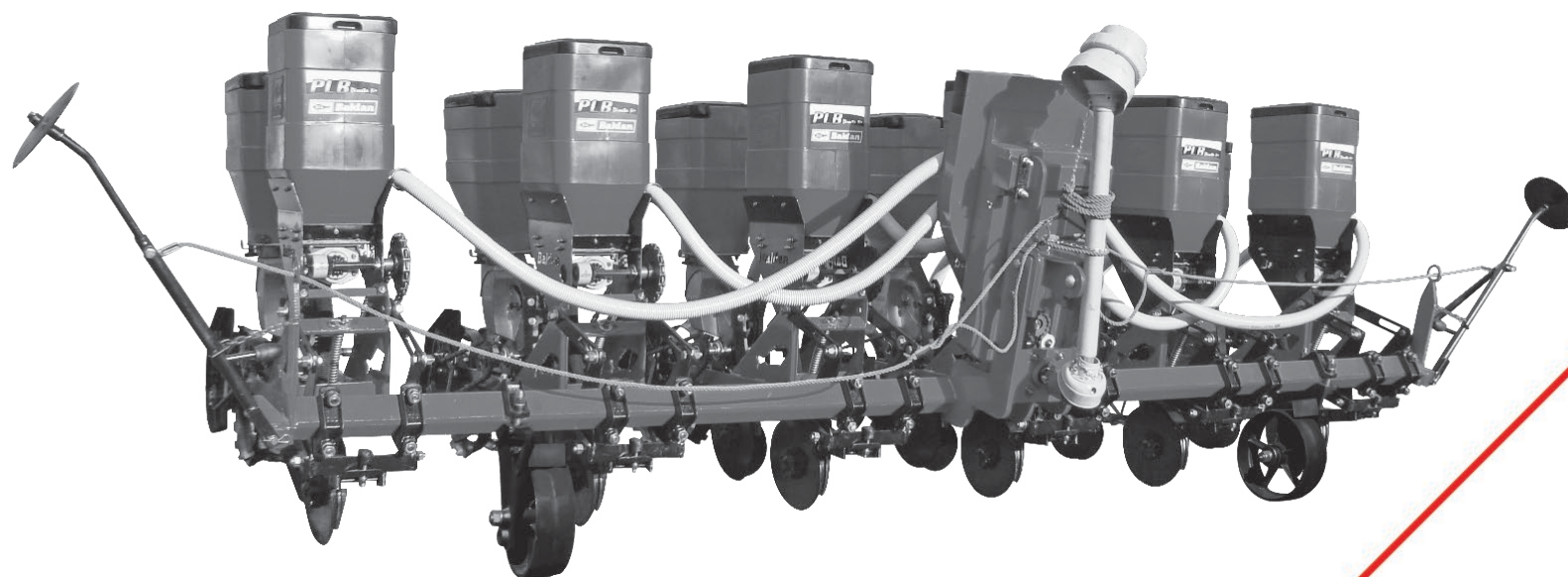


Instruction Manual



PLB DIRECTA AIR
Precision Row Seed Drill Baldan

 **BALDAN**

PRESENTATION

We 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.

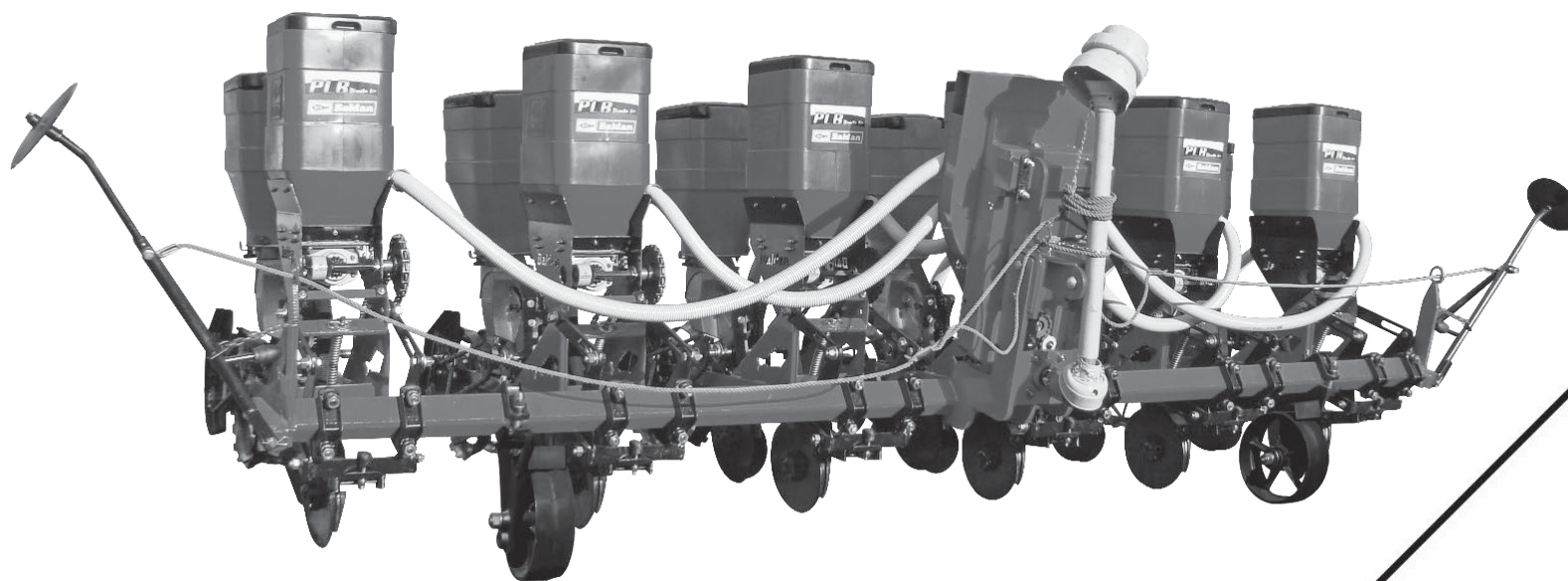
In the technical delivery, the dealer must advise the user on its maintenance, security, its obligations under any technical assistance, the strict observance of the guarantee and reading of the instruction manual.

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



PLB DIRECTA AIR

Precision Row Seed Drill Baldan

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



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

 **BALDAN**

INDEX

01.Safety rules	6
02.Components.....	10
03.Technical specifications.....	11
04.Assembly	12
Assembling the header	12
Assembly of limiters	13
Assembling the turbine support	13
Turbine assembly	14
Assembly of lines	15
Assembling the seed double disc	16
Assembling the fertilizer double disc	17
Assembling the coverage disc	17
Assembling the cutting disc - optional	18
Assembling the furrower - optional	18
Assembling the furrower for corn planting - optional	19
Assembling the marker nozzle for deep fertilization - optional	19
05.Coupling	20
Tractor coupling	20
Shaft cut	21
Centering the seed drill	23
Leveling the seed drill	23
Tables of spacing in mm	24
Adjusting the line markers	25
Adjusting the distribution selector	26
Adjusting the lower selector	27
Adjusting the seed flow	28
Adjustment of cleaning brushes	29
Vacuum meter	30
Turbine	30
Viewing of seeds	30
Seed distributors discs	31
Seed distribution table	31
20-Hole disc	31

30-Hole disc	32
40-Hole disc	32
48-Hole disc	33
70-Hole disc	33
06.Fertilizer distribution system	34
Fertilizer conductor - fertisystem	34
Fertilizer and seed adjustment	35
Approximate table for fertilizer distribution	36-42
07.Practical calculation for fertilizer distribution	43
Practical test to measure the seed and fertilizer distribution amount	43
08.Optional devices.....	44
Optional carts	44
Supports, furrow openers, optional discs and wheels	44
09.Adjustments	45
Fertilizer depth adjustment	45
Adjusting the furrow opening for fertilizer in relation to seed	45
Pressure regulation of the cutting disc - optional	46
Seed depth adjustment	46
Cover disc adjustment - optional	47
Adjusting the wipers	47
Adjusting the furrower attack angle	48
Adjusting the double disc wipers	48
Compaction iron wheel	48
Compaction rubber wheel	48
10.Operations	49
11.Maintenance	49
Lubrication	49
Table of grease and equivalent	49
Lubricate every 10 hours	50
Lubricate every 30 hours	51
Lubricate every 200 hours of work	51
Chain tension	51
Drive belt of the turbine	52
Vacuum level in the perforated discs	53

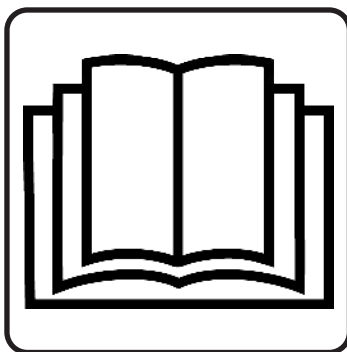
Replacing the vacuum switch	54
Operational maintenance	55
12.Cleaning.....	56
Cleaning the pneumatic feeder	56
Cleaning the fertisystem conductor - optional	58
Maintenance tube for fertisystem conductor	59
Blocking tube for fertisystem conductor	60
Spring and caps (optional) fertisystem conductor	60
Care	61
General cleaning	61
13.Identificación.....	62
Notes:	62

01. SAFETY RULES

THIS SYMBOL INDICATES IMPORTANT SAFETY WARNING. WHENEVER YOU FIND IT IN THIS HANDBOOK, CAREFULLY READ THE MESSAGE THAT FOLLOWS AND BE AWARE AS FOR THE POSSIBILITY OF PERSONAL INJURY.

**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.*

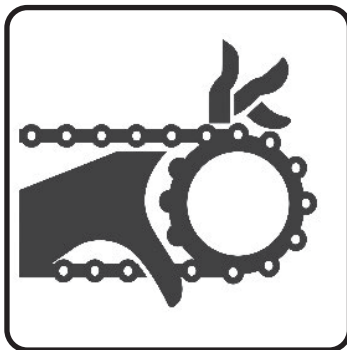
**ATTENTION**

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



ATTENTION

- *Do not operate the seed drill if the transmission hoods are not properly fixed.*
- *Only remove the hoods to make the replacement of gears, put them back immediately.*
- *When doing any work in the machine transmission, turn the ratchets off.*
- *Do not make adjustments with the machine in motion.*



ATTENTION

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



ATTENTION

- *Keep yourself away from the active elements of the machine (discs), they are sharp and can cause accidents.*
- *When carrying any service on discs, use safety gloves on hands.*



ATTENTION

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



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.

! ATTENTION

- *When operating the seed drill, do not allow the permanence of people on the machine.*
- *Do not stay on the platforms with the machine in motion.*



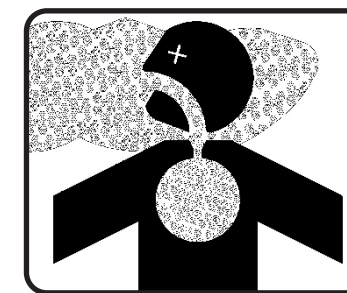
! ATTENTION

- *Whenever the seed machine is being operated, watch out for surrounding people.*
- *Do not transport people on the tractor nor in or on the equipment.*



! ATTENTION

- *The turbine can excrete waste of toxic products used in the treatment of seeds.*
- *Do not transport people on the tractor nor in or on the equipment.*
- *Do not be exposed to air that exits the turbine when it is in operation.*
- *During handling, application and planting, use personal protective equipment (PPE).*
- *Wash hands thoroughly after handling the product.*
- *Treated seeds should not be exposed to people outside the service, domestic animals, birds and even contact with products of human or animal consumption.*
- *In case of poisoning by inhalation or aspiration, keep the person in fresh air place and seek medical attention immediately, taking the label or packaging of the chemical.*



POISONING SYMPTOMS: *Weakness, headache, chest pressure, blurred vision, nonreactive pupils, salivation, sweating, nausea, vomiting and abdominal cramps.*

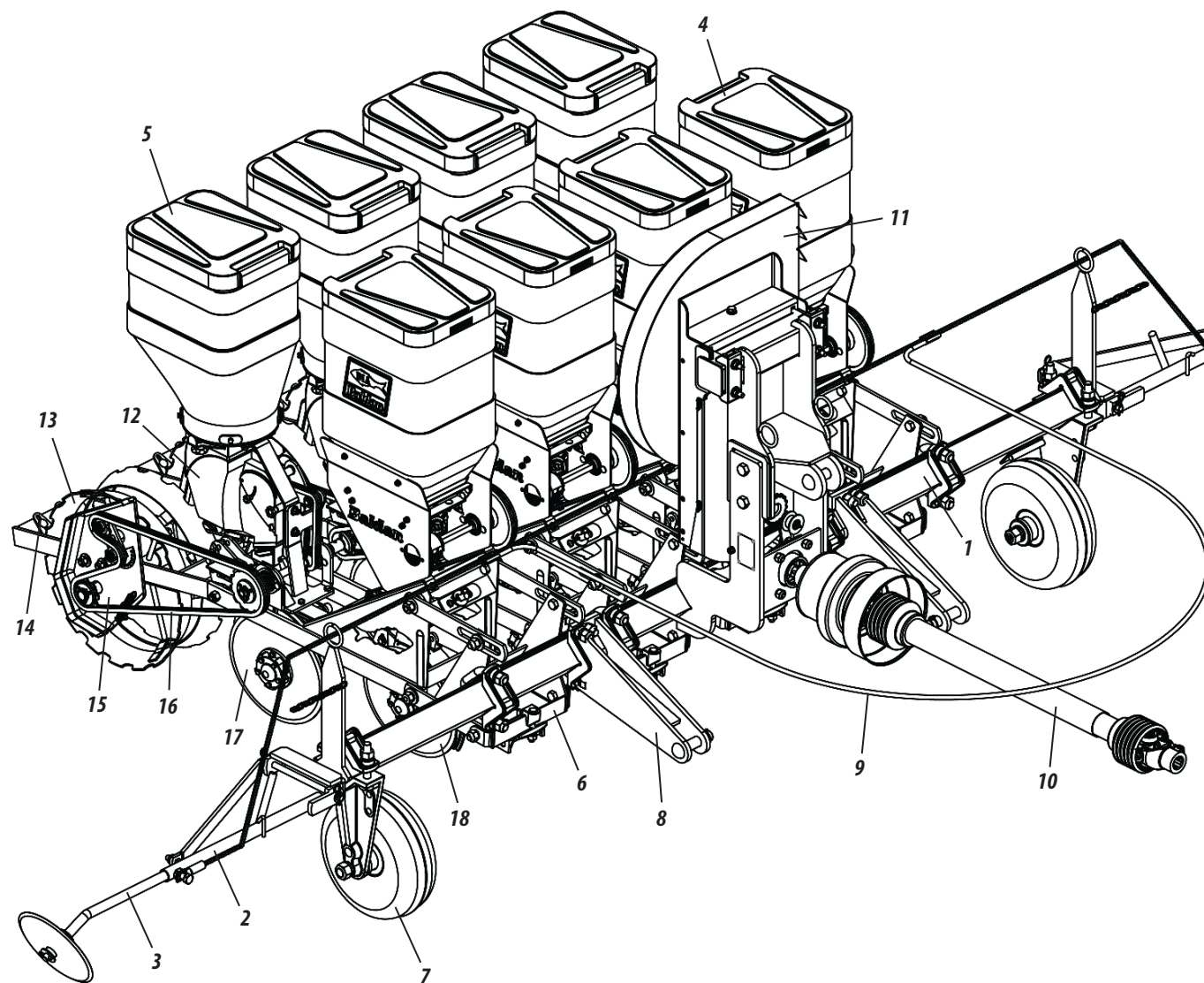


WARNING

THE MISMANAGEMENT OF THIS EQUIPMENT CAN RESULT IN SERIOUS OR FATAL ACCIDENTS. BEFORE PLACING THE EQUIPMENT IN OPERATION, CAREFULLY READ THE INSTRUCTIONS IN THIS HANDBOOK. MAKE SURE THAT THE PERSON RESPONSIBLE FOR THE OPERATION IS INSTRUCTED ON THE PROPER AND SAFE HANDLING, IF HE HAS READ AND UNDERSTOOD THE HANDBOOK OF THIS PRODUCT.

- 01- ⚠ When operating the equipment, do not allow people to stay very close to it.**
- 02- ⚠ In making any assembly and disassembly service in the discs, use safety gloves.**
- 03- ⚠ Do not wear loose clothing as they can curl up on the equipment.**
- 04- ⚠ When turning the tractor engine on, by properly seated in the operator's seat and aware of the correct and safe management both of tractor and implement. Always put the shifter in neutral, turn off the engine and put the hydraulic command in the neutral position.**
- 05- ⚠ Do not turn on the engine indoors or without adequate ventilation, because the exhaust fumes are harmful.**
- 06- ⚠ When maneuvering the tractor to the implement hitch, make sure to have the necessary room and that there is nobody very close. Make maneuvering in low gear and be prepared to brake in an emergency.**
- 07- ⚠ Do not make adjustments with the implement in operation.**
- 08- ⚠ When working on slopes, proceed with caution when trying to maintain the necessary stability. In case of unbalance, reduce the throttle and turn the wheels of the tractor to the side of the slope.**
- 09- ⚠ Always drive the tractor at speeds compatible with safety, especially when working on uneven ground or slopes. Keep the tractor always engaged.**
- 10- ⚠ When driving on roads, keep the tractor brake pedals interconnected and use safety signs.**
- 11- ⚠ Do not operate the tractor if the front is light. If there is a tendency to rise, add weights on the front or front wheels.**
- 12- ⚠ Leaving the tractor, put the shifter in neutral and apply the parking brake.**
- 13- ⚠ Alcoholic beverages and some medications can cause loss of reflexes and change the physical conditions of the operator. Therefore, never operate this equipment, under the influence of these substances.**
- 14- ⚠ Read or explain all the procedures above to the operator who cannot read.**

PLB Directa Air - PRECISION ROW SEED DRILL BALDAN



02.COMPONENTS

- 01 - Header
- 02 - Marker limiter
- 03 - Line Marker
- 04 - Fertilizer tank
- 05 - Seed tank
- 06 - Planting line
- 07 - Depth wheel
- 08 - Coupling header
- 09 - Drive rope of markers
- 10 - Propeller shaft
- 11 - Turbine
- 12 - Pneumatic Feeder
- 13 - Compaction wheel
- 14 - Wiper
- 15 - Dust Cover
- 16 - Transmission chain
- 17 - Seed double disc
- 18 - Fertilizer double disc

Figure 01

03. TECHNICAL SPECIFICATIONS

Table 01

<i>Model</i>	<i>No of Lines</i>	<i>Overall width (mm)</i>	<i>Working width (mm)</i>	<i>Width of the header (mm)</i>	<i>Approximate Weight (kg)</i>	<i>Approximate Power (hp)</i>
<i>PLB Directa Air</i>	2	2300 / 3300 / 4300	1400 / 2400 / 3400	1800 / 2800 / 3800	449 / 471 / 492	40 - 50
<i>PLB Directa Air</i>	3	2300 / 2800 / 3300 / 4300	1400 / 1900 / 2400 / 3400	1800 / 2300 / 2800 / 3800	597 / 608 / 618 / 640	50 - 66
<i>PLB Directa Air</i>	4	3300 / 3800 / 4300 / 4900	2400 / 2900 / 3400 / 4000	2800 / 3300 / 3800 / 4400	766 / 777 / 787 / 841	60 - 75
<i>PLB Directa Air</i>	5	3300 / 3800 / 4300 / 4900	2400 / 3400 / 4000	2800 / 3800 / 4400	913 / 935 / 989	75 - 90
<i>PLB Directa Air</i>	6	3300 / 4300 / 4900	2400 / 3400 / 4000	2800 / 3800 / 4400	1014 / 1082 / 1136	85 - 95

Minimum spacing between lines (mm) 420

Working Depth (mm) 0 a 120

Seed Tank Capacity (L) 45

Fertilizer Tank Capacity (L) 60

Baldan reserves the right to change technical specifications of this product without previous notice.
The technical specifications are approximate and informed under normal working conditions.

04.ASSEMBLY

- The Baldan see drill model PLB Directa Air is factory disassembled. The most practical method for assembling the drill is the use of racks or the like. To assemble it, proceed as indicated below:

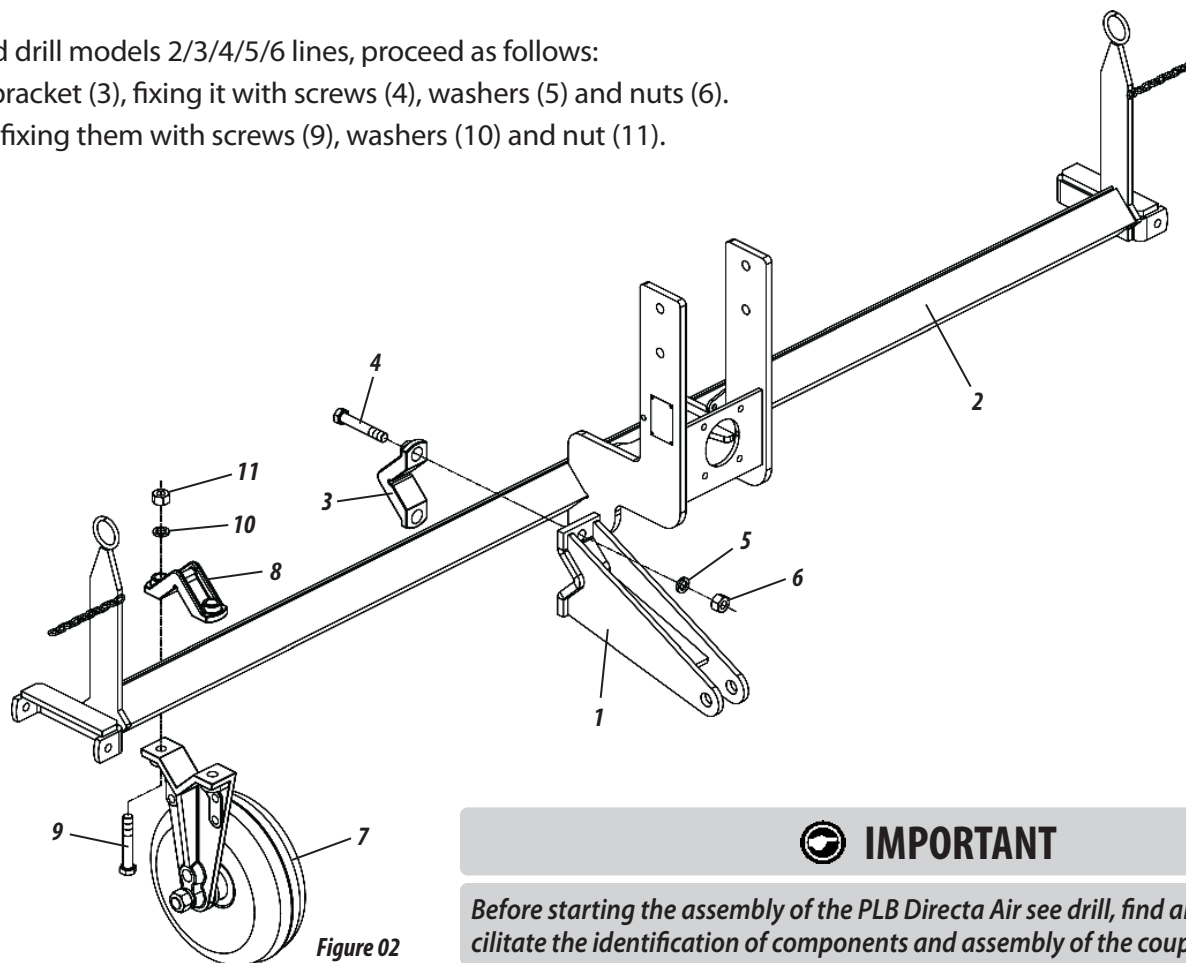
ASSEMBLING THE HEADER (FIGURE 02)

PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

01 - To assemble the header of the PLB Direct Air seed drill models 2/3/4/5/6 lines, proceed as follows:

02 - Place the hitch (1) in the header (2) through the bracket (3), fixing it with screws (4), washers (5) and nuts (6).

03 - Then, put the wheels (7) through the bracket (8), fixing them with screws (9), washers (10) and nut (11).



⚠ ATTENTION

Adjust the hooks (1), according to the category of the tractor that will operate with the seed drill.

- Category I: 685 mm.
- Category II: 826 mm.

🔍 IMPORTANT

Before starting the assembly of the PLB Directa Air see drill, find an ideal place to facilitate the identification of components and assembly of the coupling header.

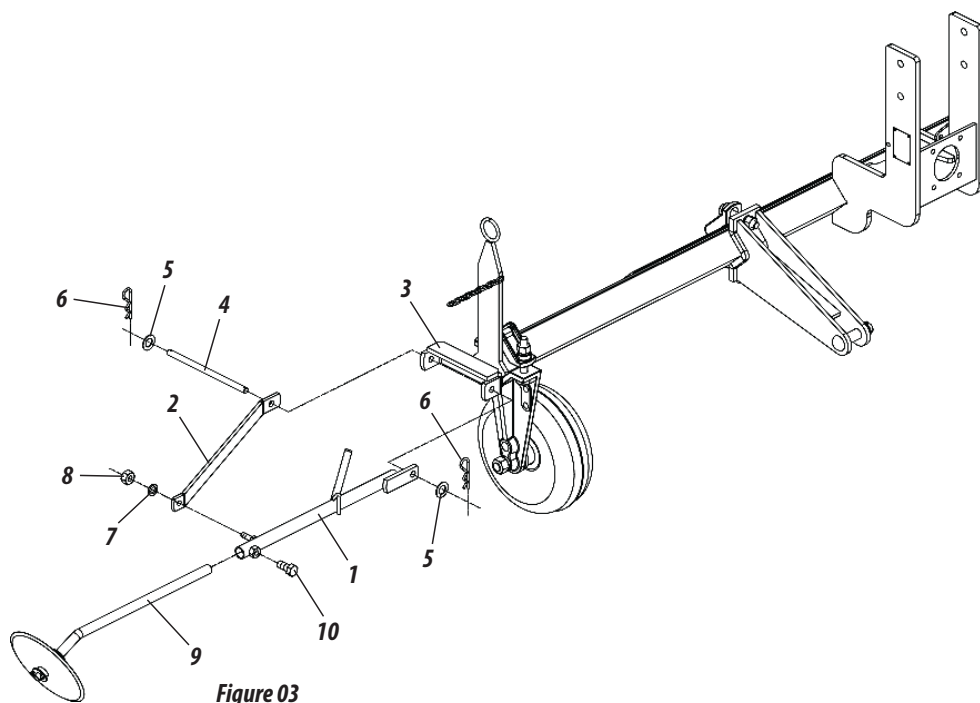
Figure 02

ASSEMBLY OF LIMITERS (FIGURE 03) PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

• To assemble the limiters of the PLB *Directa Air* seed models 2/3/4/5/6 lines, proceed as follows:

01 - Place the limiter support (1) and bar (2) on the coupling header (3), fixing it with the pin (4), flat washer (5), lock (6), pressure washer (7) and nut (8).

02 - Then, place the line marker (9) on the limiter support (1), fixing it through the screw (10).



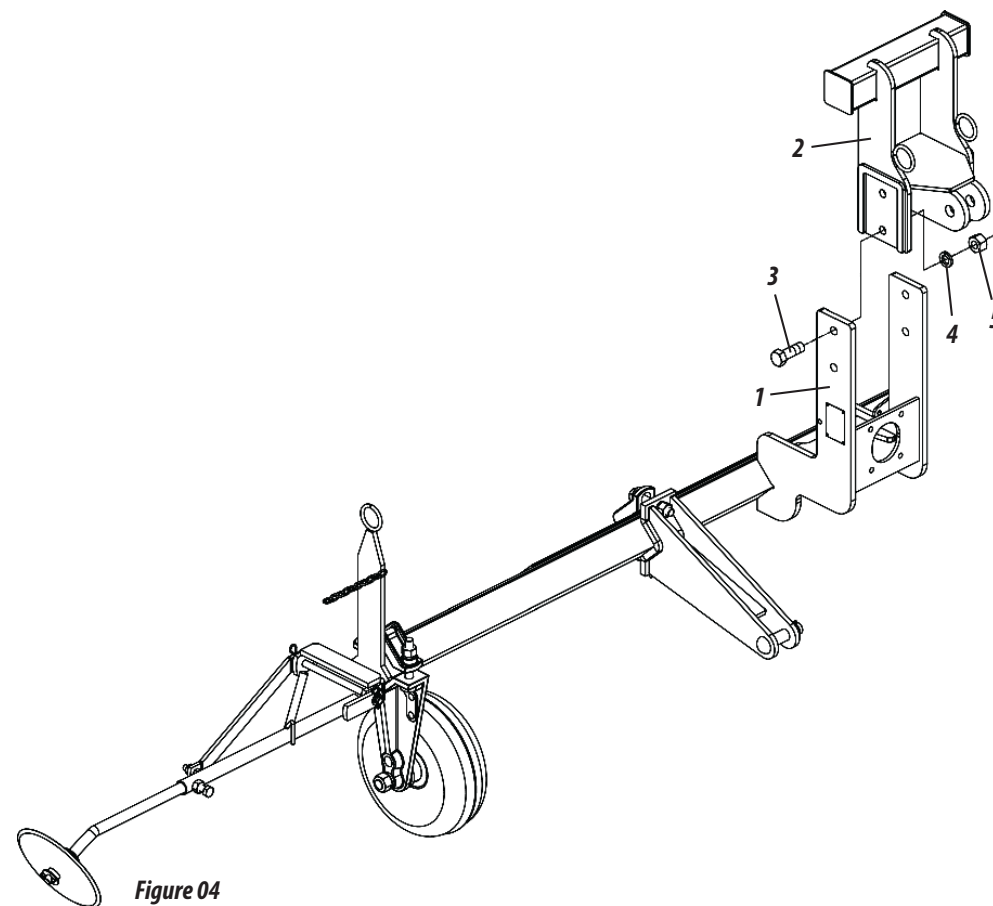
NOTE

By completing the assembly of the limiter on one side of the seed drill, perform the same procedure for assembling the other side.

