

# PPSOLO *Speed Box Air*

4000/4500/5000/5500/6500/7500



Instruction Manual



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# Presentation

**W**e appreciate your purchase and congratulate you for the excellent choice you just made because you have purchased a product manufactured with technology from **BALDAN IMPLEMENTOS AGRÍCOLAS S/A.**

This instruction manual will guide you through the procedures that are necessary since its acquisition up to the operating procedures of use, security and maintenance.

**BALDAN** ensures that has delivered this farming implement to the dealer in perfect conditions.

The dealer is responsible for the custody and maintenance of this farming implement and also for the assemblage, retightening, lubrication and overhaul.

In the technical delivery, the dealer must advise the user on its maintenance, security, its obligations under any technical assistance, the strict observance of the guarantee and reading of the instruction manual.

Any request for technical assistance under warranty should be made to the dealer where it was purchased.

We reiterate the need for careful reading of the **Warranty Certificate** and observance of all items in this instruction manual, as doing so, the useful life of your farming implement will increase.



# ***Instruction Manual***



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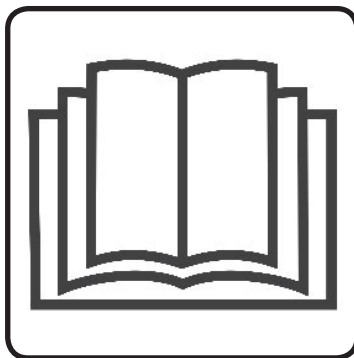
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**01 - SAFETY RULES**

**THIS ALERT SYMBOL INDICATES IMPORTANT SAFETY NOTES. WHENEVER YOU FIND IT IN THIS MANUAL, READ THE MESSAGE WITH ATTENTION TO AVOID ANY ACCIDENT.**

**ATTENTION**

- Read the instruction manual carefully, so you can learn the recommended safety practices.

**ATTENTION**

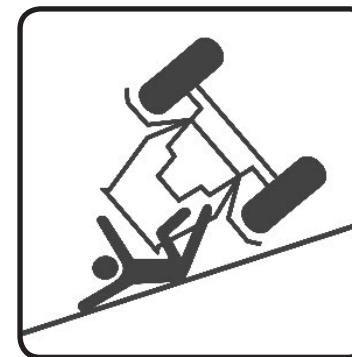
- Do not operate the tractor if the front is light. With a tendency to rise, add weights on the front of the tractor or front wheels.

**ATTENTION**

- Only begin operating the tractor when are properly accommodated and with the seat belt fastened.

**ATTENTION**

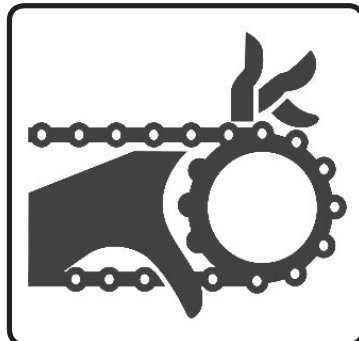
- There are risks of serious injury by tumbling when working on slopes.
- Do not use excessive speed.





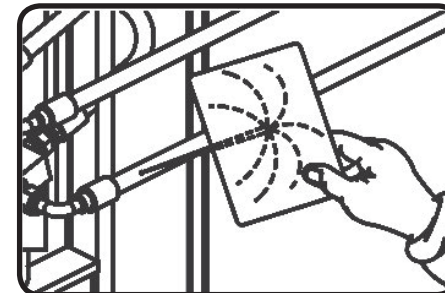
## **ATTENTION**

- Do not work the equipment if the gears protection wasn't properly placed.
- Just take off the protections to proceed gears change, replace it immediately.
- To do any service on gears machine, disable the turnstiles.
- Do not do any regulations with the equipment working.



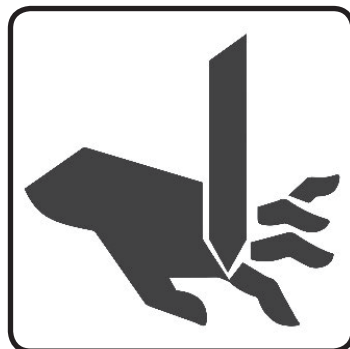
## **ATTENTION**

- When looking for a possible leak in the hoses, use a piece of cardboard or wood, never use your hands.
- Avoid the incision of fluid in the skin.



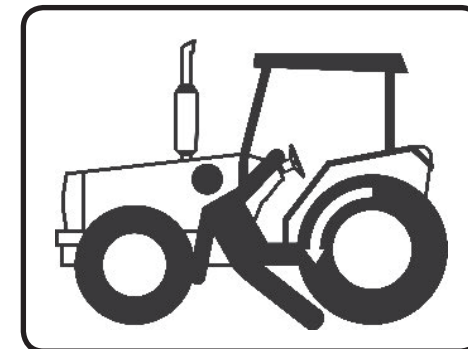
## **ATTENTION**

- Keeps far from active elements (Discs),
- They are sharp and can cause injury.
- To proceed any service on discs use safety gloves.



## **ATTENTION**

- Before performing any maintenance on your equipment, make sure it is turned off. Avoid getting hit.



**! ATTENTION**

- The hydraulic oil works under pressure and can cause serious injury, if has any leak. always check the hoses condition. If has any leakage replace it.
- Before connect and disconnect the hydraulic hoses release the pressure.

**! ATTENTION**

- Avoid accidents caused by intermittent action of rows mark
- Make sure if has anybody closer to the row mark.

**! ATTENTION**

- It's forbidden operate the equipment if has people over it.
- Do not stay over the platform with the equipment moving.

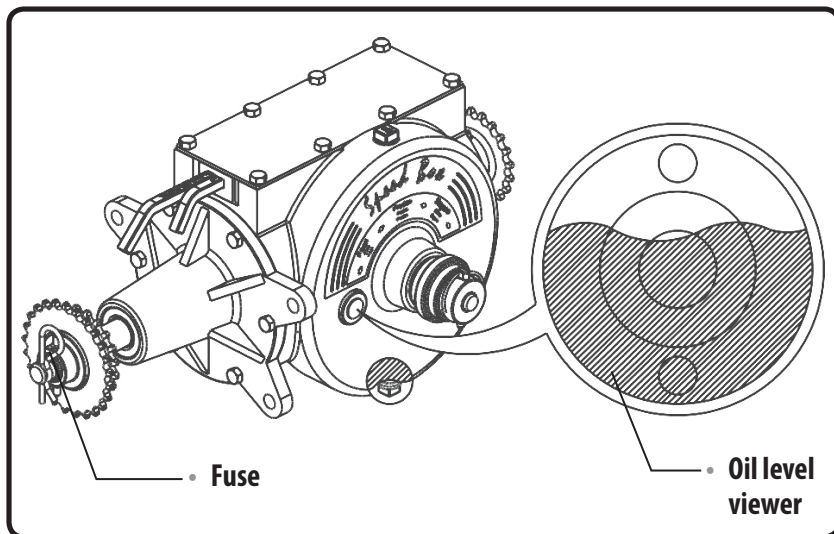
**! ATTENTION**

- Whenever the seed machine is being operated, watch out for surrounding people.
- Never stay over a platform with the machine in movement.



## **ATTENTION**

- Check the oil daily.
- Change the (Speed Box) oil after 30 hours of work, after that , each 1500 hours, using mineral oil ISO VG 150 a 40°C (oil quantity 1,8 liters).
- Only use original factory pin, because only one has the recommended hardness.

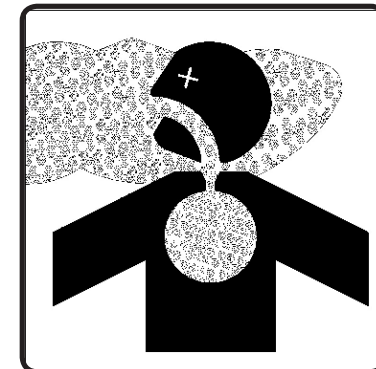


## **ATTENTION**

***TURBINE CAN SPREAD TOXIC PRODUCTS USED FOR SEED TREATMENT.***

- Do not remain close to the turbine while in use.

*Read carefully the seed treatment product instruction, before use.*



- Use protection equipments while dealing with chemical products. (EPI)
- Wash your hands after working with chemical products.
- Protect treated seed from persons and animals.
- Contact a doctor in case of intoxication.



















**SINTOMAS DE INTOXICAÇÃO:** Fraqueza, dor de cabeça, pressão no peito, visão turva, pupilas não reativas, salivação abundante, suores, náuseas, vômitos e cólicas abdominais.



**ALCOHOL OR DRUGS CAN GENERATE SOME LOSS OF REFLEXES AND CHANGE THE OPERATOR'S PHYSICAL CONDITIONS. SO, NEVER OPERATE THIS EQUIPMENT UNDER USE OF THESE SUBSTANCES.**

**WARNING**

*The incorrect handling of this equipment can result in serious or fatal accidents. Before using the implement, read carefully the instruction of this manual. Be sure that the person responsible for the operation is instructed about the correct handling, safety and if read and understood the instruction manual concerning this machine.*

- 01-  When operate with the implement, do not allow people to stay close or above the implement. (The plataforms are used to supply the stores and not to transport people).
- 02-  Do not make adjustments to the implement at work.
- 03-  In making any service mounting and dismounting the discs use protection gloves.
- 04-  Before connecting or disconnecting hydraulic hoses, relieve the system pressure triggering the command with the tractor off.
- 05-  Periodically check the state of conservation of hoses. If there is evidence of oil leaks immediately replace the hose, because the oil works under high pressure and can cause serious injury.
- 06-  Do not use loose clothing as they can curl up on the equipment.
- 07-  Plutting in action the tractor, be correctly seated at the operator seat and aware about the correct and safety handling both, the tractor and the implement. Place always the gearshift cranc at the neutral position, turn off the gear of the power command and place the hydraulic commands at the neutral position.
- 08-  Do not run engine indoors without adequate ventilation, because the exhaust fumes are harmful to health.
- 09-  When maneuvering the tractor to the implement hitch, make sure that you have the space needed and that there are people very close, always do the maneuvers in low gear and be prepared to brake in an emergency.
- 10-  By working inclined terrain, be careful trying to keep the necessary stability. In case of early imbalance reduces the acceleration, turn the wheels of the tractor to the side of the slope of the terrain.
- 11-  Always operate the tractor at speeds compatible with security, especially when working in rough terrain or slopes, always keep the tractor hooked.
- 12-  When driving the tractor on the roads, keep the brake pedals connected and use safety signs.
- 13-  Do not operate the tractor if the front is light. If there is a tendency to lift, add weights on the front or the front wheels.
- 14-  When leaving the tractor put the shifter in neutral and apply the parking brake.
- 15-  Alcoholic beverages and some medications can cause loss of reflexes and change the operator's physical conditions. Therefore, never operate this equipment under the influence of these substances.
- 16-  Read or explain all the procedures above to the operator who cannot read.

# PPSOLO Speed Box Air - PRECISION ROW CROP PLANTER

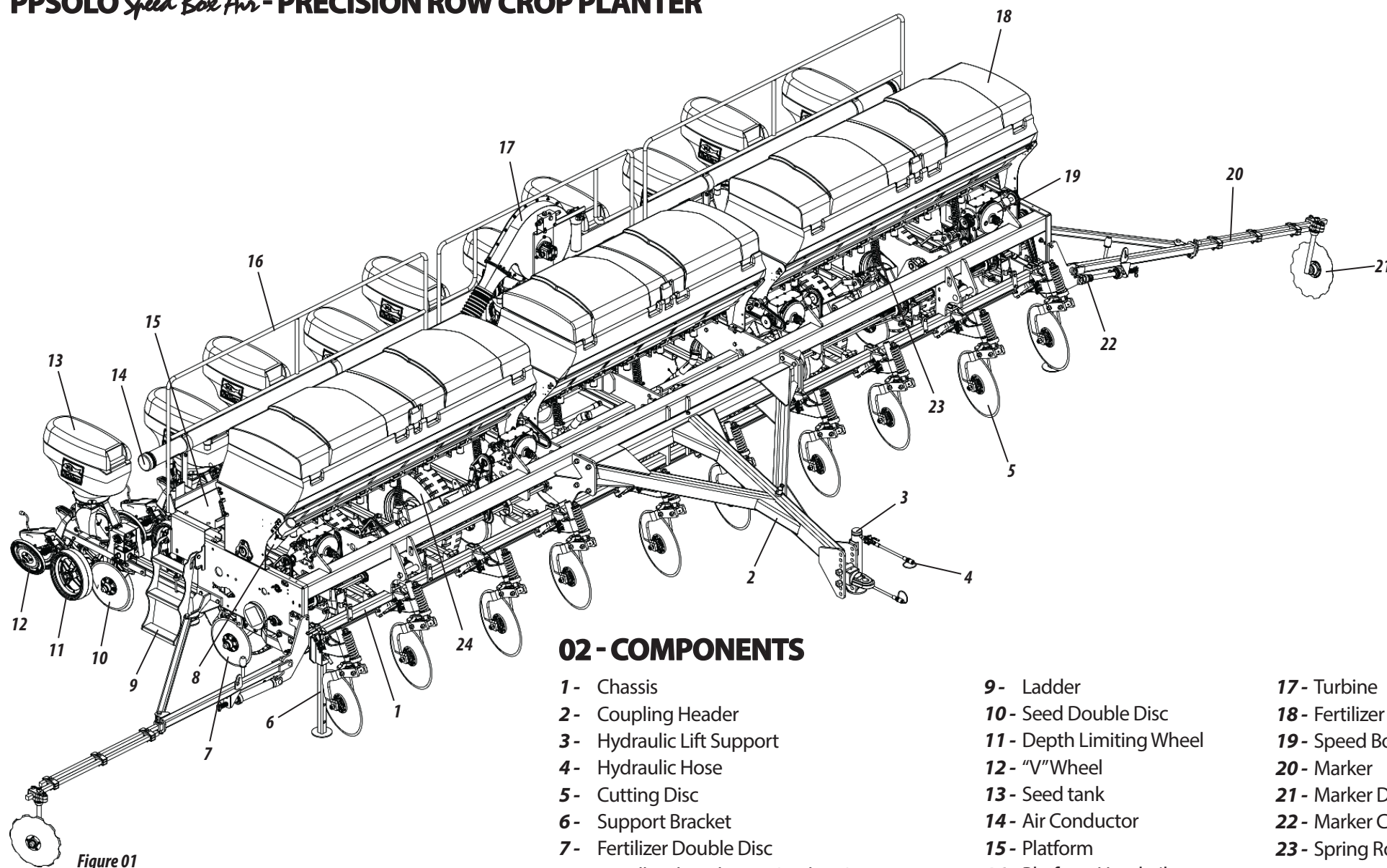


Figure 01

## 02 - COMPONENTS

- |  |                           |                      |
|--|---------------------------|----------------------|
| 1 - Chassis                              | 9 - Ladder                | 17 - Turbine         |
| 2 - Coupling Header                      | 10 - Seed Double Disc     | 18 - Fertilizer tank |
| 3 - Hydraulic Lift Support               | 11 - Depth Limiting Wheel | 19 - Speed Box       |
| 4 - Hydraulic Hose                       | 12 - "V" Wheel            | 20 - Marker          |
| 5 - Cutting Disc                         | 13 - Seed tank            | 21 - Marker Disc     |
| 6 - Support Bracket                      | 14 - Air Conductor        | 22 - Marker Cylinder |
| 7 - Fertilizer Double Disc               | 15 - Platform             | 23 - Spring Rod      |
| 8 - Handbook and Parts Catalog Container | 16 - Platform Handrail    | 24 - Tires           |

## 03 - TECHNICAL SPECIFICATIONS

Tabela 01

Model	Nr. of rows	Useful width (mm)	Working width (mm)	Total width (mm)	Fertilizer hopper capacity (L)		Nr of Wheels	Approx weight (kg)	Tractor power required (hp)
					Plastic	Metalic			
PPSOLO 4000	8	3390	3800	4500	1240	1400	2	3200	90 - 100
PPSOLO 4500	10	4060	4480	5000	1500	1750	4	4100	100 - 110
PPSOLO 5000	12	4940	5350	5900	1860	2100	4	5050	120 - 150
PPSOLO 5500	13	5400	6300	6500	1860	2100	4	5450	130 - 160
PPSOLO 6500	15	6300	6715	7300	2250	2600	6	7800	160 - 190
PPSOLO 7500	17	7200	7615	8200	2610	3000	6	8000	170 - 200

Seed hopper capacity (L) .....	65
Fertilizer flow (kg/ha) .....	57 - 1700
Working depth (mm) .....	0 - 120
Total height (mm) .....	2000
Minimum spacing between rows (mm) .....	415
Minimum spacing between wheels (mm) .....	450
Ground wheels .....	Militar 7.0 x 16 x 10L

The BALDAN reserves the right to change specifications of this product without notice.  
The technical specifications are approximate and reported in normal working conditions.



## 04 - ASSEMBLY

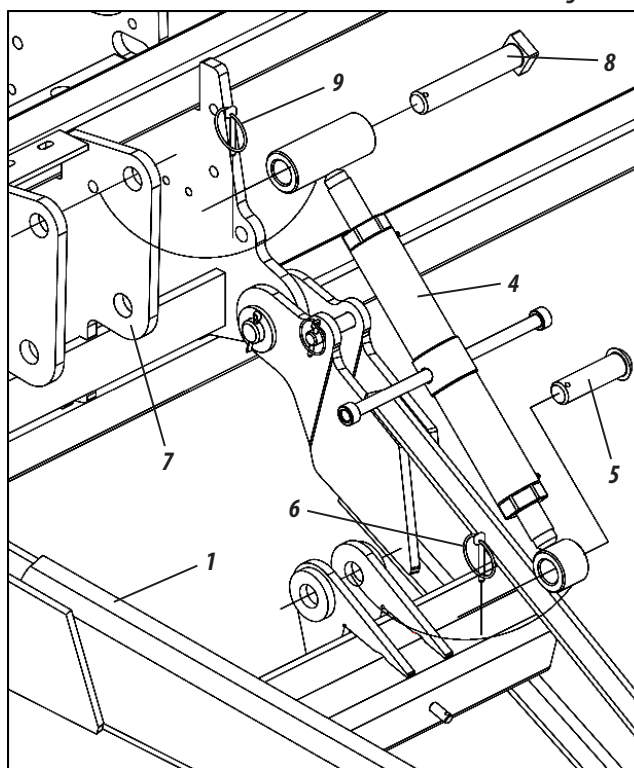
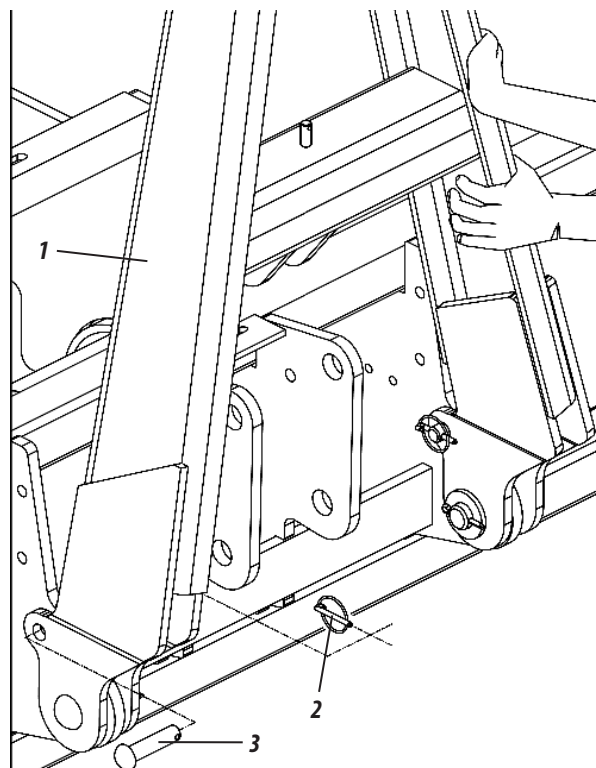
- The seeder **PPSOLO Speed Box Air** leave the factory semi-assembled, loosing the assembly of some components, which must be assembled according to directions below:

### ASSEMBLY OF THE COUPLING HEADER PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500

- To assemble the coupling header of the PPSOLO Speed Box Air seed drill models 4000/4500/5000/5500, proceed as follows:

**01** - Put the coupling header (1) in the work position by removing the latch w / ring (2) and pin (3) that were placed for the transport of the machine.

**02** - Then, insert the regulator (4) in the coupling header (1), fixing it with the pin (5) and lock c / ring (6) and on the structure (7) with the pin (8) and lock w / ring (9).



### IMPORTANT

*Before starting the assembly of the coupling header, search an ideal place to facilitate the identification of components and assembly of the coupling header.*

### ASSEMBLY OF THE COUPLING HEADER PPSOLO Speed Box Air 6500 / 7500

- To assemble the coupling header of the PPSOLO Speed Box Air seed drill models 6500/7500, proceed as follows:

03 - Place the coupling head (1) in the working position by removing the screw (2), washer and nut (3) that were placed to transport the seed drill. Then, replace them in the holes that match in the work position, as shown in detail "A".

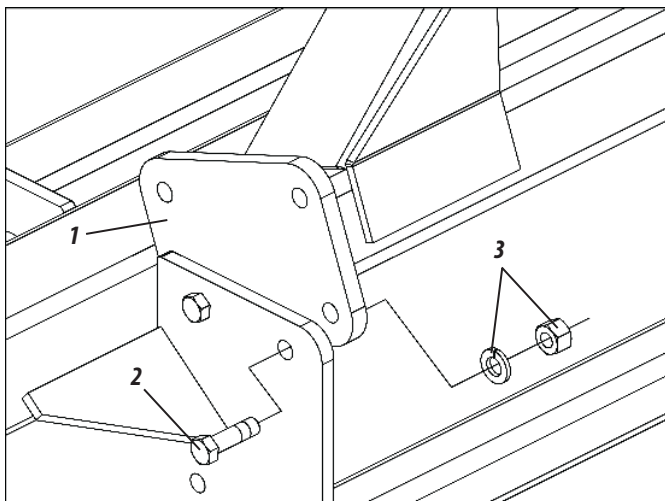
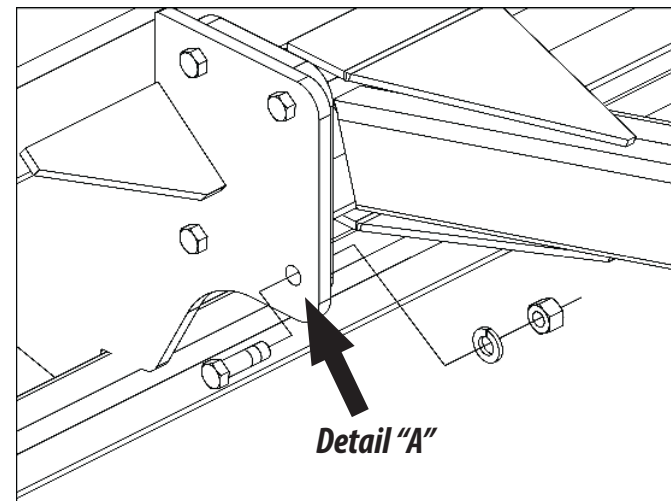
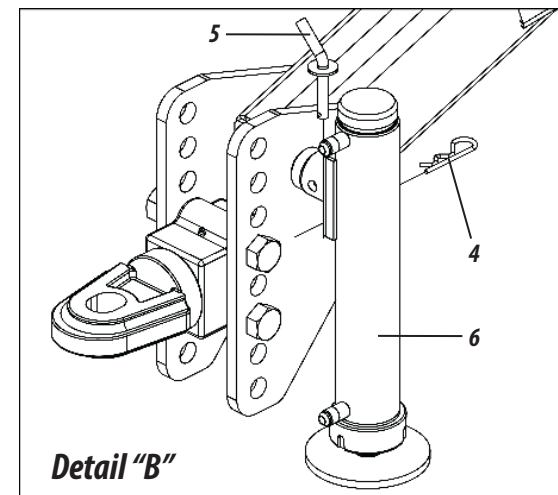
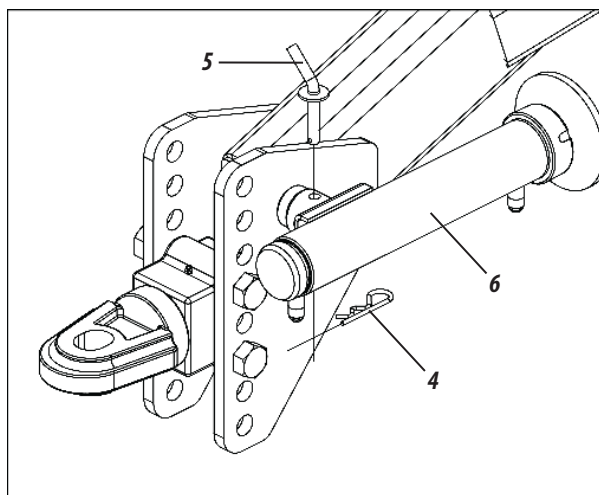


Figure 03



04 - Then, remove the latch (4) and pin (5) and rotate the hydraulic jack (6) and fix it to the support position, as shown in detail "B" and lock again with the pin (5).

Figure 04



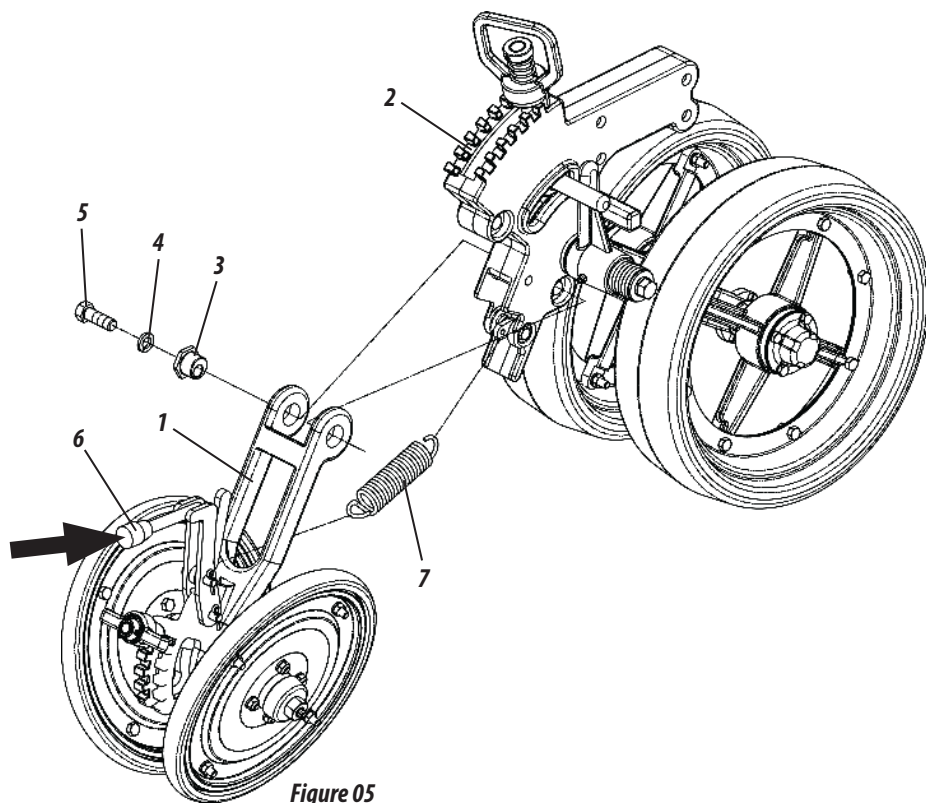
## IMPORTANT

Before starting the assembly of the coupling header, search an ideal place to facilitate the identification of components and assembly of the coupling header.

## ASSEMBLY OF COMPACTION WHEELS

### PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- To assemble the "V" wheel bracket (1), proceed as follows:
- 05 - Couple the "V" wheel bracket (1) in the depth wheel cart (2) by fixing it with the sleeves (3), washers (4) and screws (5).
- 06 - Then, put the lever (6) all the way forward and engage the spring (7) in the support (2).



**NOTE**

Perform the same procedure to assemble the other carts.

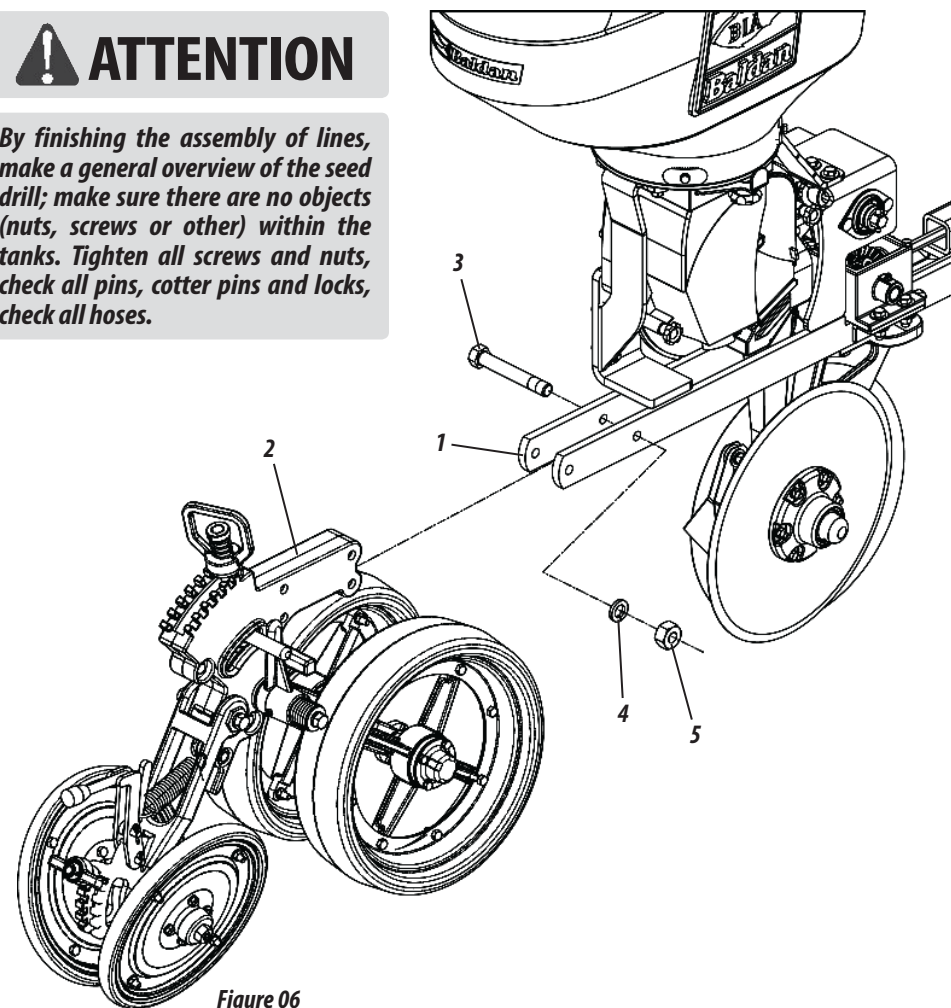
## ASSEMBLY OF LINES

### PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- To assemble the lines (1), proceed as follows:
- 07 - Insert the cart (2) between the plates of the line (1) by fixing it with screws (3), washers (4) and nuts (5).

### **ATTENTION**

*By finishing the assembly of lines, make a general overview of the seed drill; make sure there are no objects (nuts, screws or other) within the tanks. Tighten all screws and nuts, check all pins, cotter pins and locks, check all hoses.*



### ASSEMBLING THE CUTTING DISC OF THE LINE MARKER PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

08 - The seed drills leave the factory with line markers (1) already assembled. Discs (2) are assembled inversely to their respective markers to avoid the risk of accidents in the drill transport, as shown in Figures 07.

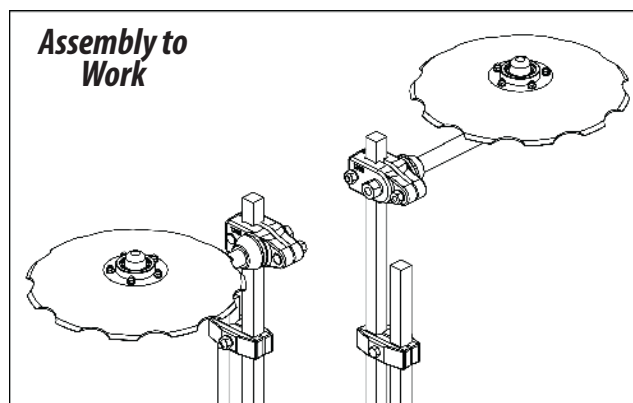
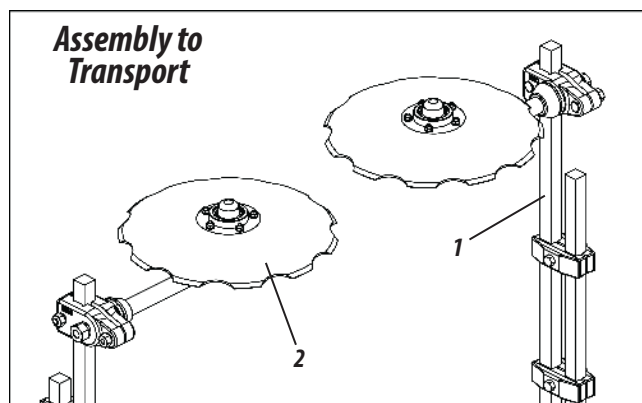


Figure 07

09 - Before start working with the drill, change the discs (2) in line markers (1), for this do the following:

10 - Loosen the screws (3), washers and nuts (4), remove the support from discs (5) and assemble them on markers contrary to what they were originally assembled, as shown in Figures 08.

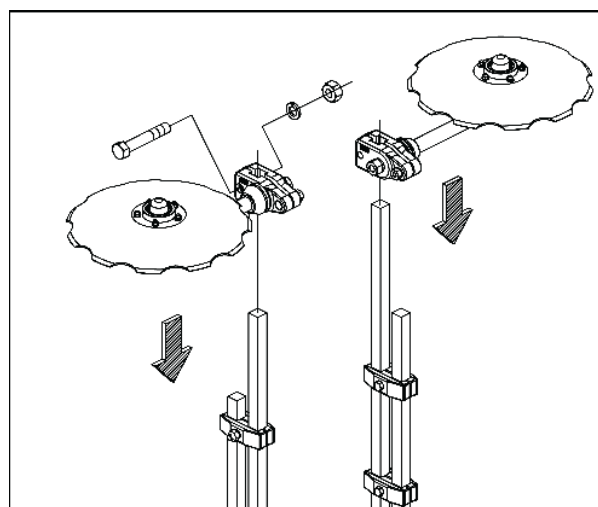
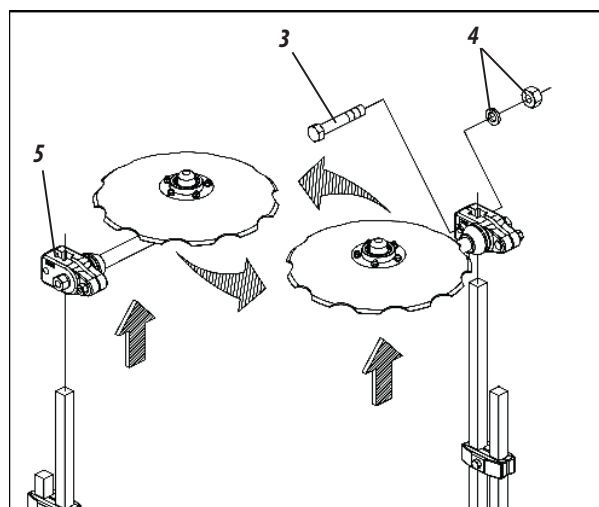


Figure 08

 **IMPORTANT**

*Before starting the assembly of the line marker, find a safe place and easily accessible for this operation.*

## 05 - TRACTOR COUPLING

### PPSOLO W/ MECHANICAL TURBINE SYSTEM PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500

- Before coupling the seed drill in the tractor, make sure the tractor is equipped with a set of weights or ballast in the front or front wheels not to lift. The rear wheels give more stability to the tractor and traction in the soil:
- To couple the seed drill, proceed as follows:
  - 01 - Align the coupling header (1) of the seed drill in relation to the tractor coupling through the regulator (2). Then, slowly move the tractor in reverse towards the seed drill, being aware to the application of brakes.
  - 02 - Couple the drill to the tractor by fixing it through the hitch pin (3) and lock (4).
  - 03 - Connect the hoses (5) the quick hitch of the tractor, as shown in Figure 09.

