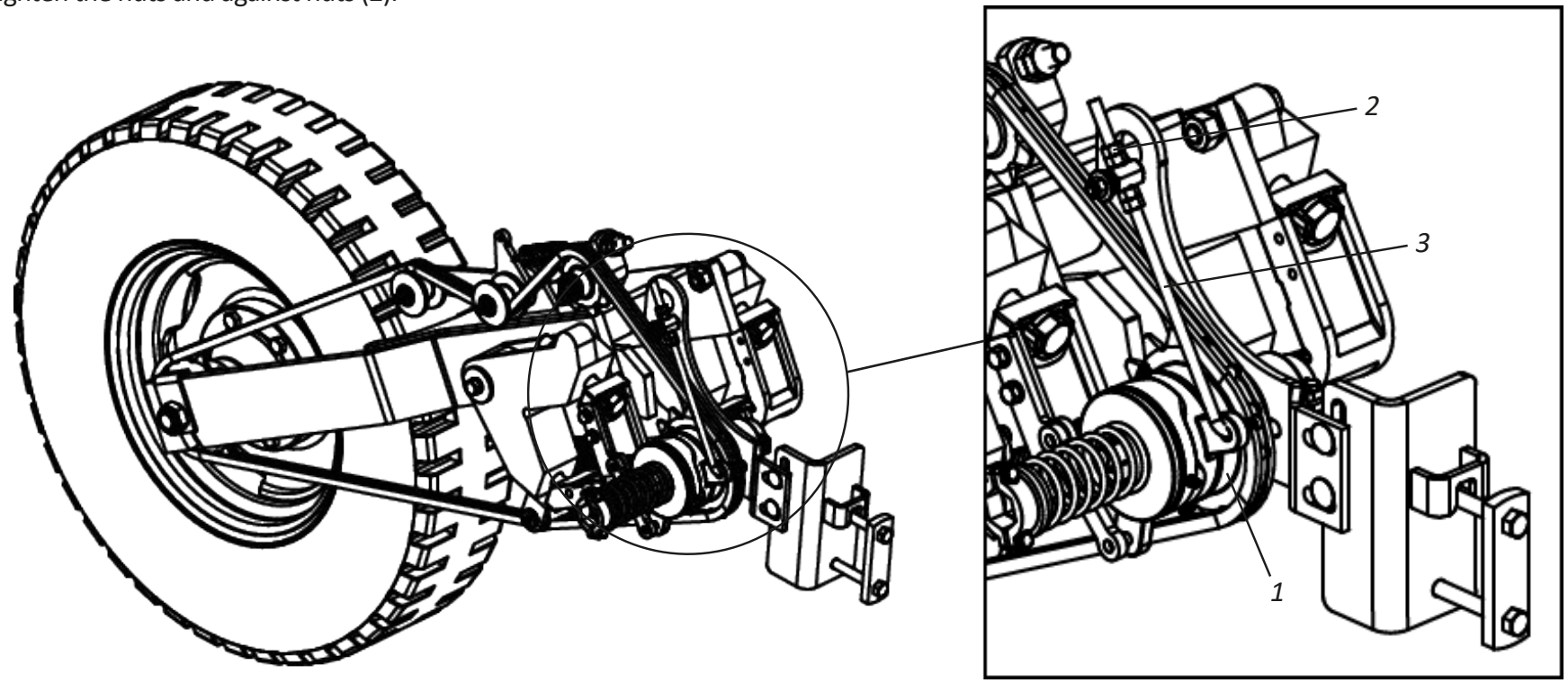
❗ IMPORTANT | **To find out the distance to be adjusted in the line marker, do the calculation according to the instructions on the previous page.**

▪ Adjustments

• Ratchet adjustment

When placing the shims on the hydraulic cylinder to limit the depth of the discs according to the instructions on page 29, then adjust the ratchet (1) according to the need for work, thus ensuring the activation of the transmission system. To adjust the ratchet (1), proceed as follows:

01 - Loosen the nuts and counter nuts (2), adjust the rod (3) for the correct activation of the system ratchet disarm (1).
02 - Then, retighten the nuts and against nuts (2).



⚠ ATTENTION | Failure to observe this regulation may cause the ratchet to disarm.

❗ IMPORTANT | When adjusting the ratchet, repeat this procedure on all ratchets on the seeder.

▪ Batchers

• BALDAN and TITANIUM Batchers (Optional)

DONNA can optionally be purchased with the **BALDAN** or **TITANIUM** seed batchers.

BALDAN BATCHERS

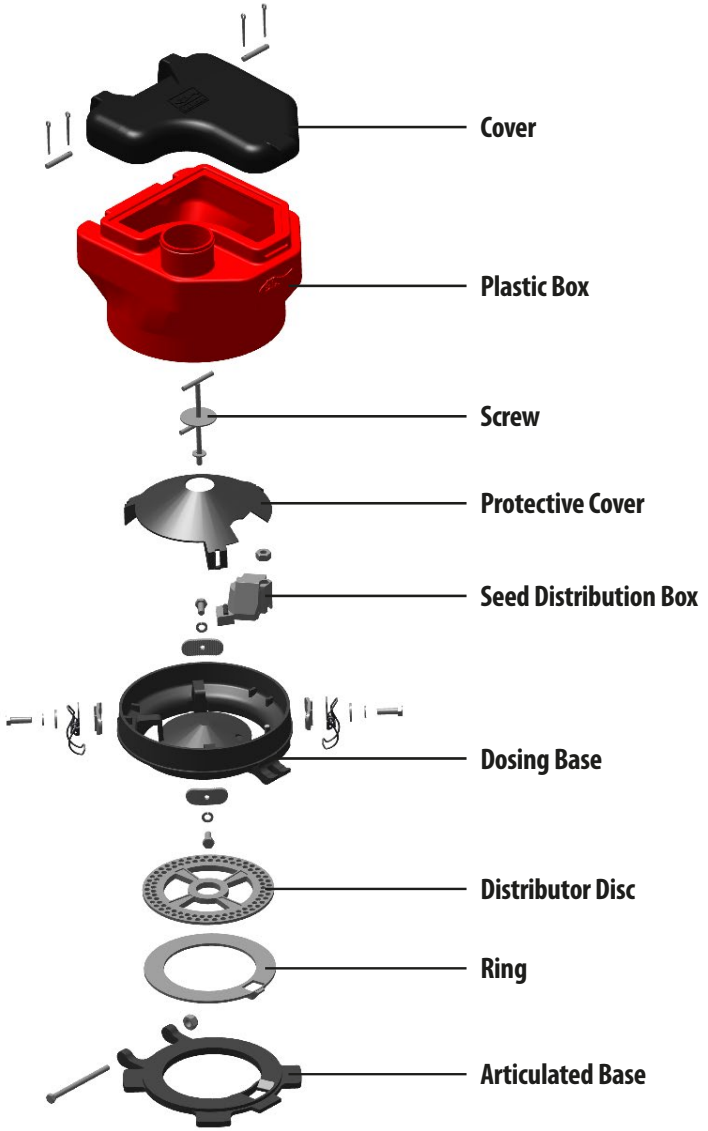
TITANIUM BATCHERS

▪ Batchers

• BALDAN Batchers

DONNA leaves the factory optionally with the **BALDAN** seed batcher.

• Components (BALDAN Batcher)



▪ Batchers

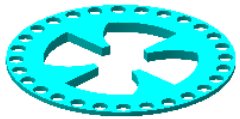
• Discs and Rings - Standard (BALDAN Batcher)

DONNA leaves the factory with some standard discs and rings.

CORN

Corn distributor disc
28 holes ø11.5mm (ø189 x 4.00mm)
Rampflow (Light Green)

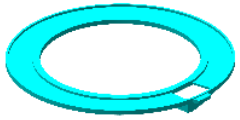
Plain corn ring (Yellow)
Thickness 4.0mm



Corn distributor disc
28 holes ø12.5mm (ø189 x 4.00mm)
Rampflow (Light Blue)

Corn ring recessed 1.0mm (Green)
Thickness 4.0mm

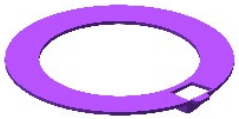
Corn distributor disc
28 holes ø13.5mm (ø189 x 4.00mm)
Rampflow (Bege)



Corn ring recessed 2.0mm (Blue)
Thickness 4.0mm

SOYBEANS

Soybeans distributor disc
90 holes ø9mm (ø35.10 x ø189 x 5.50mm)
Rampflow (Lilac)



Smooth soybeans ring (Lilac)
Thickness 3.0mm

Soybeans ring
recessed 1.0mm (Light Oranje)
Thickness 4.0mm

Corn ring recessed 0.8mm (Purple)
Thickness 3.0mm

SORGHUM

Sorghum Distributor Disc
100 holes ø5mm (ø35.5 x ø189 x 3.00mm)
Universal

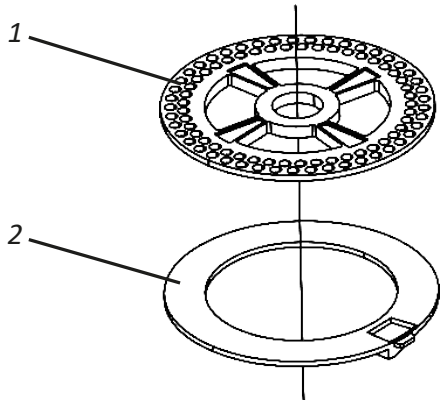
Sorghum ring
(ø131.5 x ø189 x 5.50mm)

Blind distributor disc
(ø35.5 x ø189 x 5.50mm)
Universal

Ring without recess
(ø131.5 x ø189 x 3.00mm)

▪ Batchers

• Correct choice of discs and rings (BALDAN batcher)



Due to the diversity of seed formats, the **BALDAN** doser has disc and ring models specific to each crop.

As a parameter for selecting the appropriate disc, always use the largest seeds.

The grains should not get stuck in the holes. To ensure this, place the disc on a flat surface and insert a seed into each hole. Then lift the disc, all the seeds should be on the table.

To avoid damaging the seed, the thickness of the distributing discs (1) should be equal to or slightly greater than the seed.

In cases where the seed exceeds the thickness of the distributing discs (1), adjust the height of the seed in relation to the disc, using the different thicknesses of distributing discs and recessed rings (2).

IMPORTANT:

By choosing the right disc, the seeds will be well housed in the holes and will not be above the disc.

⚠ ATTENTION

Always use the spacer ring (2) together with the distributing discs (1). The sum of the set, seed disc and ring must always be equal to 8.5 mm in thickness for perfect adjustment of the system.

NOTE

PPSOLO 3rd SEED BOX comes assembled with rings with recesses for taller seeds.

• Use of GRAPHITE

The use of **graphite is essential for the functioning of the system and also for the perfect distribution of the seeds**, reducing doubles and failures, broken seeds and wear on the system.

IMPORTANT

Check with the manufacturer of your graphite for the correct amount.

⚠ ATTENTION

If PPSOLO 3rd SEED BOX is equipped with a tank, never mix the graphite with the treatment, as the liquid treatment removes the lubricating function of the graphite.

Mix the graphite homogeneously, evenly.

Don't just sprinkle over the seeds. Mix in all of them evenly.

▪ Batchers

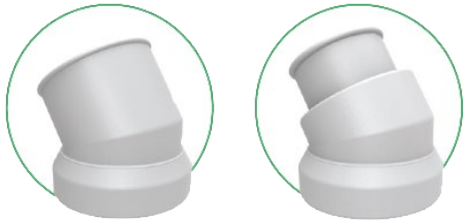
• Seed Reservoir "Popcorn Maker" (TITANIUM batcher)

PPSOLO 3rd SEED BOX - TITANIUM leaves the factory with the seed Reservoir (Popcorn Maker).

The Seed Reservoir (Popcorn Maker) has a compact (6 liters) and robust design. Provides easy seed runoff and makes it easy to change the discs and rings.

• Learn about the seed reservoir "Popcorn Maker" (TITANIUM batcher)

We have nozzles available for:



Nozzle 360° to hose of **3"**

Nozzle 360° to hose of **2.5"**

NOZZLE 360°

Coupled to the hard hose*, it avoids kinking (sagging), flow cut during the supply and allows the total flow of the seeds from the central box.

***When purchasing the Popcorn Maker, choose which nozzle fits the hose it has - 3" or 2.5".**

INSTALLATION

No adjustments or drilling required when mounting with the Titanium Mechanical Batcher.*

***Exclusive mounting on Titanium.**

HARDINESS

Resistant and waterproof, made from the same raw material as Titanium, it prevents rainwater and dust from entering.

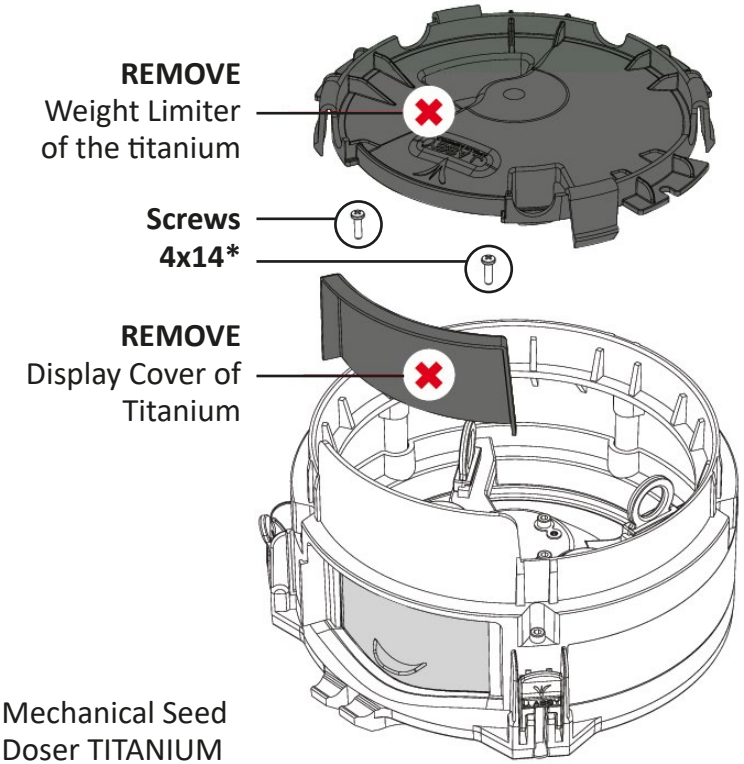
▪ Batchers

• The installation of the seed reservoir "Popcorn Maker" (TITANIUM batcher)

Before starting the installation:

1 **Remove the weight stop, the two 4x14* Phillips screws, and the display cover from the Titanium.**

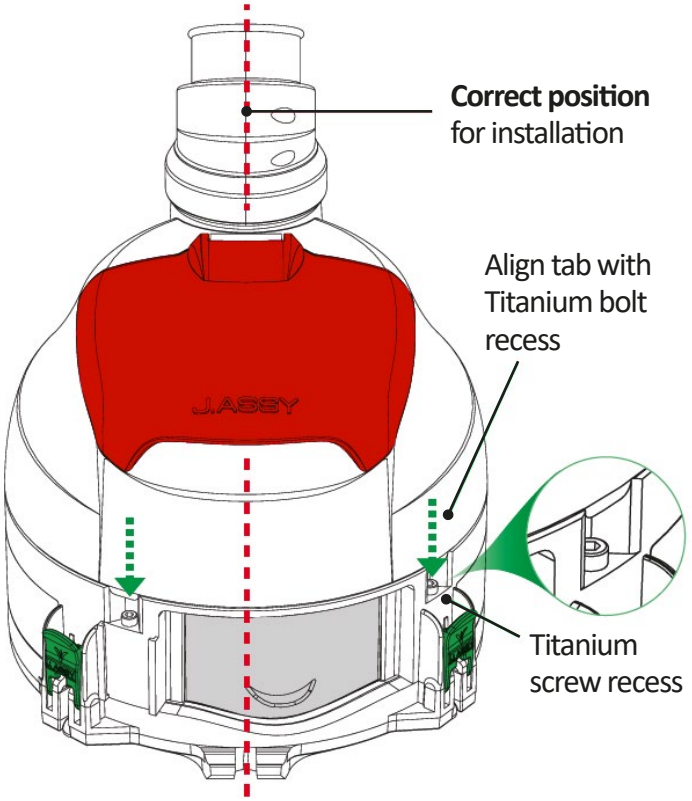
*Reserve the **4x14 screws** for **STEP 3.**



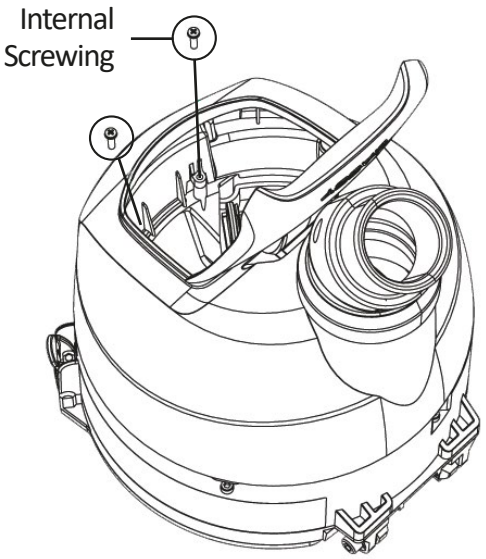
Mechanical Seed Doser TITANIUM

• Installing the "Popcorn Maker" (TITANIUM batcher)

2 **Align the tabs of the Popcorn Maker with the recesses of the Titanium screws** and place them into the vertical until it snaps into place and you hear a "click".



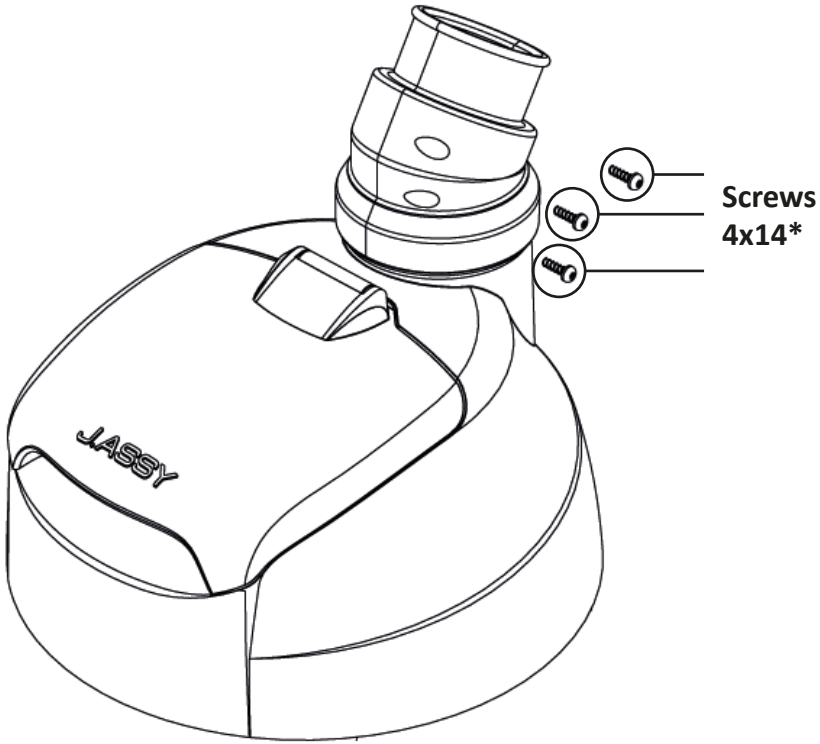
3 Open the lid of the Popcorn Maker and put in the **two 4x14 Phillips screws** (removed from the Titanium display cover).



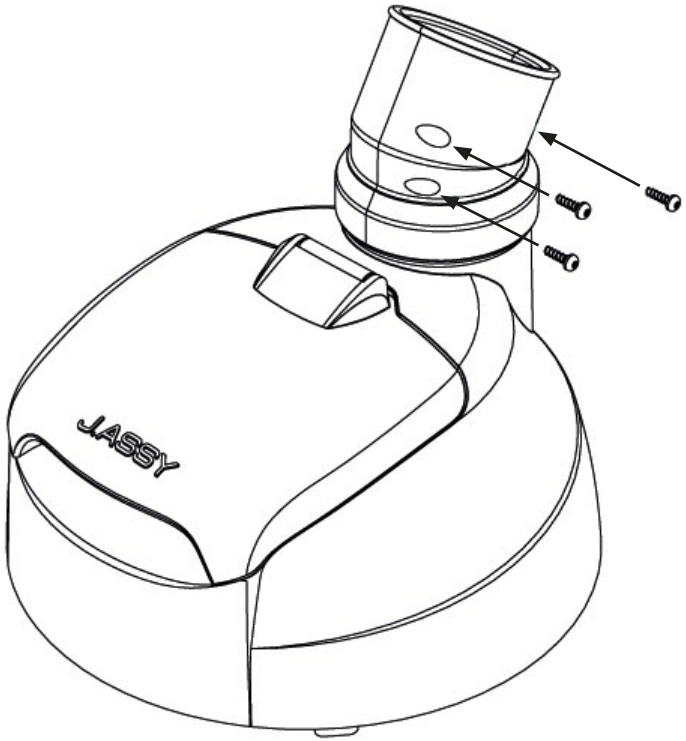
▪ Batchers

• Changing the "Popcorn Maker" Nozzle (TITANIUM batcher)

4 Remove **the three 4x14* Phillips screws** and remove the old nozzle.



5 Position the new nozzle and insert **the three 4x14 Phillips screws** (removed from the old nozzle).



The seed reservoir (Popcorn Maker) is ready for use.

Note: waterproofness against rain is not guaranteed after exchanging the nozzle.

▪ Batchers

• Batcher TITANIUM - Part I

PPSOLO 3rd SEED BOX - TITANIUM leaves the factory with the seed batcher **TITANIUM**.

TITANIUM is the mechanical metering unit that provides seed distribution with a high rate of reduction of double seeds and crop failures:

COTTON | PEANUT | CANOLA | BEAN

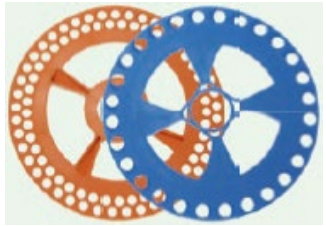
SUNFLOWERS | CORN | SOYBEAN | SORGHUM

In order to ensure the **TITANIUM** batcher's full efficiency, use only the Apollo discs.

Front - Soybean Disc

APOLLO RAMPFLOW ®

(WAVY RAMP)



Apollo discs, of corn and soybean, with Rampflow technology.

When choosing the ring, it is also important to note that **TITANIUM** uses a unique ring, and no other type is compatible.

Apollo Rings

DISPLAY

It allows the viewing of the moving disk, assisting in the correct choice of disk and ring. In addition to allowing the monitoring of performance during planting.

▪ Batchers

• Batcher TITANIUM - Part II

ESCOVAFLEX

It expels the seeds that did not fall by gravity. Its contact is equal, providing less friction and less mechanical damage to the seed.

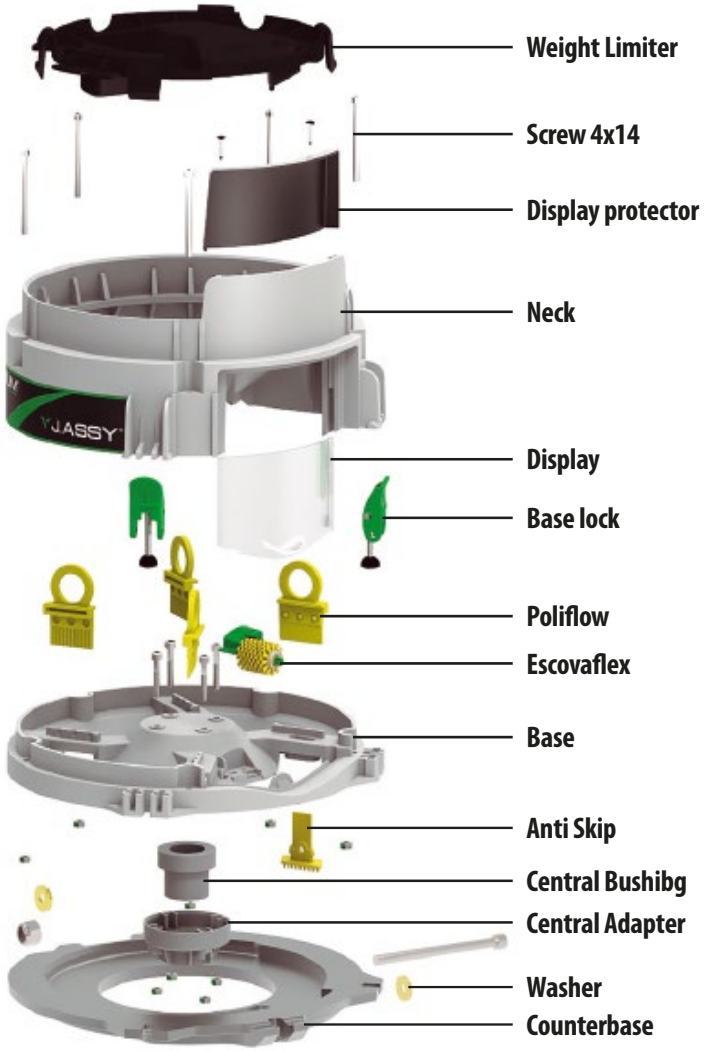
POLIFLOWS

Organizers that guide the seeds precisely into the disk holes provide reduced doubles, failures, and minimize mechanical damage.

ANTI SKIP

It keeps the seeds in the holes after the last stage of the organization, in cases of skipping caused by the irregularity of the soil.

• Components (TITANIUM batcher)



Batchers

• Discs and Rings - Standard (TITANIUM batcher)

PPSOLO 3rd SEED BOX - TITANIUM leaves the factory with some discs and standard rings.

CORN

1 DISC

28 Holes - ø12mm (Orange) - Thickness 4.0mm

4 RINGS

Yellow (Smooth) - Thickness 4.0mm
Green (Recess 1.0) - Thickness 4.0mm
Gray (Recess 1.6) - Thickness 4.0mm
Dark Blue (Recessed 2.5) - Thickness 4.0mm

SOYBEAN

2 DISCS

90 Holes - ø8mm (Orange) - Thickness 4.5mm
90 Holes - ø9mm (Lilac) - Thickness 5.5mm

2 RINGS

Lilac (Smooth) - Thickness 3.0mm
Purple (Recess 0.8) - Thickness 3.0mm

2 RINGS

Orange (Smooth) - Thickness 4.0mm
Light Orange (Recess 1.0) - Thickness 4.0mm

▪ Disks and Batcher Rings

• The right choice of discs and rings (TITANIUM batcher)

Due to the diversity of shapes found in seeds, we have developed specific disc and ring models for each crop.

In order to guarantee the quality of the planting, in the choice of the disk is necessary to observe if the seeds:

It is well lodged in the hole of the disk, so that no two seeds fit in the same hole and don't get stuck.

Don't get exposed above of the disk.

IMPORTANT:

By choosing the right disk, the seeds will be well lodged in the holes and will not be above the disk.

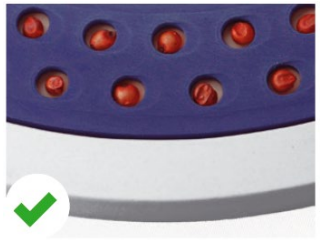
• Correct choice of disc (TITANIUM batcher)

Example with the CORN DISK

Correctly housed seeds.

Seeds too tight or larger than the disk holes

Example with the SORGO DISK



Correctly housed seeds.

Loose seeds in the holes and occurrence of double.

Example with the SOY DISK

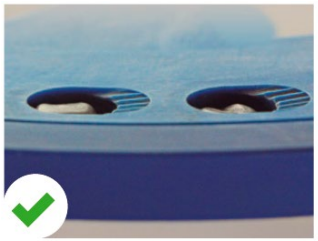
Correctly housed seeds.

Loose seeds in the holes and occurrence of double.

Disks and Batcher Rings

• Correct choice of ring (TITANIUM batcher)

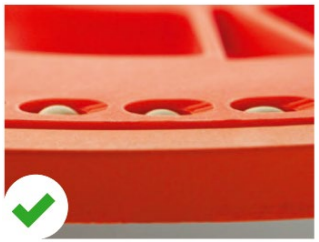
Example with the CORN RING



Seeds close to the edge of the set.

Exposed seeds.

Example with the SOY RING



Seeds close to the edge of the set.

Exposed seeds.

• Use of GRAPHITE

The graphite is essential for the system to work and also for perfect seed distribution, reducing doubles and failures, broken seeds, and system wear.

⚠ ATTENTION

If PPSOLO 3rd SEED BOX is equipped with a tank, never mix the graphite with the treatment, as the liquid treatment removes the lubricating function of the graphite.

Mix the graphite evenly, graphite evenly.

Do not sprinkle just on top of the seeds. Mix in all of them evenly.

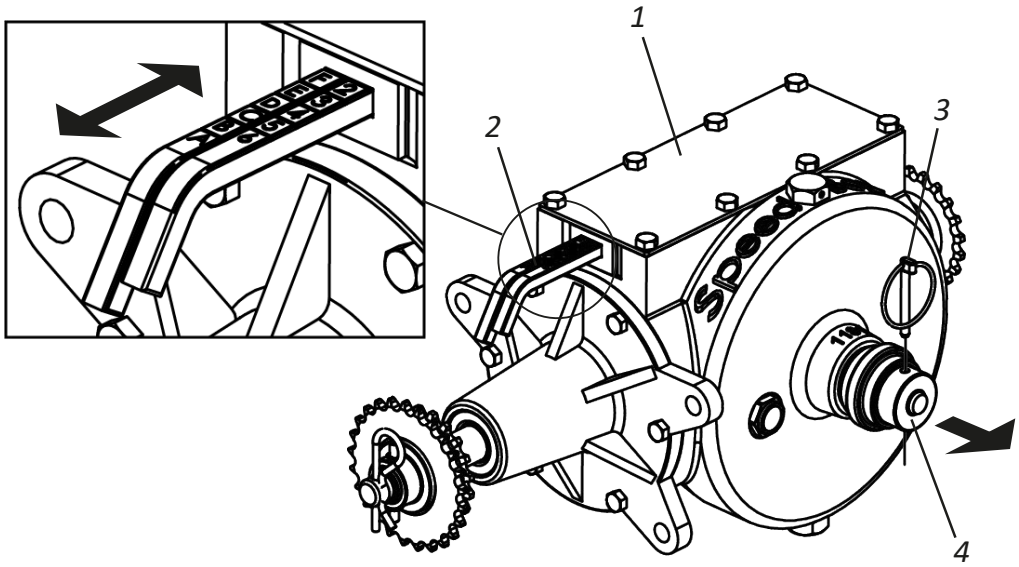
IMPORTANT Check with the manufacturer of your graphite to use the correct amount.

▪ Seed distribution system

• Speed Box

PPSOLO 3rd SEED BOX - TITANIUM is equipped with the Speed Box system (1), which activates the dispensing system with simple adjustments, guaranteeing the exchange of fast rotations. To adjust the seeds, proceed as follows:

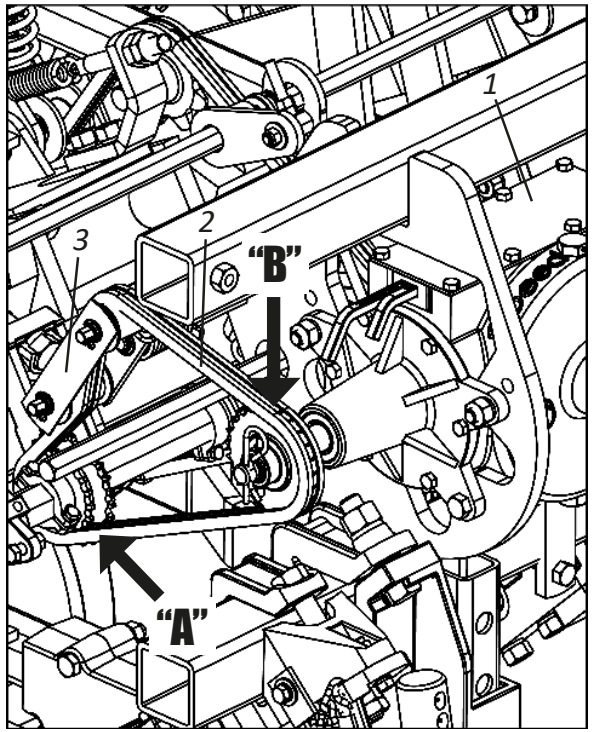
01 - Select the desired quantity in the tables and check the corresponding combination on the levers (2). **EXAMPLE:** Position **F2** in the table, indicates that the lever with letters must be in the **"F"** position and the lever with numbers must be in the **"2"** position.



02 - To move the levers, remove the lock (3), pull the handle (4), then adjust the levers according to the example above. When combining is complete, return the handle (4) and replace the lock (3).

• Regulation for seed distribution

Seed adjustment is done through the Speed Box (1). To obtain more adjustments, reverse the current in the **"A"** and moved **"B"** drive gears. After changing the gears, check the chain tension (2).



⚠ ATTENTION **When checking the chain tension (2) if more pressure is needed on the tensioner, proceed according to the instructions on page 88.**

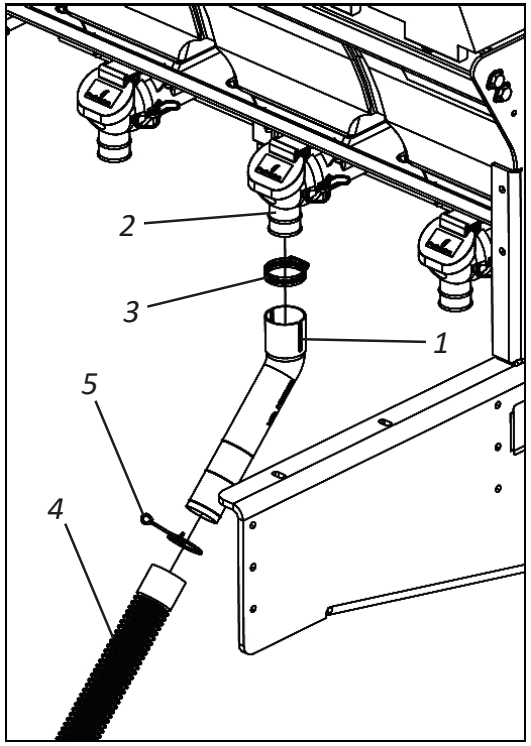
SEED distribution table by linear meter - PPSOLO 3rd SEED BOX - BALDAN / TITANIUM																	
Ratchet hex shaft gear								20	Speed Box inlet gear								25
Speed Box Combination	Number of holes in the Seed Dispenser Disc																
	17	18	19	20	24	26	28	30	38	40	48	50	62	64	72	90	100
F - 1	1,3	1,4	1,5	1,5	1,9	2,0	2,2	2,3	2,9	3,1	3,7	3,9	4,8	4,9	5,6	7,0	7,7
F - 2	1,5	1,6	1,7	1,7	2,1	2,3	2,4	2,6	3,3	3,5	4,2	4,3	5,4	5,6	6,3	7,8	8,7
E - 1	1,6	1,7	1,8	1,9	2,3	2,5	2,7	2,9	3,7	3,9	4,6	4,8	6,0	6,2	7,0	8,7	9,7
F - 3	1,7	1,8	1,9	2,0	2,4	2,6	2,8	3,0	3,8	4,0	4,8	5,0	6,2	6,4	7,2	8,9	9,9
E - 2	1,8	2,0	2,1	2,2	2,6	2,8	3,0	3,3	4,1	4,3	5,2	5,4	6,7	7,0	7,8	9,8	10,9
D - 1	2,0	2,1	2,2	2,3	2,8	3,0	3,2	3,5	4,4	4,6	5,6	5,8	7,2	7,4	8,3	10,4	11,6
F - 4	2,0	2,1	2,2	2,3	2,8	3,0	3,2	3,5	4,4	4,6	5,6	5,8	7,2	7,4	8,3	10,4	11,6
E - 3	2,1	2,2	2,4	2,5	3,0	3,2	3,5	3,7	4,7	5,0	6,0	6,2	7,7	7,9	8,9	11,2	12,4
D - 2	2,2	2,3	2,5	2,6	3,1	3,4	3,7	3,9	5,0	5,2	6,3	6,5	8,1	8,3	9,4	11,7	13,0
C - 1	2,3	2,4	2,6	2,7	3,2	3,5	3,8	4,1	5,1	5,4	6,5	6,8	8,4	8,7	9,7	12,2	13,5
F - 5	2,4	2,5	2,6	2,8	3,3	3,6	3,9	4,2	5,3	5,6	6,7	7,0	8,6	8,9	10,0	12,5	13,9
E - 4	2,5	2,6	2,8	2,9	3,5	3,8	4,1	4,3	5,5	5,8	7,0	7,2	9,0	9,3	10,4	13,0	14,5
D - 3	2,5	2,7	2,8	3,0	3,6	3,9	4,2	4,5	5,7	6,0	7,2	7,5	9,2	9,5	10,7	13,4	14,9
C - 2	2,6	2,7	2,9	3,0	3,7	4,0	4,3	4,6	5,8	6,1	7,3	7,6	9,4	9,7	11,0	13,7	15,2
B - 1	2,6	2,8	2,9	3,1	3,7	4,0	4,3	4,6	5,9	6,2	7,4	7,7	9,6	9,9	11,1	13,9	15,5
A - 1	3,0	3,1	3,3	3,5	4,2	4,5	4,9	5,2	6,6	7,0	8,3	8,7	10,8	11,1	12,5	15,6	17,4
A - 2	3,3	3,5	3,7	3,9	4,7	5,1	5,5	5,9	7,4	7,8	9,4	9,8	12,1	12,5	14,1	17,6	19,6
B - 3	3,4	3,6	3,8	4,0	4,8	5,2	5,6	6,0	7,6	7,9	9,5	9,9	12,3	12,7	14,3	17,9	19,9
C - 4	3,4	3,7	3,9	4,1	4,9	5,3	5,7	6,1	7,7	8,1	9,7	10,1	12,6	13,0	14,6	18,3	20,3
D - 5	3,5	3,8	4,0	4,2	5,0	5,4	5,8	6,3	7,9	8,3	10,0	10,4	12,9	13,4	15,0	18,8	20,9
E - 6	3,7	3,9	4,1	4,3	5,2	5,7	6,1	6,5	8,3	8,7	10,4	10,9	13,5	13,9	15,6	19,6	21,7
A - 3	3,8	4,0	4,2	4,5	5,4	5,8	6,3	6,7	8,5	8,9	10,7	11,2	13,9	14,3	16,1	20,1	22,4
B - 4	3,9	4,2	4,4	4,6	5,6	6,0	6,5	7,0	8,8	9,3	11,1	11,6	14,4	14,8	16,7	20,9	23,2
C - 5	4,1	4,4	4,6	4,9	5,8	6,3	6,8	7,3	9,2	9,7	11,7	12,2	15,1	15,6	17,5	21,9	24,3
D - 6	4,4	4,7	5,0	5,2	6,3	6,8	7,3	7,8	9,9	10,4	12,5	13,0	16,2	16,7	18,8	23,5	26,1
A - 4	4,4	4,7	5,0	5,2	6,3	6,8	7,3	7,8	9,9	10,4	12,5	13,0	16,2	16,7	18,8	23,5	26,1
B - 5	4,7	5,0	5,3	5,6	6,7	7,2	7,8	8,3	10,6	11,1	13,4	13,9	17,2	17,8	20,0	25,0	27,8
C - 6	5,2	5,5	5,8	6,1	7,3	7,9	8,5	9,1	11,6	12,2	14,6	15,2	18,9	19,5	21,9	27,4	30,4
A - 5	5,3	5,6	5,9	6,3	7,5	8,1	8,8	9,4	11,9	12,5	15,0	15,6	19,4	20,0	22,5	28,2	31,3
B - 6	5,9	6,3	6,6	7,0	8,3	9,0	9,7	10,4	13,2	13,9	16,7	17,4	21,6	22,3	25,0	31,3	34,8
A - 6	6,6	7,0	7,4	7,8	9,4	10,2	11,0	11,7	14,9	15,6	18,8	19,6	24,3	25,0	28,2	35,2	39,1

SEED distribution table by linear meter - PPSOLO 3rd SEED BOX - BALDAN / TITANIUM																	
Ratchet hex shaft gear								25	Speed Box Inlet Gear								20
Speed Box combination	Number of Holes in the Seed Dispenser Disc																
	17	18	19	20	24	26	28	30	38	40	48	50	62	64	72	90	100
F - 1	2,1	2,2	2,3	2,4	2,9	3,1	3,4	3,6	4,6	4,8	5,8	6,0	7,5	7,7	8,7	10,9	12,1
F - 2	2,3	2,4	2,6	2,7	3,3	3,5	3,8	4,1	5,2	5,4	6,5	6,8	8,4	8,7	9,8	12,2	13,6
E - 1	2,6	2,7	2,9	3,0	3,6	3,9	4,2	4,5	5,7	6,0	7,2	7,5	9,4	9,7	10,9	13,6	15,1
F - 3	2,6	2,8	2,9	3,1	3,7	4,0	4,3	4,7	5,9	6,2	7,5	7,8	9,6	9,9	11,2	14,0	15,5
E - 2	2,9	3,1	3,2	3,4	4,1	4,4	4,8	5,1	6,5	6,8	8,1	8,5	10,5	10,9	12,2	15,3	17,0
D - 1	3,1	3,3	3,4	3,6	4,3	4,7	5,1	5,4	6,9	7,2	8,7	9,1	11,2	11,6	13,0	16,3	18,1
F - 4	3,1	3,3	3,4	3,6	4,3	4,7	5,1	5,4	6,9	7,2	8,7	9,1	11,2	11,6	13,0	16,3	18,1
E - 3	3,3	3,5	3,7	3,9	4,7	5,0	5,4	5,8	7,4	7,8	9,3	9,7	12,0	12,4	14,0	17,5	19,4
D - 2	3,5	3,7	3,9	4,1	4,9	5,3	5,7	6,1	7,7	8,1	9,8	10,2	12,6	13,0	14,7	18,3	20,4
C - 1	3,6	3,8	4,0	4,2	5,1	5,5	5,9	6,3	8,0	8,5	10,1	10,6	13,1	13,5	15,2	19,0	21,1
F - 5	3,7	3,9	4,1	4,3	5,2	5,7	6,1	6,5	8,3	8,7	10,4	10,9	13,5	13,9	15,6	19,6	21,7
E - 4	3,8	4,1	4,3	4,5	5,4	5,9	6,3	6,8	8,6	9,1	10,9	11,3	14,0	14,5	16,3	20,4	22,6
D - 3	4,0	4,2	4,4	4,7	5,6	6,1	6,5	7,0	8,8	9,3	11,2	11,6	14,4	14,9	16,8	21,0	23,3
C - 2	4,0	4,3	4,5	4,8	5,7	6,2	6,7	7,1	9,0	9,5	11,4	11,9	14,7	15,2	17,1	21,4	23,8
B - 1	4,1	4,3	4,6	4,8	5,8	6,3	6,8	7,2	9,2	9,7	11,6	12,1	15,0	15,5	17,4	21,7	24,1
A - 1	4,6	4,9	5,2	5,4	6,5	7,1	7,6	8,1	10,3	10,9	13,0	13,6	16,8	17,4	19,6	24,4	27,2
A - 2	5,2	5,5	5,8	6,1	7,3	7,9	8,6	9,2	11,6	12,2	14,7	15,3	18,9	19,6	22,0	27,5	30,6
B - 3	5,3	5,6	5,9	6,2	7,5	8,1	8,7	9,3	11,8	12,4	14,9	15,5	19,2	19,9	22,4	27,9	31,0
C - 4	5,4	5,7	6,0	6,3	7,6	8,2	8,9	9,5	12,0	12,7	15,2	15,8	19,6	20,3	22,8	28,5	31,7
D - 5	5,5	5,9	6,2	6,5	7,8	8,5	9,1	9,8	12,4	13,0	15,6	16,3	20,2	20,9	23,5	29,3	32,6
E - 6	5,8	6,1	6,5	6,8	8,1	8,8	9,5	10,2	12,9	13,6	16,3	17,0	21,1	21,7	24,4	30,6	34,0
A - 3	5,9	6,3	6,6	7,0	8,4	9,1	9,8	10,5	13,3	14,0	16,8	17,5	21,7	22,4	25,1	31,4	34,9
B - 4	6,2	6,5	6,9	7,2	8,7	9,4	10,1	10,9	13,8	14,5	17,4	18,1	22,5	23,2	26,1	32,6	36,2
C - 5	6,5	6,8	7,2	7,6	9,1	9,9	10,6	11,4	14,5	15,2	18,3	19,0	23,6	24,3	27,4	34,2	38,0
D - 6	6,9	7,3	7,7	8,1	9,8	10,6	11,4	12,2	15,5	16,3	19,6	20,4	25,3	26,1	29,3	36,7	40,7
A - 4	6,9	7,3	7,7	8,1	9,8	10,6	11,4	12,2	15,5	16,3	19,6	20,4	25,3	26,1	29,3	36,7	40,7
B - 5	7,4	7,8	8,3	8,7	10,4	11,3	12,2	13,0	16,5	17,4	20,9	21,7	26,9	27,8	31,3	39,1	43,5
C - 6	8,1	8,6	9,0	9,5	11,4	12,4	13,3	14,3	18,1	19,0	22,8	23,8	29,5	30,4	34,2	42,8	47,5
A - 5	8,3	8,8	9,3	9,8	11,7	12,7	13,7	14,7	18,6	19,6	23,5	24,4	30,3	31,3	35,2	44,0	48,9
B - 6	9,2	9,8	10,3	10,9	13,0	14,1	15,2	16,3	20,6	21,7	26,1	27,2	33,7	34,8	39,1	48,9	54,3
A - 6	10,4	11,0	11,6	12,2	14,7	15,9	17,1	18,3	23,2	24,4	29,3	30,6	37,9	39,1	44,0	55,0	61,1

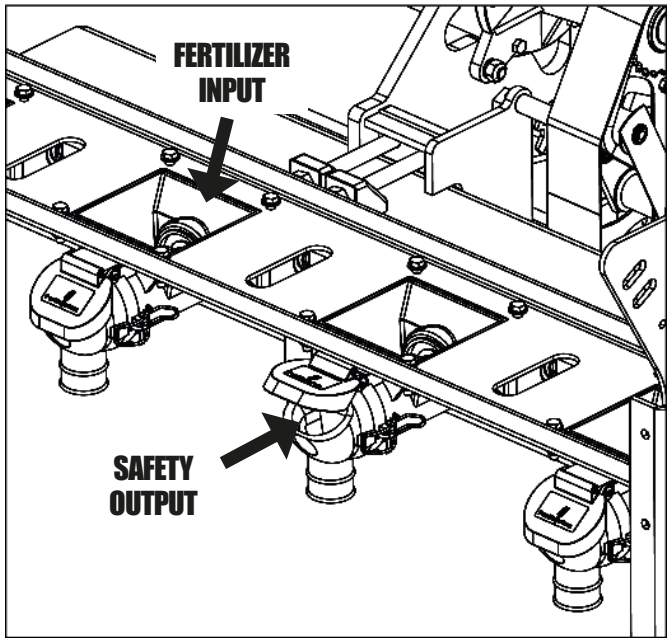
▪ Fertilizer distribution system

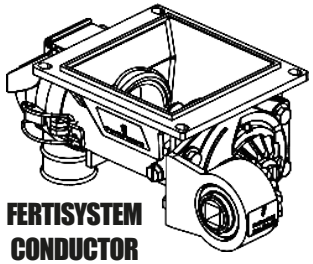
• Fertisystem fertilizer conductor

To carry the fertilizer from the dispenser to the ground, fit the spouts in degree (1) to the fertisystem conductor outlets (2) through the clips (3). Then place the hoses (4) on the nozzles in degree (1) through the lock spring (5).