ASSEMBLING THE TURBINE SUPPORT (FIGURE 04) PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

• To assemble the turbine support, proceed as follows:

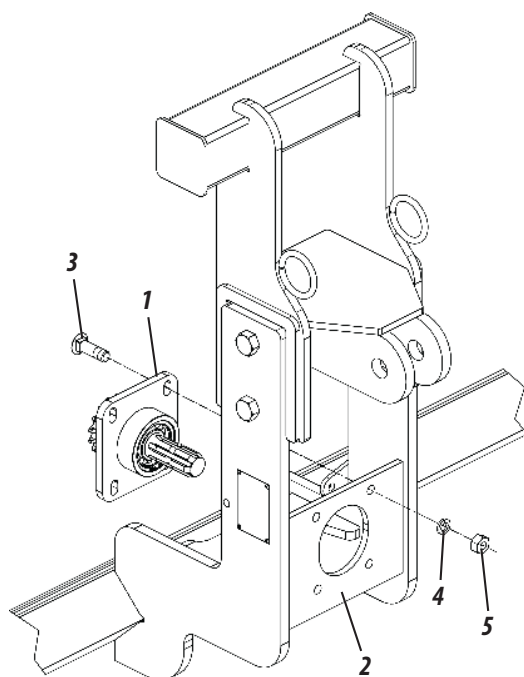
01 - Attach the turbine support (1) in the header (2), fixing it using the screws (3), washers (4) and nuts (5).



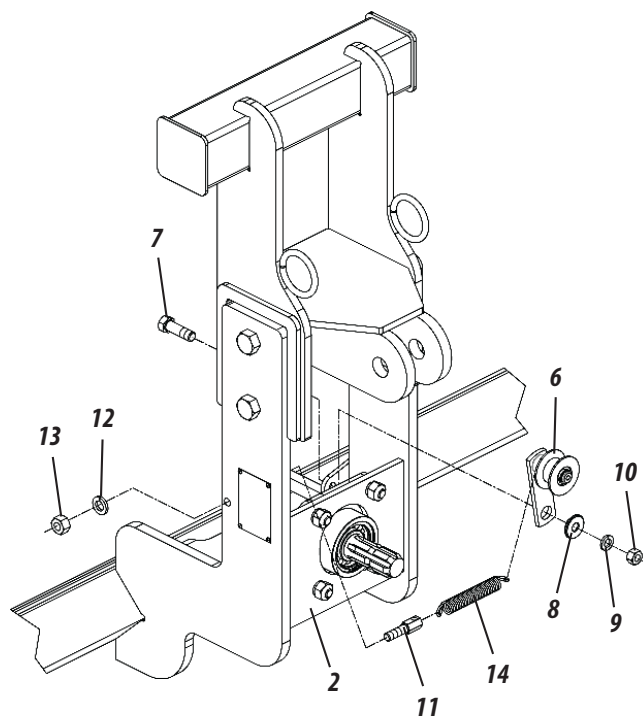
TURBINE ASSEMBLY (FIGURES 05) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

• To assemble the turbine on the PLB Directa Air models 2/3/4/5/6 lines, proceed as follows:

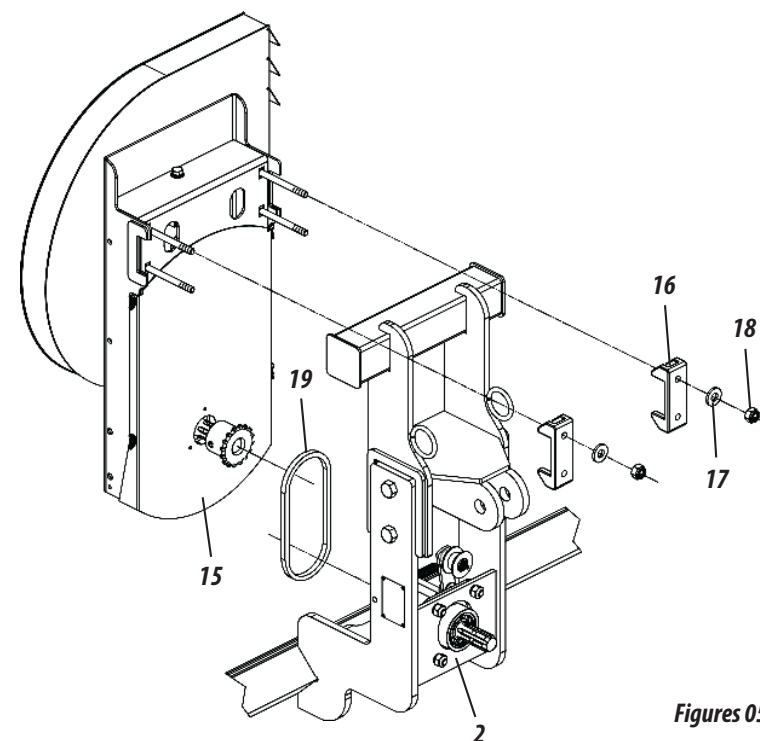
01 - Place the bearing (1) on the header (2), fixing it through screws (3), washers (4) and nuts (5).



02 - Then, attach the tensioner (6) in the header (2) through the screw (7), flat washer (8), pressure washer (9) and nut (10). Then, place the shaft (11) through the pressure washer (12) and nut (13). Finally, attach the spring (14) on the shaft (11) and tensioner (6).



03 - Finally, attach the turbine (15) in the header (2) through the clamp (16), washers (17) and nuts (18). Place the chain (19) between the gears of the turbine (15) and bearing (1).



Figures 05



ATTENTION

When performing assembly or disassembly of the seed drill, use proper tools and PPE (Personal Protective Equipment) according to the need.

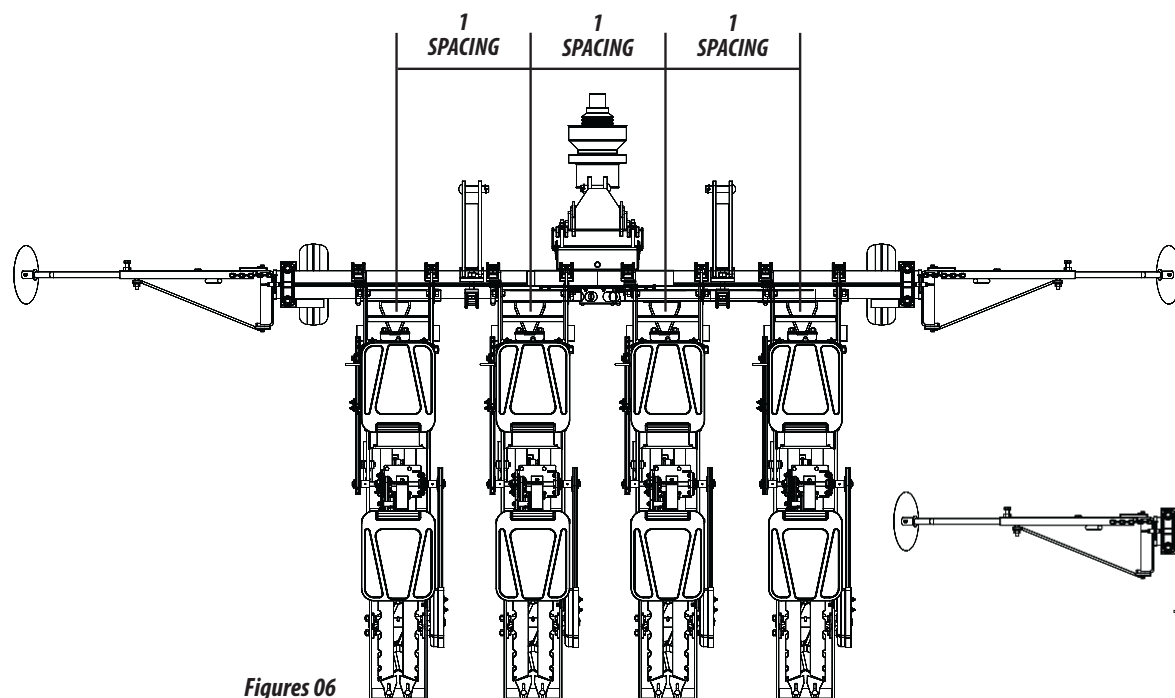
ASSEMBLY OF LINES (FIGURES 06/07)

PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

• To assemble the lines in the PLB *Directa Air* seed drill, proceed as follows:

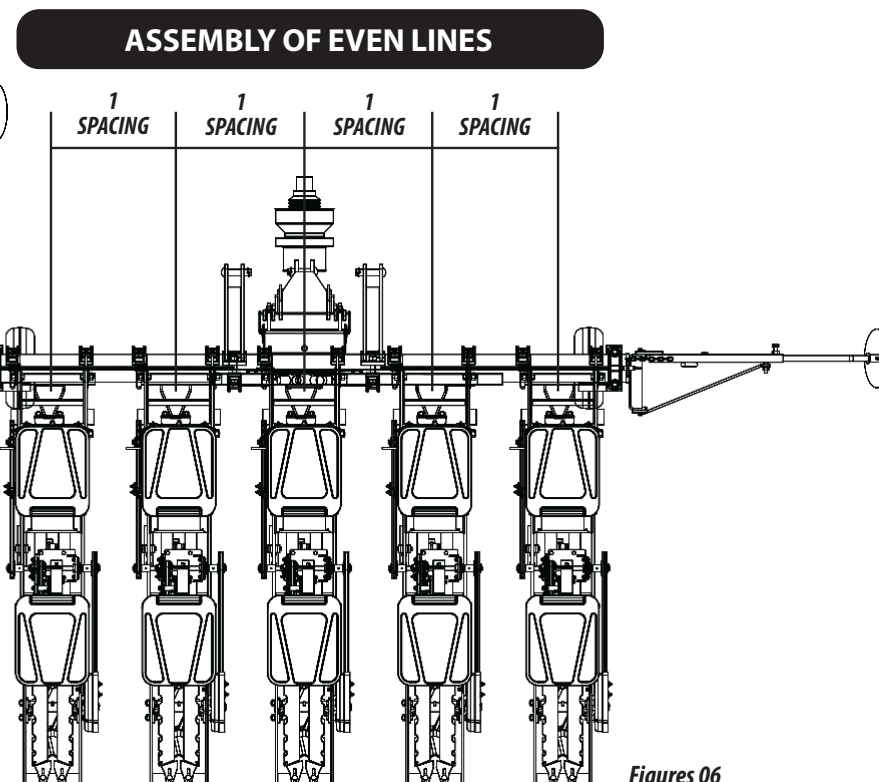
01 - Mark in the header, the place where the planting lines will be attached.

02 - For even number of lines, mark the center of the header, divide one spacing and mark 1/2 (half) spacing to the left and 1/2 (half) to the right. Attach there the first two lines, and from them set the others in the desired spacing.



Figures 06

ASSEMBLY OF ODD LINES



Figures 06

03 - Next, attach the lines (1) header (2) through the clamp (3), clamp (4), pressure washers (5) and nuts (6).

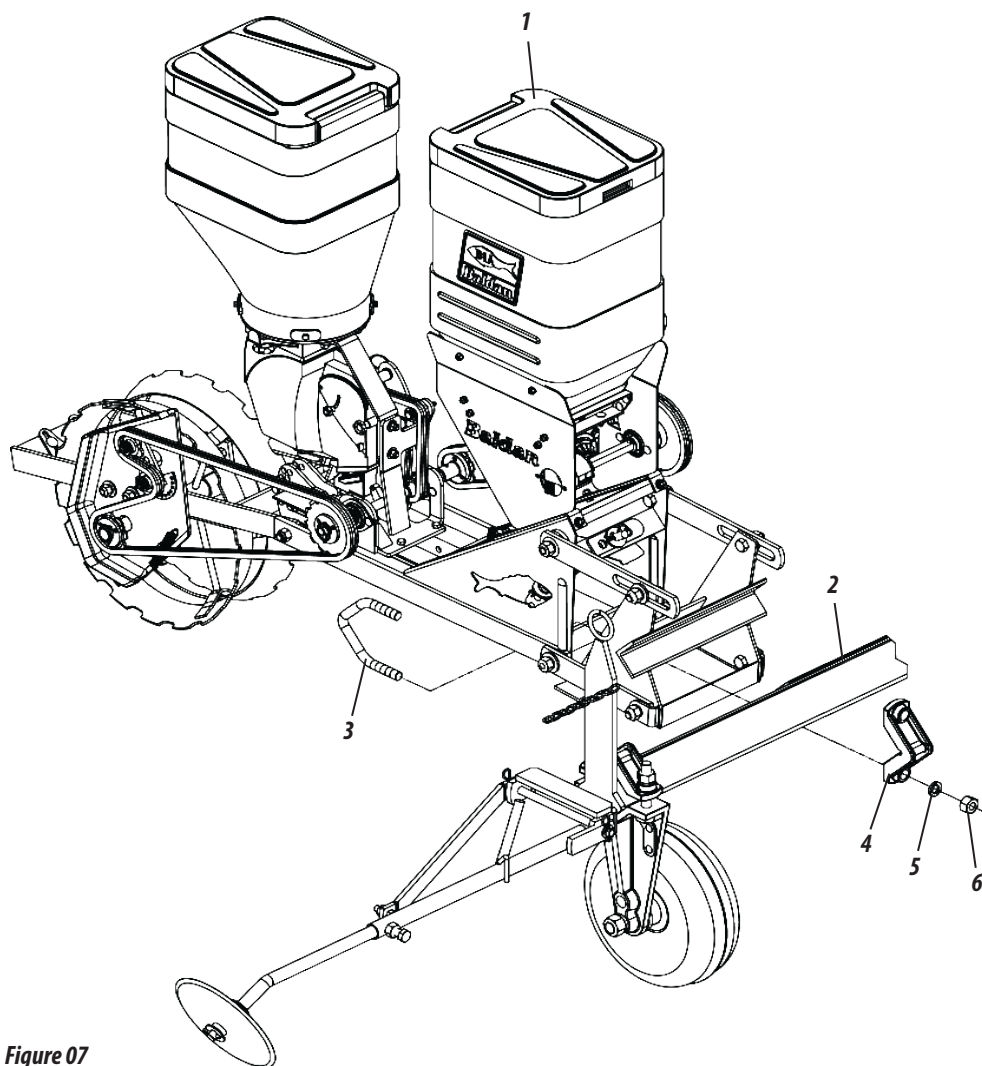


Figure 07

! ATTENTION

By completing the assembly of the first line (1), perform the same procedure for the assembly of the other lines.

ASSEMBLING THE SEED DOUBLE DISC (FIGURE 08) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

- To assemble the seed double disc (1), proceed as follows:
- 01 - Attach the seed double disc (1) on the line (2), by fixing screws (3), washers (4) and nuts (5).

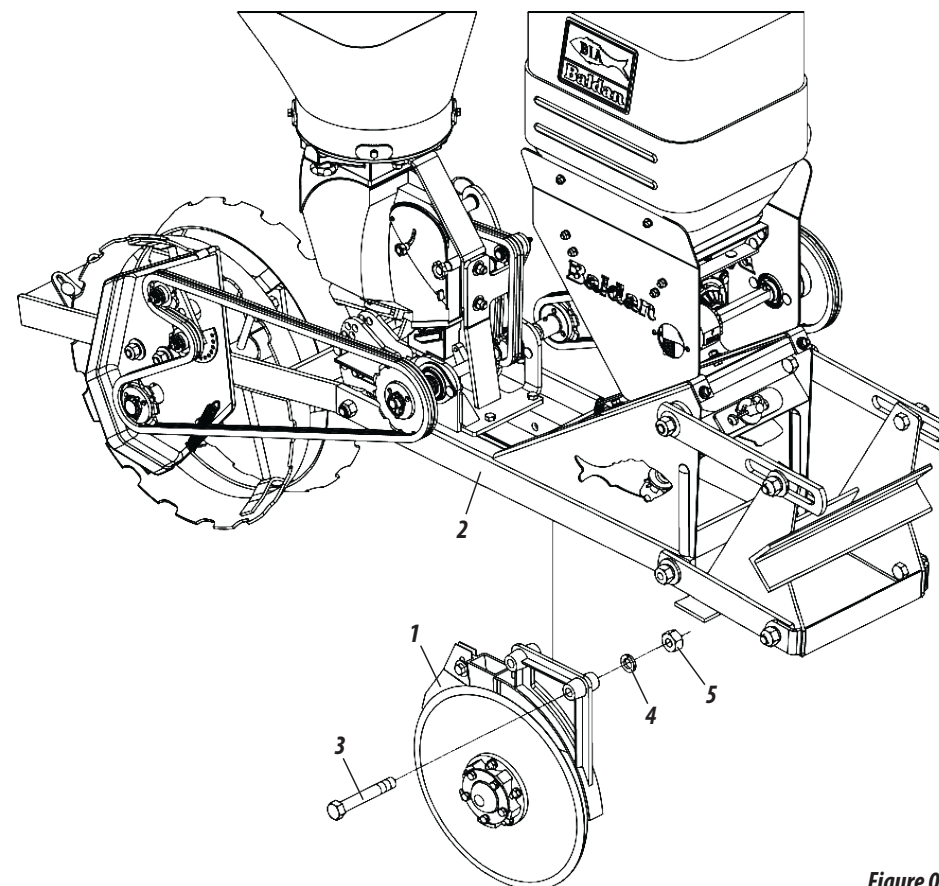


Figure 08

! ATTENTION

By completing the assembly of the seed double disc, do the same procedure for the assembly of the other lines.

ASSEMBLING THE FERTILIZER DOUBLE DISC (FIGURE 09) PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

- To assemble the fertilizer double disc (1), proceed as follows:
 - 1- Attach the fertilizer double disc (1) on the line (2), fixing through the coupling (3), the screw (4), pressure plate (5) and nut (6).
 - 2- Then, assemble the rod (7), putting the latches (8), flat washers (9), spring (10).
 - 3- Then, attach the rod (7) in the fertilizer double disc (1) through the screw (11) and cotter pin (12).

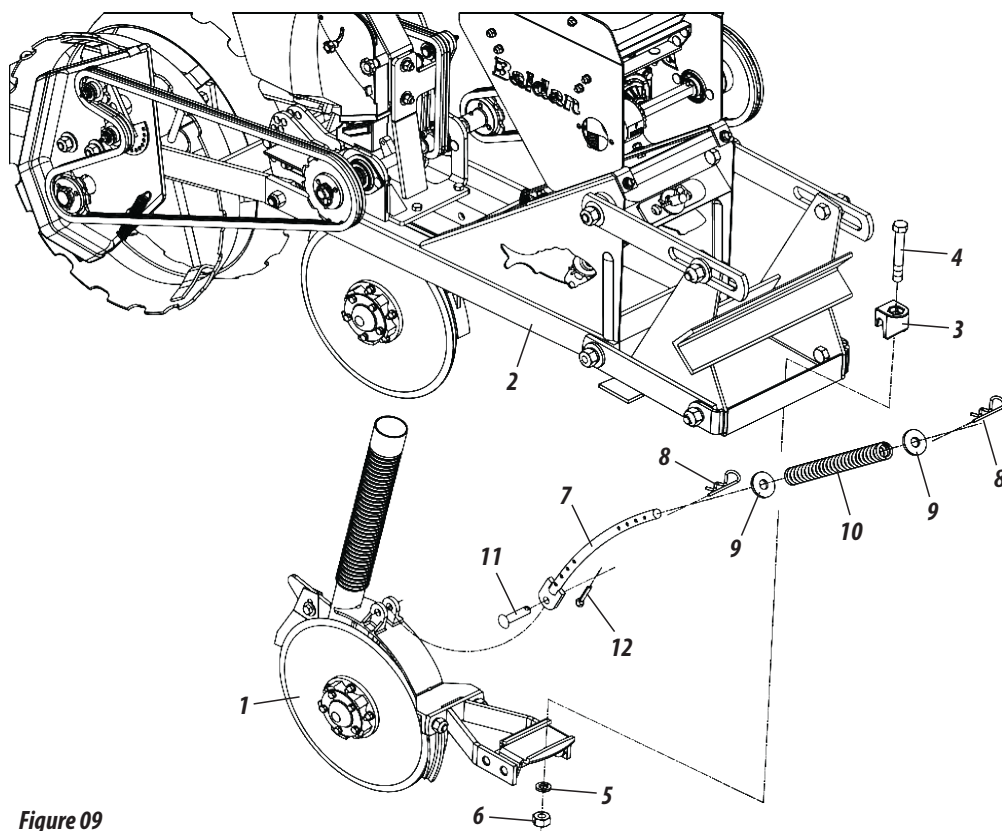


Figure 09

ASSEMBLING THE COVERAGE DISC (FIGURE 10) PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

- To assemble the coverage disc (1) on the line (2), proceed as follows:
 - 01 - Put the coverage disc (1) on the plate (3) fixing it through the screws (4), flat washers (5), washers (6) and nuts (7).

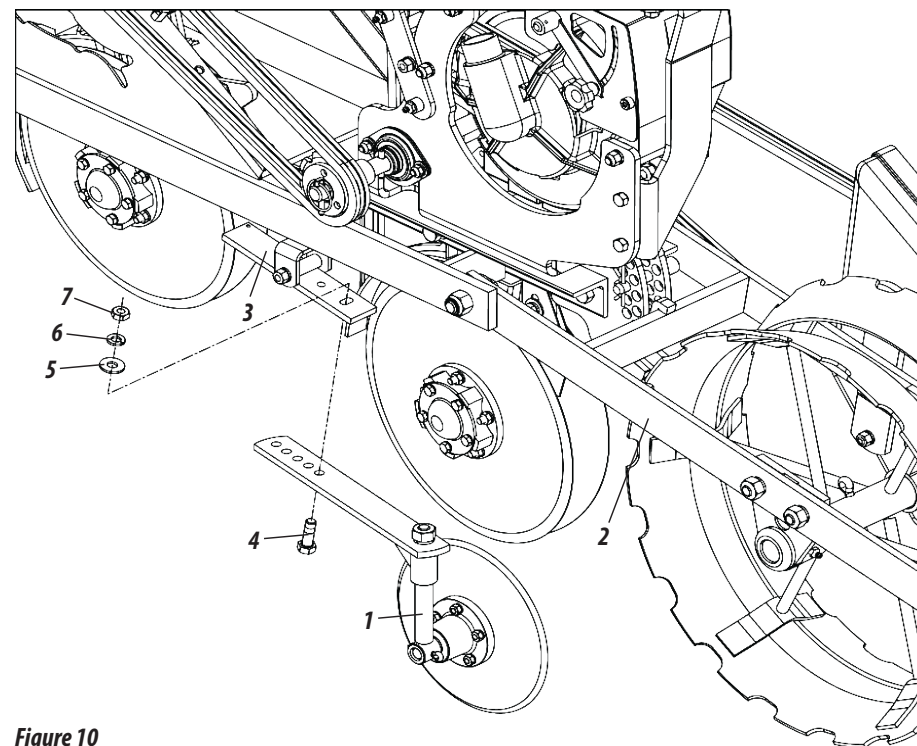


Figure 10

⚠ ATTENTION

By completing the assembly of the double disc and coverage disc, do the same procedure for the assembly of the other lines.

ASSEMBLING THE CUTTING DISC - OPTIONAL (FIGURE 11)

PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

- The PLB Directa Air was developed for conventional tillage, but it also works in no-tillage system. To assemble the cutting disc (1) for no-tillage, proceed as follows:

01 - Attach the cutting disc (1) in the header (2), fixing it through the clamp Figure 12 (3), screws (4), washers (5) and nuts (6).

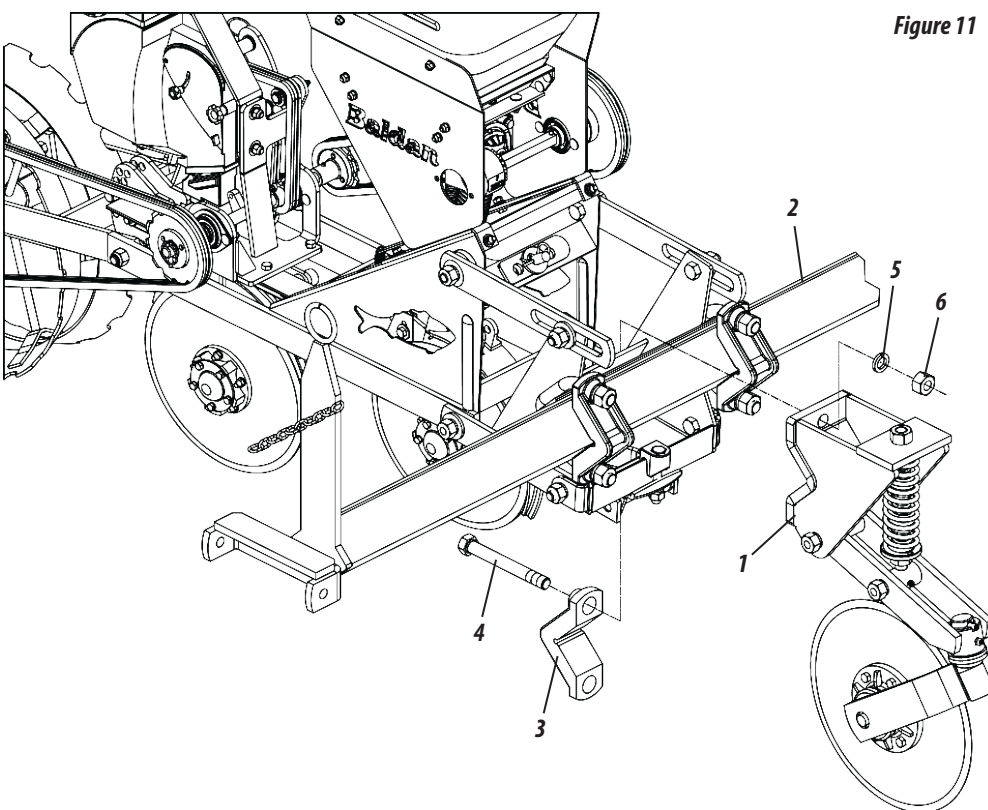


Figure 11



ATTENTION

By completing the assembly of the cutting disc (1), perform the same procedure for the assembly of the other lines.

ASSEMBLING THE FURROWER - OPTIONAL (FIGURE 12)

PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

- To assemble the furrow (1), proceed as follows:
- 01** - Attach the furrower (1) on the line (2), fixing it through the coupling (3), screw (4), pressure washer (5) and nut (6).

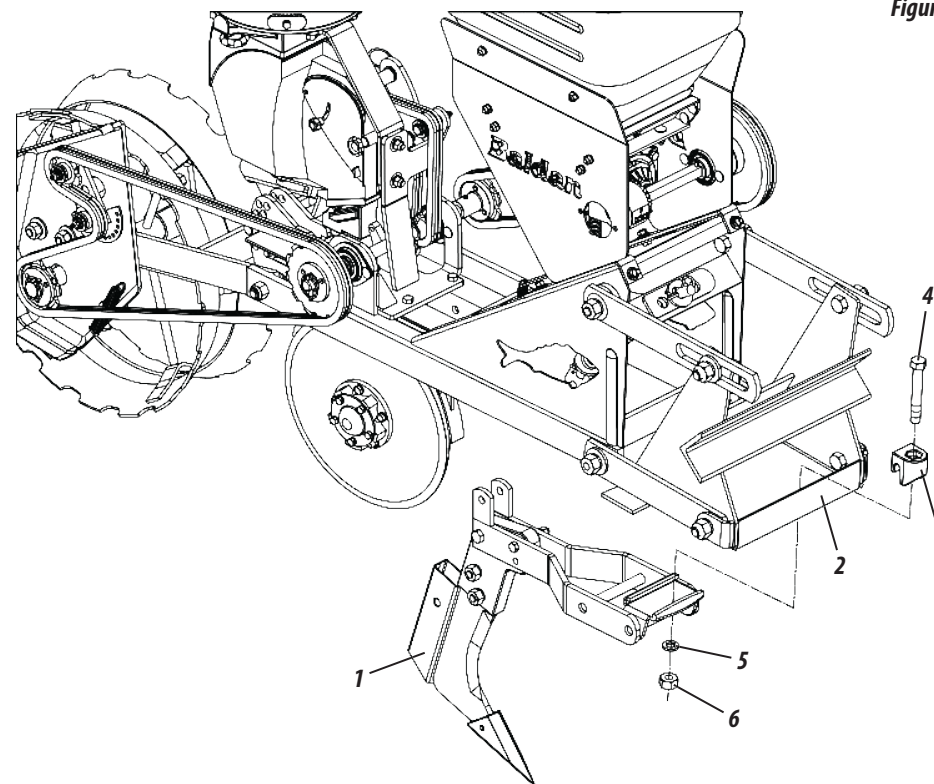


Figure 12



ATTENTION

By completing the assembly of the furrower (1), perform the same procedure for the assembly of the other lines.