Figure 09

#### **ATTENTION**

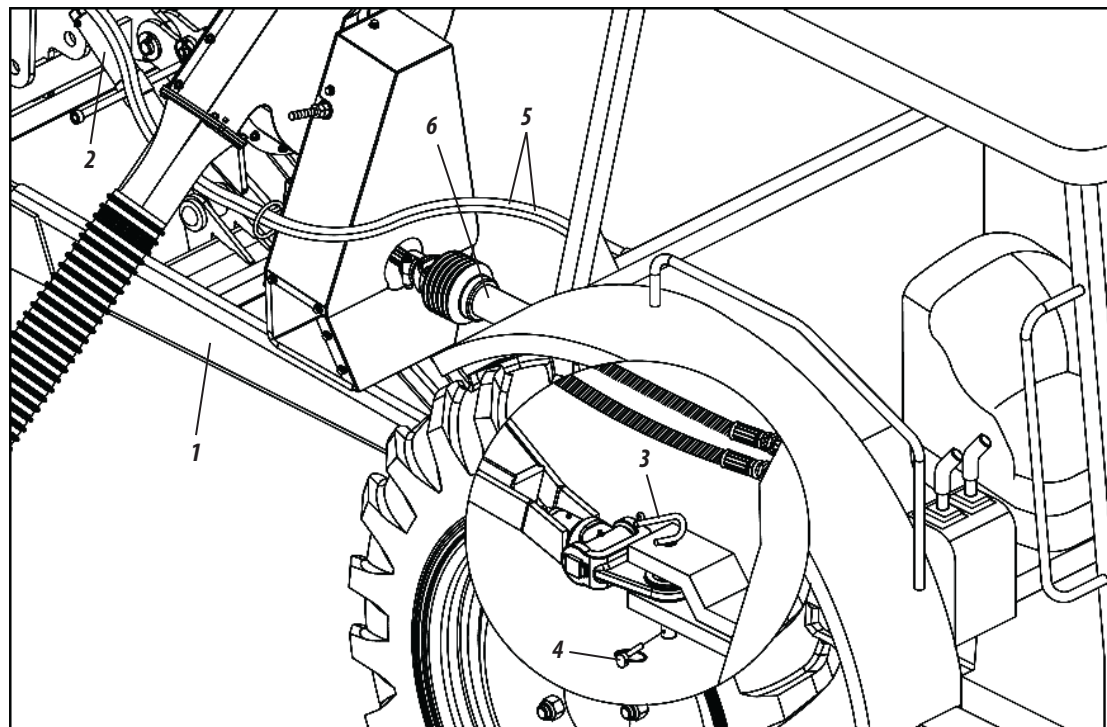
*Before connecting or disconnecting the hydraulic hoses, shut off the engine and relieve the hydraulic system pressure by cranking the command levers completely. By relieving the system pressure, make sure that no one is near the area of equipment movement.*

#### **IMPORTANT**

*To couple the seed drill, find a safe place and easily accessible, always use low gear with low throttle.*

#### **NOTE**

*Before connecting the propeller shaft (6), check its length in relation to the model of the tractor that will pull the seed drill. As appropriate, cut the shaft (6) according to instructions on pages 18 and 19.*





**PPSOLO W/ CONTINUOUS FLOW SYSTEM**  
**PPSOLO Speed Box Air 6500 / 7500**

- Before coupling the seed drill in the tractor, make sure the tractor is equipped with a set of weights or ballast in the front or front wheels not to lift. The rear wheels give more stability to the tractor and traction in the soil:
- To couple the seed drill, proceed as follows:
  - 04** - Align the coupling header (1) of the seed drill in relation to the tractor through the adjustment (2) of the coupling shackle. Then, slowly move the tractor in reverse towards the seed drill, being aware to the application of brakes.
  - 05** - Couple the drill to the tractor by fixing it through the hitch pin (3) and lock (4).
  - 06** - Connect the hoses (5) to the quick hitch of the tractor.
  - 07** - Finalize connecting the drain hose (6), as shown in Figure 10.

**NOTE**

*The flow system is designed for tractors with integrated flow system.*

**ATTENTION**

*Before connecting or disconnecting the hydraulic hoses, shut off the engine and relieve the hydraulic system pressure by cranking the command levers completely. By relieving the system pressure, make sure that no one is near the area of equipment movement.*

**IMPORTANT**

*To couple the seed drill, find a safe place and easily accessible, always use low gear with low throttle.*

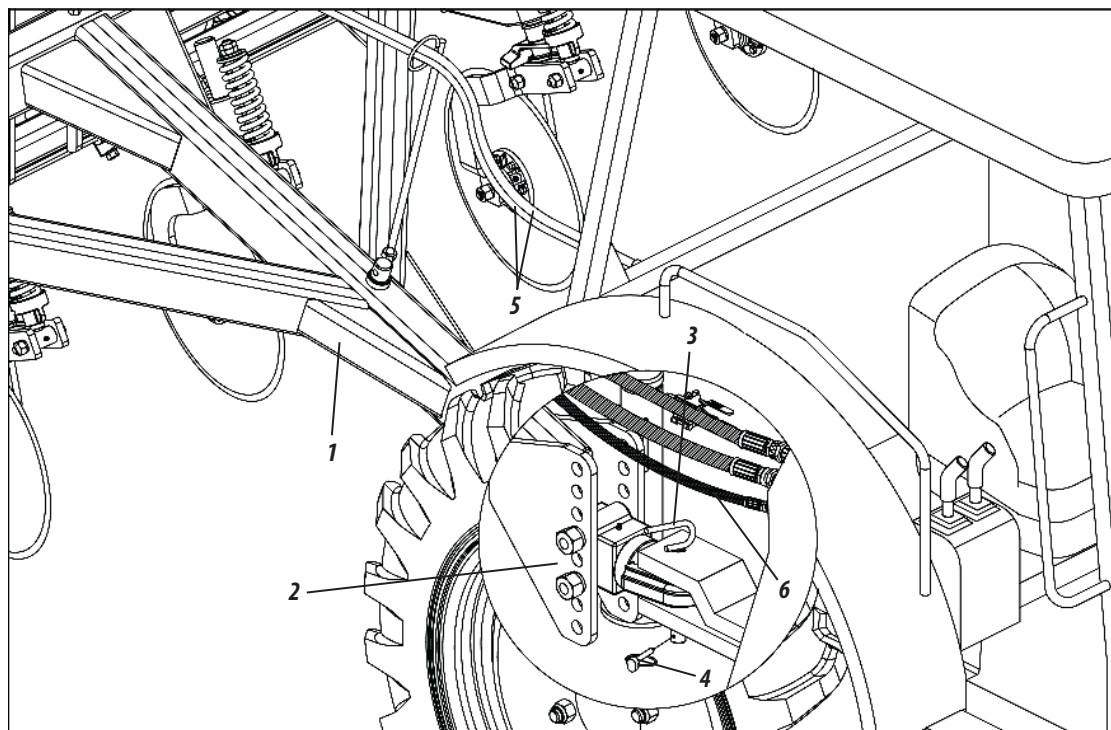


Figure 10



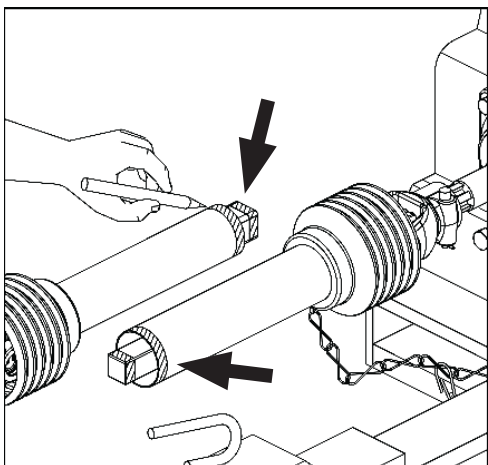
## SHAFT CUT

### PPSOLO *Speed Box Air* 4000 / 4500 / 5000 / 5500 / 6500 / 7500

#### **ATTENTION**

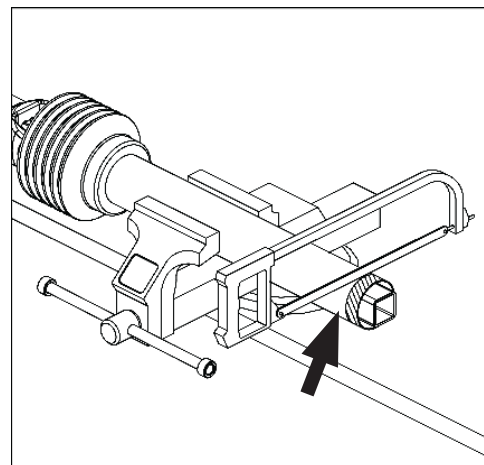
*Before making the cut in the propeller shaft, check the adjustment of the tractor drawbar, which could increase or decrease in length, thus avoiding the shaft cut.*

- To proceed the PTO cut-off, follow the instructions bellow:



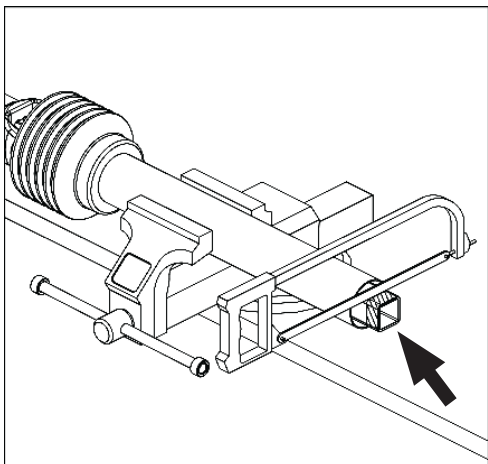
#### **Step 1**

- Fasten the half parts of PTO axle closer one of other to the work position and do a indication on piece that will be cutted-off.



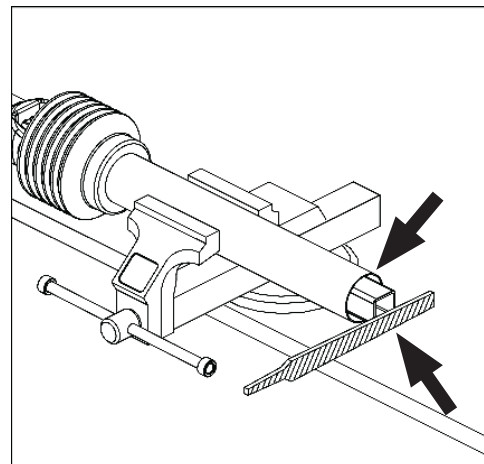
#### **Step 2**

- Reduce the internal and external protector tubes proporcional from PTO.



#### **Step 3**

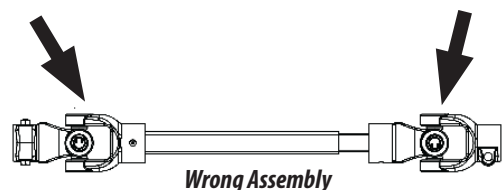
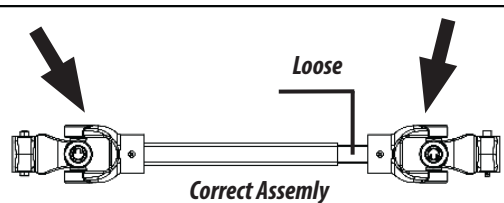
- Cut-off the internal bar from PTO on the same length of protector tubes.



#### **Step 4**

- Take off the sharp edge. Clean and grease tha slide bar of PTO.

Figure 11

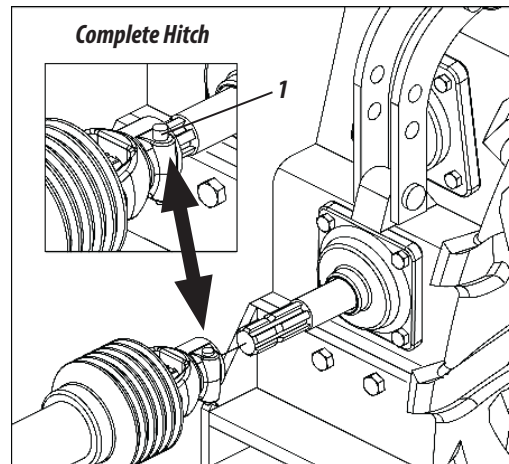


### Step 5

- Assembling, check that internal and external finish should be in the same plan, lined up. Also check the looses on telescopic axle, that must be of 5 to 7 cm.

## ! ATTENTION

*The incorrect installation causes excessive vibration, damaging the transmission.*

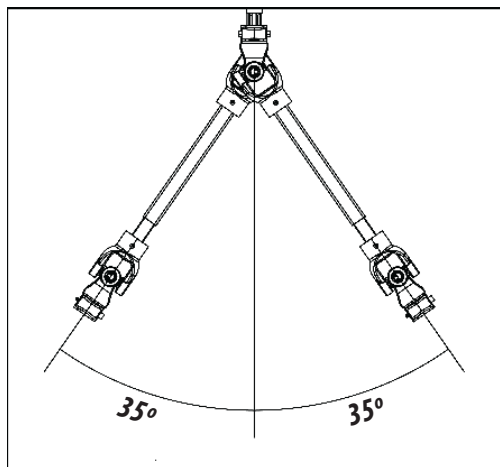


### Step 6

- Connect the axle flange on TDP tractor checking the hitch will be finished when the key bolt (1) come off.

## ! ATTENTION

*When coupling the cardan in the tractor PTO the engine must be turned off and the parking brake applied.*

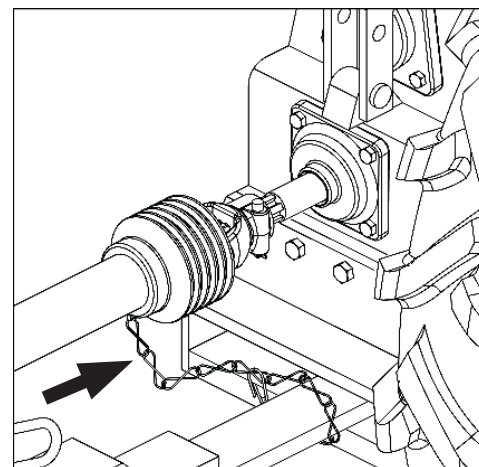


### Step 7

- The work angle must be the maximum of 30 graus.

## ! ATTENTION

*In maneuvers where the angles of joints are greater than 30 degrees, turn off the PTO.*



### Step 8

- Not hitch the PTO chains extended. Keep a loose and consider the angle movements.

## ! ATTENTION

*Every time that you change of tractor, check again the length of PTO axle.*

Figure 11

## TRANSPORT THE PLANTER

### PPSOLO *Speed Box Air* 4000 / 4500 / 5000 / 5500 / 6500 / 7500

• Before transporting the seed drill, proceed as follows:

- 01 - Retract the support bracket (1) and fix it with pin (2) and lock (3).
- 02 - With the seed drill down, make sure it is leveled with the ground; otherwise, level it through the header regulator (4).

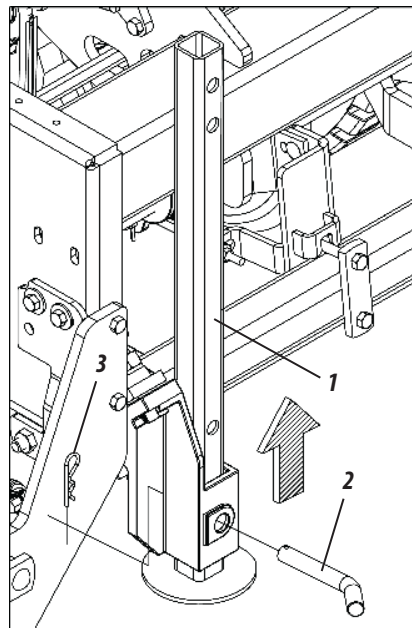


Figure 12

### **IMPORTANT**

*Do not carry the seeder if it is loaded, which could damage the equipment. We recommend only load it in the workplace. If the machine is to remain in the field for any reason, we recommend covering it with tarp to prevent moisture.*



### **ATTENTION**

*Do not carry the planter without checking all procedures mentioned.*

- 03 - Then, lift lines by fully triggering the hydraulic cylinder and put the latch (5) on the piston rod (6) locking it with pin (7) and lock (8).

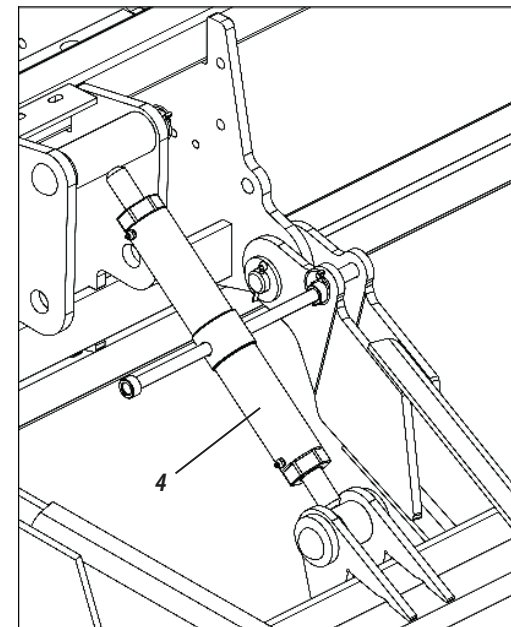


Figure 13

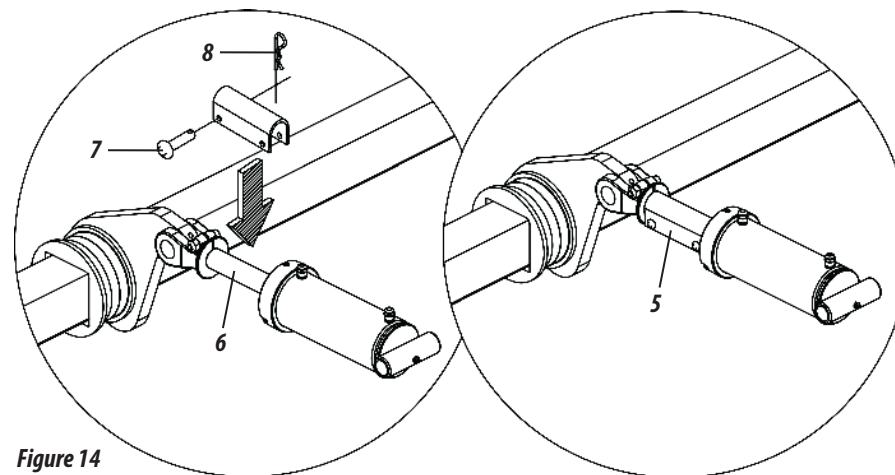


Figure 14

## 06 - ADJUSTMENTS

### NEW SPACINGS

PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- To make new spacing between lines, if necessary, remove some lines to increase spacing for this, proceed as follows:

01 - Raise the seed drill through the activation of the hydraulic cylinder (1). Lower support brackets (2) and fix with the pin (3) and lock (4).

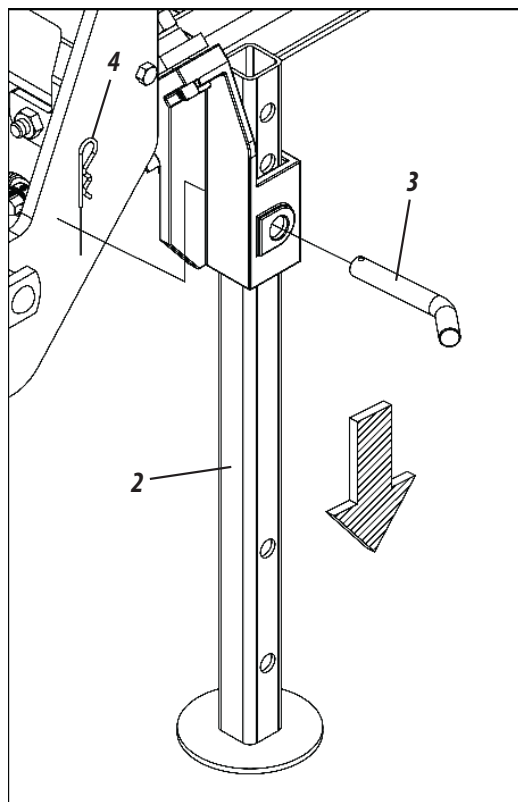


Figure 15

02 - Then, before lowering the hydraulic cylinders (1), place the limiter rings (5) in the rods (6) of the hydraulic cylinder (1), this will prevent the suspended weight of lines becomes larger.

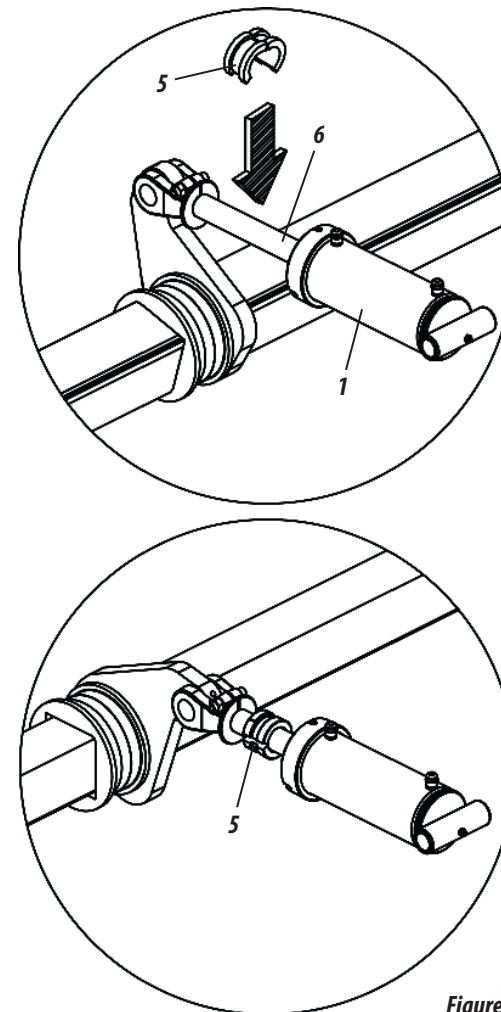
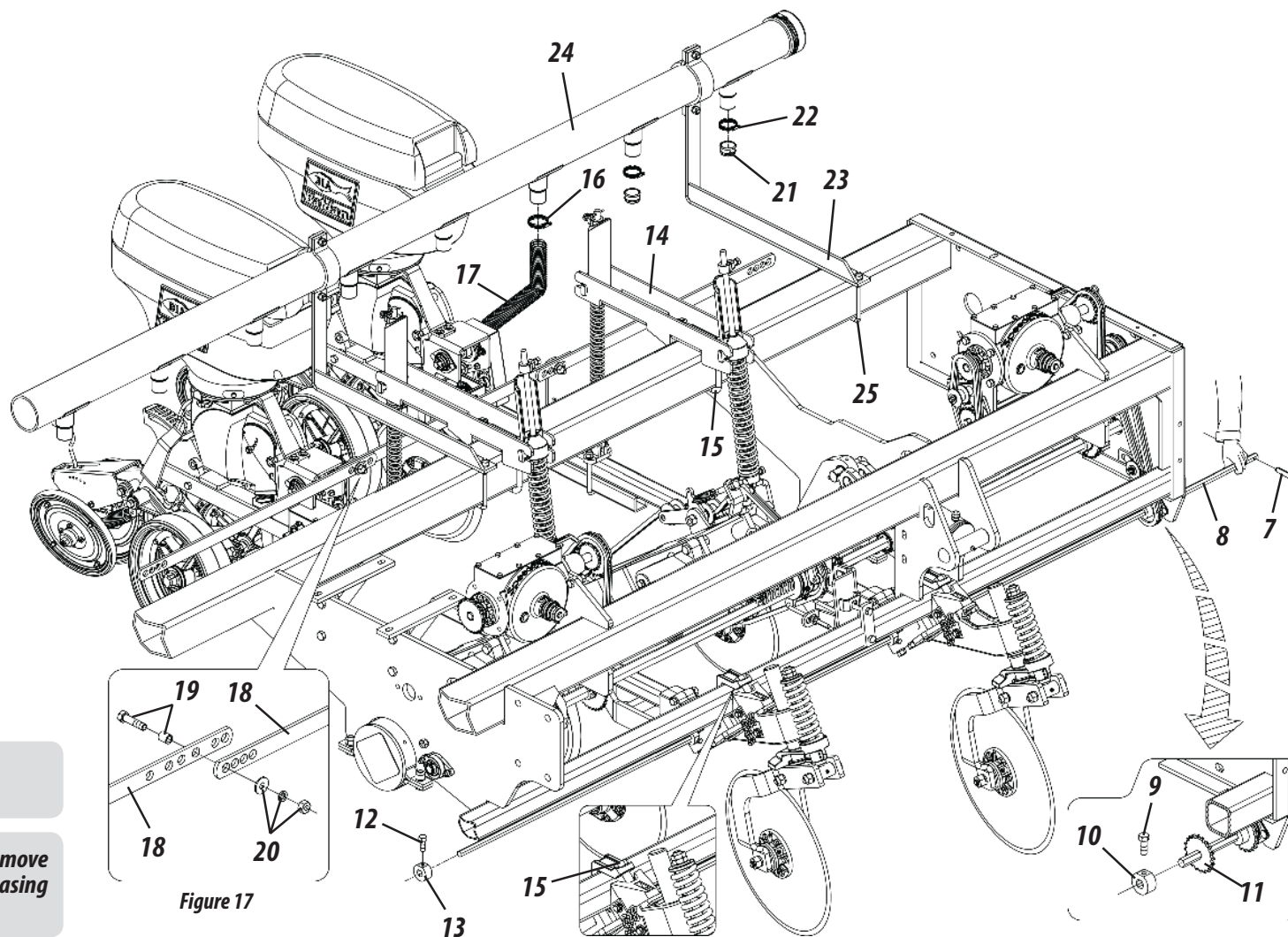


Figure 16

- 03** - Remove the latch (7) from the tip of the hexagon shaft (8), loosen the screws (9) releasing the latches (10) that fix the gear (11). Then, loosen the screws (12) by releasing the latches (13) and remove the hexagon shaft (8). Check the lines that will be removed or displaced and loosen the nuts from the support of the springs (14), remove the fixation clamp (15) from the lines, loosen the clamps (16), unplug the hoses (17), remove the spacing bars (18) using the screws and sleeves (19), washers and nuts (20). Finally, remove complete lines by pulling them back;
- 04** - Replace the hexagon shaft (8) and latches (7). Align the gear (11) and tighten the screws (9).
- 05** - Slide the lines to the desired spacing and retighten the nuts of clamps (14). Reposition the latches (13) and tighten the screws (12).
- 06** - Then, replace the spacing bars (18), adjusting them to the new spacing and tighten the screws with sleeves (19), washers and nuts (20).
- 07** - Finalize by coupling the hoses (17) fixing them through the clamps (16) and cover the air vents where the lines were removed through the cap (21) and clamp (22).



## ⚠ ATTENTION

*When adjusting the new spacing of lines, if necessary, move the support bracket (23) of the air conductor (24), releasing the clamp (25).*

Figure 17



- 08 - If there is need to remove the shaft (8), tighten the transmission chain (26) by loosening the screw (27) by releasing the tensioner (28).

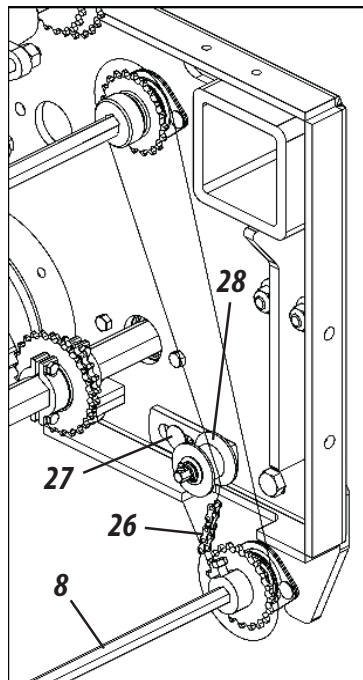


Figure 18

## ⚠ ATTENTION

*Note the alignment between gears.*

- 09 - When removing the lines to adjust the new spacing, also remove the fertilizer conductive spouts (28) through the clamp (29) and close the tank outputs, placing the cap (30), and locking with the clamp (31). Then, close the tank inputs, and place the cap (32).

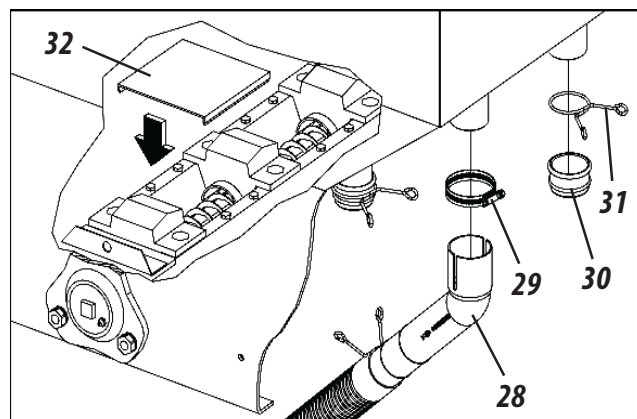


Figure 19

## 👍 NOTE

*Proceed daily cleaning of the closed outputs, removing the cap (30), so that the fertilizer does not become compressed.*

## WHEEL POSITION

### PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- To modify the wheels position, do the following:
- 10 - Loosen the screws (1) from the ratchet support (2) and screws (3) from the clamps (4) of the wheel support (5).
- 11 - Then, loosen the screws (6) from the clamp (7), releasing all the structure to move it.
- 12 - Then, slide the wheel and ratchet sets.
- 13 - Note the alignment of the ratchet and wheel gears with the transmission chain (8).

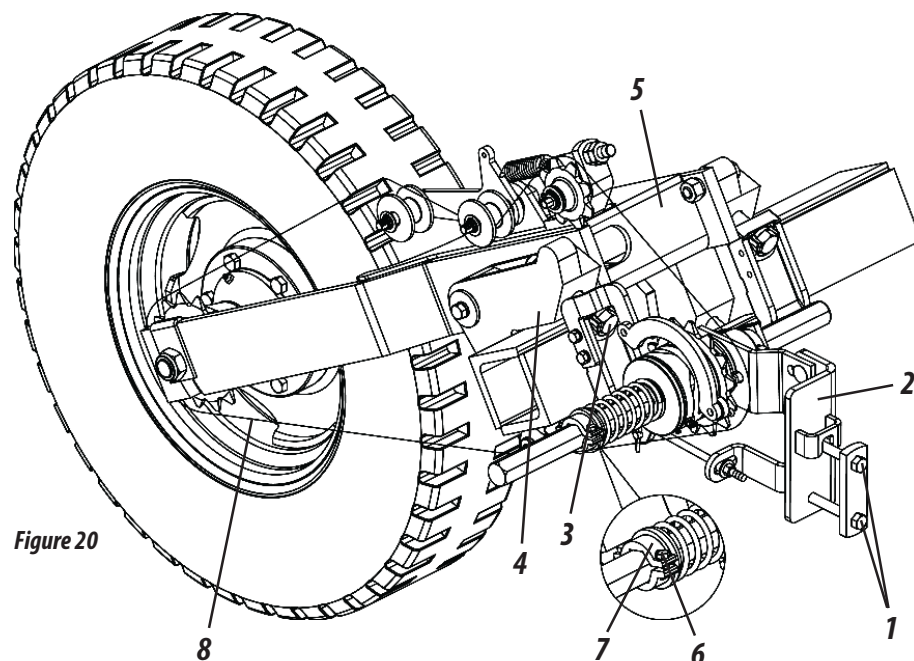


Figure 20

## ⚠ ATTENTION

*The minimum spacing between lines in the wheelset is 450mm.*



## SPACING TABLES IN MM

### PPSOLO *Speed Box Air* 4000 / 4500 / 5000 / 5500 / 6500 / 7500

Model	Nr of Rows	Spacing (mm)	Working Width (mm)
<b>4000</b>	4	800 / 900 / 1000	2400 / 3600 / 4000
	5	700 / 800	3500 / 4000
	6	500 / 550	3000 / 3300
	7	500 / 550	3500 / 3850
	8	*415 / 450	3320 / 3600
	9	*415	3320

Model	Nr of Rows	Spacing (mm)	Working Width (mm)
<b>5000</b>	6	800 / 850 / *900 / 950	4800 / 5100 / 5400 / 5700
	7	700 / 750 / 800	4900 / 5250 / 5600
	8	500 / 550	4000 / 4400
	9	500 / 550 / 600	4500 / 4950 / 5400
	10	*415 / 450 / 500	4150 / 4500 / 5000
	11	*415 / *450 / 490	4565 / 4950 / 5390
	12	*415 / *430 / *445	4980 / 5160 / 5340
	13	*400	5200

Model	Nr of Rows	Spacing (mm)	Working Width (mm)
<b>6500</b>	8	800 / 900	6400 / 7200
	9	790	7110
	10	600*	6000
	11	600	6600
	12	500* / 550	6000 / 6600
	14	485	6790
	15	*415 / *430 / 450	6225 / 6450 / 6750

Model	Nr of Rows	Spacing (mm)	Working Width (mm)
<b>4500</b>	5	900 / 1000	4500 / 5000
	6	550 / 800	4500 / 4800
	7	600 / 650	4200 / 4550
	8	500 / 550	4000 / 4400
	9	*415 / 450 / 500	3735 / 4050 / 450
	10	*415 / *430 / 450	4150 / 4300 / 4500

Model	Nr of Rows	Spacing (mm)	Working Width (mm)
<b>5500</b>	7	*800 / 850 / 900	5600 / 5950 / 6300
	9	600 / 650	5400 / 5850
	10	500 / 550	5000 / 5500
	11	500 / 550	5500 / 6050
	12	*415 / 500	4980 / 6000
	13	*415 / *430 / 450	5395 / 5590 / 5850

Model	Nr of Rows	Spacing (mm)	Working Width (mm)
<b>7500</b>	9	800 / 850 / 900	7200 / 7650 / 8100
	10	750* / 800	7500 / 8000
	11	600* / 650 / 700	6600 / 7150 / 7700
	12	600* / 650	7200 / 7200
	13	600	7800
	14	500 / 550	7000 / 7700
	15	*500	7500
	17	*415 / *435 / 450	7055 / 7395 / 7650

Table 02



The working width is always 1 spacing more than the lines of the seed drill.

Spacings with an asterisk (\*) may have changes up to 25mm in some line.

## ROW MARKER ADJUSTMENTS

PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

14- The adjustment of line markers is important to obtain planting with uniform spacing, so that the end line of the seed drill is at the same spacing in relation to the last line planted, facilitating future operations.

• To adjust the line markers, proceed as follows:

15- Firstly, you must know the spacing between lines, the number of lines to be used in the operation and the tractor front gauge. Use the formula below, followed by an example.

**EXAMPLE:** For a 6 row planter, spacing of 0,90 m and tractor's front gauge with 1,43m, determine:

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

**Solve:**  $X = \frac{0,90 \times 7 - 1,43}{2}$

$D = 2,43 \text{ meters}$

**WHERE:**

*E = Spacing between rows (mts)*

*N = Number of rows at the planter*

*B = Tractor's front gauge*

*D = Marker distance*

16- Adjust the line marker disc with 2.43 m up to the center of the first planting line.

17- The line markers are alternative, one lowers after the other, so if during the planting before the end of the first line, there is need to stop work, turn the piston for the seed drill to go up and down twice to continue working with the line marker on the right side.

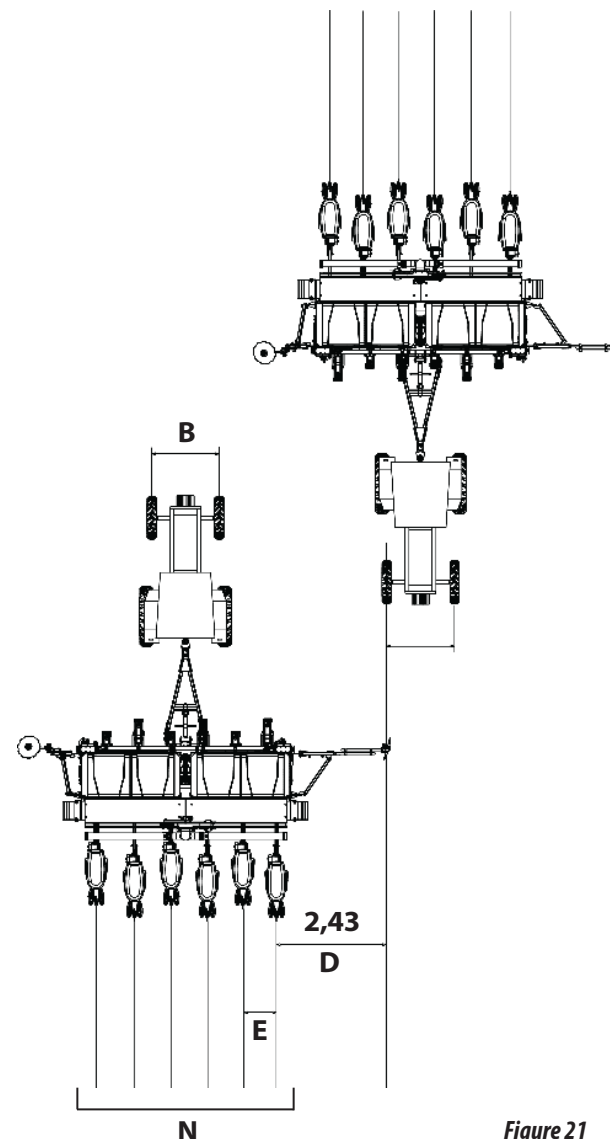


Figure 21

## ADJUSTING THE DISTRIBUTION SELECTOR

### PPSOLO *Speed Box Air* 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- According to the seed size, the feeder (1) must be regulated by adjusting the distribution selector (2) to the type of seed to be used for this, proceed as follows:

18- First, loosen the knobs (3) and disconnect the lid (4) from the injector.

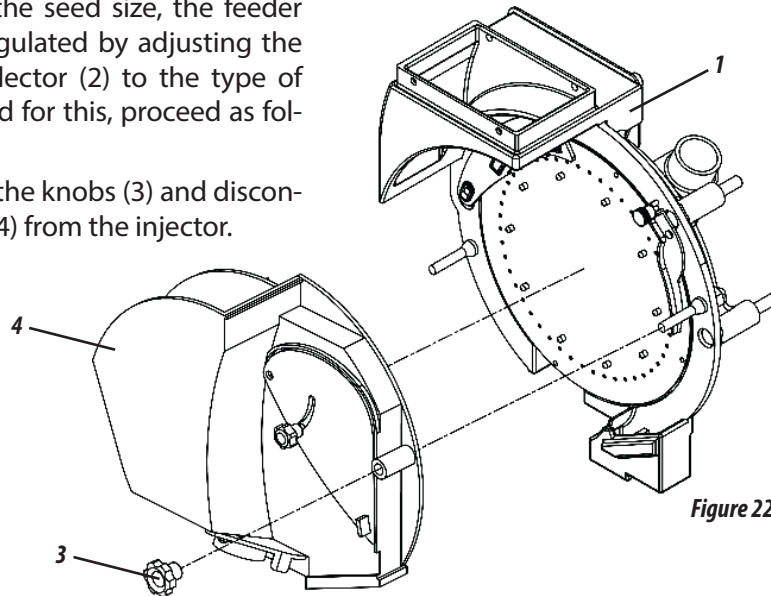


Figure 22

19- Then, adjust the knob (5) up or down by adjusting the distribution selector (2) to the type of seed to be used.