The Fertisystem system has safety outputs that guarantee the proper functioning of the system without damaging it. In case of clogging of the hose and the batcher, clean the batcher until the end of the hose near the furrower rod or double disc, as the system may become clogged by roots, pieces of plastic and other objects.




FERTISYSTEM
CONDUCTOR

⚠ ATTENTION

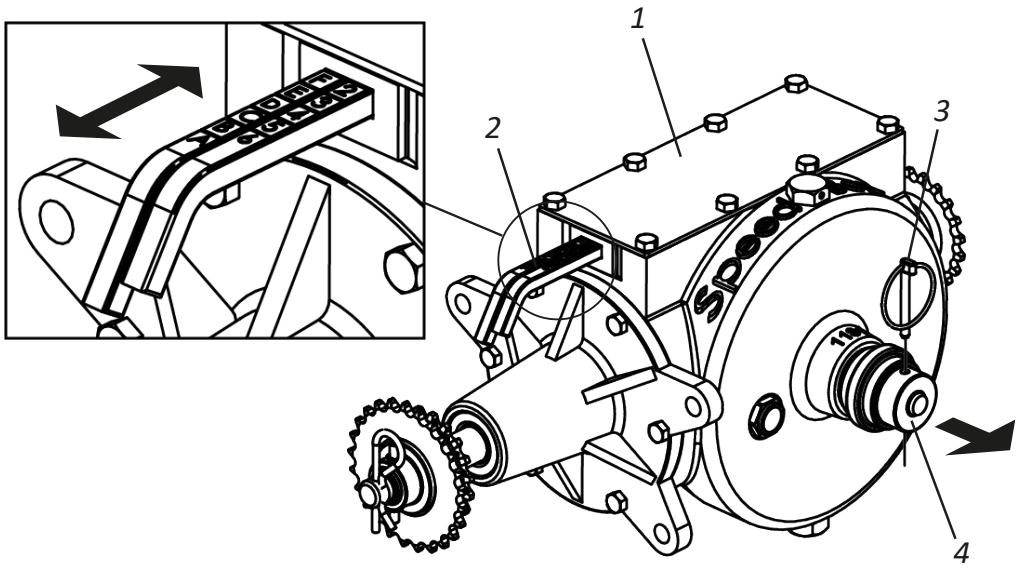
Check dispensers and hoses daily and clean their outlets. When the fertilizer has impurities or is damp, clean it more often.

▪ Fertilizer distribution system

• Speed Box

The **PPSOLO 3rd SEED BOX - TITANIUM** is equipped with the Speed Box system (1), which activates the dispensing system with simple adjustments, guaranteeing the exchange of fast rotations. To adjust the fertilizer, proceed as follows:

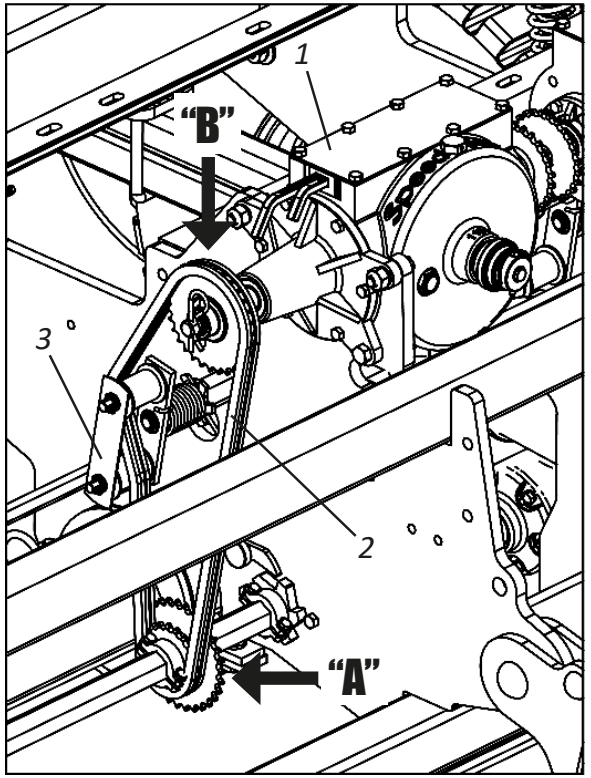
01 - Select the desired quantity in the tables and check the corresponding combination on the levers (2). **EXEMPLE:** Position **F2** nin the table, indicates that the lever with letters must be in the **"F"** position and the lever with numbers must be in the **"2"** position.



02 - To move, the levers, remove the lock (3), pull the handle (4), then adjust the levers according to the example above. When combining is complete, return the handle (4) and replace the lock (3).

• Regulation for fertilizer distribution

The fertilizer adjustment is done through the Speed Box (1). To obtain more adjustments, reverse the current in the **"A"** and moved **"B"** drive gears. After changing the gears, check the chain tension (2).



⚠ ATTENTION **When checking the chain tension (2) if more pressure is needed on the tensioner, proceed according to the instructions on page 83.**

FERTILIZER distribution table by linear meter - PPSOLO 3rd SEED BOX - BALDAN / TITANIUM															
Ratchet hex shaft gear						20	Speed Box Inlet Gear								31
Speed Box Combination	Grams 50 m	415	430	450	500	550	600	650	700	750	800	850	900	950	1000
F - 1	313	151	146	139	125	114	104	96	89	83	78	74	70	66	63
F - 2	352	170	164	157	141	128	117	108	101	94	88	83	78	74	70
E - 1	391	189	182	174	157	142	130	120	112	104	98	92	87	82	78
F - 3	402	194	187	179	161	146	134	124	115	107	101	95	89	85	80
E - 2	440	212	205	196	176	160	147	135	126	117	110	104	98	93	88
D - 1	470	226	218	209	188	171	157	144	134	125	117	110	104	99	94
F - 4	470	226	218	209	188	171	157	144	134	125	117	110	104	99	94
E - 3	503	242	234	224	201	183	168	155	144	134	126	118	112	106	101
D - 2	528	255	246	235	211	192	176	163	151	141	132	124	117	111	106
C - 1	548	264	255	243	219	199	183	169	157	146	137	129	122	115	110
F - 5	563	272	262	250	225	205	188	173	161	150	141	133	125	119	113
E - 4	587	283	273	261	235	213	196	181	168	157	147	138	130	124	117
D - 3	604	291	281	268	241	220	201	186	172	161	151	142	134	127	121
C - 2	616	297	287	274	247	224	205	190	176	164	154	145	137	130	123
B - 1	626	302	291	278	250	228	209	193	179	167	157	147	139	132	125
A - 1	704	339	328	313	282	256	235	217	201	188	176	166	157	148	141
A - 2	792	382	369	352	317	288	264	244	226	211	198	186	176	167	158
B - 3	805	388	374	358	322	293	268	248	230	215	201	189	179	169	161
C - 4	822	396	382	365	329	299	274	253	235	219	205	193	183	173	164
D - 5	845	407	393	376	338	307	282	260	241	225	211	199	188	178	169
E - 6	880	424	409	391	352	320	293	271	252	235	220	207	196	185	176
A - 3	906	436	421	402	362	329	302	279	259	241	226	213	201	191	181
B - 4	939	453	437	417	376	341	313	289	268	250	235	221	209	198	188
C - 5	986	475	459	438	394	359	329	303	282	263	247	232	219	208	197
D - 6	1056	509	491	470	423	384	352	325	302	282	264	249	235	222	211
A - 4	1056	509	491	470	423	384	352	325	302	282	264	249	235	222	211
B - 5	1127	543	524	501	451	410	376	347	322	301	282	265	250	237	225
C - 6	1233	594	573	548	493	448	411	379	352	329	308	290	274	259	247
A - 5	1268	611	590	563	507	461	423	390	362	338	317	298	282	267	254
B - 6	1409	679	655	626	563	512	470	433	402	376	352	331	313	297	282
A - 6	1585	764	737	704	634	576	528	488	453	423	396	373	352	334	317

FERTILIZER distribution table by linear meter - PPSOLO 3rd SEED BOX - BALDAN / TITANIUM															
Ratchet hex shaft gear						31	Speed Box Inlet Gear								20
Speed Box Combination	Grams 50 m	415	430	450	500	550	600	650	700	750	800	850	900	950	1000
F - 1	752	362	350	334	301	273	251	231	215	201	188	177	167	158	150
F - 2	846	408	394	376	338	308	282	260	242	226	212	199	188	178	169
E - 1	940	453	437	418	376	342	313	289	269	251	235	221	209	198	188
F - 3	967	466	450	430	387	352	322	298	276	258	242	228	215	204	193
E - 2	1058	510	492	470	423	385	353	325	302	282	264	249	235	223	212
D - 1	1128	544	525	501	451	410	376	347	322	301	282	265	251	237	226
F - 4	1128	544	525	501	451	410	376	347	322	301	282	265	251	237	226
E - 3	1209	582	562	537	483	440	403	372	345	322	302	284	269	254	242
D - 2	1269	612	590	564	508	461	423	390	363	338	317	299	282	267	254
C - 1	1316	634	612	585	526	479	439	405	376	351	329	310	292	277	263
F - 5	1354	652	630	602	541	492	451	417	387	361	338	319	301	285	271
E - 4	1410	680	656	627	564	513	470	434	403	376	353	332	313	297	282
D - 3	1450	699	675	645	580	527	483	446	414	387	363	341	322	305	290
C - 2	1481	714	689	658	592	538	494	456	423	395	370	348	329	312	296
B - 1	1504	725	700	668	602	547	501	463	430	401	376	354	334	317	301
A - 1	1692	815	787	752	677	615	564	521	483	451	423	398	376	356	338
A - 2	1904	917	885	846	761	692	635	586	544	508	476	448	423	401	381
B - 3	1934	932	899	859	774	703	645	595	553	516	483	455	430	407	387
C - 4	1974	951	918	877	790	718	658	607	564	526	494	465	439	416	395
D - 5	2031	979	944	902	812	738	677	625	580	541	508	478	451	427	406
E - 6	2115	1019	984	940	846	769	705	651	604	564	529	498	470	445	423
A - 3	2176	1048	1012	967	870	791	725	669	622	580	544	512	483	458	435
B - 4	2256	1087	1049	1003	902	820	752	694	645	602	564	531	501	475	451
C - 5	2369	1142	1102	1053	948	861	790	729	677	632	592	557	526	499	474
D - 6	2538	1223	1181	1128	1015	923	846	781	725	677	635	597	564	534	508
A - 4	2538	1223	1181	1128	1015	923	846	781	725	677	635	597	564	534	508
B - 5	2707	1305	1259	1203	1083	985	902	833	774	722	677	637	602	570	541
C - 6	2961	1427	1377	1316	1184	1077	987	911	846	790	740	697	658	623	592
A - 5	3046	1468	1417	1354	1218	1108	1015	937	870	812	761	717	677	641	609
B - 6	3384	1631	1574	1504	1354	1231	1128	1041	967	902	846	796	752	712	677
A - 6	3807	1835	1771	1692	1523	1384	1269	1171	1088	1015	952	896	846	802	761

▪ Calculation

• Practical calculation for fertilizer dispensing

01 - Determine the spacing between lines and the amount of fertilizer to be distributed per bushel (Aa) or hectare (Ha).
02 - **Example:** Seeder with a spacing of 450 mm, to distribute 500 kg of fertilizer per Ha, use the formula below:

Formula: $X = \frac{E \times Q}{A} \times D$

WHERE:

E = Spacing bertween lines (mm)
Q = Amount of fertilizer to be distributed (kg)
A = Area to be fertilized (m^2)
D = 50 meters distance (test)
X = Fertilizer grams to 50 meters

Resolve: $X = \frac{450 \times 500}{10.000} \times 50$

X = 22.50 x 50 = 1125

X = 1125 grams to 50 meters per line

• Practical test to measure the amount of fertilizer and seed dispensing

01 - For greater precision in the dispensing of fertilizer or seed, make the test of the amount to be distributed at the place of planting, because there is a condition for each terrain.
02 - Mark the test distance in the table, we opted for 50 linear meters.
03 - Fill the tanks of the seeder at least halfway. Run an average of 10 meters outside the test area so that the fertilizer and seeds fill the batchers.
04 - Seal the exit from the seed nozzles and place collection receptacles on the manure exits. Move the tractor in the demarcated area, always at the same speed you will plant, from 5 to 6 km/h.
05 - After going through the demarcated space, remove the seed nozzle seal and collect them for counting and also collect the fertilizer for weighing the amount collected. If necessary, increase or decrease the amount of seed and fertilizer to be distributed, check the table.

⚠ ATTENTION **We suggest that a practical test be carried out on the dispensing of the fertilizer and seed, over 50 m, to later compare the results of the fertilizer and the seed.**

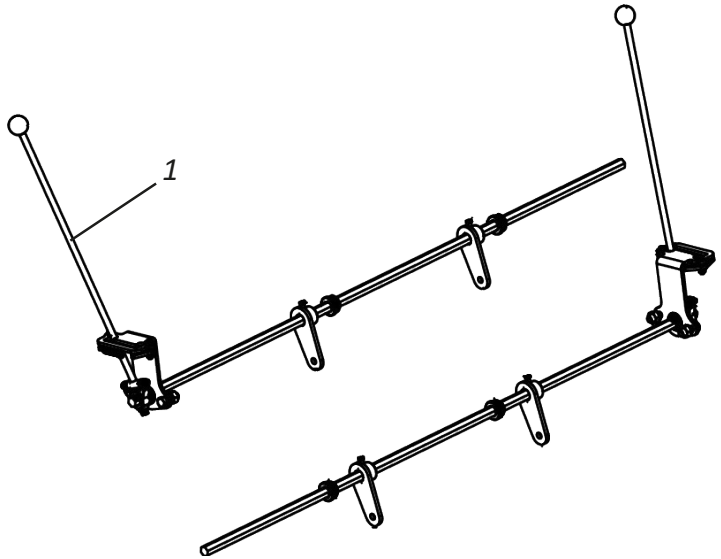
▪ Trimming system

The mechanical or hydraulic trimming systems allow planting with only one side of the seeder, that is, half the lines.

• Mechanical trimming system

To activate the mechanical trimming system, proceed as follows:

01 - Choose the side of the seeder to be trimmed.
02 - Then, with the tractor and the seeder stopped, manually activate the lever (1) for the chosen side.



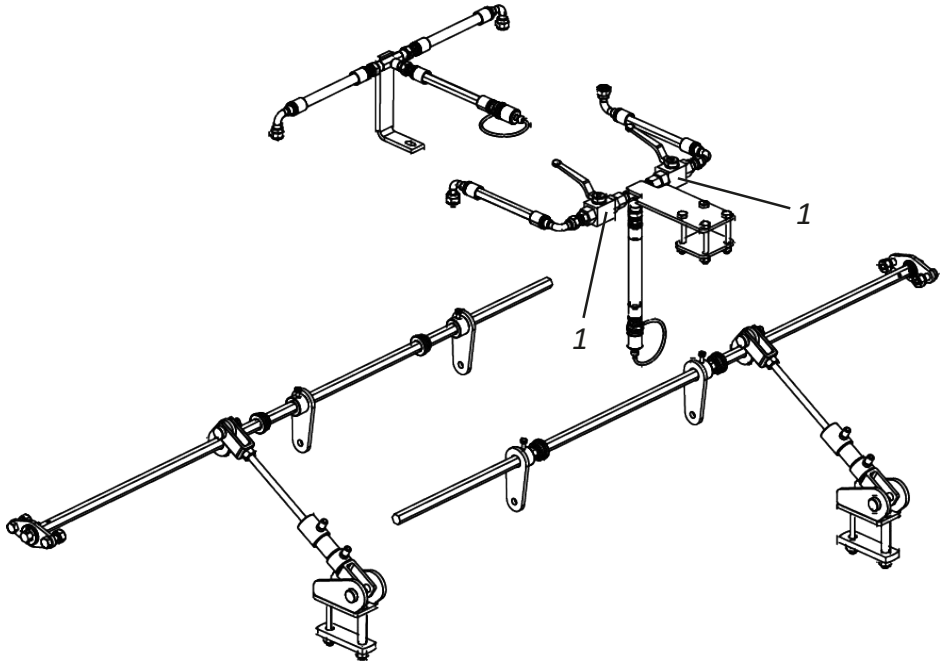
⚠ ATTENTION

Do not operate the trimming system with the tractor and the seeder in motion. Ignoring this warning could result in serious accidents or death.

• Hydraulic trimming system (Optional)

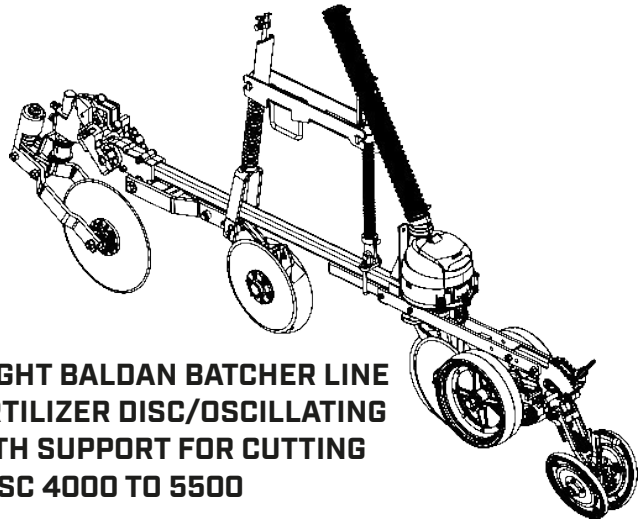
The hydraulic trimming system allows the tractor operator, through a simple operation, to activate it without the need to leave the tractor. This activation is done through the tractor's remote control lever. To start the hydraulic system, proceed as follows:

01 - Choose the side of the seeder to be trimmed.
02 - Then, close the valve (1) referring to the opposite side of the chosen one.
03 - Then, activate the remote control lever of the tractor.

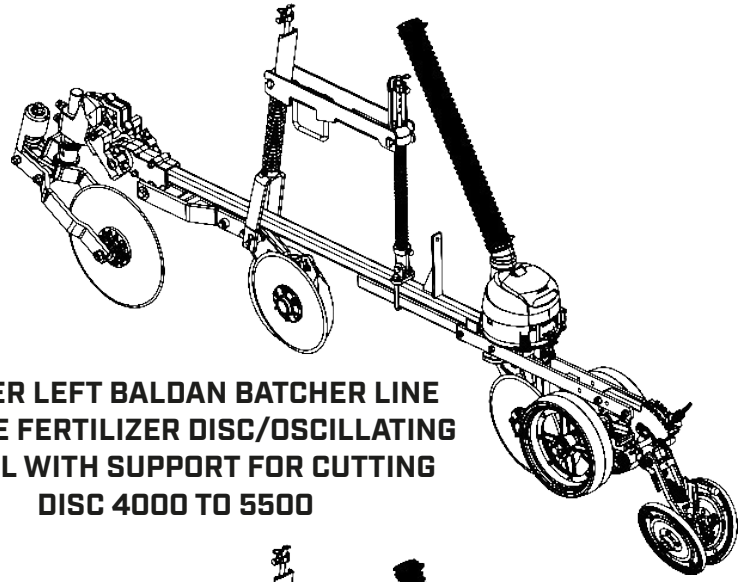


Planting lines

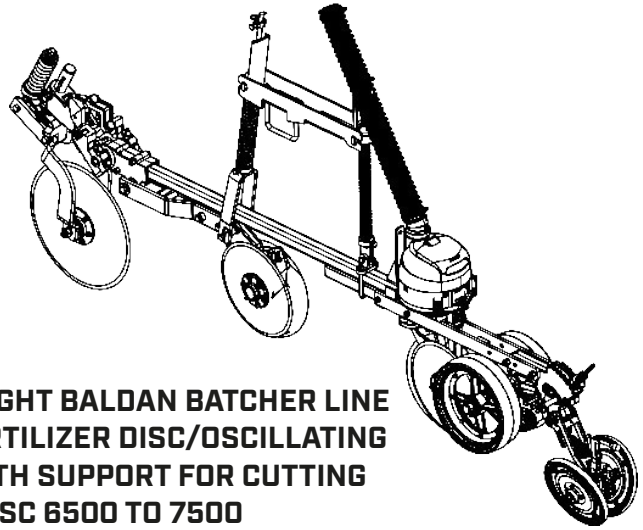
• Planting line models - Parte I



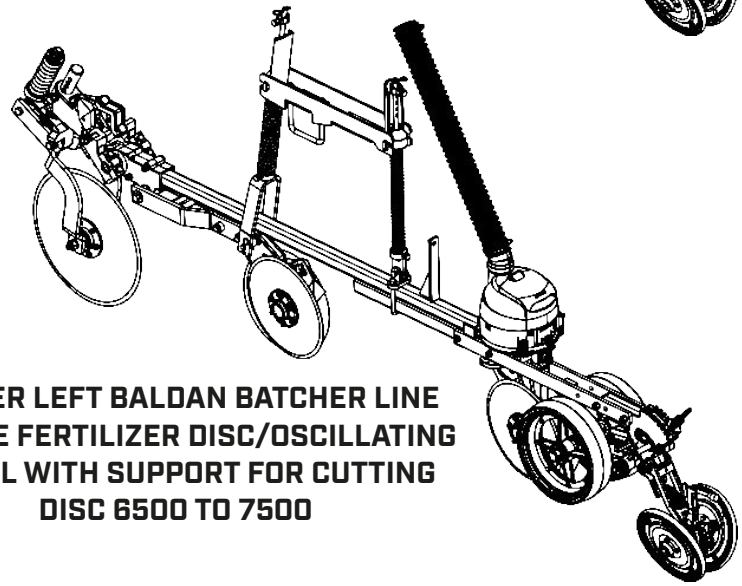
SMALLER RIGHT BALDAN BATCHER LINE DOUBLE FERTILIZER DISC/OSCILLATING WHEEL WITH SUPPORT FOR CUTTING DISC 4000 TO 5500



LARGER LEFT BALDAN BATCHER LINE DOUBLE FERTILIZER DISC/OSCILLATING WHEEL WITH SUPPORT FOR CUTTING DISC 4000 TO 5500



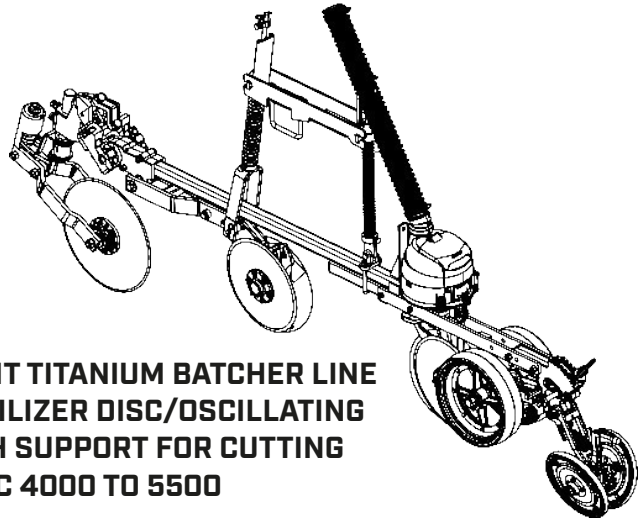
SMALLER RIGHT BALDAN BATCHER LINE DOUBLE FERTILIZER DISC/OSCILLATING WHEEL WITH SUPPORT FOR CUTTING DISC 6500 TO 7500



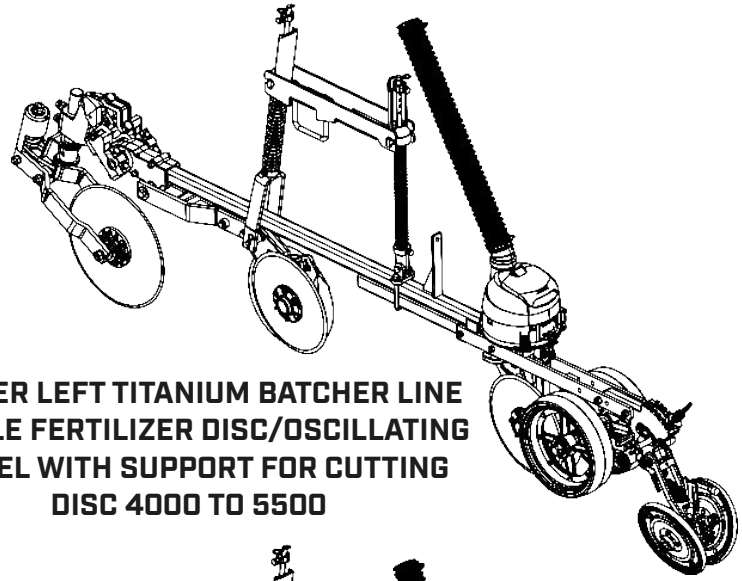
LARGER LEFT BALDAN BATCHER LINE DOUBLE FERTILIZER DISC/OSCILLATING WHEEL WITH SUPPORT FOR CUTTING DISC 6500 TO 7500

▪ Planting lines

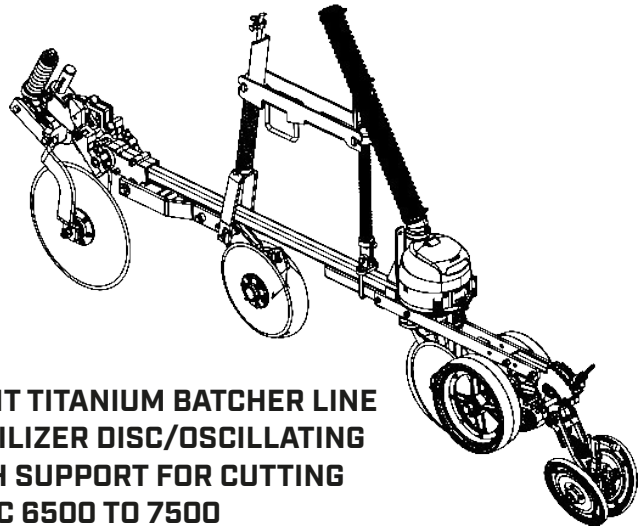
• Planting line models - Parte II



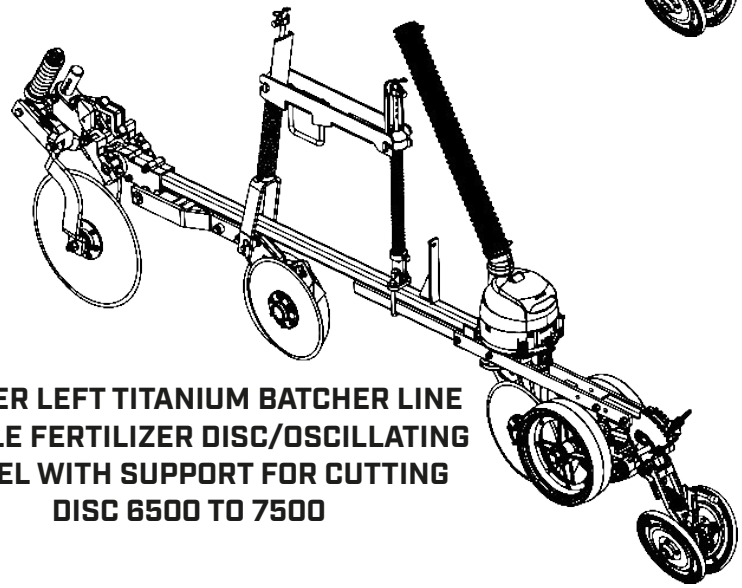
SMALLER RIGHT TITANIUM BATCHER LINE DOUBLE FERTILIZER DISC/OSCILLATING WHEEL WITH SUPPORT FOR CUTTING DISC 4000 TO 5500



LARGER LEFT TITANIUM BATCHER LINE DOUBLE FERTILIZER DISC/OSCILLATING WHEEL WITH SUPPORT FOR CUTTING DISC 4000 TO 5500



SMALLER RIGHT TITANIUM BATCHER LINE DOUBLE FERTILIZER DISC/OSCILLATING WHEEL WITH SUPPORT FOR CUTTING DISC 6500 TO 7500



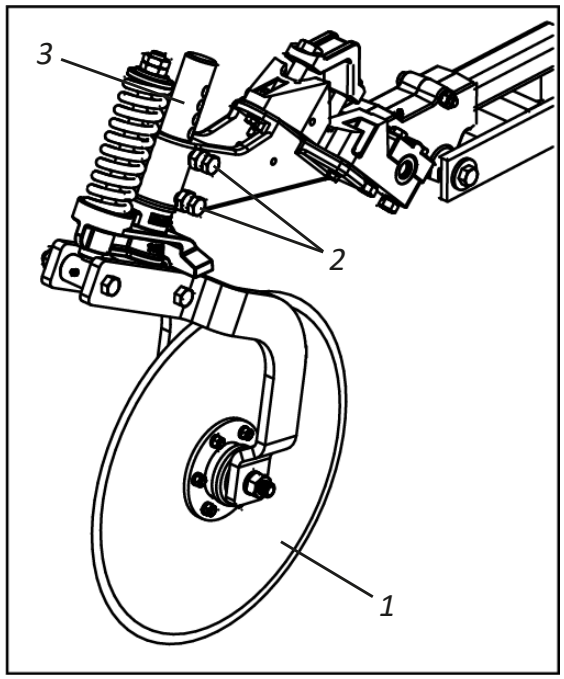
LARGER LEFT TITANIUM BATCHER LINE DOUBLE FERTILIZER DISC/OSCILLATING WHEEL WITH SUPPORT FOR CUTTING DISC 6500 TO 7500

▪ Adjusting the lines

• Adjusting the cutting disc depth

To adjust the depth of the cutting disc (1), proceed as follows:

01 - Loosen the screws (2) and move the shaft (3) to the desired adjustment.
02 - Then, retighten the screws (2).



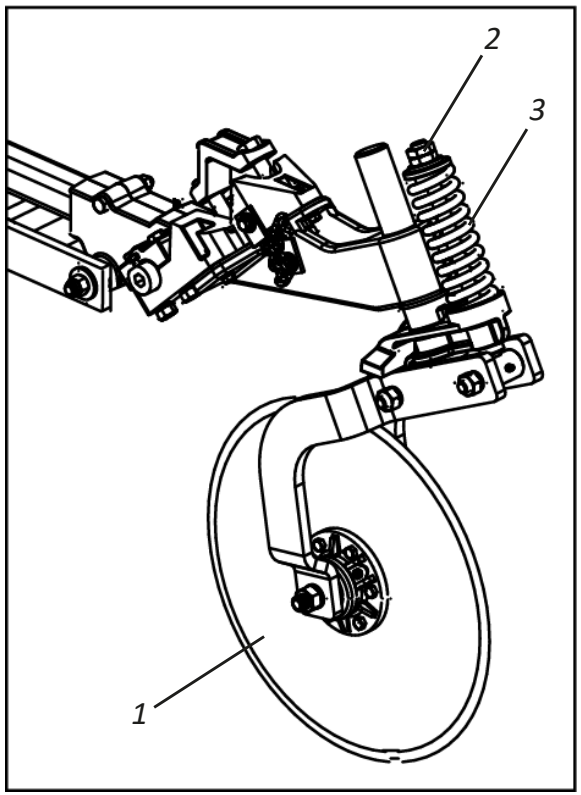
⚠ ATTENTION | **When adjusting the pressure of the cutting disc, take care not to cancel the articulating action of the cutting disc.**

• Adjusting the cutting disc pressure

To adjust the pressure of the cutting disc (1), proceed as follows:

01 - Turn the nut (2) clockwise to increase pressure on the spring (3).
02 - Turn the nut (2) counterclockwise to decrease pressure on the spring (3).

PRESSURE REGULATION
(+) INGREASED SPRING PRESSURE:
INCREASED PRESSURE OF CUTTING DISC IN THE SOIL.
(-) DECREASED SPRING PRESSURE:
DECREASED PRESSURE OF CUTTING DISC IN THE SOIL.



❗ IMPORTANT | **The depth and pressure adjustments of the cutting disc must be made in the field before starting work, observing the type of soil to be worked, to obtain a better performance of the seeder.**

▪ Adjusting the lines

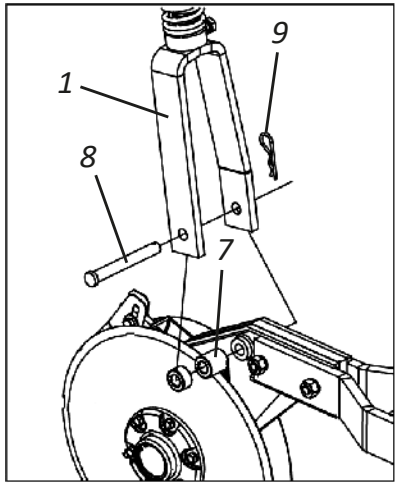
• Adjusting the ridge opening and fertilizer position in the soil

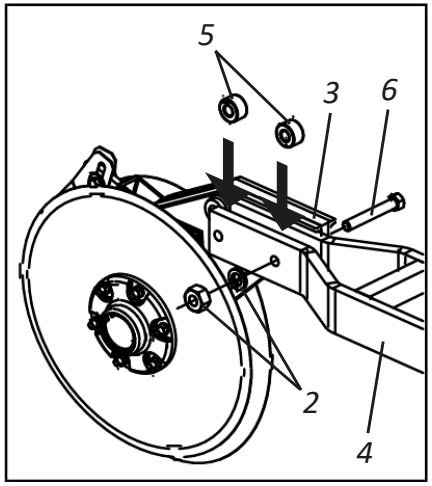
The opening of the ridge in the soil for the fertilizer to be deposited is done by double discs or ridgers in the following systems:

- SIDE FERTILIZATION AND BELOW THE SEED.
- FERTILIZATION IN THE SAME LINE AND BELOW THE SEED.

To adjust the distance between the fertilizer line and the seed line, proceed as follows:

01 - Remove the spring rod (1), loosen the nuts and washers (2), remove the housing (3) that is between the fork plates (4), pass it to one side of the fork, place the bushings (5) between the fork plates and secure with screws (6), washers, and nuts (2). Then, replace the spring rod (1), placing the bushings (7) on the same side as the housing was moved, securing with the pin (8) and the lock (9).

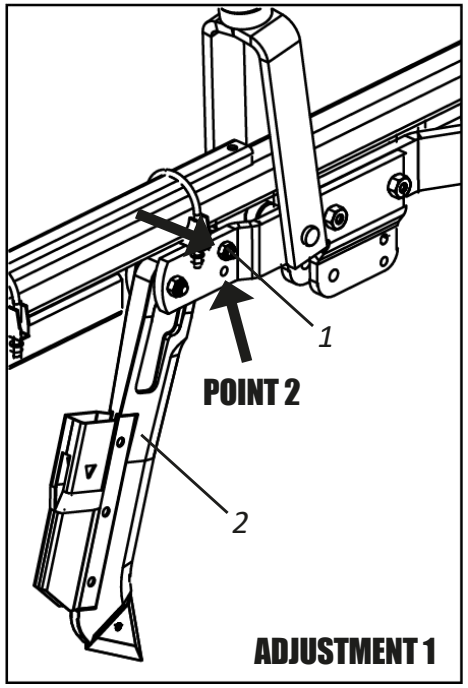


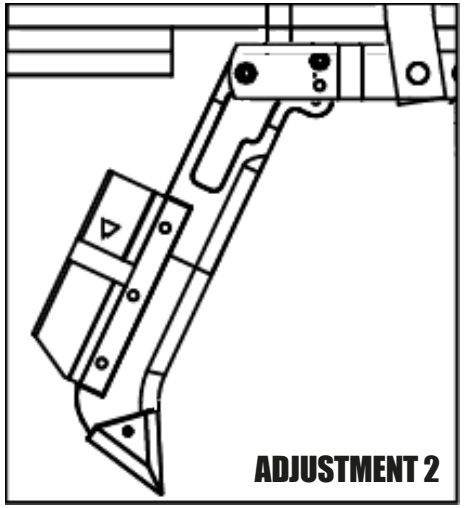


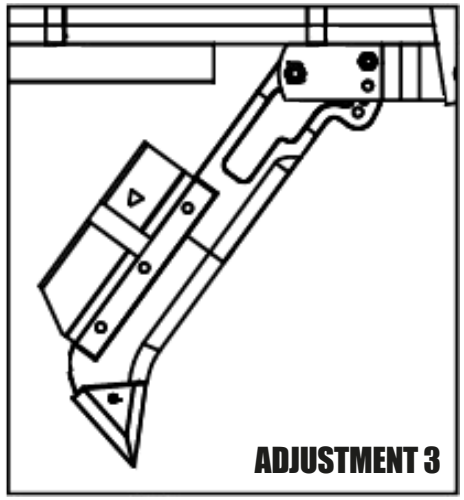
• Ridger attack angle adjustment

To adjust the angle of attack of the ridger, proceed as follows:

01 - Remove the screw (1), articulate the ridger (2) in the ideal setting and replace the screw (1).