ASSEMBLING THE FURROWER FOR CORN PLANTING - OPTIONAL PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

- To assemble the furrower for corn planting (1), proceed as follows:
- 01 - Attach the furrower for corn planting (1) on the line (2) by fixing it with the coupling (3), screw (4), pressure washer (5) and nut (6).

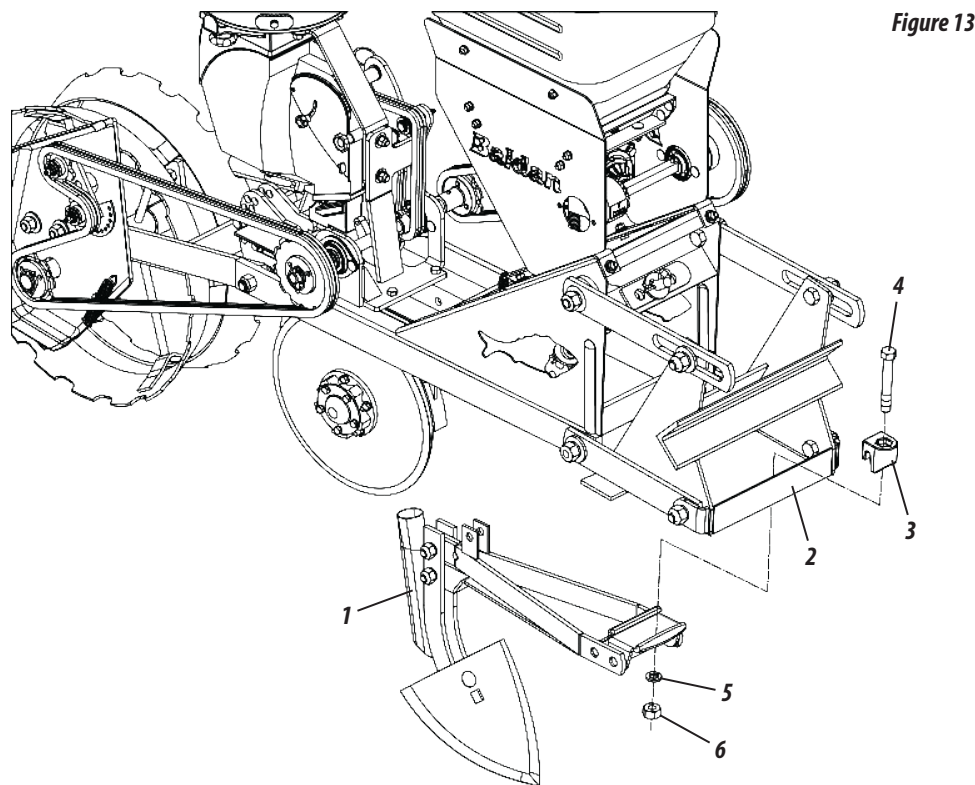


Figure 13

⚠ ATTENTION

By completing the assembly of the furrower for corn planting (1), perform the same procedure for the assembly of the other lines.

ASSEMBLING THE MARKER NOZZLE FOR DEEP FERTILIZATION - OPTIONAL (FIGURE 14) PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

- To mount the marker nozzle (1), proceed as follows:
- 01 - Attach the furrower for corn planting (1) on the line (2) by fixing it with the coupling (3), screw (4), pressure washer (5) and nut (6).

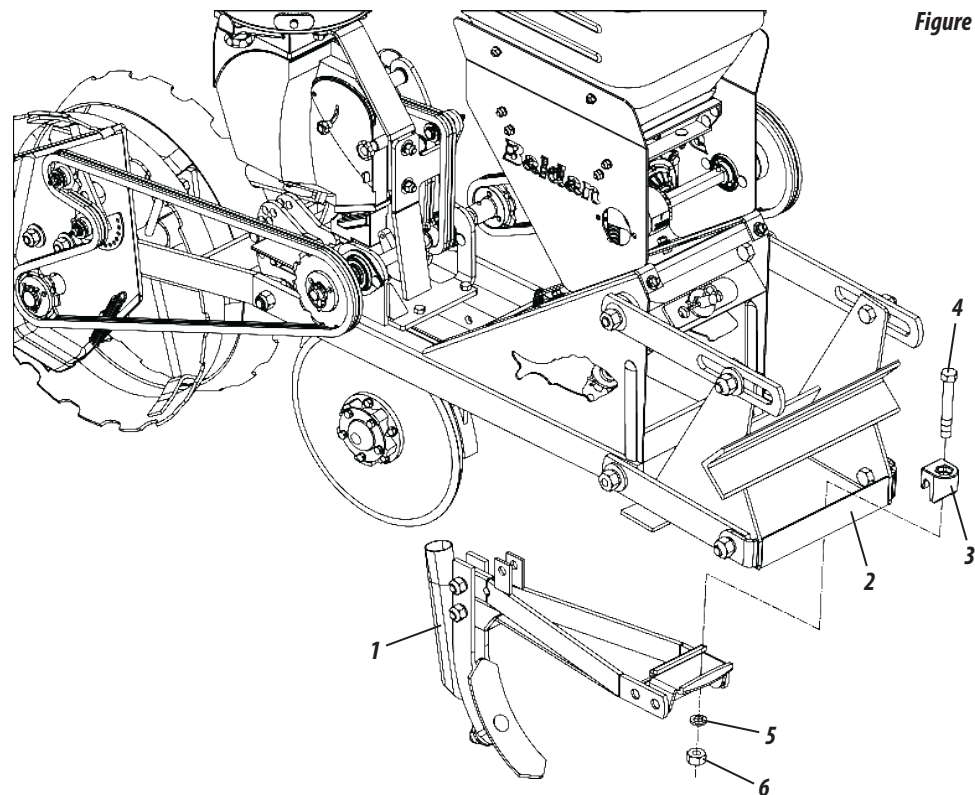


Figure 14

⚠ ATTENTION

By completing the assembly of the marker nozzle (1), perform the same procedure for the assembly of the other lines.

05. COUPLING**TRACTOR COUPLING (FIGURE 15)****PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES**

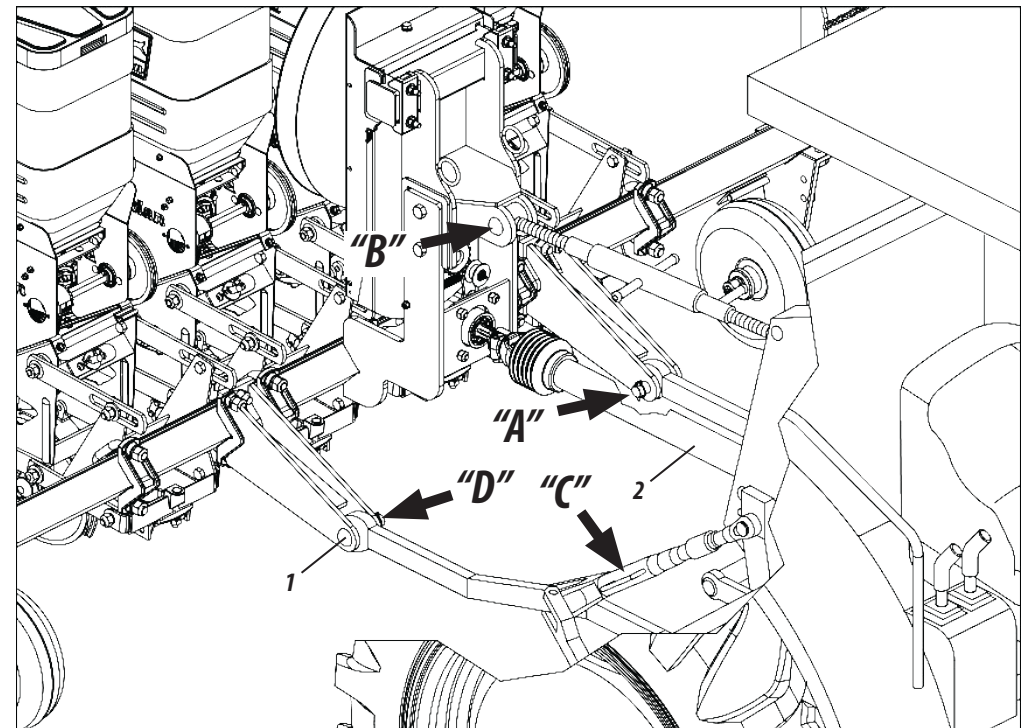
- Before attaching the seeder to the tractor, make sure it is ready for work, observing the following items:
 - 01** - Before coupling the seed drill in the tractor, make sure the tractor is equipped with a set of weights or ballast in the front or front wheels not to lift. The rear wheels give more stability to the tractor and traction in the soil.
 - 02** - Adjust the eye of the tractor's lower arms.
- To attach the seed drill, proceed as follows:
 - 03** - Bring slowly the tractor near the seed drill in reverse, being aware for the application of the brakes. Use the lever of the hydraulic position control when approaching the seed drill, leaving the lower left arm at the level of seeder coupling.
 - 04** - Engage the tractor's lower left arm through the hitch pin (1) in support "A" of the seed drill.
 - 05** - Engage the tractor's 3rd point on support in "B" of the seed drill.
 - 06** - Finally, with the aid of the lever "C", hitch the tractor's lower right arm on support "D" of the seed drill.

ⓘ IMPORTANT

To couple the seed drill, find a safe place and easily accessible, always use low gear with low throttle and make sure that no one is near the area of equipment movement.

ⓘ NOTE

Before connecting the propeller shaft (2), 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 19 and 20.

Figure 15

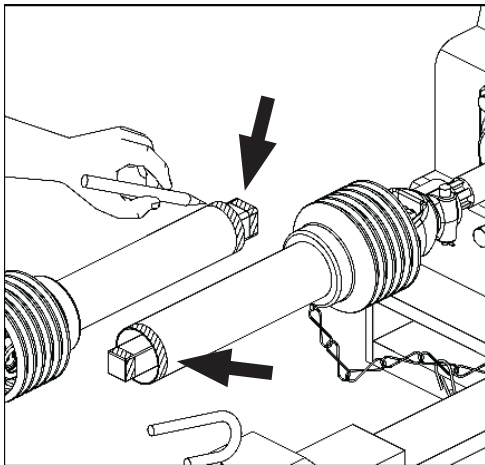
SHAFT CUT - (FIGURES 16)

PLB *Directa Air* 2/3/4/5/6 LINES

⚠ ATTENTION

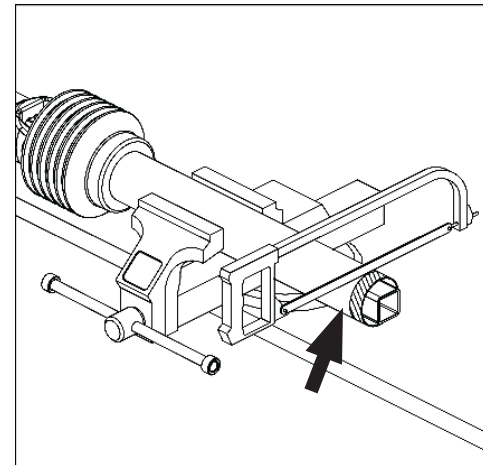
Before making the cut in the propeller shaft, check the adjustment of the tractor drawbar, which could increase or decrease in length, thus avoiding the shaft cut.

To make the shaft cut, proceed as follows:



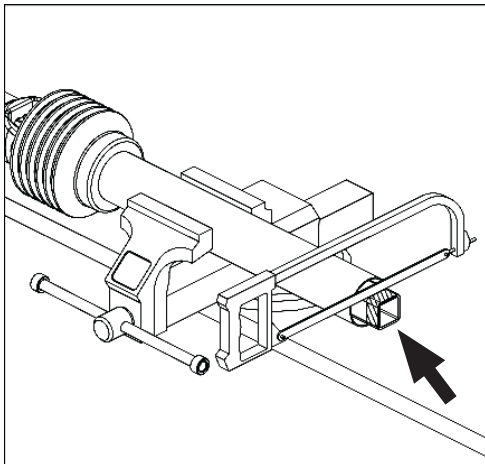
1st Step

Attach the halves of the propeller shaft next to one another in the working position and make the marking of the piece to be cut.



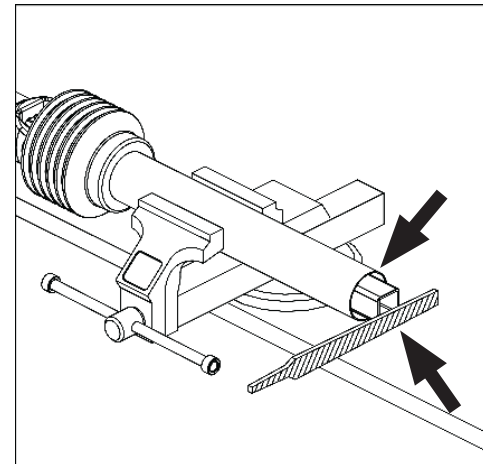
2nd Step

Lower the inner and outer protective conductors of the shaft proportionally.



3rd Step

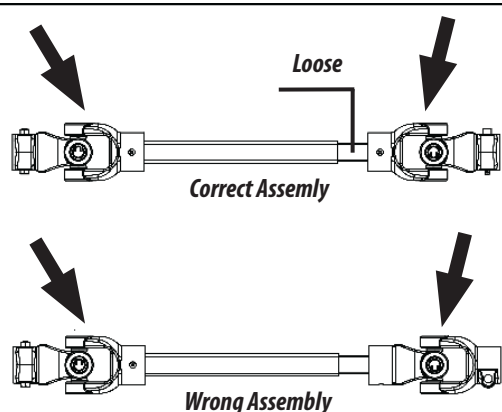
Cut the inner bars of the shaft in the same length of protector pipes.



4th Step

Remove all burrs and tips. Clean and grease the shaft sliding bars.

Figures 16

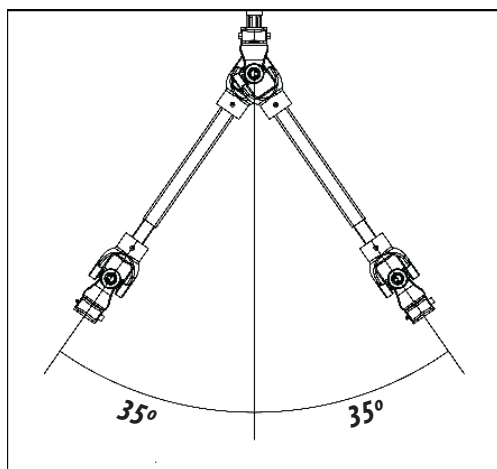


5th Step

In the assembly, note that the internal and external terminals are always in the same plane, aligned. Also check the clearance in the telescopic shaft, which should be from 5 to 7 cm.

⚠ ATTENTION

Incorrect assembly causes excessive vibration, damaging the transmission.



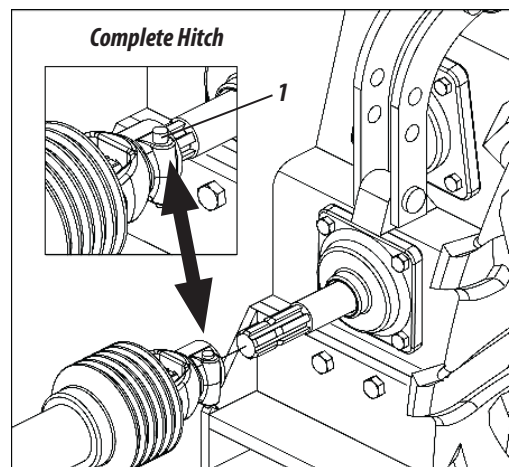
7th Step



The working angle must not exceed 30 degrees.

⚠ ATTENTION

In maneuvers in which the angles of the joints are greater than 30 degrees, turn off the power take off (PTO).

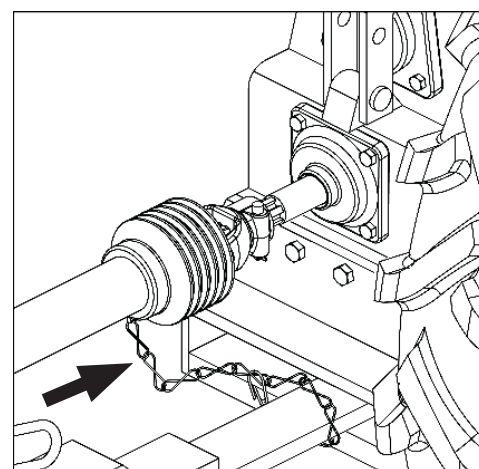


6th Step

Attach the flange on the shaft of the tractor PTO noting that the hitch will only be completed when the latch (1) loosens.

⚠ ATTENTION

When attaching the shaft on the tractor PTO, it should be with the engine turned off and parking brake applied.



8th Step

Do not engage the chains when they are stretched. Keep a clearance in installation and consider angular movements.

⚠ ATTENTION

Every time you change the tractor, re-check the shaft length.

Figures 16

CENTERING THE SEED DRILL (FIGURE 17) PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

- To center the seed drill in relation to the longitudinal axis of the tractor, proceed as follows:
- 01 - Align the top hitch of the seed drill with the 3rd point of the tractor, checking if the distance "E" of the lower arms are equal in relation to tractor tires. The lower arms must be leveled with each other.

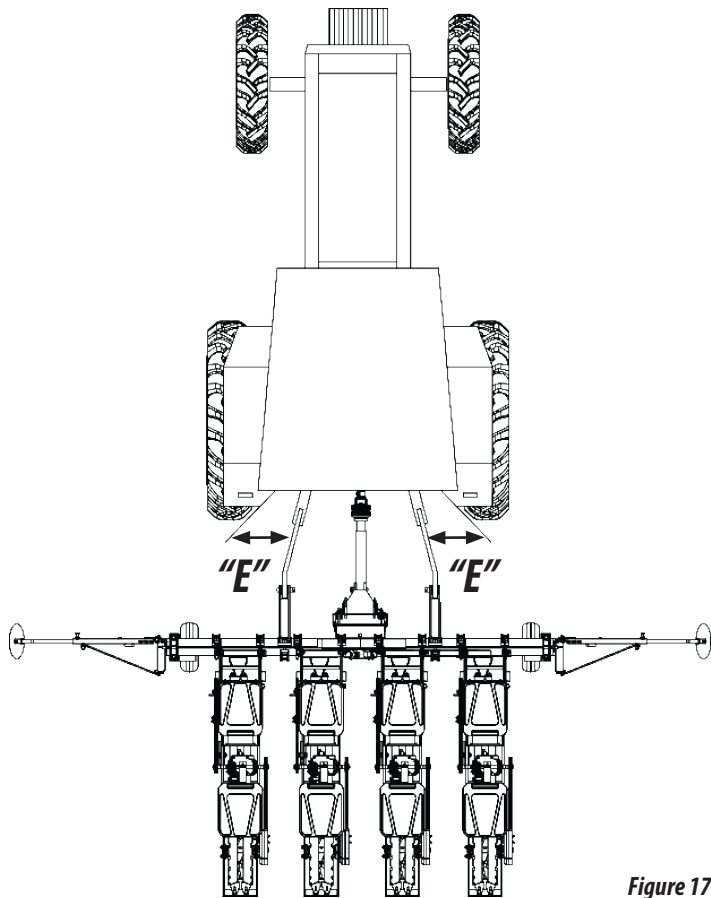
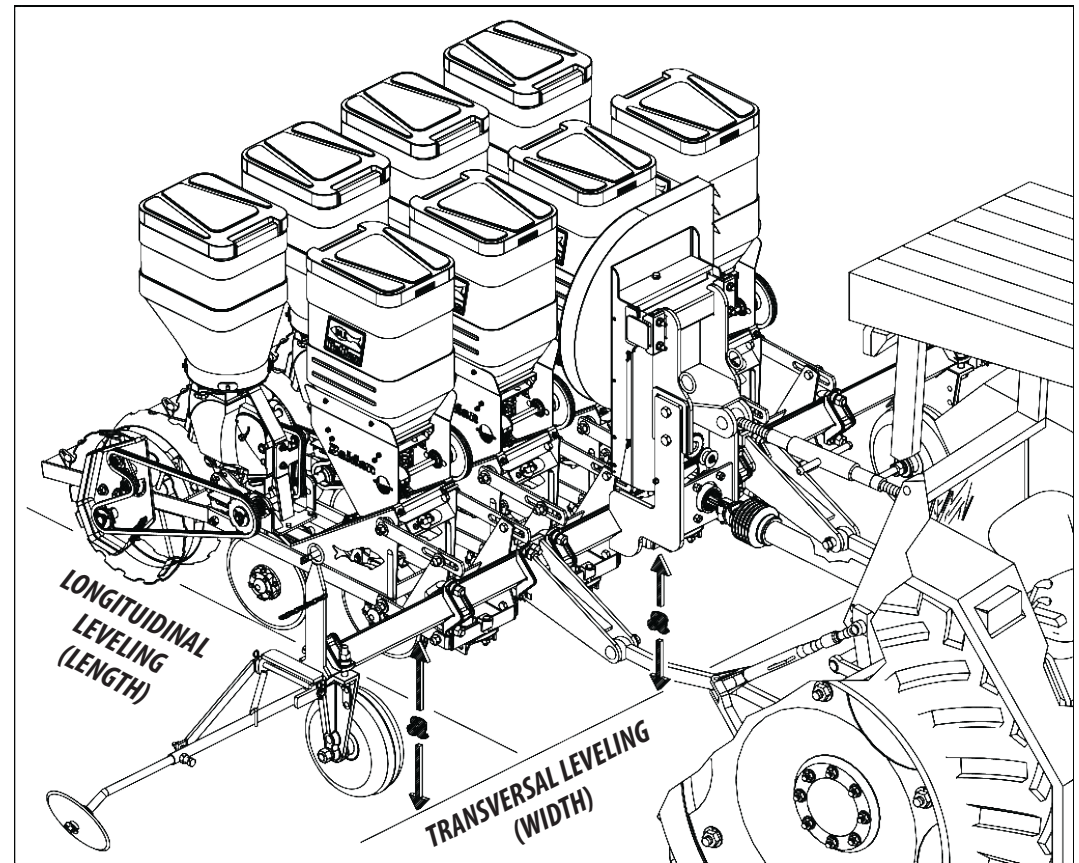


Figure 17

LEVELING THE SEED DRILL (FIGURE 18) PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

- To level the seed drill, proceed as follows:
- 01 - The tractor must be on level ground, then level the seed drill in the transversal direction (width) through the crank of the lower right arm of the hydraulic coupling. Observe that "a" measures must be equal.
 - 02 - The longitudinal leveling (length) is done through the arm of the 3rd point. Note that the lines should be parallel to the ground

Figure 18



TABLES OF SPACING IN MM (TABLES 02)

PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

Header 1800	
Lines	Spacing
4	450
3	500
3	550
3	600
3	650
3	700
2	750
2	800
2	850
2	900
2	950
2	1000

Header 2300	
Lines	Spacing
5	450
4	500
4	550
4	600
3	650
3	700
3	750
3	800
3	850
3	900
3	950
2	1000

Header 2800	
Lines	Spacing
6	450
5	500
5	550
5	600
4	650
4	700
4	750
4	800
3	850
3	900
3	950
3	1000

Header 3300	
Lines	Spacing
6	450
6	500
6	550
5	600
5	650
5	700
4	750
4	800
4	850
4	900
4	950
3	1000

Header 3800	
Lines	Spacing
6	450
6	500
6	550
6	600
6	650
5	700
5	750
5	800
5	850
4	900
4	950
4	1000

Header 4400	
Lines	Spacing
6	450
6	500
6	550
6	600
6	650
6	700
6	750
6	800
5	850
5	900
5	950
5	1000

Tables 02

ADJUSTING THE LINE MARKERS (FIGURE 19)

PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

- 01 - 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:
- 02 - 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 planting with PLB with header 2300 05 lines, spaced 0.45 mts and tractor's front gauge with 1.43 mts, determine:

Formula:

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

Solve:

$$D = \frac{0,45 \times 5 - 1,43}{2} \quad D = 0,41 \text{ meters}$$

Where:

E = Spacing (mts)
 N = Number of lines
 B = Tractor's front gauge
 D = Distance from Marker

- 03 - Adjust the line marker disc with 0.41 m up to the center of the first planting line.
- 04 - 3 - 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.

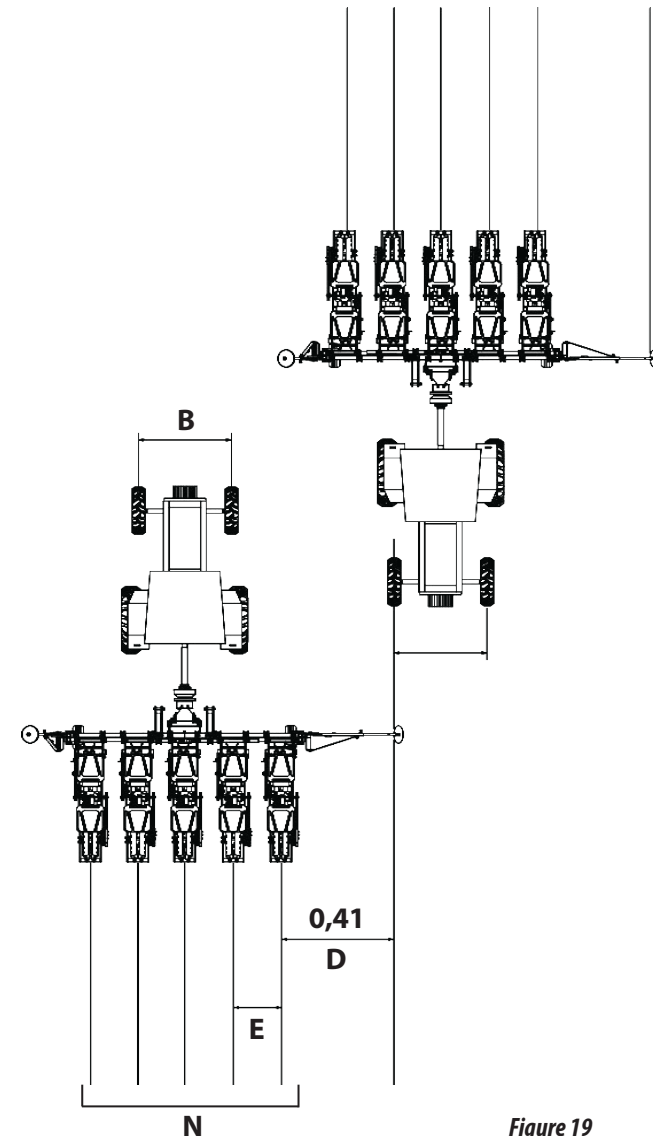
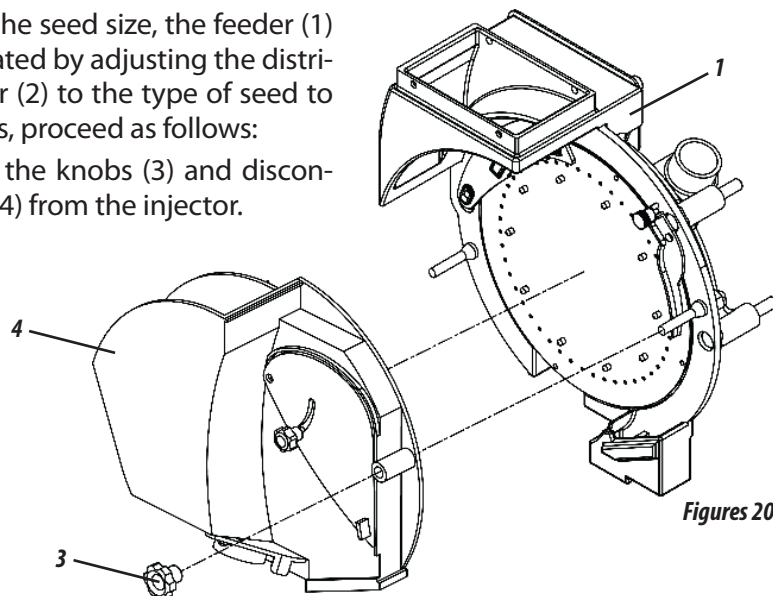


Figure 19

ADJUSTING THE DISTRIBUTION SELECTOR (FIGURES 20 / TABLE 03) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

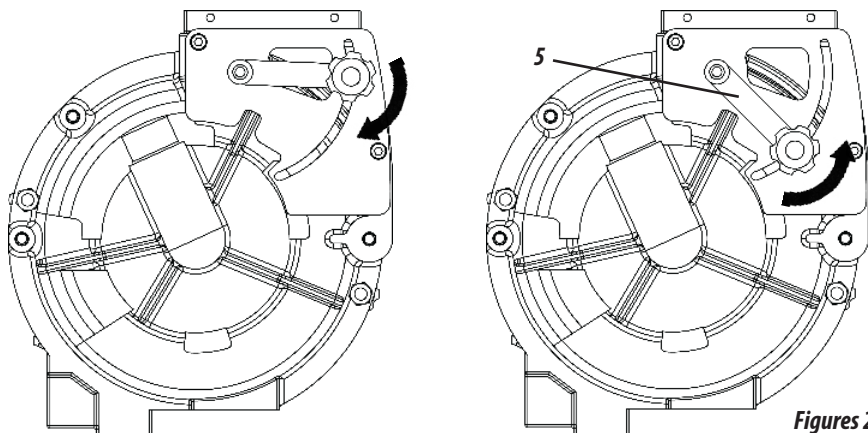
- According to the seed size, the feeder (1) must be regulated by adjusting the distribution selector (2) to the type of seed to be used for this, proceed as follows:

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



Figures 20

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



Figures 20

⚠ 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.