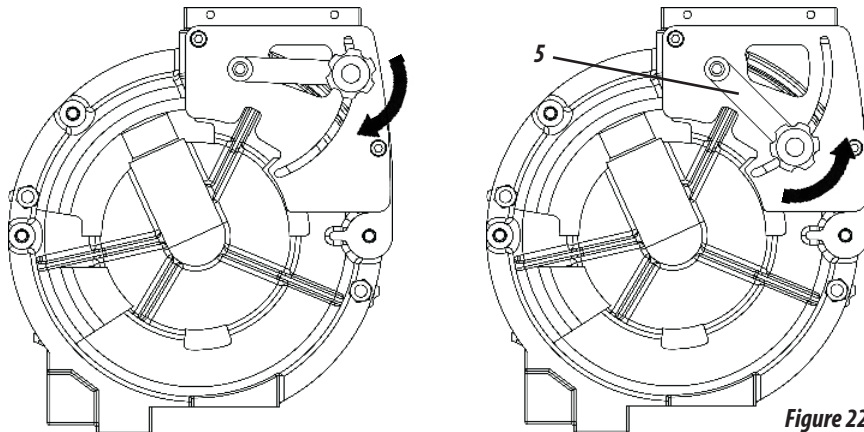


Figure 22

### ⚠ ATTENTION

*Graphite should not be mixed prior to seed treatment.*

### 🔄 IMPORTANT

*After seed treatment, they must not be bonded to each other to prevent failures in seed distribution.*

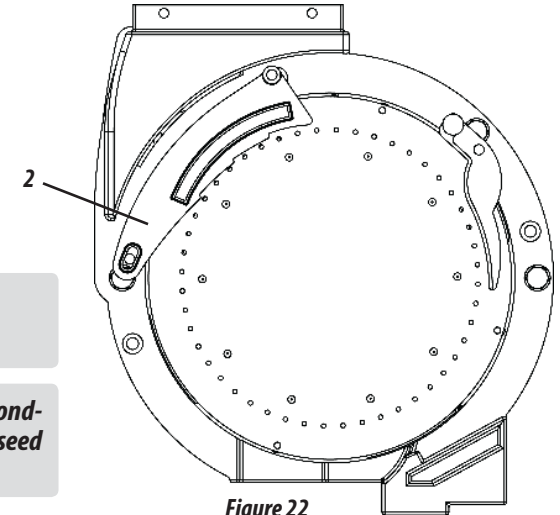


Figure 22

### 👍 NOTE

- The number of holes in the discs and their diameter vary according to the desired amount, specific weight and size of the seeds to be distributed.
- Discs with larger diameter of holes should be used for larger seeds.
- When treated, seeds should follow the instructions from the manufacturer.
- The disc rotation relation can be changed by selecting the Speed box levers, thus obtaining the desired spacing between seeds, as shown in Tables 6 and 7 pages 35 and 36.

20- The working speed varies according to the type of culture, as shown in Table 03.

Type of Culture	Speed
Corn / Sunflower	5 à 6 km/h
Beans / Cotton Sorghum / Pea	6 km/h
Soybean	7 km/h

Table 03

## ADJUSTING THE LOWER SELECTOR

PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- To ensure uniform distribution, the feeder (1) must be regulated by adjusting the lower selector (2), according to seed size, for this, proceed as follows:

21 - First, loosen the knobs (3) and disconnect the lid (4) from the feeder.

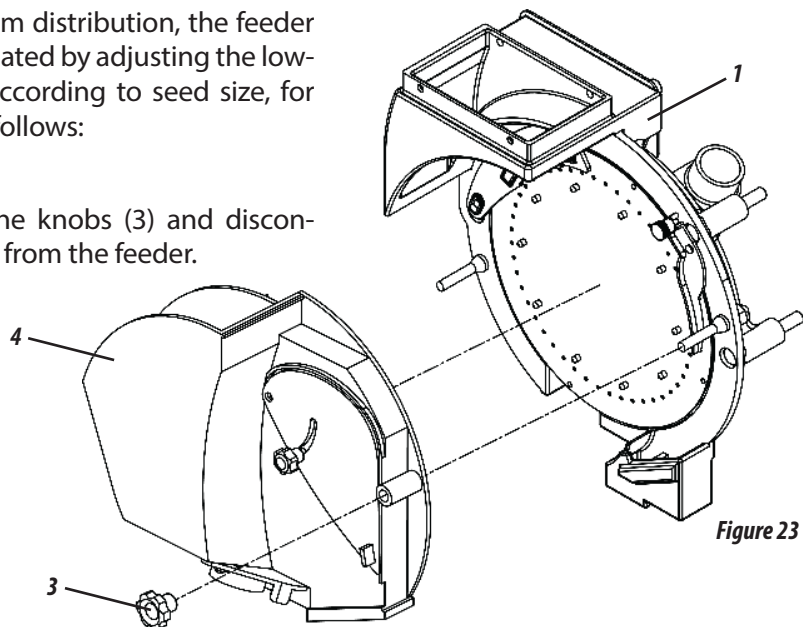


Figure 23

23 - Then, adjust the lower selector (6) according to the size of seeds to be distributed.

24 - Finishing the adjustment, assemble the feeder (1).

22 - Then, turn the knob (5) in counter-clockwise direction to loosen the lower selector (6).

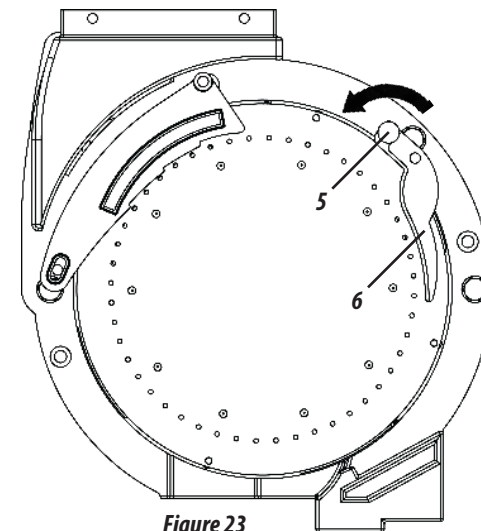


Figure 23

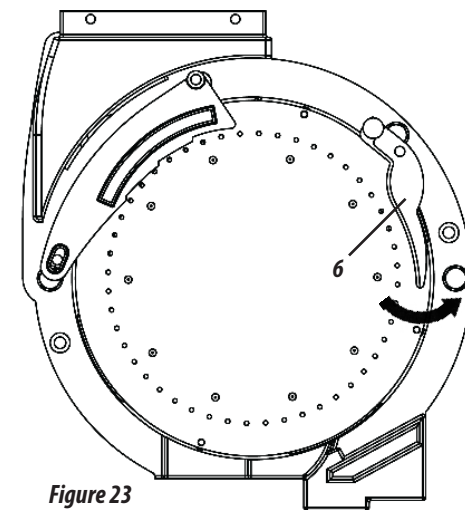
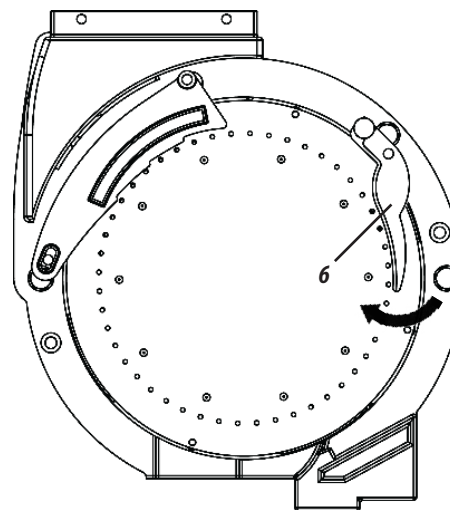


Figure 23

**ATTENTION**

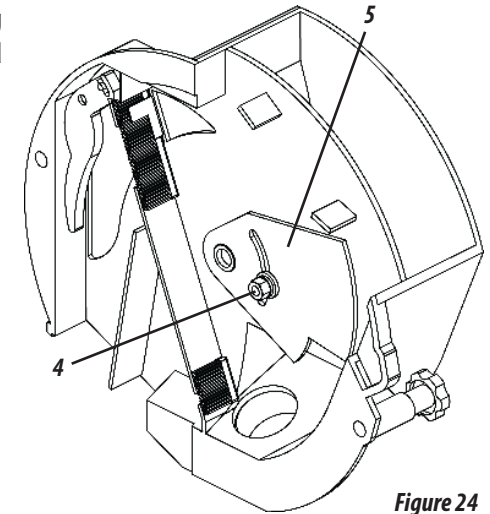
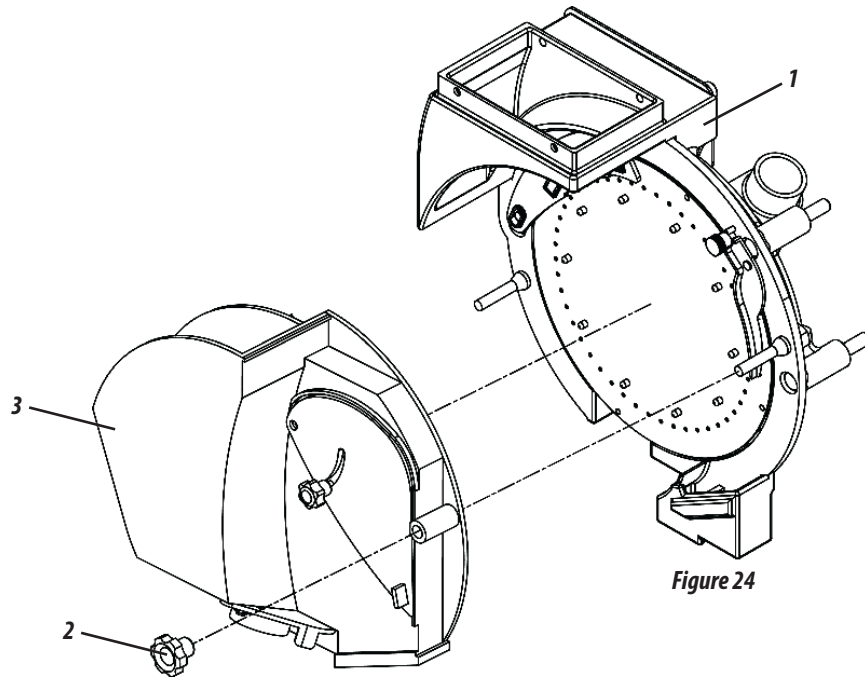
*Finishing the assembly of the feeder (1), make the adjustment in the other feeders in the seed drill. Do not operate the seed drill with the feeder (1) open.*

## ADJUSTING THE SEED FLOW

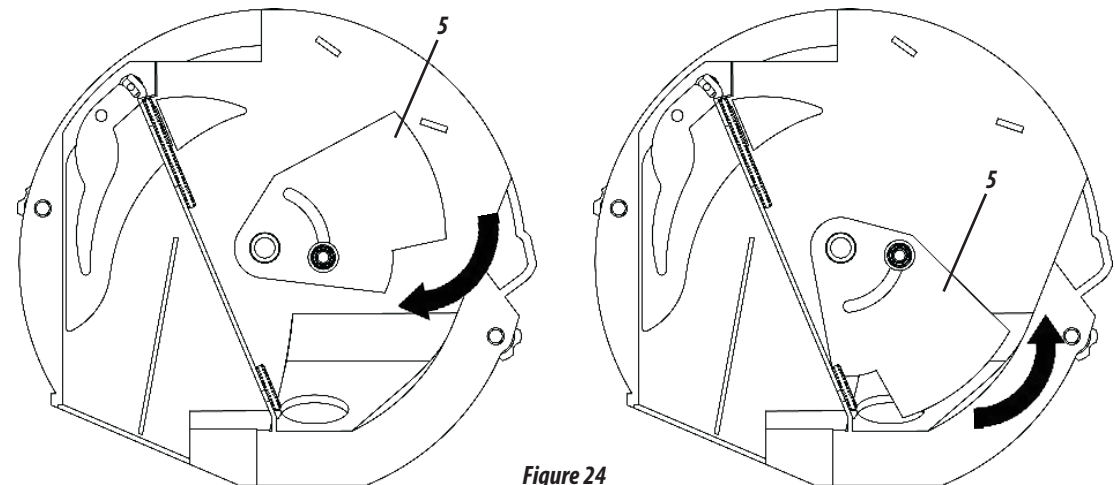
### PPSOLO *Speed Box Air* 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- According to the seed size, the feeder (1) must be regulated, adjusting the seed flow to the seed type to be used; for this, proceed as follows:
- 25 - First, loosen the knobs (2) and disconnect the lid (3) from the feeder.
- 26 - Then, loosen the nut (4) to make the adjustment of the plate (5).

- 27 - Then, adjust the plate (5) up or down adjusting the seed rate of the feeder to the type of seed to be used.



- 28 - When finishing the adjustment, assemble the feeder (1).



### ⚠ ATTENTION

*When finishing the assembly of the feeder (1), make the adjustment in the other feeders of the seed drill.*

*Do not operate the seed drill with the feeder (1) open.*

### ADJUSTMENT OF CLEANING BRUSHES

PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- The feeder (1) has cleaning brushes (2), which have the function of cleaning the disc, avoiding obstruction due to the presence of husks of seeds. Over time, check them for the presence of wear, and if necessary, replace them. To replace the cleaning brushes (2), proceed as follows:

29 - Loosen the knobs (3) and disconnect the lid (4) from the feeder.

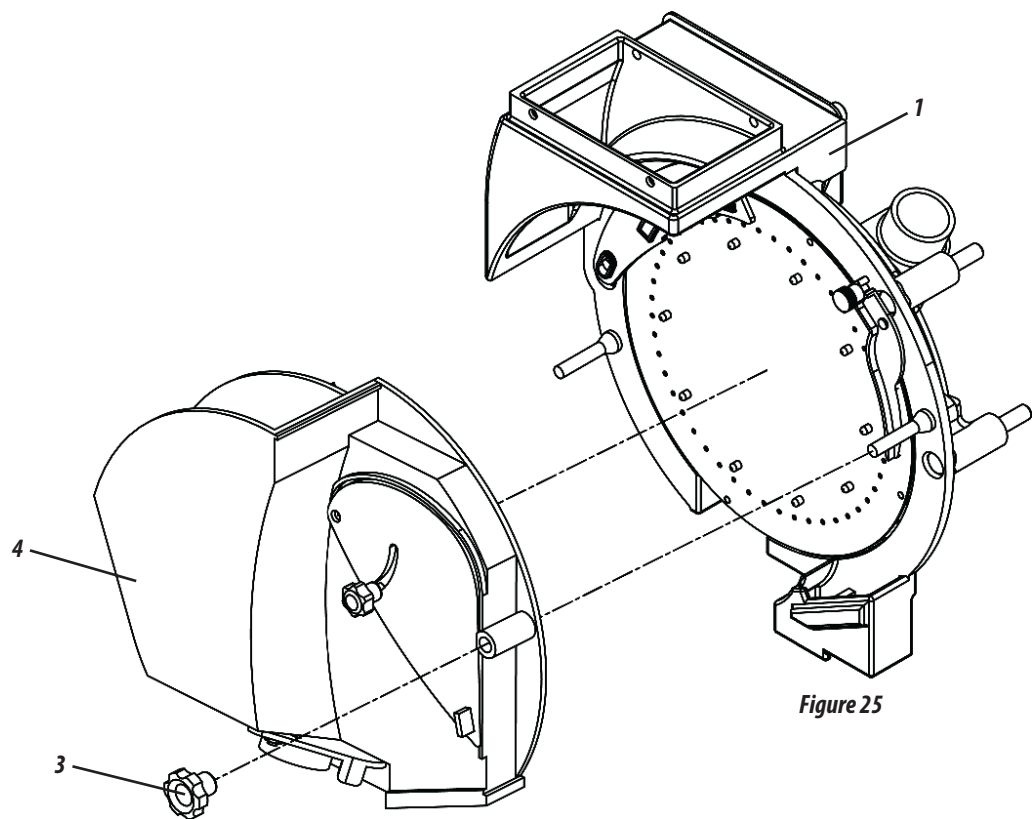


Figure 25

30 - Then, detach the cleaning brushes (2) and replace them.

31 - At the end of the replacement, re-assemble the feeder (1).

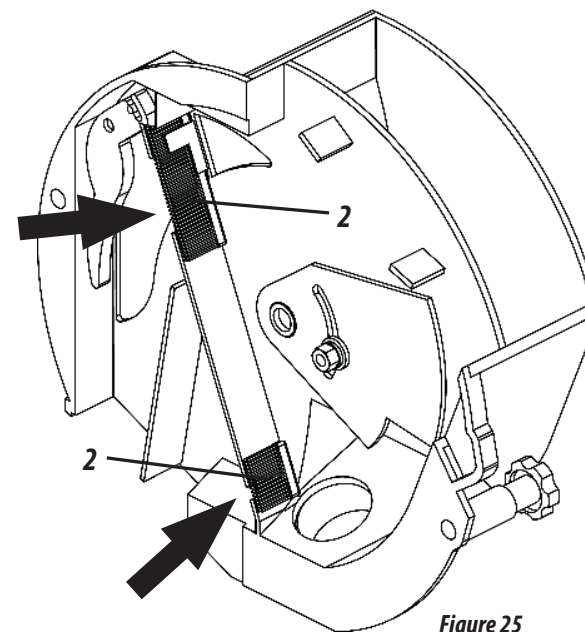


Figure 25



**IMPORTANT**

When replacing any part on your seed drill, always use Baldan genuine spare parts.



**ATTENTION**

When completing the assembly of the feeder (1), check the conditions of the cleaning brushes of the other feeders (2), if necessary, replace them. Do not operate the seed drill with the feeder (1) open.

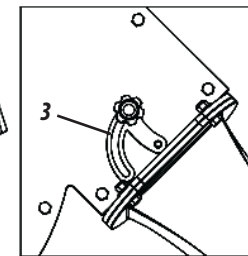
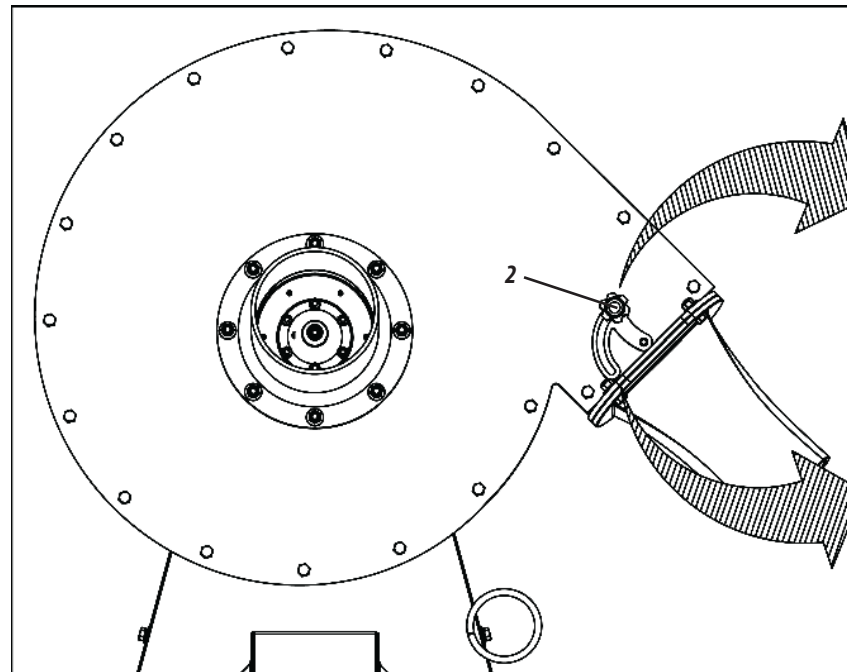
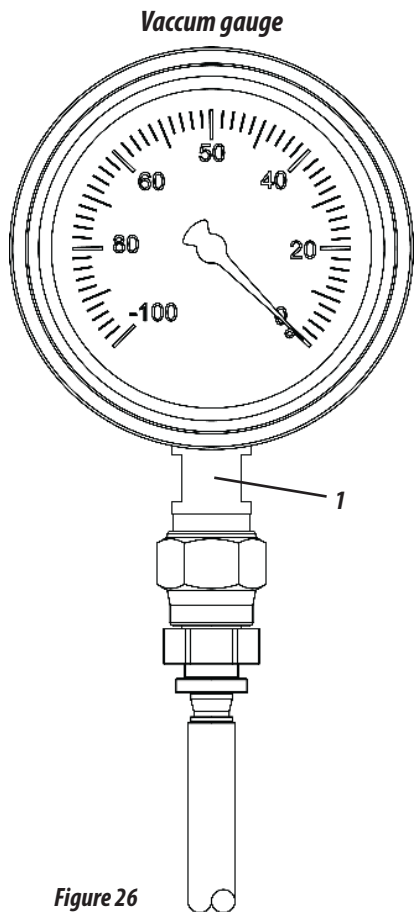


## VACCUM CALIBRATION

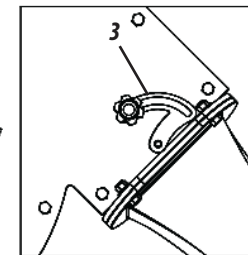
### PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- The turbine should generate a given negative pressure (vacuum), depending on the specific weight of the seed that will be used. To regulate the pressure, proceed as follows:
- Place the turbine in rotation by the tractor PTO, which must operate at constant 540 RPM.
- Check the vacuum level generated according to guidelines on page 69. The vacuum is indicated in mbar (millibars) by a vacuum meter (1).

- To increase or decrease the vacuum level, release the knob (2) by turning it counterclockwise.
- Then, move the plate (3); the larger or smaller the displacement, the higher or lower the vacuum level generated will be.



**"Closed System"**



**"Open System"**

- The vacuum should be adjusted according to the type of crop, as shown in the table on this page

**Table 04**

Type of Culture	Vacuum Level
Corn / Bean	70 to 80 mbar
Soybean	60 to 80 mbar
Cotton	50 to 60 mbar
Sunflower / Sorghum	40 to 50 mbar

**Figure 26**

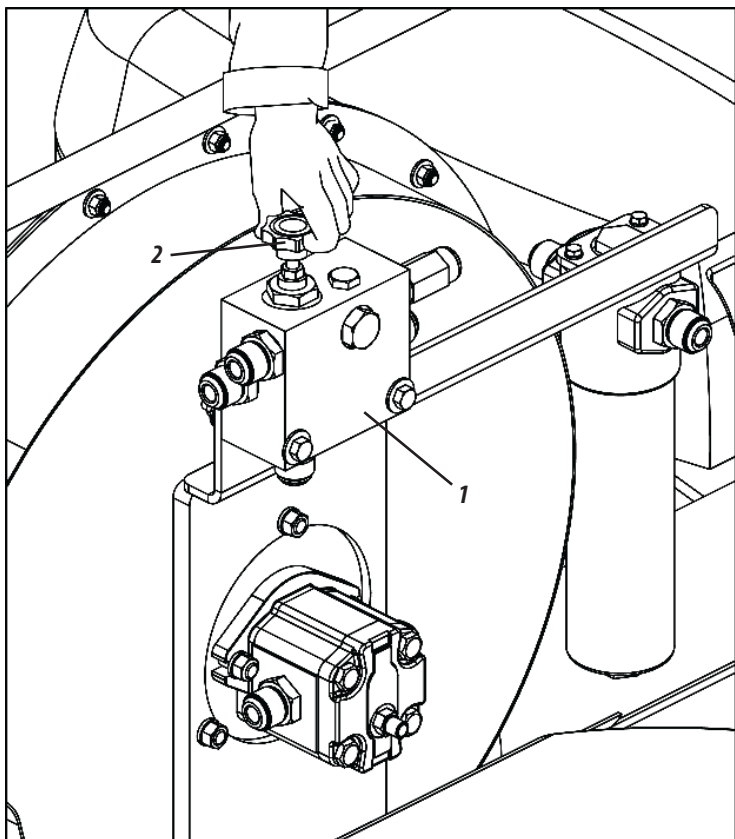
### ADJUSTING THE CONTINUOUS FLOW SYSTEM

PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- The PPSolo Speed Box Air seed drill can be acquired with continuous flow system. In this system, when checking the seed drop from the disc when maneuvering the seed drill, gradually open the flow control valve (1) to do so, proceed as follows:

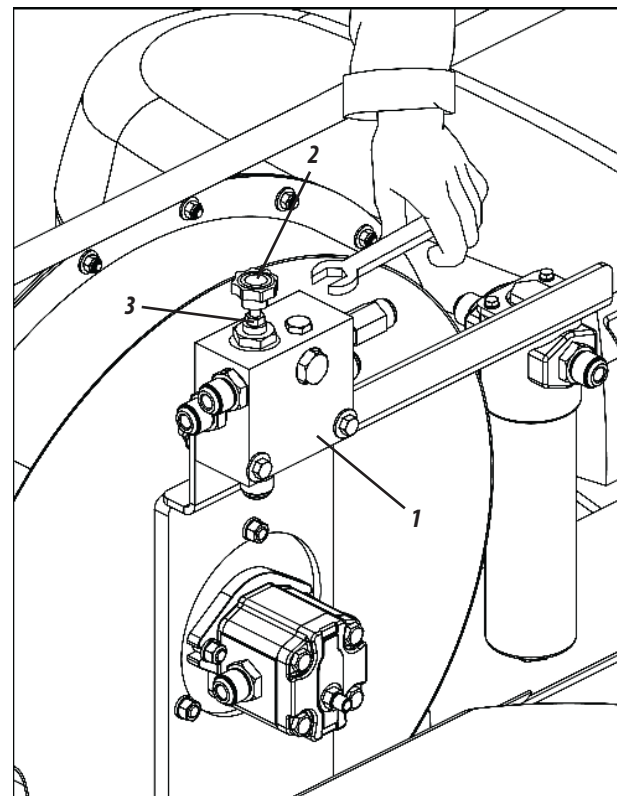
32 - Turn the knob (2) of the flow control valve (1) counterclockwise up to the time that this fact no longer occurs.

Figure 27



33 - At the end of the adjustment, lock the flow control valve (1) through the lock nut (3) contained in the knob (2) turning clockwise with a suitable tool so that eventually the system will not suffer maladjustment.

Figure 27



#### ⚠ ATTENTION

Before starting work, check the flow adjustment according to the type of seed to be used through the flow valve (1) or the turbine gate (previous page).

## SEED VISUALIZATION

**PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500**

34- The feeder (1) has an acrylic display (2) that allows the visualization of seeds and therefore provides the best system regulation for planting different crops: Corn, Sorghum, Soybean, Cotton and Beans.

35- See through acrylic display (2) the operation of the seed distribution system (1).

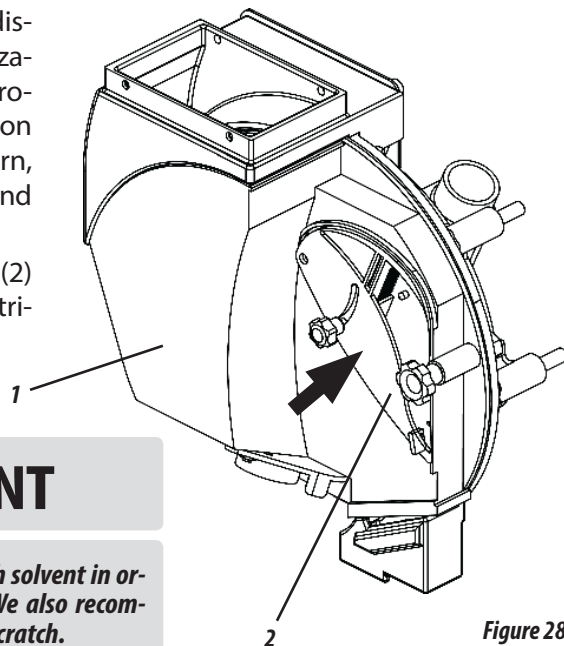


Figure 28

## IMPORTANT

Do not wash the acrylic display (2) with solvent in order not to damage its transparency. We also recommend not rubbing, preventing it from scratch.

## SEED DISTRIBUTION TABLE

**PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500**

36- The seed distribution table is made in accordance with the number of holes in the distribution disc, gear exchange and number of seeds to be distributed.

## ATTENTION

In case there is need to check the seeds distributed on the ground, open one furrow and count from the first seed found up to 5 linear meters. Then, take the result and divide it by 5 linear meters and you will have the result of seed distribution per linear meter.

## SEED DISTRIBUTION DISC

**PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500**

The seeder **PPSOLO Speed Box Air** leaves the factory with 5 different standard discs, they are:

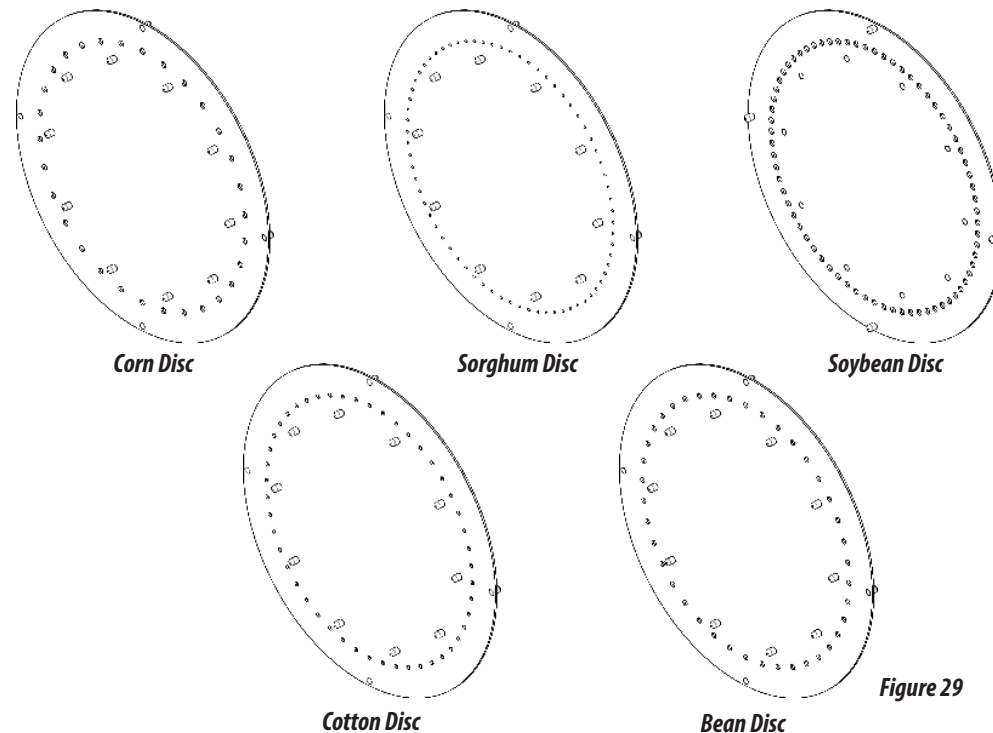


Figure 29

Code	Type of Culture	Number of Holes in the Discs	Diameter of the holes (mm)
6020071463-9	Corn	30	4,5
6020071464-7	Sorghum	70	2,0
6020071465-5	Soyabean	70	4,25
6020071495-5	Cotton	48	3,0
6020071498-1	Beans	40	4,0

Table 05

**SPEED BOX****PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500**

- Seed drills are equipped with the Speed Box system (1), which triggers the distribution system with simple settings, ensuring quick exchange of rotations. To calibrate the seeds, proceed as follows:

37 - Select the desired amount of seeds in the tables and check the corresponding combination in the levers (2). Example: Position F2 in the table indicates that the lever with letters must be in position "F" and the lever with numbers must be in position "2", as shown in Figure 30.

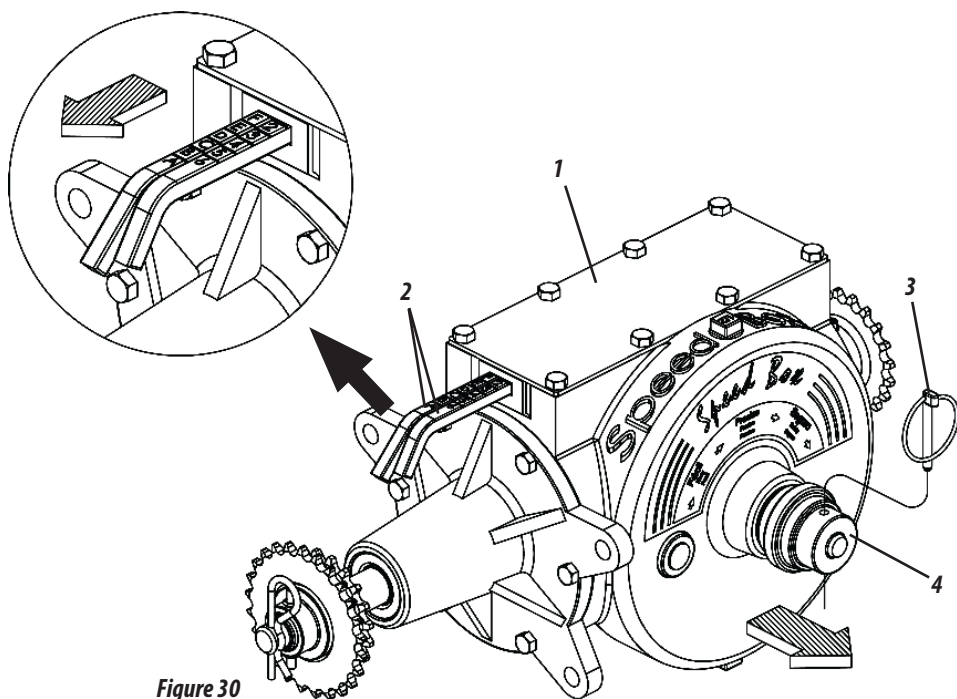


Figure 30

38 - To move the levers, remove the latch (3), pull the knob (4), and adjust the levers as in the example above. At the end the combination, re-assemble the handle (4) and the lock (3).

**ADJUSTMENT TO FOR SEED DISTRIBUTION****PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500**

- 39 - The fertilizer adjustment is made by the Speed Box (1). To make further adjustments, reverse current in the motor "A" and moved "B" gear as shown in Figure 31.
- 40 - After changing the gears, check the chain tension. The tensioner (2) is provided with a torsion spring (3) to provide increased flexibility.
- 41 - If you need more pressure on the stretcher, proceed as shown in Figure 72, page 66.