IMPORTANT

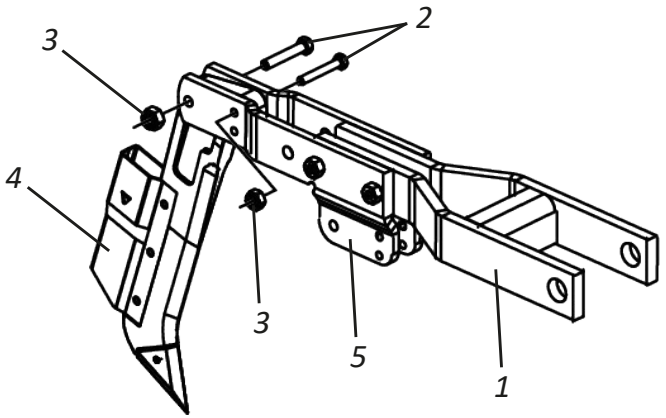
When the adjustment is finished, repeat the procedure on all lines, avoiding variation between them.

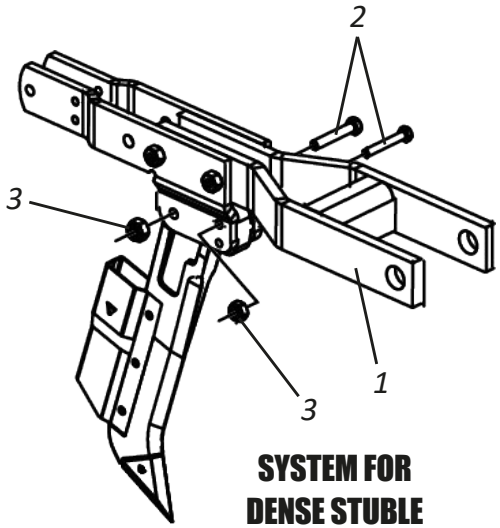
▪ Adjusting the lines

• Adjusting the smaller ridger for greater or lesser mismatch (Optional)

The planting lines of **PPSOLO AIR 3rd SEED BOX - TITANIUM**, may be purchased with a smaller ridge (1). This ridger is used in cases where the stubble is dense, increasing the mismatch of ridgers, providing greater flow. To adjust the ridger with adjustable deflector (1), proceed as follows:

01 - Loosen the screws (2) and nuts (3).
02 - Then remove the ridger (4) and place it on the front of the support (5).
03 - Then, secure it again with the screws (2) and nuts (3).

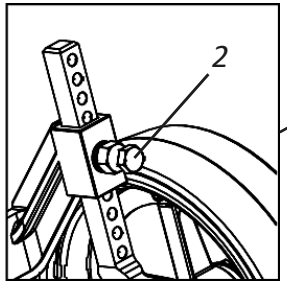


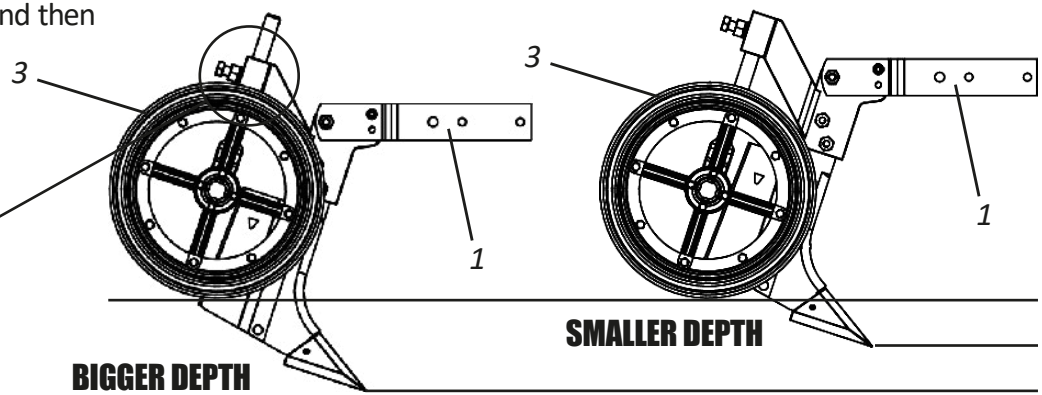


• Adjusting the ridger with depth wheel (Optional)

The planting lines of the **PPSOLO AIR 3rd SEED BOX - TITANIUM**, can be purchased with a ridger with a depth wheel (1). The depth wheel of this ridger is used to control depth uniformity of the deposit in the soil. To adjust the plow with depth wheel (1), proceed as follows:

01 - Loosen the screw (2), adjust the depth wheel (3) according to your work needs and then tighten the screw (2) again, locking it.





IMPORTANT

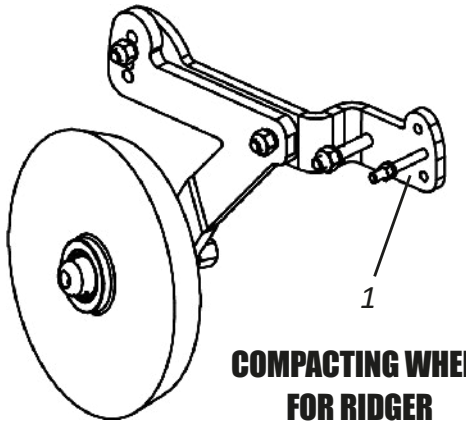
When finishing the adjustment, repeat the procedure on all lines, avoiding variation between them.

▪ Adjusting the lines

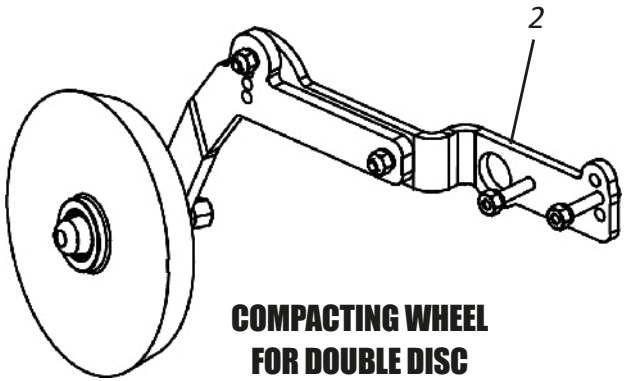
• Adjustment of compacting wheels for ridger or double disc (Optional)

The planting lines of the **PPSOLO AIR 3rd SEED BOX - TITANIUM**, seeder can be purchased with a "ridge covering" compactor wheel for ridger (1) or for double disc (2). The ridger or double disc compacting wheels are used to cover the ridge, where a better uniformity is obtained in the seed deposit and the depth of the fertilizer deposit in the soil. To adjust the "ridge cover" compactor wheel for ridger or double disc, proceed as follows:

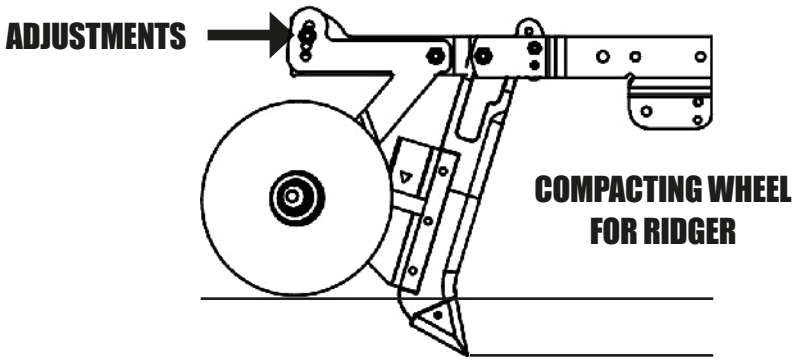
01 - Loosen the screw (3), pressure washer (4) and nut (5).
02 - Then, articulate the "ridge cover" compactor wheel (6) in the ideal setting according to your work needs.

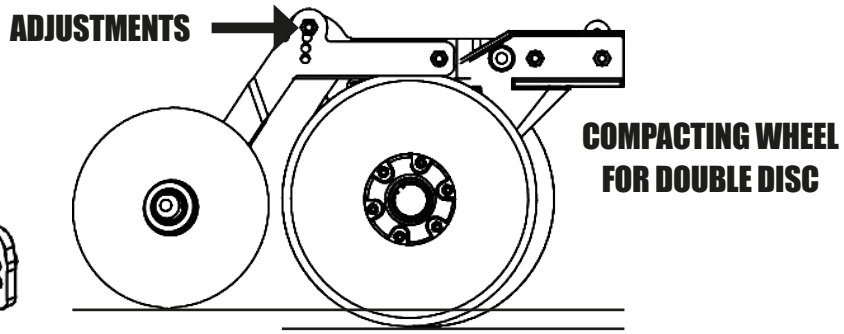


COMPACTING WHEEL FOR RIDGER



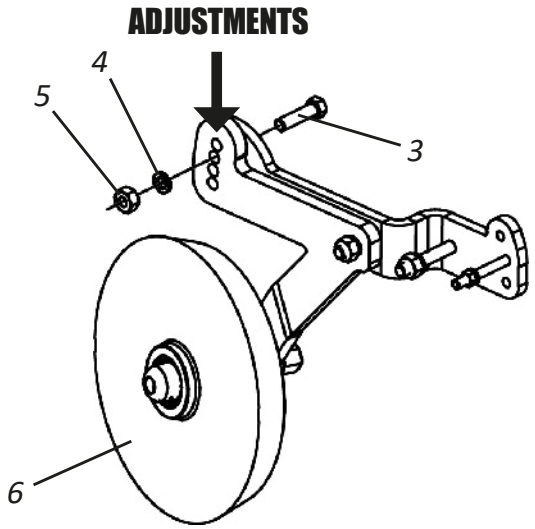
COMPACTING WHEEL FOR DOUBLE DISC





⚠ ATTENTION | Check the compactor wheel models for each line model on page 113.

03 - Then, fix the "ridge cover" compactor wheel (6) again with the screw (3), pressure washer (4) and nut (5).



❗ IMPORTANT

When finishing the adjustment, repeat the procedure on all lines, avoiding variation between them.

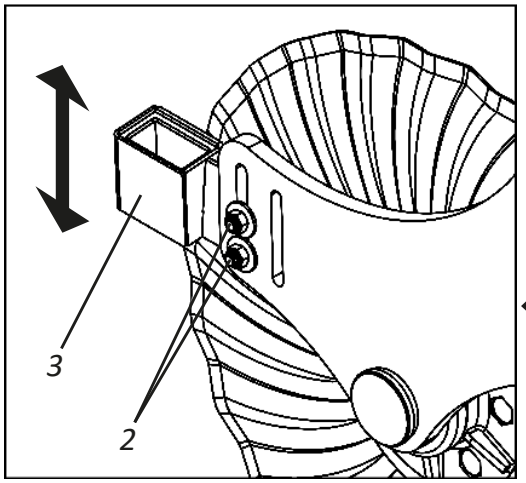
▪ Adjusting the lines

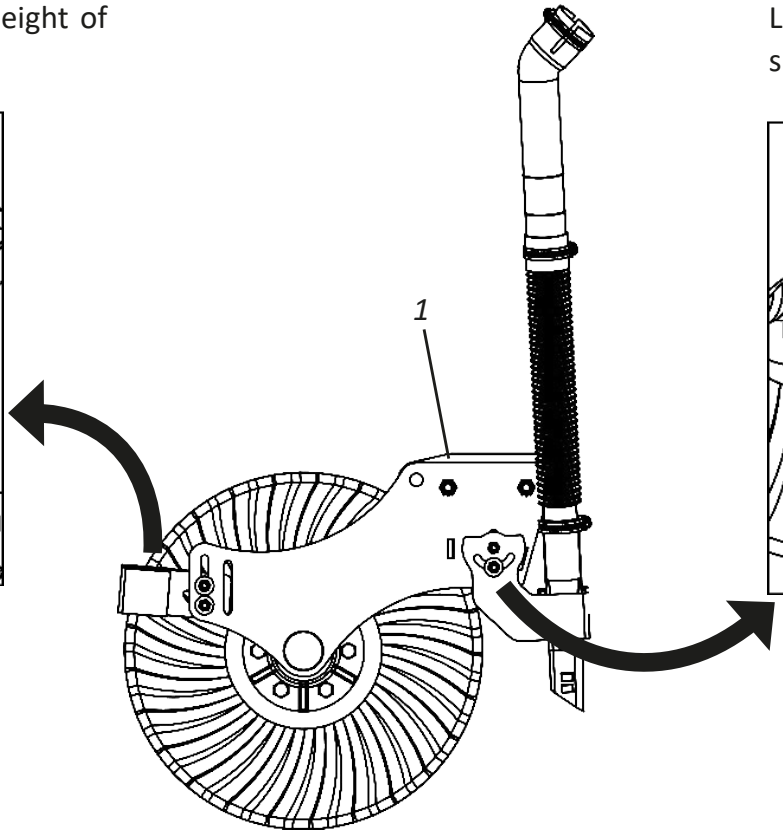
• Fertilizer turbo disc cart adjustment (Optional)

The **PPSOLO 3rd SEED BOX - TITANIUM** planting lines can be purchased with a fertilizer turbo disc cart (1). The fertilizer turbo disc cart is used for surface fertilization, which can be in front of or behind the turbo disc. To adjust the fertilizer turbo disc cart, proceed as follows:

ADJUSTMENT BEHIND THE TURBO DISC:

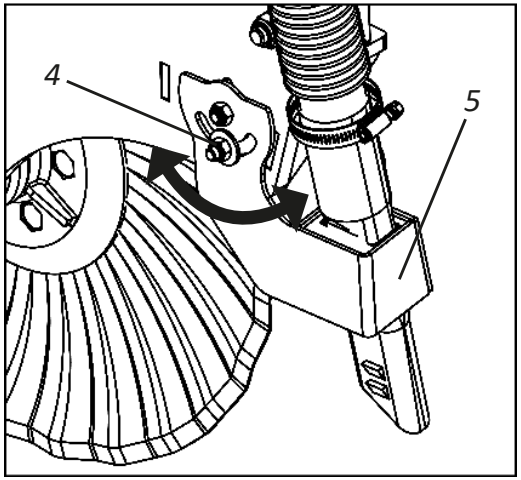
Loosen the nuts (2) and adjust the height of the spout fixing bracket (3).





ADJUSTMENT IN FRONT OF THE TURBO DISC:

Loosen the nut (4) and adjust the angle of the spout fixing bracket (5).



! IMPORTANT

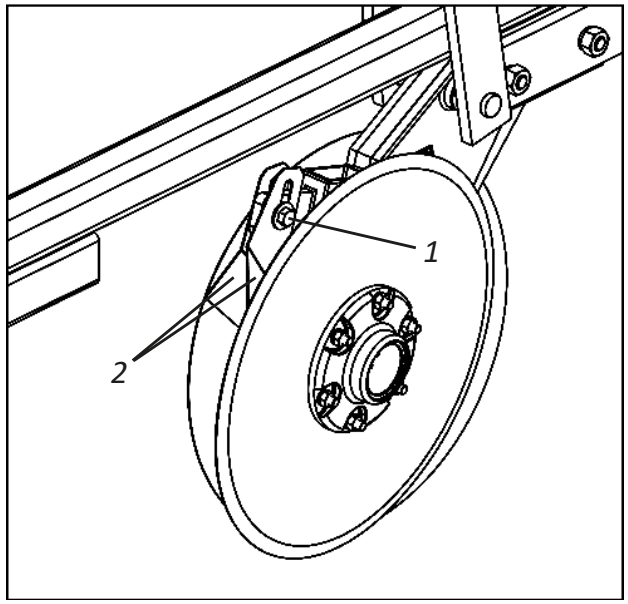
When you have finished adjusting, repeat the procedure on all lines, avoiding variations between them.

▪ Adjusting the lines

• Double disc cleaners adjustment

The double disc features flexible, adjustable wipers to remove dirt adhering to the discs. To adjust the wipers, proceed as follows:

01 - Loosen the screw (1), adjust the cleaners (2) in the ideal position and retighten the screw.



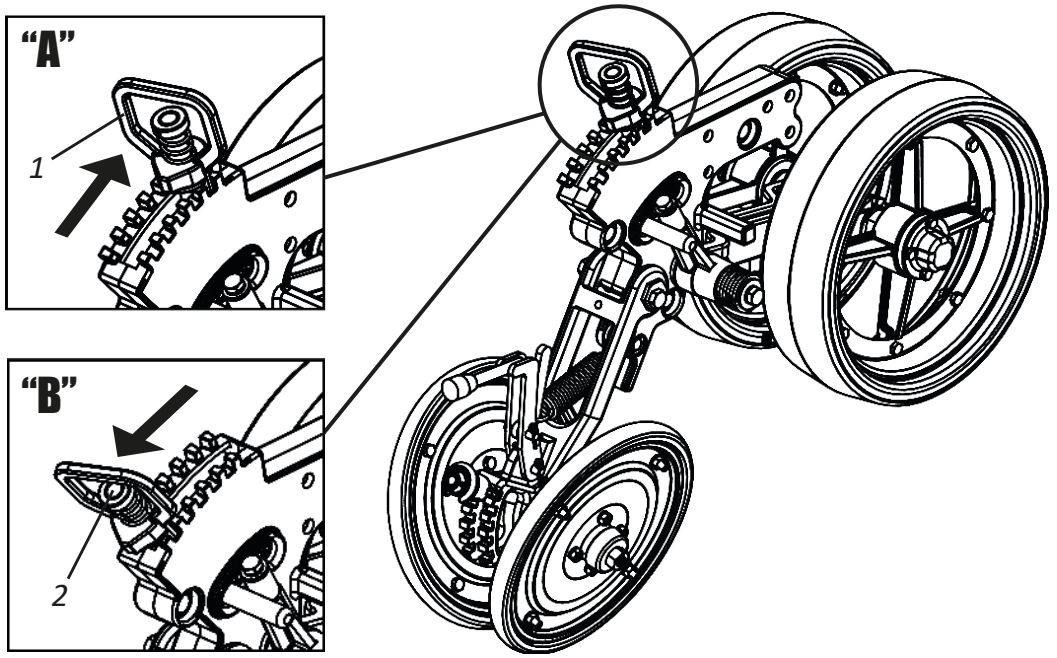
IMPORTANT

When finishing the adjustment, repeat the procedure on all Rows, avoiding variation between them.

• Adjusting the oscillating depth wheel

The limiting wheels with oscillating depth, have a single support point that allows their oscillation, if an obstacle or irregularities appears in the ground in their path they will rise to overcome it, immediately returning to the initial position without lifting the double disc from its position. The seed depth is set individually by the depth limiting wheels. For this adjustment, proceed as follows:

01 - Pull the handle (1) up, move the regulator (2) to the desired point, adjusting the depth wheel (3), then lower the handle (1) locking the regulator (2).



NOTE **The oscillating cart offers a total of 11 adjustment points, 6 in the "A" direction and 5 in the "B" direction interspersed.**

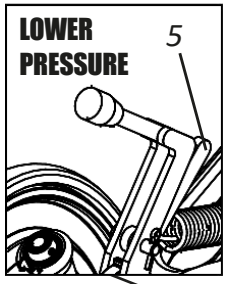
▪ Adjusting the lines

• Adjusting the "V" compactor wheel - Part I

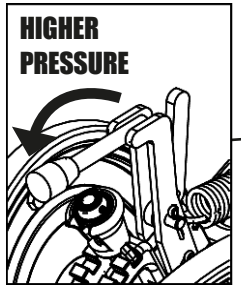
The "V" compacting wheels (1) are used to close the ridge laterally, causing the soil to be immediately placed over the seed, avoiding excess compaction and removing air pockets, facilitating germination and plant development. To adjust the greater or lesser angle of closing of the "V" compacting wheels (1), pull the handle (2) upwards, move the regulator (3) to the desired point, then lower the handle (2) locking the regulator (3). The "V" compacting wheels have 5 adjustment points.

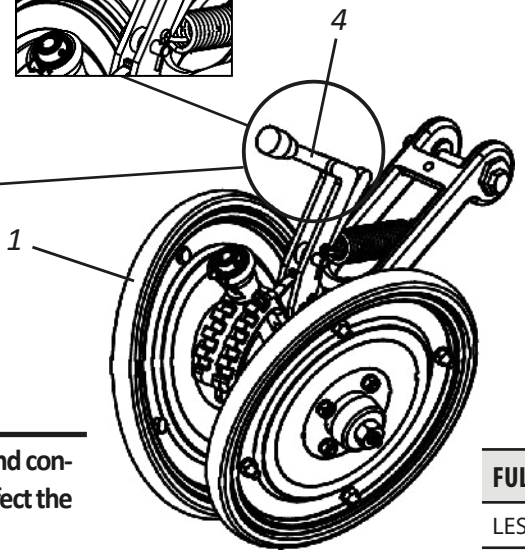
HIGHER PRESSURE:	SHIFT THE HANDLE (2) BACK, GIVING MORE PRESSURE TO THE WHEEL (1).
LOWER PRESSURE:	SHIFT THE HANDLE (2) FORWARD, GIVING LESS PRESSURE TO THE WHEEL (1).

The "V" compactor wheel (1) can also be adjusted to its pressure using the lever (4), **as shown in the figure below.**



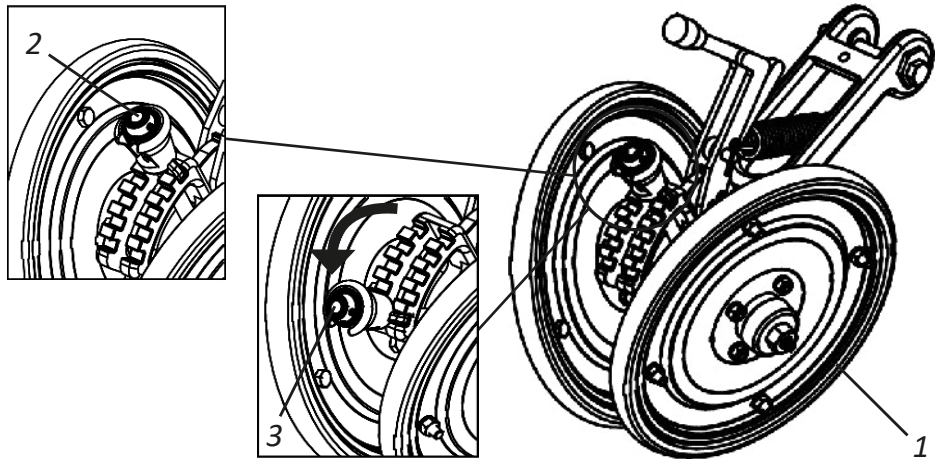
HIGHER PRESSURE:
MOVE THE LEVER (4) BACKWARDS, GIVING MORE PRESSURE ON THE WHEEL (1).
LOWER PRESSURE:
TIGHTEN THE LEVER (5) SHIFT THE LEVER (4) FORWARD, GIVING LESS PRESSURE ON THE WHEEL (1).



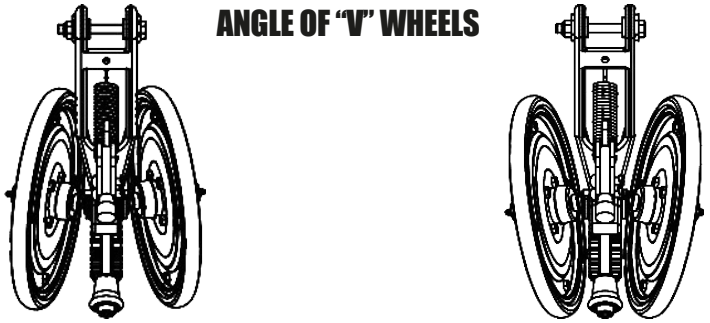


⚠ ATTENTION

Make the same adjustment for all "V" compacting wheels and consider the type of soil, seed and planting depth, so as not to affect the free emergence of the plants.



ANGLE OF "V" WHEELS



FULLY CLOSED ANGLE POSITION
LESS EARTH OVER THE SEED.

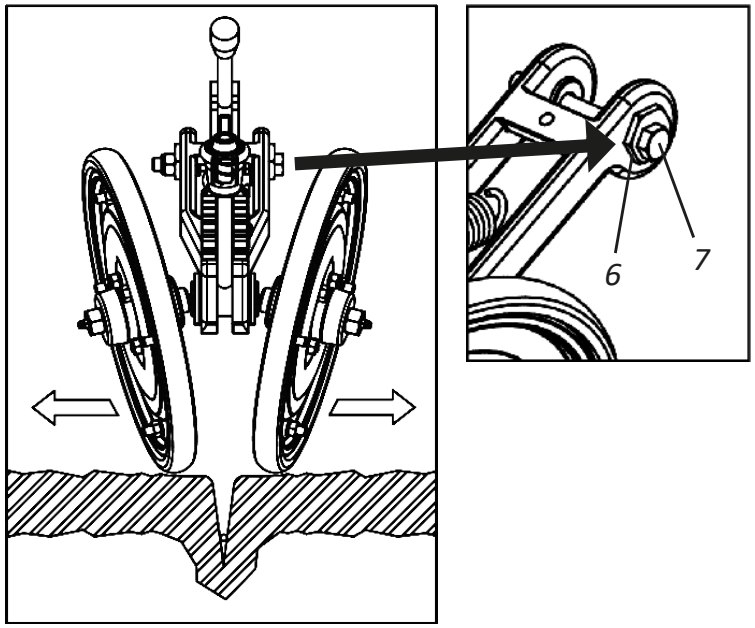
POPEN ANGLE POSITION
MORE EARTH OVER THE SEED.

▪ Adjusting the lines

• Adjusting the "V" Compactor Wheel Part II

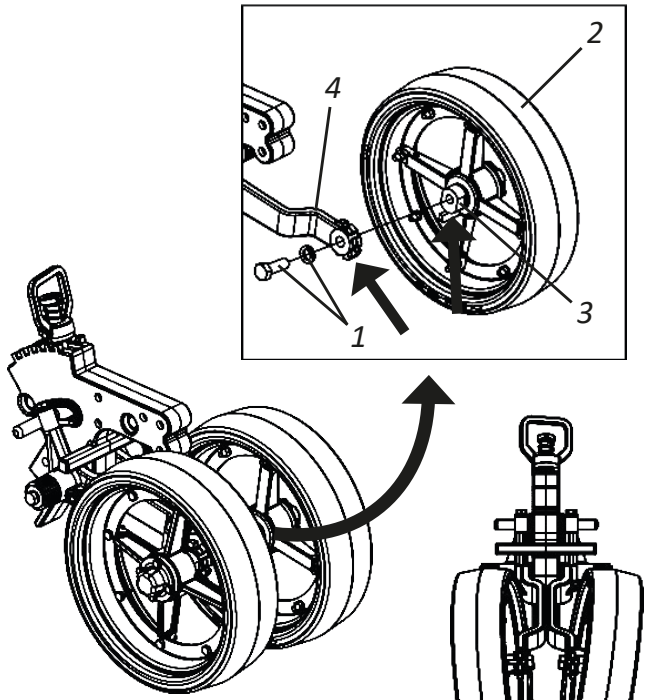
For horizontal displacement of the wheels, they were developed with eccentric bushings (5). For this adjustment, proceed as follows:

01 - Loosen the screws (7), rotate the said bushings (6), with a spanner to actuate the wheels and align them with the ridge, placing more or less soil on the side of the seed.



• Adjusting the oscillating depth wheel angle

The angle of the depth limiting wheels (1) has the purpose of pressing the ridge causing the soil to be immediately replaced on the seed, avoiding excessive compaction, facilitating the germination and development of the plant. To obtain the adjustments on the wheels, proceed as follows:

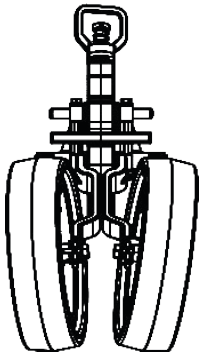


01 - Loosen the screws and washers (1), remove the wheel (2), adjust the wheel adjustment point (3) on the wheel support shaft adjustment (4), then secure the wheel (2) again with the washers and screws (1).

⚠ ATTENTION

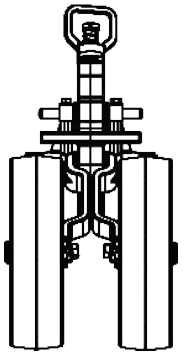
Do the same procedure for the other wheel support (4) and for all wheels with oscillating depth.

WHEEL ANGLE



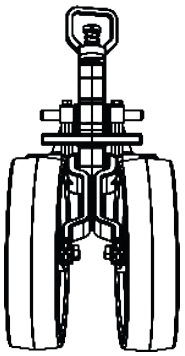
FULLY CLOSED ANGLE POSITION

LESS EARTH OVER THE SEED.



PARALLEL POSITION

FOR DEPTH CONTROL ONLY.



OPEN ANGLE POSITION

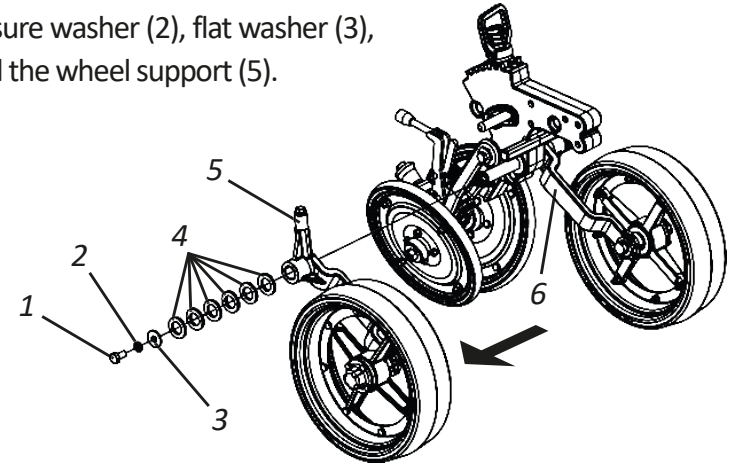
MORE EARTH OVER THE SEED.

▪ Adjusting the lines

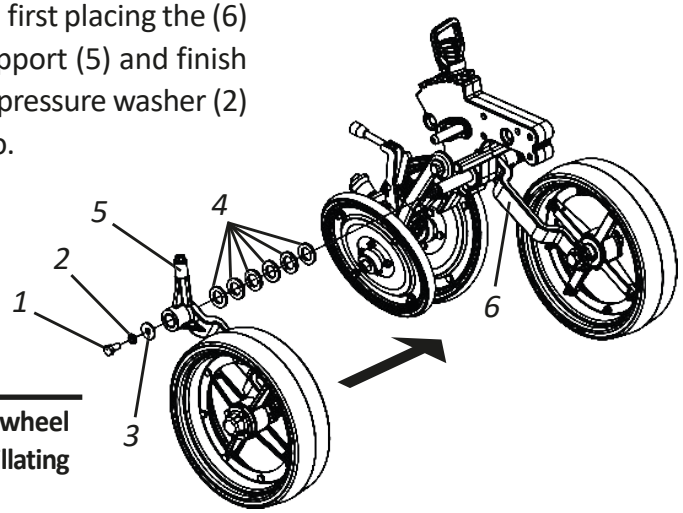
• Opening adjustment of the oscillating depth wheel

The oscillating depth wheels have an opening and closing system to better adapt to terrains with dense stubble or with higher an d lower humidity. The oscillating depth wheels leave the factory in the closed position. To open the wheels with oscillating depth, proceed as follows:

01 - Loosen the screw (1), pressure washer (2), flat washer (3), remove the 6 shims (4) and the wheel support (5).

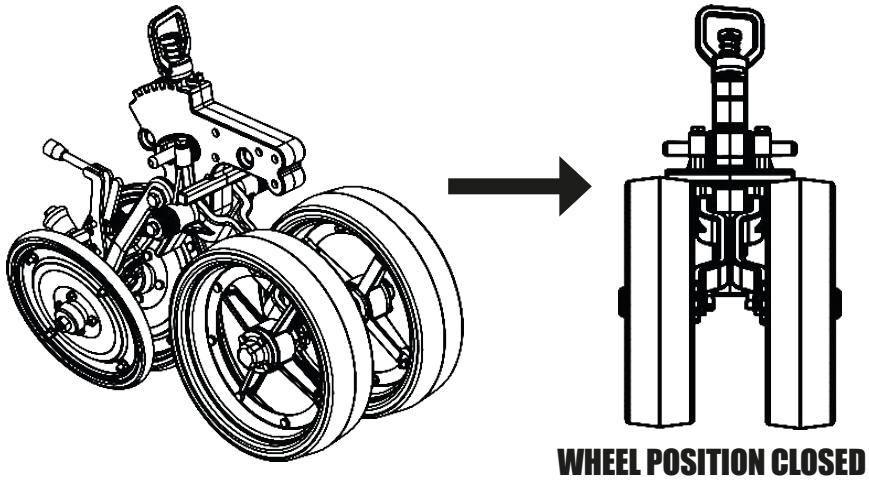


02 - Then, do the reverse process, first placing the (6) blocks (4) then the wheel support (5) and finish by placing the flat washer (3) pressure washer (2) and the screw (1) tightening-o.

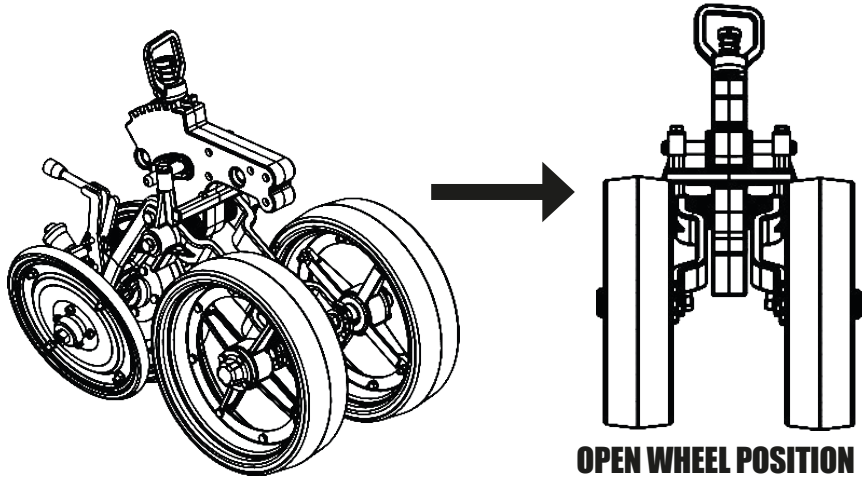


NOTE

Do the same procedure for the other wheel support (6) and for all wheels with oscillating depth.



WHEEL POSITION CLOSED



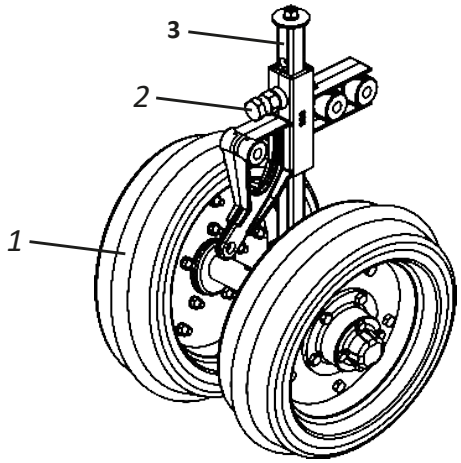
OPEN WHEEL POSITION

▪ Adjusting the lines

• Oscillating depth wheel opening adjustment (Optional)

The seed depth control is individually adjusted by the depth limiter wheels (1). To obtain these adjustments, proceed as follows:

01 - Loosen the screw (2), make the ideal adjustment by raising or lowering the perforated bar (3). Then retighten the screw (2).



⚠ ATTENTION

Do the same procedure for the other wheel support (4) and for all the oscillating depth wheels.

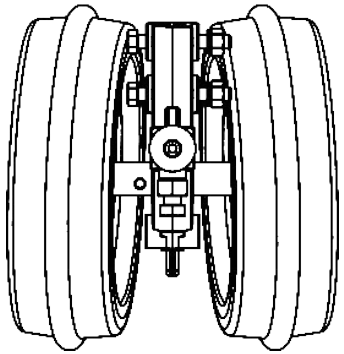
• Depth gauge wheel angle adjustment (Optional)

The angle of the depth-limiting wheels (1) is intended to press the furrow, causing the soil to be immediately replaced over the seed, aiding compaction through angular adjustment, facilitating germination and plant development.

The wheels are fixed to an axle with angled ends (2), specially designed to allow compaction, depth control and burying of the seed.

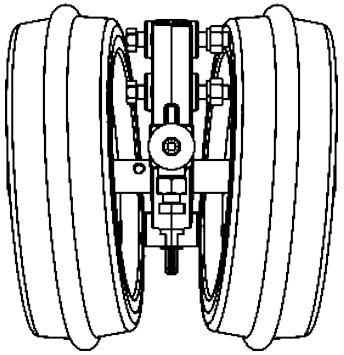
To obtain these adjustments on the wheel, loosen the nut (3) and turn the axle (2), observing the wheel movements.

WHEEL ANGLE



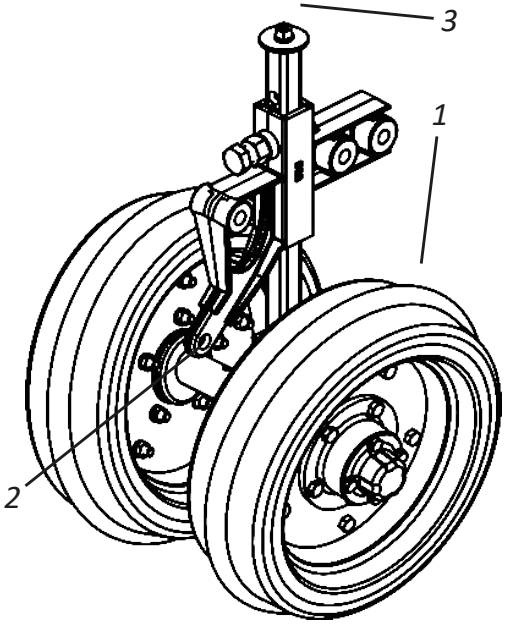
FULLY CLOSED ANGLE POSITION

LESS SOIL ON THE SEED.



FULLY OPEN ANGLE POSITION

MORE SOIL ON THE SEED



⚠ ATTENTION

When you have finished adjusting, repeat the procedure for all rows, avoiding variations between them. Consider the type of soil, seed and planting depth, so as not to affect the free emergence of the plants.

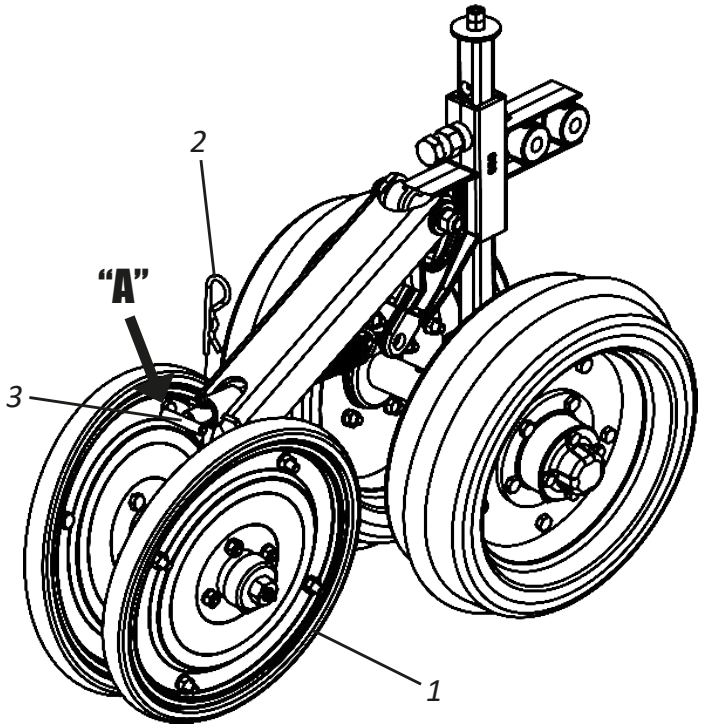
▪ Adjusting the lines

• Adjustment of the compacting wheels in "V" (Eccentric) - (Optional)

The purpose of the compacting wheels (smooth, concave and convex) is to press the furrow, causing the soil to be immediately placed over the seed. It is possible to adjust the pressure to obtain the ideal compaction according to the type of soil, facilitating the germination of the plant. To adjust the pressure of the compacting wheels, proceed as follows:

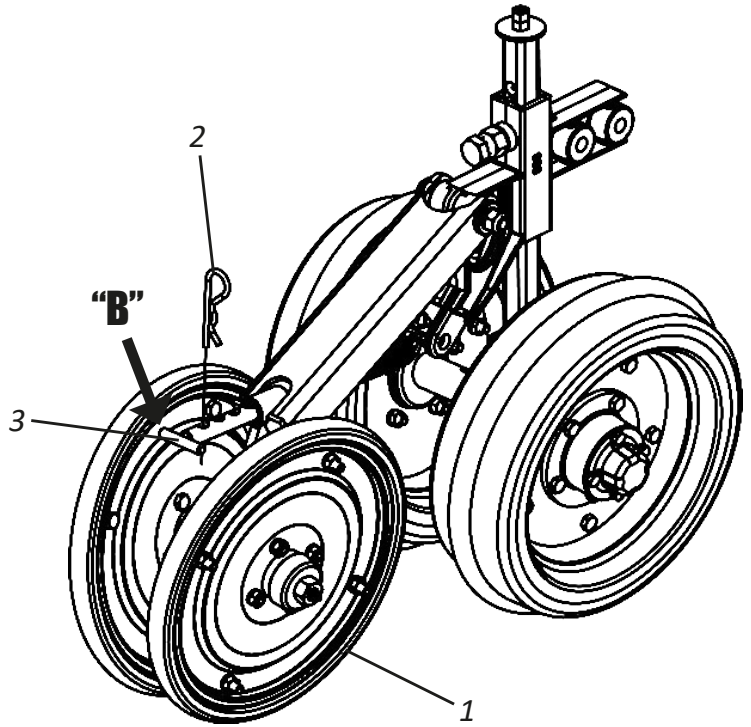
GREATER PRESSURE:

Remove the lock (2), pull the pin (3) out and lock again, as per **detail "A"**



LOWER PRESSURE:

Remove the lock (2), pull the pin (3) inwards and lock again, as per **detail "B"**



▪ Adjusting the lines

• Adjustment of fertilizer depth and pressure in the seed lines

The depth adjustment of the fertilizer is done through the pressure of the springs exerted on the planting lines This adjustment is made through the bushings To adjust the pressure on the springs, proceed as follows:

TO INCREASE DEPTH:

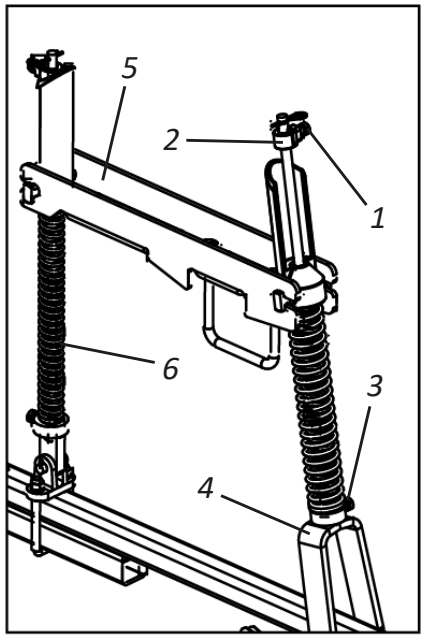
01 - Loosen the screw (1) and place the bushing (2) upwards.