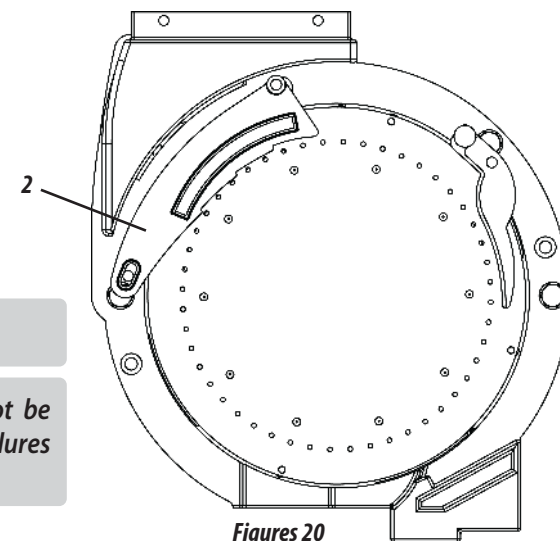
📌 NOTE

- 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.

03 - The working speed varies according to the type of crop, as shown in table 03.

Table 03

Type of Culture	Speed
Corn / Sunflower	5 a 6 km/h
Beans / Lint-free Cotton / Sorghum / Peas	6 km/h
Soybeans	7 km/h



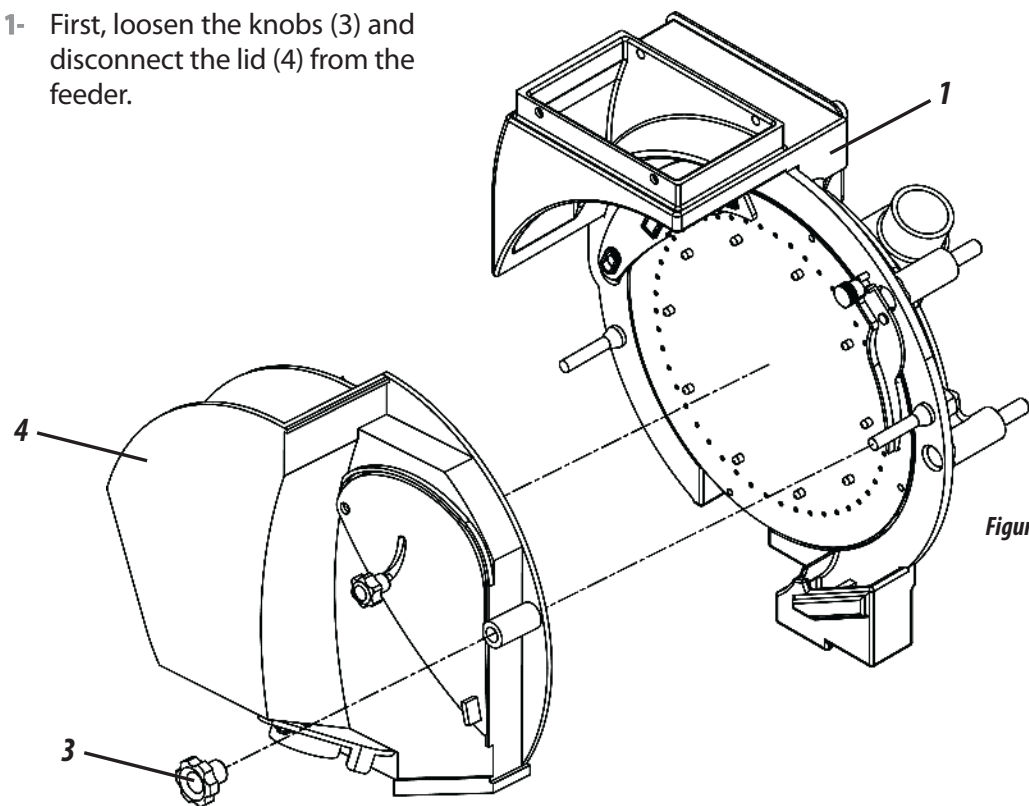
Figures 20

ADJUSTING THE LOWER SELECTOR (FIGURES 21)

PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

- 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:

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

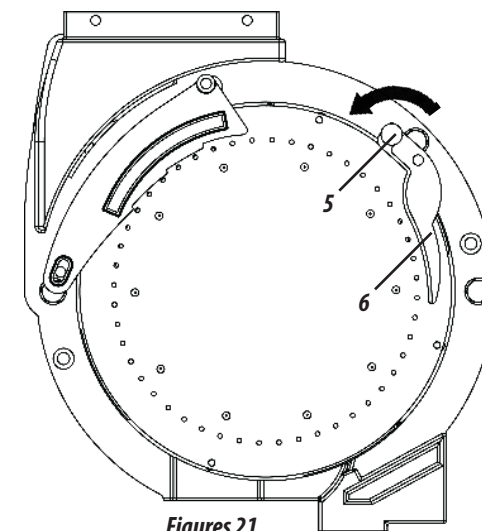


Figures 21

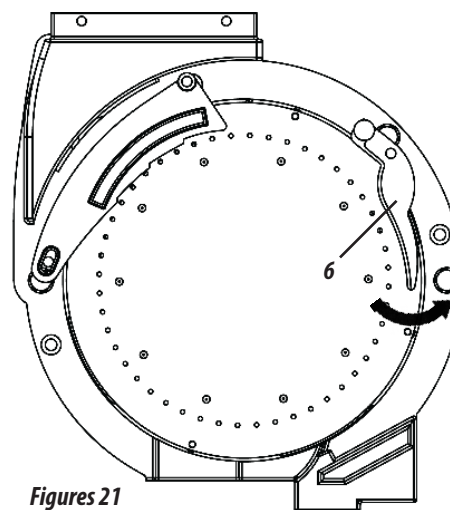
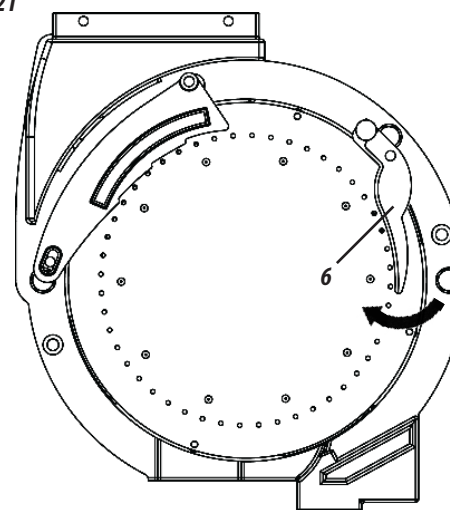
- 2- Then, turn the knob (5) in counter-clockwise direction to loosen the lower selector (6).

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

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



Figures 21



Figures 21

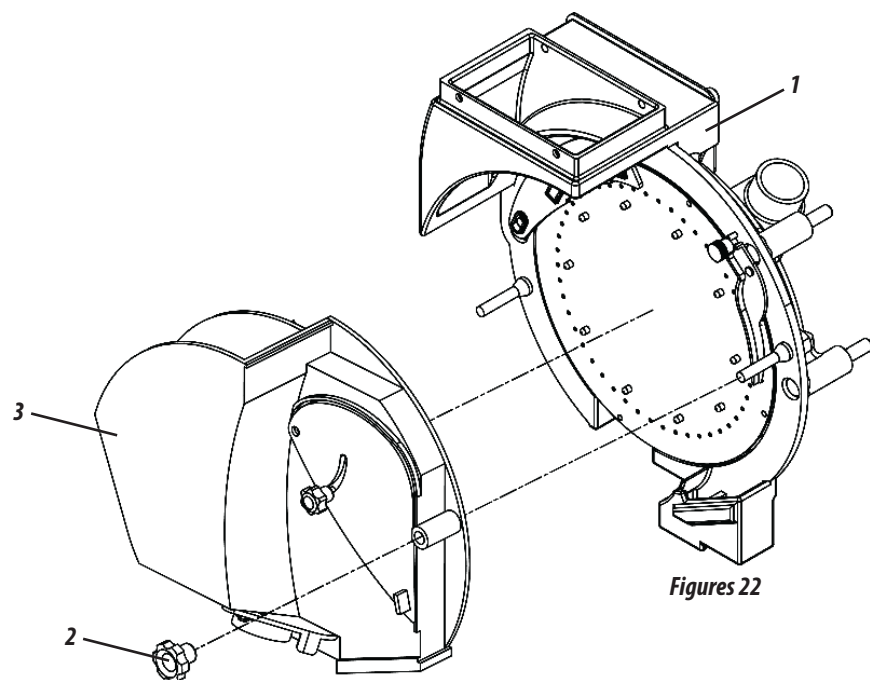
⚠ ATTENTION

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 (FIGURES 22) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

• 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:

1- First, loosen the knobs (2) and disconnect the lid (3) from the feeder.



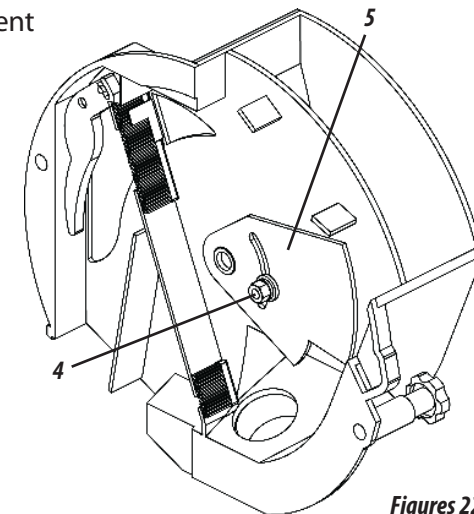
Figures 22

⚠ 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.

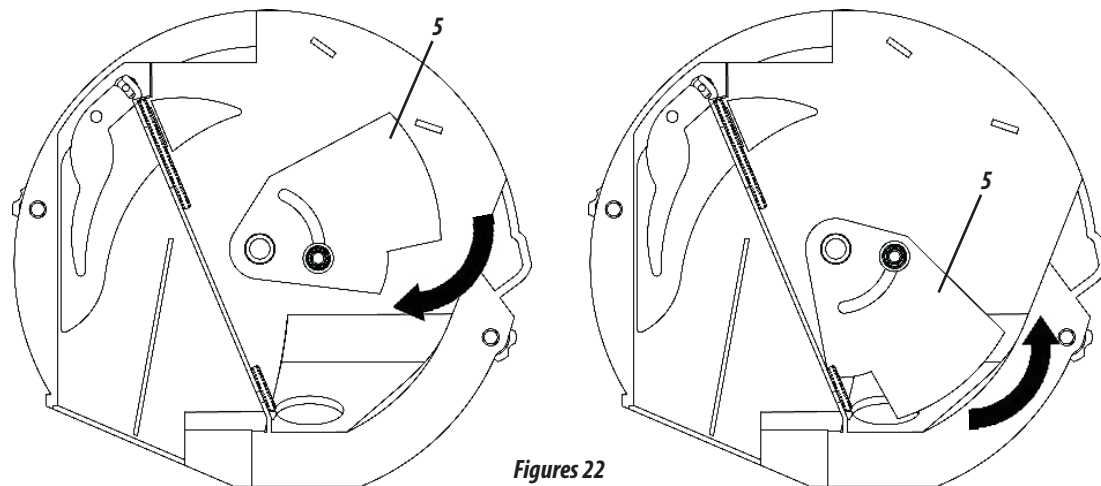
2- Then, loosen the nut (4) to make the adjustment of the plate (5).



Figures 22

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

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



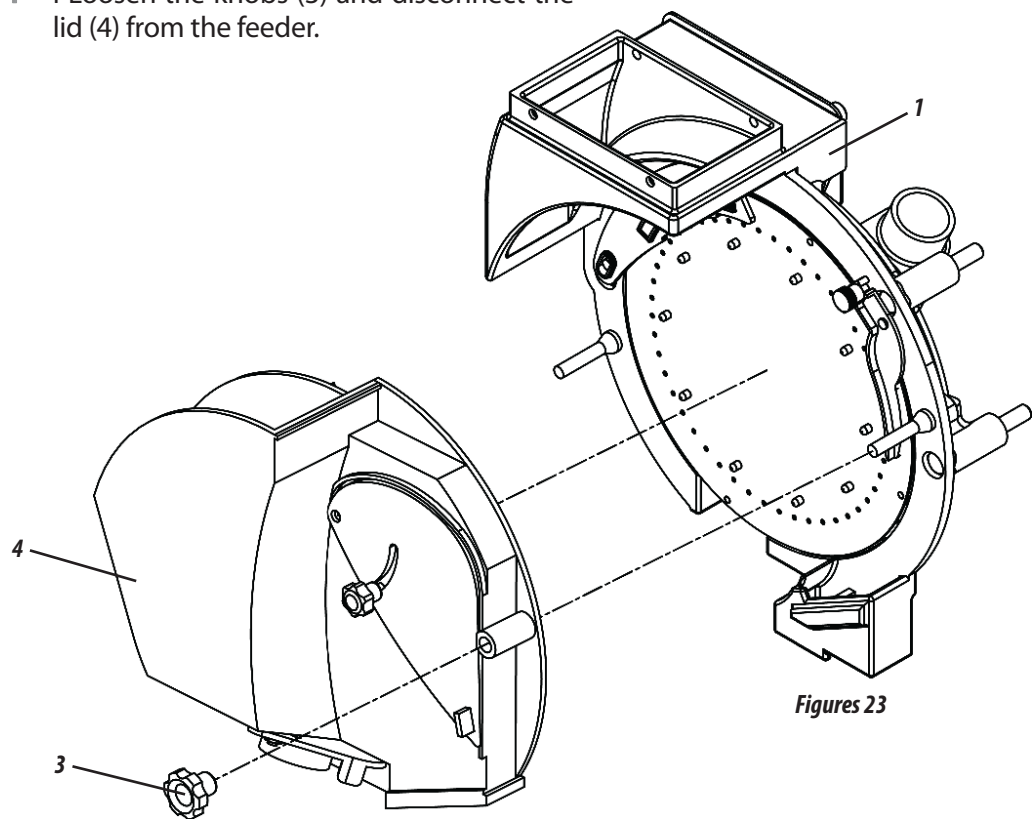
Figures 22

ADJUSTMENT OF CLEANING BRUSHES (FIGURES 23)

PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

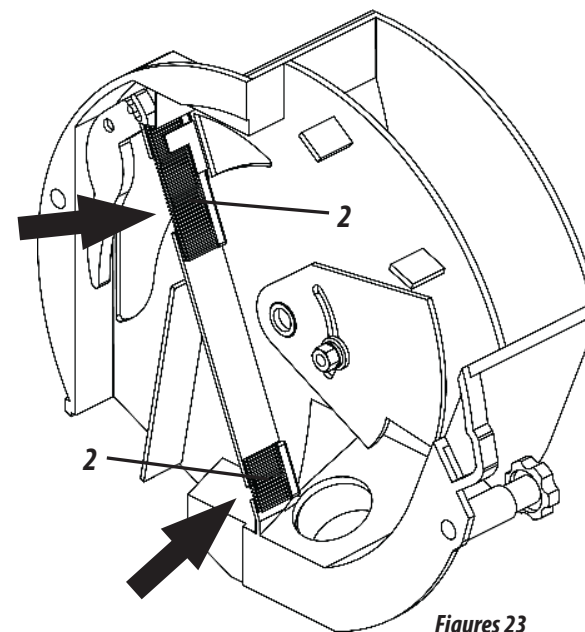
- The feeder (1) has cleaning brushes (2), which have the function of cleaning the disc, avoiding obstruction due to the presence of husks of seeds. Over time, check them for the presence of wear, and if necessary, replace them. To replace the cleaning brushes (2), proceed as follows:

- 1- PLoosen the knobs (3) and disconnect the lid (4) from the feeder.



Figures 23

- 2- Then, detach the cleaning brushes (2) and replace them.
- 3- At the end of the replacement, re-assemble the feeder (1).



Figures 23

 **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.

VACUUM METER (FIGURE 24) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

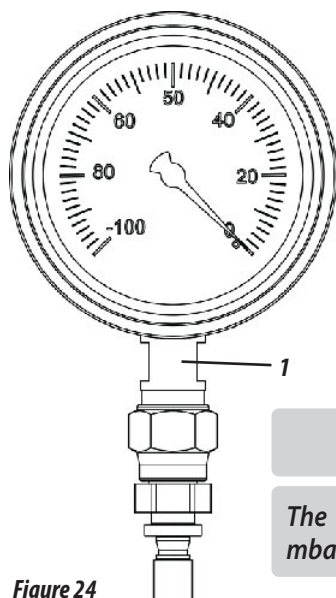


Figure 24

01 - The PLB Directa Air seed drill has vacuum meter (1) used for measuring the vacuum level in the lines. To check the level of vacuum generated, proceed as guidelines on page 53.

⚠ ATTENTION

The turbine pressure is 80 mbar, ranging from 50 to 80 mbar and air drop, according to the number of lines.

VIEWING OF SEEDS (FIGURE 25) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

01 - 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.

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

👁 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 scratching.

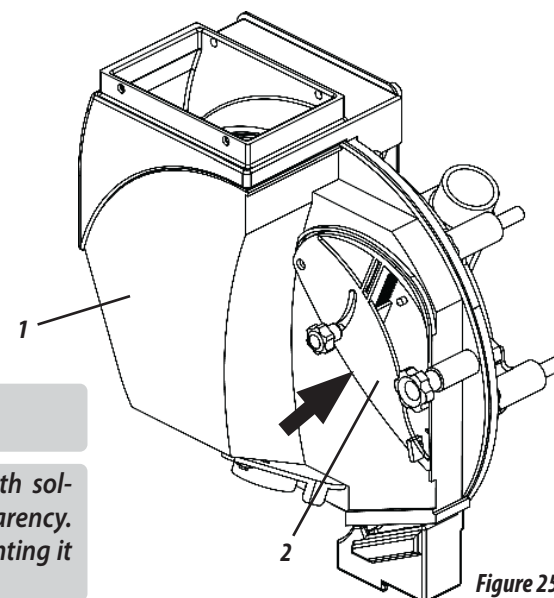


Figure 25

TURBINE (FIGURE 26) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

• The turbine (1) is composed of several air outlets which are used according to the number of lines. When working with fewer lines than the number of outlets, cover the outlets that will not be used, for this, proceed as follows:

01 - Connect the plug (2) in the outlet (3) that will not be used, locking with the clamp (4).

⚠ ATTENTION

Do not operate the turbine (3) outlets (1) open, as this may cause accidents or damage to equipment.

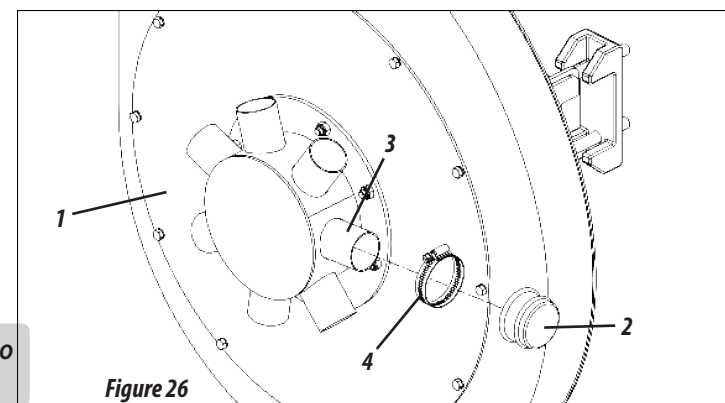


Figure 26

SEED DISTRIBUTORS DISCS (FIGURES 27 / TABLE 04)

PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

- The PLB *Directa Air* seed drill leaves the factory with 5 different standard discs, they are:

Figures 27

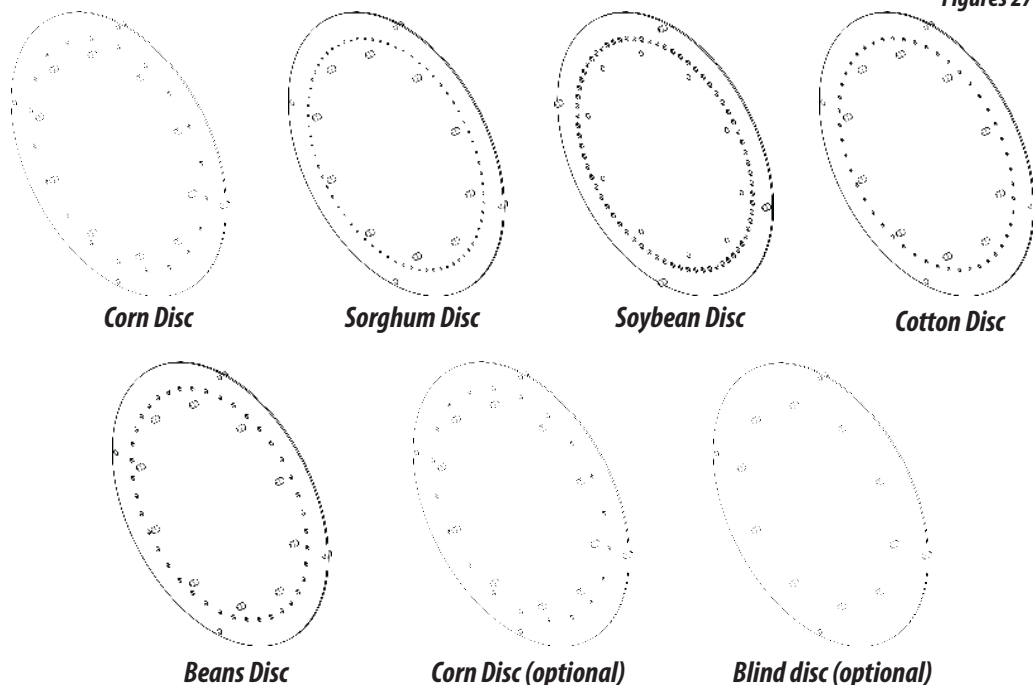


Table 04

Code	Type Culture	Number of Holes in the Discs	Diameter of holes (mm)
6020071463-9	Corn	30	4,5
6020071464-7	Sorghum	70	2,0
6020071465-5	Soybean	70	4,25
6020071495-5	Cotton	48	3,0
6020071498-1	Beans	40	4,0
6020071494-9	Corn (Optional)	20	4,0
6020071821-9	Blind (Optional)	-	-

SEED DISTRIBUTION TABLE (TABLE 05)

PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

- 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.

20-HOLE DISC

Motor	Moved	Disc	Amount of seed
8	21	20	2,2
8	19	20	2,4
8	17	20	2,7
8	15	20	3,1
8	13	20	3,6
8	12	20	3,9
8	11	20	4,2
8	10	20	4,6
8	9	20	5,2
8	8	20	5,8
9	8	20	6,5
10	8	20	7,2
11	8	20	8
12	8	20	8,7
13	8	20	9,4
15	8	20	10,9

Table 05

SEED DISTRIBUTION TABLE (TABLES 06/07) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

30-HOLE DISC

Motor	Moved	Disc	Amount of seed
8	21	30	3,3
8	19	30	3,7
8	17	30	4,1
8	15	30	4,6
8	13	30	5,3
8	12	30	5,8
8	11	30	6,3
8	10	30	7
8	9	30	7,7
8	8	30	8,7
9	8	30	9,8
10	8	30	10,9
11	8	30	12
12	8	30	13
13	8	30	14,1
15	8	30	16,3

40-HOLE DISC

Motor	Moved	Disc	Amount of seed
8	21	40	4,4
8	19	40	4,9
8	17	40	5,5
8	15	40	6,2
8	13	40	7,1
8	12	40	7,7
8	11	40	8,4
8	10	40	9,3
8	9	40	10,3
8	8	40	11,6
9	8	40	13
10	8	40	14,5
11	8	40	15,9
12	8	40	17,4
13	8	40	18,8
15	8	40	21,7

Table 07

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 TABLE (TABLES 08/09)

PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

48-HOLE DISC

<i>Motor</i>	<i>Moved</i>	<i>Disc</i>	<i>Amount of seed</i>
8	21	48	5,3
8	19	48	5,9
8	17	48	6,5
8	15	48	7,4
8	13	48	8,6
8	12	48	9,3
8	11	48	10,1
8	10	48	11,1
8	9	48	12,4
8	8	48	13,9
9	8	48	15,6
10	8	48	17,4
11	8	48	19,1
12	8	48	20,9
13	8	48	22,6
15	8	48	26,1

Table 08

70-HOLE DISC

<i>Motor</i>	<i>Moved</i>	<i>Disc</i>	<i>Amount of seed</i>
8	21	70	7,7
8	19	70	8,5
8	17	70	9,5
8	15	70	10,8
8	13	70	12,5
8	12	70	13,5
8	11	70	14,8
8	10	70	16,2
8	9	70	18
8	8	70	20,3
9	8	70	22,8
10	8	70	25,4
11	8	70	27,9
12	8	70	30,4
13	8	70	33
15	8	70	38

Table 09

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.

06. FERTILIZER DISTRIBUTION SYSTEM

FERTILIZER CONDUCTOR - FERTISYSTEM (FIGURES 28/39) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

01 - 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 28.

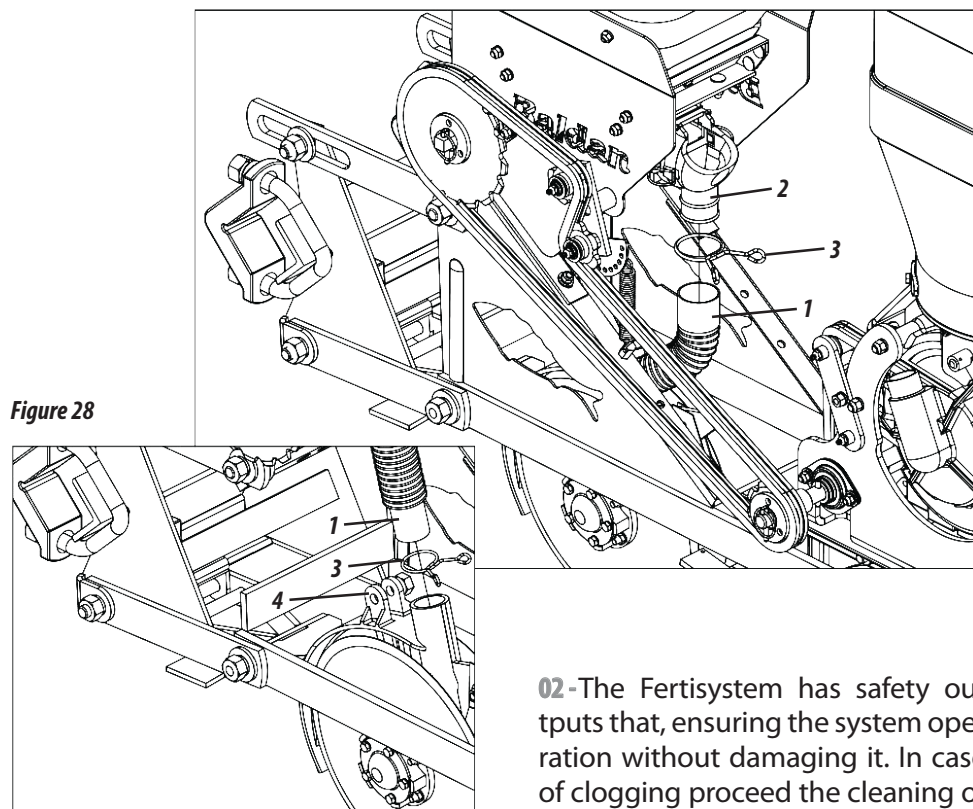


Figure 28

02 - 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 29.