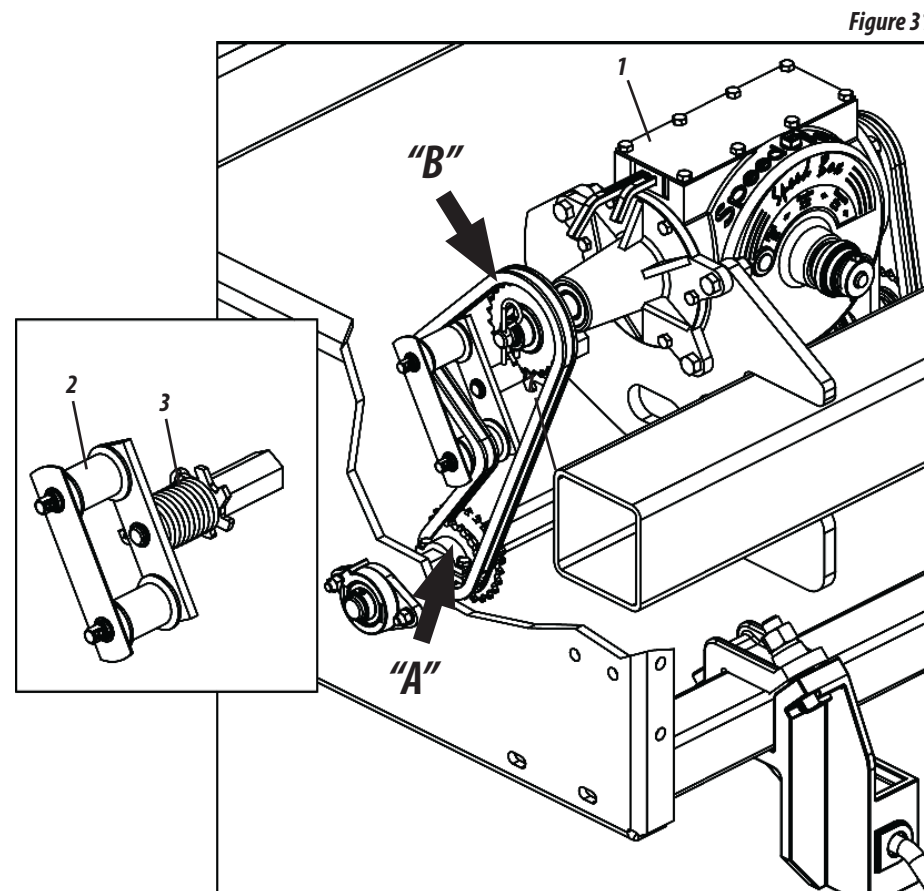


Figure 31

Table 06

## Seed distribution table (per linear meter) - PPSolo Speed Box Air

Output Gear of the Ratchet Shaft ( Z 3 )			20		Input Gear of the Speed Box ( Z 4 )				25	
Driving gear	Driven gear	Combinations	Number of holes on the seed distribution plates							
			20	30	40	50	70	100	120	
54	24	F - 1	1,7	2,6	3,5	4,3	6,0	8,6	10,4	
48	24	F - 2	1,9	2,9	3,9	4,9	6,8	9,7	11,7	
54	30	E - 1	2,2	3,2	4,3	5,4	7,6	10,8	12,9	
42	24	F - 3	2,2	3,3	4,4	5,5	7,8	11,1	13,3	
48	30	E - 2	2,4	3,6	4,9	6,1	8,5	12,1	14,6	
54	36	D - 1	2,6	3,9	5,2	6,5	9,1	12,9	15,5	
36	24	F - 4	2,6	3,9	5,2	6,5	9,1	12,9	15,5	
42	30	E - 3	2,8	4,2	5,5	6,9	9,7	13,9	16,6	
48	36	D - 2	2,9	4,4	5,8	7,3	10,2	14,6	17,5	
54	42	C - 1	3,0	4,5	6,0	7,6	10,6	15,1	18,1	
30	24	F - 5	3,1	4,7	6,2	7,8	10,9	15,5	18,6	
36	30	E - 4	3,2	4,9	6,5	8,1	11,3	16,2	19,4	
42	36	D - 3	3,3	5,0	6,7	8,3	11,7	16,6	20,0	
48	42	C - 2	3,4	5,1	6,8	8,5	11,9	17,0	20,4	
54	48	B - 1	3,5	5,2	6,9	8,6	12,1	17,3	20,7	
54	54	A - 1	3,9	5,8	7,8	9,7	13,6	19,4	23,3	
48	54	A - 2	4,4	6,6	8,7	10,9	15,3	21,8	26,2	
42	48	B - 3	4,4	6,7	8,9	11,1	15,5	22,2	26,6	
36	42	C - 4	4,5	6,8	9,1	11,3	15,9	22,7	27,2	
30	36	D - 5	4,7	7,0	9,3	11,7	16,3	23,3	28,0	
24	30	E - 6	4,9	7,3	9,7	12,1	17,0	24,3	29,1	
42	54	A - 3	5,0	7,5	10,0	12,5	17,5	25,0	30,0	
36	48	B - 4	5,2	7,8	10,4	12,9	18,1	25,9	31,1	
30	42	C - 5	5,4	8,2	10,9	13,6	19,0	27,2	32,6	
24	36	D - 6	5,8	8,7	11,7	14,6	20,4	29,1	35,0	
36	54	A - 4	5,8	8,7	11,7	14,6	20,4	29,1	35,0	
30	48	B - 5	6,2	9,3	12,4	15,5	21,8	31,1	37,3	
24	42	C - 6	6,8	10,2	13,6	17,0	23,8	34,0	40,8	
30	54	A - 5	7,0	10,5	14,0	17,5	24,5	35,0	42,0	
24	48	B - 6	7,8	11,7	15,5	19,4	27,2	38,8	46,6	
24	54	A - 6	8,7	13,1	17,5	21,8	30,6	43,7	52,4	

Seed distribution table (per linear meter) - PPSolo Speed Box Air

Seed distribution table (per linear meter) - PPSolo Speed Box Air									
Output Gear of the Ratchet Shaft ( Z 3 )			25	Input Gear of the Speed Box ( Z 4 )					20
Driving gear	Driven gear	Combinations	Number of holes on the seed distribution plates						
			20	30	40	50	70	100	120
54	24	F - 1	2,7	4,0	5,4	6,7	9,4	13,5	16,2
48	24	F - 2	3,0	4,6	6,1	7,6	10,6	15,2	18,2
54	30	E - 1	3,4	5,1	6,7	8,4	11,8	16,9	20,2
42	24	F - 3	3,5	5,2	6,9	8,7	12,1	17,3	20,8
48	30	E - 2	3,8	5,7	7,6	9,5	13,3	19,0	22,8
54	36	D - 1	4,0	6,1	8,1	10,1	14,2	20,2	24,3
36	24	F - 4	4,0	6,1	8,1	10,1	14,2	20,2	24,3
42	30	E - 3	4,3	6,5	8,7	10,8	15,2	21,7	26,0
48	36	D - 2	4,6	6,8	9,1	11,4	15,9	22,8	27,3
54	42	C - 1	4,7	7,1	9,4	11,8	16,5	23,6	28,3
30	24	F - 5	4,9	7,3	9,7	12,1	17,0	24,3	29,1
36	30	E - 4	5,1	7,6	10,1	12,6	17,7	25,3	30,3
42	36	D - 3	5,2	7,8	10,4	13,0	18,2	26,0	31,2
48	42	C - 2	5,3	8,0	10,6	13,3	18,6	26,6	31,9
54	48	B - 1	5,4	8,1	10,8	13,5	18,9	27,0	32,4
54	54	A - 1	6,1	9,1	12,1	15,2	21,2	30,3	36,4
48	54	A - 2	6,8	10,2	13,7	17,1	23,9	34,1	41,0
42	48	B - 3	6,9	10,4	13,9	17,3	24,3	34,7	41,6
36	42	C - 4	7,1	10,6	14,2	17,7	24,8	35,4	42,5
30	36	D - 5	7,3	10,9	14,6	18,2	25,5	36,4	43,7
24	30	E - 6	7,6	11,4	15,2	19,0	26,6	37,9	45,5
42	54	A - 3	7,8	11,7	15,6	19,5	27,3	39,0	46,8
36	48	B - 4	8,1	12,1	16,2	20,2	28,3	40,5	48,6
30	42	C - 5	8,5	12,7	17,0	21,2	29,7	42,5	51,0
24	36	D - 6	9,1	13,7	18,2	22,8	31,9	45,5	54,6
36	54	A - 4	9,1	13,7	18,2	22,8	31,9	45,5	54,6
30	48	B - 5	9,7	14,6	19,4	24,3	34,0	48,6	58,3
24	42	C - 6	10,6	15,9	21,2	26,6	37,2	53,1	63,7
30	54	A - 5	10,9	16,4	21,8	27,3	38,2	54,6	65,5
24	48	B - 6	12,1	18,2	24,3	30,3	42,5	60,7	72,8
24	54	A - 6	13,7	20,5	27,3	34,1	47,8	68,3	81,9



## 07 - FERTILIZER DISTRIBUTION SYSTEM

### METALLIC FERTILIZER TANK

PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

#### FERTILIZER CONDUCTOR - GUTTER SYSTEM

- The floating spiral fertilizer distribution system is in a shaft disposed at the bottom of the fertilizer tank, which begin to rotate, the fertilizer involves the shaft, carrying it to the exits, avoiding intermediate bearings. When the number of lines and desired spacing are determined, proceed as follows:
- 01 - Fit the spouts (1) in the distributor outputs (2) through the clamp (3), making the connection of spouts that are closer to the lines, preventing them from getting bent or folded.
  - 02 - The fertilizer outputs that will not be used must be closed with caps (4) inside the tank with the cap (5) through the clamp (6) at the external outputs, this will prevent fine fertilizer particles from falling onto the seed drill, as shown in Figure 32.

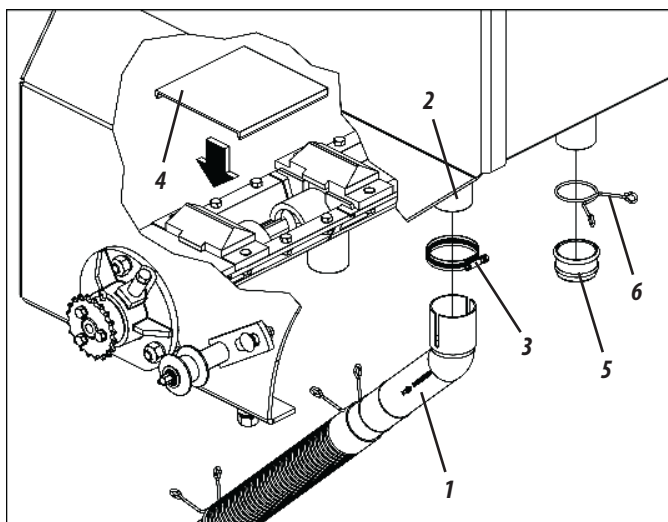


Figure 32

- 03 - The floating spiral fertilizer feeder system has safety outputs that when the fertilizer enters the feeder and the hose is clogged, the fertilizer will start to leak through these safety outputs, ensuring the system operation without damaging it. If this occurs, proceed the cleaning of the feeder up to the end of the hose near the furrow rod or double disc, because clogging can occur due to roots, pieces of plastic and other objects, as shown in Figure 33.

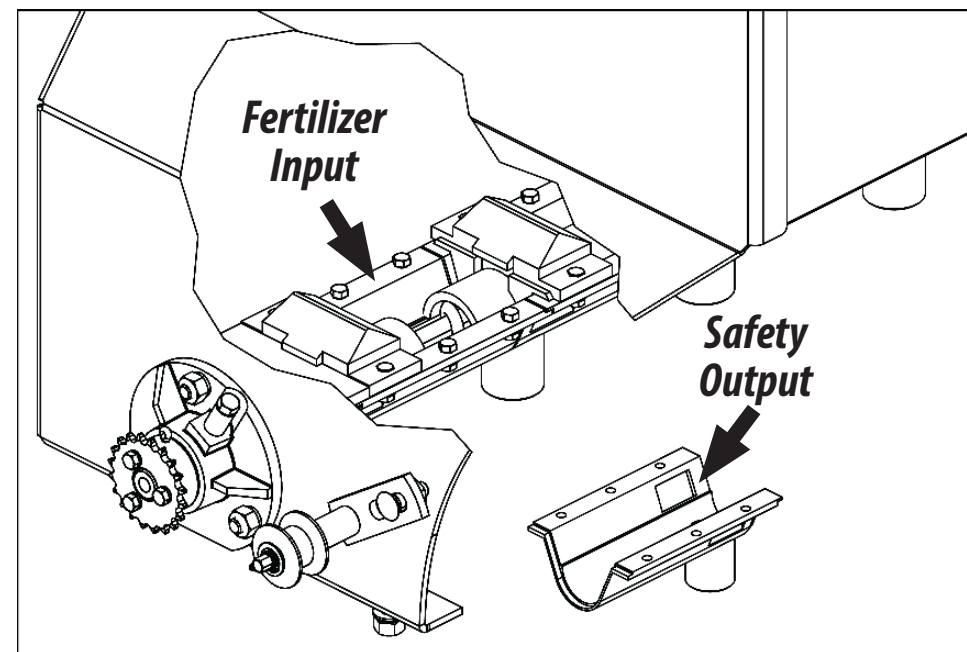
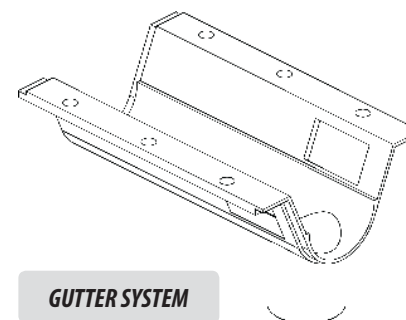


Figure 33



#### ⚠ ATTENTION

Check distributors and hoses daily, and clean their outputs. When the fertilizer is wet or has impurities, proceed to clean more often.

**POLYETHYLENE FERTILIZER TANK****PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500****FERTILIZER CONDUCTOR - SIDE SYSTEM**

- 04 - To conduct the fertilizer from the distributor to the ground, fit the spouts (1) in the distributor outputs (2) through the clamps (3), preventing them from getting bent or folded, as shown in Figure 34.

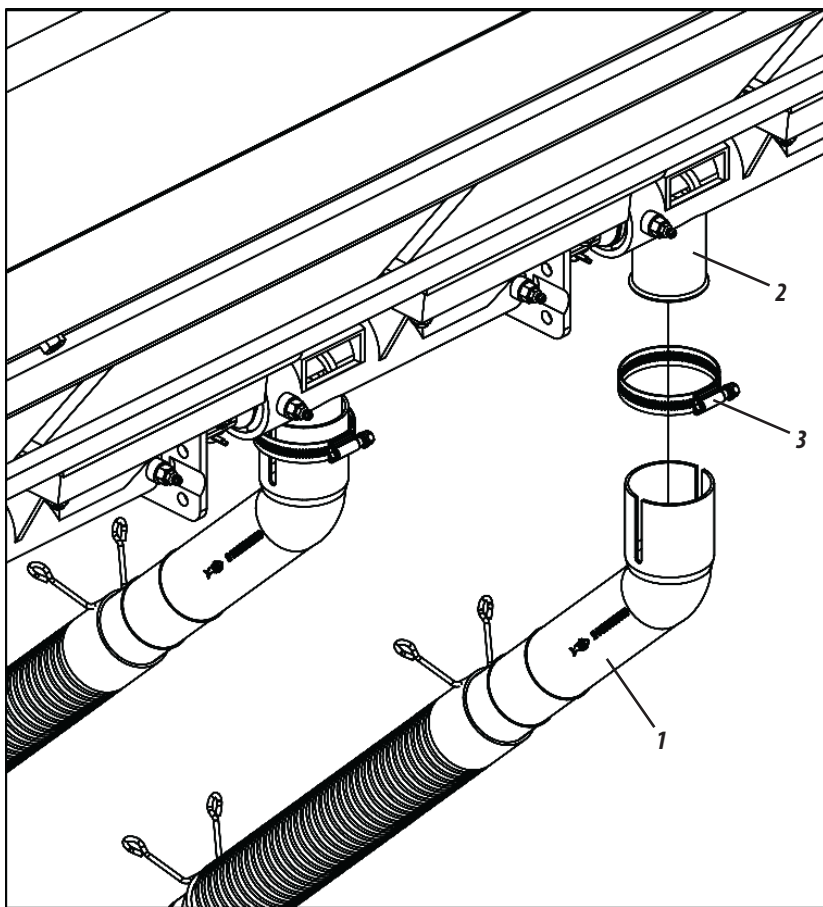


Figure 34

- 05 - The independent distribution system has safety outputs that, ensuring the system operation without damaging it. In case of clogging proceed the cleaning of the feeder up to the end of the hose near the furrow rod or double disc, because clogging can occur due to roots, pieces of plastic and other objects, as shown in Figure 35.

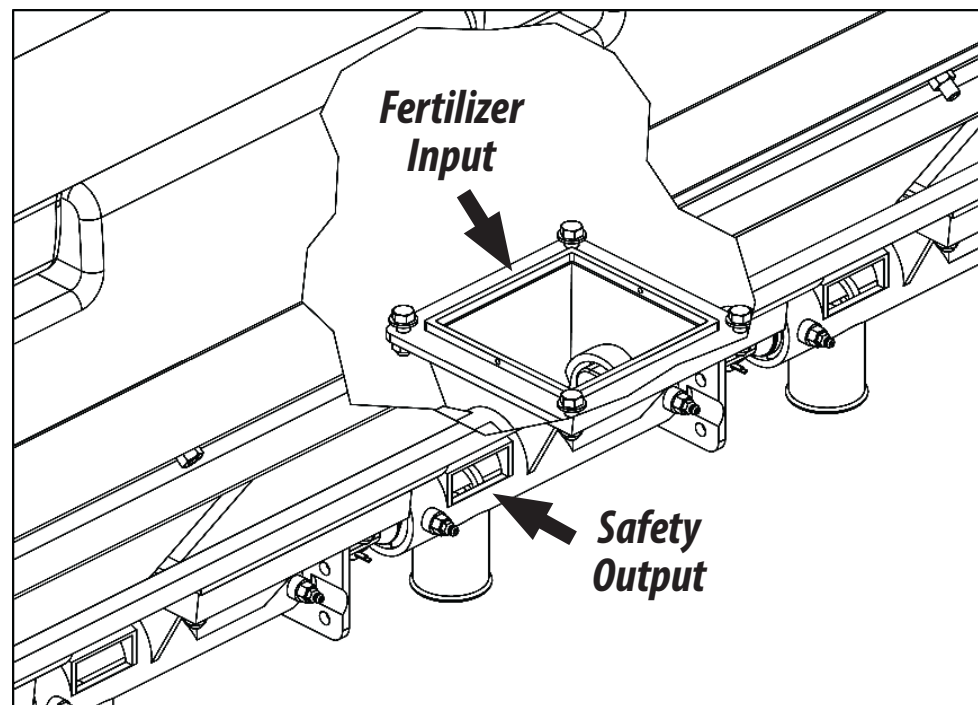
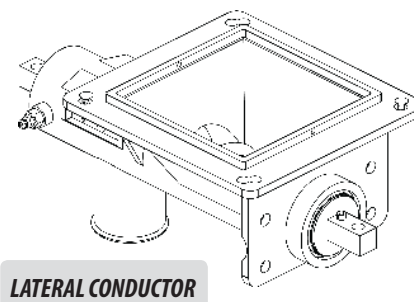


Figure 35



LATERAL CONDUCTOR

**! ATTENTION**

*Check distributors and hoses daily, and clean their outputs. When the fertilizer is wet or has impurities, proceed to clean more often.*

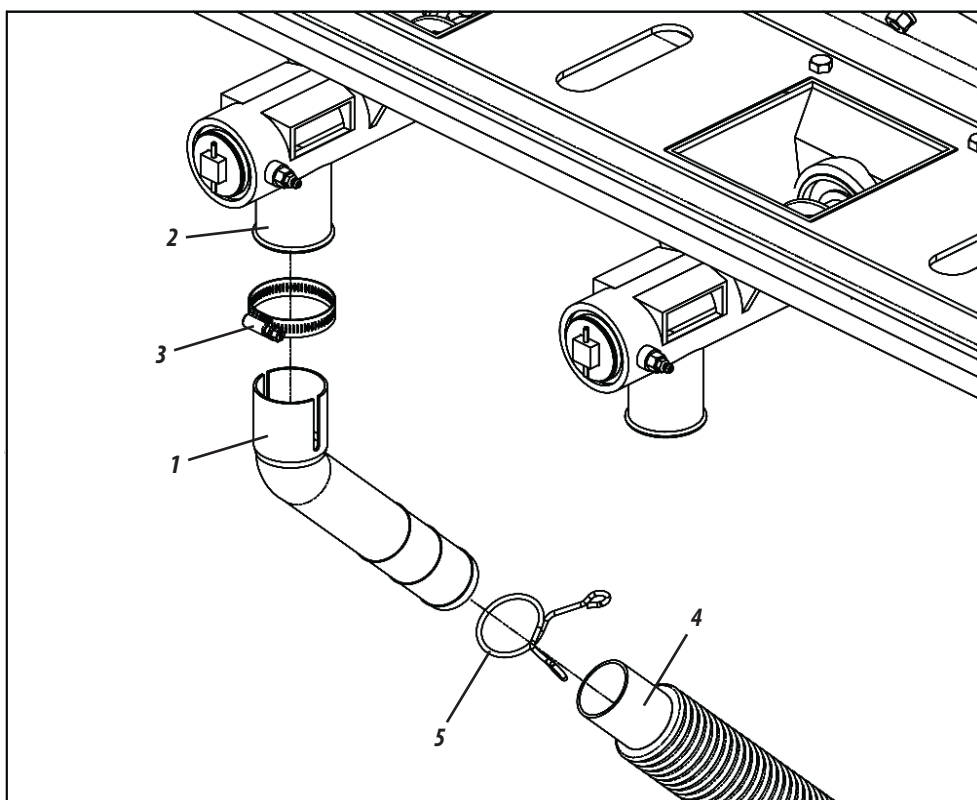
## POLYETHYLENE FERTILIZER TANK

### PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

#### FERTILIZER CONDUCTOR - INDEPENDENT SYSTEM

- 06 - To conduct the fertilizer from the distributor to the ground, fit the spouts (1) in the distributor outputs (2) through the clamps (3). Then fix the hoses (4) in the spouts (1) through the latch spring (5), as shown in Figure 36.

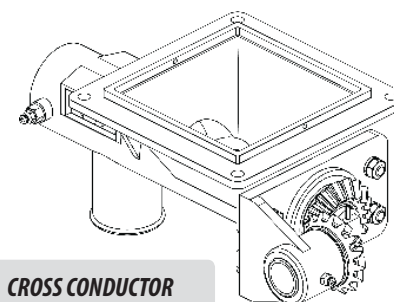
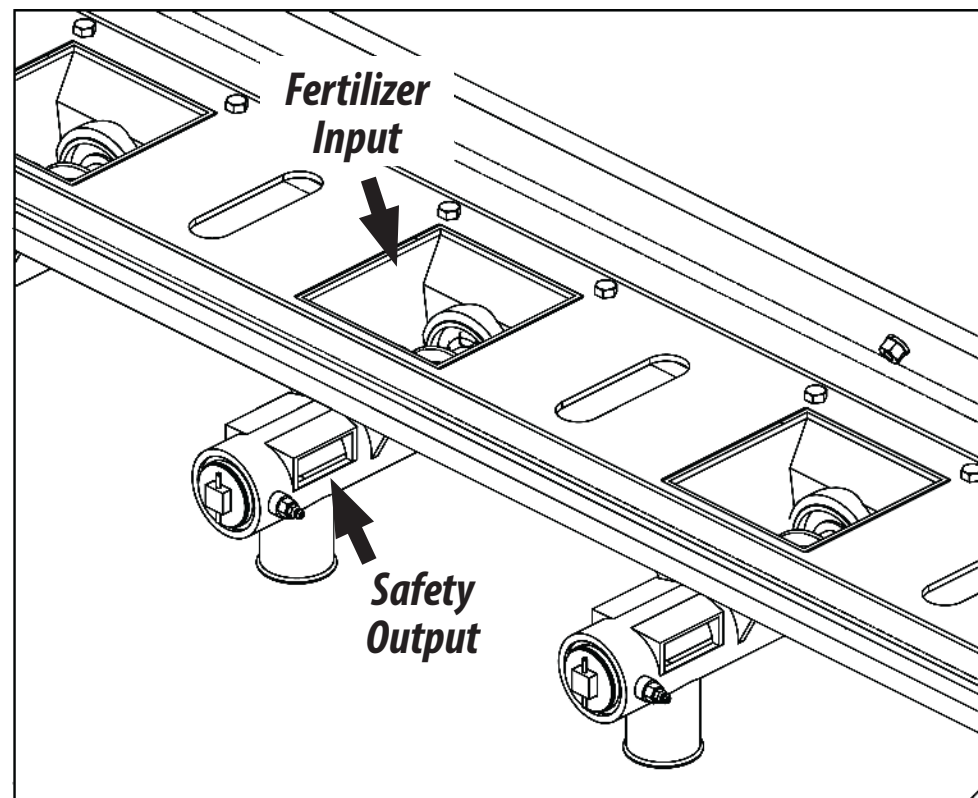
Figure 36



- 07 - The independent system has safety outputs that, ensuring the system operation without damaging it. In case of clogging proceed the cleaning of the

feeder up to the end of the hose near the furrow rod or double disc, because clogging can occur due to roots, pieces of plastic and other objects, as shown in Figure 37.

Figure 37



CROSS CONDUCTOR

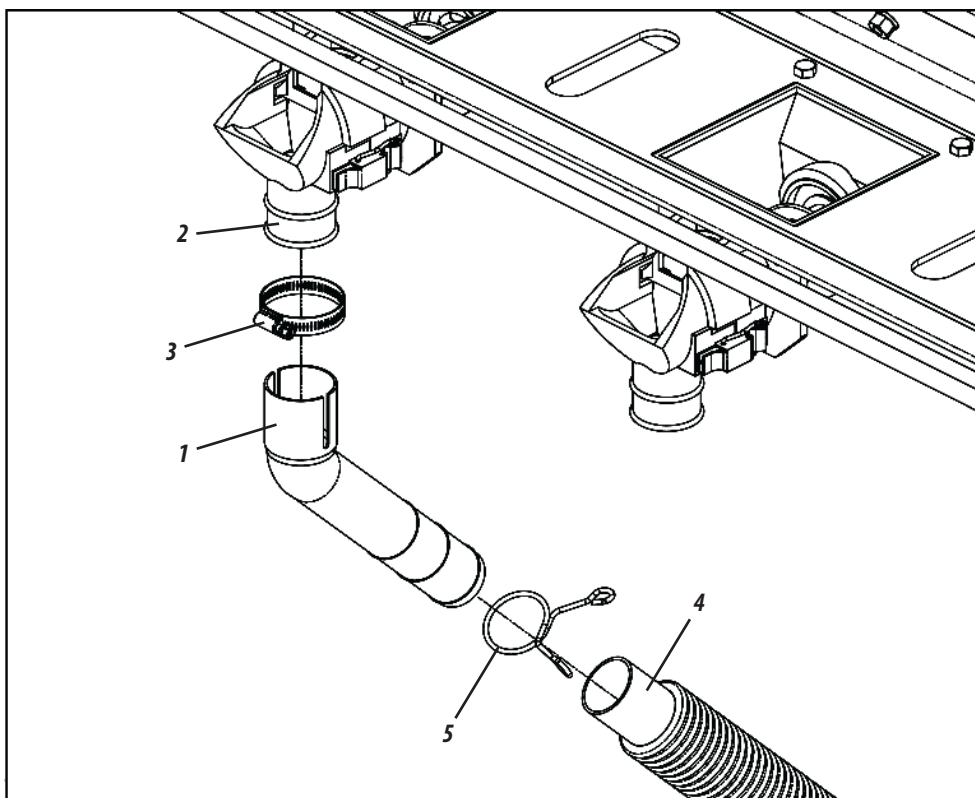
#### ⚠ ATTENTION

Check distributors and hoses daily, and clean their outputs. When the fertilizer is wet or has impurities, proceed to clean more often

**POLYETHYLENE TANK FERTILIZER****PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500****FERTILIZER CONDUCTOR - FERTISYSTEM**

- 08 - To conduct the fertilizer from the distributor to the ground, fit the spouts (1) in the fertisystem outputs (2) through the clamps (3). Then fix the hoses (4) in the spouts (1) through the latch spring (5), as shown in Figure 38.

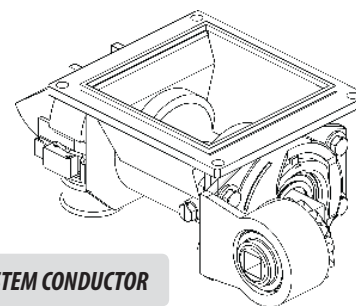
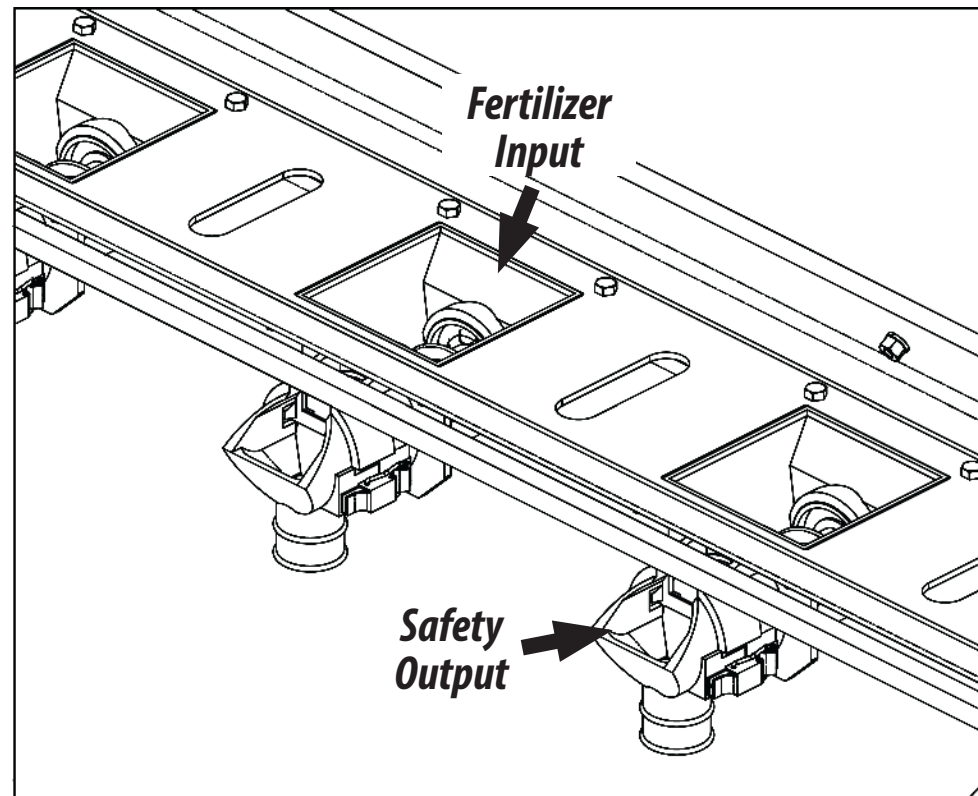
Figure 38



- 09 - The Fertisystem has safety outputs that, ensuring the system operation without damaging it. In case of clogging proceed the cleaning of the feeder up to

the end of the hose near the furrow rod or double disc, because clogging can occur due to roots, pieces of plastic and other objects, as shown in Figure 39.

Figure 39



FERTISYSTEM CONDUCTOR

**! ATTENTION**

Check distributors and hoses daily, and clean their outputs. When the fertilizer is wet or has impurities, proceed to clean more often.



## SPEED BOX

**PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500**

- The seed drills are equipped with the Speed Box system (1), which triggers the distribution system with simple settings, ensuring quick exchange of rotations. To calibrate the seeds, proceed as follows:
- 10 - Select the desired amount of seeds in the tables and check the corresponding combination in the levers (2). Example: Position F2 in the table indicates that the lever with letters must be in position "F" and the lever with numbers must be in position "2", as shown in Figure 40.

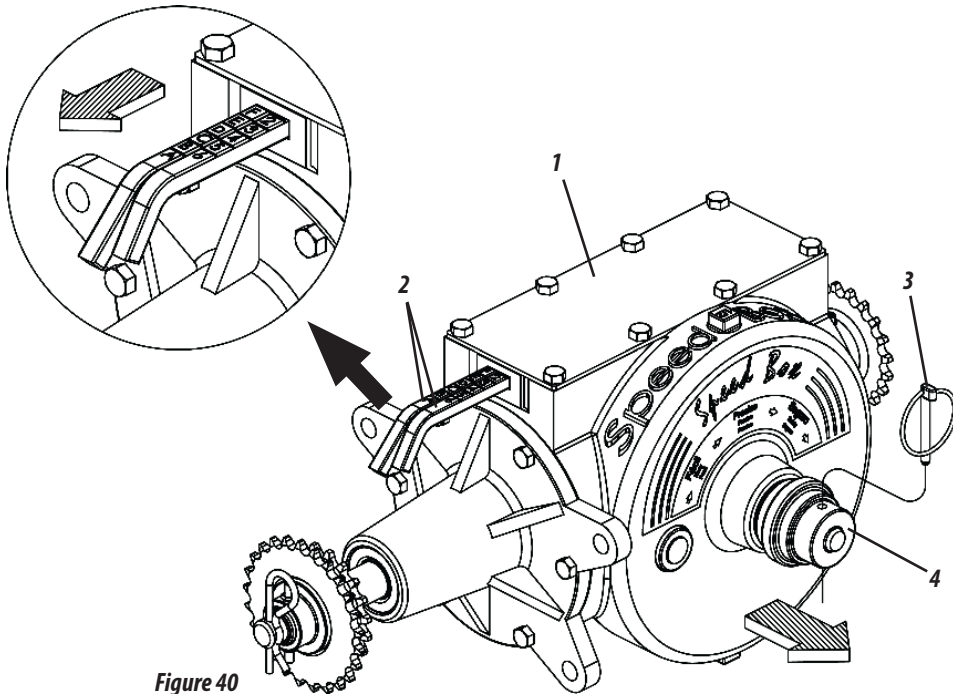


Figure 40

- 11 - To move the levers, remove the latch (3), pull the knob (4), and adjust the levers as in the example above. At the end of the combination, re-assemble the handle (4) and the lock (3).

## ADJUSTING THE FERTILIZER DISTRIBUTION

**PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500**

- 12 - The fertilizer adjustment is made by the Speed Box (1). To make further adjustments, reverse current in the motor "A" and moved "B" gear as shown in Figure 41.
- 13 - After changing the gears, check the chain tension. The tensioner (2) is provided with a torsion spring (3) to provide increased flexibility.
- 14 - If you need more pressure on the stretcher, proceed as shown in Figure 72, page 66.

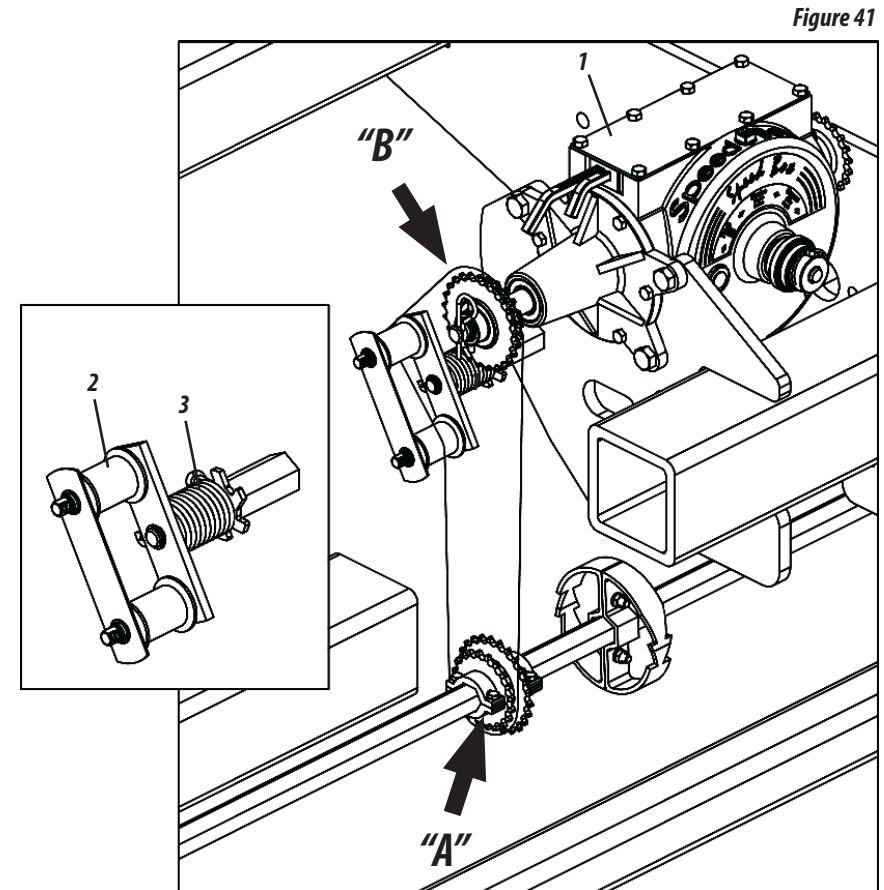


Figure 41



Table 08

Fertilizer distribution table - PPSolo Speed Box Air

Gear of the ratchet hexagon shaft			20		Input gear of the Speed Box									31	
Combinations	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



Table 09

Fertilizer Distribution Table - PPSolo Speed Box Air

Gear of the ratchet hexagon shaft				31		Input gear of the Speed Box								20	
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

## 08 - PRATICAL CALCULATION FOR FERTILIZER DISTRIBUTION

01 - Determine the spacing between lines and the amount of fertilizer to be distributed per bushel (Aa) or hectare (Ha).

- **Example:** Seed drill with spacing of 450 mm to distribute 500 kg of fertilizer per hectare, use the formula below:

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

### Formula Data:

<b>E</b>	=	Spacing between lines (mm)
<b>Q</b>	=	Quantity of fertilizer to be distributed
<b>A</b>	=	Area to be fertilized (m <sup>2</sup> )
<b>D</b>	=	50 meters distance (test)
<b>X</b>	=	Grams of fertilizer in 50 meters

**Solve:**

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

$$X = 22.50 \times 50 = 1125$$

$$X = 1125 \text{ grams in 50 meters per line}$$

## PRACTICAL TEST TO MEASURE THE SEED AND FERTILIZER DISTRIBUTION AMOUNT

- 02 - For greater accuracy in the fertilizer or seed distribution, do the test to find the amount to be distributed on the planting site, because for each type of soil, there is a different condition.
- 03 - Check and keep the tire calibration of your PPSOLO Speed Box Air seed drill.
- 04 - Check the test distance in the table, we chose 50 linear meters.
- 05 - Fill the seed tanks at least halfway. Run at least 10 meters outside the testing area, so that the seeds and fertilizer fill the feeders.
- 06 - Seal the seed spout outlets and place containers for collection in the fertilizer outputs. Move the tractor in the testing area, always at the same speed that will be used in planting, from 5 to 7 km / h.
- 07 - After running the delimited space (fertilizer table) in the column (grams per line in 50 meters), remove the sealing of the seed spout and collect them for counting and weighing of the fertilizer collected. If it is necessary to increase or decrease the amount of fertilizer and seed, refer to the table.



**IMPORTANT**

*A field test should be conducted in the distribution of seed and fertilizer over 50 meters to subsequently compare the results of the seed and fertilizer.*

## 09 - CLOSURE SYSTEM

### MECHANICAL CLOSURE SYSTEM - OPTIONAL PPSOLO *Speed Box Air* 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- 01 - The PPSOLO Speed Box Air has optional features that may be acquired in accordance with the work requirement. The mechanical closure system is among the options available (1).
- The mechanical closure system allows planting with only one side of the machine, or half of lines. To activate the mechanical system, proceed as follows:
- 02 - Choose the side of the seed drill for the closure system to be done. Then, manually move the lever (2) towards the chosen side.