TO DECREASE DEPTH:

01 - Loosen the screw (1) and place the bushing (2) downwards.

TO INCREASE PRESSURE:

01 - Loosen the screw (3) and place the bushing (4) upwards.



⚠ ATTENTION

Always leave a space between the bushing (2) and the rod support (5) for the line to oscillate.

IMPORTANT | **To adjust the pressure in the seed lines, do the same procedure above but now on the rod (6).**

NOTE | **When finishing the adjustment, repeat this procedure on all lines, avoiding the variation between them.**

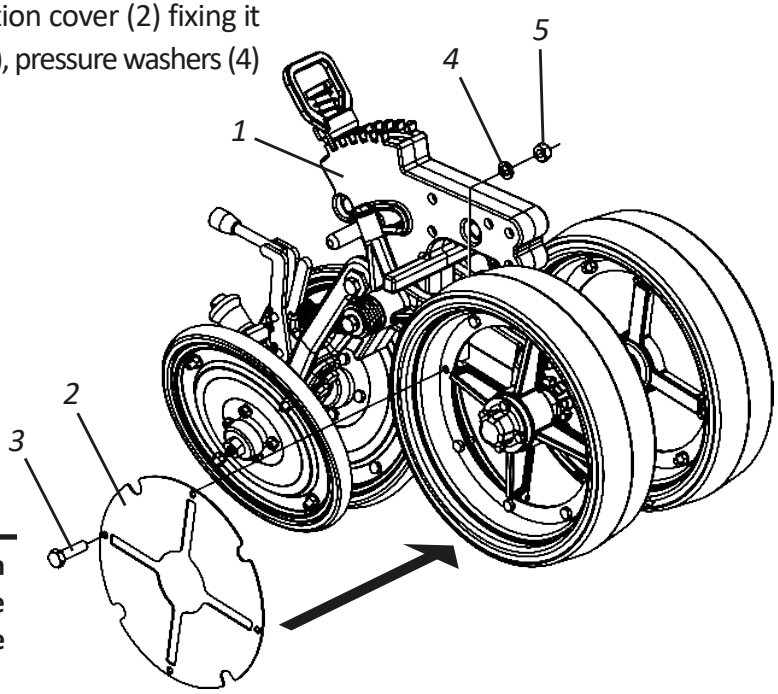
• Oscillating cart with protection ring (Optional)

The planting lines of the **PPSOLO AIR 3rd SEED BOX - TITANIUM**, seeder can be purchased with an oscillating trolley with a protective ring (1) The oscillating cart with protection ring was developed for situations of direct planting in which the corn cane was harvested in high cut, preventing it from entering the wheel rims during planting, locking it.

If you have purchased the **PPSOLO AIR 3rd SEED BOX - TITANIUM**, seeder with the oscillating carts without a protection ring, you can purchase the protection ring (2) to secure it on the wheels To install the protection ring (2) proceed as follows:

01 - Loosen the screws (3) lock washers (4) and nuts (5).

02 - Then put the protection cover (2) fixing it through the screws (3), pressure washers (4) and nuts (5).



⚠ ATTENTION

If you only buy the protection ring (2) secure it on all the oscillating carts (1) of the seeder.

▪ Operations

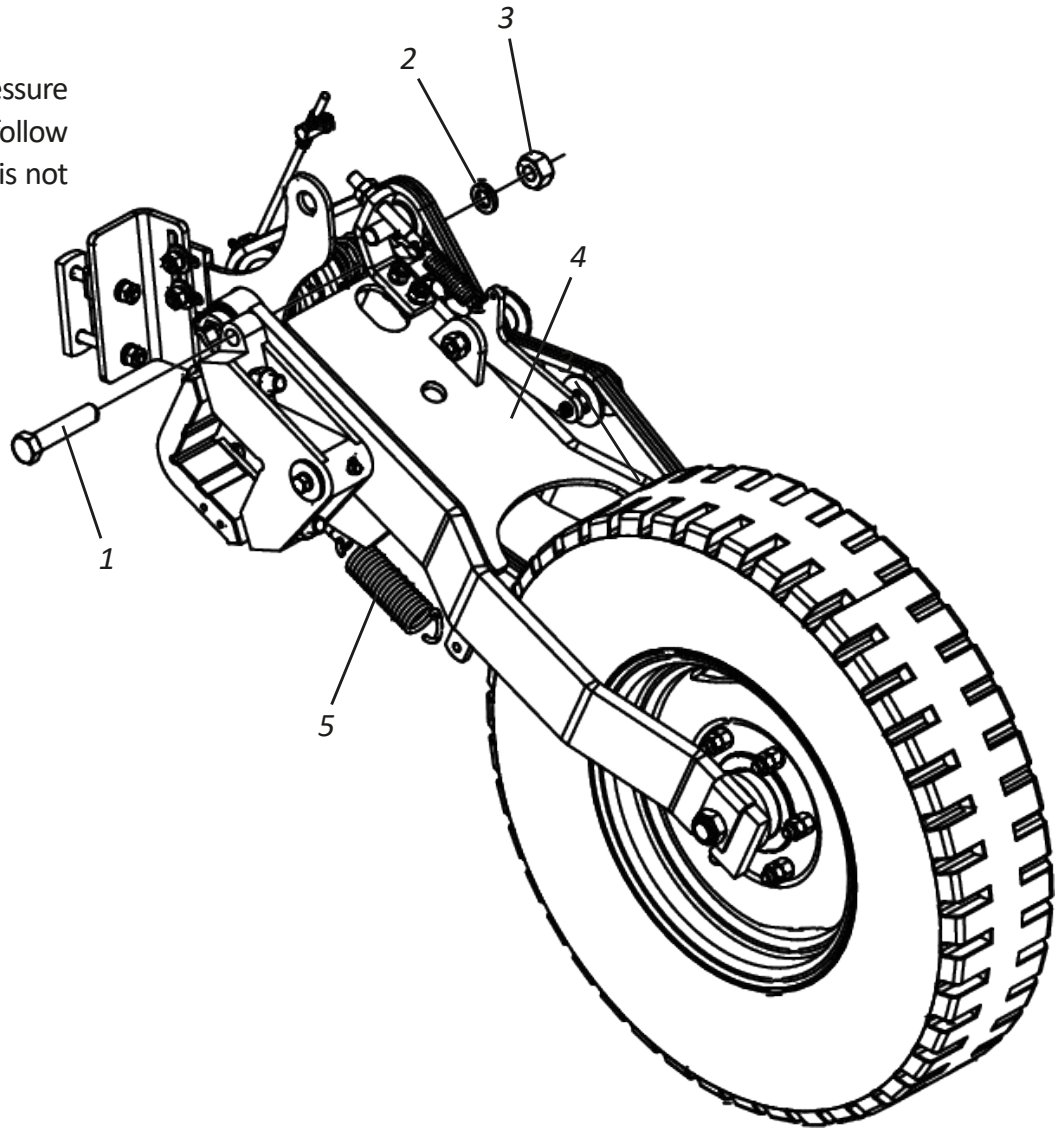
• Wheel fixing and articulation system

The tire fixing and articulation system means that the tires are free from the pressure of the pantograph system springs on the ground, allowing them to oscillate and follow the irregularities of the terrain, ensuring that the distribution of fertilizer and seed is not interrupted.

01 - For conventional planting, lock the wheels with the screw (1), spring washer (2) and nut (3).

02 - For direct planting, the wheels operate freely and if necessary, add 3/4" of water to the tires.

03 - The wheels (4) are equipped with traction springs (5) for greater grip on the ground. Do not operate the seeder without them.



▪ Operations

• Recommendations for operation

The preparation of the **PPSOLO 3rd SEED BOX - TITANIUM** and the tractor will allow you to save time in addition to a better result in field work. The following suggestions may be helpful to you.

01 - After the first day of work with the **PPSOLO 3rd SEED BOX - TITANIUM**, retighten all screws and nuts. Check the condition of the pins and locks.
02 - Do not maneuver or reverse with the Rows lowered to the ground.
03 - Observe lubrication intervals.
04 - When filling the tanks make sure that there are no objects inside them, such as nuts, bolts, etc. Always use seeds free of impurities.
05 - Always observe the functioning of seed dispensing mechanisms and also the regulations established at the beginning of planting.
06 - Keep the **PPSOLO 3rd SEED BOX - TITANIUM** always level, the tractor drawbar must remain fixed, and the working speed must remain constant.
07 - Always check the seed depth and the pressure of the compacting wheels.
08 - Note the position of the fertilizer in relation to the seed in the soil.
09 - Do not make sharp turns with the **PPSOLO 3rd SEED BOX - TITANIUM** while working, especially in no-till farming. Row components may be damaged.
10 - Do not partially activate the hydraulic cylinders. The drive for both raising and lowering the **PPSOLO 3rd SEED BOX - TITANIUM** must always be complete.
11 - Do not disengage any hoses without first relieving circuit pressure. To do this, operate the control levers a few times with the engine off.
12 - After the hitch and leveling are done, the next adjustments will be made directly in the work field, analyzing the terrain in its texture, humidity, and the types of operations to be performed with the **PPSOLO 3rd SEED BOX - TITANIUM**.
13 - Observe the working and transport speeds specified on page 13. We do not advise exceeding speeds to maintain service efficiency and avoid possible damage to the **PPSOLO 3rd SEED BOX - TITANIUM**.
14 - When carrying out any checking or maintenance on the **PPSOLO 3rd SEED BOX - TITANIUM**, it must be lowered to the ground and the tractor engine shut down.
15 - The **PPSOLO 3rd SEED BOX - TITANIUM** has several adjustments but only local conditions can determine the best adjustment.
16 - Indications on the right and left side are made by looking at the **PPSOLO 3rd SEED BOX - TITANIUM** from behind.
17 - Only fill the **PPSOLO 3rd SEED BOX - TITANIUM** at the workplace.
18 - Do not transport or work with an overloaded **PPSOLO 3rd SEED BOX - TITANIUM**.
19 - **PPSOLO 3rd SEED BOX - TITANIUM** operates most efficiently in the range of 5 to 7 km/h.

In case of doubt, never operate or handle PPSOLO 3rd SEED BOX, consult Post Sales.
Phone: 0800-152577 / Email: posvenda@baldan.com.br

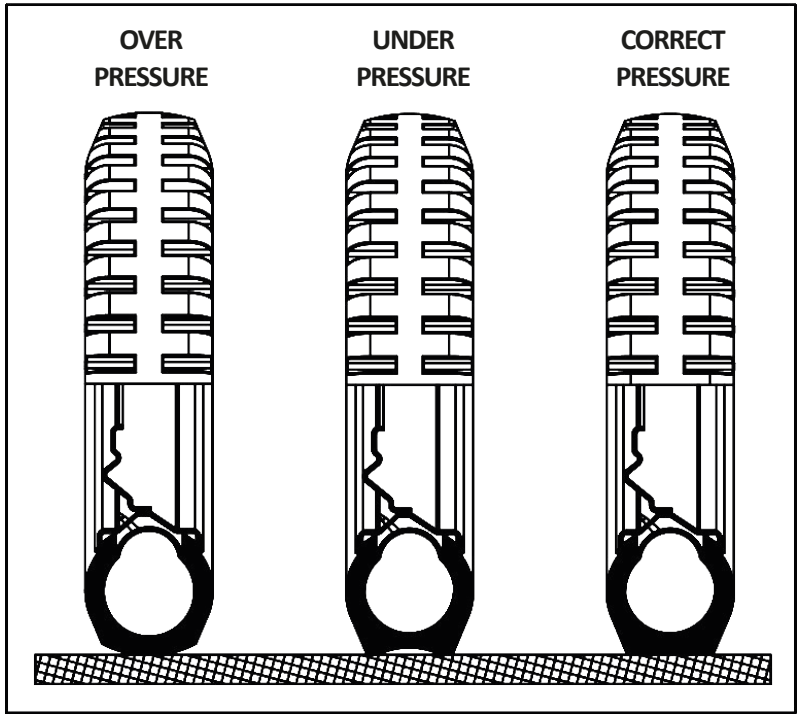
▪ Maintenance

The **PPSOLO 3rd SEED BOX - TITANIUM** was developed to provide you with maximum performance on terrain conditions. Experience has shown that periodic maintenance of certain parts of the **PPSOLO 3rd SEED BOX - TITANIUM** is the best way to help you avoid problems, so we suggest checking them.

• Tire pressure

The tires must always be correctly calibrated, avoiding premature wear due to excess or lack of pressure and ensuring distribution precision.

TIRES 700 X 16 10 PLIES



USE: 70 LBS/POL²

⚠ ATTENTION

Never weld the wheel with a mounted tire, as heat can increase air pressure and cause the tire to explode.

When inflating a tire, position yourself next to the tire, never in front of it.

When inflating the tire, always use a containment device (inflation cage). Assemble the tires with suitable equipment. The service should be performed only by persons qualified for the job.

❗ IMPORTANT

When calibrating the tires, do not exceed the recommended calibration.

🔍 NOTE

Tractor tire pressure should be as recommended by the manufacturer.

▪ Maintenance

• Lubrication

Lubrication is essential for the good performance and durability of the **PPSOLO 3rd SEED BOX - TITANIUM** moving parts, contributing to savings in maintenance costs.

Before operating, carefully lubricate all grease fittings, always observing the lubrication intervals on the next page. Ensure the quality of the lubricant, regarding its efficiency and purity, avoiding using products contaminated by water, earth and other agents.

• Table of greases and equivalents

Manufacture	Recommended grease types
Petrobrás	Lubrax GMA-2
Atlantic	LithoRow MP 2
Ipiranga	Ipiflex 2
Castrol	LM 2
Mobil	Grease MP
Texaco	Marfak 2
Shell	Alvania EP 2
Esso	Multi H
Bardahl	Maxlub APG-2EP
ValvoRow	Palladium MP-2
Petronas	Tutela Jota MP 2 EP
	Tutela Alfa 2K
	Tutela KP 2K

⚠ ATTENTION

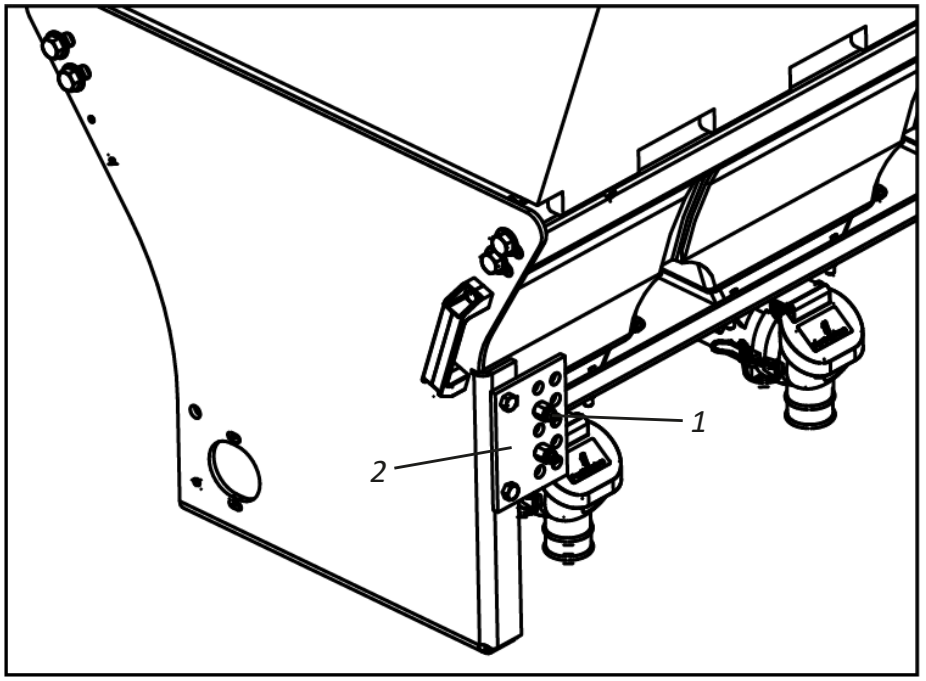
For manufacturers and/or equivalent brands not listed in the table, check the manufacturer's technical manual.

• Centralized lubrication system

The **PPSOLO 3rd SEED BOX - TITANIUM** has a centralized lubrication system that makes maintenance faster and easier, allowing you to lubricate all the side and central points of the machine without having to remove the protections. To lubricate, proceed as follows:

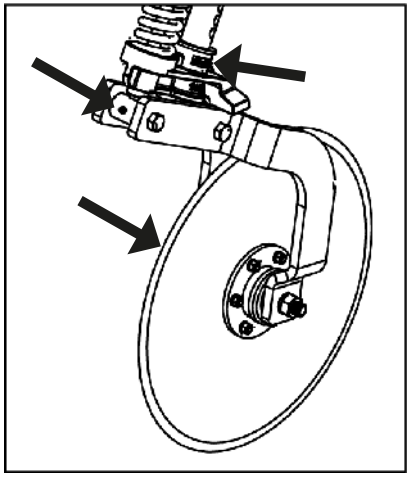
01 - Before starting lubrication, clean all grease fittings (1) with a lint-free cloth and replace any damaged ones.

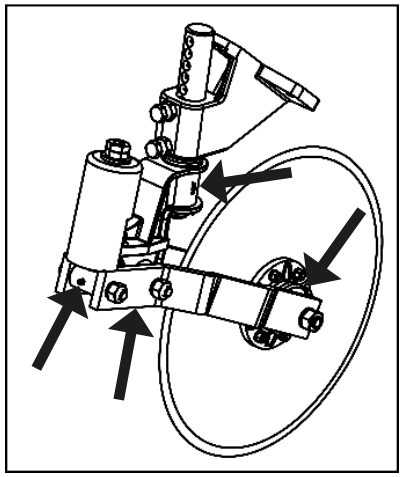
02 - Lubricate all grease fittings (1) of the centralized system (2) every 10 hours of work.

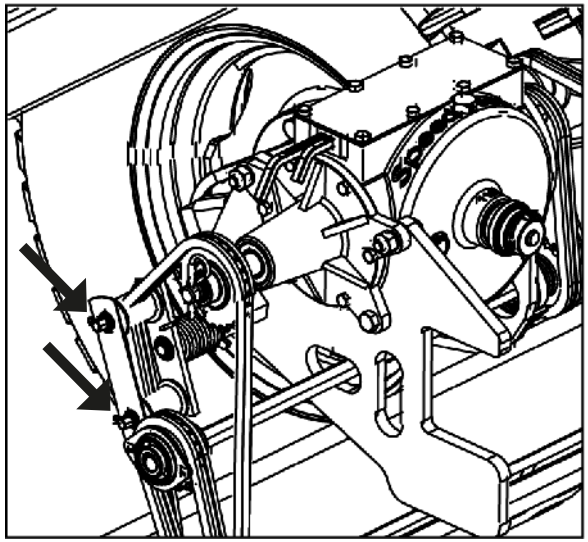


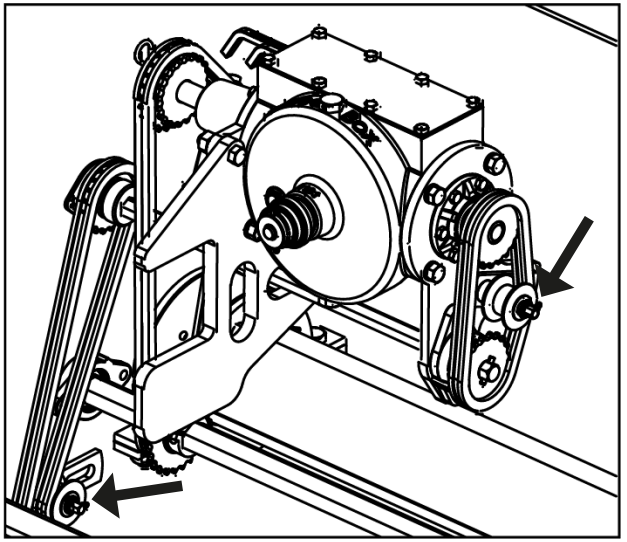
▪ Maintenance

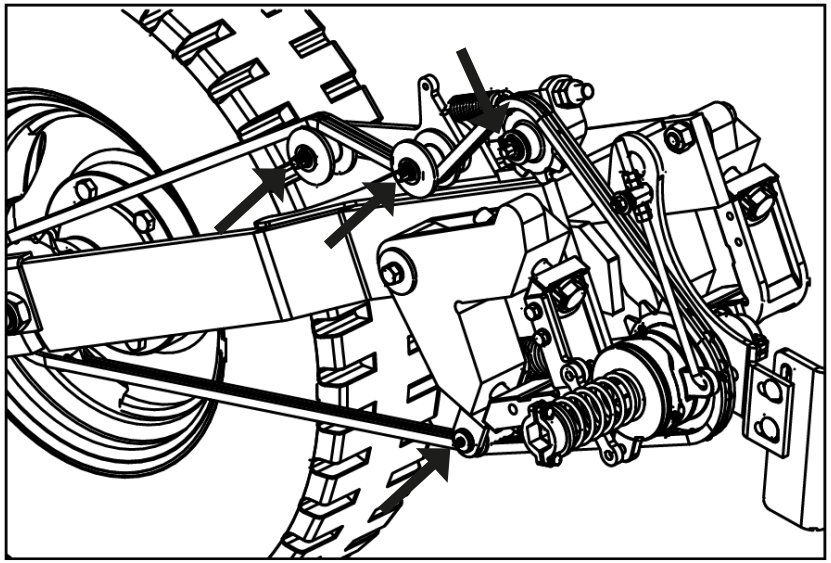
• Lubrication every 10 hours of work - Part I

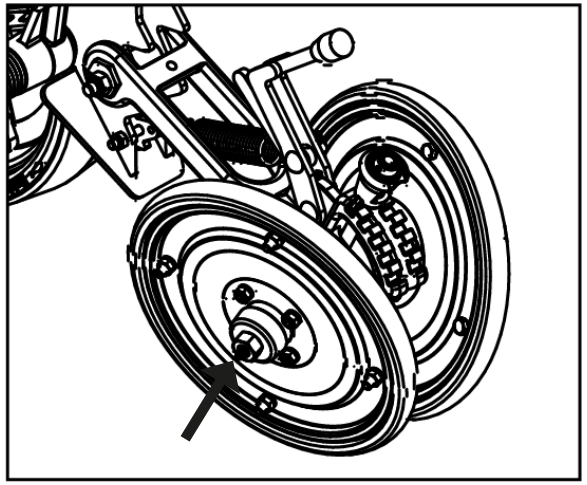










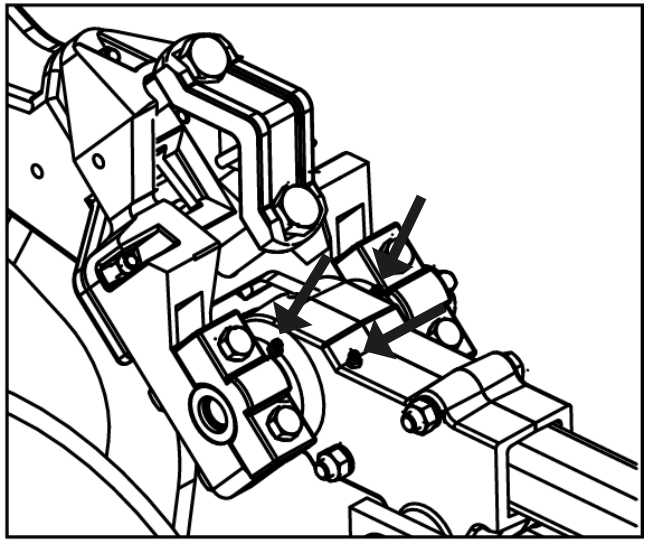


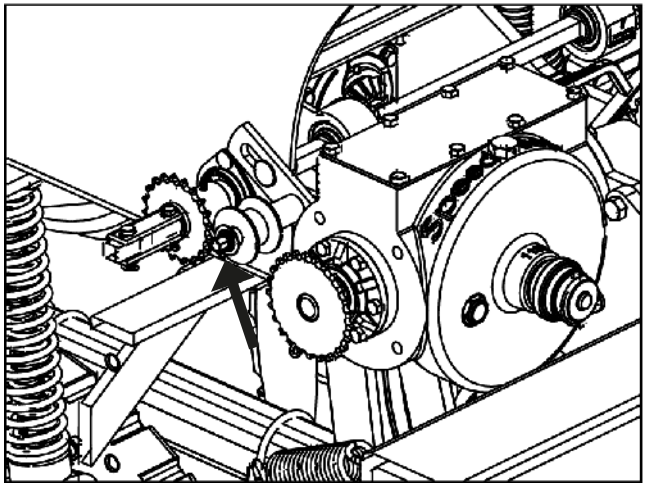
⚠ ATTENTION

When lubricating PPSOLO 3rd SEEDBOX - BALDAN / TITANIUM, do not exceed the amount of new grease. Insert a sufficient amount.

▪ Maintenance

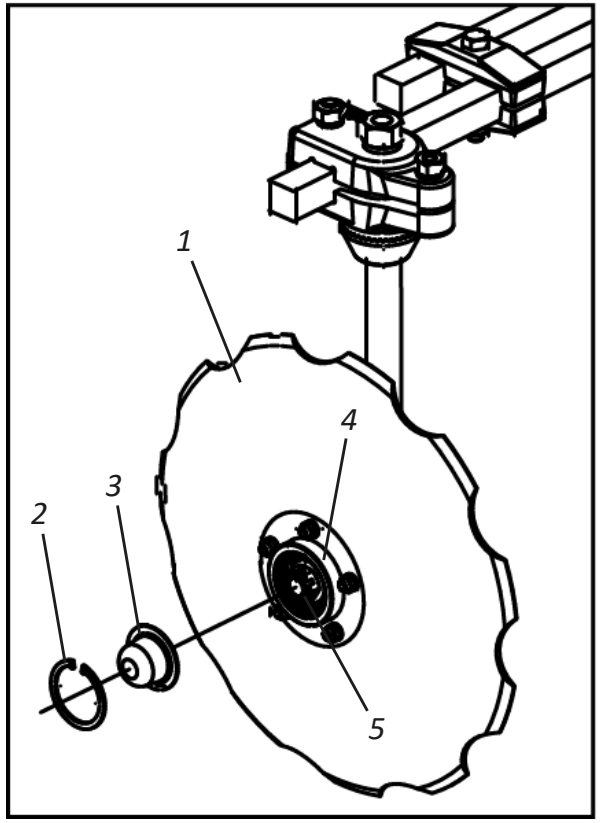
• Lubrication every 10 hours of work - Part II





In order to lubricate the hub of the Row markers (1), proceed as follows:

01 - Remove the retaining ring (2) and the hubcap (3) from the hub (4).
02 - Next, examine the bearings, if any clearance, adjust them through the castle nut (5).
03 - Insert new grease in the cap (3), put it back on hub (4) by securing it through the retaining ring (2).

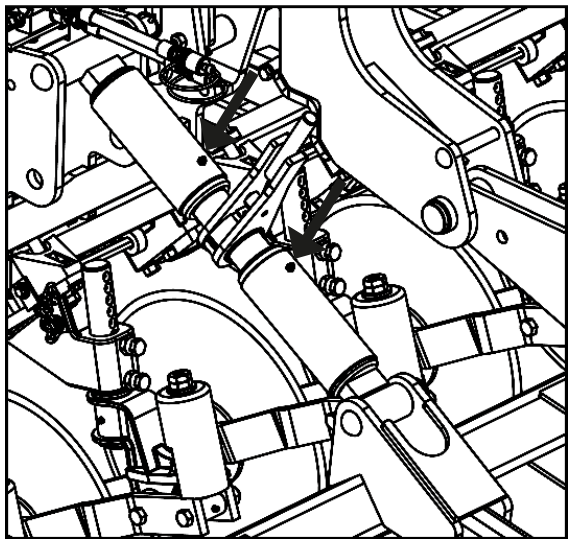


⚠ ATTENTION

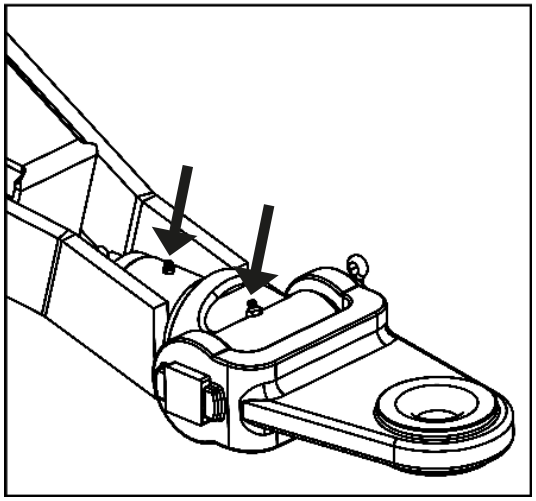
When lubricating PPSOLO 3rd SEEDBOX - TITANIUM, do not exceed the amount of new grease. Insert a sufficient amount.

▪ Maintenance

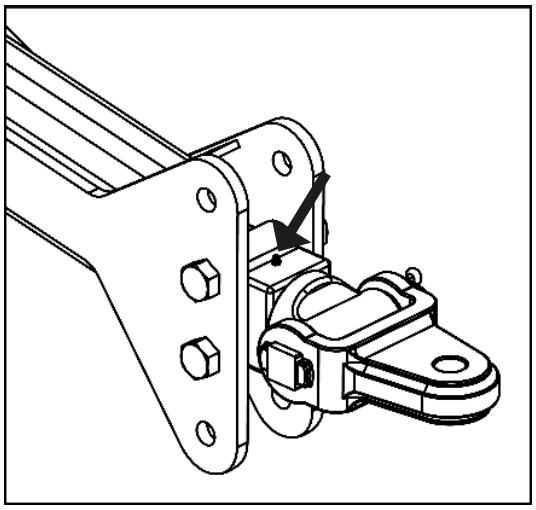
• Lubrication every 10 hours of work - Part III



• Lubrication every 30 hours of work - Part I



PPSOLO 4000 AND 4500



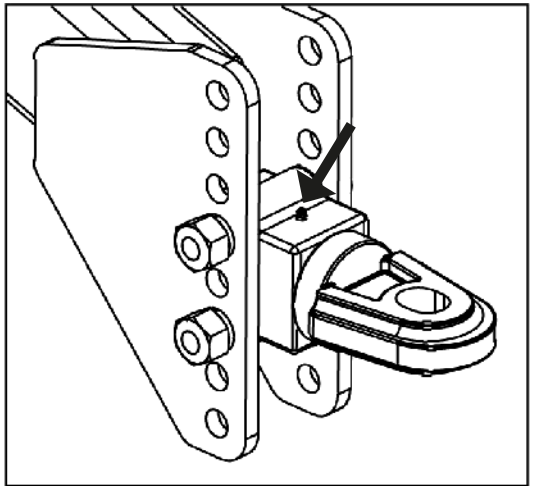
PPSOLO 5000 AND 5500

⚠ ATTENTION

When lubricating PPSOLO 3rd SEEDBOX - TITANIUM, do not exceed the amount of new grease. Insert a sufficient amount.

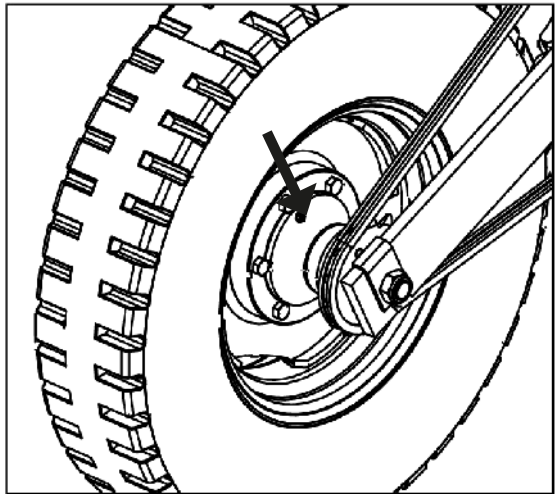
▪ Maintenance

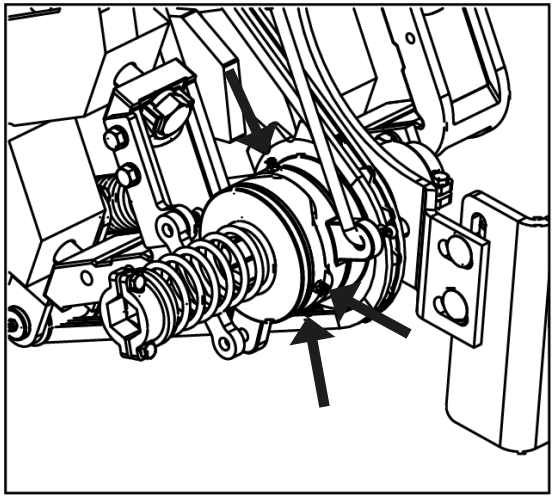
• Lubrication every 30 hours of work - Part II



PPSOLO 6500 AND 7500

• Lubrication every 60 hours of work





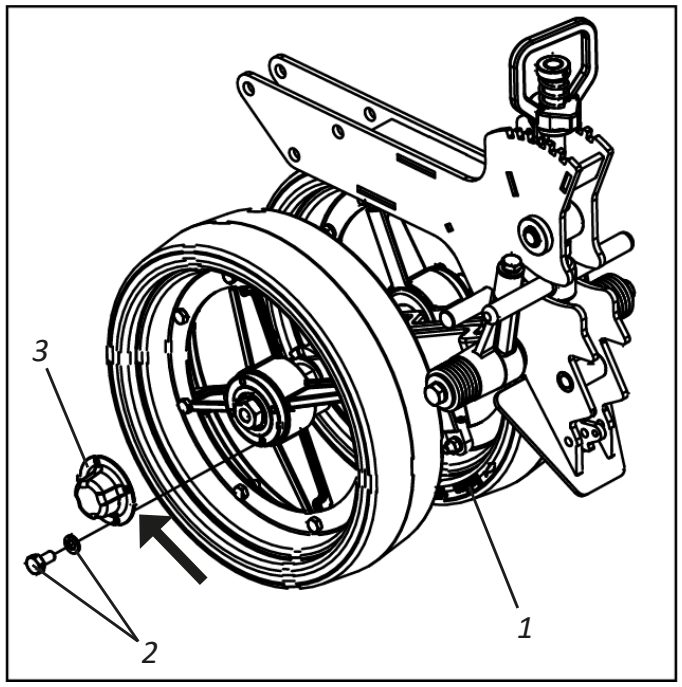
⚠ ATTENTION

When lubricating PPSOLO 3rd SEEDBOX - TITANIUM, do not exceed the amount of new grease. Insert a sufficient amount.

▪ Maintenance

• Lubrication every 200 hours of work

To lubricate the compacting wheels (1), loosen the screws and washers (2), remove the cap (3) and add new grease. Replace the hub (3) on the compactor wheels (1) and secure it with the screws and washers (2).



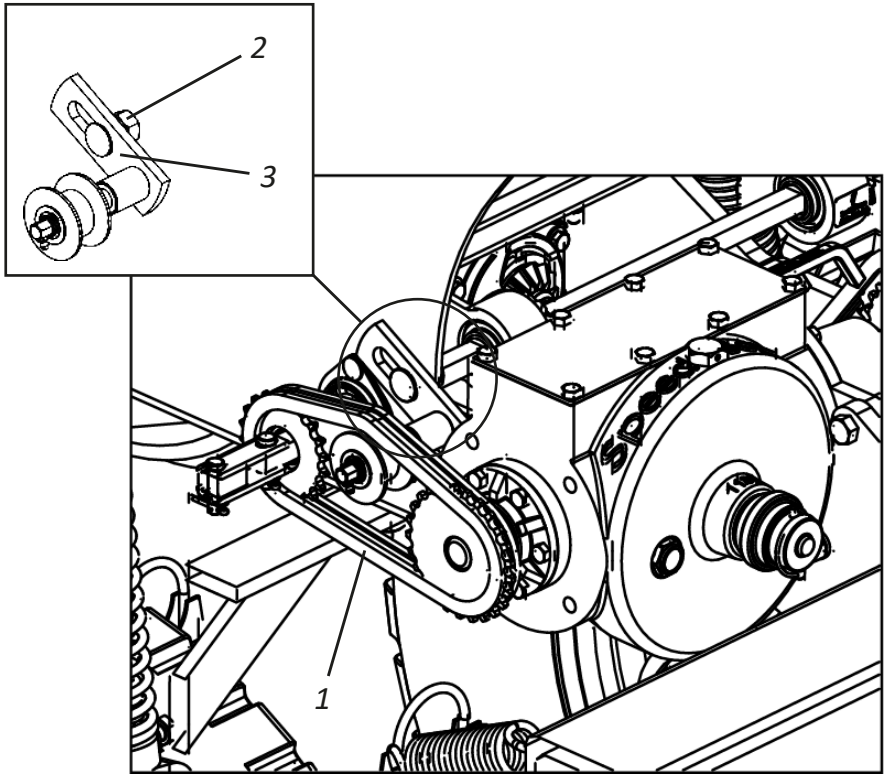
⚠ ATTENTION | **When lubricating PPSOLO 3rd SEED BOX - TITANIUM, do not exceed the amount of new grease. Insert a sufficient amount.**

❗ IMPORTANT | **Before opening the shell (8), clean the outside of it.**

• Current tension

In order to tension the current (1), proceed as follows:

01 - Loosen the nut (2), slide the stretcher (3) adjusting the current tension (1).
02 - Then retighten the nut (2).

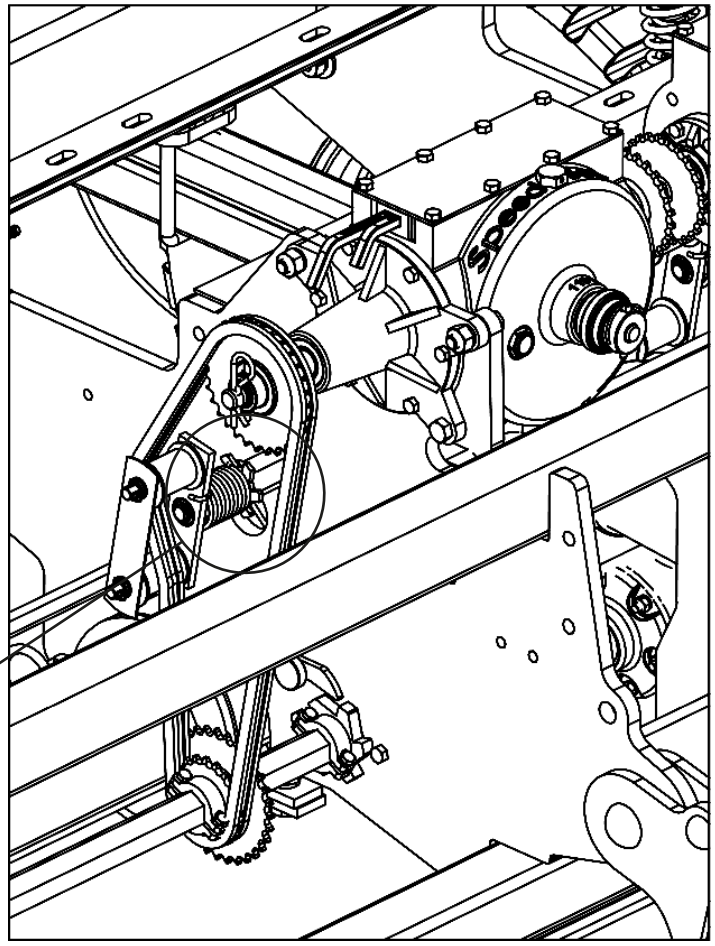


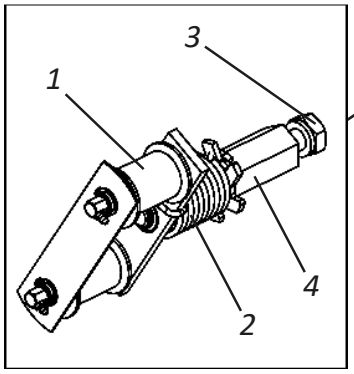
⚠ ATTENTION | **Check the tension of the currents daily, the normal play should be + - 1 cm in the center of the currents.**

▪ Maintenance

• Oscillating stretcher

The stretcher (1) is equipped with a torsion spring (2) for greater flexibility. If more pressure is required on the stretcher, loosen the inner nut (3), turn the shaft (4) passing the spring clip (2) to the other tooth of the shaft rosette and retighten the inner nut (3).