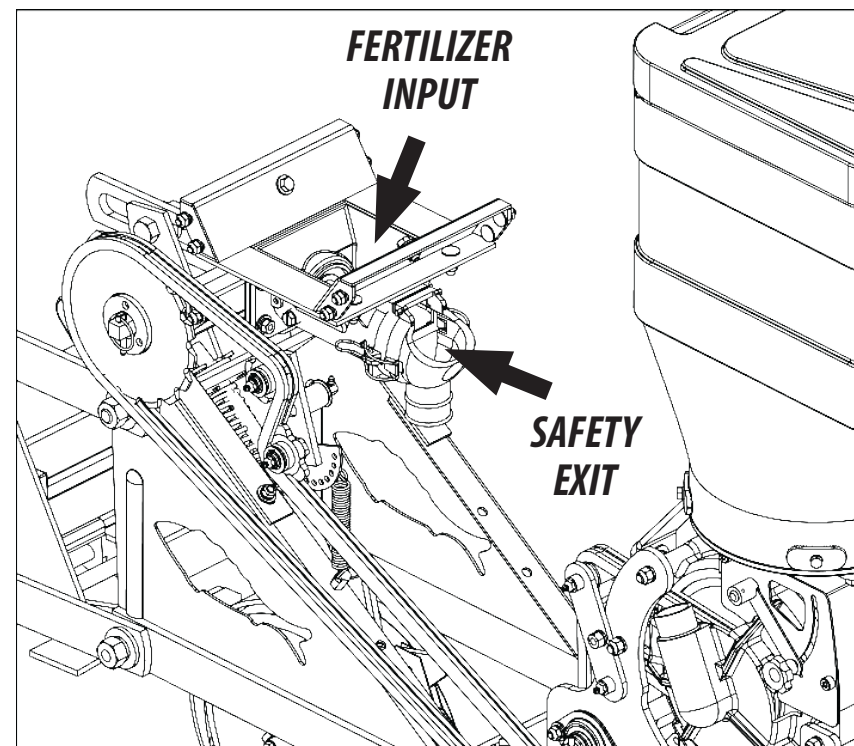
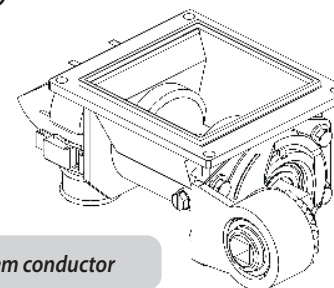


Figure 29



Fertisystem conductor

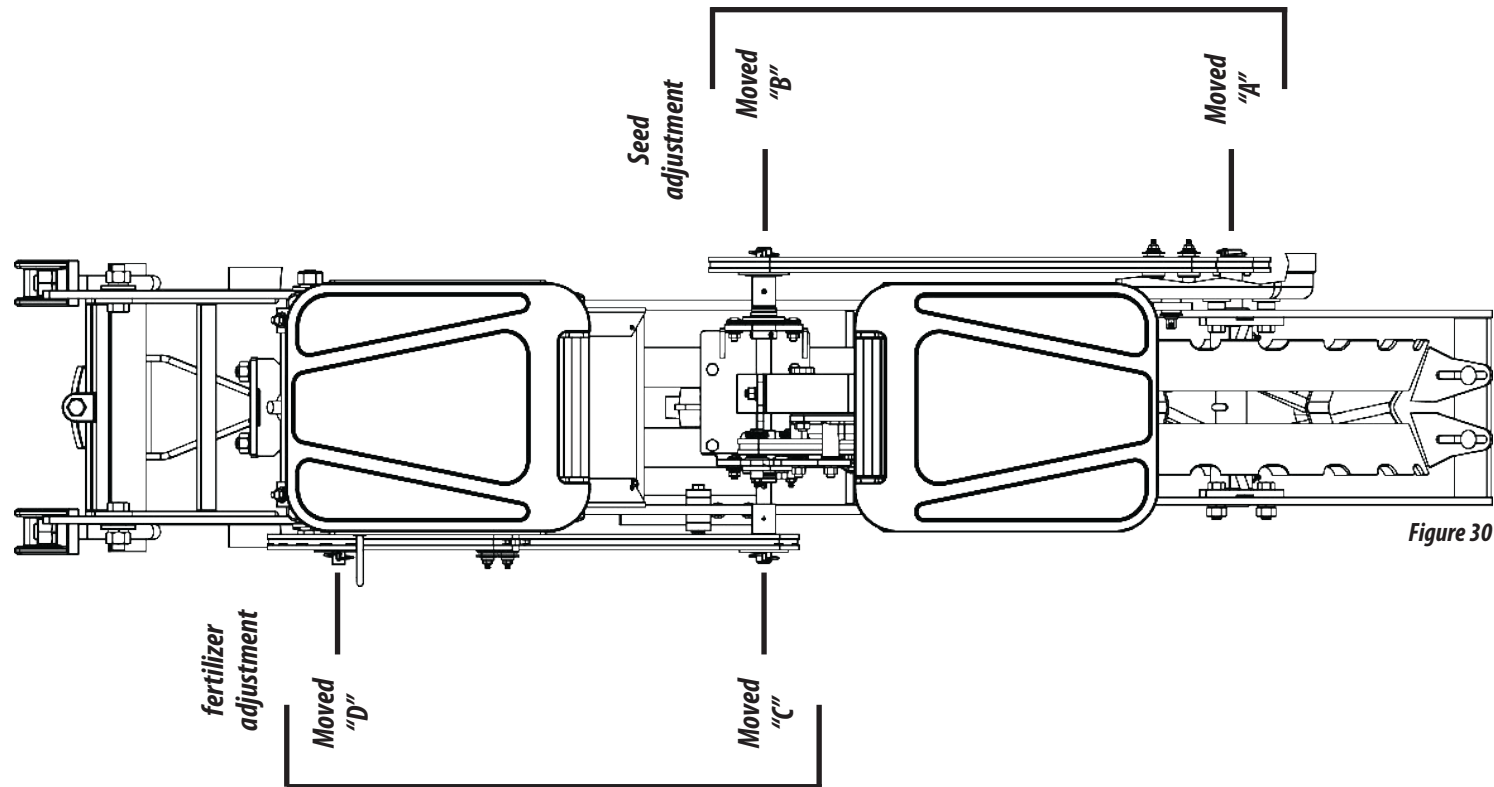
⚠ ATTENTION

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

FERTILIZER AND SEED ADJUSTMENT (FIGURE 30)

PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

- 01 - The seed distribution is done by the distribution disc. To increase or decrease the amount of seeds distributed per linear meter, you must switch gear motor "A" and moved "B".
- 02 - The fertilizer adjustment is done through exchanging gears "C" and "D", noting that their choice is made after you have defined the seed gears.
- 03 - The fertilizer distribution tables indicate the relationships used to apply different amounts of fertilizer, spacing between 400 mm and 1000 mm.



APPROXIMATE TABLE FOR FERTILIZER DISTRIBUTION
Table 10

Motor "A"	Moved seed "B"	Motor fertilizer "C"	Moved "D"	Grams / 16 linear meters	Kilogram per hectare (10,000 m ²) for different spacings between lines												
					420	450	500	550	600	650	700	750	800	850	900	950	1000
8	17	8	21	66	102,75	92	82	75	68	63	59	55	51	48	46	43	41
8	17	8	19	73	113,74	101	91	83	76	70	65	61	57	54	51	48	46
8	17	8	17	81	127,12	113	102	92	85	78	73	68	64	60	57	54	51
8	17	8	15	92	144,07	128	115	105	96	89	82	77	72	68	64	61	58
8	17	8	13	106	166,23	148	133	121	111	102	95	89	83	78	74	70	67
8	17	8	12	115	180,09	160	144	131	120	111	103	96	90	85	80	76	72
8	17	8	11	126	196,46	175	157	143	131	121	112	105	98	92	87	83	79
8	17	8	10	138	216,10	192	173	157	144	133	123	115	108	102	96	91	86
8	17	8	9	154	240,11	243	192	175	160	148	137	128	120	113	107	101	96
8	17	8	8	173	270,13	240	216	196	180	165	154	144	135	127	120	114	108
8	17	21	8	454	709,09	630	567	516	473	436	405	378	354	334	315	299	284
8	17	19	8	411	641,55	570	513	467	428	395	367	342	321	302	285	270	256
8	17	17	8	367	574,02	510	459	417	383	353	328	306	287	270	255	242	230
8	17	15	8	324	506,49	450	405	368	338	312	289	270	253	238	225	213	203
8	17	13	8	281	438,96	390	351	319	293	270	251	234	219	207	195	185	176
8	17	12	8	259	405,19	360	324	295	270	249	232	216	203	191	180	171	162
8	17	11	8	238	371,43	330	297	270	248	229	212	198	186	175	165	156	149
8	17	10	8	216	337,66	300	270	245	225	208	193	180	169	159	150	142	135
8	17	9	8	194	303,89	270	243	221	203	187	174	162	152	143	135	128	122
8	15	8	21	75	116,50	103	93	85	78	72	67	62	58	55	52	49	47
8	15	8	19	82	128,87	114	103	94	86	79	74	69	64	61	57	54	52
8	15	8	17	92	144,04	128	115	105	96	89	82	77	72	68	64	61	58
8	15	8	15	104	163,24	145	131	119	109	100	93	87	82	77	73	69	65
8	15	8	13	120	188,35	167	151	137	125	116	108	100	94	89	84	79	75
8	15	8	12	130	204,05	181	163	148	136	126	117	109	102	96	91	86	82
8	15	8	11	142	222,6	198	178	162	148	137	127	119	111	105	99	94	89
8	15	8	10	157	244,86	218	196	178	163	151	140	130	122	115	109	103	98
8	15	8	9	174	272,07	242	218	198	181	167	155	145	136	128	121	115	109
8	15	8	8	196	306,08	272	245	223	204	188	175	163	153	144	136	129	122
8	15	21	8	514	803,45	714	643	584	536	497	459	428	402	378	357	338	321
8	15	19	8	465	726,93	646	581	529	485	447	415	387	363	342	323	306	291
8	15	17	8	416	650,41	578	520	473	434	400	372	346	325	306	289	274	260
8	15	15	8	367	573,89	510	459	417	382	353	328	306	287	270	255	242	230
8	15	13	8	318	497,37	442	398	362	332	306	284	265	249	234	221	209	199
8	15	12	8	294	459,11	408	367	334	306	282	262	244	230	216	204	194	184
8	15	11	8	269	420,85	374	337	306	280	259	240	224	210	198	187	177	168
8	15	10	8	245	382,59	340	306	278	255	235	219	204	191	180	170	161	153
8	15	9	8	220	344,33	306	275	250	230	212	197	183	172	162	153	145	138

APPROXIMATE TABLE FOR FERTILIZER DISTRIBUTION

Table 11

Motor "A"	Moved seed "B"	Motor fertilizer "C"	Moved "D"	Grams / 16 linear meters	Kilogram per hectare (10,000 m ²) for different spacings between lines												
					420	450	500	550	600	650	700	750	800	850	900	950	1000
8	13	8	21	86	134	119	107	98	90	83	77	71	67	63	60	57	54
8	13	8	19	95	149	132	119	108	99	91	85	79	74	70	66	63	59
8	13	8	17	106	166	148	133	121	111	102	95	88	83	78	74	70	66
8	13	8	15	121	188	167	151	137	126	116	108	100	94	89	84	79	75
8	13	8	13	139	217	193	174	158	145	134	124	116	109	102	97	91	87
8	13	8	12	151	235	209	188	171	157	145	134	125	118	111	105	99	94
8	13	8	11	164	257	228	205	186	171	158	147	137	128	121	114	108	103
8	13	8	10	181	282	251	226	205	188	174	161	150	141	133	126	119	113
8	13	8	9	201	314	279	251	228	209	193	179	167	157	148	139	132	126
8	13	8	8	226	353	314	282	257	235	217	202	188	177	166	157	149	141
8	13	21	8	593	927	824	741	674	618	570	530	493	463	436	412	390	371
8	13	19	8	537	839	745	671	610	559	516	479	447	419	395	373	353	335
8	13	17	8	480	750	667	600	546	500	462	429	400	375	353	333	316	300
8	13	15	8	424	662	588	530	481	441	407	378	353	331	312	294	279	265
8	13	13	8	367	574	510	459	417	382	353	328	306	287	270	255	242	229
8	13	12	8	339	530	471	424	385	353	326	303	282	265	249	235	223	212
8	13	11	8	311	485	432	389	353	324	299	277	259	243	228	216	204	194
8	13	10	8	282	441	392	353	321	294	272	252	235	221	208	196	186	177
8	13	9	8	254	397	353	318	289	265	244	227	212	199	187	177	167	159
8	12	8	21	93	146	130	117	106	97	90	83	78	73	69	65	61	58
8	12	8	19	103	161	143	129	117	107	99	92	86	81	76	72	68	64
8	12	8	17	115	180	160	144	131	120	111	103	96	90	85	80	76	72
8	12	8	15	131	204	181	163	148	136	126	117	109	102	96	91	86	81
8	12	8	13	151	235	209	188	171	157	145	135	125	118	111	105	99	94
8	12	8	12	163	255	227	204	185	170	157	146	136	128	120	113	108	102
8	12	8	11	178	278	247	223	202	185	171	159	148	139	131	124	117	111
8	12	8	10	196	306	272	245	223	204	188	175	163	153	144	136	129	122
8	12	8	9	218	340	302	272	247	227	209	194	181	170	160	151	143	136
8	12	8	8	245	383	340	306	278	255	235	219	204	191	180	170	161	153
8	12	21	8	643	1004	893	803	730	669	618	574	535	502	472	446	423	402
8	12	19	8	581	909	808	727	661	606	559	519	484	454	428	404	383	363
8	12	17	8	520	813	723	650	591	542	500	464	433	406	383	361	342	325
8	12	15	8	459	717	638	574	522	478	441	409	382	359	338	319	302	287
8	12	13	8	398	622	553	497	452	414	383	355	331	311	293	276	262	249
8	12	12	8	367	574	510	459	417	383	353	328	306	287	270	255	242	230
8	12	11	8	337	526	467	421	383	351	324	301	280	263	248	234	221	210
8	12	10	8	306	478	425	383	348	319	294	273	255	239	225	213	201	191
8	12	9	8	275	430	383	344	313	287	265	246	229	215	203	191	181	172

APPROXIMATE TABLE FOR FERTILIZER DISTRIBUTION

Table 12

Motor "A"	Moved seed "B"	Motor fertilizer "C"	Moved "D"	Grams / 16 linear meters	Kilogram per hectare (10,000 m ²) for different spacings between lines												
					420	450	500	550	600	650	700	750	800	850	900	950	1000
8	11	8	21	102	159	141	127	116	106	98	91	85	80	75	71	67	61
8	11	8	19	112	176	156	141	128	117	108	100	94	88	83	78	74	70
8	11	8	17	126	196	175	157	143	131	121	112	105	98	92	87	83	79
8	11	8	15	142	223	198	178	162	148	137	127	119	111	105	99	94	89
8	11	8	13	164	257	228	206	187	171	158	147	137	128	121	115	109	103
8	11	8	12	178	278	247	223	202	186	171	159	148	139	131	124	117	112
8	11	8	11	194	304	270	243	221	202	187	173	162	152	143	135	128	121
8	11	8	10	214	334	297	267	243	223	206	191	178	167	157	148	141	134
8	11	8	9	237	371	330	297	270	247	229	212	198	185	175	165	156	148
8	11	8	8	267	417	371	334	304	278	257	238	222	209	196	186	176	167
8	11	21	8	701	1096	974	877	795	731	674	626	584	548	516	487	461	438
8	11	19	8	635	91	881	793	721	661	610	567	528	496	466	441	417	397
8	11	17	8	568	887	789	710	645	591	546	507	472	444	417	394	374	355
8	11	15	8	501	783	696	626	569	522	482	447	417	391	368	348	330	313
8	11	13	8	534	378	603	543	493	452	417	688	361	339	319	302	286	271
8	11	12	8	401	626	557	501	455	417	385	358	333	313	295	278	264	250
8	11	11	8	367	574	510	459	417	383	353	328	306	287	270	255	242	230
8	11	10	8	334	522	464	417	380	348	321	298	278	261	245	232	220	209
8	11	9	8	301	470	417	376	341	313	289	268	250	235	221	209	198	188
8	10	8	21	112	175	155	140	127	116	108	100	93	88	82	78	74	70
8	10	8	19	124	193	172	155	148	129	119	110	103	97	91	86	81	77
8	10	8	17	138	216	192	173	157	144	133	123	115	108	102	96	91	86
8	10	8	15	157	245	218	196	178	163	151	140	130	122	115	109	103	98
8	10	8	13	181	282	251	226	205	188	174	161	150	141	133	125	119	113
8	10	8	12	196	306	272	245	223	204	188	175	163	153	144	136	129	122
8	10	8	11	214	334	297	267	243	223	205	191	178	167	157	148	141	134
8	10	8	10	235	367	326	294	267	245	226	210	196	184	173	163	155	147
8	10	8	9	261	408	363	326	297	272	251	233	217	204	192	181	172	163
8	10	8	8	294	459	408	367	334	306	282	262	244	229	216	204	193	184
8	10	21	8	771	1205	1071	964	876	803	742	689	642	602	567	532	507	482
8	10	19	8	698	1090	969	872	793	727	671	623	581	545	513	485	459	436
8	10	17	8	624	975	867	780	709	650	600	557	519	488	459	434	411	390
8	10	15	8	551	861	765	689	626	574	530	492	458	430	405	383	362	344
8	10	13	8	477	746	663	597	542	498	459	426	397	373	351	331	314	298
8	10	12	8	441	689	612	551	501	459	424	393	367	344	324	306	290	275
8	10	11	8	404	631	561	505	459	421	388	361	336	316	297	281	266	252
8	10	10	8	367	574	510	459	417	383	353	328	306	287	270	255	242	230
8	10	9	8	330	516	459	413	376	344	318	295	275	258	243	230	217	207

APPROXIMATE TABLE FOR FERTILIZER DISTRIBUTION

Table 13

Motor "A"	Moved seed "B"	Motor fertilizer "C"	Moved "D"	Grams / 16 linear meters	Kilogram per hectare (10,000 m ²) for different spacings between lines												
					420	450	500	550	600	650	700	750	800	850	900	950	1000
8	9	8	21	124	195	173	156	141	130	120	111	104	97	92	86	82	78
8	9	8	19	137	215	191	173	156	143	132	123	114	107	101	95	90	86
8	9	8	17	154	240	213	192	175	160	148	137	128	120	113	107	101	96
8	9	8	15	174	272	242	218	198	181	167	155	145	136	128	121	115	109
8	9	8	13	201	314	279	251	228	209	193	179	167	157	148	139	131	126
8	9	8	12	218	340	302	272	247	227	209	194	181	170	160	151	143	136
8	9	8	11	237	370	330	297	270	274	228	212	198	185	175	165	156	149
8	9	8	10	261	408	363	326	297	272	251	233	217	204	192	181	172	163
8	9	8	9	290	453	403	363	330	302	279	259	241	227	231	201	191	181
8	9	8	8	326	510	453	408	371	340	314	291	272	255	240	227	215	204
8	9	21	8	857	1339	1190	1080	974	893	824	765	713	669	630	595	564	535
8	9	19	8	775	1211	1077	969	881	808	795	692	645	606	570	538	510	484
8	9	17	8	694	1084	963	867	788	723	667	619	577	542	510	482	456	433
8	9	15	8	612	956	850	765	695	638	588	546	509	478	450	425	403	382
8	9	13	8	530	829	737	663	603	553	510	473	441	414	390	368	349	331
8	9	12	8	489	765	680	612	556	510	471	433	407	382	360	340	322	306
8	9	11	8	49	701	623	561	510	468	432	401	373	351	330	312	295	280
8	9	10	8	408	638	567	510	464	425	392	364	339	319	300	283	268	255
8	9	9	8	367	574	510	459	417	383	353	328	306	287	270	255	242	229
8	8	8	21	140	219	194	175	159	146	134	125	116	109	103	97	92	87
8	8	8	19	155	241	215	193	176	161	149	138	129	121	114	107	102	97
8	8	8	17	173	270	240	216	196	180	166	154	144	135	127	120	114	108
8	8	8	15	196	306	272	245	222	204	188	175	167	153	144	136	129	122
8	8	8	13	226	353	314	282	257	235	217	202	188	176	166	157	149	41
8	8	8	12	245	382	340	306	278	255	235	218	204	191	180	170	161	153
8	8	8	11	267	417	371	334	303	279	257	238	224	209	196	185	176	167
8	8	8	10	294	459	408	367	334	306	282	262	244	229	216	204	194	184
8	8	8	9	326	510	453	408	371	340	314	291	271	255	240	227	215	204
8	8	8	8	367	573	510	459	417	382	353	328	305	287	270	255	241	229
8	8	21	8	963	1505	1338	1204	1095	1004	926	860	802	753	708	669	634	602
8	8	19	8	872	1362	1213	1084	991	908	838	778	725	681	641	605	573	545
8	8	17	8	780	1218	1083	975	886	812	750	696	649	609	574	542	513	487
8	8	15	8	688	1075	956	860	782	717	662	614	573	538	506	478	453	430
8	8	13	8	596	932	828	746	678	621	574	532	496	466	439	414	392	373
8	8	12	8	551	860	764	688	626	574	529	491	458	430	405	382	362	344
8	8	11	8	505	789	701	631	574	526	485	451	420	394	371	350	332	315
8	8	10	8	459	717	637	573	521	478	441	410	382	358	337	319	302	287
8	8	9	8	413	645	574	516	469	430	397	369	343	323	304	287	272	258

APPROXIMATE TABLE FOR FERTILIZER DISTRIBUTION
Table 14

Motor "A"	Moved seed "B"	Motor fertilizer "C"	Moved "D"	Grams / 16 linear meters	Kilogram per hectare (10,000 m ²) for different spacings between lines												
					420	450	500	550	600	650	700	750	800	850	900	950	1000
8	9	8	21	158	246	219	197	179	164	152	141	131	123	116	109	104	98
8	9	8	19	174	272	242	218	198	181	167	155	145	136	128	121	114	109
8	9	8	17	194	304	270	243	221	203	187	174	162	152	143	135	128	122
8	9	8	15	220	344	306	276	250	230	212	197	183	172	162	153	145	138
8	9	8	13	254	398	353	318	289	265	245	227	212	199	187	177	167	159
8	9	8	12	276	431	383	344	313	287	265	246	229	215	203	191	181	172
8	9	8	11	301	470	417	376	342	313	289	268	250	235	221	209	198	188
8	9	8	10	331	517	459	413	376	344	318	295	275	258	243	230	218	207
8	9	8	9	367	574	510	459	417	383	354	328	306	287	270	255	242	230
8	9	8	8	413	646	574	517	470	431	397	369	344	323	304	287	272	258
8	9	21	8	1085	1695	1507	1356	1233	1130	1043	969	903	855	798	753	714	678
8	9	19	8	982	1534	1363	1227	1115	1022	944	876	817	767	722	682	646	613
8	9	17	8	878	1372	1220	1098	998	915	844	784	731	686	646	610	578	549
8	9	15	8	775	1211	1076	969	881	807	745	692	645	605	570	538	510	484
8	9	13	8	672	1049	933	839	763	700	646	600	559	525	494	466	442	420
8	9	12	8	620	967	861	775	704	646	596	554	516	484	456	430	408	387
8	9	11	8	568	888	789	710	646	592	546	507	473	444	418	395	374	355
8	9	10	8	517	807	717	646	587	538	507	461	430	404	380	359	340	323
8	9	9	8	465	726	646	581	528	484	447	415	387	363	342	323	306	291
8	8	8	21	175	273	243	218	199	180	168	156	145	136	128	121	115	109
8	8	8	19	193	302	268	241	220	201	186	172	161	151	142	134	127	121
8	8	8	17	216	337	300	270	245	225	208	193	180	169	159	150	142	135
8	8	8	15	245	382	340	306	278	255	235	218	204	191	180	170	161	153
8	8	8	13	282	441	392	353	321	294	272	252	235	221	208	196	186	176
8	8	8	12	306	478	425	382	348	319	294	273	255	239	225	212	201	191
8	8	8	11	334	521	463	417	379	348	321	298	278	261	245	232	220	209
8	8	8	10	367	574	510	459	417	382	353	328	305	287	270	246	241	229
8	8	8	9	408	637	566	510	463	425	392	364	339	319	300	283	268	255
8	8	8	8	459	717	637	574	521	478	441	407	382	358	337	319	302	287
8	8	21	8	1204	1882	1673	1506	1369	1255	1158	1075	1002	941	886	836	792	753
8	8	19	8	1090	1703	1513	1363	1238	1135	1048	943	907	851	801	757	717	681
8	8	17	8	975	1523	1354	1219	1108	1015	938	871	811	762	716	677	641	609
8	8	15	8	860	1344	1195	1075	978	896	827	768	716	672	633	597	566	538
8	8	13	8	744	1165	1036	932	847	776	717	666	620	582	548	518	490	466
8	8	12	8	688	1075	956	860	782	717	662	615	573	538	506	478	453	430
8	8	11	8	631	986	876	789	717	657	607	563	525	493	464	438	415	394
8	8	10	8	574	896	797	717	652	597	551	512	477	448	422	398	377	358
8	8	9	8	516	807	717	645	587	538	496	461	429	403	380	358	340	323

APPROXIMATE TABLE FOR FERTILIZER DISTRIBUTION

Table 15

Motor "A"	Moved seed "B"	Motor fertilizer "C"	Moved "D"	Grams / 16 linear meters	Kilogram per hectare (10,000 m ²) for different spacings between lines												
					420	450	500	550	600	650	700	750	800	850	900	950	1000
11	8	8	21	192	301	267	241	219	200	185	172	160	151	142	134	127	120
11	8	8	19	213	332	295	266	242	222	204	190	177	166	156	148	140	133
11	8	8	17	238	371	330	297	270	248	229	212	198	186	175	165	156	149
11	8	8	15	269	421	374	337	306	281	259	241	224	210	198	187	177	168
11	8	8	13	311	486	432	389	353	324	299	278	259	243	229	216	204	194
11	8	8	12	337	526	468	413	383	351	324	301	280	263	248	234	222	210
11	8	8	11	367	574	510	459	417	383	353	328	306	287	270	255	242	230
11	8	8	10	404	631	561	505	459	421	389	361	336	316	297	281	266	253
11	8	8	9	449	701	624	561	510	468	432	401	374	351	330	312	295	281
11	8	8	8	505	798	701	631	574	526	486	451	420	395	371	351	323	316
11	8	21	8	1326	2072	1841	1657	1507	1381	1275	1184	1103	1036	975	921	872	829
11	8	19	8	1200	1874	1666	1499	1363	1250	1153	1071	998	937	882	833	789	750
11	8	17	8	1073	1677	1491	1342	1220	1118	1032	958	893	839	789	745	706	671
11	8	15	8	947	1480	1315	1184	1076	986	911	846	788	740	696	657	623	592
11	8	13	8	821	1282	1140	1026	933	855	789	733	683	641	604	570	540	513
11	8	12	8	758	1184	1052	947	861	789	728	676	630	592	557	526	498	474
11	8	11	8	694	1085	965	868	789	723	667	620	578	543	511	482	457	434
11	8	10	8	631	986	877	789	717	658	607	563	525	493	464	438	415	395
11	8	9	8	568	888	789	710	646	592	546	507	473	444	418	395	374	355
13	8	8	21	227	355	316	284	258	237	219	203	189	178	167	158	150	142
13	8	8	19	251	393	349	314	286	262	242	224	209	196	185	175	165	157
13	8	8	17	281	439	390	351	319	293	270	251	234	219	207	195	185	176
13	8	8	15	318	497	442	398	362	332	306	284	265	249	234	221	209	199
13	8	8	13	367	574	510	459	417	383	353	328	306	287	270	255	242	230
13	8	8	12	398	622	553	497	452	414	383	355	331	311	293	276	262	250
11	8	8	11	434	378	603	543	493	452	417	388	361	339	319	301	286	271
13	8	8	10	447	746	663	597	543	497	459	426	397	373	351	332	314	298
13	8	8	9	531	829	737	663	603	553	510	474	441	414	390	368	349	332
13	8	8	8	597	933	829	746	678	622	574	533	497	466	439	414	393	373
13	8	21	8	1567	2448	2176	1958	1780	1632	1507	1399	1304	1224	1152	1088	1075	979
13	8	19	8	1418	2215	1969	1772	1611	1477	1363	1266	1180	1107	1042	984	933	886
13	8	17	8	1268	1982	1762	1585	1441	1321	1220	1132	1055	991	933	881	834	793
13	8	15	8	1119	1749	1554	1399	1272	1166	1076	999	931	874	823	777	736	699
13	8	13	8	970	1515	1347	1212	1102	1010	933	866	807	758	713	674	638	606
13	8	12	8	895	1399	1243	1119	1017	933	861	799	745	699	658	622	589	560
13	8	11	8	821	1282	1140	1026	933	855	789	732	683	641	603	570	540	513
13	8	10	8	746	1166	1036	933	848	777	717	666	621	584	549	518	491	466
13	8	9	8	671	1049	933	839	764	699	646	600	559	525	494	466	442	420