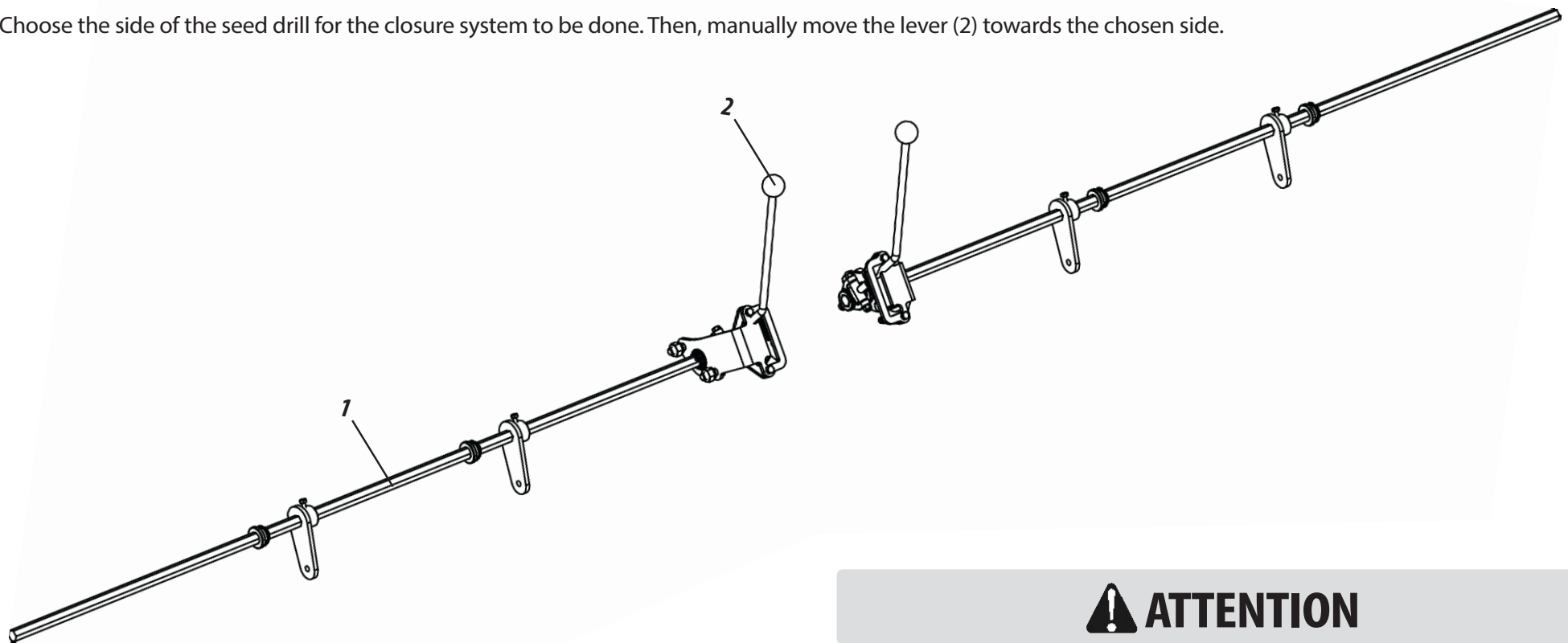


Figure 42

#### **ATTENTION**

*Before operating the lever (2), get off the tractor and make sure that the seed drill is stopped. Do not move the lever (2) with the seed drill in movement. Ignoring this warning may result in serious accidents.*

### HYDRAULIC CLOSURE SYSTEM - OPTIONAL

PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- 03 - The PPSOLO Speed Box Air has optional features that may be acquired in accordance with the work requirement. The hydraulic closure system is among the options available (1).
- The hydraulic closure system allows planting with only one side of the machine, or half of lines. This system allows the tractor's operator through a simple operation, trigger it without leaving the tractor. This is done by remote control on the tractor. To activate the hydraulic system, proceed as follows:
- 04 - Choose the side of the seed drill for the closure system to be done. Then close the valve (2) for the opposite side.

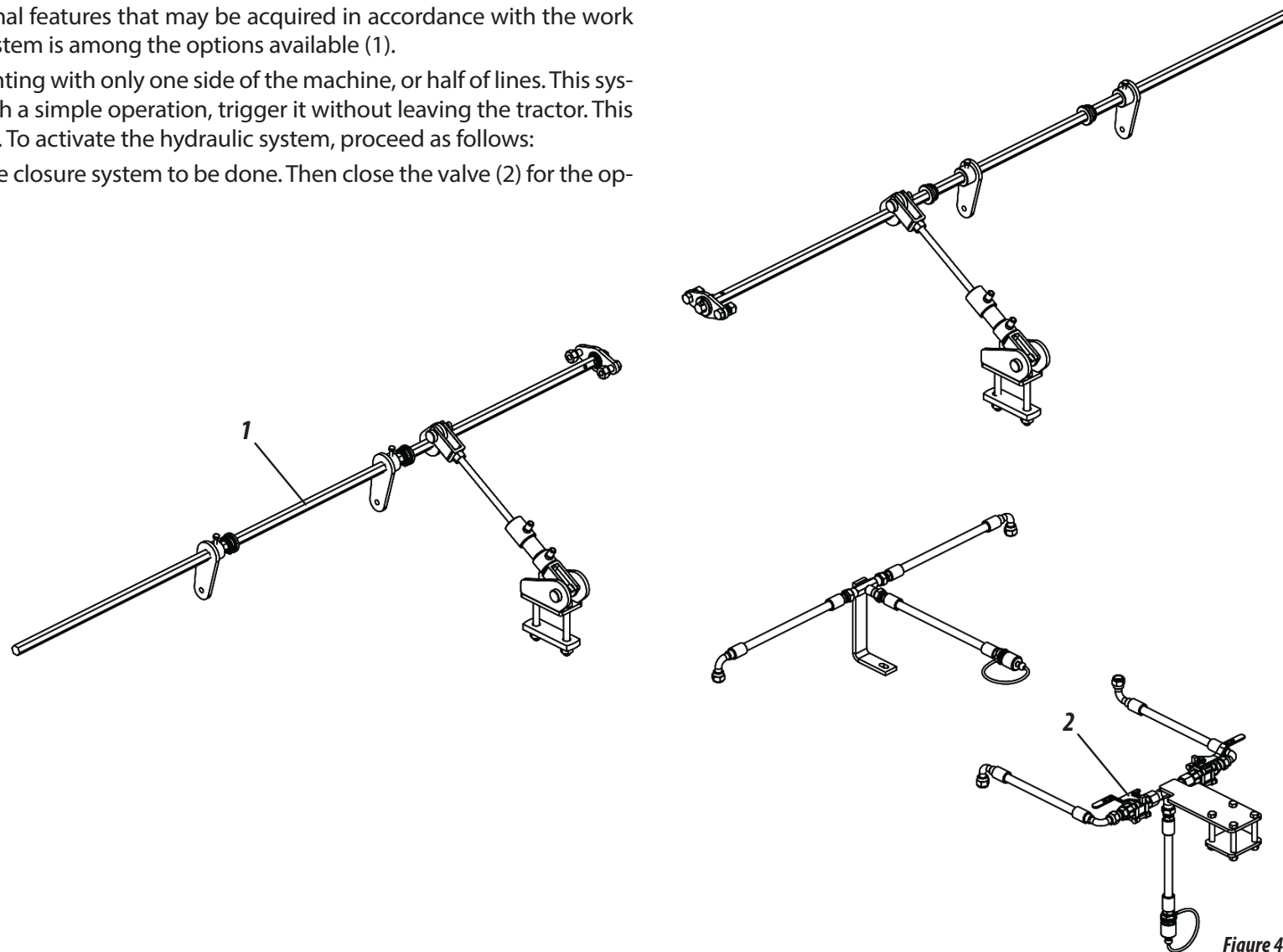


Figure 43

## 10 - PLANTING ROWS

### MODELS OF OPTIONAL LINES PPSOLO *Speed Box Air* 4000 / 4500 / 5000 / 5500 / 6500 / 7500

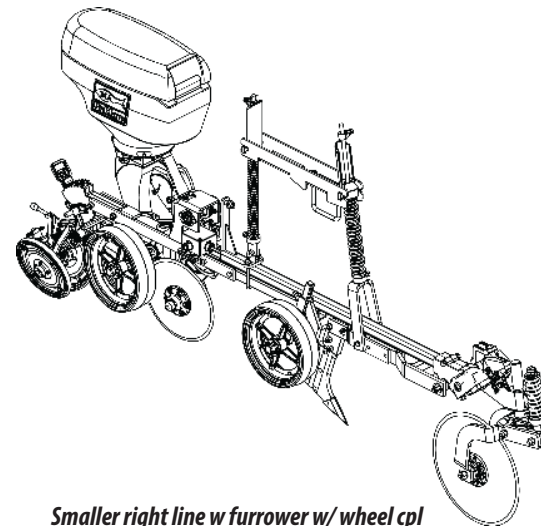
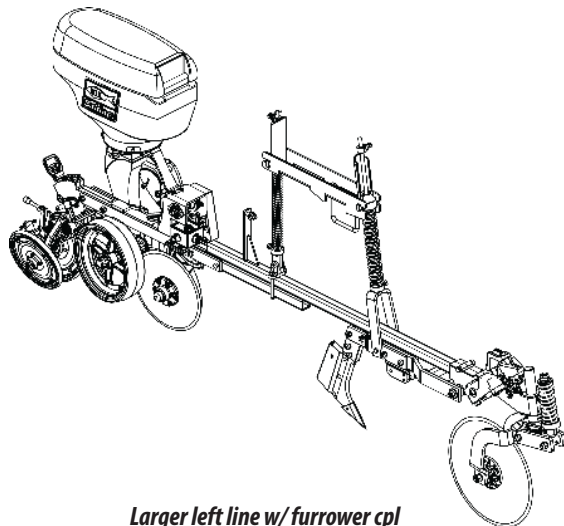
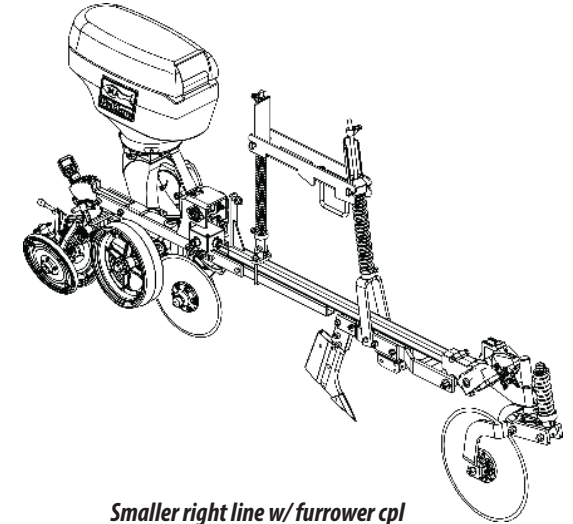
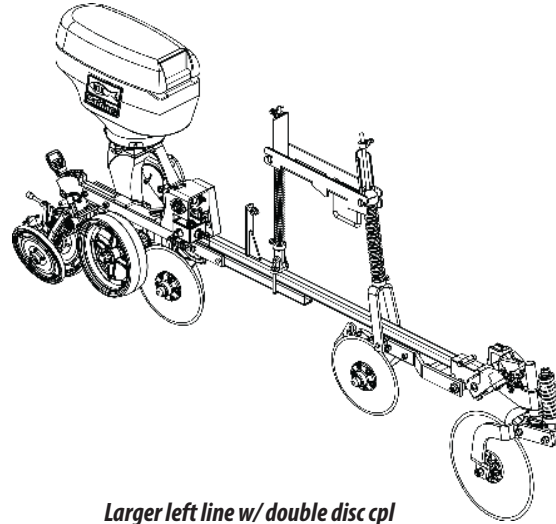
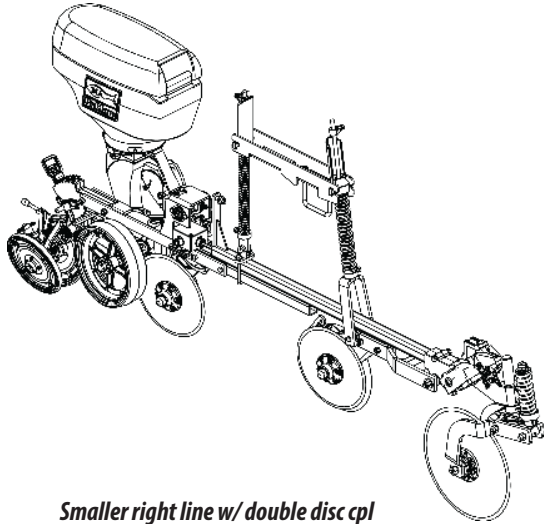
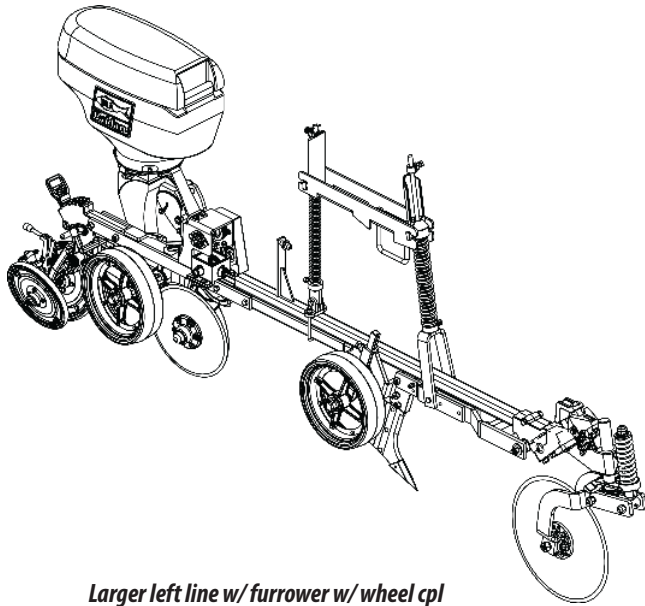
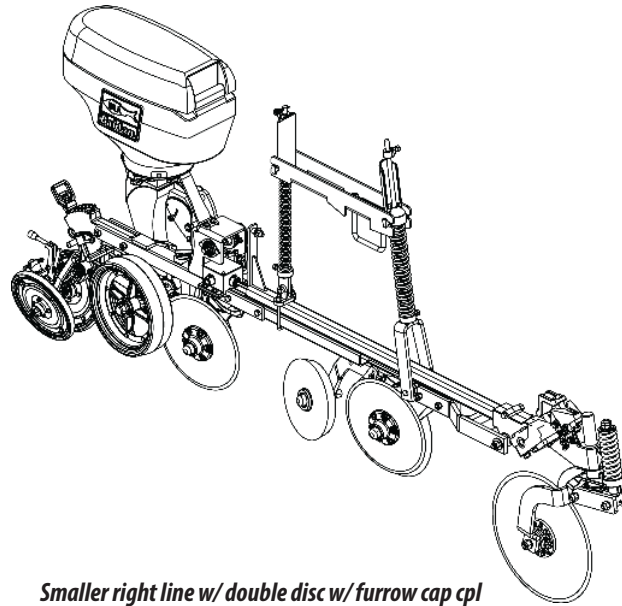


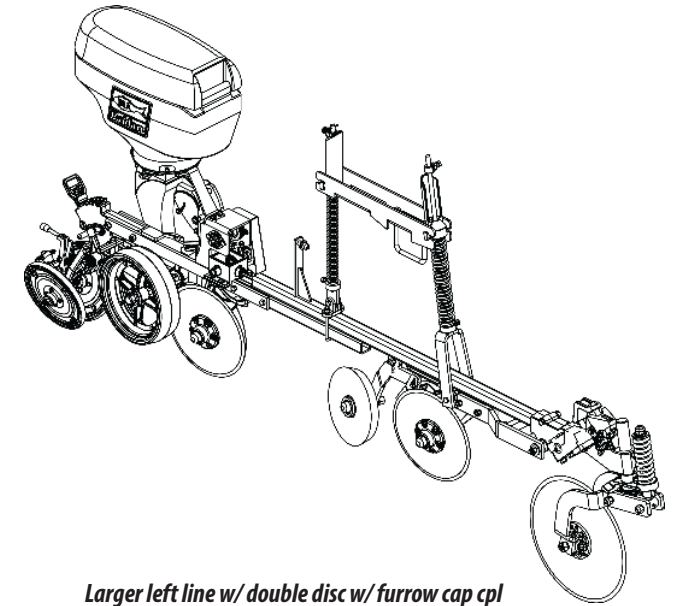
Figure 44



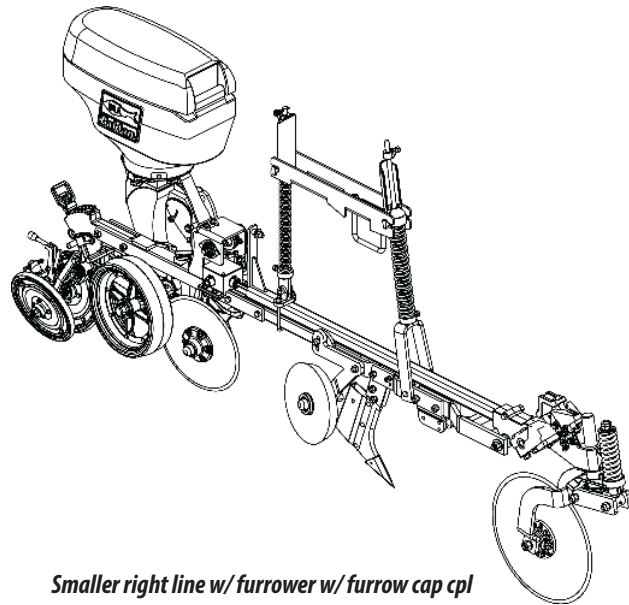
Larger left line w/ furrower w/ wheel cpl



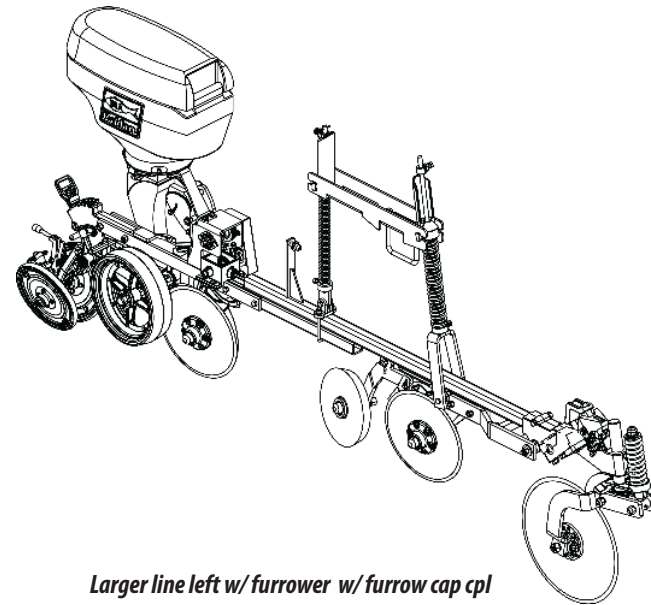
Smaller right line w/ double disc w/ furrow cap cpl



Larger left line w/ double disc w/ furrow cap cpl



Smaller right line w/ furrower w/ furrow cap cpl



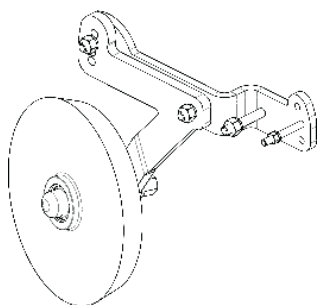
Larger line left w/ furrower w/ furrow cap cpl



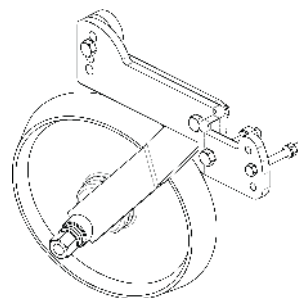
## MODELS OF COMPACTING WHEELS AND OPTIONAL OSCILLATING CARTS

PPSOLO *Speed Box Air* 4000 / 4500 / 5000 / 5500 / 6500 / 7500

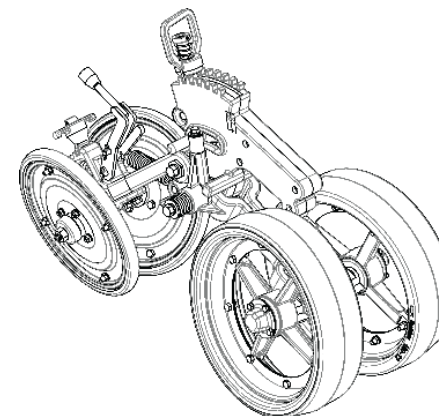
- The PPSolo Speed Box Air has optional features that may be acquired in accordance with the work requirement. The wheels and optional oscillating carts are among the options available (1).



**Right Compaction Wheel Cpl for furrower**  
Código: 5498010088-2

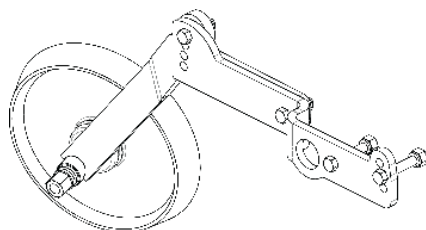


**Left Compaction Wheel Cpl for furrower**  
Código: 5498010089-0

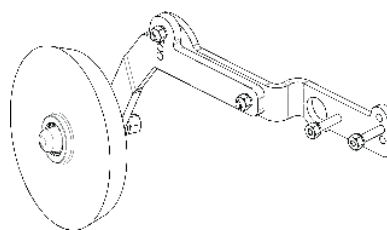


**Figure 45**

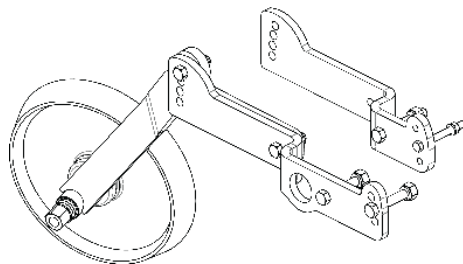
**Cart w / Eccentric Depth Wheel / Oscillating and  
"V" wheel without Protection Rim**  
Código: 5124010546-6



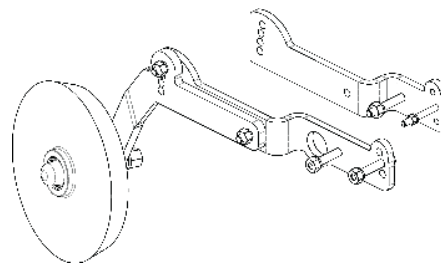
**Complete Left Compaction Wheel for Double Disc**  
Código: 5498010090-4



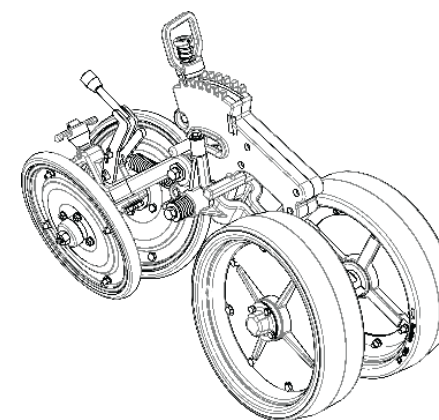
**Complete Right Compaction Wheel for Double Disc**  
Código: 5498010091-2



**Complete Left Compaction Wheel for Double Disc and Furrower**  
Código: 5498010119-6



**Complete Right Compaction Wheel for Double Disc and Furrower**  
Código: 5498010118-8



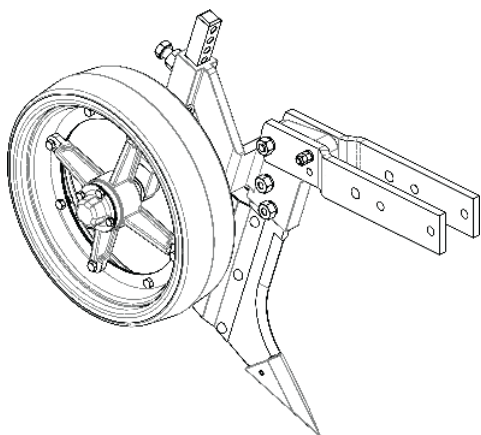
**Cart w / Eccentric Depth Wheel / Oscillating and  
"V" wheel w / Protection Rim**  
Código: 5124010649-7

### MODELS OF OPTIONAL FURROWERS

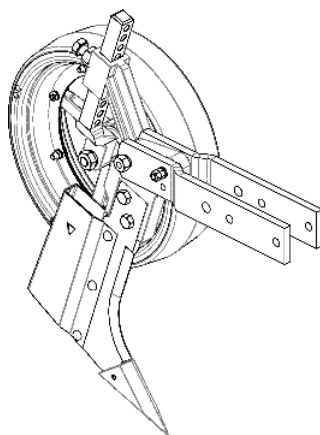
PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- The PPSOLO Speed Box Air has optional features that may be acquired in accordance with the work requirement. Furrowers are among the options available.

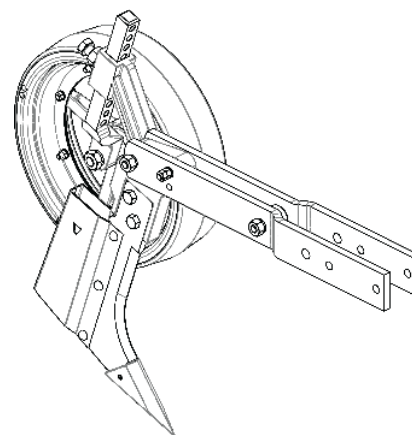
Figure 46



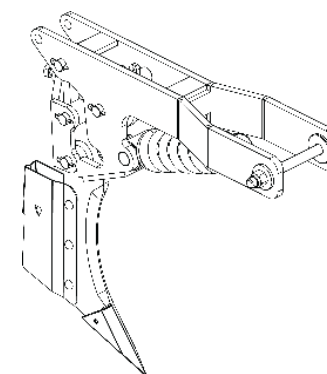
**Right Furrowers w / smaller bar w / depth wheel**  
Código: 5532010137-8



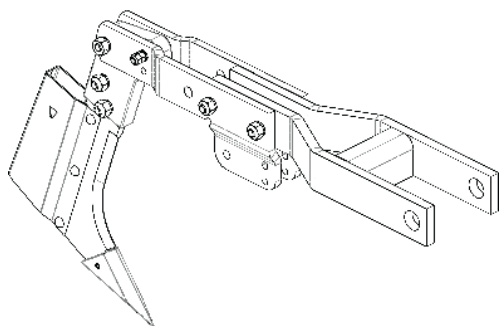
**Left Furrowers w / smaller bar w / depth wheel**  
Código: 5532010138-6



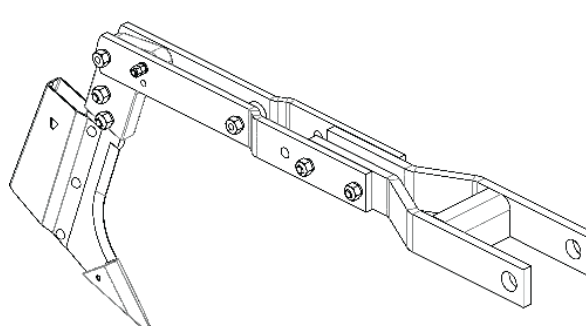
**Left Furrowers w / larger bar w / depth wheel**  
Código: 55320101394



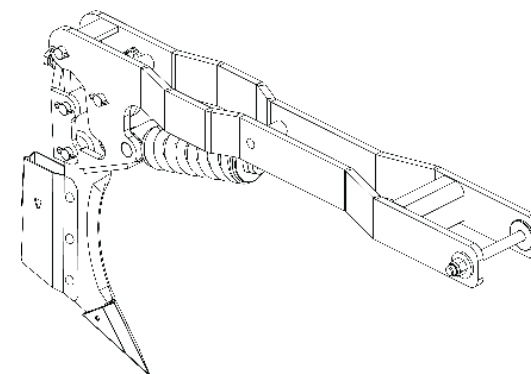
**Smaller furrower with full automatic assemble / disassemble system**  
Código: 5532010199-8



**Complete Smaller Fertilizer Furrower**  
Código: 5532010202-1



**Complete Larger Fertilizer Furrower**  
Código: 5532010203-0



**Larger furrower with full automatic assemble / disassemble system**  
Código: 5532010198-0

## ADJUSTING THE DEPTH OF THE CUTTING DISC

### PPSOLO *Speed Box Air* 4000 / 4500 / 5000 / 5500 / 6500 / 7500

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

01 - Loosen the screws (2) and slide the shaft (3) to the desired setting. Then retighten the screws (2).

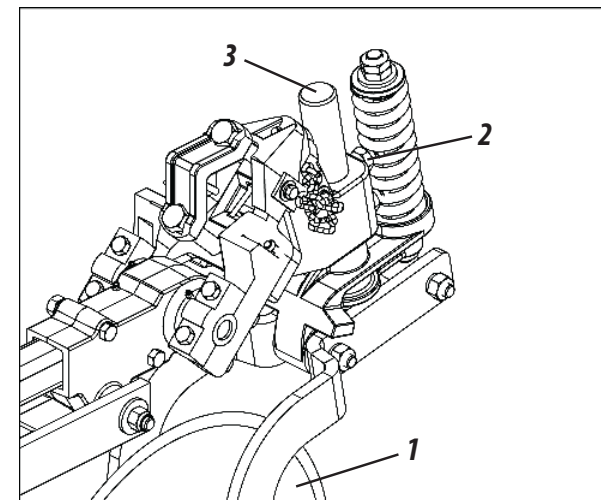


Figure 47

## ADJUSTING THE PRESSURE ON THE CUTTING DISC

### PPSOLO *Speed Box Air* 4000 / 4500 / 5000 / 5500 / 6500 / 7500

• To control the pressure on the cutting disc (1), proceed as follows:

02 - Turn the nut (2) clockwise for higher pressure in the spring (3). For lower pressure in the spring (3), turn the nut (2) in a counterclockwise direction.

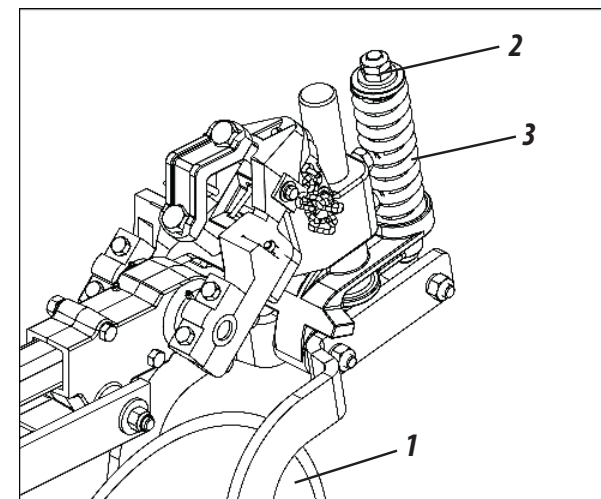


Figure 48

**! ATTENTION**

*By regulating the pressure on the cutting disc, take proper care not to undo the joint action of the cutting disc.*

**⚙ IMPORTANT**

*This adjustment giving higher or lower pressure on the spring should be done in the field before starting the work, noting the type of soil to be worked in order to obtain a better performance of your seed drill.*

## FURROWING OPENING AND POSITION OF THE FERTILIZER IN THE SOIL

PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

03 - The furrow opening in the ground for the fertilizer to be deposited is made by double disk or furrowers in the following systems:

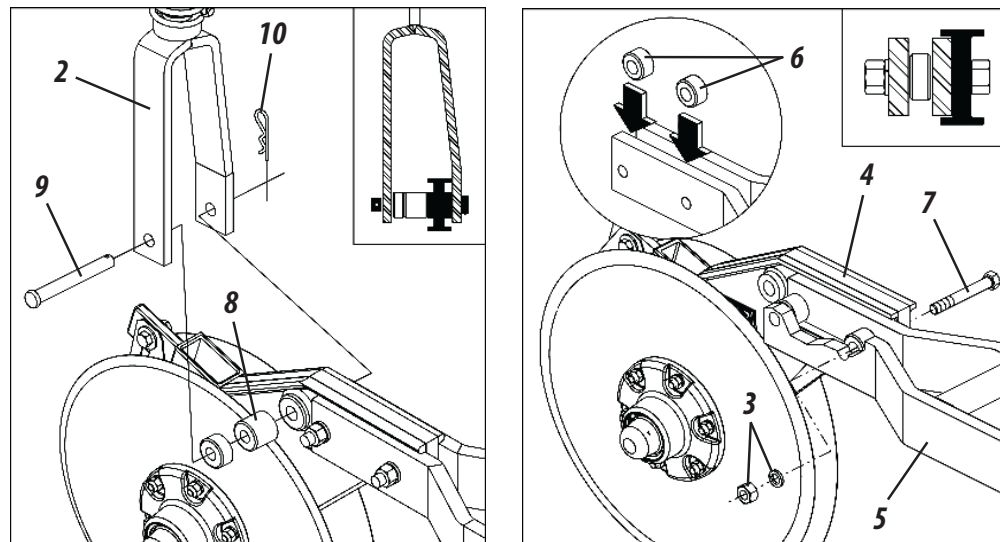
04 - **Side fertilizing and below the seed.**

05 - **Fertilizing in line and below the seed.**

• To adjust the distance of the fertilizer line in relation to the seed line, proceed as follows:

06 - Remove the spring rod (2), loosen the nuts and washers (3), remove the ratchet (4) that is between the fork plates (5), move them to the same side of the fork, place the sleeves (6) between the fork plates and fix it with screws (7), washers and nuts (3). Then, replace the spring rod (2) placing the sleeves (8) on the same side on which the ratchet has been displaced, fixing with the pin (9) and the latch (10).

Figure 49

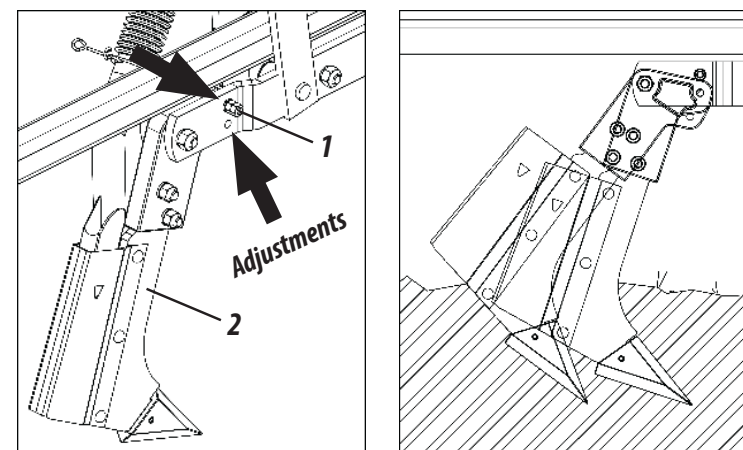


## ADJUSTING THE FURROWER ATTACK ANGLE

PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- To adjust the furrower attack angle, proceed as follows:
- - Remove the screw (1), articulate the furrower (2) to the ideal setting and replace the screw (1), as drawings on this page.

Figure 50



## ADJUSTING THE LOWER FURROWER FOR GREATER OR LESSER MISMATCH PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- The planting lines of the PPSOLO Speed Box Air drill may be acquired with smaller furrowers (1). These furrowers are used in cases in which the straw is thick, increasing the mismatch between furrowers, providing greater outflow. To regulate the furrower with adjustable deflector (1), proceed as follows:

07 - Loosen the screws (2), lock washers and nuts (3).

08 - Then, remove the furrower (4) and place it in front of the support (5).

09 - Then, fix it again with the screws (2), washers and nuts (3).

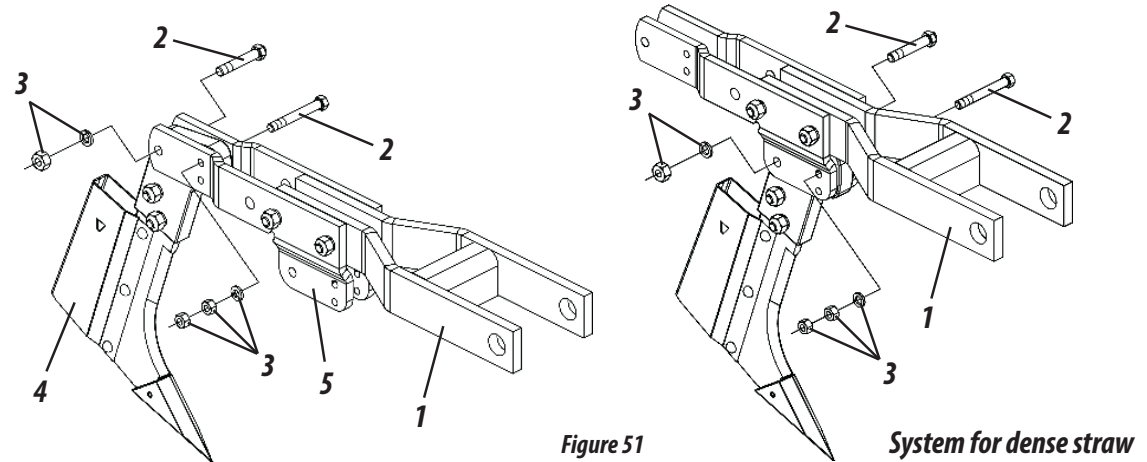


Figure 51

System for dense straw

## ADJUSTING THE FURROWER WITH DEPTH WHEEL - OPTIONAL PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- The planting lines of the PPSOLO Speed Box Air drill may be acquired with depth wheel (1). The depth wheel of this furrower is used to control the depth uniformity of the fertilizer deposit in the soil. To adjust the depth wheel (1), proceed as follows:

10 - Loosen the screw (2), adjust the depth wheel (3) according to the work to be performed and then re-tighten the screw (2) locking it.