⚠ ATTENTION | **Check the tension of the currents daily, the normal play should be + - 1 cm in the center of the currents.**

▪ Maintenance

• Operational maintenance - Part I

PROBLEMS	PROBABLE CAUSES	SOLUTIONS
During planting, fertilizer begins to leak from the safety outlets.	Clogged hoses or pieces of plastic in the fertilizer conducing spirals.	Unclog the hose or remove the upper channel that gives access to the spiral, rotate the shaft in the opposite direction until the foreign body that is stuck loosens.
Fertilizer hub shaft does not rotate.	Spiral blocked by wet fertilizer or excess fertilizer in the closed Row.	Unclog the spirals, check if you have a loose gutter and the fertilizer may be entering by their sides.
A planting Row is less deep than the other.	Different pressure settings on the depth limiting wheels or in the springs of the Row.	Set all wheels to equal depth and regulate the pressure of the Row springs.
The ridge is too open during planting.	Sticky soil that sticks to the discs or excessive speed of work.	Decreases work speed.
Strange noise when operating or walking with the loaded sower.	Loose wheels or wheel hub.	Re-tighten the wheel nuts. Adjust the wheel hub bearings.
The sower leaves the planting Row, sometimes to one side, sometimes to the other, sideways.	Tractor drawbar loose.	Use the pin that comes with the seeder. Secure the tractor drawbar in the center hole.
It is not covering the ridge.	Poorly adjusted covering wheels or damp grounds.	Adjust the covering wheel by moving it sideways in relation to the ridge.
The hydraulic cylinders stop operating, lifting the sower and then doesn't lower or vice versa.	Different quick coupler, sphere male type and female needle type or vice versa.	Proceed by changing the quick coupler, placing two of the same type.
Broken seeds.	High planting speed.	Decrease work speed.
	Inadequate disc thickness.	Use suitable disc (hole thickness and diameter).
	Poorly placed disc. The seed sieve is not suitable for the disc used.	Insert the disc properly (note the sentence: **THIS SIDE DOWN**).
	Using moist seeds.	Using dry seeds.

▪ Maintenance

• Operational maintenance - Part II

PROBLEMS	PROBABLE CAUSES	SOLUTIONS
Damaged tires.	Work area with stones, stumps or crop remains with stems that cause tire cutting.	Eliminate the elements that cause damage to the tires before period of use of **PPSOLO 3rd SEED BOX - BALDAN / TITANIUM**.
	Tires are not inflated, causing deformations.	Maintain proper tire pressure.
Strange noise on wheels.	Loose wheels or wheel set.	Retighten the wheel nuts and adjust the bearing wheel hub.
	Bearings breakage.	Identify the occurrence and replace the damaged parts.
Quick coupling does not fit.	Couplings of different types.	Exchange them for males and females of the same type.
Seeds spaced “double” in distribution.	Meter drive chain is skipping gear teeth.	Adjust the chain tension as instructed on page 88.
Leak in hydraulic hoses.	Sealing material on the screw thread is missing.	Use thread-sealing tape and retighten carefully.
	Insufficient tightening.	Retighten carefully.
	Damaged terminals.	Replace terminals.
Leak in quick couplers.	Insufficient tightening.	Retighten carefully without excess.
	Damaged repairs.	Replace repairs.
Quick couplings do not couple.	Couplings of different brands.	Use couplings of the same brand.
	Mixture of needle couplings with ball couplings.	Always use couplings of the same type.
	System pressure.	Relieve pressure to couple.

▪ Maintenance

• Fertisystem batcher accessories

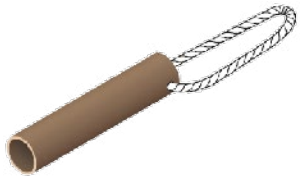
The Fertisystem feeder is assembled with a level regulator “cross cover” and a worm spring (step 2”).

LEVEL REGULATOR CROSS-LID

ENDLESS SPRING (STEP 2”)

The Fertisystem feeder includes the following accessories: maintenance tube, fixing tube e blocking tube.

MAINTENANCE TUBE

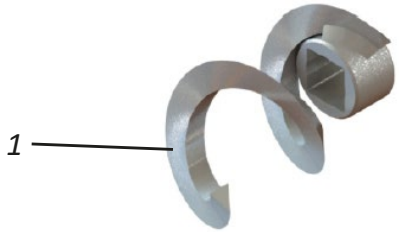


FIXING TUBE

BLOCKING TUBE

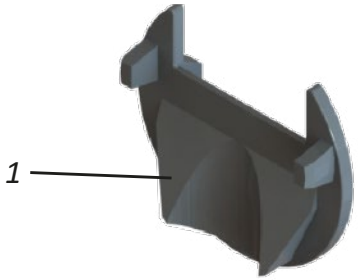
• Endless spring

At **PPSOLO 3rd SEED BOX - BALDAN / TITANIUM** the Fertisystem batchers leaves the factory assembled with the endless spring 2” (1).



• Level Regulator “Cross Cover”

The Fertisystem dispenser leaves the factory fitted with the “Cross-Lid” level regulator (1). The uniformity and precision in the distribution is due to the level regulator “Cross-Lid” (1), which has the function of canceling the pulsating effect of the endless spring cycle and also controlling the dosage.



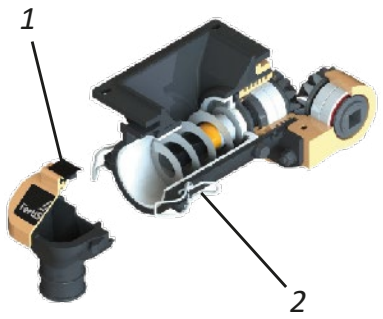
⚠ ATTENTION | **Never operate without the “Cross-Lid” level regulator (1). Check that it is well positioned in the nozzle.**

▪ Maintenance

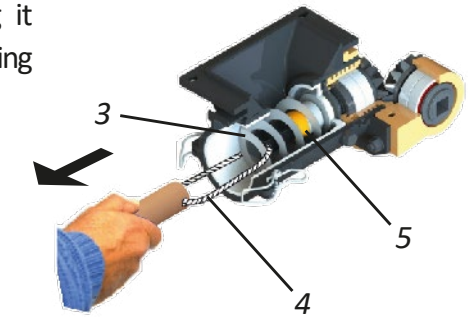
• Maintenance or replacement of the Fertisystem dosing spring

After planting, do not leave fertilizer in the tank. To maintain or replace the worm-spring or to clean or repair the internal part of the Fertisystem batcher, proceed as follows:

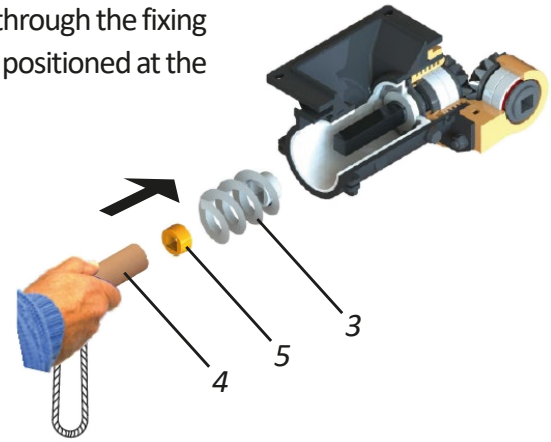
01 - Disengage the nozzle (1) through the stainless steel lock (2).

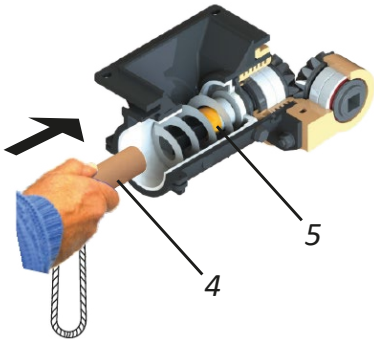


02 - Then, remove the endless spring (3), pulling it through the cord of the fixing tube (4), also removing the locking ring (5).



03 - After cleaning, replace the endless spring (3), together with the locking ring (5), through the fixing tube (4), making sure that the endless spring (3) and the locking ring (5) are well positioned at the base of the shaft (6).



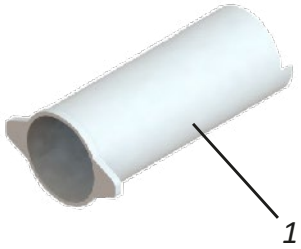


⚠ ATTENTION **Keep the worm spring in place with the locking ring. This procedure will avoid damaging the cross cover when not using the seeder with the fertilizer or when transporting the seeder. In case of wear or lack of tightening "pressure" of the lock ring (5), replace it.**

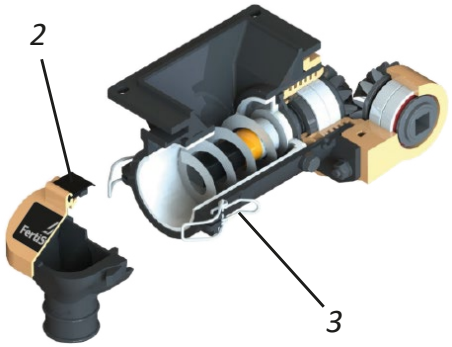
▪ Maintenance

• Fertisystem batcher maintenance tube

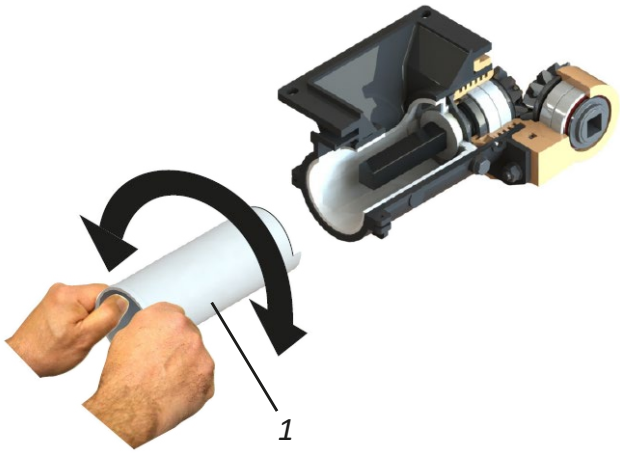
To maintain or change the endless springs in the Fertisystem feeder without the need to remove the fertilizer from the tank, use the maintenance tube (1), to do this, proceed as follows:



01 - Disengage the nozzle (2) through the stainless steel lock (3).



02 - Then, introduce the maintenance tube (1) in rotating movements, promoting the displacement of the fertilizer to the bottom of the batcher. Then perform the necessary maintenance.

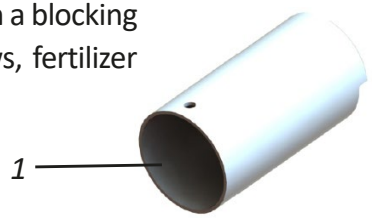


NOTE | **The maintenance tube (1) has an end cut angle to facilitate this operation.**

▪ Maintenance

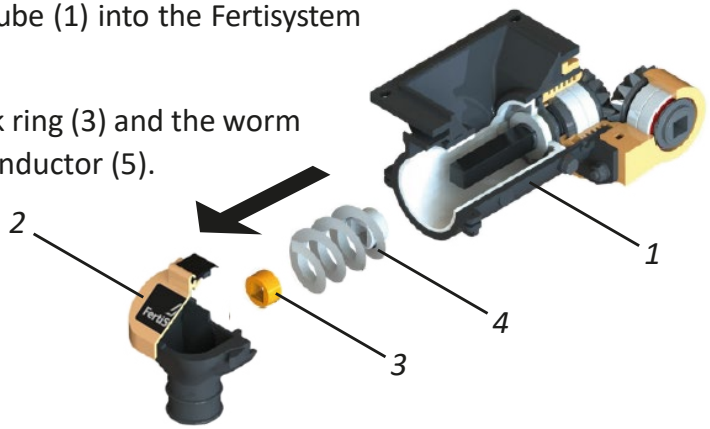
• Fertisystem Batcher Blocker Tube

PPSOLO 3rd SEED BOX - BALDAN / TITANIUM comes with a blocking tube (1) so that when you need to isolate some planting Rows, fertilizer distribution does not occur.

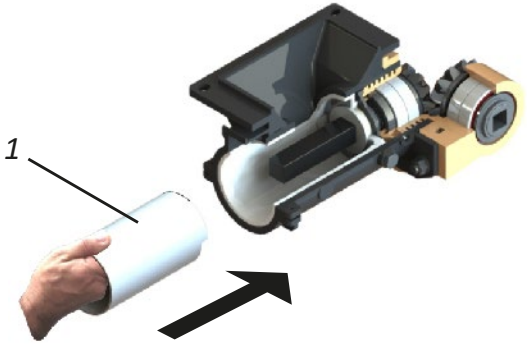


In order to place the blocking tube (1) into the Fertisystem doser, proceed as follows:

01 - Remove the nozzle (2), the lock ring (3) and the worm spring (4) of the fertisystem conductor (5).



02 - Then insert the locking tube (1).



03 - Then, replace the nozzle (2).

• Springs and caps (optional) - Fertisystem batcher

PPSOLO 3rd SEED BOX - BALDAN / TITANIUM leaves the factory with a 2" pitch worm spring and transversal cover (standard), but optionally the seeder can be supplied with a 1" pitch worm spring and a high-flow cover.

ENDLESS SPRING (STEP 1")

HIGH FLOW COVER

NOTE

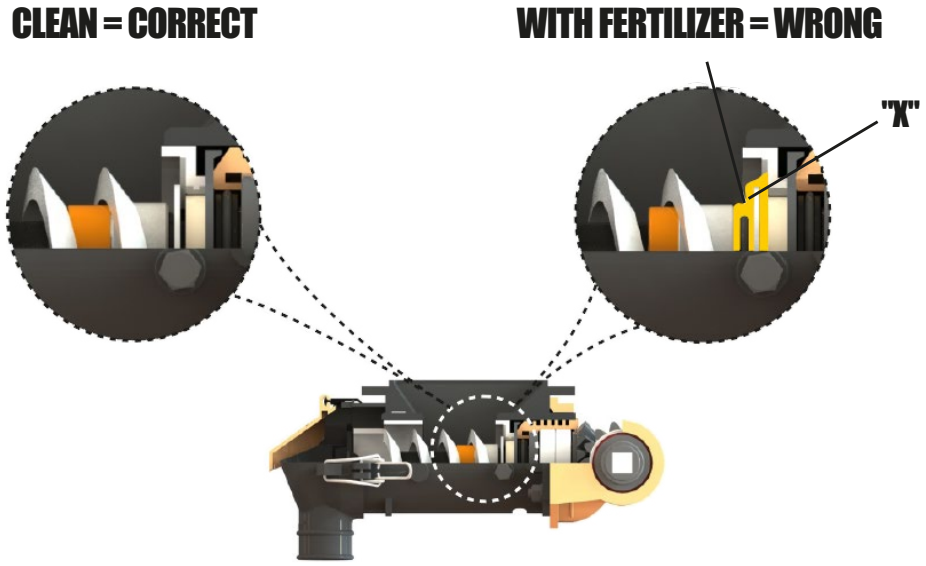
Always fill the fertilizer tank at the work location. Avoid any kind of impurity in the fertilizer tank. Carry out a measurement of dosage daily.

▪ Maintenance

• Cleaning the Fertisystem doser

We consider it mandatory to clean parts and components of the Fertisystem dispenser that maintain direct and indirect contact with fertilizers, since they are highly corrosive and abrasive, and can promote oxidation and destructible chemical reactions, through the effects of acidity, salinization and others, chemical fertilizers.

After planting is complete, disconnect the nozzle (1), the endless springs (2) and wash the sets thoroughly, keeping them free of fertilizers until new use, making the assemblies correctly.



⚠ ATTENTION

Make sure that there is no fertilizer in the "X" area between the washers and the sealing felt.

In case of extreme need to use the fertilizer out of specification and/or with excess moisture, perform daily cleaning of the endless springs and other components. Do not carry out maintenance or cleaning in the bearing area, in the endless springs and in the gears while the subsoiler is in motion.

▪ Maintenance

• Changing the seed discs (BALDAN batcher) - Part I

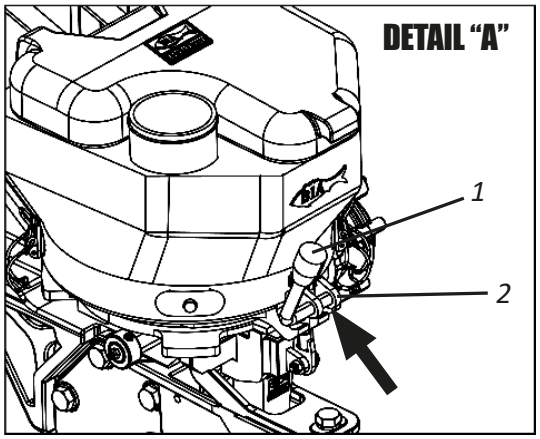
To change or replace the seed distribution discs in the **BALDAN** batcher, proceed as follows:

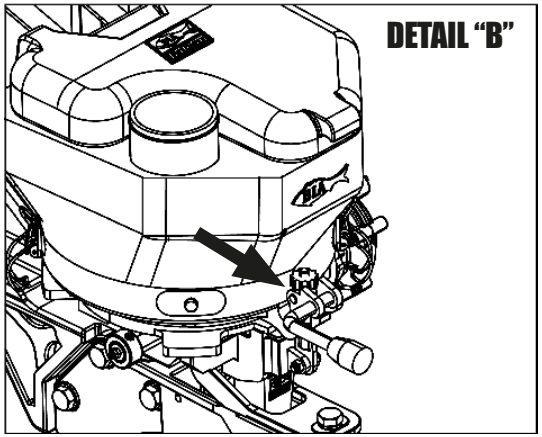
01 - Lower the lever (1) to disarm the seed tank lock (2), as shown in details **"A"** and **"B".**

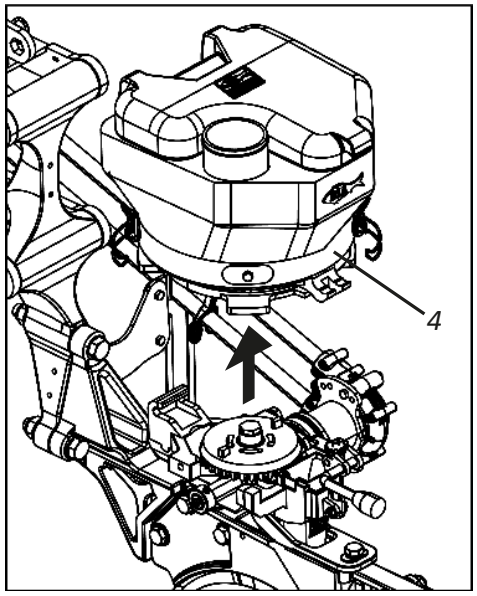
NOTE

If there are seeds in the tank, remove them before changing the disc and ring, preventing them from spreading across the floor or blocking the system from closing.

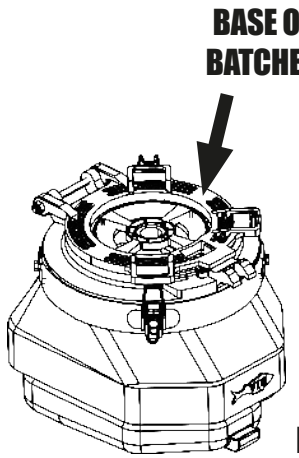
02 - Then remove the seed box (4) from the line and turn it, leaving the base of the distributor facing upwards, as shown in details **"C"** and **"D".**







DETAIL "C"

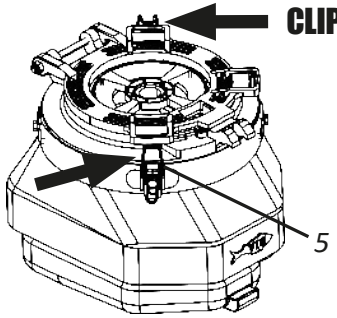


DETAIL "D"

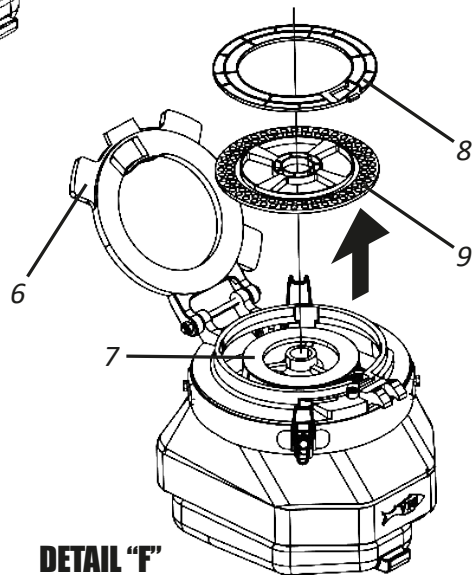
▪ Maintenance

• Changing the seed discs (BALDAN batcher) - Part II

03 - Then, release the clips (5), tilt the base (6) and remove the ring (8) and disc (9) from the distributor base (7), replacing them with the ring and disc suitable for the crop you will be working with, as shown in **details "E"** and **"F".**

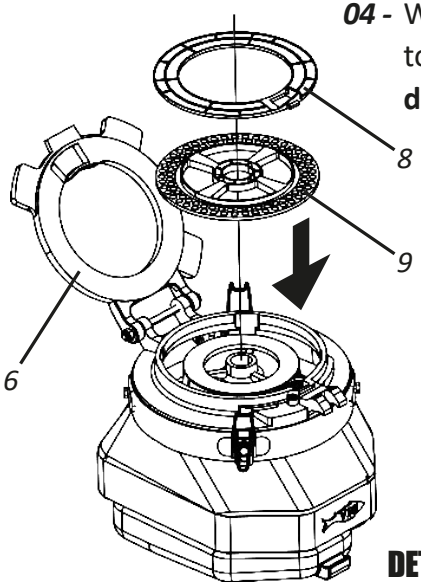


DETAIL "E"

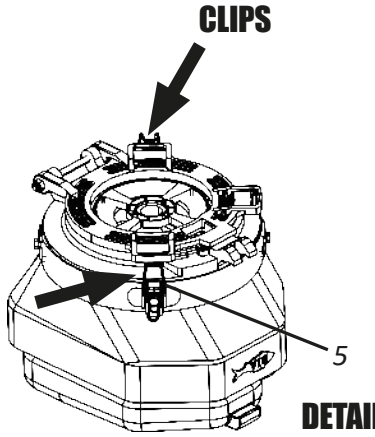


DETAIL "F"

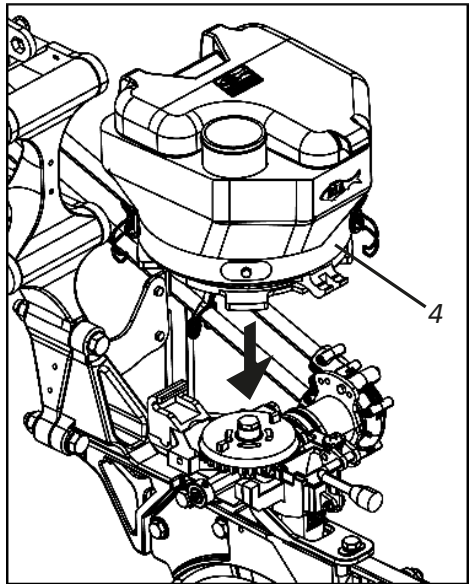
04 - When changing the ring (8) and disc (9), tilt the base (6) to close it. Then, lock the clips (5) again, as shown in **details "G"** and **"H"**.



DETAIL "G"



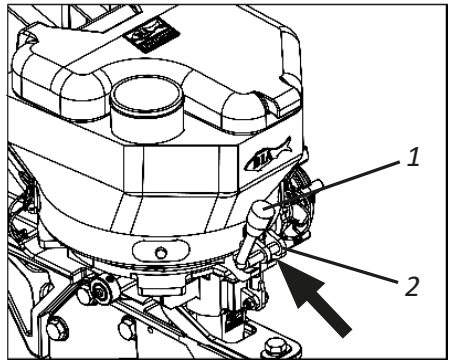
DETAIL "H"



DETAIL "I"

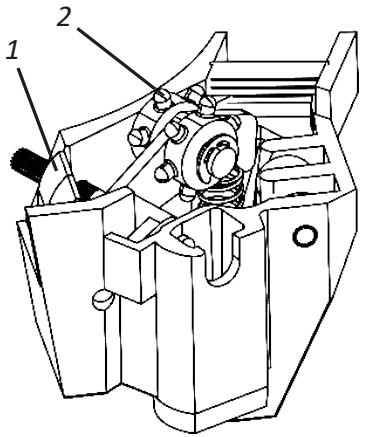
05 - Finish by replacing the seed box (4) on the line and reset the lock (3), securing the lever (1) using the pin (2), as shown in **details "I"** and **"J".**

DETAIL "J"



▪ Maintenance

• Changing the seed discs (BALDAN batcher) - Part III



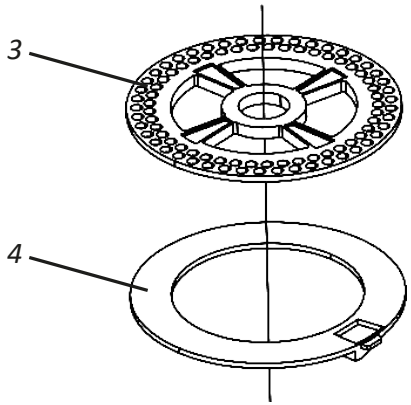
SEED DOSING BOX

⚠ ATTENTION

Before changing the disc and ring to work with the new seed, check the condition of the trigger (1) and the rosette (2), as wear on these items will compromise the dosage. If necessary, replace them.

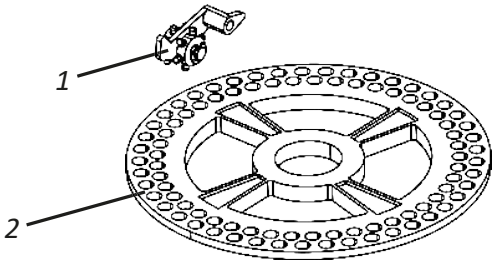
❗ IMPORTANT

Replace the distributor discs (3) and spacer rings (4) when they show excessive wear.

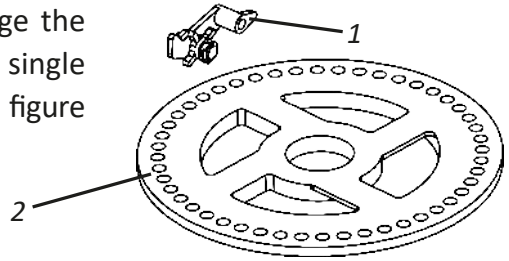


• Seed dosing rosette

The seed distribution box leaves the factory with the trigger mounted with double rosettes (1), for double row discs (2).



For single row discs (1), change the trigger with double rosettes to the single rosette trigger (2), as shown in the figure below.



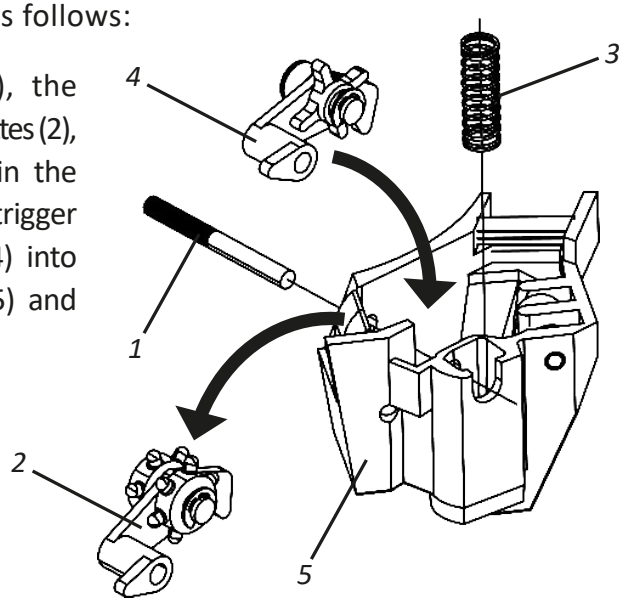
❗ IMPORTANT

The seed distribution box has triggers and rosettes that must be cleaned internally at least once a day for untreated seeds and twice a day for planting with treated seeds.

• Changing from double rosette to single rosette

To replace the trigger with double rosettes with a trigger with a single rosette, proceed as follows:

01 - Remove the pin (1), the trigger with double rosettes (2), place the spring (3) in the socket and insert the trigger with single rosette (4) into the distributor box (5) and lock with the pin (1).



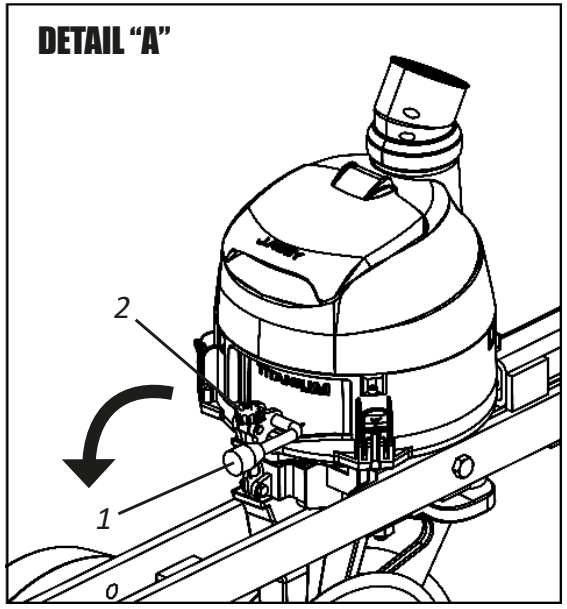
▪ Maintenance

• Correct way to put the discs and rings (TITANIUM batcher) - Part I

In order to place the discs and rings correctly on the **TITANIUM** feeder, proceed as follows:

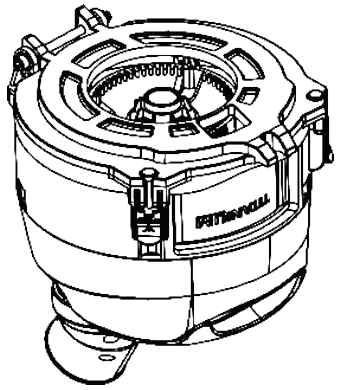
01 - Lower the lever (1) to disarm the **TITANIUM** feeder's lock (2), according to **detail "A".**

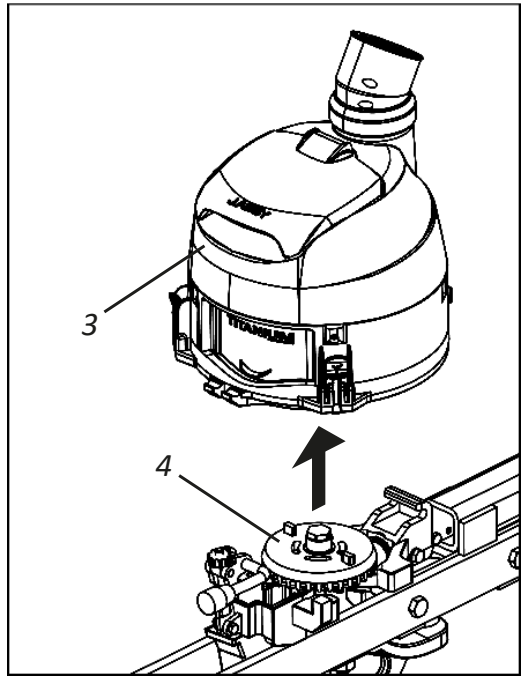
DETAIL "A"



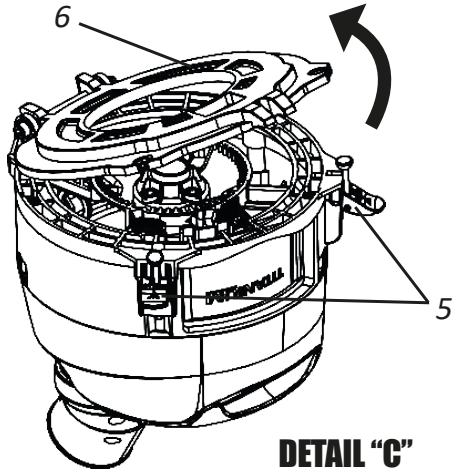
02 - Then, remove the seed box (3) from the Row (4), turn it so that the base of the **TITANIUM** batcher is facing up, as shown in **detail "B".**

DETAIL "B"





03 - Then, release the latches (5) and open the counter base (6) of the **TITANIUM** feeder, according to **detail "C".**



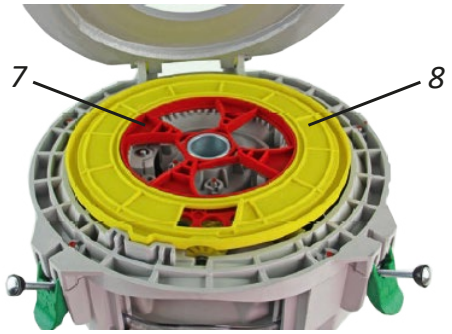
DETAIL "C"

▪ Maintenance

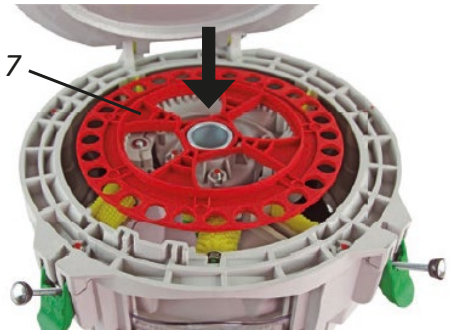
• Correct way to put the discs and rings (TITANIUM batcher) - Part II

04 - Then place the disk (7) and the ring (8), as shown in **detail "D".**

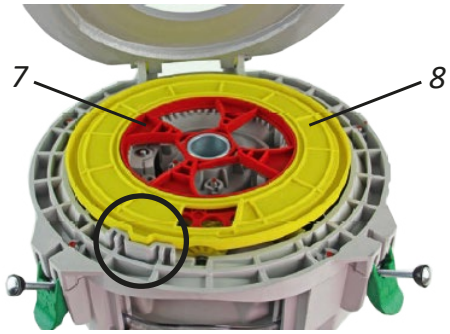
- When placing the disk (7), fit its central hole into the centering sleeve, according to **detail "E".**
- When placing the ring (8), fit it onto the disk (7), obeying the positioning, according to **detail "F".**



DETAIL "D"

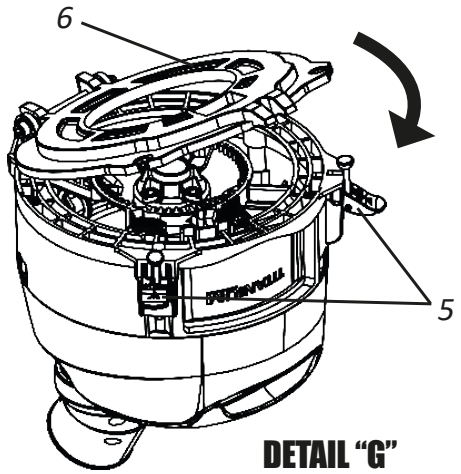


DETAIL "E"

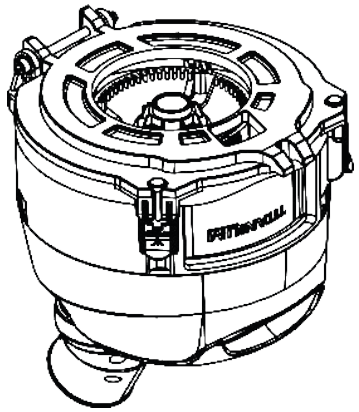


DETAIL "F"

05 - Then, close the counter base (6), secure the latches (5) to close the batcher **TITANIUM,** according to **detail "G".**



DETAIL "G"



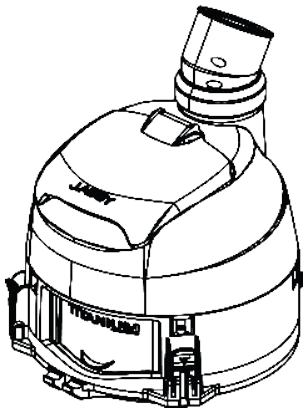
⚠ ATTENTION | **If it is difficult to close the TITANIUM feeder, follow the instructions on page 102.**

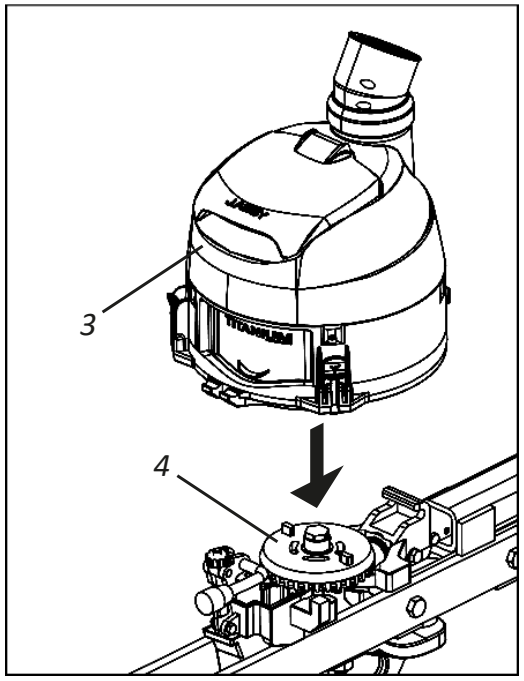
▪ Maintenance

• Correct way to put the discs and rings (TITANIUM batcher) - Part III

06 - Then, rotate the seed box (3), as shown in **detail "H"** and put it back on the Row (4).

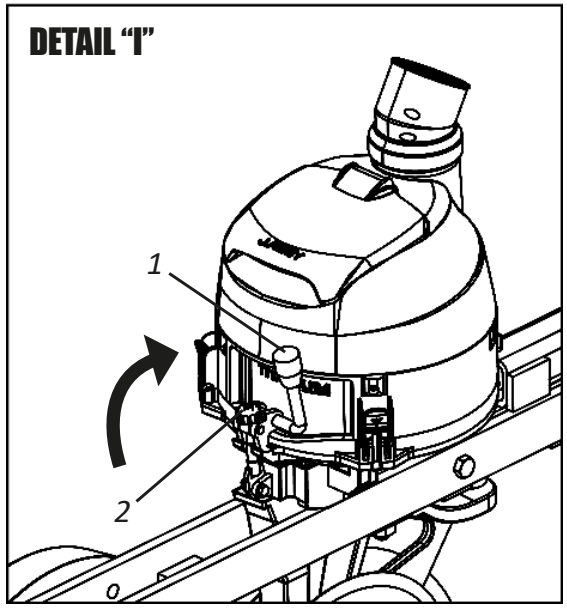
DETALHE "H"





07 - Then, lift the lever (1) to arm the lock (2) fixing the batcher **TITANIUM**, according to **detail "I"**.

DETAIL "I"



NOTE **For the correct choice of disks and batcher rings, follow the manufacturer's instructions on pages 54 and 55.**
In order to change the batcher discs and rings, follow the manufacturer's instructions on pages 99 and 101.

▪ Maintenance

• Care when closing (TITANIUM batcher)

If you are having difficulties closing the **TITANIUM** feeder, follow these steps:

1 Check that the disk and ring are positioned correctly.

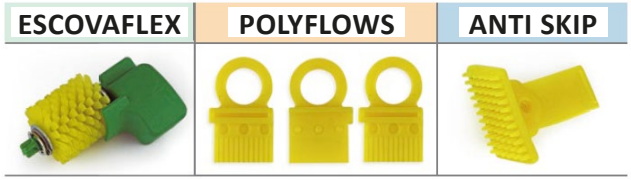
2 Check if there is dirt on the **TITANIUM** counter base, and if there is, clean it as indicated in the manual.

3 Make the adjustment of the latches, providing ease when opening the **TITANIUM** batcher and also providing a light grip when closing.

4 Never leave the locks loose, as this can directly influence plantability in cases of disc and ring looseness.

▪ Maintenance

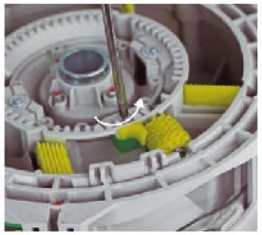
• The importance of exchanging and how to do it (TITANIUM batcher)



It is important to reinforce that some factors contribute to the premature wear of the **ESCOVAFLEX**, the **POLYFLOWS**, and the **ANTI SKIP**, such as the lack of graphite and the incorrect choice of disc and ring. When damaged, they lose efficiency and can harm your planting.

• How to change the Escovaflex (TITANIUM batcher)

01 - The change must be made with a **Philips screwdriver N. 02.**



02 - Turn the **ESCOVAFLEX** counterclockwise as indicated. Lift the back diagonally.

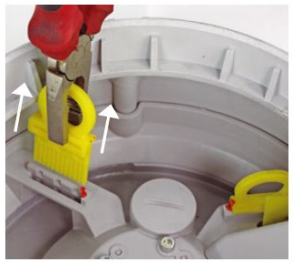
The side of the support must fit into the base.

Escovaflex with wear, need for replacement.

• How to change the Poliflow (TITANIUM batcher)

01 - The change can be done manually or with universal pliers. Remove the weight limiter.