APPROXIMATE TABLE FOR FERTILIZER DISTRIBUTION
Table 16

Motor "A"	Moved seed "B"	Motor fertilizer "C"	Moved "D"	Grams / 16 linear meters	Kilogram per hectare (10,000 m ²) for different spacings between lines												
					420	450	500	550	600	650	700	750	800	850	900	950	1000
15	8	8	21	262	410	364	328	298	273	252	234	218	205	193	182	173	164
15	8	8	19	290	453	403	362	329	302	279	259	241	227	213	201	191	181
15	8	8	17	324	506	450	405	368	338	312	289	270	253	238	225	213	203
15	8	8	15	367	574	510	459	417	383	353	328	306	287	270	255	242	230
15	8	8	13	424	662	589	530	482	441	407	378	353	331	312	294	279	265
15	8	8	12	459	717	638	574	522	478	441	410	382	359	338	319	302	287
15	8	8	11	501	783	696	626	569	522	482	447	417	391	368	348	329	313
15	8	8	10	551	861	765	689	626	574	530	492	458	430	405	383	362	344
15	8	8	9	612	956	850	765	696	638	589	547	509	478	450	425	403	383
15	8	8	8	689	1076	956	861	783	717	662	615	573	538	506	478	453	430
15	8	21	8	1808	2825	2511	2260	2054	1883	1783	1614	1504	1412	1329	1255	1189	1130
15	8	19	8	1635	2556	2272	2044	1859	1704	1573	1460	1360	1278	1203	1136	1075	1022
15	8	17	8	1643	2587	2032	1829	1663	1524	1407	1307	1218	1143	1076	1016	963	914
15	8	15	8	1291	2018	1793	1614	1467	1345	1242	1153	1074	1009	949	897	849	807
15	8	13	8	1119	1749	1554	1399	1272	1166	1076	999	931	874	823	777	736	699
15	8	12	8	1033	1614	1435	1291	1174	1076	993	922	860	807	760	717	680	646
15	8	11	8	947	1479	1315	1184	1076	986	910	845	788	740	696	658	623	592
15	8	10	8	861	1345	1196	1076	978	897	828	769	716	673	633	598	566	538
15	8	9	8	775	1211	1076	968	880	807	745	692	645	605	570	538	510	548
17	8	8	21	297	465	413	372	338	310	286	266	247	232	219	207	196	186
17	8	8	19	329	513	456	411	373	342	316	293	273	257	242	228	216	205
17	8	8	17	367	574	510	459	417	383	353	328	306	287	270	255	242	230
17	8	8	15	416	650	578	520	473	434	400	372	346	325	306	289	274	260
17	8	8	13	480	750	667	600	546	500	462	428	400	375	353	333	316	300
17	8	8	12	520	813	723	650	591	542	500	464	433	406	383	361	342	325
17	8	8	11	568	887	788	709	644	591	546	507	472	443	417	394	373	355
17	8	8	10	624	975	867	780	709	650	600	557	519	488	459	434	411	390
17	8	8	9	693	1084	963	867	788	723	667	619	577	542	510	482	456	434
17	8	8	8	780	1219	1084	975	887	813	750	697	649	610	574	542	513	488
17	8	21	8	2048	3201	2845	2560	2328	2134	1970	1829	1704	1600	1506	1422	1348	1280
17	8	19	8	1853	2896	2574	2317	2106	1931	1782	1655	1542	1448	1363	1287	1219	1158
17	8	17	8	1658	2591	2303	2073	1884	1727	1594	1481	1380	1295	1219	1151	1091	1036
17	8	15	8	1643	2286	2032	1829	1663	1524	1407	1306	1217	1143	1076	1016	963	914
17	8	13	8	1268	1981	1761	1585	1441	1321	1219	1132	1055	991	932	881	834	793
17	8	12	8	1170	1829	1626	1463	1331	1219	1125	1045	974	914	861	813	770	732
17	8	11	8	1073	1676	1490	1341	1219	1118	1032	958	893	838	789	745	706	671
17	8	10	8	975	1524	1355	1219	1108	1016	938	871	812	762	717	677	642	610
17	8	9	8	878	1372	1219	1097	998	914	844	784	730	686	645	610	578	549

07. PRACTICAL CALCULATION FOR FERTILIZER DISTRIBUTION

- 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 420 mm to distribute 500 kg of fertilizer per hectare, use the formula below:

Formula:

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

Solve:

$$X = \frac{420 \times 500}{10.000} \times 50$$

$$X = 21.00 \times 50$$

Formula Data:

E = Spacing between lines (mm)
Q = Amount of fertilizer to be distributed (kg)
A = Area to be fertilized (m²)
D = Distance of 50 meters (test)
D = Grams of fertilizer in 50 meters

$$X = 1.050 \text{ g in 50 meters per line}$$

PRACTICAL TEST TO MEASURE THE SEED AND FERTILIZER DISTRIBUTION AMOUNT

- 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.
- Check the test distance in the table, we chose 50 linear meters.
- 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.
- 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.
- 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.



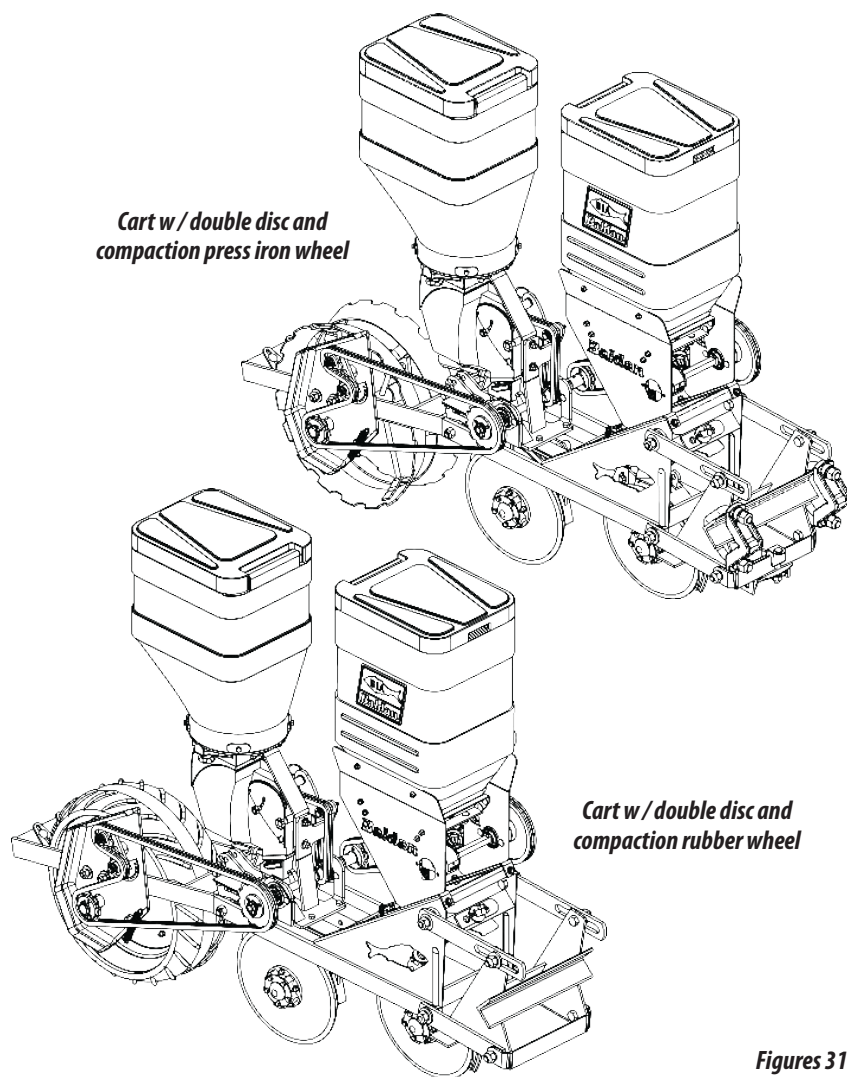
IMPORTANT

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.

08. OPTIONAL DEVICES

OPTIONAL CARTS (FIGURES 31)

PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

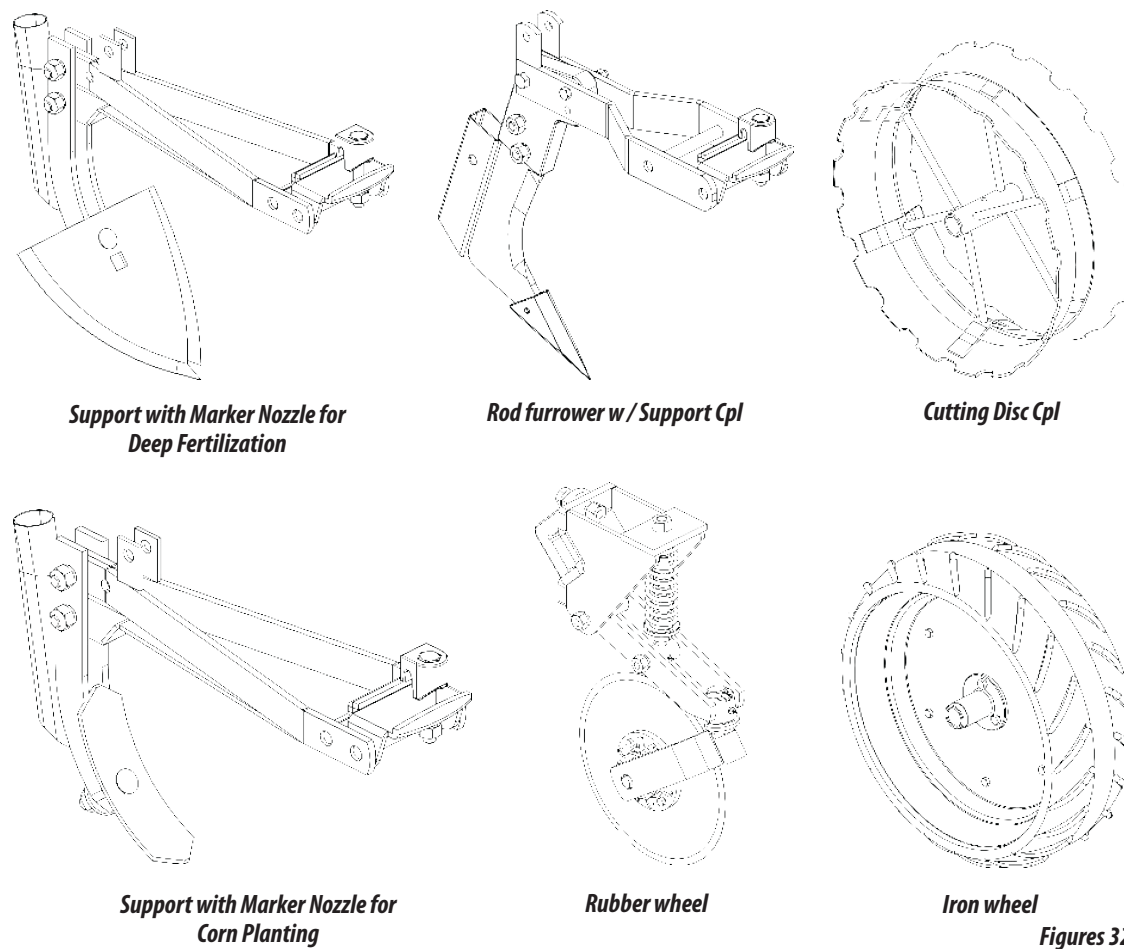


Figures 31

SUPPORTS, FURROW OPENERS, OPTIONAL DISCS AND WHEELS (FIGURES 32)

PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

01 - The PLB Directa Air seeder has optional devices that may be acquired under the working necessity. Among the options available are carts and furrow openers.



Figures 32

09.ADJUSTMENTS

FERTILIZER DEPTH ADJUSTMENT (FIGURE 33) PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

- The fertilizer depth adjustment is made by the pressure exerted by the spring on the double disc cart (1). To adjust the fertilizer depth, proceed as follows:

01 - DECREASING DEPTH: Put the latch (2) into the bottom hole of the rod (3).

02 - INCREASING DEPTH: Put the latch (2) into the upper hole of the rod (3).

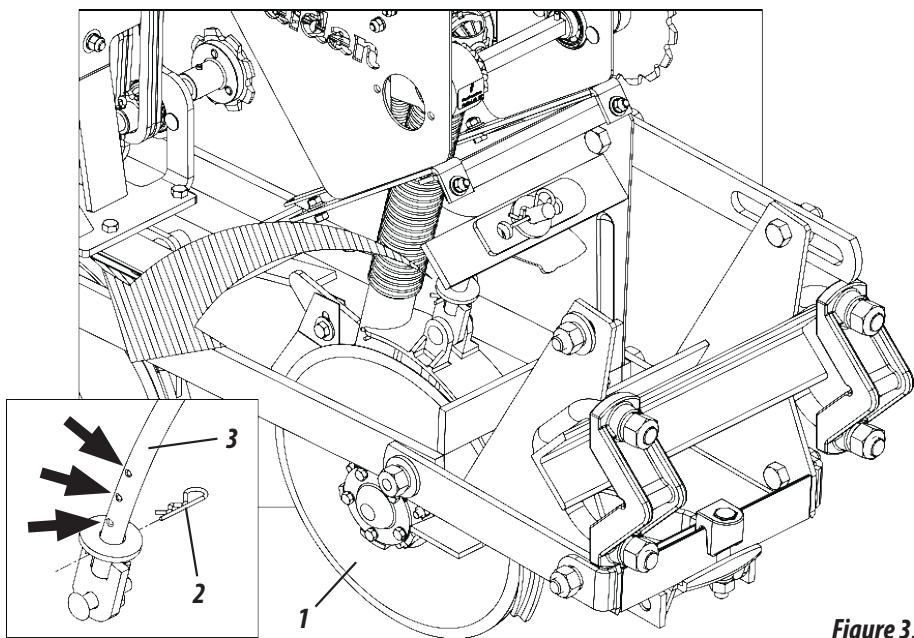


Figure 33

⚠ ATTENTION

When you finish setting, repeat this procedure on all lines, avoiding variations between them.

ADJUSTING THE FURROW OPENING FOR FERTILIZER IN RELATION TO SEED (FIGURE 34) PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

- The furrow opening for fertilizer is made by the double disc (1). To adjust the distance of the fertilizer line in relation to the seed line, proceed as follows:

01 - First, loosen the nut (2).

02 - Then, insert the rod (3) into the side hole of the bracket (4).

03 - Then, move the cart (5) to the measure desired and retighten the nut (2).

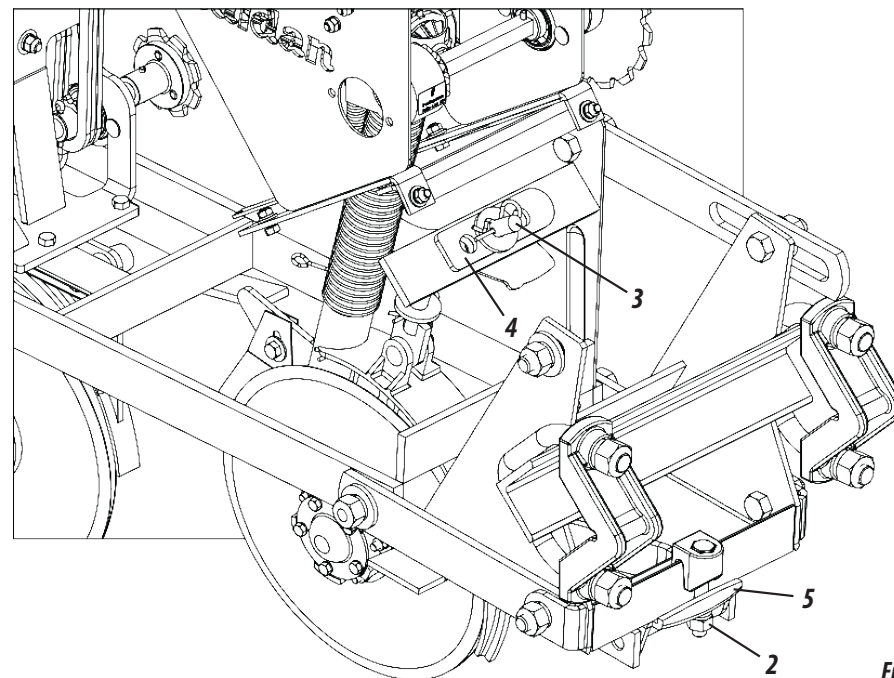


Figure 34

⚠ ATTENTION

When you finish setting, repeat this procedure on all lines, avoiding variations between them.

PRESSURE REGULATION OF THE CUTTING DISC - OPTIONAL (FIGURE 35) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

- 01 - To control the pressure of the cutting disc (1), proceed as follows: The seed depth adjustment is made by pressure on the double disc cart. To adjust the seed depth, proceed as follows:
- 02 - Turn the nut (2) clockwise for higher pressure on the spring (3). To lower the pressure on the spring (3), turn the nut (2) counterclockwise.

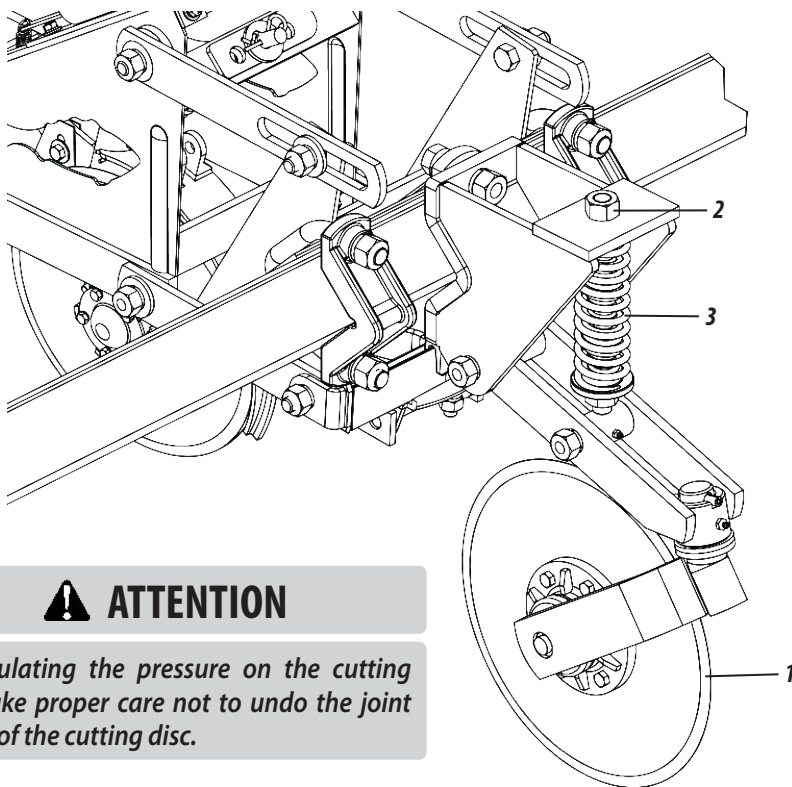


Figure 35

⚠ 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.

SEED DEPTH ADJUSTMENT (FIGURE 36) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

- The seed depth adjustment is made by the pressure on the double disc cart. To adjust the seed depth, proceed as follows:
- 01 - Release the latch (1), remove the pin (2) adjust the iron wheel (3) according to the work to be performed, locking it again through the lock (1) and pin (2).

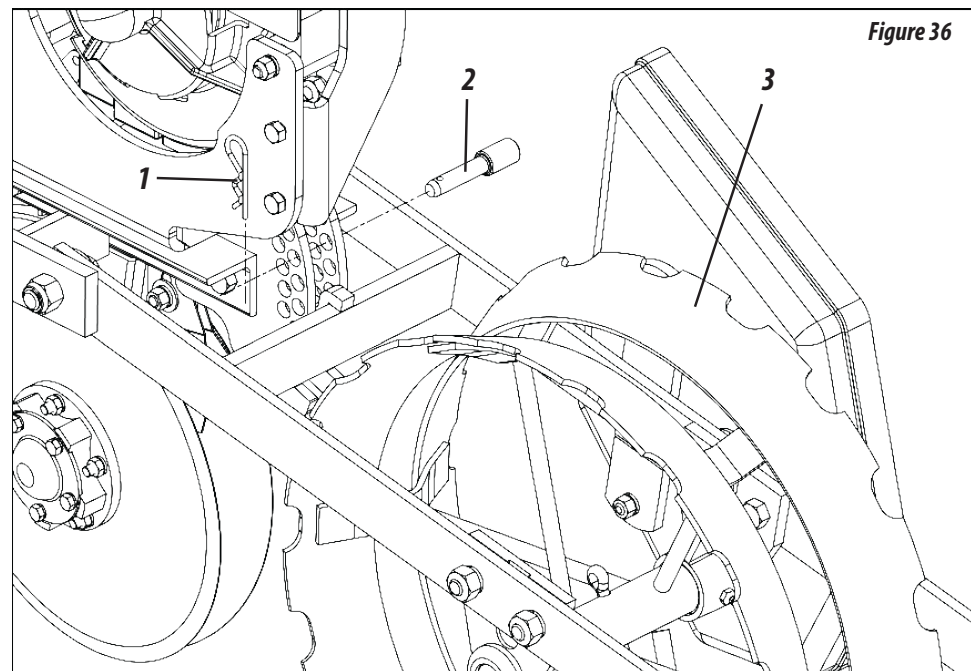


Figure 36

🔧 IMPORTANT

The seed depth adjustment should be made in the field before starting work, noting the type of soil to be worked in order to get a better performance of the seed drill.

COVER DISC ADJUSTMENT - OPTIONAL (FIGURE 37) PLB DIRECTA AIR 2 / 3 / 4 / 5 / 6 LINES

- The seed cover is made through the cover disc (1) that according to the type of soil, it must be adjusted to place more or less land on the seed. To adjust the cover disc (1), proceed as follows:

01 - Loosen the nut (2) and turn the disc (1) to position "A" to place more land on the seed, and to position "B" for less land on the seed.

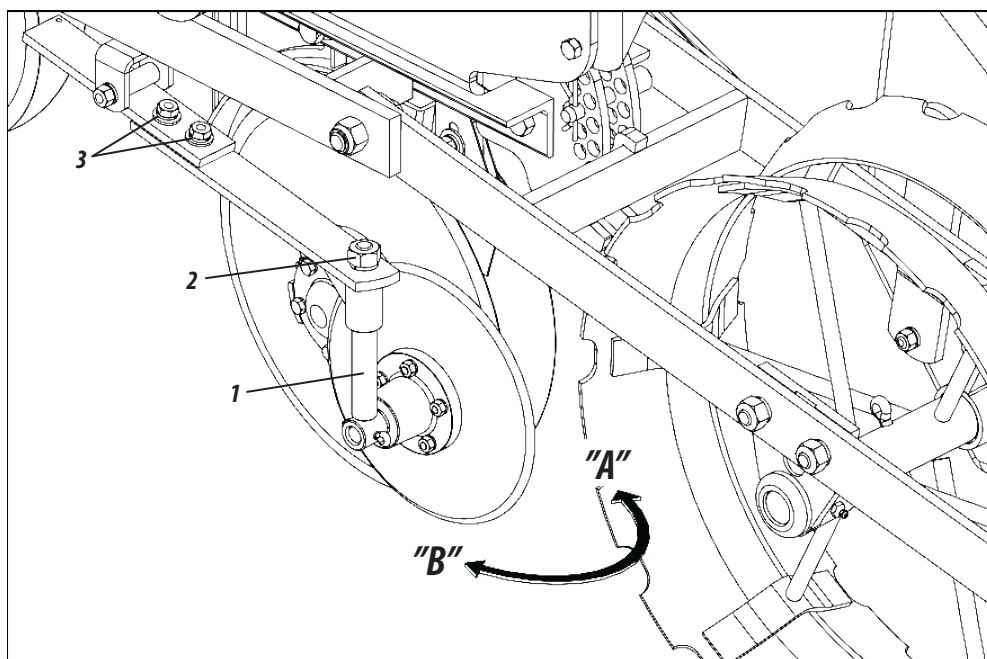


Figure 37

IMPORTANT

To assemble the cover disc (1) closer to the furrow, loosen the nuts (3) and place it in the desired position.

ADJUSTING THE WIPERS (FIGURE 16) PLB DIRECTA AIR 2 / 3 / 4 / 5 / 6 LINES

- The iron wheels (1) have flexible wipers (2) that during work keep them clean, ensuring a uniform depth. To adjust the wipers (2), proceed as follows:

01 - Loosen the screws (3), adjust the wipers (2) and tighten the screws (3).

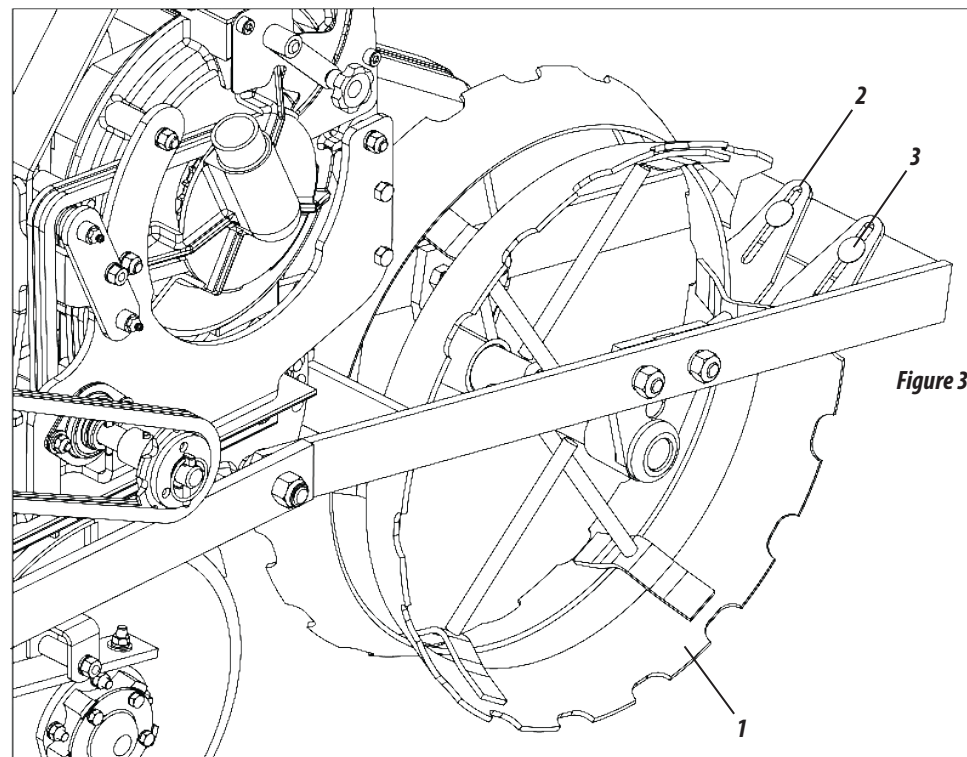


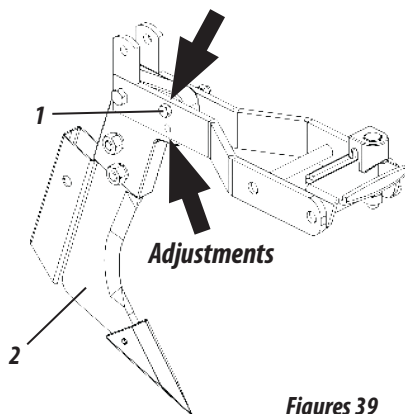
Figure 38

ATTENTION

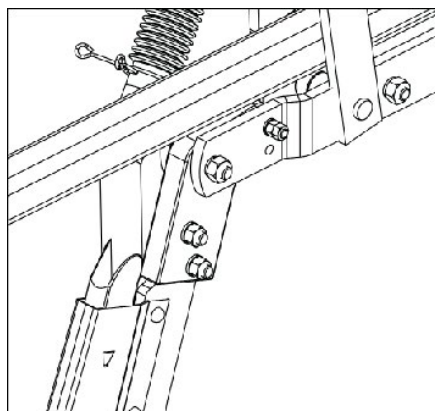
When you finish setting the wipers (2), repeat this procedure on all lines.

ADJUSTING THE FURROWER ATTACK ANGLE (FIGURES 39) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

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



Figures 39



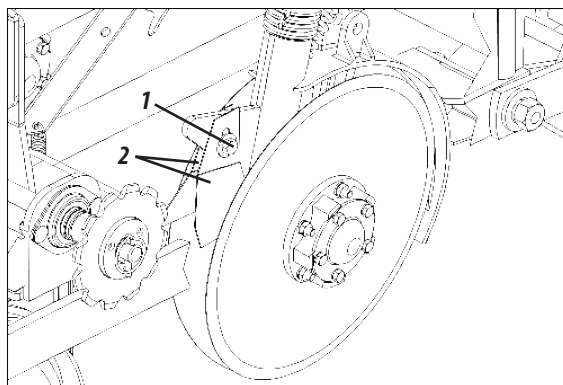
ADJUSTING THE DOUBLE DISC WIPERS (FIGURE 40) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

- The double disc has flexible and adjustable wipers to remove the dirt that adheres to the discs. To adjust the wipers, proceed as follows:
- 01 - Loosen the screw (1), adjust the wipers (2) into the ideal position and retighten the screw.