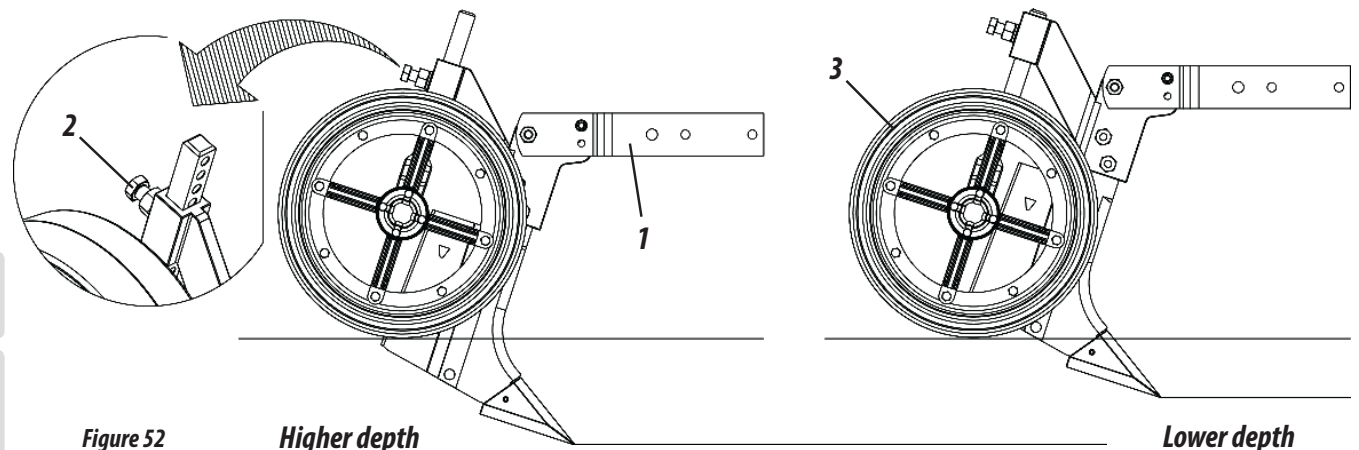


Figure 52

Higher depth

Lower depth

### ⚠ ATTENTION

When you finish the settings on this page, repeat this procedure in all lines, thus avoiding variation between lines.

### ADJUSTING THE FURROWER FOR AUTOMATIC DISASSEMBLE - OPTIONAL PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- The furrower with automatic disassemble has several adjustments to best fit the type of soil to be worked. To adjust the disassemble sensitivity, proceed as follows:

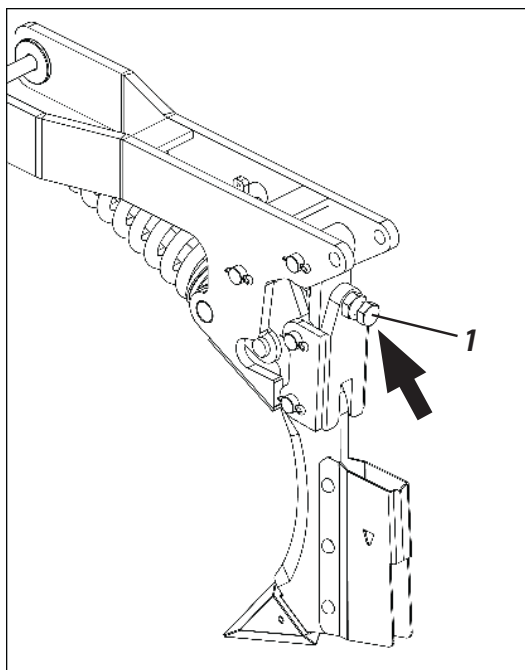


Figure 53

#### FOR HIGHER FURROWER DISASSEMBLE

*Tighten the screw (1) by turning it clockwise.*

#### FOR LOWER FURROWER DISASSEMBLE

*Loosen the screw (1) by turning it counter-clockwise.*



**ATTENTION**

*This adjustment is minimal, and thus, with one or less turn, the setting is ideal.*

### ADJUSTING THE FURROWER RE-ASSEMBLE LOAD - OPTIONAL PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- The automatic re-assemble system of the furrower leaves the factory with adjustable preload in the spring and may range from 170 to 180mm in length.

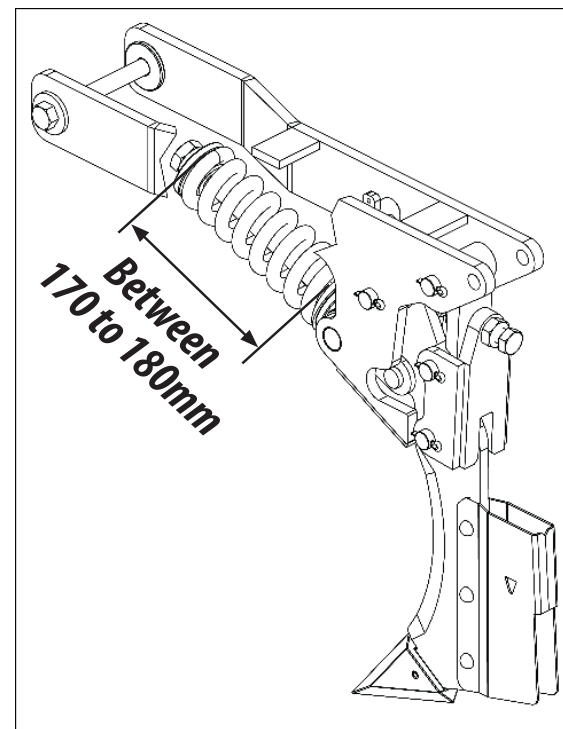


Figure 54



**ATTENTION**

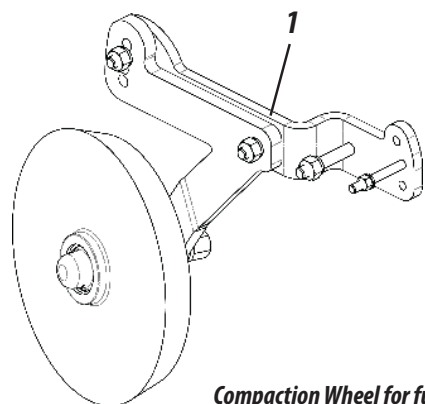
*Do not do other adjustments in the furrower spring. If the system disassembles constantly, check the soil conditions, which may be very hard or highly compacted.*



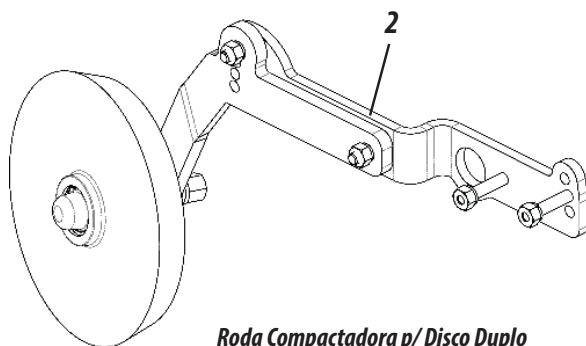
## ADJUSTING THE COMPACTION WHEEL FOR FURROWER OR DOUBLE DISC - OPTIONAL

PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- The planting lines of the PPSOLO Speed Box Air drill may be acquired with "furrow cover" compaction wheel for furrower (1) or double disc (2). The compaction wheels for furrower or double disc are used to cover the furrow in order to obtain a better uniformity in the seed deposit and depth of fertilizer deposit in the soil. To regulate the "furrow cover" compaction wheel for furrower or double disc, proceed as follows:



Compaction Wheel for furrower

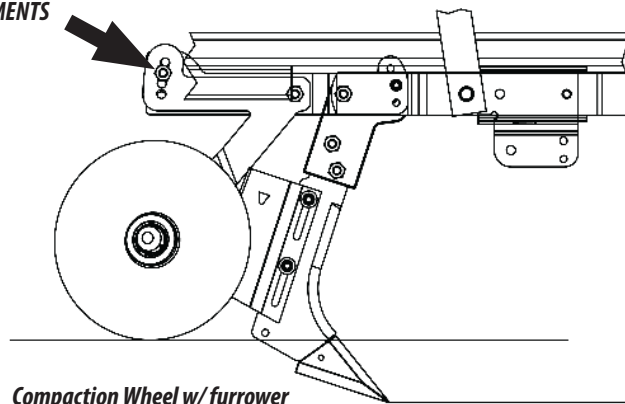


Roda Compactadora p/ Disco Duplo

11 - Loosen the screw (3), spring washer (4) and nut (5).

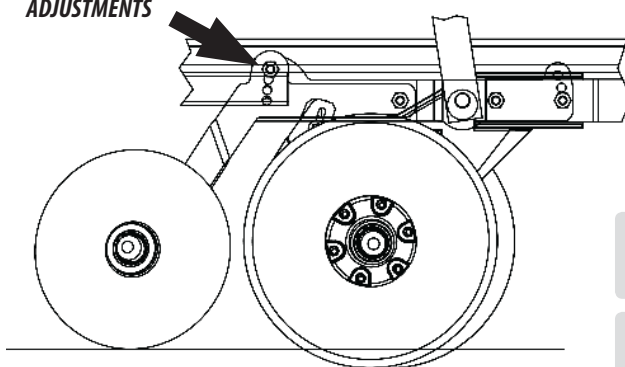
12 - Then, articulate the "furrow cover" compaction wheel (6) to an ideal setting according to the work to be done.

ADJUSTMENTS



Compaction Wheel w/ furrower

ADJUSTMENTS



Compaction Wheel w/ Double Disc

13 - Then, reattach the "furrow cover" compaction wheel (6) with the screw (3), spring washer (4) and nut (5).

ADJUSTMENTS

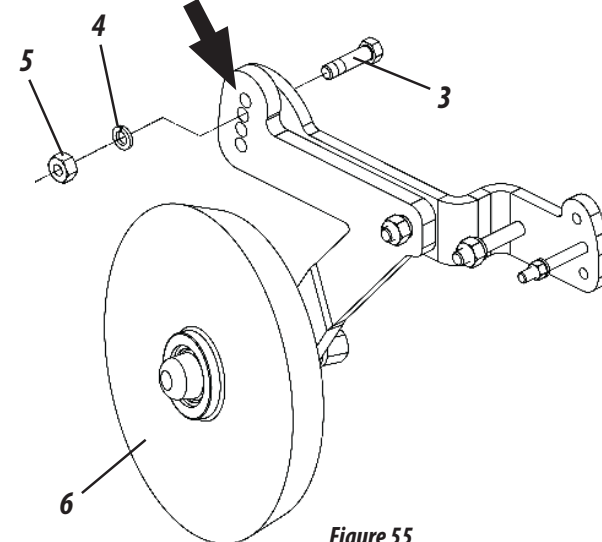


Figure 55

**! ATTENTION**

Check on page 49 the models of compaction wheels for each line model.

**! ATTENTION**

When finishing the settings on this page, repeat this procedure to all lines, thus avoiding variation between lines.

### ADJUSTING THE DOUBLE DISC WIPERS PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- The double disc has flexible and adjustable wipers to remove the dirt that adheres to the discs. To adjust the wipers, proceed as follows:

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



#### ATTENTION

*When you finish adjusting the wipers (1), make the adjustment on the double discs of the seed drill.*

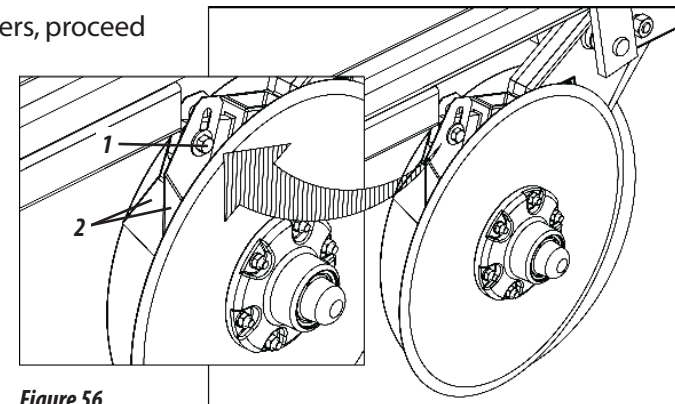


Figure 56

### ADJUSTING THE OSCILLATING DEPTH WHEEL PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- The oscillating depth limiting wheels have a single support point that allows it to swing, and in the case of any obstacle in the course of one of them or irregularities in the ground, this will rise to transpose it, immediately returning to the starting position without lifting the double disc from its position. The seed depth is individually performed by the depth limiting wheels. For this setting, proceed as follows:

15 - Pull the handle (1) up, move the regulator (2) to the desired position by adjusting the depth wheel (3), then lower the handle (1) locking the regulator (2) as shown in Figure 57.

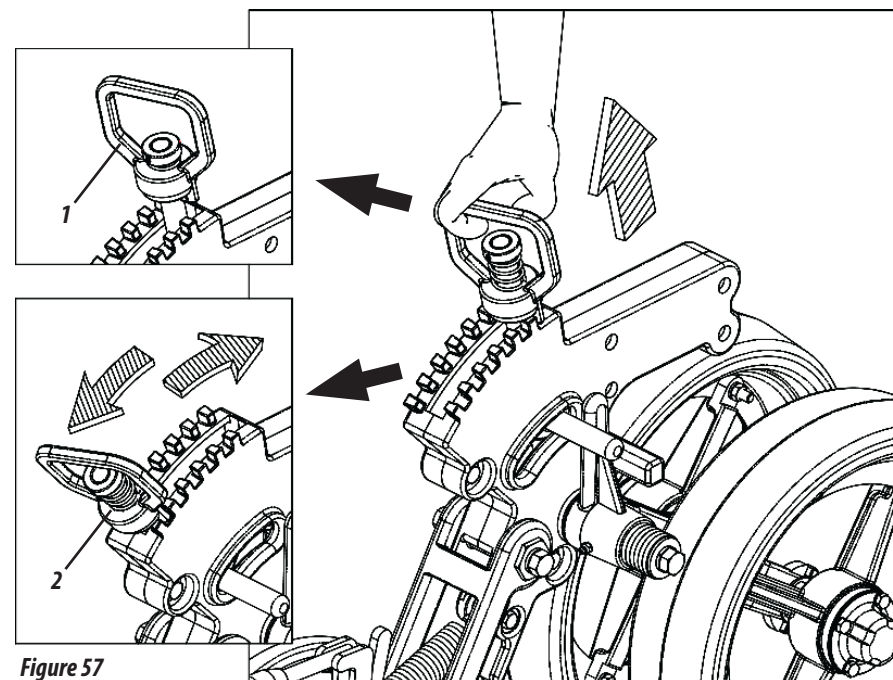


Figure 57



#### NOTE

*The oscillating cart offers 18 points of adjustments*

## ADJUSTING THE "V" COMPACTION WHEELS

### PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

16- The "v" compaction wheels are used to close the furrow laterally, causing the land to be immediately placed on the seed, preventing excess compaction and removing air bubbles, thus facilitating germination and plant growth. To adjust the higher or lower closing angle of "v" compaction wheels (1), pull the lever (2) up, move the regulator (3) to the desired position,, then lower the lever (2) locking the regulator (3) as shown in Figure 58. The "v" compaction wheels have 5 points of adjustment.

**Higher Pressure:** Move the lever (2) back, giving greater pressure on the wheel (1).

**Lower Pressure:** Move the lever (2) forward, giving less pressure on the wheel (1).

17- The compaction wheel "V" (1) may also have its pressure regulated by the lever (4). For this setting, proceed as shown in figure 59.

**Higher Pressure:** Move the lever (4) back, giving greater pressure on the wheel (1).

**Lower Pressure:** Press lever (5) move the lever (4), giving less pressure on the wheel (1).

**Greater Pressure**

**Lowest Pressure**

### ⚠ ATTENTION

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

Figure 58

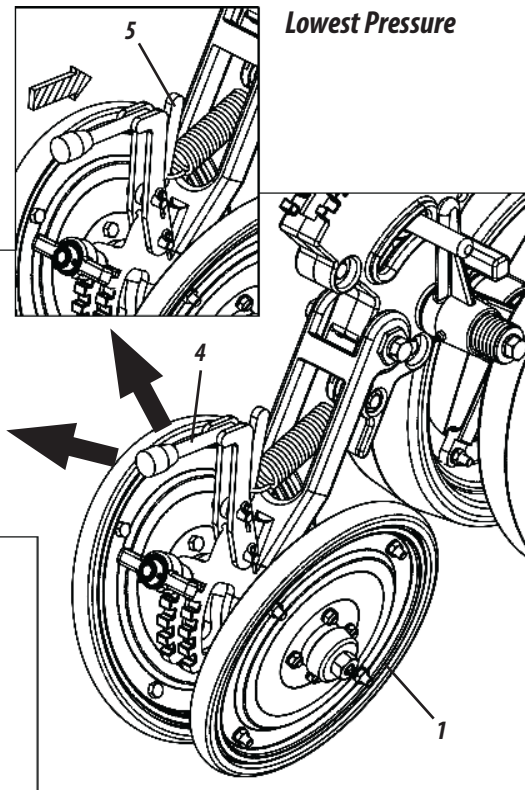
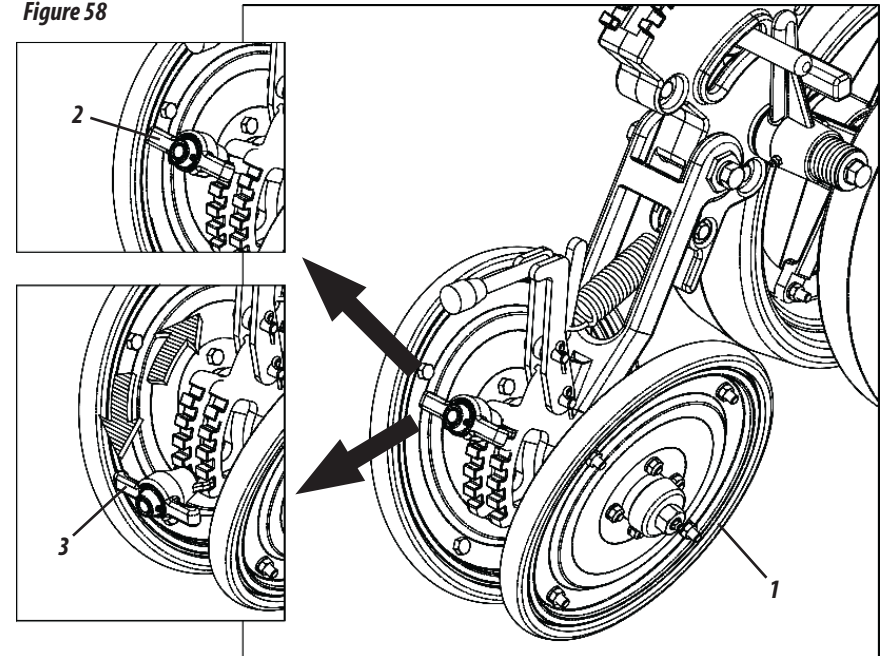


Figure 59

**"V" compacting wheel angle**

**Fully closed angle position**  
(Less land on the seed).

**Open angle position** (More land on the seed).

Figure 59

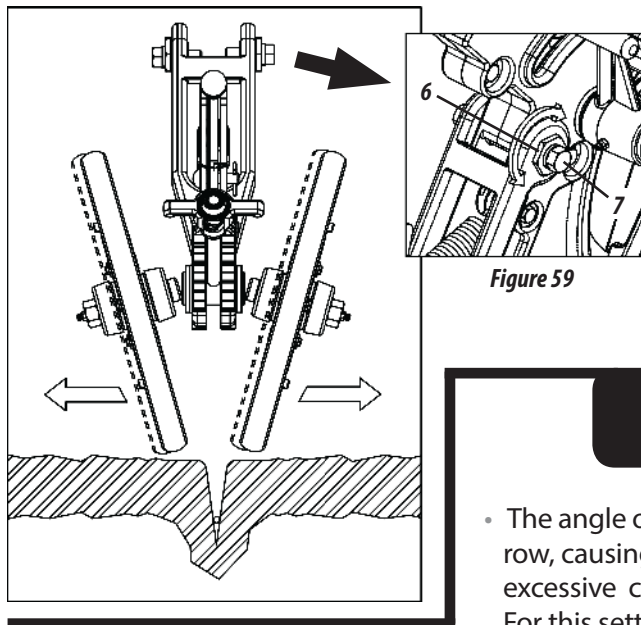


Figure 59

- For horizontal displacement of wheels, they were developed with eccentric sleeves (5). For this setting, proceed as follows:

18- Loosen the bolts (7) and rotate the sleeves (6) with a key to move the wheels and align them with the furrow, placing higher or lower amount of soil laterally on the seed, as shown in Figure 59.

19- **Such adjustment shall be made considering the type of soil and culture.**

### ADJUSTING THE OSCILLATING DEPTH WHEEL PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- The angle of the depth limiting wheel (1) is intended to press the furrow, causing the soil to be immediately placed on the seed, avoiding excessive compression, facilitating germination and plant growth. For this setting, proceed as follows:

20- Loosen the screws and washers (1), remove the wheel (2), adjust the wheel regulating point (3) in the adjustment of the wheel shaft (4), then, reattach the wheel (2) with washers and screws (1), proceed as shown in Figures 60.

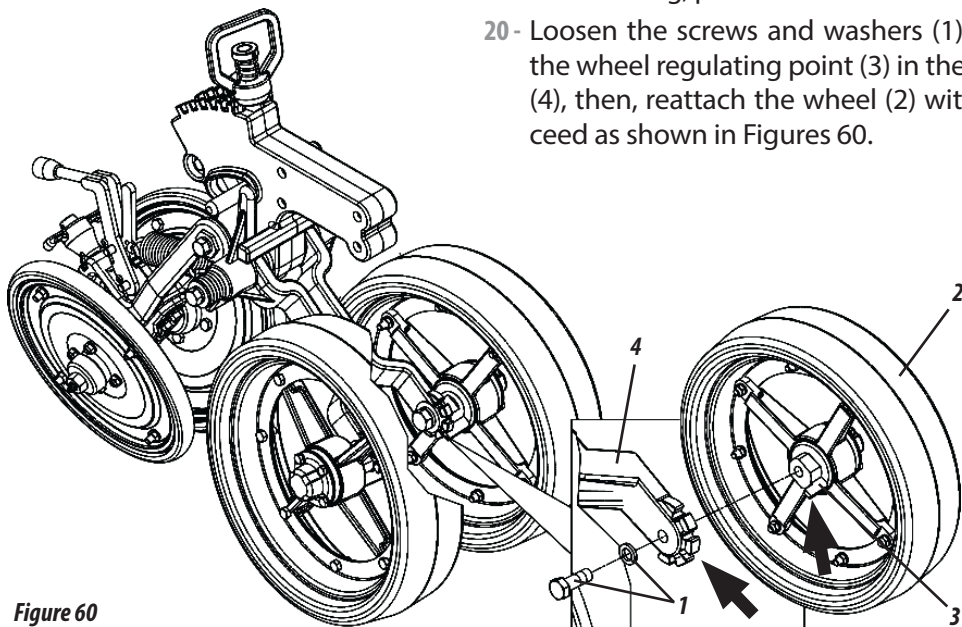


Figure 60

### ! ATTENTION

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

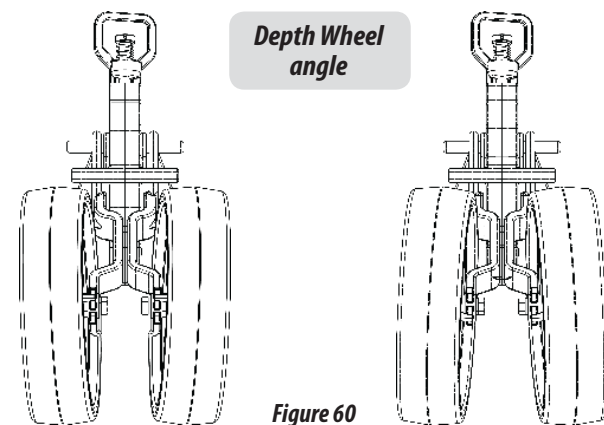


Figure 60

*Fully closed angle position  
(Less land on the seed).*

*Open angle position  
(More land on the seed).*

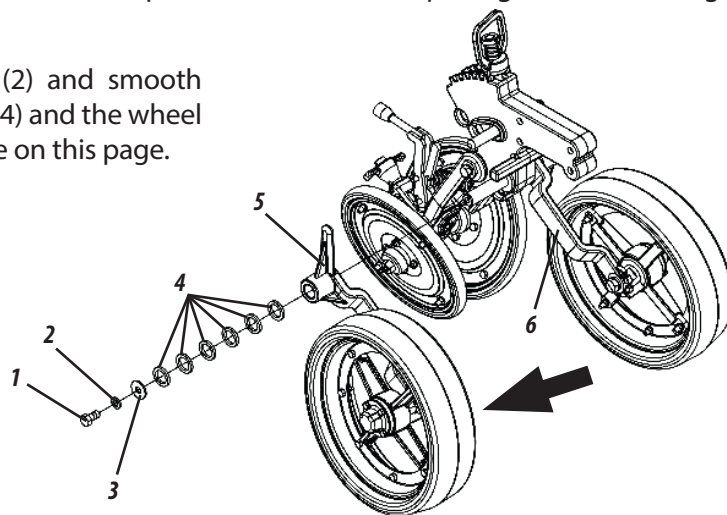


## ADJUSTING THE OPENING OF THE OSCILLATING DEPTH WHEEL

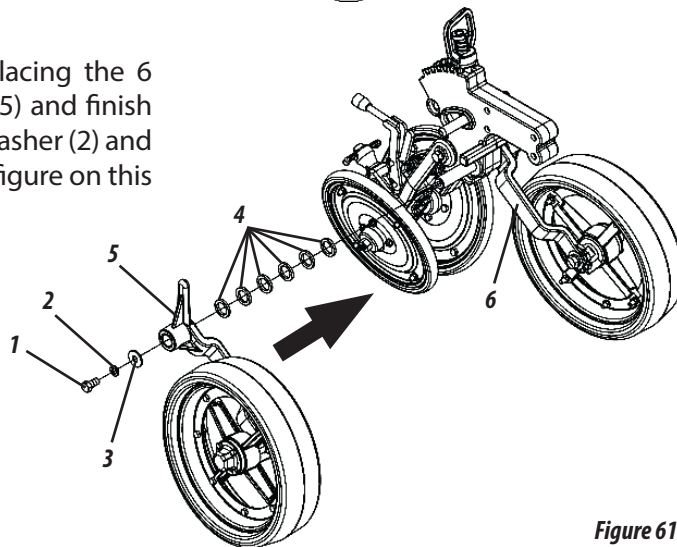
PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- The oscillating depth wheel (1) has a system of opening and closing to better adapt to the terrain conditions with thick straws or high and low humidity. The oscillating depth wheel (1) leaves the factory in the closed position. To make the opening of the oscillating depth wheel (1), proceed as follows:

- 21 - Loosen the screw (1), pressure (2) and smooth washer (3) remove the 6 wedges (4) and the wheel support (5), as shown in the figure on this page.



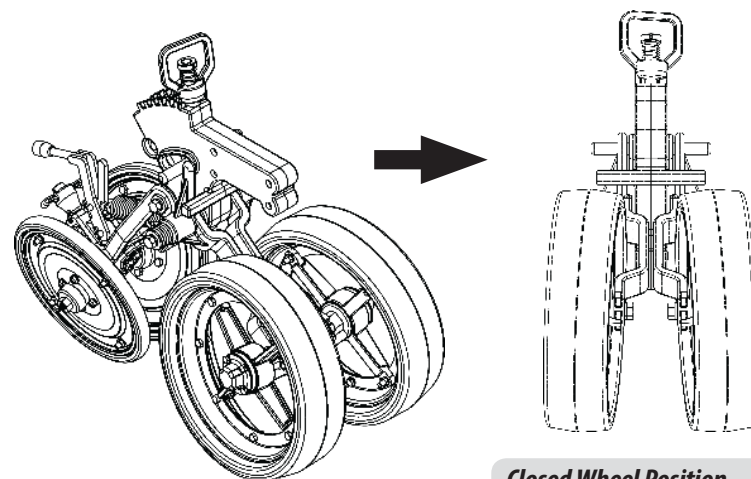
- 22 - Then, do the reverse process by placing the 6 wedges (4), then the wheel bracket (5) and finish placing the flat washer (3), pressure washer (2) and screw (1) pressing it, as shown in the figure on this page.



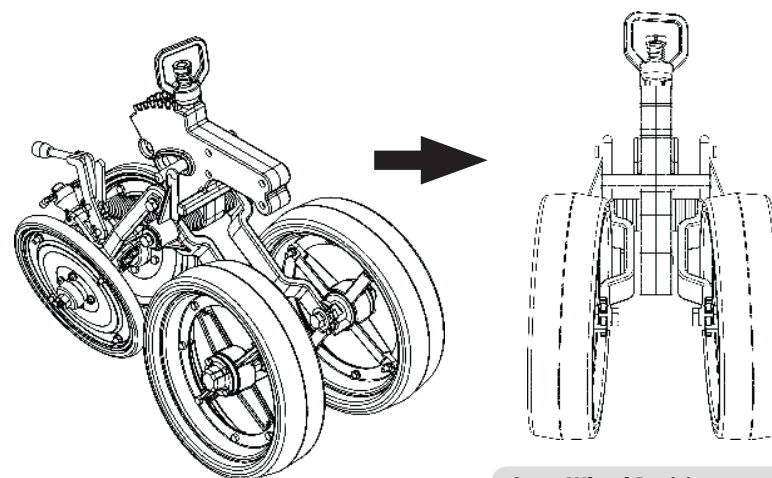
### ⚠ ATTENTION

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

Figure 61



Closed Wheel Position



Open Wheel Position

## ADJUSTING THE FERTILIZER DEPTH AND PRESSURE ON THE SEED LINES

PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- The adjustment of the fertilizer depth is made by the pressure of springs (1) exerted on the planting lines (2). This adjustment is made through the sleeves (3). To control the pressure on springs (1), proceed as follows:

- 23 - To increase the depth, loosen the screw (4) and place the sleeve (5) upwards;
- 24 - To decrease depth, place the sleeve (5) down.
- 25 - To give more pressure on the spring, loosen the screw (6) and put the sleeve (7) upwards.
- 26 - Always leave a space between the upper sleeve (5) and rod support (8) for oscillation of the line.

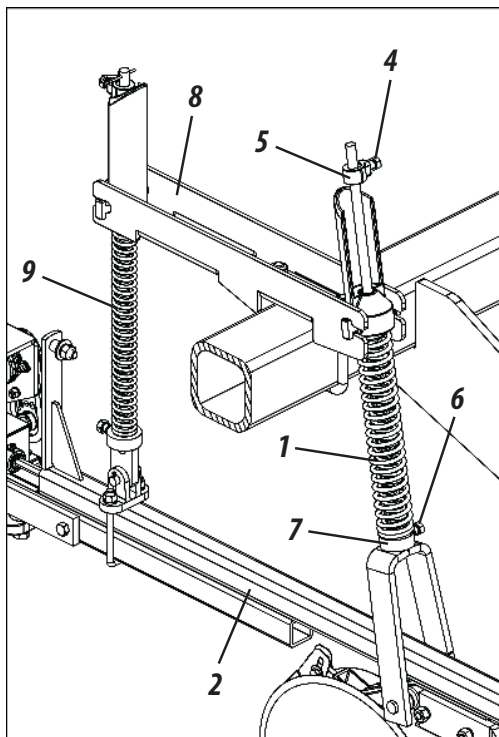


Figure 62



To control the pressure in the seed lines, do the same procedure as above, but this time in the rod (0).

## RATCHET ADJUSTMENT

PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- The ratchet (1) has a rod (2) for its adjustment according to the need of work. To adjust the ratchet, proceed as follows:

**TURN THE NUT (3) CLOCKWISE:**

*The rod will move forward, regulating the ratchet disassemble (1) for a faster gear to lower the seed drill to work.*

**TURN THE NUT (3) IN THE COUNTERCLOCKWISE DIRECTION:**

*The rod will go back, regulating the ratchet disassemble (1) for a faster gear to lower the seed drill to work.*

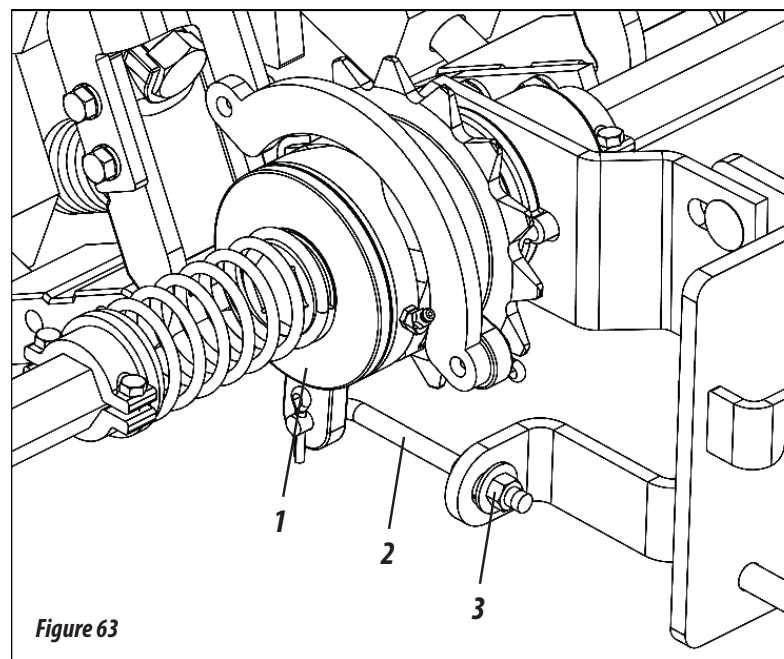


Figure 63



**ATTENTION**

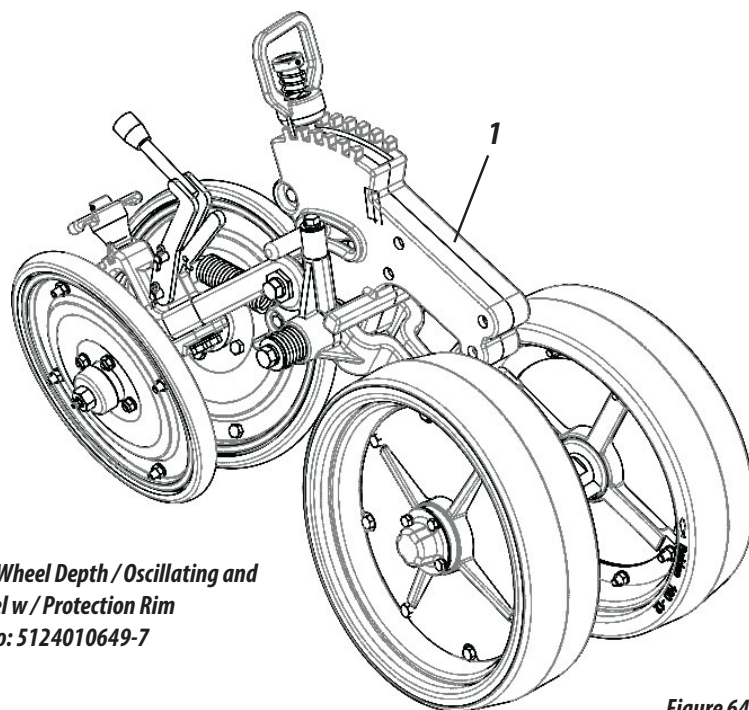
*This adjustment should be done before starting work, according to the need of work*



## OSCILLATING CART WITH PROTECTION RIM - OPTIONAL ( FIGURE 64 )

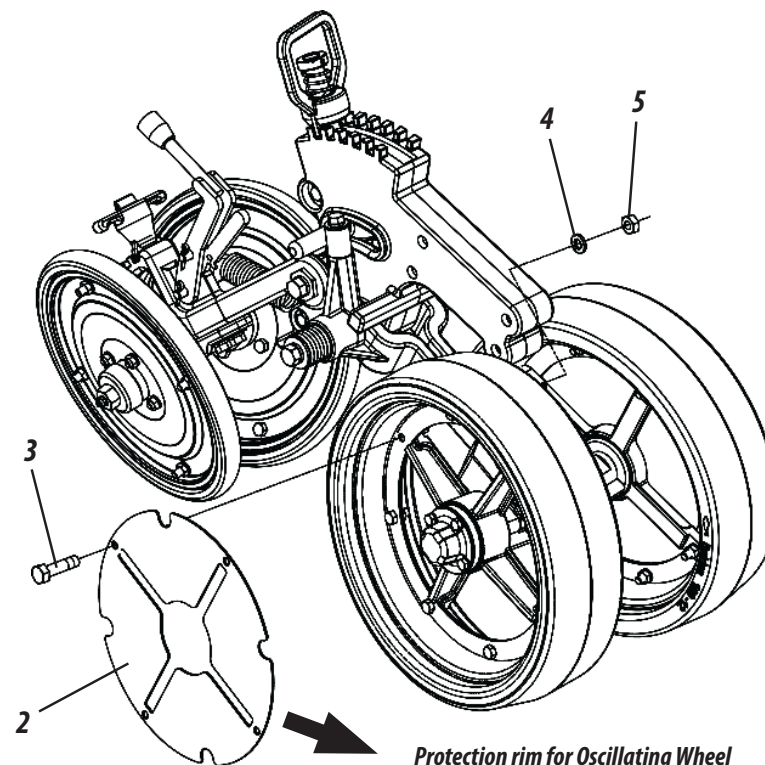
PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- The planting lines of the PPSOLO Speed Box Air drill may be acquired with oscillating cart with protection rim (1). The oscillating cart with protection rim was developed for no-tillage situations where sugarcane was harvested in high cut, preventing it to reach the wheel rims during planting, locking it.



Cart w / Eccentric Wheel Depth / Oscillating and  
"V" wheel w / Protection Rim  
Código: 5124010649-7

Figure 64



Protection rim for Oscillating Wheel  
Código: 5018010060-9

- If you purchased the PPSOLO Speed Box Air seed drill with oscillating cart without protection rim, you can purchase only the protection rim (2) to fix it in the wheels. To assemble the protection rim (2), proceed as follows:

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

28 - Then, place the protective cap (2) fixing it using the screws (3), washers (4) and nuts (5).

### **! ATTENTION**

*In case you acquire only the protection rim (2), to set in the oscillating cart (1), if seed drill that already has it, assemble it in all oscillating carts of the seed drill.*

### FIXATION SYSTEM AND ARTICULATION OF WHEELS PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- The fixation and articulation system of tires make them become free from the pressure of springs on the pantograph system on the ground, allowing them to oscillate and follow the terrain irregularities, not interrupting the seed and fertilizer distribution.