Example of how to remove **POLIFLOW.**



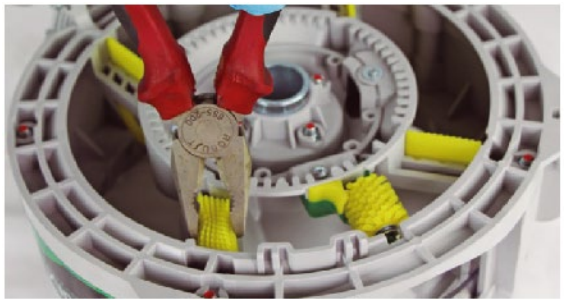
02 - Pull the **POLIFLOW** with your finger or with pliers. When fitting the **POLIFLOW,** make sure it is in the correct position. Insert it until the faces come together (yellow and gray), see below:

Poliflow with wear, need for replacement.

▪ Maintenance

• How to change the Anti Skip (TITANIUM batcher)

01 - Use universal pliers to perform the change, as indicated in the image below:



02 - With pliers, fit the **ANTI SKIP** inside the base and pull until fully fit.

Anti Skip with wear, need to change.

• Changing discs and rings with each new planting (TITANIUM batcher) - Part I

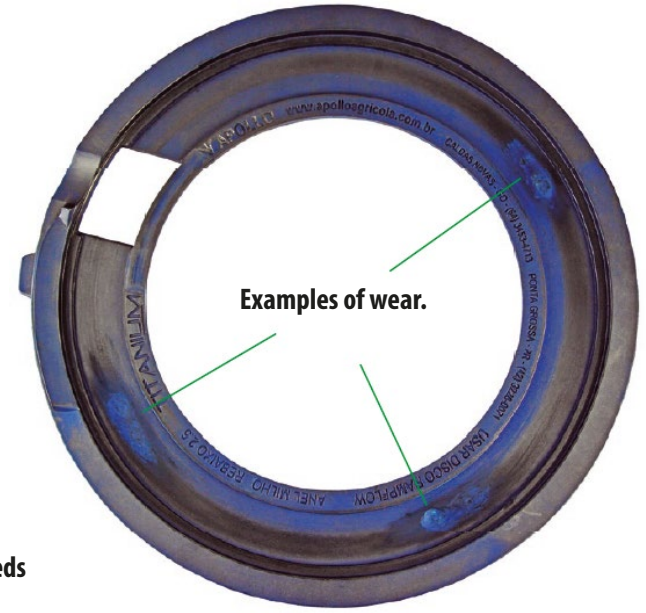
Not using graphite, **choosing the wrong disc/ring**, and **working hours** directly influence the wear of discs and rings.

IMPORTANT:

In order to maintain the excellence and efficiency of the **TITANIUM** batcher, change the disk and the ring at each new planting.

In tests performed, it was concluded that this wear can increase the number of double seeds in the same hole of the disk. **See the example below:**

The wear can cause doubles (two seeds in the same hole of the disk).

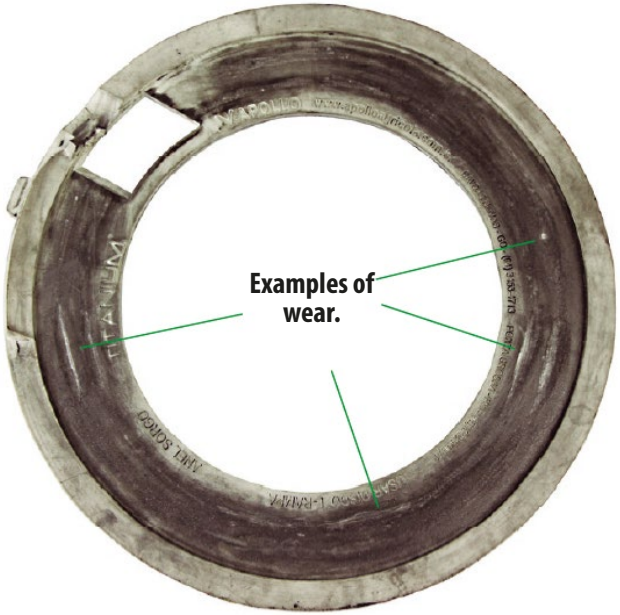


▪ Maintenance

• Changing discs and rings with each new planting (TITANIUM batcher) - Part II

Example of wear on the RING.

Very **evident wear** in this area that **can cause doubles** (two seeds in the same hole of the disk).



• Care

01 - Before each work, check the condition of all hoses, pins, screws, and discs. When necessary, retighten or replace them.

02 - The speed of travel must be carefully controlled according to terrain conditions.

03 - The **PPSOLO 3rd SEED BOX - TITANIUM** is used in several applications, requiring knowledge and attention during its handling.

04 - Only local conditions will be able to determine the best form to operate the **PPSOLO 3rd SEED BOX - TITANIUM**.

05 - When assembling or disassembling any part of the **PPSOLO 3rd SEED BOX - TITANIUM**, use suitable methods and tools.

06 - Carefully observe the lubrication intervals at the various **PPSOLO 3rd SEED BOX - TITANIUM** lubrication points. Observe the lubrication intervals.

07 - Always check if the parts are worn. If replacement is required, always require original Baldan parts.

08 - Always keep the tires at **PPSOLO 3rd SEED BOX - TITANIUM** calibrated.

09 - Keep the **PPSOLO 3rd SEED BOX - TITANIUM** discs sharp.

IMPORTANT | **Proper and periodic maintenance is necessary to ensure PPSOLO 3rd SEED BOX - TITANIUM long life.**

• Care during planting

01 - The fertilizer has great moisture absorption power and this speeds up the oxidation process, so avoid spillage and accumulation of fertilizer while loading the **PPSOLO 3rd SEED BOX - TITANIUM**.

02 - Use a blower, compressed air or a broom to remove excess of fertilizer from the seeding machine at the end of the day.

03 - To avoid fertilizer effects, protect **PPSOLO 3rd SEED BOX - TITANIUM** by storing it in the shed or covering it with canvas (in the best possible way) during rain and/or night periods, to protect it from moisture.

▪ Maintenance

• General cleaning

01 - When storing the **PPSOLO 3rd SEED BOX - BALDAN / TITANIUM**, do a general cleaning and wash it completely with water only. Check that the paint has not worn off; if this has happened, apply a general coat, apply protective oil and lubricate the **PPSOLO 3rd SEED BOX - BALDAN / TITANIUM** completely. Do not use burnt oil or other types of abrasive.

02 - Once planting is complete, proceed as follows:

- Remove the drive chains and keep them bathed in oil until the next planting.
- Remove the hoses and wash them immediately with water and mild soap. Do not use other chemical products.
- Remove the regulator and hinge the header upwards, locking it.

03 - Fully lubricate the **PPSOLO 3rd SEED BOX - BALDAN / TITANIUM**. Check all the moving parts of the **PPSOLO 3rd SEED BOX - BALDAN / TITANIUM**, if they show wear or looseness, make the necessary adjustments or replace the parts, leaving the seeder ready for the next job.

04 - After all maintenance work, store the seeder in a covered, dry place, properly supported.

Avoid: - The discs from directly contacting the ground.
- That the hydraulic hoses are properly plugged.

05 - When connecting or disconnecting hydraulic hoses, do not let their ends touch the ground. Before connecting the hydraulic hoses, clean the connections with a clean cloth without loose threads. **Do not use tow!**

06 - Replace all warning stickers, especially any that are damaged or missing. Make everyone aware of their importance and the dangers of accidents if the instructions are not followed.

07 - After all maintenance care, store your **PPSOLO 3rd SEED BOX - BALDAN / TITANIUM** on a flat surface, in a covered and dry place, away from animals and children.

08 - Make sure that the tanks are properly capped.

09 - We recommend washing the **PPSOLO 3° DEPÓSITO - BALDAN / TITANIUM** only with water at the beginning of the work.

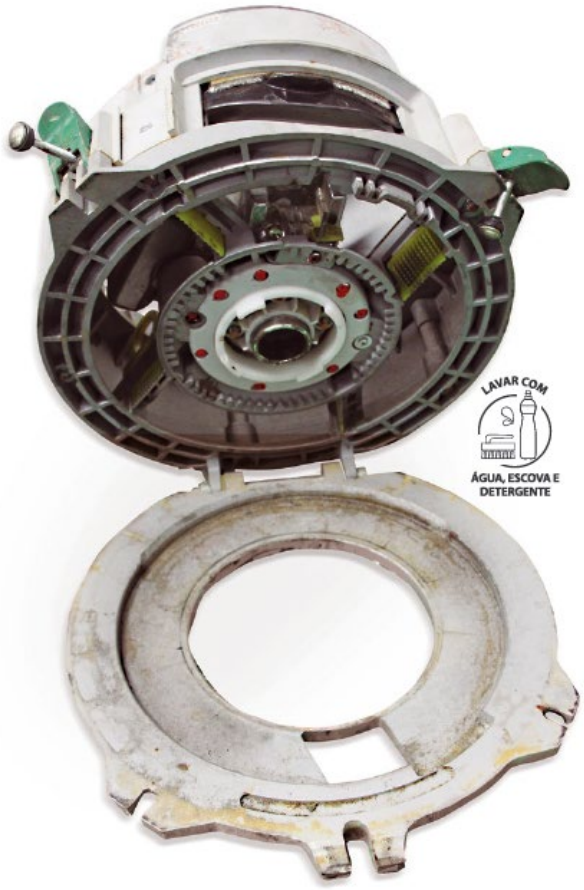
⚠ ATTENTION | **Do not use chemicals or abrasives to wash PPSOLO 3rd SEED BOX - BALDAN / TITANIUM, as this may damage the paint and adhesives on it.**

▪ Maintenance

• Cleaning (TITANIUM batcher)

After the end of each planting, it is necessary to clean the **TITANIUM** Disk Housing and Batcher Ring. It must be washed with water, brush and neutral detergent.

Example of TITANIUM with land.



Counter base of the **TITANIUM** dosing pump dirty and crusted.

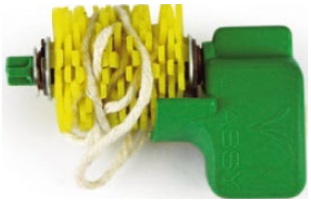
Example of TITANIUM with graphite.

Counter-base of the **TITANIUM** batcher dirty with graphite.

▪ System

• Troubleshooting (TITANIUM batcher)

01 **- The ESCOVAFLEX stuck with a rolled up string, how can it be solved?**



In extreme cases the ESCOVAFLEX can lock up, so always check through the display that it is working properly. If a string gets stuck, (as shown in the picture beside), remove the string, check the conservation status of the ESCOVAFLEX and, if necessary, replace it with a new one before continuing planting.

---

02 **- Regarding seed treatment, do I have any limitations in using the TITANIUM batcher or not?**

Yes, oil treatments, liquid inoculants, directly in the box of seeds can greatly compromise the plantability of the system.

---

03 **- With the TITANIUM batcher can I plant at a higher speed?**

No, always use the speed recommended by the planter manufacturer. The batcher was developed to improve plantability, and one of the main factors compromising plantability is speed.

---

04 **- Can I plant without graphite?**

No, never do a planting without graphite. The graphite is responsible for lubricating the system, avoiding mechanical damage and reducing wear on the discs and rings.

05 **- Can I graffiti along with the treatment?**

Yes, oil treatments, liquid inoculants, directly in the box of seeds can greatly compromise the plantability of the system.

---

06 **- Can I replace the graphite (powder) with inert talc?**

No, graphite should never be replaced or used in smaller amounts than indicated, because it is responsible for lubricating the system and distributing the seeds well.

---

07 **- I started planting soybeans, I am noticing some broken seeds in the display, what to do?**

This is a symptom of missing graphite or incorrect choice of disc and ring.

---

08 **- Can I inoculate directly into the TITANIUM batcher seed box?**

No, liquid inoculant compromises the function of the distribution set.

---

09 **- Posso trabalhar sem o limitador de peso?**

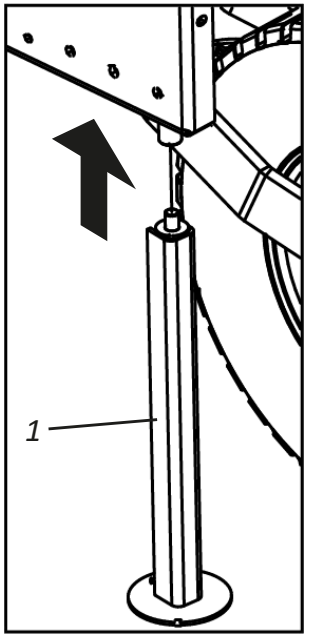
No, the limiter prevents the overload of weight inside the tank to ensure a correct seed distribution. Work without the limiter only when using the Seeds Reservoir (Popcorn Maker) J.Assy.

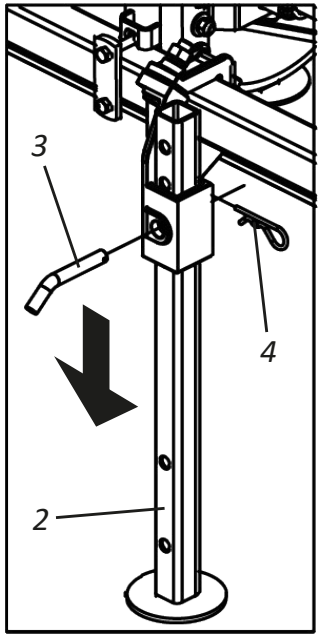
▪ Maintenance

• Tire change

If necessary, change or repair the tires, proceed as follows:

01 - First, support the **PPSOLO 3rd SEED BOX - TITANIUM** at the rear using the support bracket (1) so that it is stabilized.



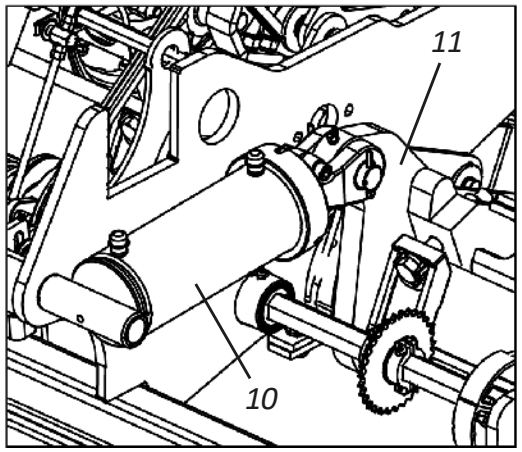


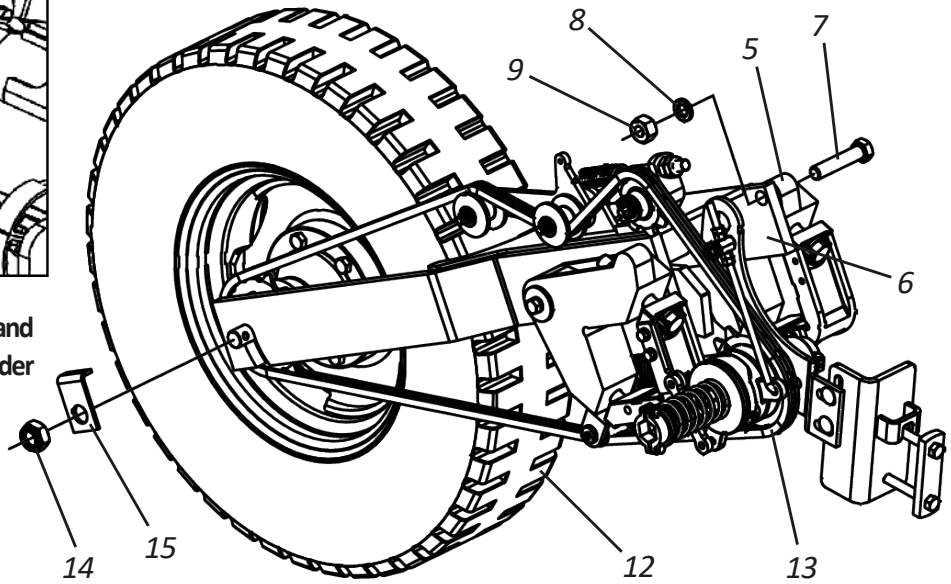
02 - Then lower the support brackets (2) on the front of the seeder and secure them with the pin (3) and lock (4).

03 - Then, lock the clamp (5) to the wheel support (6) using the screws (7), spring washer (8) and nut (9).

04 - Then fully retract the hydraulic cylinder (10) from the central shaft (11) to lift the tire (12) off the ground.

05 - Finally, remove the chain (13), loosen the nuts (14) and the locks (15) to remove the tire (12).





⚠ ATTENTION **When you have finished changing the tire, remove the screw (6), spring washer (7) and nut (8) to unlock the clamp (4) from the wheel support (5). Do not operate the seeder without first removing them. Ignoring this warning will result in planting failures.**

❗ IMPORTANT **Before changing or repairing the tire, make sure that the PPSOLO 3rd SEED BOX - TITANIUM is properly supported. Failure to do so may cause damage, serious accidents or even death.**

▪ Maintenance

• Seeder conservation - Part I

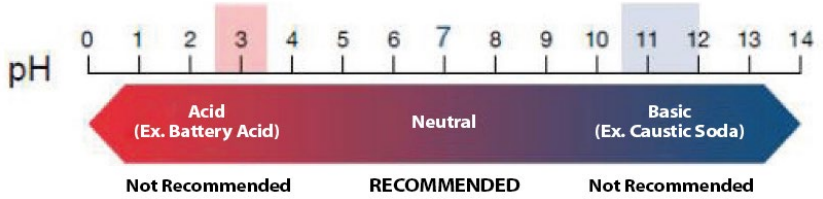
To extend the life and appearance of **PPSOLO 3rd SEED BOX - BALDAN / TITANIUM** for longer, please follow the instructions below.:

01 - Fertilizers and their additives are highly corrosive and their formulation is increasingly aggressive to seeder components.
02 - Wash and clean all seeder components during and at the end of the working season.
03 - Use neutral products to clean the seeder, following the safety and handling guideRows provided by the manufacturer.
04 - Always perform maintenance within the periods indicated in this manual.

• Seeder conservation - Part II

The practices and precautions below if adopted by the owner or operator make a difference to the conservation of **PPSOLO 3rd SEED BOX - BALDAN / TITANIUM.**

01 - Be careful when washing with high PRESSURE; do not direct the water jet directly on connectors and electrical components. Isolate all electrical components;
02 - Use only water and NEUTRAL detergent (pH equal to 7);
03 - Apply the product, strictly following the manufacturer's instructions, on the wet surface and in the correct sequence, respecting the time of application and washing;
04 - Stains and dirt not removed with the products must be removed with the aid of a sponge.
05 - Rinse the machine with clean water to remove all chemical residue.
06 - do not use: - Detergents with basic active principle (pH greater than 7) can damage/stain the seeder's paint.
- Detergents with acid active principle (pH less than 7), act as a stripper/zinc remover (the protection of parts against oxidation).



07 - Allow the machine to dry in the shade so that water does not accumulate in its components. Drying too quickly can cause stains on your paint.

▪ Maintenance

• Seeder conservation - Part III

08 - After drying lubricate all chains and grease fittings according to operator manual recommendations.
09 - Spray the entire machine, especially the zinc-coated parts, with protective oil, following the manufacturer's application guideRows. The protector also prevents dirt from sticking to the machine, facilitating subsequent washing.
10 - Observe the cure time (absorption) and application intervals as recommended by the manufacturer.

⚠ ATTENTION

Do not use any other type of oil to protect the seeder (used hydraulic oil, "burnt" oil, diesel oil, castor oil, kerosene, etc.).

❗ IMPORTANT

We recommend the following protective oils:
- Bardahl: Protective Agro 200 or 300
- ITWChemical: Zoxol DW - Series 4000

🔍 NOTE

Ignoring the conservation measures mentioned above may result in the loss of warranty for painted or zinc-coated components that present possible oxidation (rust).

▪ Optional

• Optional accessories - Part I

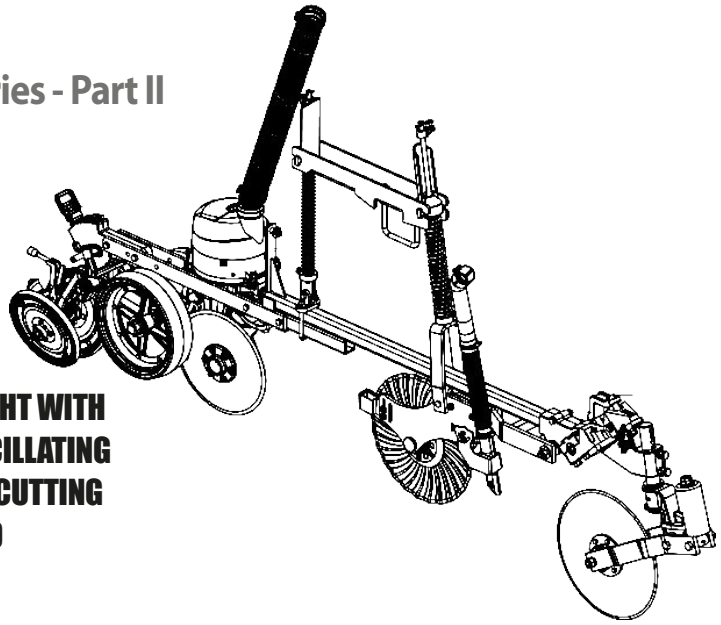
The **PPSOLO 3rd SEED BOX - TITANIUM** has options that can be purchased according to the need for work.

PM 400 ELECTRICAL SYSTEM

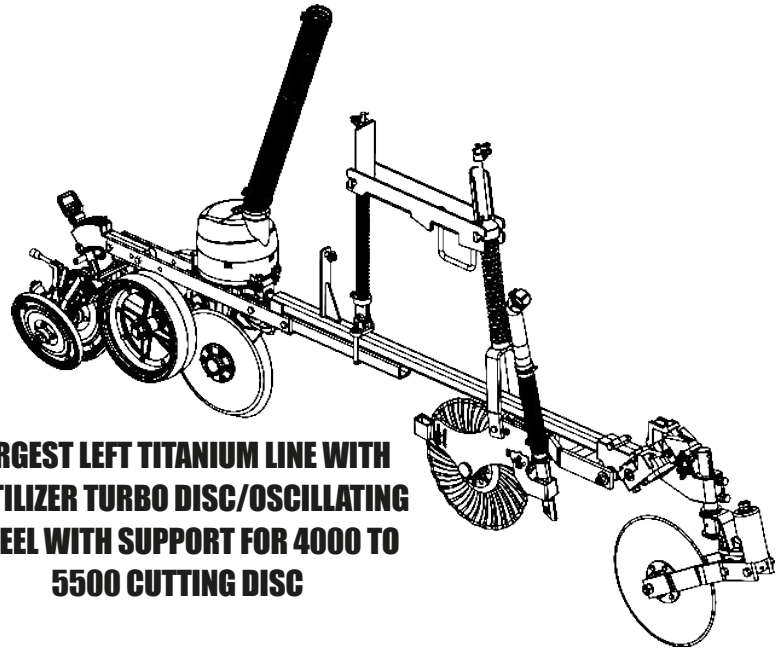
ETD - ELECTRONIC DOSING TABLE

▪ Optional

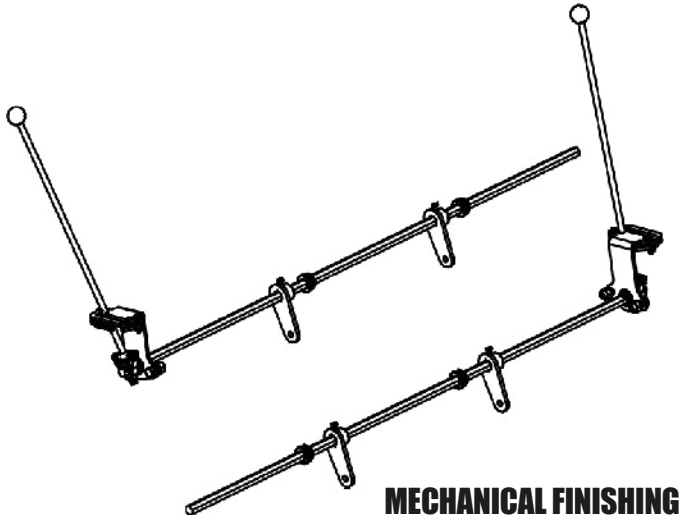
- Optional accessories - Part II



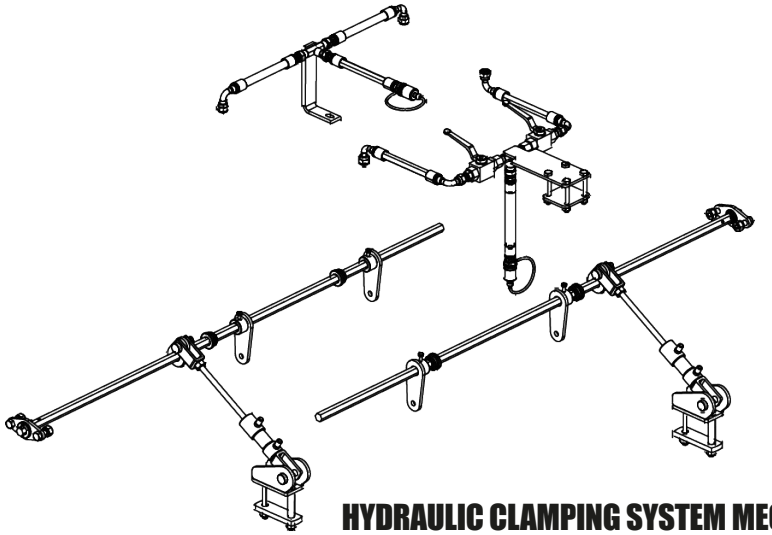
TITANIUM LINE SMALLER RIGHT WITH FERTILIZER TURBO DISC/OSCILLATING WHEEL WITH SUPPORT FOR CUTTING DISC 4000 TO 5500



LARGEST LEFT TITANIUM LINE WITH FERTILIZER TURBO DISC/OSCILLATING WHEEL WITH SUPPORT FOR 4000 TO 5500 CUTTING DISC



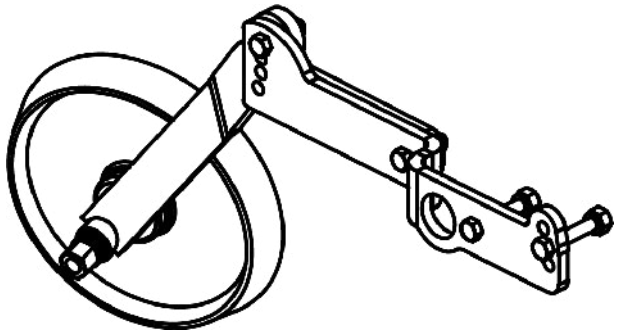
MECHANICAL FINISHING SYSTEM



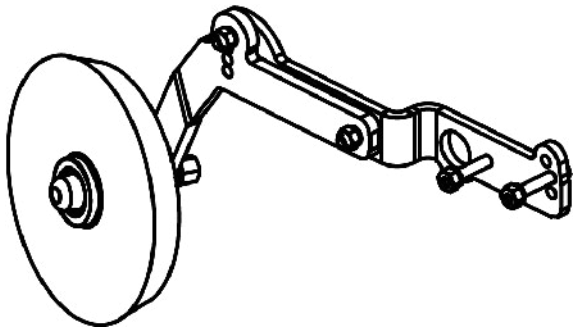
HYDRAULIC CLAMPING SYSTEM MECHANICAL RATCHET

▪ Optional

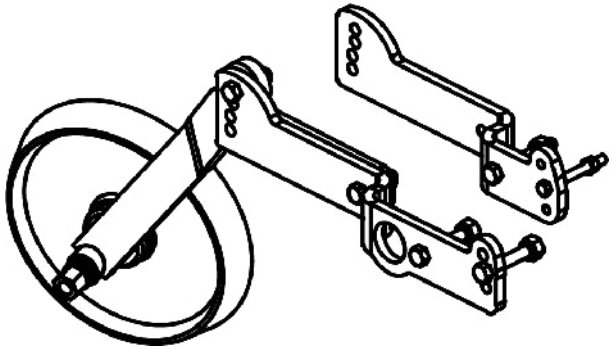
- Optional accessories - Part III



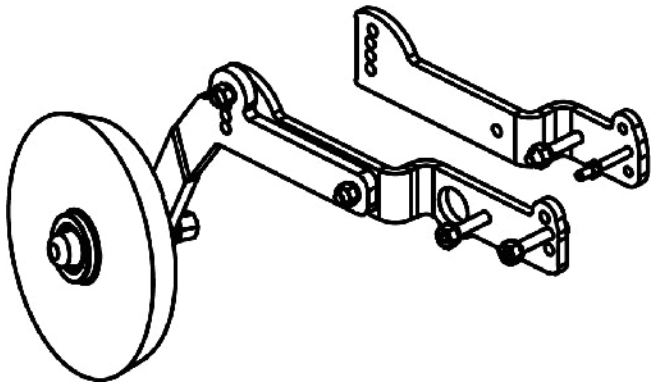
LEFT COMPACTING WHEEL CPL
FOR DOUBLE DISC



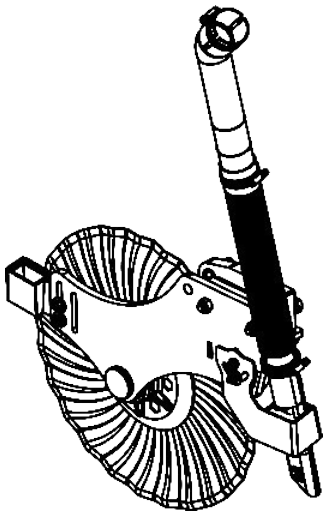
RIGHT COMPACTING WHEEL CPL
FOR DOUBLE DISC



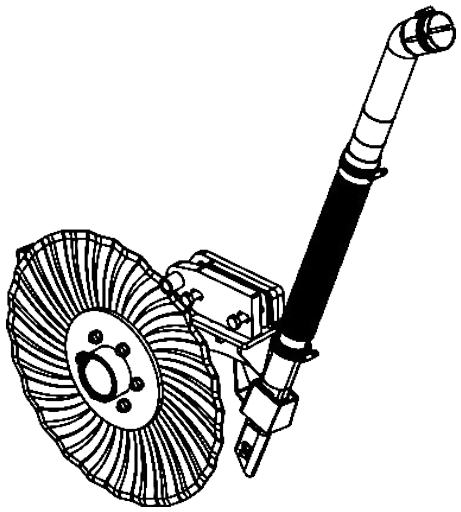
LEFT COMPACTING WHEEL CPL
FOR DOUBLE DISC AND FURROWER



RIGHT COMPACTING WHEEL CPL
FOR DOUBLE DISC AND FURROWER



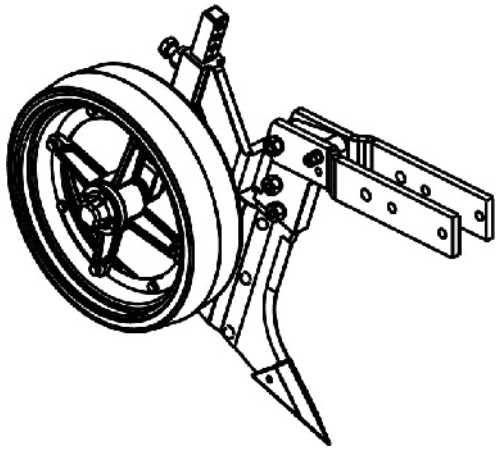
RIGHT CART OF FERTILIZER
TURBO DISC



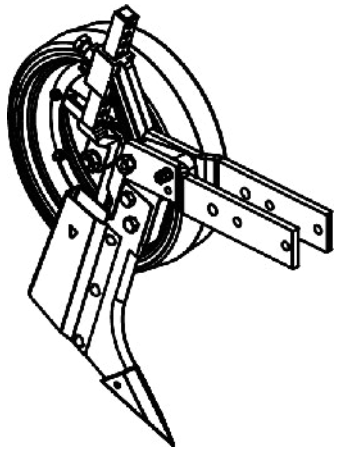
LEFT CART OF FERTILIZER
TURBO DISC

▪ Optional

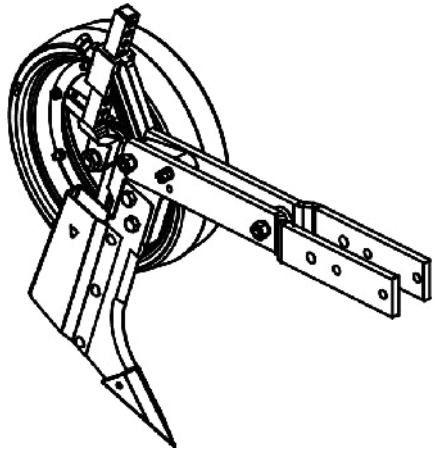
• Optional accessories - Part IV



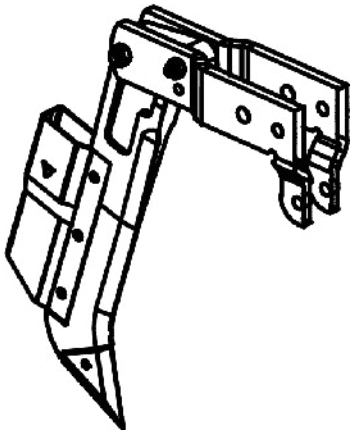
RIGHT FURROWER WITH SMALLER BAR WITH DEPTH WHEEL



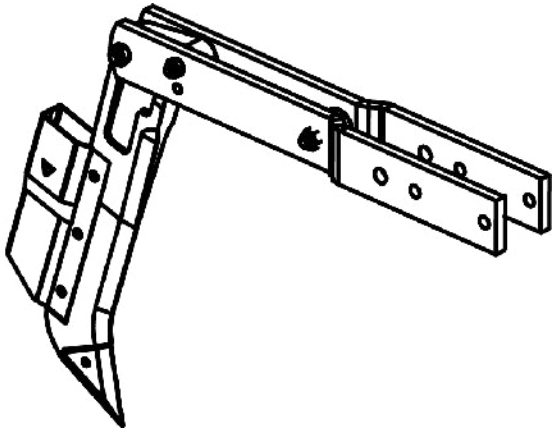
LEFT FURROWER WITH SMALLER BAR WITH DEPTH WHEEL



LEFT FURROWER WITH BIGGER BAR WITH DEPTH WHEEL



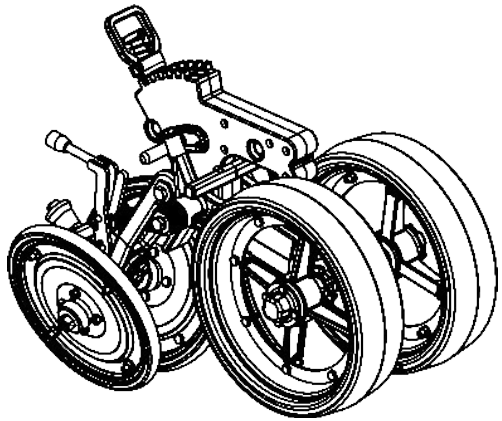
FURROWER WITH SMALLER SHANK (FINE)



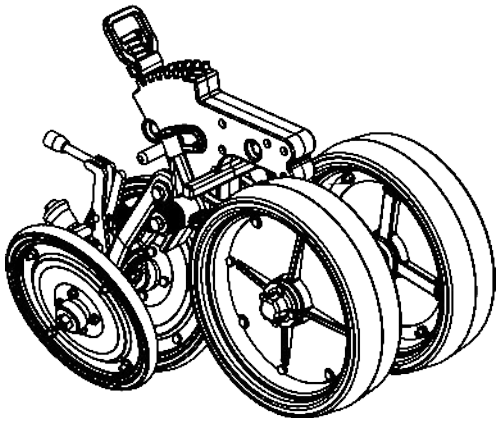
FURROWER WITH LARGER SHANK (THIN)

▪ Optional

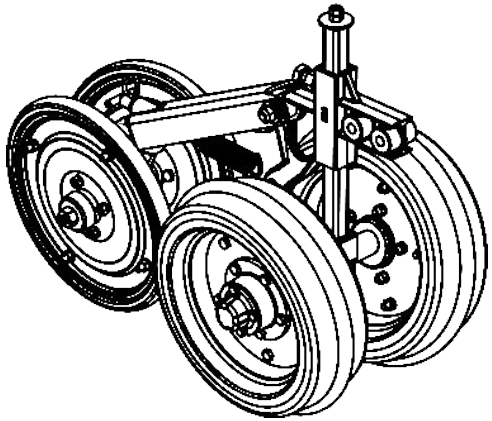
• Optional accessories - Part V



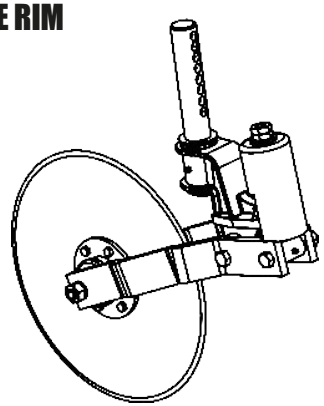
CART WITH ECCENTRIC/OSCILLATING
DEPTH WHEEL AND "V" WHEEL
WITHOUT PROTECTIVE RIM



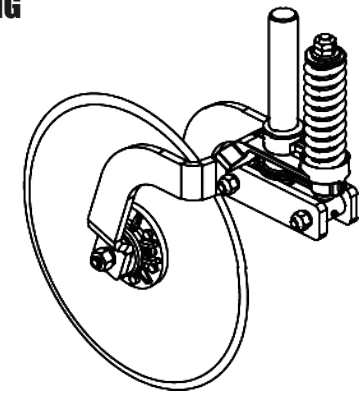
CART WITH ECCENTRIC/OSCILLATING
DEPTH WHEEL AND "V" WHEEL
WITH PROTECTIVE RING



CART WITH DEPTH GAUGE AND "V"
WHEEL (ECCENTRIC)



CUTTING DISC CART
(18" X 4.75 MM SMOOTH OR GROOVED FLAT DISC)
PPSOLO 4000 AND 5500

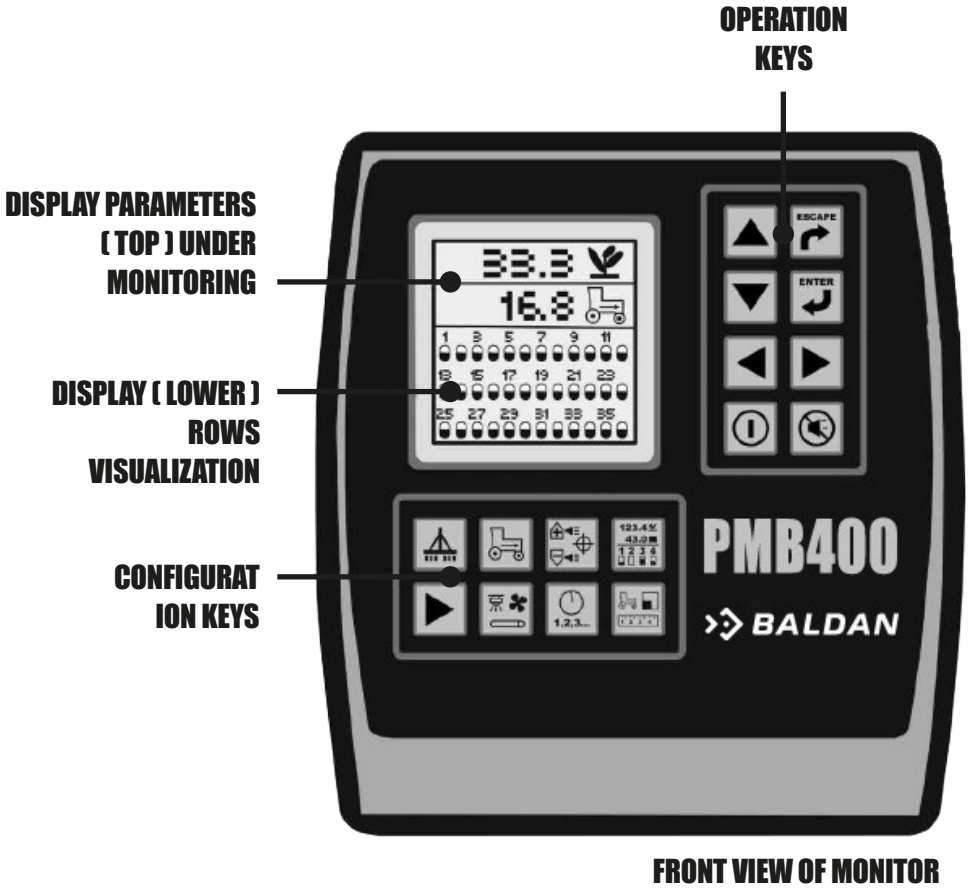


CUTTING DISC CART
(20" X 4.75 MM SMOOTH FLAT DISC)
PPSOLO 6500 AND 7500

▪ Operating manual PMB 400 - Optional

• PMB 400

• Monitor overview



FRONT VIEW OF MONITOR

▪ Operating manual PMB 400

• Navigation keys - Part I

 **ON / OFF**

Press  to activate the monitor. When turned on, the monitor carries out internal tests, lights up the display, sounds an alarm and determines which sensors are connected to the system.
Pressing the key for one second, when the display is on, the system will be turned off regardless of what is shown on the display.

 **ALARM CANCELLATION**

When pressing the key during normal operation, the monitor recognizes the alarm conditions that are being shown on the display.
When pressing the key during the alarm event, the audible warning will be canceled but the visual information will continue to be displayed.

 **ENTER**

By pressing  you will move from the main operation screen to the main menu or the selected screen. Once the item is selected, when the key  pressed, the navigation mode will be modified to change the data.

 **NOTE:** After having changing the data, the ESC key will accept the change.

▪ Operating manual PMB 400

• Navigation keys - Part II

ESC (EXIT)

When pressing the key 

for two seconds on the OPERATION SCREEN, the accumulated area located at the top of the screen will be reset. The key 

can be used to return to OPERATION mode.