⚠ ATTENTION

When you finish adjusting the wipers (1), repeat this procedure to all lines.

Figure 40



COMPACTION IRON WHEEL (FIGURE 41) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

- 01 - The compaction iron wheel (1), is intended to press the soil around the seed, leaving it loose on it.

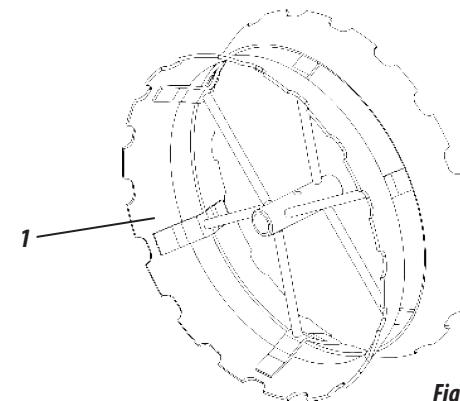


Figure 41

COMPACTION RUBBER WHEEL (FIGURE 42) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

- 01 - The compaction rubber wheel (1) is used in cultures that do not require pressure on the seeds.

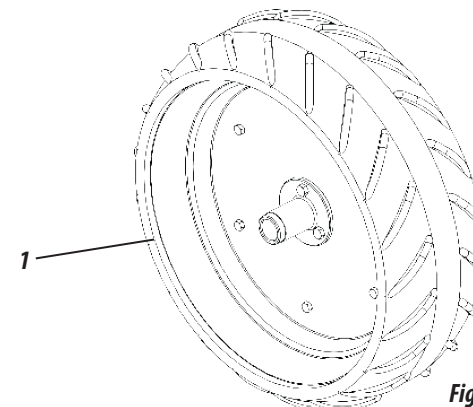


Figure 42

10. OPERATIONS

- 01 - After the first day of work with the planter, tighten all screws and nuts. Check the conditions of pins and locks.
- 02 - Always keep the tires with the same calibration of 20 lb / in 2, to avoid wear and maintain planting uniformity.
- 03 - Observe lubrication intervals.
- 04 - When filling the seed and fertilizer tanks, check if there are no objects within them, such as nuts, bolts, etc.. Always use seed and fertilizer free of impurities.
- 05 - Always observe the functioning of mechanisms that distribute seeds and fertilizer and also the settings established at the beginning of planting.
- 06 - Keep the planter always leveled, the tractor drawbar must remain stable and working speed should remain constant.
- 07 - Always check depth of seed the fertilizer and the pressure of the compaction wheels.
- 08 - Check the position of the fertilizer in relation to seed in the soil.
- 09 - If case of doubts, do not operate or handle the planter, refer to the After Sales. Phone: + 55 0800-152577 or Email: posvenda@baldan.com.br

11. MAINTENANCE

LUBRICATION

PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

- 01 - Lubrication is essential for good performance and durability of the seeder moving parts, helping to reduce maintenance costs.
- 02 - 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 OF GREASE AND EQUIVALENT

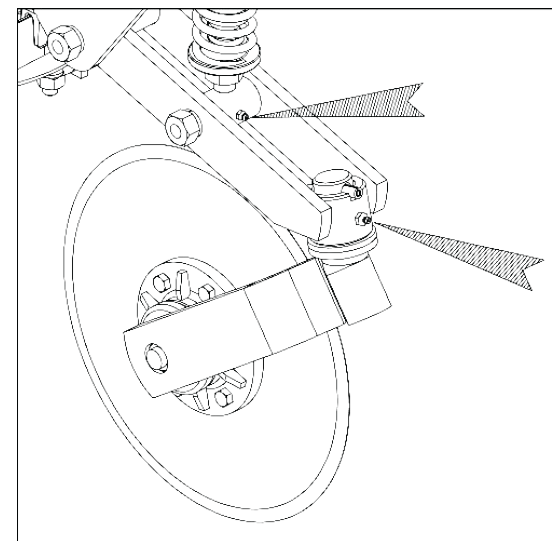
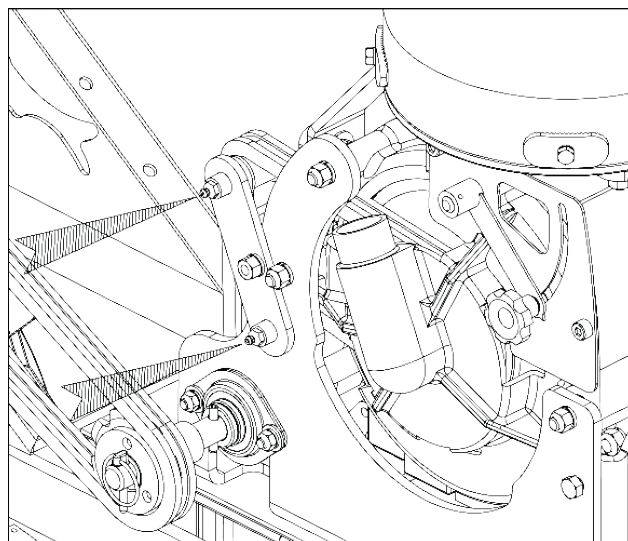
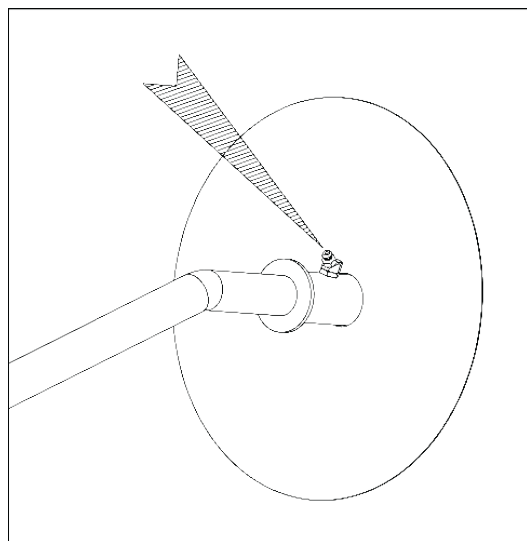
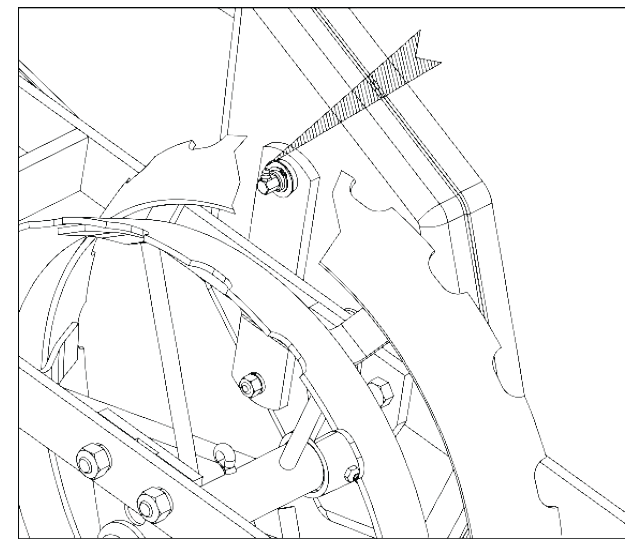
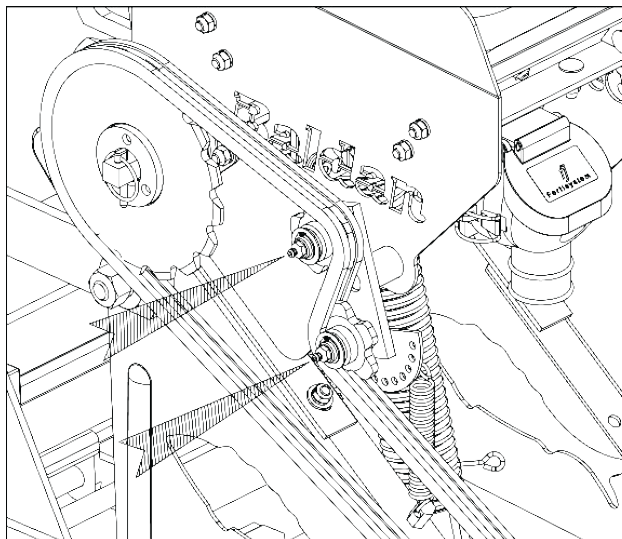
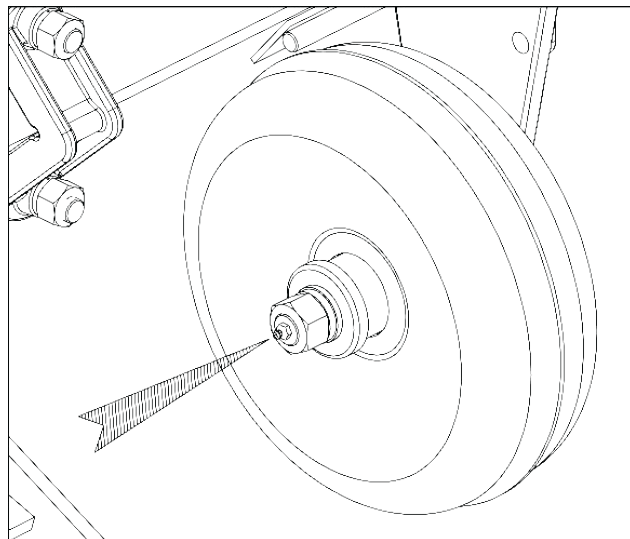
MANUFACTURER	TYPE OF RECOMMENDED GREASE
<i>Petrobrás</i>	<i>Lubrax GMA 2</i>
<i>Atlantic</i>	<i>Litholine MP 2</i>
<i>Ipiranga</i>	<i>Super Graxa Ipiranga</i> <i>Ipiranga Super Graxa 2</i> <i>Ipiflex 2</i>
<i>Castrol</i>	<i>LM 2</i>
<i>Mobil</i>	<i>Mobilgrease MP 77</i>
<i>Texaco</i>	<i>Marfak 2</i> <i>Agrotex 2</i>
<i>Shell</i>	<i>Retinax A</i> <i>Alvania EP 2</i>
<i>Esso</i>	<i>Multipurpose grease H</i>
<i>Bardahl</i>	<i>Maxlub APG 2 EP</i>

Table 17



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

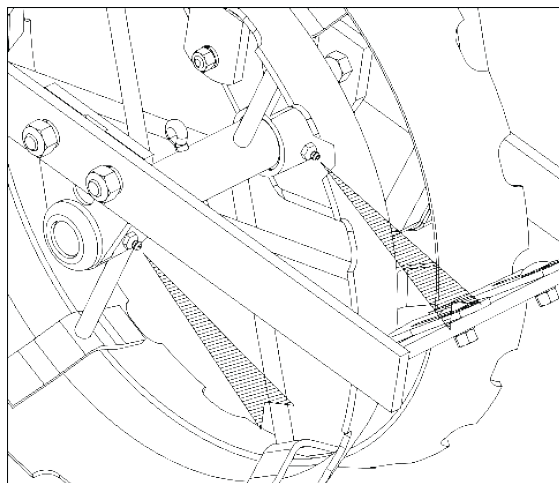
LUBRICATE EVERY 10 HOURS (FIGURES 43)
PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES



Figures 43

LUBRICATE EVERY 30 HOURS (FIGURE 44)
PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

Figure 44



⚠ ATTENTION

Do not over-grease, respect the interval for re-lubrication.

LUBRICATE EVERY 200 HOURS OF WORK (FIGURE 45)
PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

01 - 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:

02 - 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 screw (3) and pressure washer (3), as shown in Figure 70.

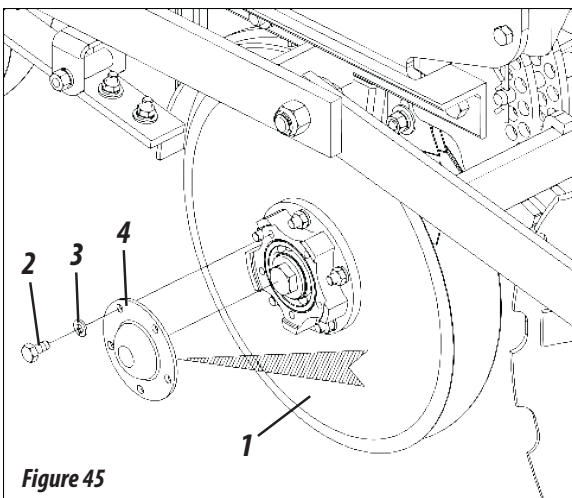


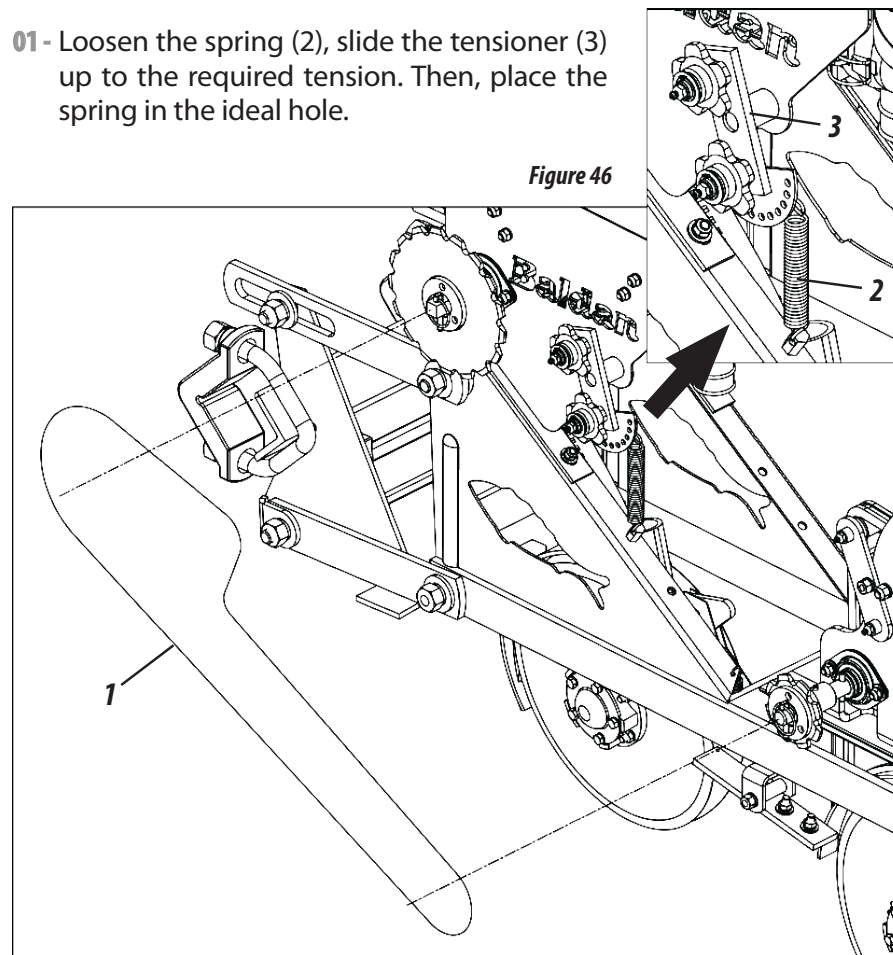
Figure 45

CHAIN TENSION (FIGURE 46)
PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

• To tension the chain, proceed as follows:

01 - Loosen the spring (2), slide the tensioner (3) up to the required tension. Then, place the spring in the ideal hole.

Figure 46



⚠ ATTENTION

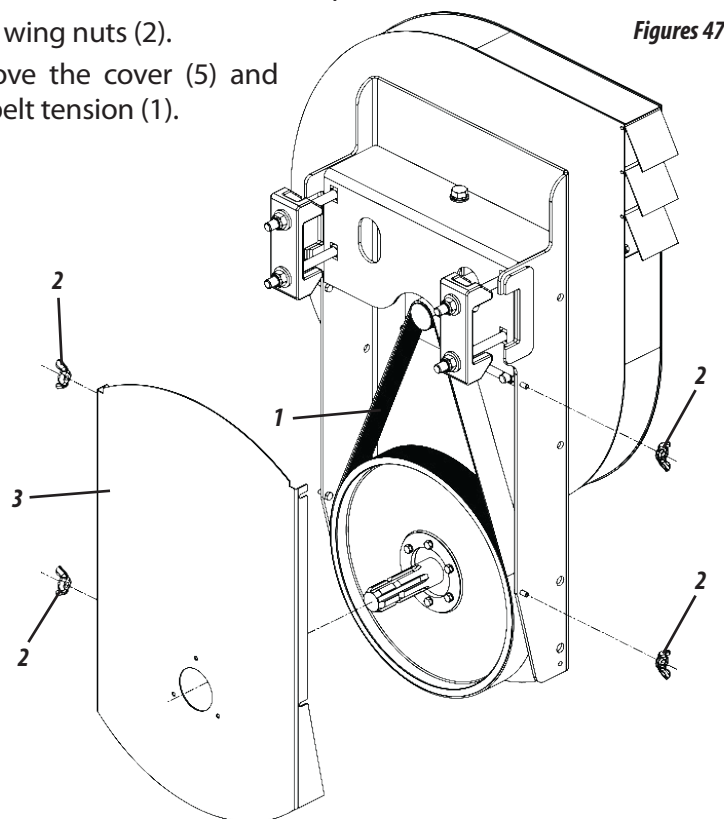
Check daily the tension of chains, the normal clearance should be ± 1 cm in their center.

DRIVE BELT OF THE TURBINE (FIGURES 47) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

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

01 - Loosen the wing nuts (2).

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



IMPORTANT

After the first hour of work with the seeder, check the belt tension.

ATTENTION

Never operate the turbine with the lid (3) open, preventing equipment damage and accident risks.

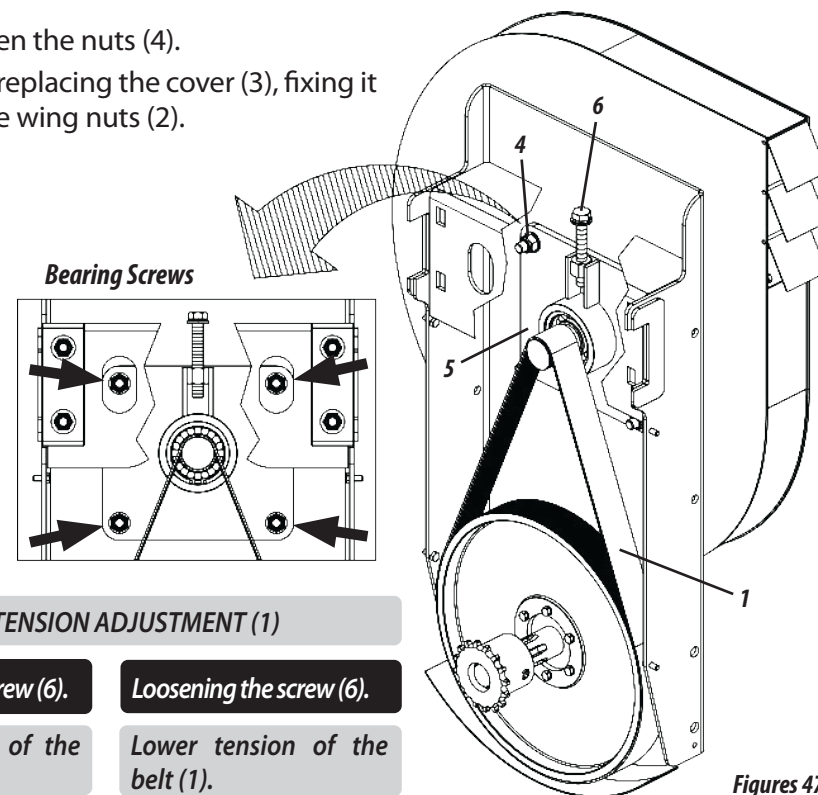
03 - Check the belt tension (1), which should have a normal clearance of ± 1 cm in its center.

04 - To tension it, loosen the nut (6) that fix the bearings.

05 - Then, tighten or loosen the screw (6), increasing or decreasing the chain tension.

06 - Then, tighten the nuts (4).

07 - Finalize by replacing the cover (3), fixing it through the wing nuts (2).



BELT TENSION ADJUSTMENT (1)

Tightening the screw (6).

Higher tension of the belt (1).

Loosening the screw (6).

Lower tension of the belt (1).

IMPORTANT

When there is no more chance to stretch the belt (1), one should replace it because it has already reached the wear limit.

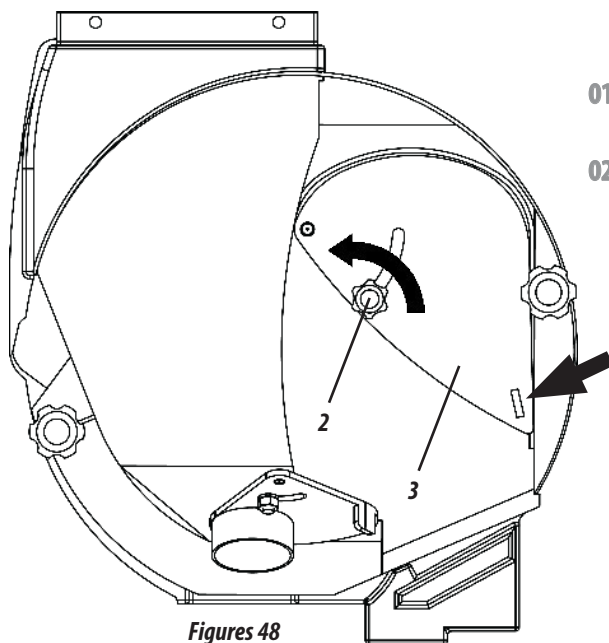
NOTE

The turbines are factory assembled and regulated to operate in the standard rotation of 540 rpm.

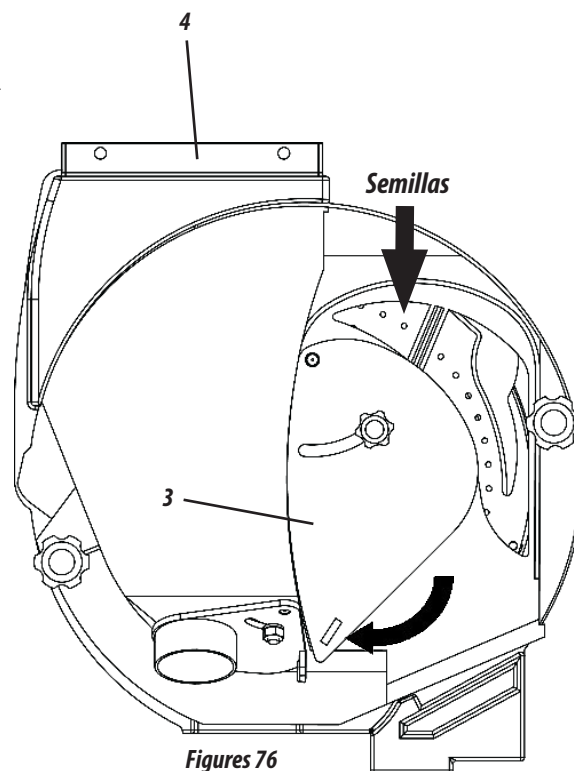
VACUUM LEVEL IN THE PERFORATED DISCS (FIGURES 48)

PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

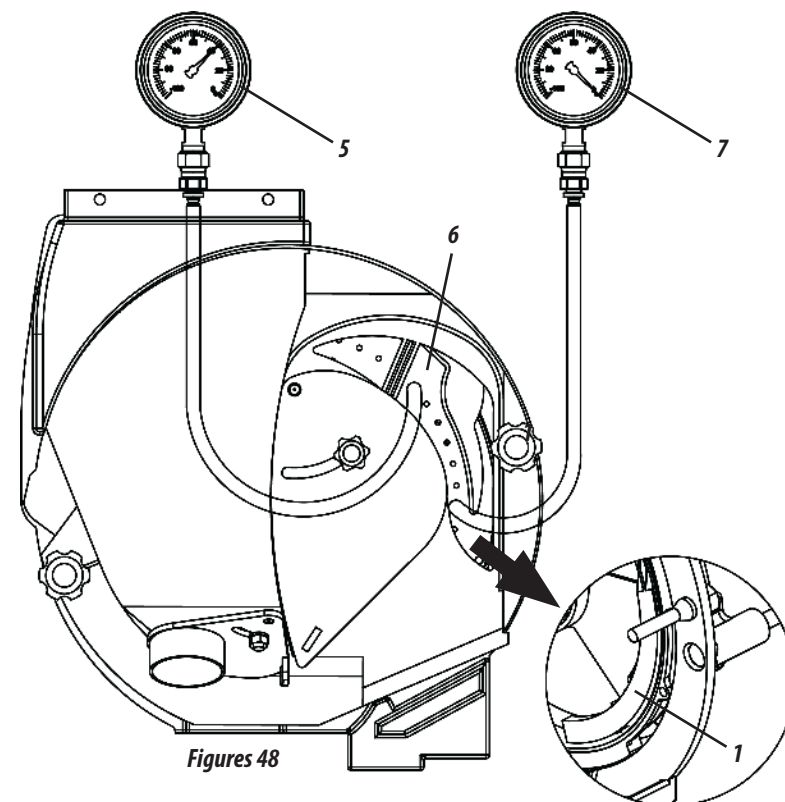
- Check the correct operation of the vacuum switch (1) every 20 hours of work; for this, proceed as follows:



- 01 - Turn the knob (2) in the counterclockwise direction, losing the lid (3).
- 02 - Then, push the cover (3) opening the feeder (4).



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



- 06 - 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).

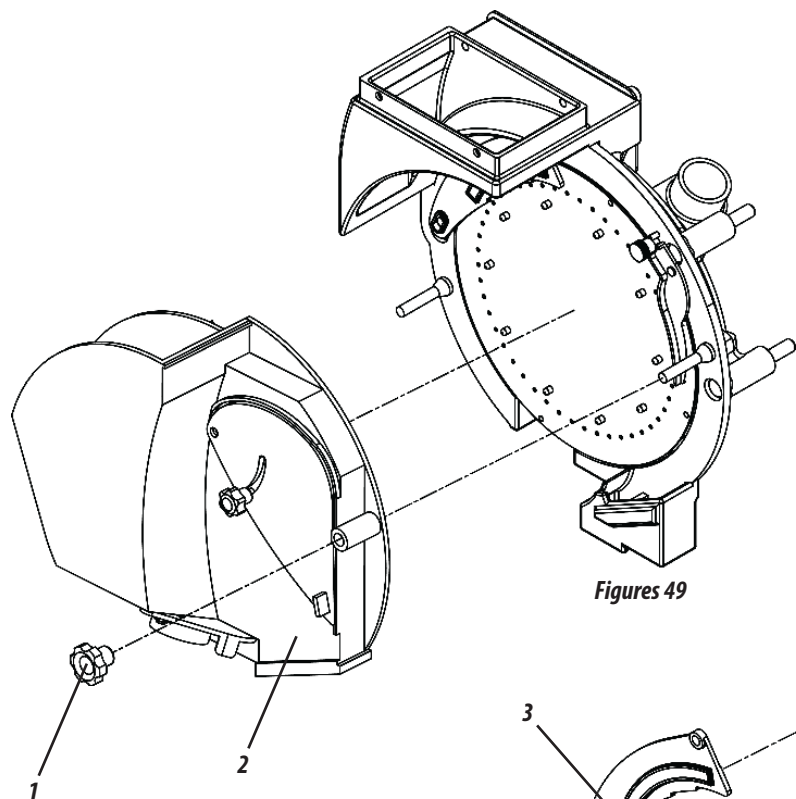
NOTE

The remaining holes should be with seeds.