29 - For conventional planting, lock the wheels with the screw (1).

30 - For no-tillage, the wheels operate free and if necessary put 3/4" of water in the tires.

31 - The wheelsets (2) are provided with tension springs (3), for greater grip to the soil. Do not operate the seed drill without them, as shown in Figure 55.

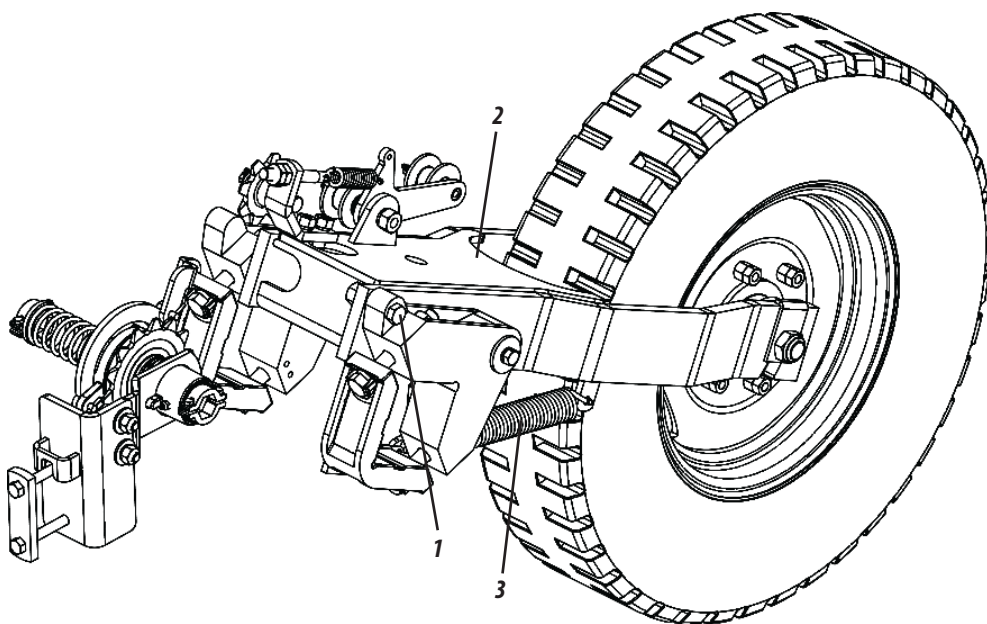


Figure 65

## 11 - OPERATIONS

- 01 - After the first day of work with the seeder, retighten all screws and nuts. Check the conditions of pins, cotter and locks.
- 02 - Keep the tires with the same pressure (70 lbs / in<sup>2</sup>) to prevent wear and maintain uniformity of planting.
- 03 - Observe the lubrication intervals.
- 04 - When filling the tanks, check for objects inside them such as nuts, screws, etc. Always use seeds and fertilizer free of impurities.
- 05 - Always observe the correct functioning of seed and fertilizer distribution mechanisms and also the settings established at the beginning of operation.
- 06 - Keep the seeder always leveled; the tractor drawbar must remain fixed and the working speed should remain constant.
- 07 - Always check the seed and fertilizer depth, as well as the pressure of compaction wheel.
- 08 - Observe the position of the fertilizer in relation to the seed in the soil.
- 09 - In case of doubt, do not operate or handle the seed drill, refer to the after sale.

Phone: 0800-152577 or email: posvenda@baldan.com.br.

## 12 - MAINTENANCE

### TYRE PRESSURE

**PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500**

01 - Tires should always be properly calibrated to avoid premature wear due to excess or lack of pressure and ensuring accuracy in the distribution.

02 - The tire pressure must be 70 lb / in<sup>2</sup> each.

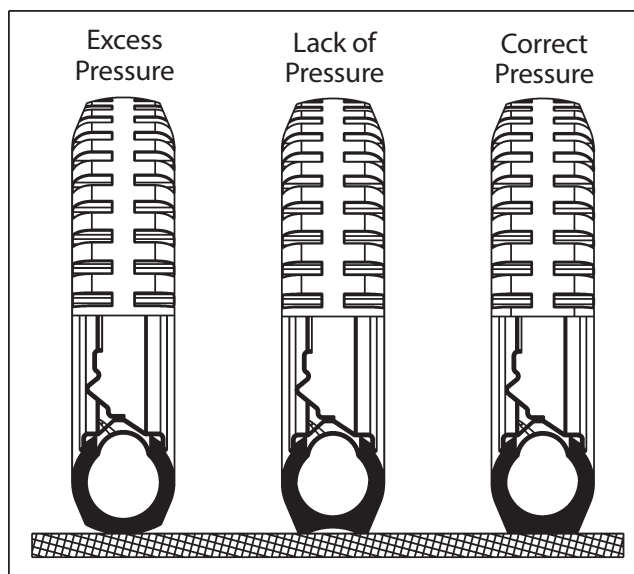


Figure 66



### ATTENTION

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

### LUBRICATION

**PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500**

03 - Lubrication is essential for good performance and durability of the seeder moving parts, helping to reduce maintenance costs.

04 - Before starting operation, lubricate all grease fittings carefully always observing lubrication intervals in the following pages. Make sure the lubricant is of good quality; avoid using products contaminated by water, dirt and other agents.

### TABLE FOR GREASE AND EQUIVALENTS

**PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500**

Manufacturer	Type of grease recommended
Petrobrás	Lubrax GMA 2
Atlantic	Litholine MP 2
Ipiranga	Super Graxa Ipiranga Ipiranga Super Graxa 2 Ipiflex 2
Castrol	LM 2
Mobil	Mobilgrease MP 77
Texaco	Marfak 2 Agrotex 2
Shell	Retinax A Alvania EP 2
Esso	Multipurpose grease H
Bardahl	Maxlub APG 2 EP

Tabela 08



### IMPORTANT

If there are other lubricants and / or equivalent greases not listed in this table, refer to the manufacturer's technical handbook.

### CENTRALIZED LUBRICATION SYSTEM

PPSOLO *Speed Box Air* 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- 05 - The centralized lubrication system (1) makes maintenance faster and easier, allowing lubricating all lateral and central points of the machine.
- 06 - Before starting the lubrication, clean all grease fittings with a soft, lint-free cloth and replace the damaged ones.
- 07 - Lubricate all grease fittings (1) of the centralized lubrication system every 10 hours, as shown in figure 33.

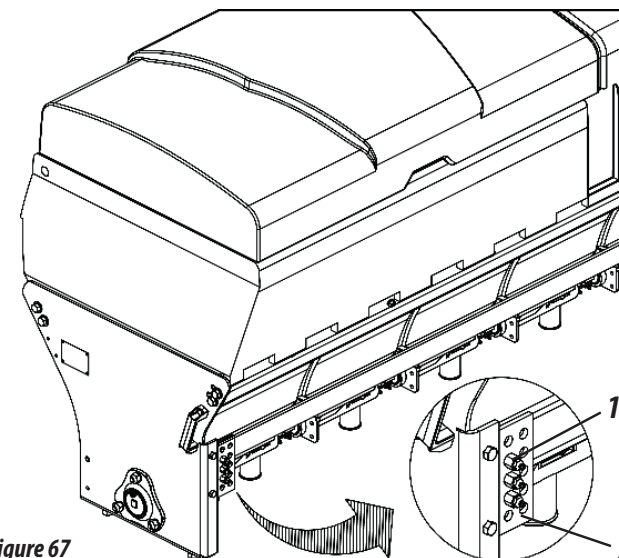


Figure 67

### LUBRICATE AT EVERY 10 HOURS OF OPERATION

PPSOLO *Speed Box Air* 4000 / 4500 / 5000 / 5500 / 6500 / 7500

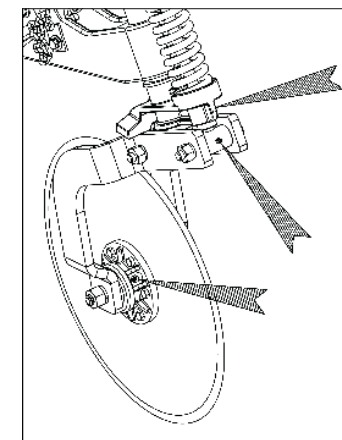
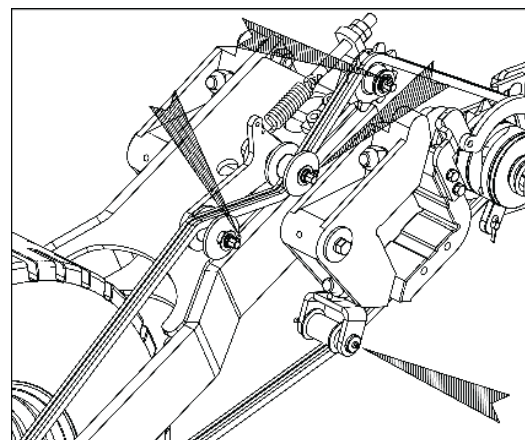
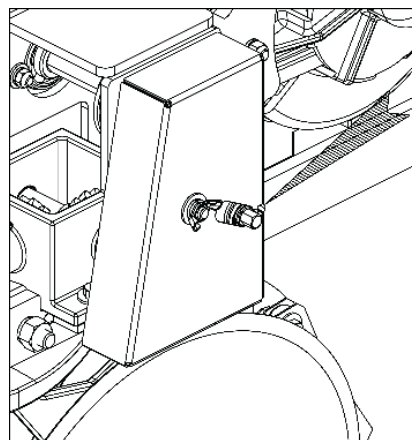
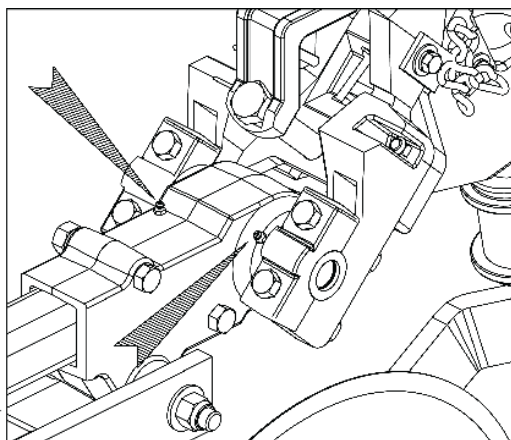


Figure 68



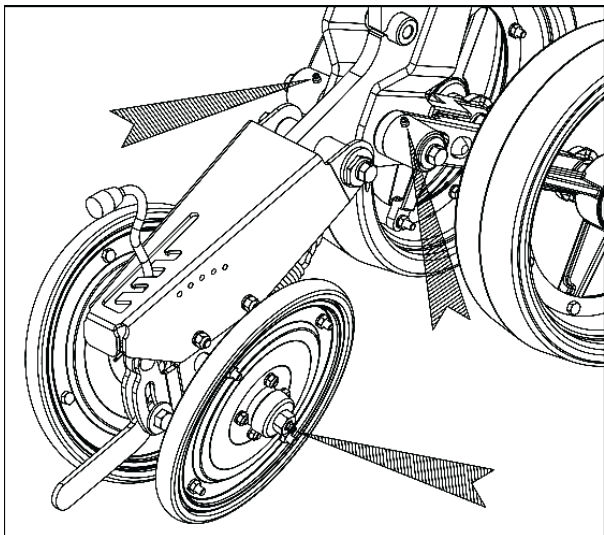


Figure 68

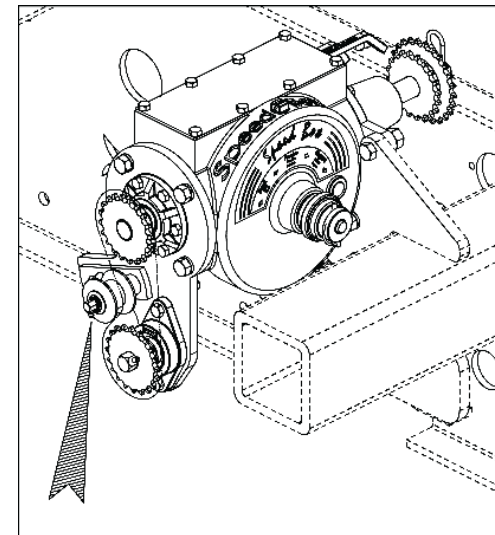
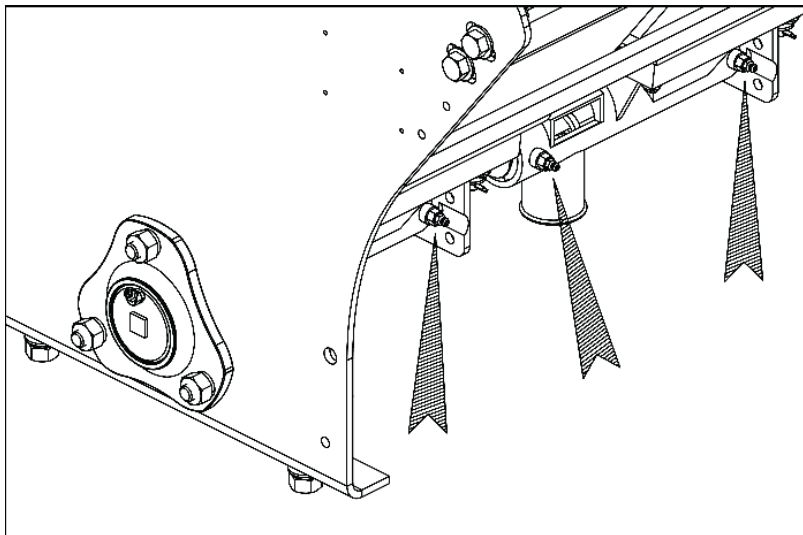


Figure 68

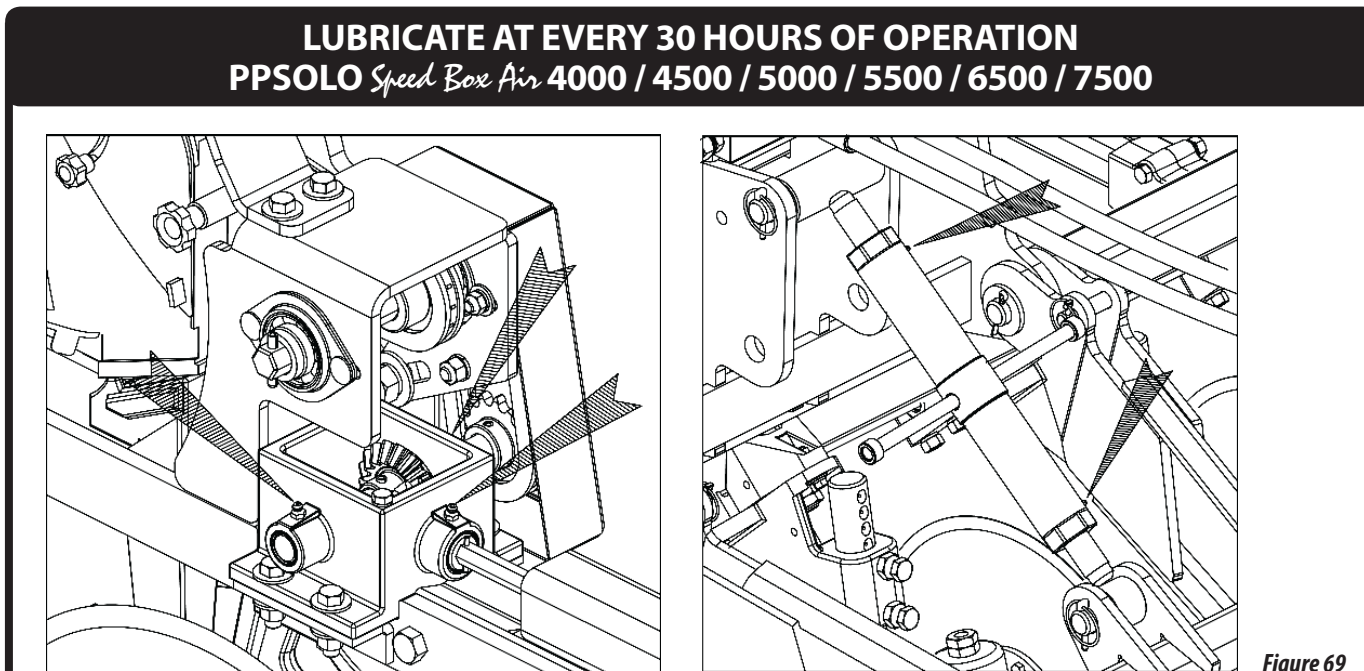
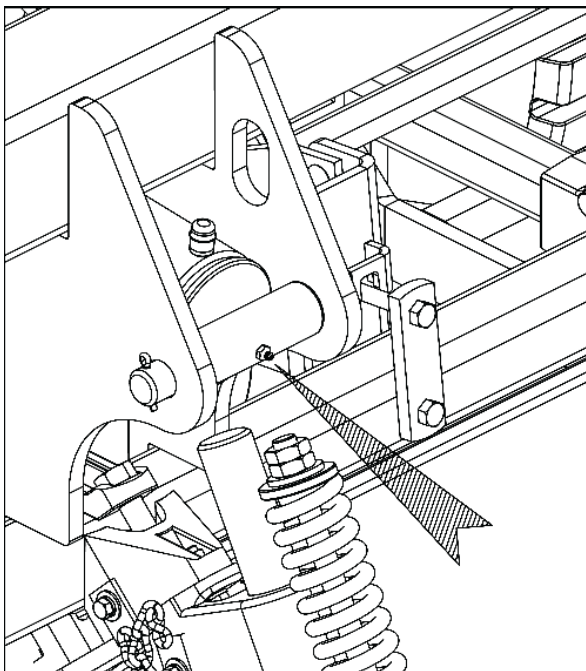


Figure 69

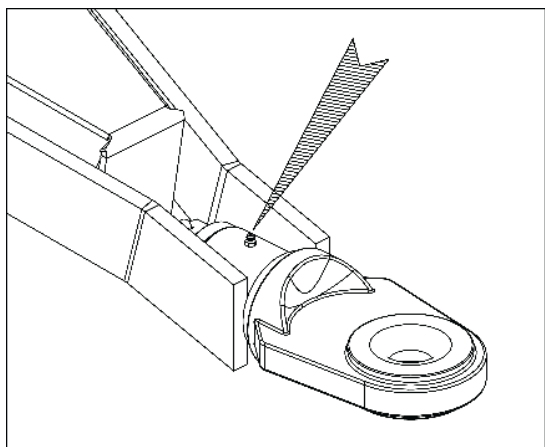
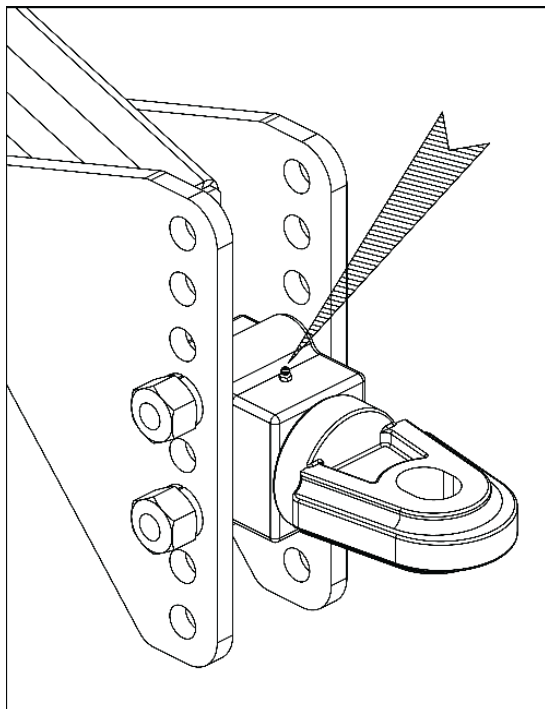


Figure 69

**LUBRICATE AT EVERY 60 HOURS OF OPERATION**  
**PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500**

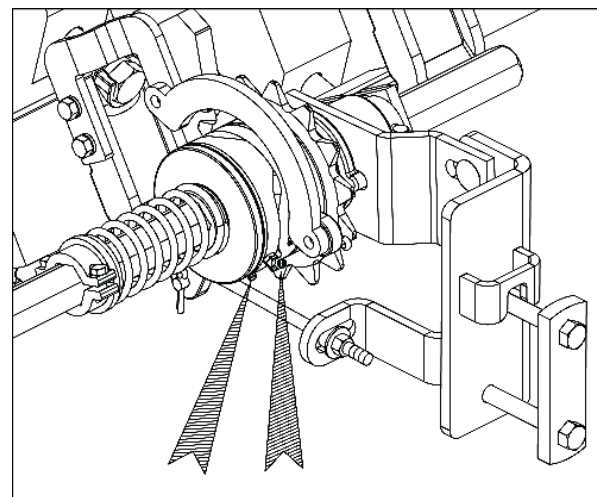
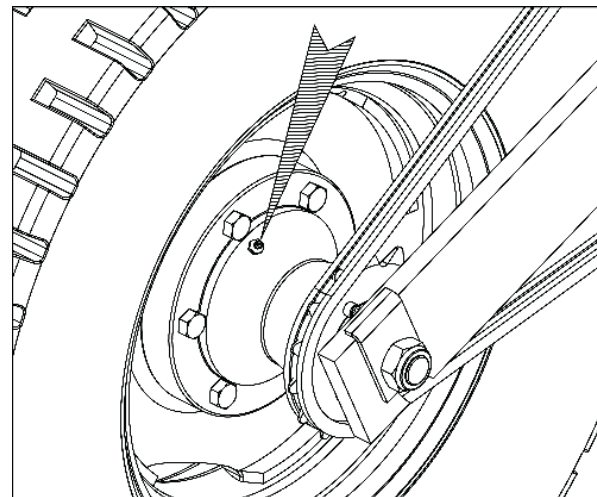


Figure 70



**ATTENTION**

*Do not apply excessive grease to ratchet, watch the 60-hour interval for relubrication.*

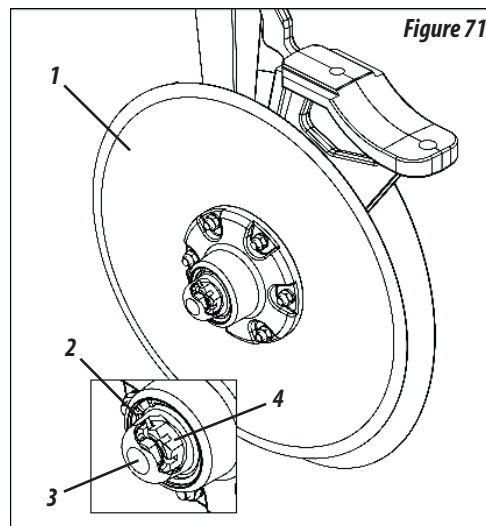


## LUBRICATE AT EVERY 200 HOURS OF OPERATION

### PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

08 - Periodically lubricate the hubs of the double discs (1) approximately every 200 hours and at the end of the season. To do so, proceed at the end of each season as follows:

09 - Remove the seal ring (2) from the hub (3). Examine the bearings, if there are clearances, adjust through the castle nut (4). Put new grease in the cap (5). Replace the cap on the hub and fix it with the seal ring (1), as shown in Figure 71.



10 - In the oscillating wheels (6) loosen the screws and washers (7), remove the cap (8) and put new grease. Replace the cap on the wheel and fix it with the screws and washers (8), as shown in Figure 72.

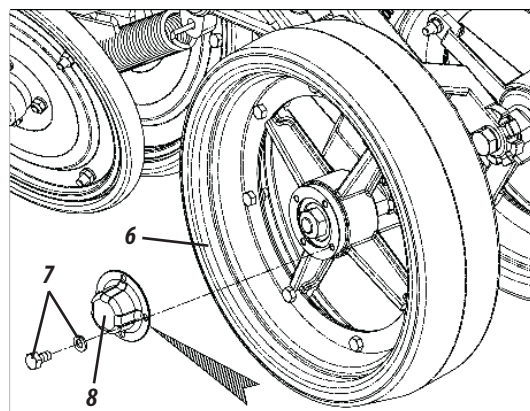


Figure 72

## CHAIN TENSION

### PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

• To tension the chain, proceed as follows:

11 - Loosen the screw (1), slide the tensioner (2) up to the required tension. Then, tighten the nut, as shown in Figure 73.

### ! ATTENTION

Check daily the tension of chains, the normal clearance should be  $\pm 1$  cm in their center.

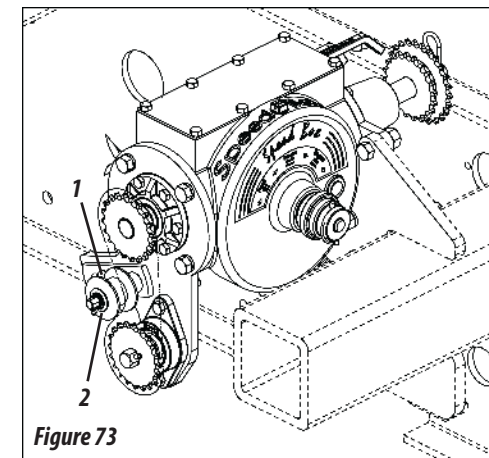


Figure 73

## OSCILLATING TENSIONER

### PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

12 - The tensioner (1) is provided with a torsion spring (2) for increased flexibility. If increased pressure in the tensioner is necessary, release the inner nut (3) from it and rotate the shaft (4) moving the spring coupling (2) to the other tooth of the shaft rosette and tighten again the inner nut (3), as shown in Figure 74.

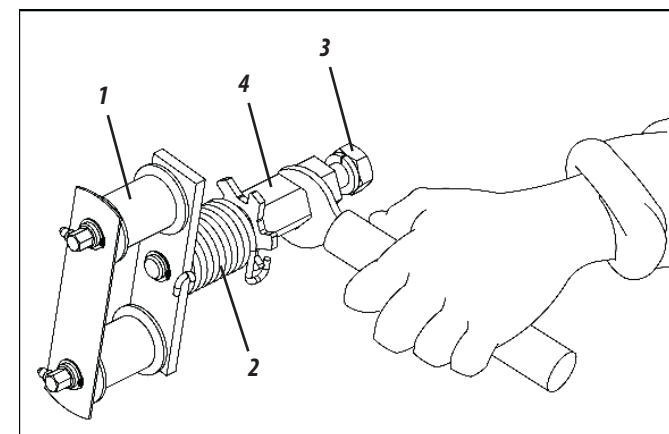


Figure 74

## DRIVE BELT OF THE MECHANICAL TURBINE

### PSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

• Check daily the belt tension (1), for this, proceed as follows:

13 - Loosen the screws (2), washers (3) and flat washers (4).

14 - Then, remove the cover (5) and check the belt tension (1).

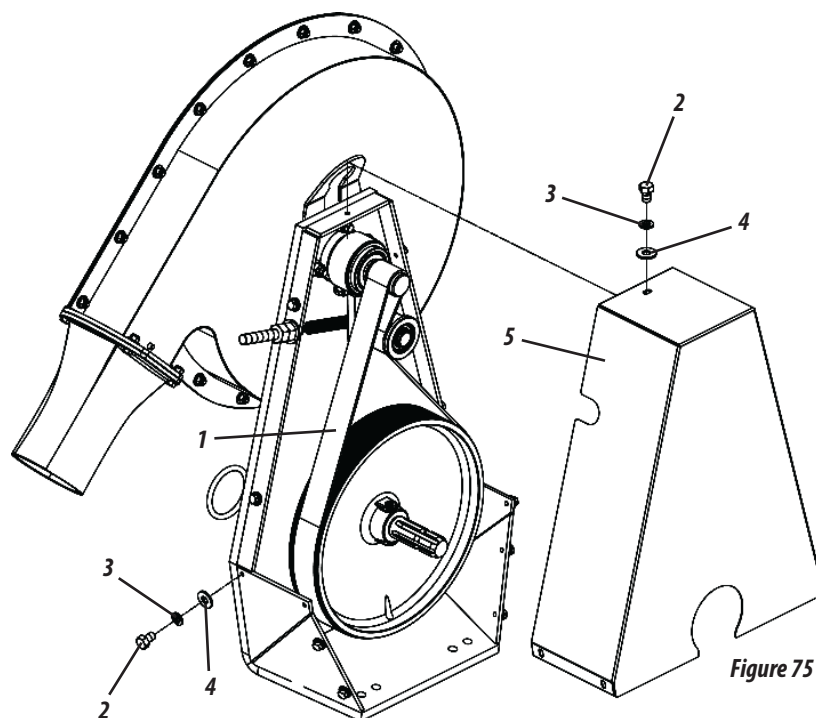


Figure 75

### ! ATTENTION

*After the first hour of work with the seed drill, check the belt tension*

15 - Check the belt tension (1), which should have a normal clearance of  $\pm 1$  cm in its center.

16 - To tension it, loosen the nut (6) and tighten the lock nut (7) of the stretcher, as shown below.

17 - Then, place the cover (5) through the flat washers (5), pressure washers (4) and screws (2).

### ! ATTENTION

*Never operate the turbine with the lid open, avoiding damage to equipment and risk of accidents.*

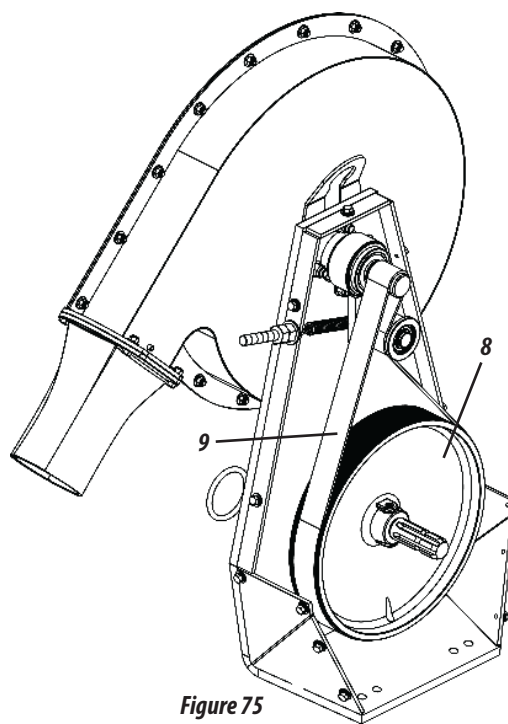


Figure 75

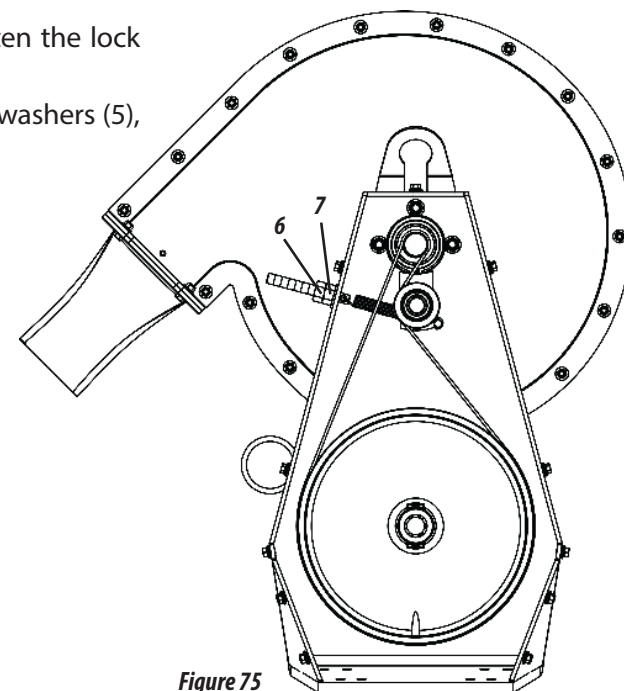


Figure 75

### ROTATION COMPENSATION

18 - The turbines are factory assembled and regulated to operate in the standard rotation of 540 rpm. If you need to compensate rotation for 1000 rpm, proceed as follows:

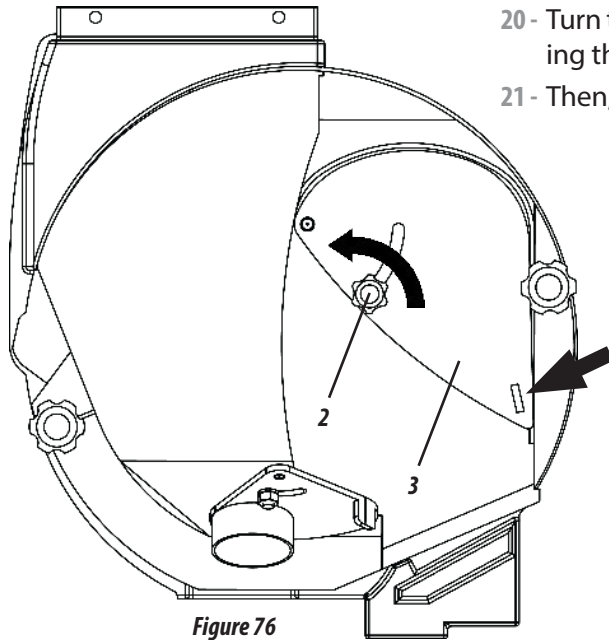
19 - Make the replacement of the pulley (8) and belt (9) by suitable belt and pulley to rotate at 1000 rpm.

**Shaft rotation: 1000 rpm.**

**Turbine rotation: 5800 rpm.**

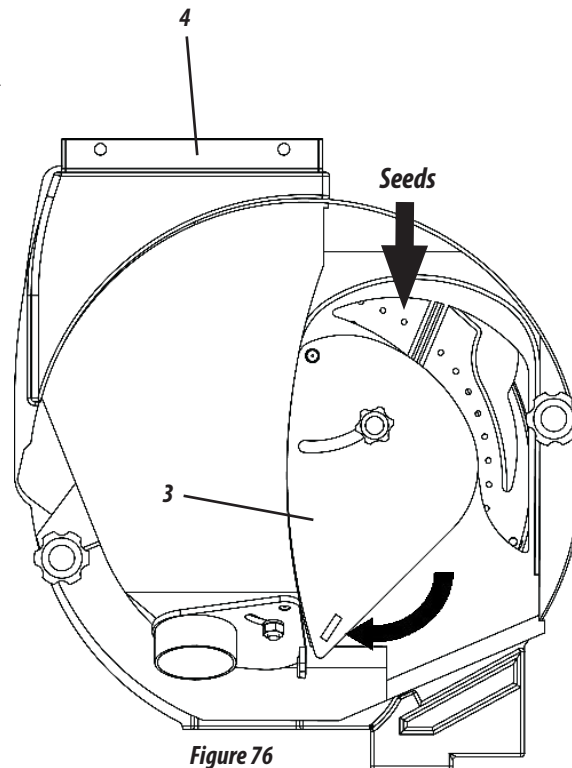
## VACUUM LEVEL IN THE PERFORATED DISCS PSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- Check the correct operation of the vacuum switch (1) every 20 hours of work; for this, proceed as follows:

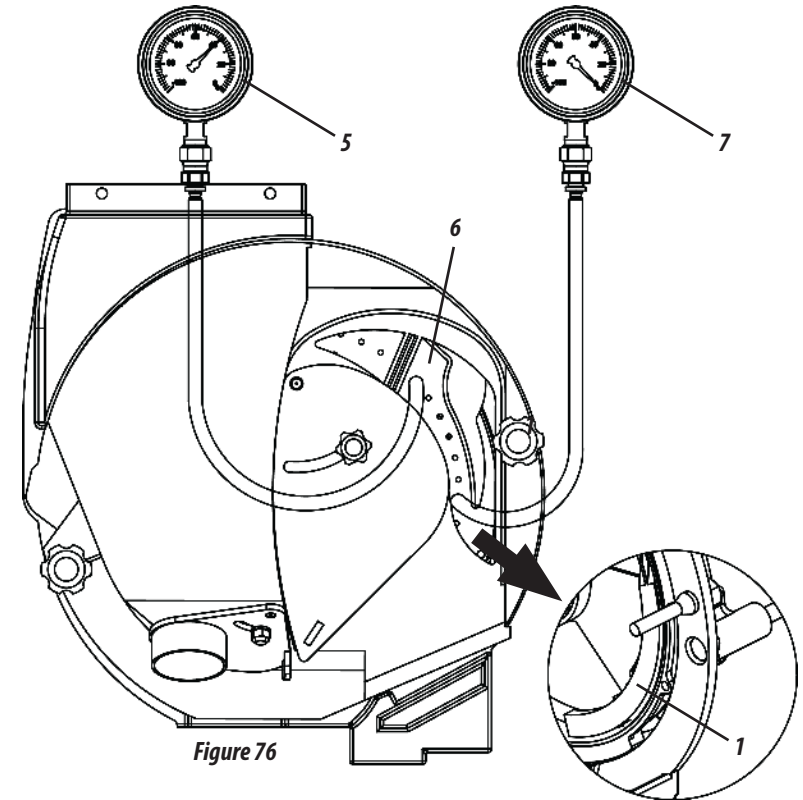


20 - Turn the knob (2) in the counterclockwise direction, losing the lid (3).

21 - Then, push the cover (3) opening the feeder (4).



- 22 - Then, put the turbine in operation in the working speed.
- 23 - Take the vacuum meter (5) and place it the hose end into a hole of the stainless steel perforated seed disc (6).
- 24 - Check the vacuum level, which should be the same of work, with minimal variation allowed.



- 25 - After checking the vacuum level of the disc, place the hose end in the vacuum meter (7) into the hole on the vacuum switch, which must be zero, that is, the vacuum level must fall to zero. Otherwise, the vacuum switch should be replaced (1).



**NOTE**

*The remaining holes should be with seeds.*

## REPLACING THE VACUUM SWITCH

### PSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

26 - To replace the vacuum switch, proceed as follows:

27 - First, loosen the knobs (1) and disconnect the lid (2) from the feeder.