NOTE: After having made the data change, the ESC key will accept the change.

UP ARROW AND DOWN ARROW

On the OPERATION SCREEN the arrow keys are used to manually select the parameters that are being displayed at the top of the display.

NOTE: These keys will be inactive if all configured parameters are being displayed.
When in a settings screen, ARROWS are used to navigate between options or to change a digit/option.

LEFT ARROW AND RIGHT ARROW

On the OPERATION SCREEN the arrow keys are used to manually select the Rows that are being displayed at the bottom of the display.

NOTE: These keys will be inactive if all configured parameters are being displayed.
When in a settings screen, ARROWS are used to navigate between options.

▪ Operating manual PMB 400

• Settings keys - Part I

SETTING THE PLANTER

This key is used to set:

- Number of Rows;
- Row spacing;
- Planter width (optional)
- Row status (seed, fertilizer, blocked or disabled).

See “Planter Configuration” for more information.

SETTING THE TRAVEL SPEED

This key is used to:

- Perform the travel speed calibration;
- Enter the manual travel speed data (used if there is no speed sensor available);
- Configure the speed limit alarm.

See more information in “Setting the Travel Speed”.

▪ Operating manual PMB 400

• Settings keys - Part II

LIMIT CONFIGURATION

This key is used to set:

- Maximum / Minimum Population Variation Limits (optional).
- Estimated target population (optional).
- Population adjustment factor, for sensors that comprise less than 100% of the total seeds (optional).
- Response rate, to increase or decrease the response rate (optional).

See more information in “Limits Configuration”.

DISPLAY AND SERVICE CONFIGURATION

This key is used to:

- Access security functions, Row indicators, services and sub-menus;
- Selection of Metric / English units;
- Intensity of the display illumination;
- Alarm volume;
- Font and Icon Size;
- Sound Intensity.

See more information in “Setting the Travel Speed”.

▪ Operating manual PMB 400

• Settings keys - Part III

OPERATION

This key is used for the user to return to the OPERATION SCREEN.
See “Operation” for more information.

ACCESSORIES SETTINGS

This key is used to configure the selection of Fan (RPM), Shaft (RPM) or Flow (Grains per minute).
See “Setting the Accessories” for more information.

SEED COUNT MODE

This key takes the user to the SEED COUNTING screen.
This mode allows the user to test the planter before operating in the field and shows the seed count for each row in use.
See more information in “Seed Counting Mode”.

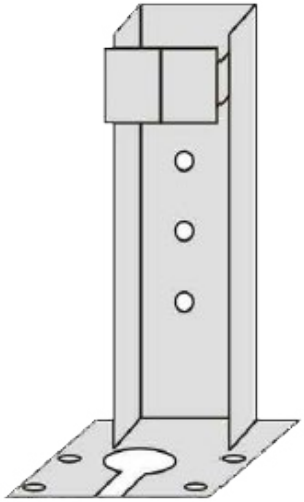
AREA, SPEED, AND DISTANCE MODE

This key takes the user to the SPEED, AREA and DISTANCE screen.
This mode allows the user to use the monitor for operations without planting. This mode is also used to start, to clear the three independent area markers (planting area 1, planting area 2 and total area) and distance (Rowar meter).
See “Speed Area Mode” for more information.

▪ Operating manual PMB 400

• Installation and configuration - Part I

Before shipping, the monitor is tested and inspected to ensure that the unit is operating in full condition and meets all measurement specifications. After unpacking the product, inspect for damage that may have occurred during transportation. Save all packing materials until all inspection has been done. If any damage is found, immediately file a claim with the carrier. Also notify your sales representative.
Install the mounting bracket in the chosen location using suitable tools. Then Install the bracket on the console by sliding it into the slots until the lock fits.



SUPPORT

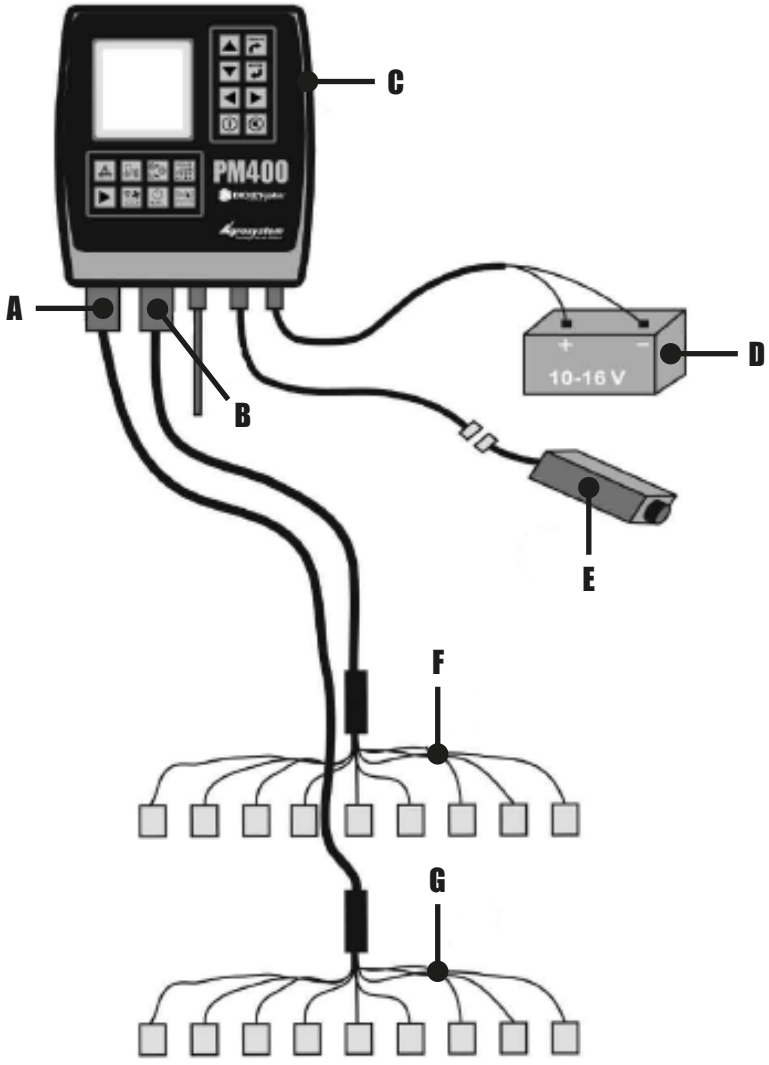
NOTE: The console must not obstruct or interfere with the operation of the tractor.
When mounting on a vertical surface, a strap can be used to retain cables at the bottom of the bracket.

⚠ ATTENTION **To prevent damage, make sure that the console is properly seated in the bracket.**

▪ Operating manual PMB 400

• Installation and Configuration - Part II

The planting monitor has two inputs for connecting the planter's electrical harnesses.
Input **(A)** monitors from the 1st to the 24th sensor. Input **(B)** monitors from 25th to 36th sensor.



MONITOR INSTALLATION SCHEME

⚠ ATTENTION

The planter configuration and the travel setting the speed are essential for the planting monitor to function.
To perform these settings, see "Setting the Planter" and "Setting the Travel Speed".

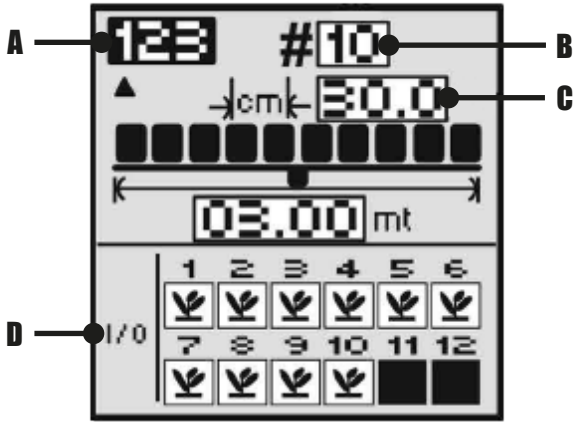
If you have an 11-Row planter and a monitor with two electrical harnesses with 12 sensors each: The electrical harness for the seed Row sensors must be connected to connection **(A)** and the electrical harness for the fertilizer sensors to connection **(B)**.
But if you have an 11-row planter and a monitor with an electrical harness with 24 sensors: You connect the harness to connection **(A)**, sensors 1 to 12 in the seed Rows and sensors 13 to 24 in the fertilizer batchers.

NOTE: You can monitor up to 36 seed Rows, using two harnesses or up to 18 seed Rows and 18 fertilizer Rows.

▪ Operating manual PMB 400

• Setting the planter - Part I

To select the “Planter Configuration” screen, press  , and remember that the monitor stores up to 03 different planter configurations.



SCREEN: SETTING THE PLANTER

01 - In field **A** press  , select a planter configuration number using  confirm by pressing  again;

02 - In field **B** use  to select the number of Rows and press  to change the number of Rows;

 **NOTE:** Inform only the number of SEED Rows to be monitored.

03 - Use to select digits and  increase or decrease values:

04 - Press  to accept the new number;

05 - In field **C**, Row spacing, proceed to field **B**.

06 - In field **D**, use  to select the Row to be monitored,

 to specify the type of monitoring and press  to confirm:

 - Used to monitor seed dosage;

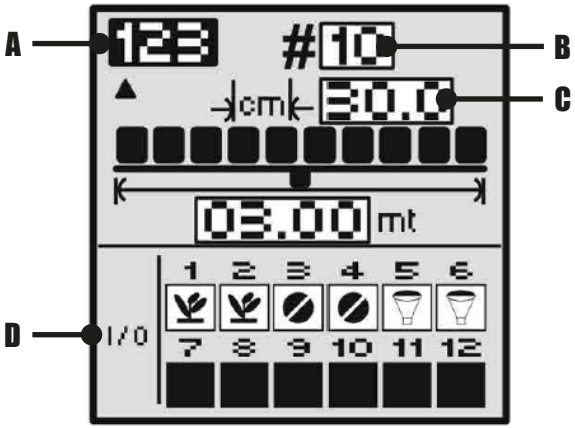
 - Used when the sensor is installed on the Row, but it is turned off;

 - Used to monitor fertilizer dosage (flow);

 - Used when the Row is removed.

▪ Operating manual PMB 400

• Setting the planter - Part II



SCREEN: SETTING THE PLANTER

At the end of the configuration, press ENTER or ▶ (operation) to return to the OPERATION SCREEN.

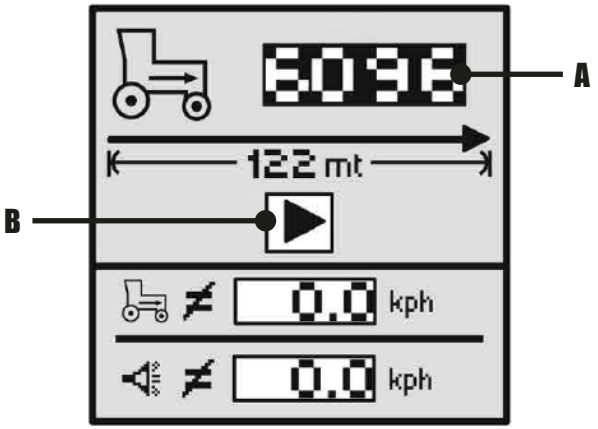
• Setting the travel speed - Part I

To select the Travel SETTING THE SPEED screen, press .

To perform a new setting:

⚠ ATTENTION | **The tractor must be in motion before calibration STARTS.**

01 - Select ▶ **(B)** and press ENTER, to start the calibration of 122 meters.



SCREEN: SETTING THE SPEED

NOTE: After calibration has started, the button will switch to ■ **(B).**

▪ Operating manual PMB 400

• Setting the Travel Speed - Part II

01 - Drive for 122 meters (400 feet) and press 

to STOP calibration.

02 - The new calibration factor will be displayed in the window. Press 

to accept this value or 

to reject the value.

At the end of the configuration press 

or  (operation) to return to the PROTECTION SCREEN.

To enter a travel speed constant manually:

01 - Press  to highlight the displacement speed constant value **(A)**.

02 - Press 

to modify the constant.

03 - Press  to select the digits, increasing or decreasing the values.

04 - Press 

to accept the new number.

When the new values have been entered, press 

or  (operation) to return to the OPERATION SCREEN.

 **NOTE:** It is important to set the travel speed in the planting area.

⚠ ATTENTION | **Any value other than zero will activate the travel speed. Adjust the speed manually to zero in order to disable.**

 **NOTE:** To check if the calibration number obtained is correct, go to the speed/area/distance screen and check the speed indicated on the tractor indicator.

We recommend averaging the values of the 3 calibration constants.

 **NOTE:** Calibration on a smooth soil is different from calibrating a soil with stubble.

Whenever you are planting in soil other than the one performed the calibration, perform the calibration process again.
If your planter is not equipped with a travel speed sensor, the operator can enter a value for planting with simulated speed by manually changing the value of the speed field **(C)**.
In the limit field **(D)**, the operator can enter the limit value for excess travel speed.

▪ Operating manual PMB 400

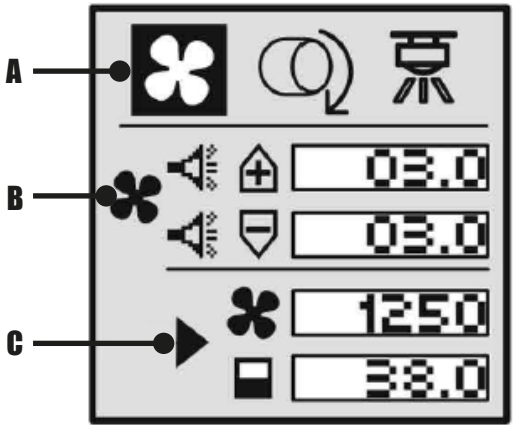
• Setting the Accessories - Part I

To add an auxiliary sensor with its performance characteristics (calibration values, limits, etc.) for monitoring, it must be activated through the calibration constant.
If minimum and maximum alarms are desired, limits can be added to the calibrated sensors. The fan, shaft or flow sensor can be monitored with high or low alarm values or no value.

• Shaft and Fan

01 **-** Select the accessory **(A)**, go to the START button **(B)** and press 

. After calibration has started, the button will switch to STOP **(B)** and the factor will start to accumulate.



SCREEN: SETTING THE SPEED

02 **-** During the rotation count, turn the shaft or fan on the number total rotations.

03 **-** Stop the calibration by pressing 

. The factor will stop accumulating.

04 **-** Using  , select the number of turns box (under the calibration number) and change the number of turns turned with  .

05 **-** Configure the maximum/minimum limits **(B)**.

When the new values have been entered, press 

or  (operation) to return to the OPERATION SCREEN.

▪ Operating manual PMB 400

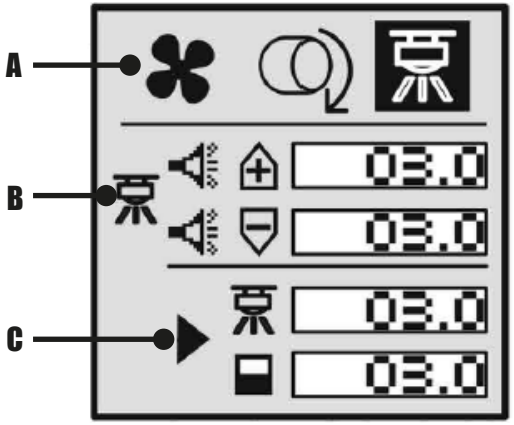
• Setting the Accessories - Part II

• Flow

It is worth remembering that an adequate method is needed to determine the volume of material (scale, graduated glass or a collecting shell) to calibrate the monitor.

01 - Select the accessory **(A)**, go to the START button **(B)** and press 

. After calibration has started, the button will switch to STOP **(B)** and the factor will start to accumulate.



SCREEN: SETTING THE SPEED

02 - Once the desired quantity is dispensed, stop dispensing. The factor will stop accumulating.

03 - Measure the amount of material that was distributed.

04 - Using  , select the tank volume box (below the calibration number) and change the distributed volume with  .

05 - Configure the maximum/minimum limits **(B)**.

When the new values have been entered, press 

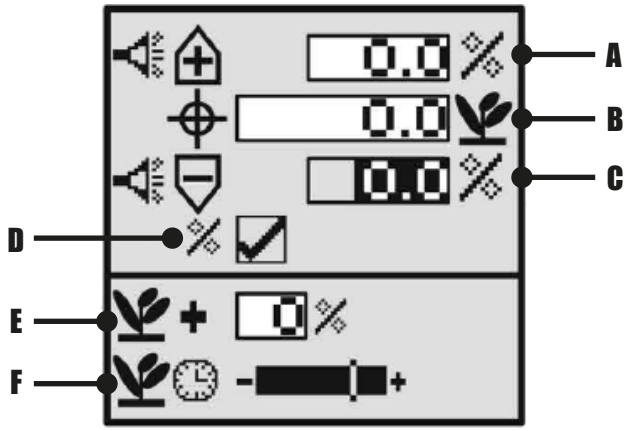
or  (operation) to return to the OPERATION SCREEN.

▪ Operating manual PMB 400

• Setting the seed population

Press  to access the SETTING THE SEED POPULATION screen. This screen allows the user to define different population characteristics.

01 - Define the desired target population of seeds **(B)**.



SCREEN: POPULATION CONFIGURATION

NOTE: If no population value is selected, the monitor will use the population average as the calculation basis for alarm and Row indicators.

02 - Define the values for the maximum **(A)** and minimum **(C)** limits that be accepted as a percentage or basic values;

NOTE: If you use basic values, it is important to note that the comma indicates thousands.

03 - Define, if necessary, the adjustment factor **(E)** for more or less population;

NOTE: The population adjustment factor is available to provide the result and show the population as close to the real. This is useful when the sensors do not detect double, triple, etc.

04 - In field **(F)**, slide to the right to obtain a high population response rate and to the left for a low population response rate.

NOTE: This feature is used to ensure uniformity in the display of the seed population for planters with few rows versus planters with many rows.

▪ Operating manual PMB 400

• Setting auxiliary modes

The lift switch can be used to more accurately monitor the area accumulator. It automatically disables the counter while the planter is not planting, thus avoiding accumulating the non-planted area.

⚠ ATTENTION | **Alarms are disabled in these modes.**

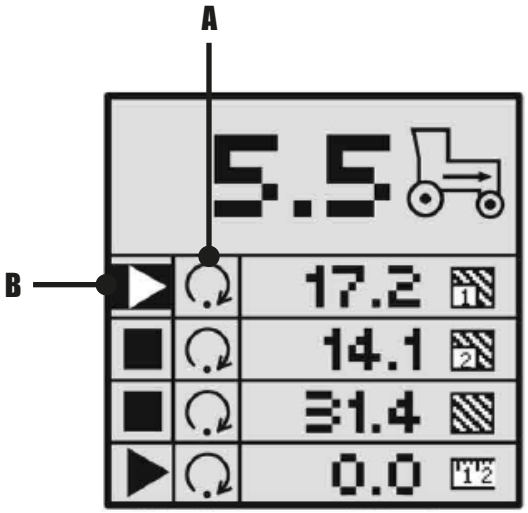
• Speed, area and distance

In this mode, the travel speed, the area and the distance covered are displayed. The mode includes start/stop/restart for monitoring.

To enter this mode press the key  .

01 - Select button  **(B)**;

02 - Start the count by pressing  . After counting has started, the button will switch to  (STOP) and the factor will start to accumulate;



SCREEN: SPEED, AREA AND DISTANCE

03 - Press  (the count will pause).

04 - Press  again. The factor accumulate again.

To reset the counter:

01 - Press  to select the (RESET) button  ;

02 - Press  .

▪ Operating manual PMB 400

• Seed Count

The seed counting mode can be used to determine the performance of the rows when operating the planter in stationary mode.

To enter this mode press the key 

.

01 - Select button  **(B)**;

02 - Start the count by pressing 

. After counting has started, the button will switch to  (STOP) and the factor will start to accumulate;

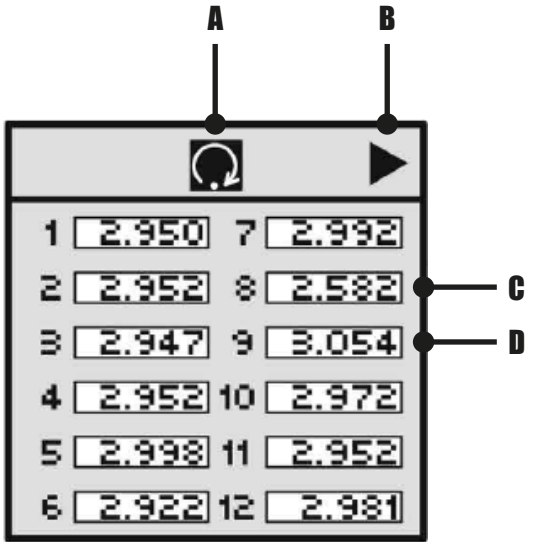
03 - Press 

(the count will pause).

04 - Press 

again. The factor accumulate again.

In the example opposite, Row 8 **(C)** is marking less seeds than desired, while in Row 9 **(D)** it is marking more seeds.



SCREEN: SEED COUNT

To reset the counter:

There are two ways to reset the counter.

01 - Press  to select the (RESET) button  and press 

;

02 - Press 

to exit seed counting mode and press 

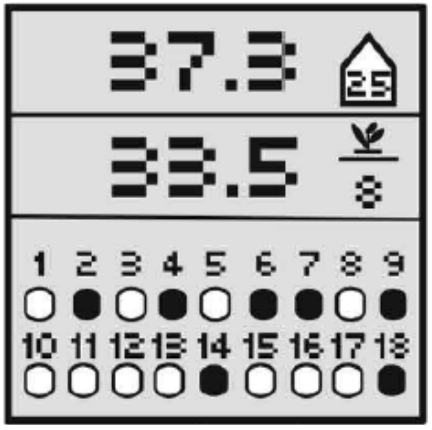
.

▪ Operating manual PMB 400

• Setting the Display - Top Half of the Operation Screen

Through the user interface settings it is possible to select the functions that can be displayed on the screen. If more functions are selected than the screen availability, then the keys  are used to scroll between the functions, and it is possible to view up to 25 functions. See the example. If 8 functions are selected:

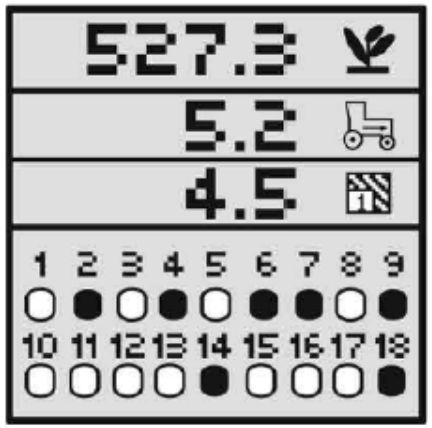
- Average Plant Population.
- Travel Speed.
- Planting Area 1.
- Total Area.
- Fan RPM.
- Maximum/Average/Minimum Population.
- Spacing between seeds.
- Checking Seed Variation by Distance.



SCREEN: TOP DISPLAY

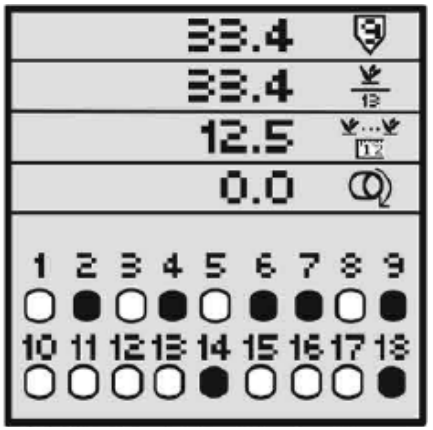
If the screen is set to display 3 functions, the operation screen will display functions 1, 2 and 3.

When  is pressed, the screen will show functions 2, 3 and 4.



SCREEN: TOP DISPLAY

The next touch on the  screen will show functions 3, 4 and 5. Returning to item 1 when the screen is showing functions 7, 8 and 1.

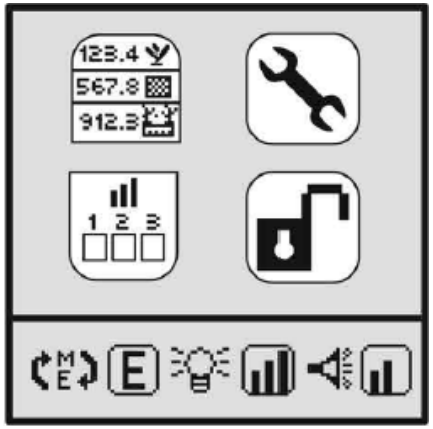


SCREEN: TOP DISPLAY

▪ Operating manual PMB 400

• Number of Functions to Display

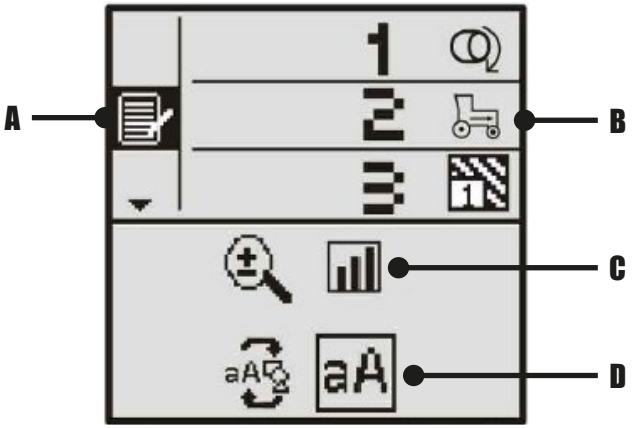
01 - Press  to enter the display settings screen;



SCREEN: TOP DISPLAY SETTING

02 - Press  to enter the settings screen;

03 - Select the functions to display option **(A)** and press  ;



SCREEN: NUMBER OF FUNCTIONS

04 - Use the arrows  to choose the functions **(B)** that will be visible on the operation screen;

05 - Select the option of the number of functions to display **(C)**;

06 - Press  ;

07 - Use  to change the number of functions to display on the screen.

08 - Select the graphic/text mode **(D)**;

09 - Press  ;

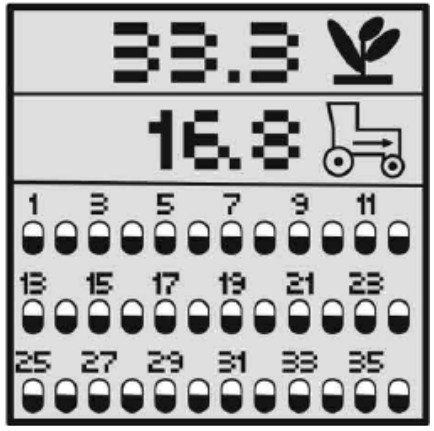
10 - Use  to change mode.

When the new values have been entered, press  or  (operation) to return to the OPERATION SCREEN.

▪ Operating manual PMB 400

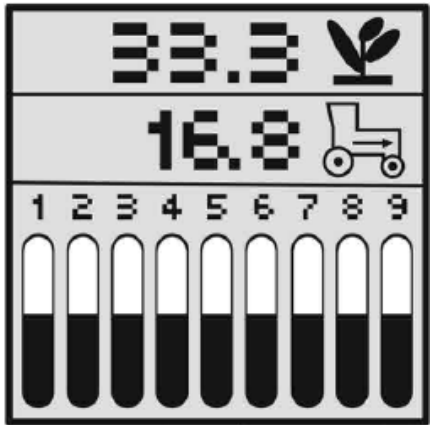
• Setting the Display - Lower Half of the Operation Screen

The number of connected Rows shown in the lower half of the screen is defined by the user, thus varying the size of the numbers.



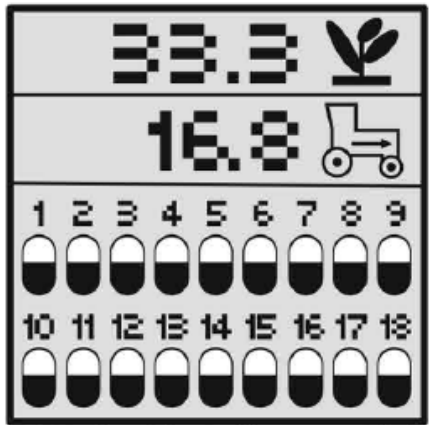
SCREEN: GRAPHIC WITH 36 ROWS

The monitor will automatically count through the Rows at 3-second intervals when the Row is connected.



SCREEN: GRAPHIC WITH 09 ROWS

The operator can use usar  to manually select which Row to monitor. Automatic counting will restart in 10 seconds after manual selection.



SCREEN: GRAPHIC WITH 18 ROWS

▪ Operating manual PMB 400

• Indicator type to display

01 - Press  to enter the display settings screen.

02 - Select  to enter the settings screen and choose the option to display the indicator;

03 - Press  ;

04 - Use  to change the indicator mode:

 - Bar chart

 - Symbols

 - Symbols flashing in proportion to the planting rate

 - Cleaning pressure gauge

05 - Select the option of the number of indicators to display **(A)** on the operation screen;

06 - Press  ;

07 - Use  to change the number of indicators to display **(A)** on the operation screen.

When the new values have been entered, press  or  (operation) to return to the OPERATION SCREEN.

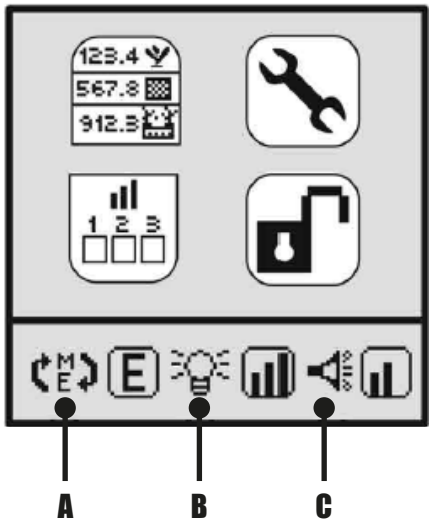
▪ Operating manual PMB 400

• Setting the Measurement System, Display, Lighting and Alarm Volume

Press  to configure the measurement system, display illumination and alarm volume.

NOTE: At the bottom of the screen are icons for settings.

SCREEN: SETTINGS



01 - Press  to configure the measurement system, the display lighting the volume of the alarms.

02 - Switch between METRIC and ENGLISH as desired;

03 - Press  to accept the new configuration;

04 - Select the display lighting icon **(B)** using  and pressione  ;

05 - Use  to select the lighting level of the display. There are 03 lighting levels that can be chosen.

06 - Press  to accept the new configuration;

07 - Select the alarm volume icon **(c)** usando  and press  ;

08 - Use  to select the alarm volume level. There are 03 volume levels that can be chosen;

09 - Press  to accept the new configuration.

When the new values have been entered, press  or  (operation) to return to the OPERATION SCREEN.

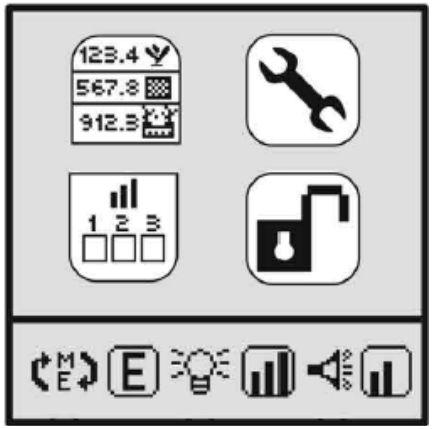
▪ Operating manual PMB 400

• Setting the Security Password - Part I

The monitor's security system allows a security password to be entered, protecting the system from access by unauthorized persons to change settings data.

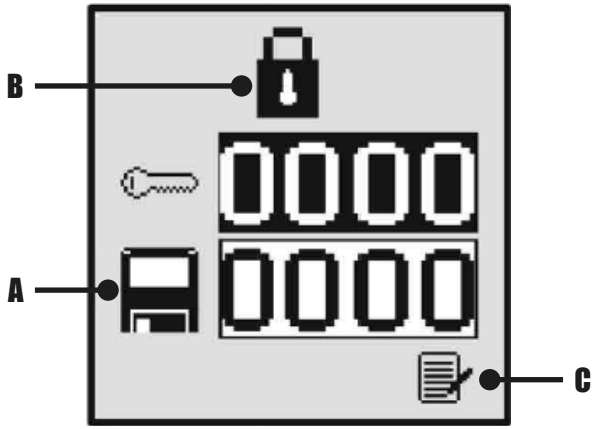
NOTE: A screen list allows the operator to lock screens individually to ensure they are not modified.

Press  to enter the display settings screen and choose  :



SCREEN: DISPLAY CONFIGURATION

01 - Select the disk icon **(A)** using  ;



SCREEN: PASSWORD SETTING

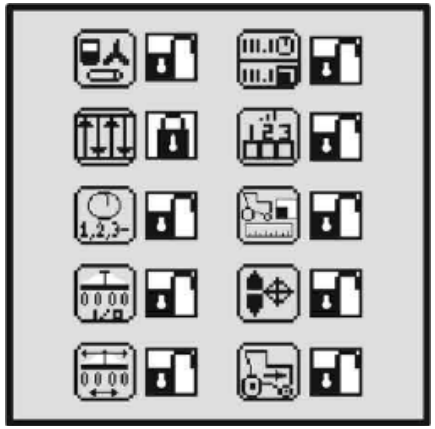
02 - Press  to enter the password;

03 - Modify the digits with  and press  to accept the new password;

04 - To lock the screens individually, select the icon **(B)** and press  to enter the list of screens;

▪ Operating manual PMB 400

• Setting the Security Password - Part II



SCREEN: PASSWORDS BY FUNCTION

01 - Using  , lock or unlock the desired screens, closing or opening the lock icon next to each screen;

02 - Press 

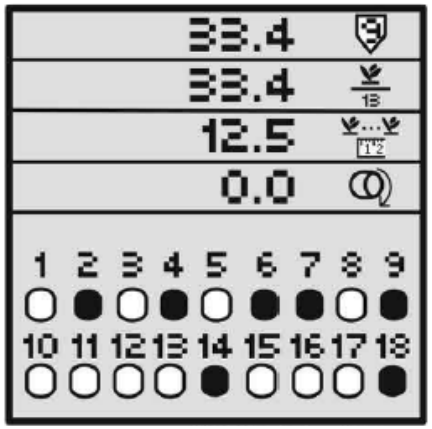
to return to the password screen;

03 - Select the lock **(c)** and press 

to switch from unlocked to locked. The selected screens will be locked and you will need to enter the password to make the changes.

• General Information on Function Monitoring - Part I

The operator can choose 2, 3 or 4 functions for simultaneous monitoring and can select several others to be viewed.



SCREEN: DISPLAY

The monitor’s operation screen provides monitoring functions.
No matter where the user has navigated in the settings screens, security or auxiliary modes, pressing the key 

repeatedly the system will return to the operation screen. The operation screen is divided into two halves, upper and lower.
The upper half provides the user-definable output parameters (population, area, speed, etc.) while the lower half is dedicated to Row information.

▪ Operating manual PMB 400

• General Information on Function Monitoring - Part II

NOTE: For more information and how to configure the operation screen, see “Settings on the Operation Screen”.

AVERAGE PLANT POPULATION

The function shows the average plants per row in seeds per hectare or seeds per acre that are set for population. The population response rate and population adjustment can be modified on the target settings screen.

NOTE: This function can be identified with a symbol or text, depending on the text/graphic setting.

MAXIMUM/AVERAGE/MINIMUM POPULATION

The function alternates the display in minimum, average and maximum population every 2 seconds, indicating the corresponding Row.
When maximum or minimum populations are being shown, the corresponding symbol is shown with the Row number.

ROW POPULATION CHECK

The function shows the population of each row of the planter. The monitor switches between the active Rows every 2 seconds. After the last Row is displayed, the monitor returns to the first active Row and starts another verification sequence.

SPACE BETWEEN SEEDS

The function shows variation in seed spacing.
This function can be identified with a symbol or text, depending on the text/graphic setting.

MAXIMUM/AVERAGE/MINIMUM SPACING

The function switches the display in minimum, medium and maximum spacing every 2 seconds.
When maximum or minimum spacing is being shown, the corresponding symbol is shown with the Row number.

▪ Operating manual PMB 400

• General Information on Function Monitoring - Part III

CHECKING SPACE BETWEEN SEEDS

The function shows the spacing between the seeds of each row. The monitor switches between the active Rows every 2 seconds. After the last Row is displayed, the monitor returns to the first active Row and starts another verification sequence.

SEED VARIATION BY DISTANCE

The function shows the variation of the seed population of each row of the planter in spacing of seeds by distance according to the configuration. This function can be identified with a symbol or text, depending on the text/graphic setting.

MAXIMUM/AVERAGE/MINIMUM SEED VARIATION BY DISTANCE

The function switches the display in minimum, average and maximum variation every 2 seconds.
When maximum or minimum variations are being shown, the corresponding symbol is shown with the Row number.

CHECKING SEED VARIATION BY DISTANCE

The function shows the variation between the seeds of each row. The monitor switches between the active Rows every 2 seconds. After the last Row is displayed, the monitor returns to the first active Row and starts another verification sequence.

PLANTING AREA 1

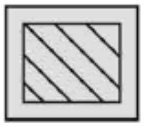
The function shows the planting area in hectares or acres, depending on the selected unit.
This function will identify a planting area chosen for marking, where it can be reset or stored.
It can be identified with a symbol or text, depending on the text/graphic setting.

▪ Operating manual PMB 400

• General Information on Function Monitoring - Part IV

PLANTING AREA 2

The function shows the planting area in hectares or acres, depending on the selected unit.
This function will identify another planting area chosen for marking, as the operator will be able to choose any area, regardless of Planting Area 1, and may also zero or store that area.
It can be identified with a symbol or text, depending on the text/graphic setting.



TOTAL PLANTING AREA

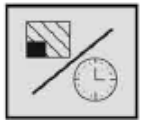
The function shows the total planting area in hectares or acres, depending on the selected unit.
The Total Area can also be reset to zero, and can start marking again.
This function can be identified with a symbol or text, depending on the text/graphic setting.

NOTE: The Total Planting Area is stored in the Tools option in the "Display and Service Settings" menu 

.

DISPLACEMENT SPEED

The function shows the displacement speed of the planter in Miles per hour (mph) or Kilometers per hour (Km/h), depending on the selected unit.
This function can be identified with a symbol or text, depending on the text/graphic setting.



AREA PER HOUR

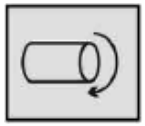
The function shows the area rate per hour in hectares per hour (Ha/h) or acres per hour (AC/h), depending on the selected unit.
This function can be identified with a symbol or text, depending on the text/graphic setting.

FAN RPM

The function shows the fan speed in revolutions per minute (rpm).
This function can be identified with a symbol or text, depending on the text/graphic setting.

▪ Operating manual PMB 400

• General Information on Function Monitoring - Part V



SHAFT RPM

The function shows the rotation of the shaft in revolutions per minute (rpm). This function can be identified with a symbol or text, depending on the text/graphic setting.

FLOW

The function shows the material flow rate in gallons per acre (g/ac) or liters per hectare (l/ha).
This function can be identified with a symbol or text, depending on the text/ graphic setting.

• Alarms

Two audible alarm beeps are emitted during navigation or data entry indicating some illegal operation or wrong keystroke.
The warning screen for illegal operation appears on the display, informing the operator of the type of problem.
Every audible alarm is accompanied by a visual alarm, which informs the type of problem that is occurring

Whenever an audible warning or a warning screen appears on the display, it indicates that a problem is occurring. Correct the problem before continuing planting.

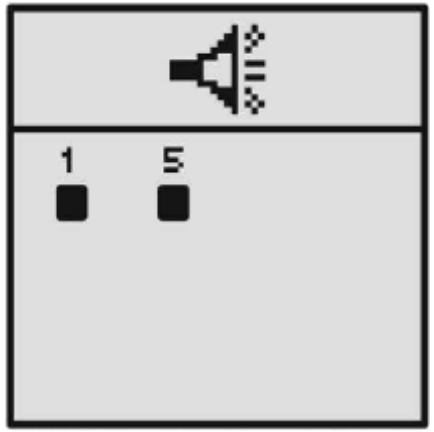
⚠ ATTENTION

The key  **can be used to cancel this alarm, but not to solve the problem.**

• Alarm Types - Part I

• Row Block

When the fertilizer Row becomes clogged or the seed falls is blocked, two alarm beeps are emitted and the warning screen shows the Rows that are in trouble.



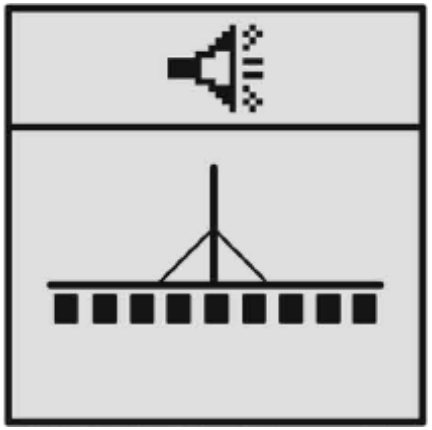
SCREEN: ROW BLOCK

▪ Operating manual PMB 400

• Alarm Types - Part II

• Failure on All Rows

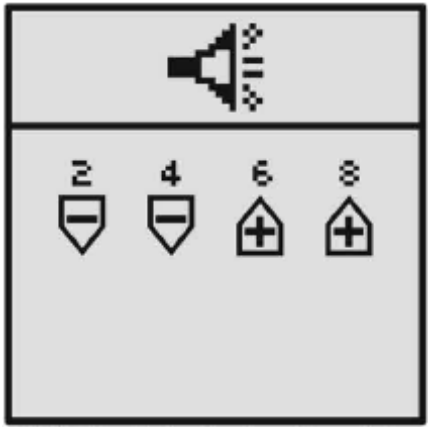
Eight audible alarm beeps are heard and the failure warning screen on all Rows will be displayed, which may indicate the planter's lift.