REPLACING THE VACUUM SWITCH (FIGURES 49) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

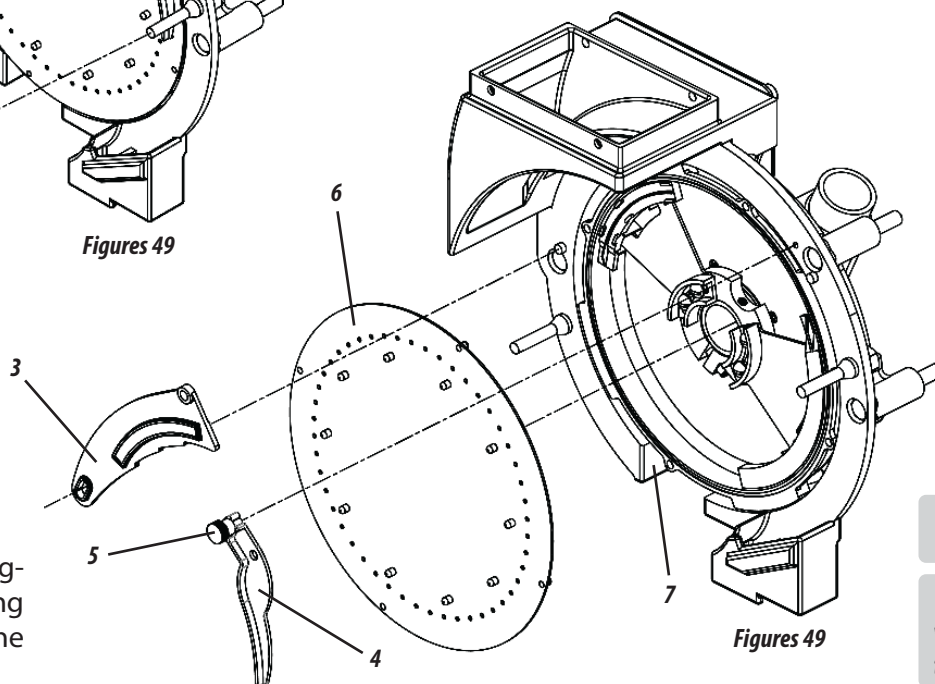
• To replace the vacuum switch, proceed as follows:

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



Figures 49

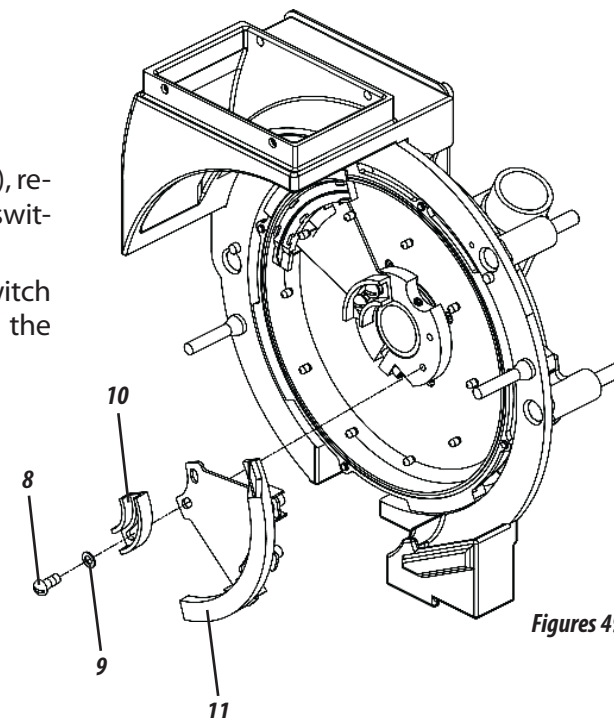
02 - Then, remove the selector with magnets (3), the lower selector (4) releasing the knob (5) and the disc (6) from the distributor (7).



Figures 49

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

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



Figures 49

⚠ 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

PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

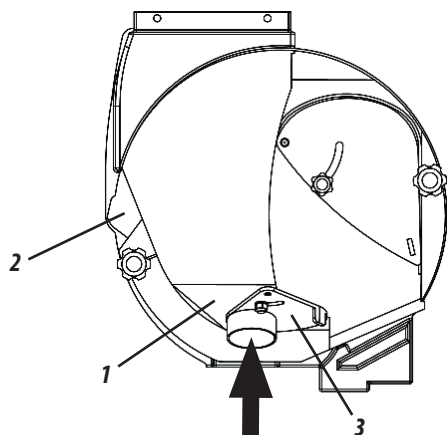
PROBLEMS	PROBABLE CAUSES	SOLUTIONS
During planting, fertilizer leaks through the safety outputs.	Hoses are clogged or there are pieces of plastic in the spiral hoses that conduct the fertilizer.	Unclog the hoses or remove the upper gutter that gives access to coil, rotate the shaft to the opposite side until the foreign body is removed.
Hub shaft of the fertilizer tank does not turn.	Spiral blocked with wet fertilizer or excess fertilizer in closed line.	Unclog the coils, check if there is loose gutter and if the fertilizer is coming in through their sides.
A planting line shows depth different from the other.	Different settings of pressure on the depth limiting wheels or in the line springs.	Set all the depth wheels and the pressure of the springs evenly.
The Furrow is opening too much during the planting.	Soil that sticks to the discs or excessive working speed.	Decrease the work speed.
Strange noise when operating or riding with the seeder loaded.	Loose wheels or hub with clearance.	Retighten the nuts of the wheel. Adjust the bearings of the wheel hub.
The seeder leaves the planting line, sometimes on one side, sometimes on the other.	Tractor drawbar loose.	Use the pin that came with the seeder. Attach the tractor drawbar in the center hole.
Pistons stop operating, raise the seeder and do not go down or vice versa.	Different quick coupler, ball-type male and needle-type female or vice - versa.	Replace the quick coupling, placing both of the same type.
Broken seeds	Too high planting speed.	Decrease the work speed.
	Inadequate disc thickness.	Use adequate disc (thickness and diameter of the holes).
	Disc improperly assembled. The seed sieve is not suitable for the disc selected.	Place the disc properly (see the phrase: THIS SIDE DOWN).
	Wet seed	Use dry seeds

12. CLEANING

CLEANING THE PNEUMATIC FEEDER (FIGURES 50) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

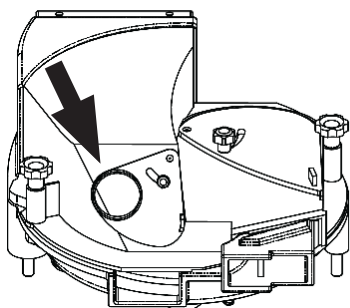
• At the end of each working day, we recommend emptying the tanks seeds. To do this, proceed as follows:

- 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).

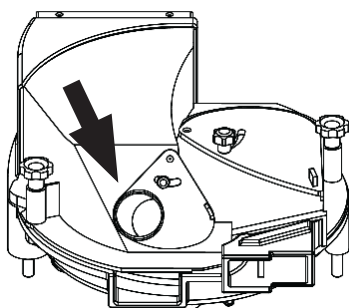


Seed output

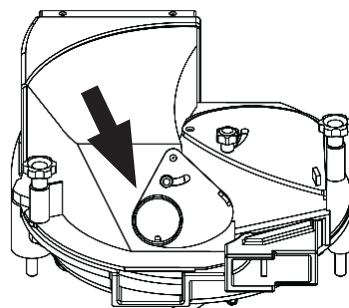
Figures 50



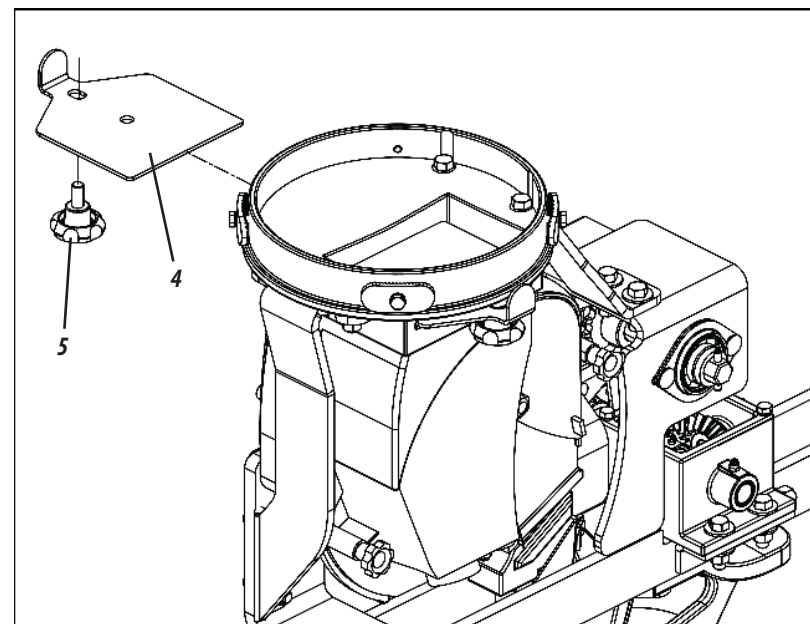
System Closed



System Semi Open



System Open

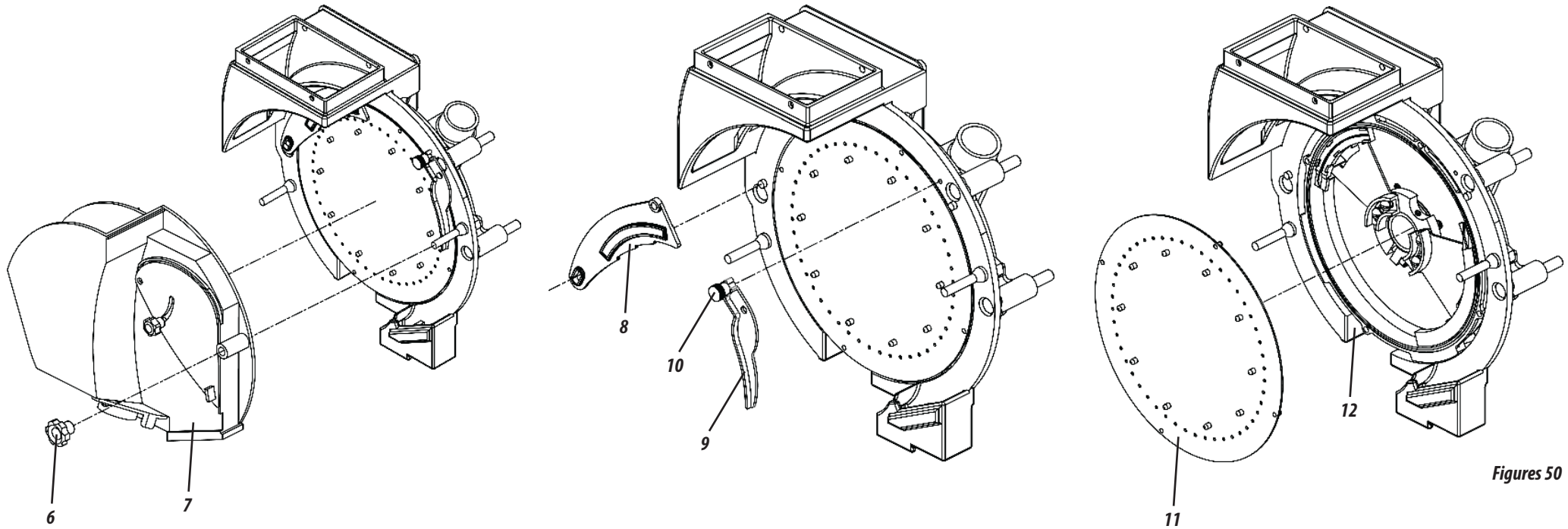


Figures 50

⚠ 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:
- 01** - Repeat the procedure on the previous page.
 - 02** - Then, release the knobs (6) and disconnect the cover (7) from the feeder.
 - 03** - Remove the selector with magnets (8) and the lower selector (9) by loosening the knob (10).
 - 04** - Remove the disc (11) from the distributor (12) and do a general cleaning in the whole system.
 - 05** - After cleaning, connect all components refitting the feeder.



Figures 50

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.

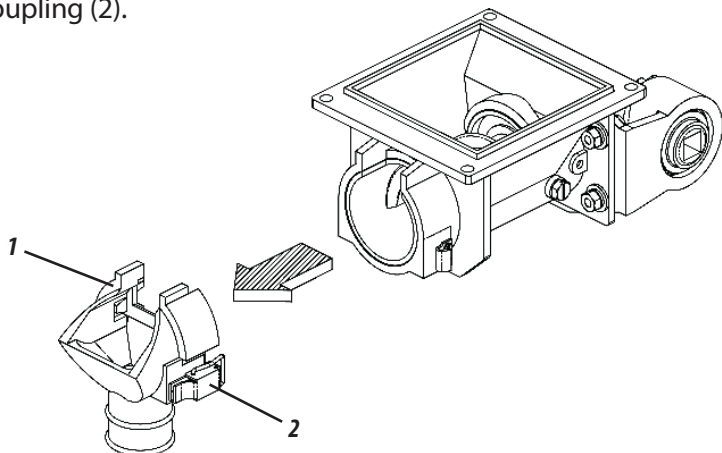
IMPORTANT

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

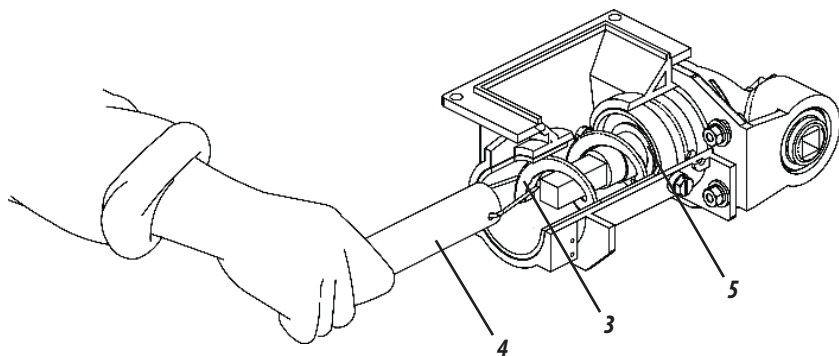
CLEANING THE FERTISYSTEM CONDUCTOR - OPTIONAL (FIGURES 51) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

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

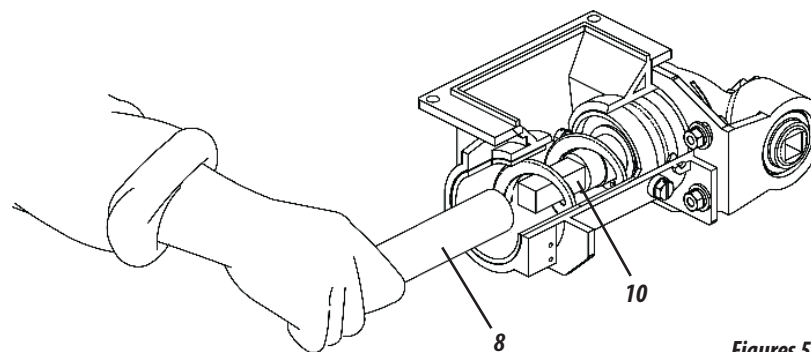
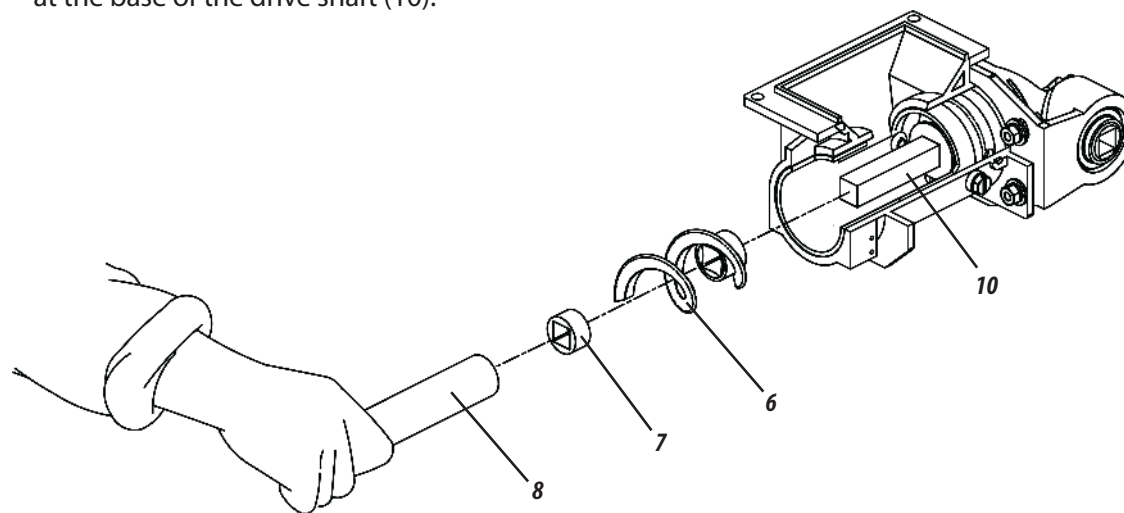
- 1- Remove the nozzle (1), through the quick coupling (2).



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



- 3- 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).



Figures 51

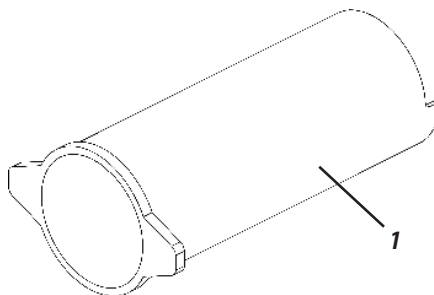
⚠ ATTENTION

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 (FIGURES 52)

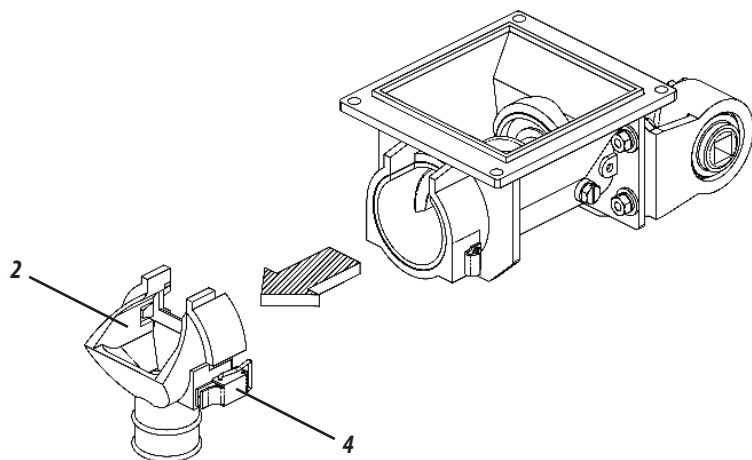
PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

- 1- The PLB Directa 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.

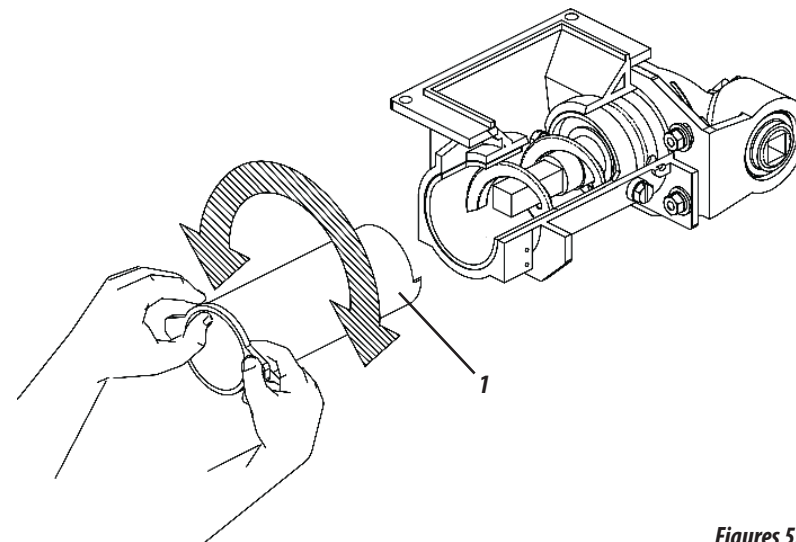


Maintenance Tube
Code: 60203900930

- To make the maintenance in the Fertisystem conductor, proceed as follows:
- 2- Remove the discharge nozzle (2) of the Fertisystem conductor (3) by loosening the clamps (4).



- 3- 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.



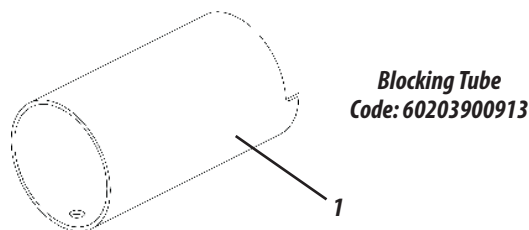
Figures 52



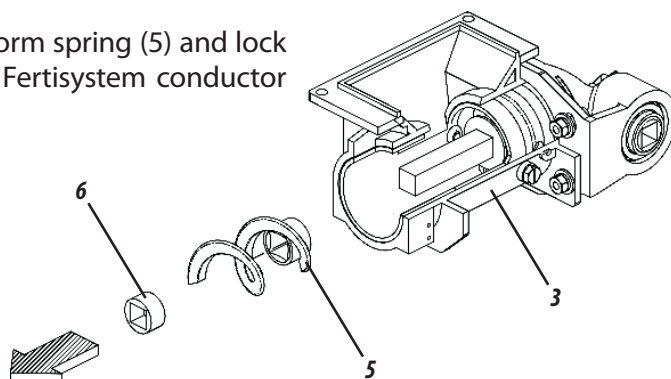
The maintenance tube (1) has a cutting angle at the edge in order to facilitate this operation.

BLOCKING TUBE FOR FERTISYSTEM CONDUCTOR(FIGS. 53) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

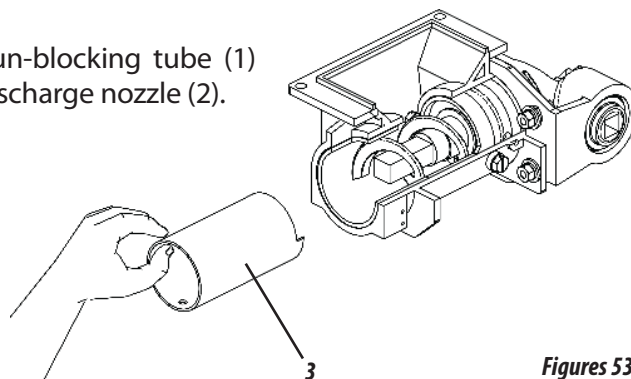
- 01 - The PLB Directa AIR when sold with the Fertisystem conductor comes with a blocking tube for when you need to isolate a few planting lines, there is no fertilizer distribution.



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



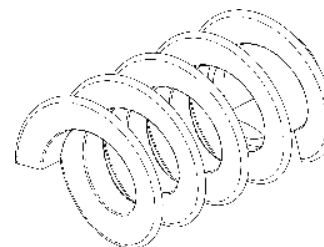
- 03 - Then, insert the un-blocking tube (1) and replace the discharge nozzle (2).



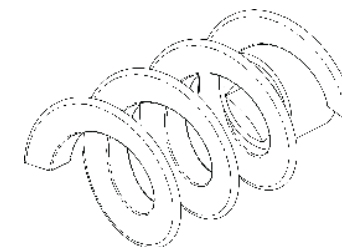
Figures 53

SPRING AND CAPS (OPTIONAL) FERTISYSTEM CONDUCTOR (FIGURES 54) PLB Directa Air 2 / 3 / 4 / 5 / 6 LINES

- 01 - The PLB Directa 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).



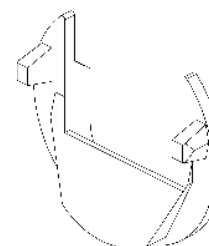
Worm Spring (Step 3/4")
Code: 60203700418



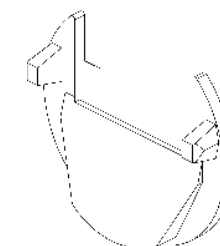
Worm Spring (Step 1")
Code: 60203700426

Figures 54

- 02 - The PLB Directa 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
Code: 60203900530



High-Flow Cap
Code: 60203900522

Figures 54

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

PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

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

GENERAL CLEANING

PLB *Directa Air* 2 / 3 / 4 / 5 / 6 LINES

- 1- 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.
- 2- Remove the transmission chains, and keep them immersed in oil until the next use.
- 3- 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.
- 4- 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.
- 5- 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.

13. IDENTIFICATION

- To view the parts catalog or request technical assistance from Baldan, always indicate the model (1), serial number (2) and date of manufacture (3), which are on the identification label of your equipment.

ALWAYS REQUIRE BALDAN ORIGINAL PARTS

 BALDAN BALDAN IMPLEMENTOS AGRÍCOLAS S/A. AV. BALDAN, 1500 NOVA MATÃO CEP 15.993-900 MATÃO-SP BRASIL FONE: (16) 3221-6500 CNPJ: 52.311.347/0009-06 CREA/SP 0170977			
01 	Modelo / Model	03 	Data / Date
02 	Nº de Série / Serial Number	Tipo / Type	
Capacidade / Load Capacity		Peso / Weight	



PUBLICATIONS

Code: 60550101109
CPT: PLBC02519



ATTENTION

The drawings herein are merely illustrative. To allow a better view and detailed instruction, the safety devices in some drawings of this manual were removed (covers, protections, etc.). Never operate Fertiliza without these devices.

 **CONTACT**

In case of doubt do not operate the equipment, please contact our after-sales service.

Telefone: 0800-152577
e-mail: posvenda@baldan.com.br

PRODUCT IDENTIFICATION

- Make the identification of the data below to always have correct information about the life time of your equipment.

Owner's name: _____

Dealer: _____

Farm: _____

City: _____ State: _____

Model: _____ **Warranty:** _____

Invoice number:

Date of purchase: ____/____/____ Serial number: _____

NOTES:

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

WARRANTY CERTIFICATE

BALDAN IMPLEMENTOS AGRÍCOLAS S/A, guarantees normal operation of the implement to the reseller for a period of 6 (six) months counted from the delivery date on the reseller's bill of sale to the first final consumer.

During this period **BALDAN** is committed to repair any defects in materials and/or manufacturing at its own responsibility, as labor, shipping, and other expenses are the responsibility of the reseller.

During the warranty period, the request and replacement of any defective parts will be done at the regional reseller, and thereafter ship the defective part to **BALDAN** for analysis.

When it is not possible to perform such procedure and the capacity for resolving the problem is exhausted by the reseller, the same shall request support from the **BALDAN** Technical Support Service, by filling out the specific form distributed to resellers.

After analysis of the replaced items by the **BALDAN** Technical Support Services is concluded and the replacement is not covered by the warranty, then it will be the responsibility of the reseller to pay all the related costs for the replacement; as well as expenses on materials, travel, including lodging and meals, accessories, lubricates used, and other expenses originating from the Technical Support Service call, thereby the **BALDAN** company is authorized to charge for the respective bill to the reseller's name.

Any repair done on the product within the validity date of the warranty period, will only be authorized by **BALDAN** by previous presentation of the quotation describing the parts and labor charges that will be performed.

It is excluded from this agreement, whenever the product undergoes official repairs or modifications from service centers that do not belong to the **BALDAN** reseller network, as well as the installation of aftermarket parts or components in the user's product.

This warranty will be nullified if the defect or damage is the result from improper usage that is noncompliant to the instructions or inexperience of the operator.

It is agreed to that this present warranty does not cover tires, polyethylene storage compartments, drive shafts, hydraulic components, etc. as the warranty coverage is from their own manufacturers.

Manufacturing or material defects, as stated in the purpose of this warranty agreement, does not constitute, under any hypothesis, a reason for purchase and sale contract termination, or the payment of indemnities of any nature.

BALDAN reserves the right to change and or perfect the technical characteristics of its products, and without any obligation to proceed in previously manufactured products.

INSPECTION AND DELIVERY CERTIFICATE

- **SERVICE BEFORE DELIVERY:** This implement was carefully prepared by the sales organization; all its parts were inspected according to the instructions from the manufacturer.
- **DELIVERY SERVICE:** The user was informed as to the terms of the applicable warranty and instructed on its usage and maintenance procedures.
- I hereby confirm I have been informed on the terms of the applicable warranty and instructed on its usage and maintenance procedures of the implement.

Implement: _____

Serial Number: _____

Date: _____ Invoice: _____

Reseller: _____ City: _____

State: _____ Postal Code: _____

Owner: _____ Phone: _____

Address: _____ Number: _____

City: _____ State: _____

E-mail: _____

Sales Date: _____

Signature / Reseller Stamp _____

1ª - Owner

INSPECTION AND DELIVERY CERTIFICATE

- **SERVICE BEFORE DELIVERY:** This implement was carefully prepared by the sales organization; all its parts were inspected according to the instructions from the manufacturer.
- **DELIVERY SERVICE:** The user was informed as to the terms of the applicable warranty and instructed on its usage and maintenance procedures.
- I hereby confirm I have been informed on the terms of the applicable warranty and instructed on its usage and maintenance procedures of the implement.

Implement: _____

Serial Number: _____

Data: _____ Invoice: _____

Reseller: _____ City: _____

State: _____ Postal Code: _____

Owner: _____ Phone: _____

Address: _____ Number: _____

City: _____ State: _____

E-mail: _____

Sales Date: _____

Signature / Reseller Stamp _____

2ª - Reseller

INSPECTION AND DELIVERY CERTIFICATE

- **SERVICE BEFORE DELIVERY:** This implement was carefully prepared by the sales organization; all its parts were inspected according to the instructions from the manufacturer.
- **DELIVERY SERVICE:** The user was informed as to the terms of the applicable warranty and instructed on its usage and maintenance procedures.
- I hereby confirm I have been informed on the terms of the applicable warranty and instructed on its usage and maintenance procedures of the implement.

Implement: _____

Serial Number: _____

Data: _____ Invoice: _____

Reseller: _____ City: _____

State: _____ Postal Code: _____

Owner: _____ Phone: _____

Address: _____ Number: _____

City: _____ State: _____

E-mail: _____

Sales Date: _____

Signature / Reseller Stamp _____

3ª - Manufacturer

Please send a filled out copy in a maximum period of 15 days to BALDAN.



Avenida Baldan, 1500
Nova Matão
15.993-900
Matão/SP - Brasil
sac@baldan.com.br
export@baldan.com.br

+55 16 3221 6500

baldan.com.br