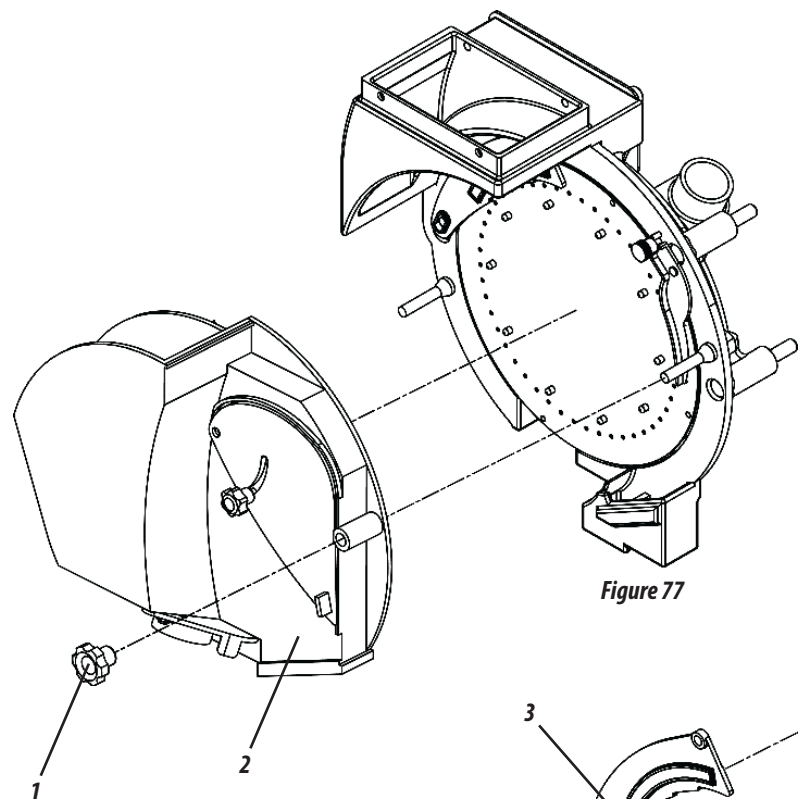


Figure 77

28 - Then, remove the selector with magnets (3), the lower selector (4) releasing the knob (5) and the disc (6) from the distributor (7).

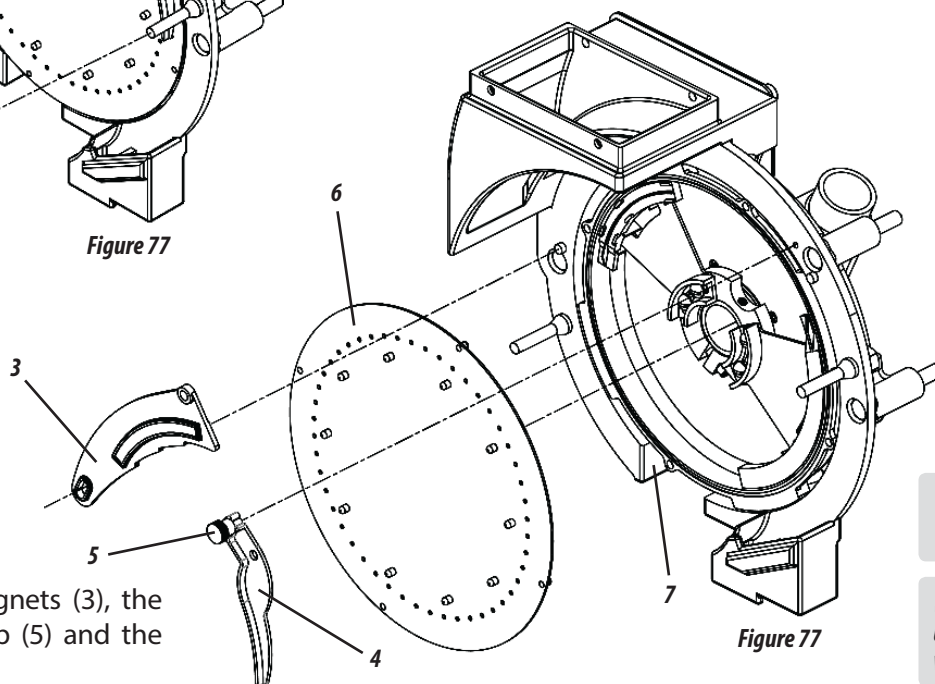


Figure 77

29 - Then, loosen the screws (8), flat washers (9), remove the central base (10) and vacuum switch (11).

30 - Make the replacement of the vacuum switch (11) and reassemble all components until the feeder is full.

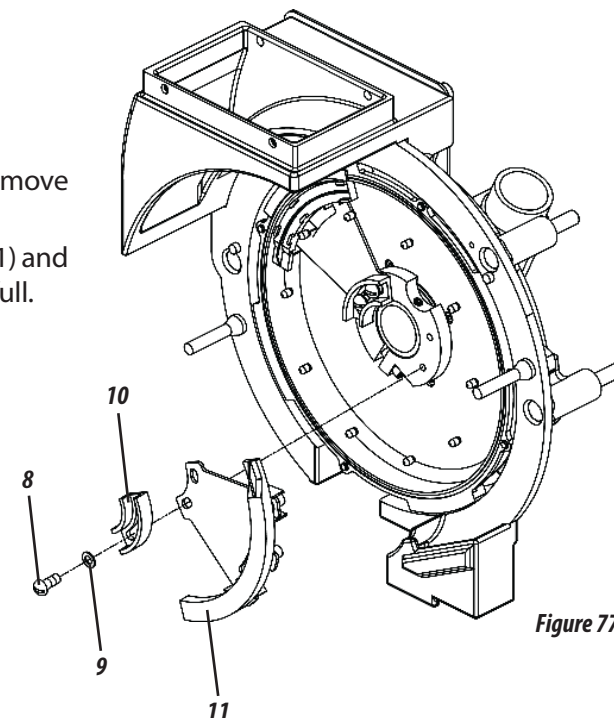


Figure 77

## ⚠ ATTENTION

When you finish replacing the vacuum switch, test the vacuum level in the other lines and if needed, replace them as well.

## OPERATIONAL MAINTENANCE

### PPSOLO *Speed Box Air* 4000 / 4500 / 5000 / 5500 / 6500 / 7500

PROBLEMS	CAUSES	SOLUTIONS
During plantation, fertilizer begins to flow through safety outlets.	Clogged hoses or pieces of plastics in fertilizer conductiong coils.	Unclog the hose or remove the upper channel which provides access to spiral spin axis on the contrary to exit the foreign body that is jammed.
Fertilizer hub shaft does not rotate.	Spiral blocked with wet fertilizer or excessive fertilizer in the closed line.	Unclogging the spirals, check if you have loose gutter and fertilizer may be entering the sides of them.
One seed row has less depth than the other.	Different pressure settings of depth limiting wheel or the springs of the row.	Adjust all depth wheels and the pressure springs with the same adjustments.
The furrow is opening too much during the plantation.	Wet soil sticking on disks or excessive speed work.	Reduce operation speed.
Strange noise when operating or walking with loaded planter.	Loose wheels or wheel hub loose.	Tighten the wheel nuts. Adjust the bearings of the wheel hub.
Is not covering the furrow.	Compaction wheels badly adjusted or wet terrain.	Adjust the compaction wheel, displacing it laterally relative to the furrow.
Pistons stop operationg, lift seeder and the do not lower or vice-versa.	Quick Hitch different male ball type and female needle type or vice versa.	Proceed to replace the quick hitch by putting two of the same type.
Failure or irregular seed distribution.	Low vaccum.	Increase the vaccum level; Check PTO rotation; Chack all air tubes.
	Cleaners and/or interruptor not adjusted correctly.	Adjust cleaners; Check and replace the vaccum interruptor.
	Plate hole diameter are too small for the seed.	Choose the seed plate according to the seed that is being distributed.
	High working speed.	Reduce working speed (5 to 7 Km/h).
Double seed distribution.	Seed cleaners or vaccum interruptor are not correctly adjusted.	Adjust the seed cleaners; Replace the vaccum interruptor.
		Adjust the internal distribution plate.
	High seed distribution level.	Choose the correct plate for the seed that will be distributed.
	High working speed.	Reduce working speed (5 to 7 Km/h).
	Speed plate holes should be blocked.	Open and clean the seed distribution system.



## 13 - CLEANING

### CLEANING THE PNEUMATIC FEEDER

PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

• At the end of each working day, we recommend emptying the tanks seeds. To do this, proceed as follows:

- 01 - Place a container underneath the seed output (1) of the feeder (2).
- 02 - Then, open the gate (3) and pull the plate (4) of the tank by loosening the knob (5).
- 03 - Then, wait for complete emptying of the tank and also the feeder (2).
- 04 - Finally, close the gate again (3) and the plate (4) by tightening the knob (5).

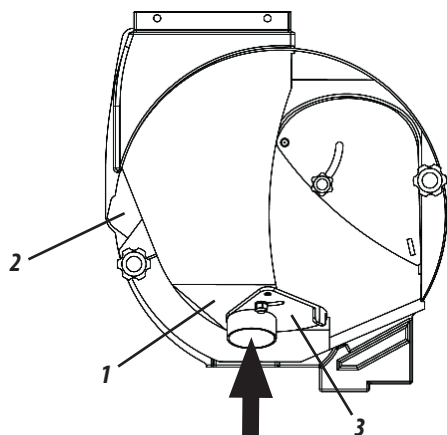
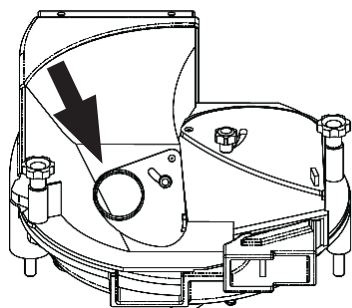
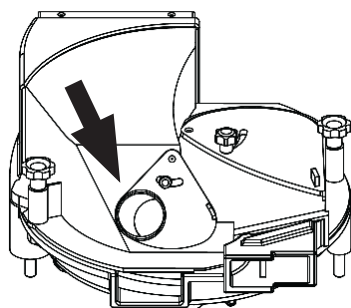


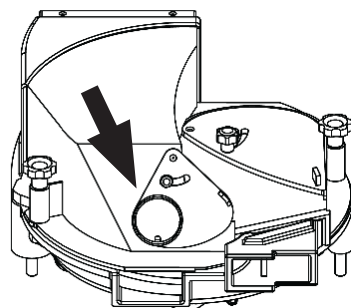
Figure 78



"Sistema Fechado"



"Sistema Semi Aberto"



"Sistema Aberto"

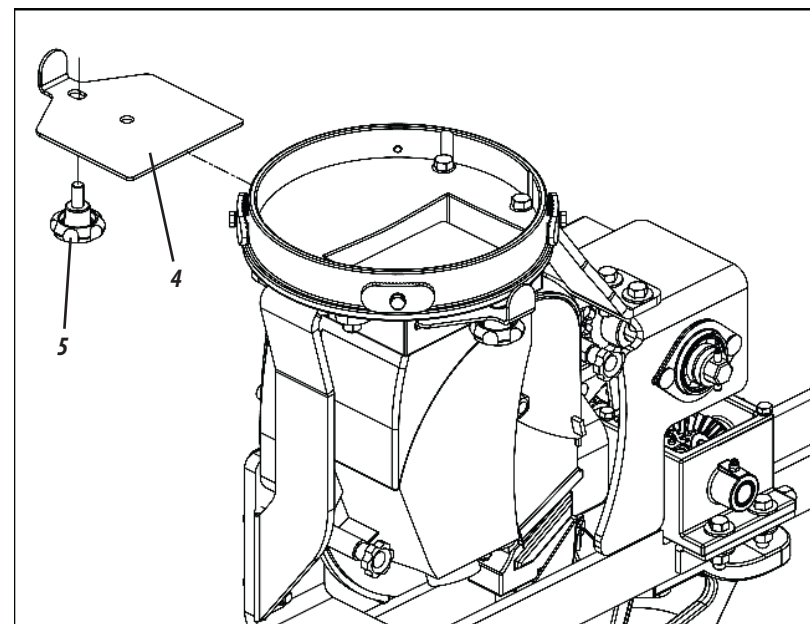


Figure 78

### ⚠ IMPORTANT

Use graphite or industrial talc during planting, thus avoiding friction of seeds with the system (disc).



- For general cleaning of the feeding system, proceed as follows:
- 05 - Repeat the procedure on the previous page.
  - 06 - Then, release the knobs (6) and disconnect the cover (7) from the feeder.
  - 07 - Remove the selector with magnets (8) and the lower selector (9) by loosening the knob (10).
  - 08 - Remove the disc (11) from the distributor (12) and do a general cleaning in the whole system.
  - 09 - After cleaning, connect all components refitting the feeder.

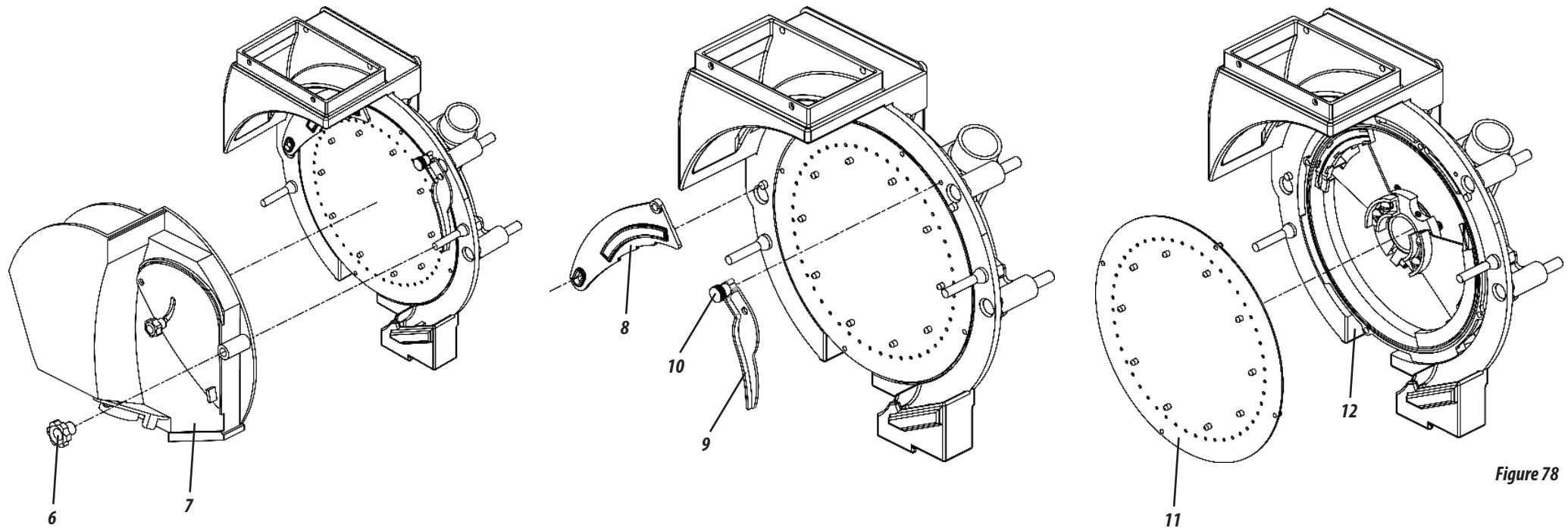


Figure 78

### NOTE

*Avoid light fragments such as shredded paper, string or plastics to fall together with the seeds within the tanks, this will block the holes of the discs and cause failures in the operation.*

### ATTENTION

*When using products for seed treatment (inoculants, insecticides, graphite, etc.) is necessary, clean the system twice a day.*

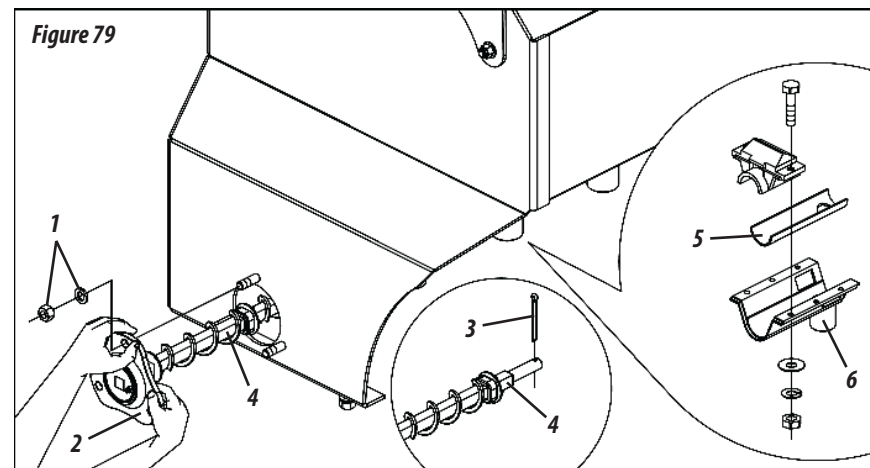
### IMPORTANT

*Do not wash the acrylic display with solvent not to damage its transparency.*

## CLEANING THE GUTTERS

PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

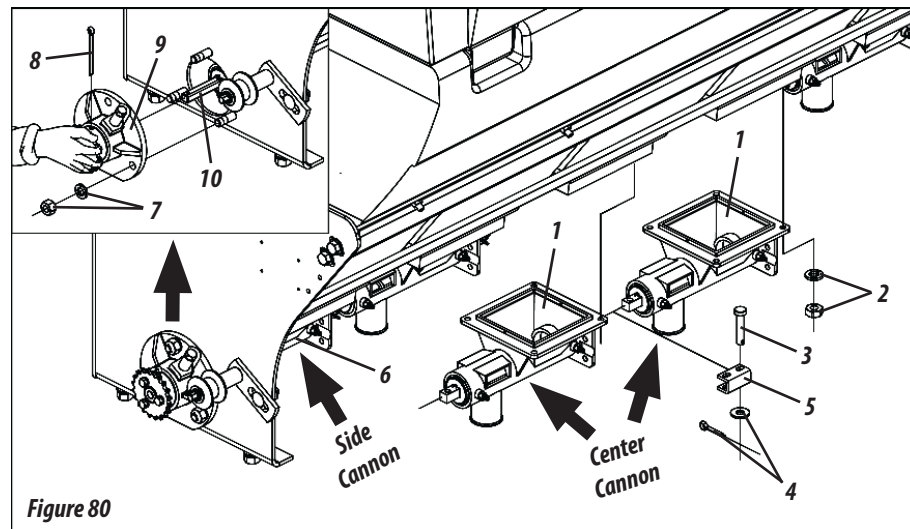
- After planting, do not leave fertilizer in the tank. To clean, proceed as follows:
- 10- Loosen the nuts and washers (1) hub (2), only at the outside of the seed drill, remove the cotter pin (3) from the end of the shaft (4) contrary to the hub. Then, pull the hub (2) with full shaft (4) by turning it to facilitate removal.
  - 11- Check the PVC gutters (5), if they present wear, replace them.
  - 12- Do the cleaning in tanks and also in the shafts (4) and then wash them under running water. Reassemble the shafts observing the correct assembly of the gutter (5), because the outlet holes of both fertilizer and gutter (5) as the spout (6) must coincide, as shown in Figure 79.



## CLEANING THE SIDE CONDUCTOR

PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- After planting, do not leave fertilizer in the tank. To clean, proceed as follows:
- 13- To remove the central cannons (1), loosen the nuts and washers (2), remove the pin (3), washers and cotter pin (4) and release the latch (5). Then, wash the central cannons (1) with running water.
  - 14- Reassemble the shafts, noting the correct assembly of the central cannons (1).
  - 15- To remove the side cannons (6), loosen the nuts and washers (7), remove the cotter pin (8) releasing the cube (9) and shaft (10) from the cannon (6). Then, wash it with running water. Reassemble the shafts, noting the correct assembly of the side cannons (6), as shown in Figure 80.



## ATTENTION

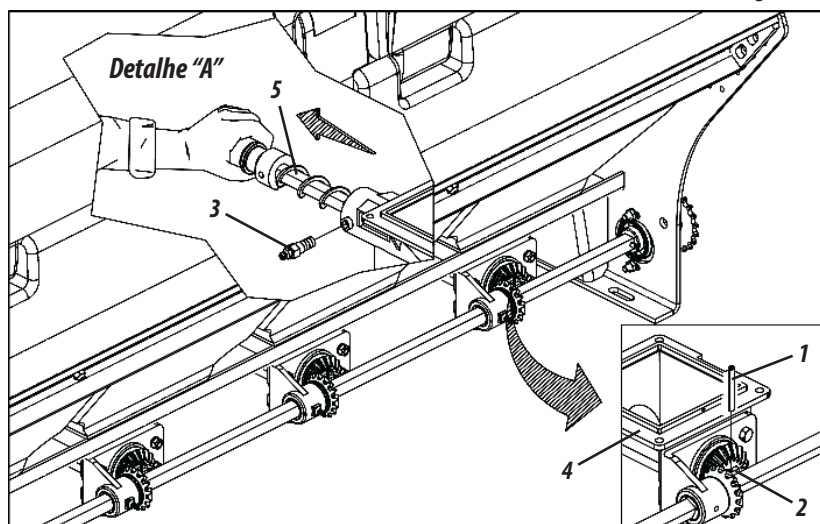
Do not insert fingers or objects into the holes inside the tank, since the helical conductor can cause injuries of serious proportions.

## CLEANING OF THE CROSS CONDUCTOR

### PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- After planting, do not leave fertilizer in the tank. To clean, proceed as follows:
- 16-** Remove the elastic pin (1) of the shaft (2) and the screw (3) of the distribution cannon (4). Then, pull the shaft (5) back, as shown in detail "A", of figure 81.
- 17-** Then, reassemble the shaft, noting the correct assembly of the fertilizer distribution system.

Figure 81



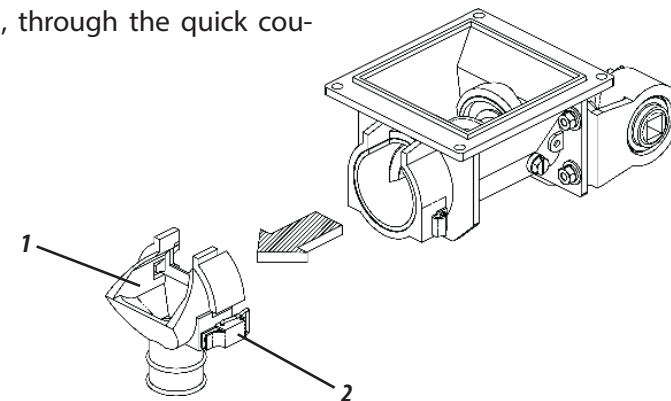
**Do not use chemical cleaners to wash the seed drill as this may damage its coating.**

## CLEANING THE FERTISYSTEM CONDUCTOR - OPTIONAL

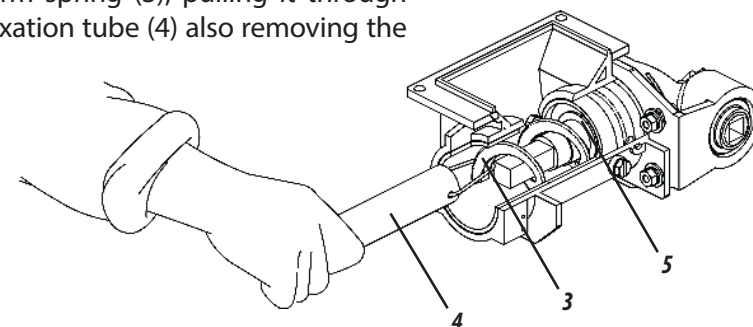
### PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- 18-** After planting, do not leave fertilizer in the tank. To clean, proceed as follows:

- 19-** Remove the nozzle (1), through the quick coupling (2).



- 20-** Remove the worm spring (3), pulling it through the ring of the fixation tube (4) also removing the locking ring (5).



- 21-** After cleaning, replace the worm spring (6) together with the locking ring (7) through the fixation tube (8) observing that the worm spring (6) and locking ring (7) are well positioned at the base of the drive shaft (10).

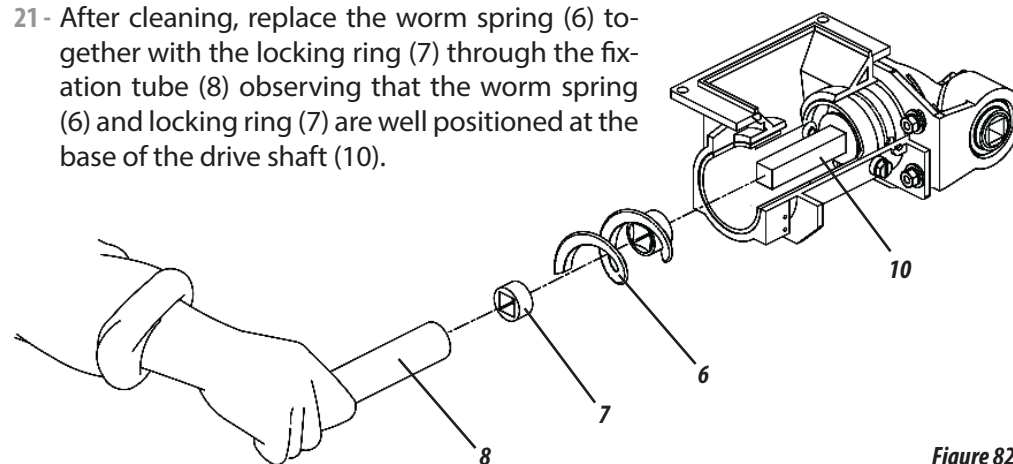


Figure 82

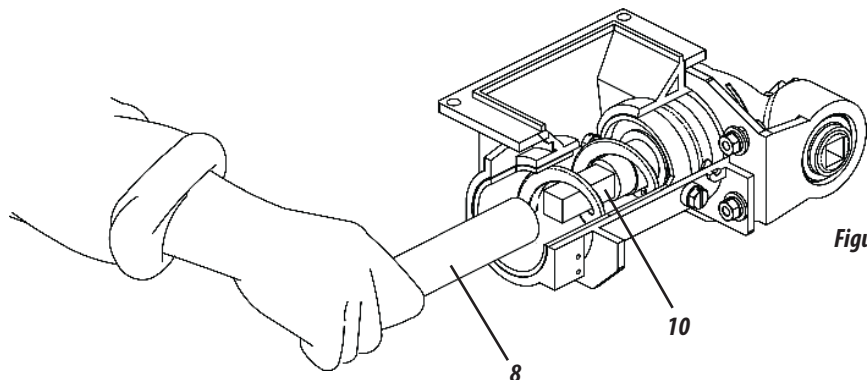


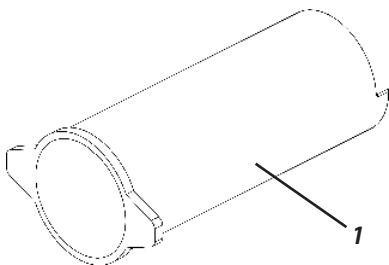
Figure 82

## ! ATTENTION

*Keep the worm spring positioned with the locking ring. This will prevent damage to the cross cover when not using the feeder with fertilizer or during transportation of the seed drill. The lack of locking ring may damage the fertilizer distribution and / or transmission.*

### MAINTENANCE TUBE FOR FERTISYSTEM CONDUCTOR PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

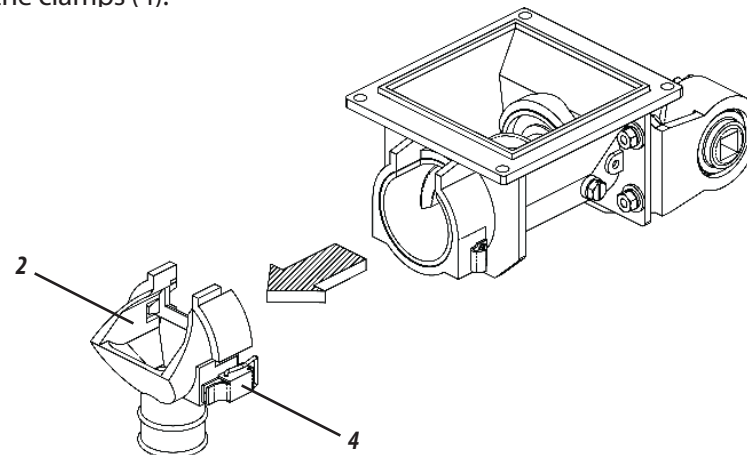
22 - The PPSOLO speed box air when sold with the Fertisystem conductor, comes with the maintenance tube (1) to make maintenance or replacement of the worm spring without the need to remove the fertilizer box.



MAINTENANCE TUBE  
Código: 60203900930

• To make the maintenance in the Fertisystem conductor, proceed as follows:

23 - Remove the discharge nozzle (2) of the Fertisystem conductor (3) by loosening the clamps (4).



24 - Then, insert the maintenance tube (1) in rotational movement, promoting the displacement of fertilizer to the bottom of the feeder. After, do the required maintenance.

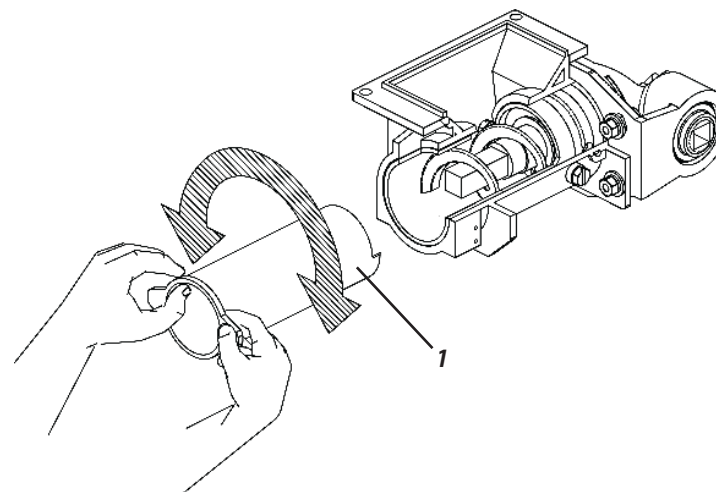


Figure 83

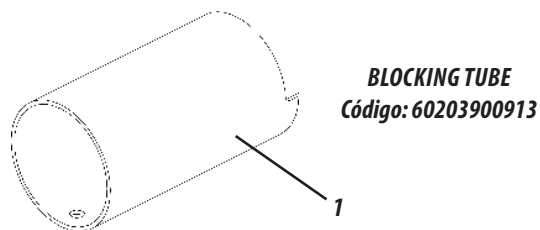


## NOTE

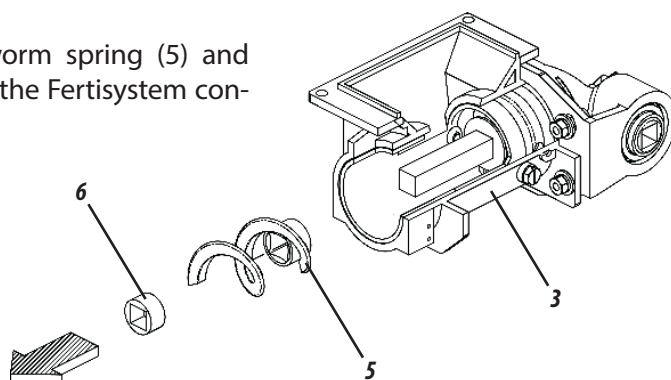
*The maintenance tube (1) has a cutting angle at the edge in order to facilitate this operation.*

## BLOCKING TUBE FOR FERTISYSTEM CONDUCTOR PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- 25 - The PPSOLO speed box air when sold with the Fertisystem conductor comes with a blocking tube for when you need to isolate a few planting lines, there is no fertilizer distribution.



- 26 - Remove the worm spring (5) and lock ring (6) of the Fertisystem conductor (3).



- 27 - Then, insert the un-blocking tube (1) and replace the discharge nozzle (2).

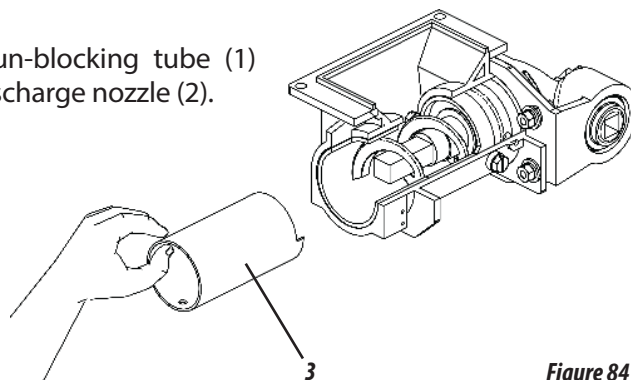
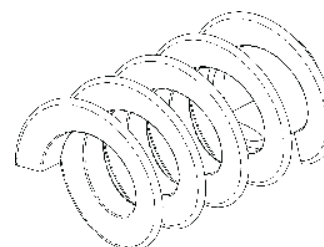


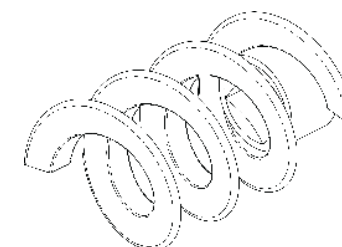
Figure 84

## SPRING AND CAPS (OPTIONAL) FERTISYSTEM CONDUCTOR PPSOLO Speed Box Air 4000 / 4500 / 5000 / 5500 / 6500 / 7500

- 28 - The PPSOLO speed box air leaves the factory with step 2" worm spring (standard), but the seed drill can be provided with two other models of worm springs (optional).



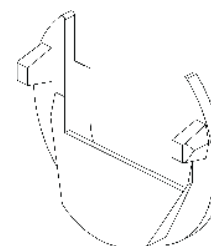
**Worm Spring (Step 3/4")** Código: 60203700418



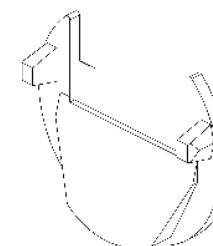
**Worm Spring (Step 1")** Código: 60203700426

Figure 85

- 29 - The PPSOLO speed box air leaves the factory with cover cross flow (standard), however, the seed drill can be provided with two other models of flow caps (optional).



**Fertipó Cap**  
Código: 60203900530



**High-Flow Cap**  
Código: 60203900522

Figure 85

## NOTE

Fill the fertilizer tank always at the workplace. Avoid any type of impurity inside the fertilizer tank. Make daily measurement of the feeder.

**CARE****PPSOLO *Speed Box Air* 4000 / 4500 / 5000 / 5500 / 6500 / 7500**

- 30 - Check the conditions of all nuts and screws before starting the use of the transshipment equipment.
- 31 - The speed must be carefully controlled according to the terrain conditions.
- 32 - The Baldan seed drills are used in various applications, requiring knowledge and attention during handling.
- 33 - Only local conditions will determine the best mode of operation of the seed drill.
- 34 - When assembling or disassembling any part of the seed drill, use adequate methods and tools.
- 35 - Check always parts that may show wear. If you need replacement, always ask for Baldan original parts.

**GENERAL CLEANING****PPSOLO *Speed Box Air* 4000 / 4500 / 5000 / 5500 / 6500 / 7500**

- 36 - When storing the seeder, make a general clean and wash it. Make sure the paint did not wear off, if so, give an overall coat, pass protective oil and completely lubricate the seeder.
- 37 - Remove the transmission chains, and keep them immersed in oil until the next use.
- 38 - Lubricate the machine completely. Check all moving parts, if they show signs of wear and clearances, make the necessary adjustment or replacement of parts, leaving the machine ready for the next use.
- 39 - After all the maintenance procedures, store your seeder in a covered and dry place, properly supported. Avoid the discs to be in direct contact with the ground.
- 40 - When connecting or disconnecting the hydraulic hoses, do not let the ends touch the ground. Before connecting the hydraulic hoses, clean the connections with clean, lint-free cloth (do not use burlap).
- 41 - We recommend washing the seed drill at the beginning of a new planting.

**ATTENTION**

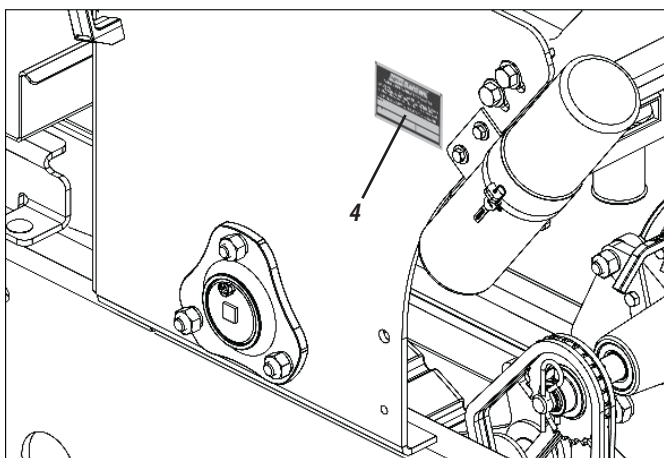
*Do not use chemical cleaners to wash the seed drill as this may damage its coating.*



## 14 - IDENTIFICATION

- 01 - To view the parts catalog or to request technical assistance from BALDAN, always indicate the model (1), serial number (2) and date of manufacture (3), which is on the identification label (4) of the sower.

### ALWAYS ORIGINAL PARTS REQUIRED BALDAN



## PRODUCT IDENTIFICATION

- Make the identification of data below to always have correct information about the lives of their PPSOLO Speed Box Air.

Owner's name: \_\_\_\_\_

Dealer: \_\_\_\_\_

Farm: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_

Warranty certificate Nr.: \_\_\_\_\_

Model: \_\_\_\_\_

Serial number: \_\_\_\_\_

Date of purchase: \_\_\_\_\_ Invoice Nr: \_\_\_\_\_



### Marketing Baldan

Edition of Catalogs  
and Manuals

Code: 60550100765  
CPT: PPSAIR15716



The drawings in this instruction manual are of illustrative purposes only.



In case of doubt do not operate the equipment, please contact our after-sales service.  
Telephone: 08000-152577  
e-mail: posvenda@baldan.com.br



**Note:**





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