SCREEN: ROW FAILURE

• High/Low Population Limits Exceeded

The alarm sounds a whistle-like sound and the limit exceeded warning screen is displayed.



SCREEN: UPPER AND LOWER LIMITS

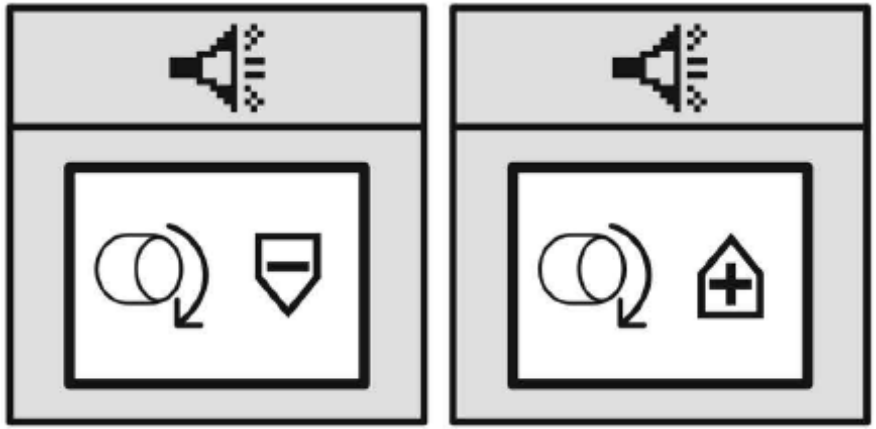
The symbols shown on the screen alert you if the limit has been exceeded  for (more) or for  (less) and the numbers indicate which seed Rows have exceeded the limits.

Operating manual PMB 400

- Alarm Types - Part III
- Accessory High/Low Exceeded (Optional)

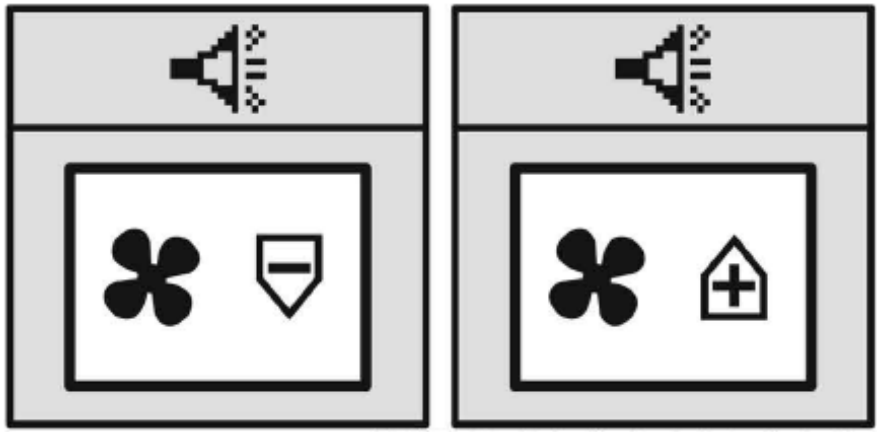
The alarm sounds constantly until the symptom is resolved and the limit exceeded warning screen is displayed:

- Warning display of fan speed limit exceeded;



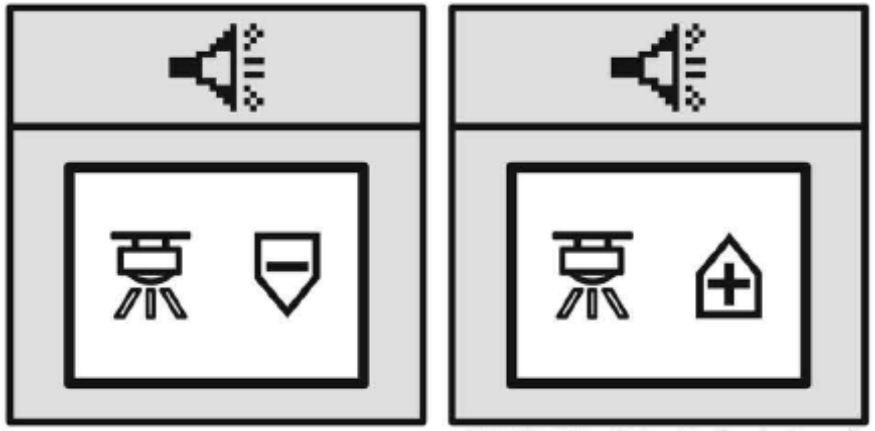
SCREEN: FAN ROTATION LIMIT

- Warning display of shaft rotation limit exceeded;



SCREEN: SHAFT ROTATION LIMIT

- Pressure limit warning display exceeded;



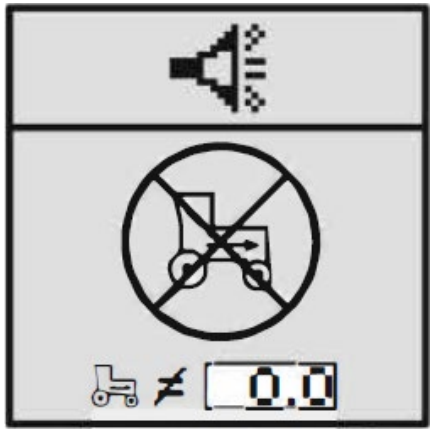
SCREEN: PRESSURE LIMIT

▪ Operating manual PMB 400

• Alarm Types - Part IV

• Lack of Travel Speed

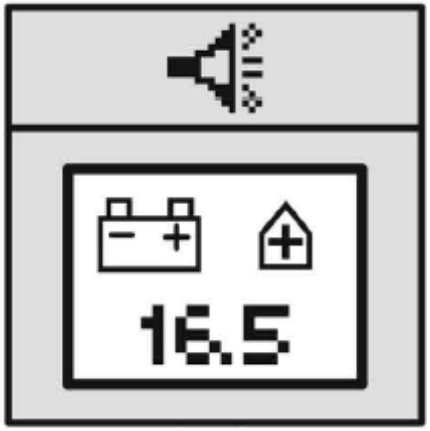
When planting without marking the machine's travel is detected, the alarm sounds until the problem is solved. The travel speed warning screen will be displayed.



SCREEN: LACK OF SPEED

• Self-test Failure

When it is detected that the battery voltage is insufficient or exceeds the maximum voltage limit, the self-test alarm sounds. The self-test failure warning screen will be displayed.



SCREEN: SELF-TEST FAILURE

• Maximum Travel Speed Exceeded (Optional)

When detected, the audible alarm sounds until the travel speed is adjusted within the configured range. The Maximum Speed Exceeded warning screen will be displayed.

SCREEN: SPEED FAILURE

▪ Operating manual PMB 400

• Troubleshooting - Part I

ERROR: THE MONITOR DOES NOT TURN ON.

PROBABLE CAUSE: Monitor fuse blown.

CORRECTIVE ACTION: Inspect the fuse (located near the battery). If necessary, replace with a fuse of a maximum of 7.5 A. If the fuse blows again, inspect all harnesses for dents or breaks that could cause a short circuit with the grounding.

PROBABLE CAUSE: Bad battery connection.

CORRECTIVE ACTION: Make sure that the connections are clean and tightened correctly. Inspect the harnesses for damage.

PROBABLE CAUSE: Low battery voltage.

CORRECTIVE ACTION: The monitor voltage must be at least 10V. If it is lower, recharge or replace the battery.

ERROR: Row FAILURE OR HIGH/LOW ALARM IN Row PLANTING PROPERLY.

PROBABLE CAUSE: Seed sensor covered with dirt.

CORRECTIVE ACTION: Clean the sensor using the brush that came with the equipment.

PROBABLE CAUSE: Defect in the sensor or harness.

CORRECTIVE ACTION: Turn on the sensor and see the troubleshooting LED. If the sensor does not have an LED, replace the harness connection with a nearby sensor to determine if the sensor is damaged.

PROBABLE CAUSE: Defective monitor.

CORRECTIVE ACTION: Contact Agrosytem.

▪ Operating manual PMB 400

• Troubleshooting - Part II

ERROR: TANK ALARM DOES NOT SOUND WHEN EMPTY.

PROBABLE CAUSE: Tank sensor covered with dirt.

CORRECTIVE ACTION: Clean the sensor using the brush that came with the equipment.

PROBABLE CAUSE: Short-circuit sensor or harness failure.

CORRECTIVE ACTION: Change the harness connection with another sensor to determine if the problem is with the sensor or the harness.

PROBABLE CAUSE: Defective monitor.

CORRECTIVE ACTION: Contact Agrosytem.

ERROR: TANK ALARM SOUNDS WHEN FULL.

PROBABLE CAUSE: Broken sensor or harness failure.

CORRECTIVE ACTION: Monitor detected a different number of sensors than the I/O Row configuration. Make sure that all Rows are being detected d uring the self test. Replace defective sensors.

PROBABLE CAUSE: Defective monitor.

CORRECTIVE ACTION: Contact Agrosytem.

▪ Operating manual PMB 400

• Troubleshooting - Part III

ERROR: SYSTEM VOLTAGE ALARM.

PROBABLE CAUSE: Low battery voltage.

CORRECTIVE ACTION: The monitor voltage must be at least 10V. If it is lower, recharge or replace the battery.

PROBABLE CAUSE: Battery faulty contact.

CORRECTIVE ACTION: Check that the connections are clean and tight.

PROBABLE CAUSE: Damaged harness.

CORRECTIVE ACTION: Inspect all harnesses for damage or breakage that can cause a short circuit.

ERROE: AUXILIARY MODE ALARM SOUND WHEN THE SHAFT, FAN, OR FLOW ARE IN PROGRESS.

PROBABLE CAUSE: Sensor failure.

CORRECTIVE ACTION: Shaft, fan, or flow sensor not operating. Replace the defective sensor.

PROBABLE CAUSE: Wrong calibration number.

CORRECTIVE ACTION: Incorrect calibration sensor number. Check the calibration number on the accessories setup screen.

PROBABLE CAUSE: Incorrect sensor limits.

CORRECTIVE ACTION: Sensor limits are incorrect. Check the limits on the setting the accessories screen.

PROBABLE CAUSE: Defective monitor.

CORRECTIVE ACTION: Contact Agrosytem.

▪ Operating manual PMB 400

• Troubleshooting - Part IV

ERROR: TRAVEL SPEED ALARM SOUND WITH THE MACHINE IN MOTION.

PROBABLE CAUSE: Travel speed sensor failure.

CORRECTIVE ACTION: Travel speed sensor is not detected. Replace the defective sensor.

ERROR: MONITOR FAILURE.

PROBABLE CAUSE: Defective monitor.

CORRECTIVE ACTION: Contact Agrosytem.

ERROR: ALARME DE VELOCIDADE MÁXIMA EXCEDIDA SOANDO.

PROBABLE CAUSE: Maximum travel speed alarm set to slow.

CORRECTIVE ACTION: Set the travel speed limit to faster or zero to disable.

PROBABLE CAUSE: Incorrect speed constant.

CORRECTIVE ACTION: Speed sensor has not been calibrated, RADAR sensor angle has been changed, or an incorrect constant has been entered. Use SPEED - AREA - DISTANCE mode to determine if the speed is correct. If it is incorrect, re-calibrate the speed constant.

ERROR: SELF-TEST ALARM.

PROBABLE CAUSE: Defective monitor.

CORRECTIVE ACTION: Contact Agrosytem.

▪ Operation manual ETD (Electronic Dosing Table) - Optional

• Presentation

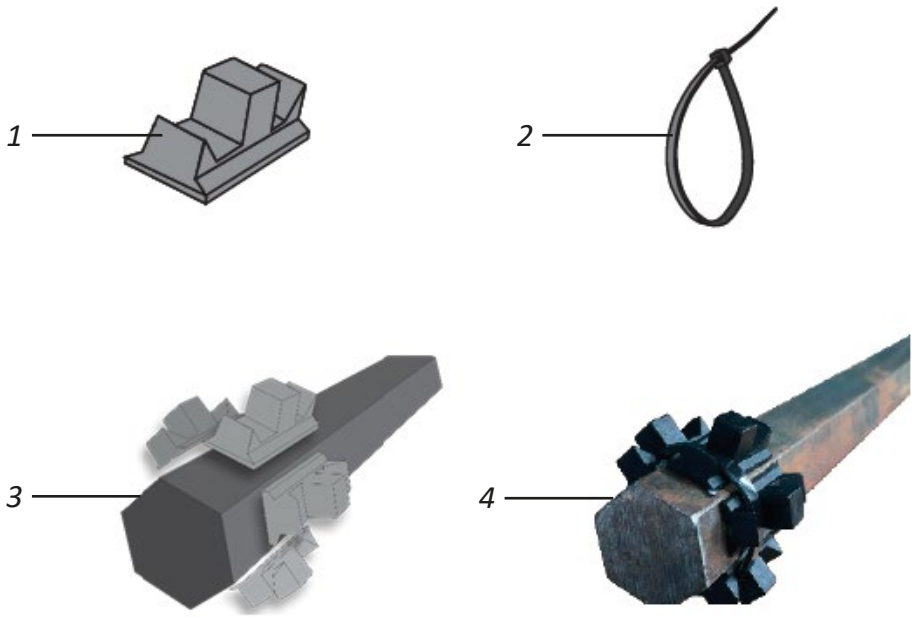
The **ETD** is an electronic device that can be connected to planters, seeders, and fertilizers to assist the operator in configuring the best gear ratio so that the correct dosage of seeds and fertilizers occurs, according to the needs of each area/plot, based on the adjustments previously done in the field and calibrations before planting. It allows to perform other additional functions such as the registration of planted hectares, hours actually worked and planting speeds above specified, and this important information is recorded and shown on the **ETD** electronic device display.

⚠ ATTENTION | **To use the ETD (Electronic Dosing Table), refer to the instruction manual on the following pages.**

▪ Operation manual ETD (Electronic Dosing Table) - Optional

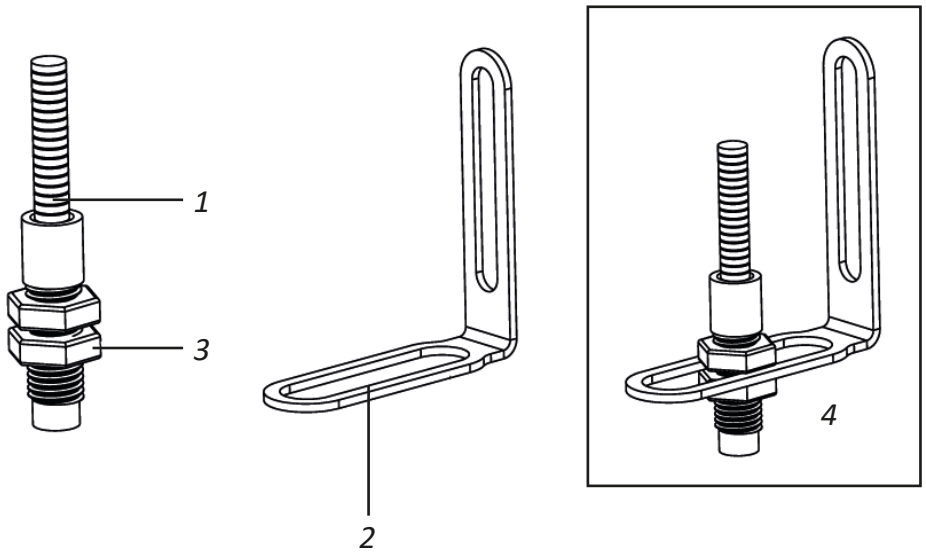
• Assembling the magnets on the main shaft

The magnets (1) must be installed on the planter's primary shaft, after the shutdown ratchet, as this way, hours and hectares of when the machine is in transport will not be counted. A magnet must be installed on each face of the shaft (3), securing them with two nylon clamps (4) so that whoever is properly fixed and positioned (4).



• Assembling the speed sensor

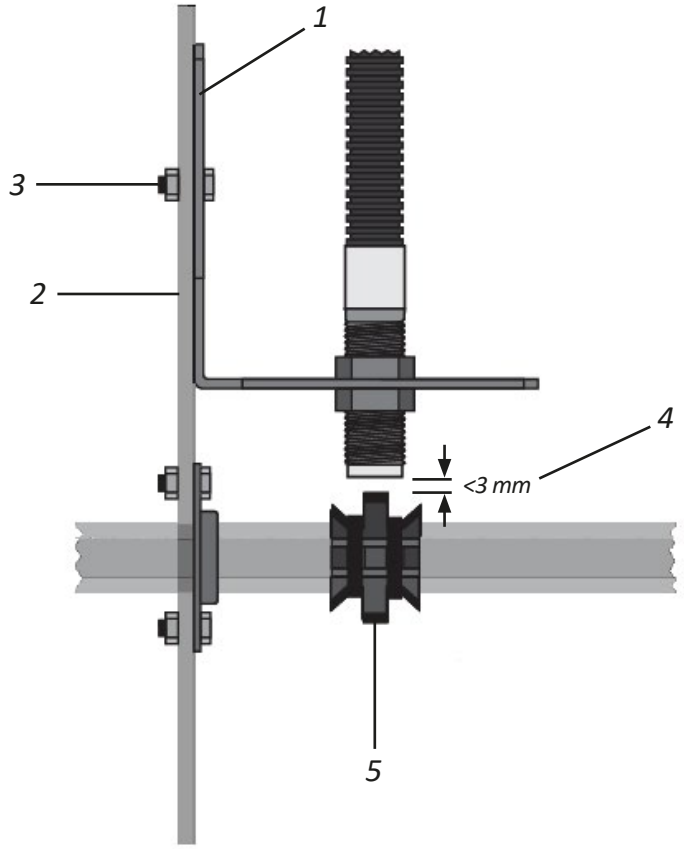
Mount the sensor (1) on the support (2) fixing by the nuts (3) according to the image (4).



▪ Operation manual ETD (Electronic Dosing Table) - Optional

• Speed sensor installation

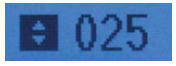
Attach the sensor support (1) to the machine chassis (2) using the M8x30 screw (3) making sure that the distance between the sensor and the magnets is less than 3 mm (4). It is extremely important to align the speed sensor and the magnets on the primary shaft (5).



• Identification

A - Display
B - Function key
C - Decrease item
D - Login
E - Increase item

The ETD has four keys
Function F key **The Function F key is used to change between the four main functions of the ETD, which are:** **F1: Seed Rate** **F2: Fertilizer Rate** **F3: Hobbs Meter** **F4: Hectometer** **Within the menus, the Function F key assumes the "back" function, which facilitates navigation.**

Teclas
The keys ▼ and ▲ are used to increase the numeric items of the interface. The icon with arrows above and below the interface indicates the item to be controlled by the keys. **Keys ▶**  **The key ▶ is used as a "enter" function. This key allows you to enter the options that are shown in the lower right corner of the interface.**

▪ Operation manual ETD (Electronic Dosing Table) - Optional

• Settings menu

The settings menu (1) can be accessed through the Function F key, when pressed for more than 2 seconds.

The settings menu has 7 items. The keys ▲▼ (2) are used to navigate between menu items.

The Select key ▶ (3) is used to select the highlighted item. Just click on the "F" key (4) to exit the settings menu

To select the start of the calibration click 'Yes' ▶ (1).

• Sensor calibration

When starting the sensor calibration (2), the machine must be moved for exactly 100 meters (3) and stopped.

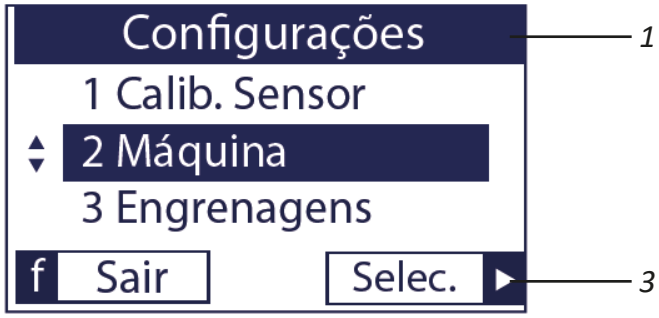
The number of pulses (4) counted by the sensor is shown on the screen. To complete the calibration, the operator must press ▶ the (5) "Ready" key.

The calibration of the sensor is important for the ETD to determine the number of hectares worked, the machine's working speed and also the distance covered in the fertilizer calibration.

If, during displacement, the number of pulses corresponding to the end of the 100m is not displayed, the displacement of the sensor or magnets may have occurred, making it impossible to read the pulses during the displacement. In this case, it is necessary to carry out the adjustment of these components according to the assembly diagram, item 4 "INSTALLING THE SPEED SENSOR", previous page.

▪ Operation manual ETD (Electronic Dosing Table) - Optional

• Machine



In the machine configuration (1), click 'Select' ▶ (2) to enter the number of Rows using the buttons ▲▼ (3).

Number of Rows, range of values: 01 ~ 80.

After selecting the number of Rows contained in the machine, press the 'Next' key ▶ (4) to select the Row spacing using the buttons ▲▼ (5).

• Sensor calibration

When clicking on "Save" ▶ (6), the system saves the settings and displays the following message.

This information is very important for the presentation of the worked hectares and also for the calibration of fertilizer rates.

▪ Operation manual ETD (Electronic Dosing Table) - Optional

• Seed rate - Part I

1) Select Seed Rate and click Select.

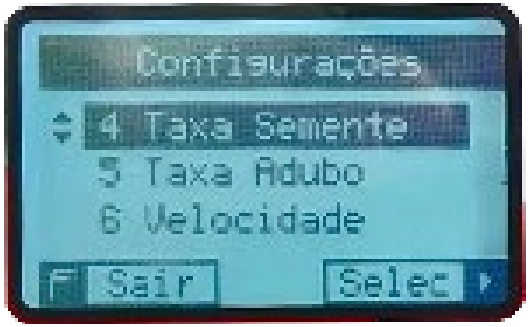
2) Then select CD Gears and click Select.

3) Then keep the list below.

4) Click Fn to save.

5) Then select CD Gears and click Select.

6) Then select Seed Rate and click Select.



▪ Operation manual ETD (Electronic Dosing Table) - Optional

• Seed rate - Part II

7) Then select Change Disk and click Select.

8) Then, insert the number of holes in the disc according to the crop to be worked.

9) Then click save.

10) Next, select Register Table and click Select.

11) IMPORTANT: Look in the Seed physical table on the disk you will be working on and choose the average value. **Example:** B1.

12) Then type B1 and click Next.

▪ Operation manual ETD (Electronic Dosing Table) - Optional

• Seed rate - Part III

13) Then keep the CxD Ratio and click next.

14) Then keep the amount of holes placed previously and click next.

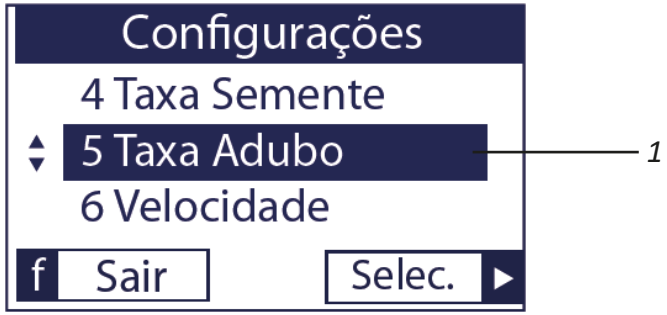
15) **NOTE:** Note that the seed rate value 4.9 corresponds to relation B1 in the SPEED BOX table; if it is different, redo the previous steps.

16) Then, if the value is correct, click on save.

Then select Fn (exit) and go to the FERTILIZER settings as instructed on the following pages.

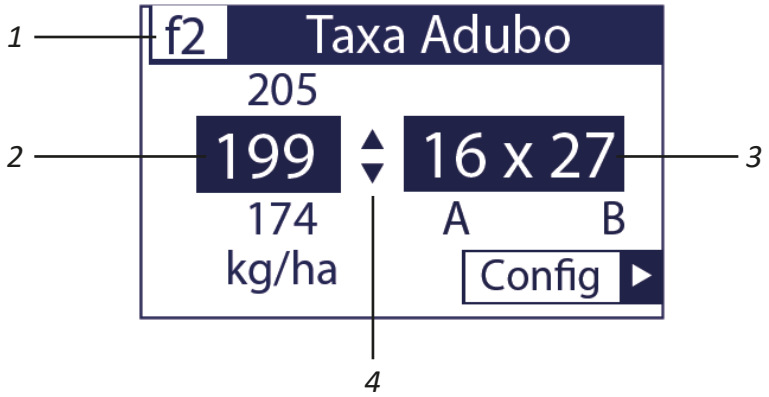
▪ Operation manual ETD (Electronic Dosing Table) - Optional

• Fertilizer rate

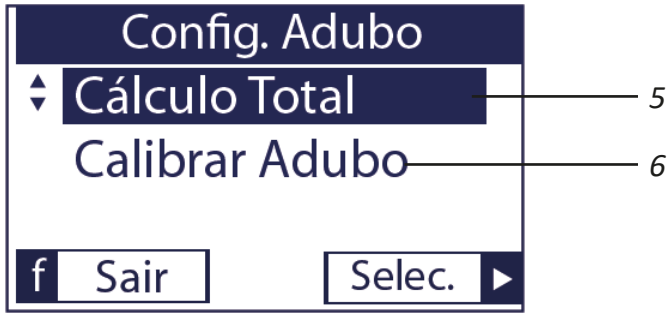


The F2 (1) screen indicates the fertilizer rate (2) in kg per hectare obtained with a specific gear ratio. Fertilizer rates are calculated according to the fertilizer calibration, the gear configuration (3) and the spacing between Rows. The ▼ and ▲ keys (4) allow the user to navigate between the rate options in Kg/ha.

Fertilizer Rate: ETD

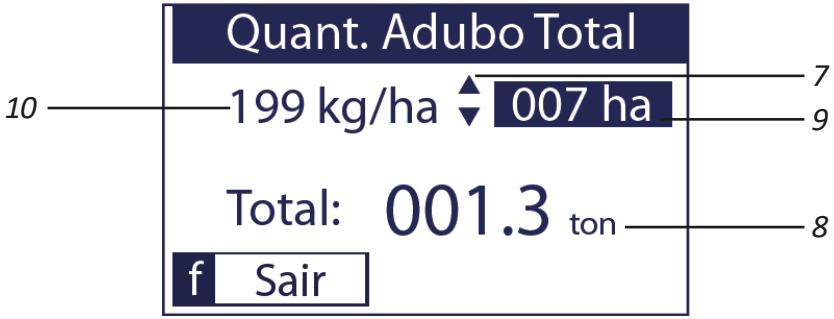


The fertilizer rate menu has two items: Total Calculation (5) and Calibrate Fertilizer (6).



• Total calculation

In total calculation (5), the user can calculate the amount of total fertilizer in tons (8) required for planting a given area, in hectares. The last fertilizer rate selected on the function screen F2 (9), selected using the key ▲▼ (10) is used as a reference for the calculation.

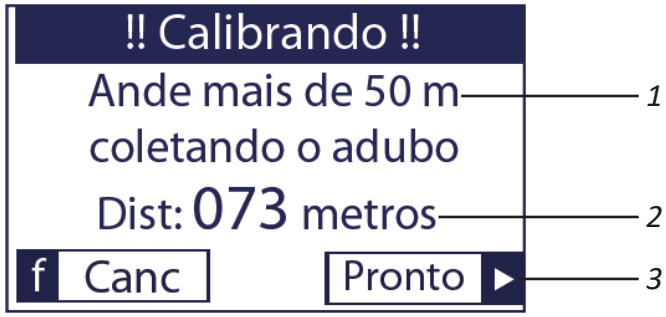


▪ Operation manual ETD (Electronic Dosing Table) - Optional

• Calibrate fertilizer - Part I

The fertilizer calibration (11) has 3 steps. First, you must inform the gear ratio (12) used on the machine at the time of calibration. **EXAMPLE:** In the SPEED BOX, configure the option Mot **6** and Mov **F**, then inform the same configuration in the ETD; then walk 50 m collecting at least 3 fertilizer outlets, make the average and enter the value in the electronic table).

On the next screen, the operator must walk with the machine collecting the fertilizer over a distance greater than 50 meters (1). It is important that the sensor is already calibrated so that the distance covered is measured correctly. The distance traveled is displayed instantly (2).



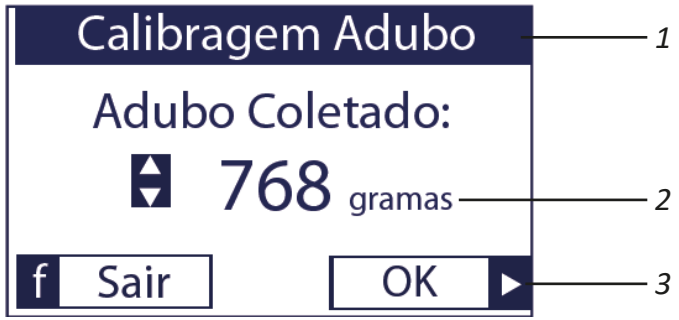
After covering the required distance, click on Ready (3).

NOTE: The minimum distance to be covered is 50 meters, if this distance is insufficient, the screen for entering the weight of the collection will not be enabled and the following warning will be displayed:

▪ Operation manual ETD (Electronic Dosing Table) - Optional

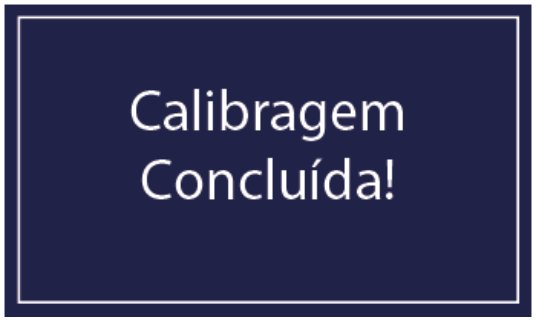
• Calibrate fertilizer - Part II

On the next screen (1), the total weight of the collected fertilizer (2) in a row or the average of the collection, always in grams, is reported.

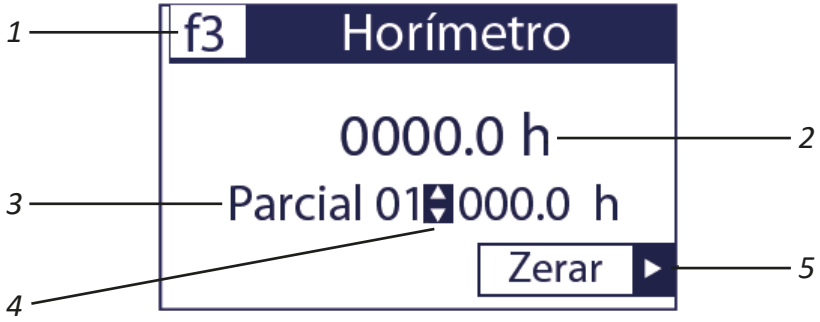


Fertilizer collected, value range: 10 ~ 9000 Grams.

Click on 'OK' (3) the 'calibration completed' message is displayed.



• F3 Hobbs Meter



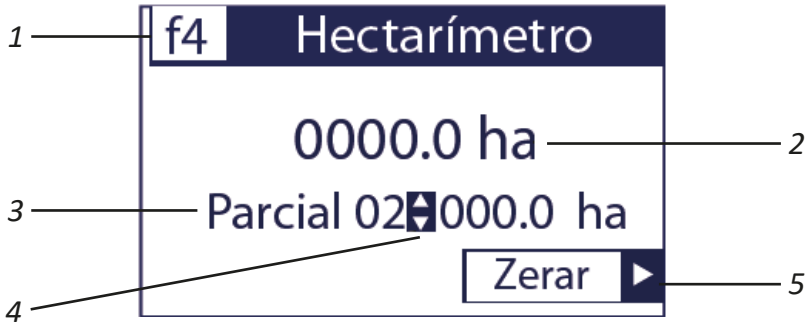
The F3 screen (1) indicates the total number of hours (2) of work with the ETD in three partials (3), which can be related to the keys ▲▼ (4)

To reset a certain partial, the Reset key (5) must be held down for more than 2 seconds.

The hours counted refer only to the time that the machine was in effective work, that is, with the ratchet turned on. Thus, hours of handling the ETD or traveling with the machine in the transport position will not be counted.

▪ Operation manual ETD (Electronic Dosing Table) - Optional

• F4 Hectometer



Screen F4 (1) indicates the total number of hectares worked (2) with the ETD, also in 3 partial ones (3), which can be selected using the keys ▲▼ (4).

• Settings menu - Part I

The settings menu (1) can be accessed through the Function F key, when pressed for more than 2 seconds.

The settings menu has 7 items. The keys ▲▼ (2) are used to navigate between menu items.

The Select key ▶ (3) is used to select the highlighted item. Just click on the “F” key (4) to exit the settings menu.

▪ Operation manual ETD (Electronic Dosing Table) - Optional

• Settings menu - Part II

To select the start of the calibration click 'Yes' ▶ (1).

• Sensor calibration

When starting the sensor calibration (2), the machine must be moved for exactly 100 meters (3) and stopped.

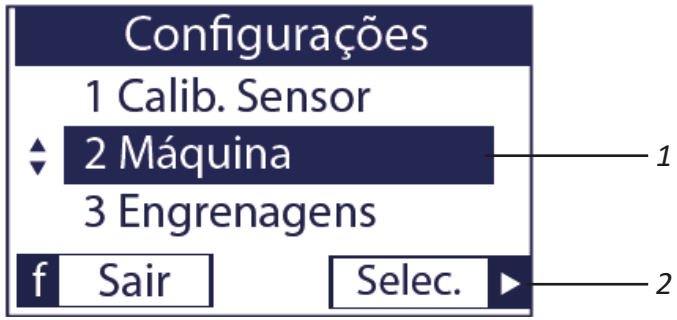
The number of pulses (4) counted by the sensor is shown on the screen. To complete the calibration, the operator must press the (5) "Ready" key ▶ .

The calibration of the sensor is important for the ETD to determine the number of hectares worked, the machine's working speed and also the distance covered in the fertilizer calibration.

If, during displacement, the number of pulses corresponding to the end of the 100m is not displayed, the displacement of the sensor or magnets may have occurred, making it impossible to read the pulses during the displacement. In this case, it is necessary to carry out the adjustment of these components according to the assembly diagram, item 4 "INSTALLING THE SPEED SENSOR", page 140.

▪ Operation manual ETD (Electronic Dosing Table) - Optional

• Machine



In the machine configuration (1), click 'Select ▶ (2) to enter the number of Rows using the buttons ▲▼ (3).

Number of Rows, range of values: 01 ~ 80.

After selecting the number of Rows contained in the machine, press the 'Next' key ▶ (4) to select the Row spacing using the buttons ▲▼ (5).

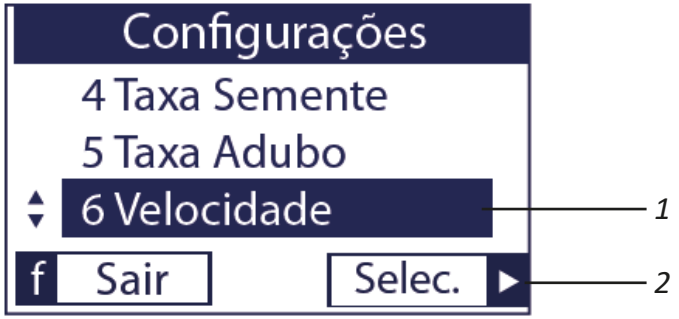
Spacing, range of values: 01 ~ 99 cm.

When clicking on "Save" ▶ (6), the system saves the settings and displays the following message.

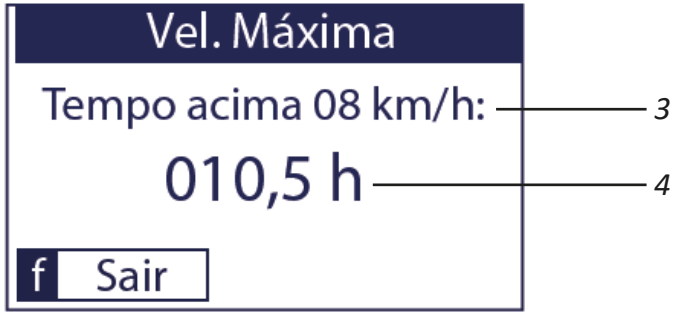
This information is very important for presenting the hectares worked and also for calibrating fertilizer rates.

▪ Operation manual ETD (Electronic Dosing Table) - Optional

• Time above maximum speed



By clicking on 'Select.' ▶ (2) in the 'Speed' setting (1) it will be shown for how many hours (4) the machine has been working above the limit speed (3).



▪ Identification

• Identification plate

To see the parts catalog or to request technical assistance from Baldan, always inform model (01), serial number (02) and date of manufacture (03), which is on your **PPSOLO 3rd SEED BOX - BALDAN / TITANIUM** nameplate.

⚠ ATTENTION

The drawings in this Instruction Manual are merely illustrative.
In order to provide a better view and detailed instruction, some drawings in this manual have been removed from parts and safety devices (covers, protections, etc.). Never operate PPSOLO 3rd SEED BOX - BALDAN / TITANIUM without these devices.

CONTACT

In case of doubts, never operate or handle your equipment without referring to Post-Sales.
Telephone: 0800-152577
e-mail: posvenda@baldan.com.br

PUBLICATIONS

Código: 60550110078 | CPT: PPS13121B

• Product Identification

Please make the correct identification of the data below, to always have information about the service life of your equipment.

Owner: _____

Dealer: _____

Property: _____

City: _____

State: _____

Certificate of Warranty no.: _____

Implement: _____

Serial No: _____

Purchase Date: _____

Invoice: _____

PEÇAS ORIGINAIS BALDAN
ORIGINAL PARTS · PIEZAS ORIGINALES

▪ Notes:

▪ Notes:

▪ Certificate of Warranty

BALDAN IMPLEMENTOS AGRÍCOLAS S/A ensures the dealer normal performance of the implement for a period of six (6) months as of the delivery date on the retail invoice to the first final consumer. During this period, **BALDAN** undertakes to repair defects in material and/or of manufacture of its liability, including labor, freight and other expenses of the dealer's liability.

In the warranty period, request and replacement of eventual defective parts shall be made to the dealer of the area, who will submit the faulty piece for **BALDAN** analysis.

When this procedure is not possible and the resolving capacity of the dealer is exhausted, the dealer will request the support of **BALDAN Technical Assistance** through a specific form distributed to dealers. After analyzing the replaced items by Baldan Technical Assistance, and concluding that it is not a warranty, then the dealer will be responsible for the costs related to the replacement; as well as material expenses, travel including accommodation and meals, accessories, lubricant used and other expenses arising from the call out to Technical Assistance, and Baldan company is authorized to carry the respective invoice in the name of the resale. Any repair carried in the product within the dealer warranty deadRow will only be authorized by **BALDAN** upon previous budget presentation describing parts and work to be performed.

The product is excluded from this term if it is repaired or modified by representatives not belonging to the **BALDAN** dealer network, as well as the application of non-genuine parts or components to the user's product. This warranty is void where it is found that the defect or damage is caused by improper use of the product, failure to follow instructions or inexperience of the operator.

It is agreed that this warranty does not cover tires, polyethylene tanks, cardan, hydraulic components, etc., which are equipment guaranteed by their manufacturers. Manufacturing and/or material defects, object of this warranty term, will not constitute, under any circumstances, grounds for termination of a purchase agreement, or for indemnification of any nature.

BALDAN reserves the right to change and/or perfect the technical characteristics of its products, without previous notice, and without obligation to proceed in the same way with the products previously manufactured.

▪ Inspection and Delivery Certificate

SERVICE BEFORE DELIVERY: This implement was carefully prepared by the sale organization, with all its parts inspected according to the manufacturing prescriptions.

DELIVERY SERVICE: The user was informed about the current warranty terms and instructed on the usage maintenance precautions.

I confirm that the user has been informed about the current warranty terms and instructed on the usage maintenance precautions.

Implement: _____ Serial Number: _____

Date: _____ Tax Number: _____

Dealer: _____

Telephone: _____ CEP: _____

City: _____ State: _____

Owner: _____

Telephone: _____

Address: _____ Number: _____

City: _____ State: _____

E-mail: _____

Sale date: _____

Signature / Dealer Stamp _____

1st copy - Owner

▪ Inspection and Delivery Certificate

SERVICE BEFORE DELIVERY: This implement was carefully prepared by the sale organization, with all its parts inspected according to the manufacturing prescriptions.

DELIVERY SERVICE: The user was informed about the current warranty terms and instructed on the usage maintenance precautions.

I confirm that the user has been informed about the current warranty terms and instructed on the usage maintenance precautions.

Implement: _____ Serial Number: _____

Date: _____ Tax Number: _____

Dealer:_____

Telephone:_____ CEP: _____

City: _____ State: _____

Owner: _____

Telephone:_____

Address: _____ Number: _____

City: _____ State: _____

E-mail: _____

Sale date: _____

Signature / Dealer Stamp _____

2nd copy - Dealer

▪ Inspection and Delivery Certificate

SERVICE BEFORE DELIVERY: This implement was carefully prepared by the sale organization, with all its parts inspected according to the manufacturing prescriptions.

DELIVERY SERVICE: The user was informed about the current warranty terms and instructed on the usage maintenance precautions.

I confirm that the user has been informed about the current warranty terms and instructed on the usage maintenance precautions.

Implement: _____ Serial Number: _____

Date: _____ Tax Number: _____

Dealer:_____

Telephone:_____ CEP: _____

City: _____ State: _____

Owner: _____

Telephone:_____

Address: _____ Number: _____

City: _____ State: _____

E-mail: _____

Sale date: _____

Signature / Dealer Stamp _____

3rd copy - Manufacturer (Please send completed within 15 days).

1.74.05.0059-5

AC MATÃO
ECT/DR/SP

RESPONSE CARD

NO STAMPING IS REQUIRED

THE STAMP WILL BE PAID BY:

BALDAN

BALDAN IMPLEMENTOS AGRÍCOLAS S/A.

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