PP Solo

Speed Box

Series 4000 to 7500

Instruction Manual

BIA® Baldan

www.baldan.com.br

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

BIA®

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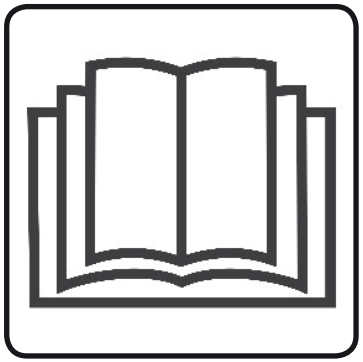
ÍNDICE

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

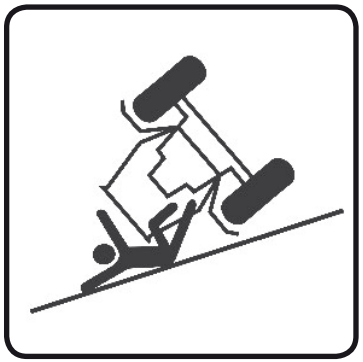
- ***Do not operate the tractor if the front is light. With a tendency to rise, add weights on the front of the tractor or front wheels.***

ATTENTION

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

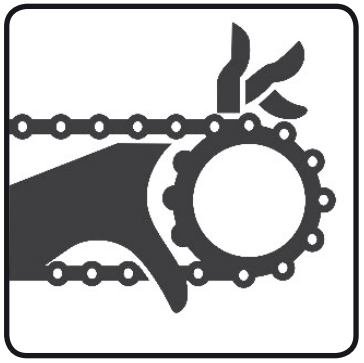
ATTENTION

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



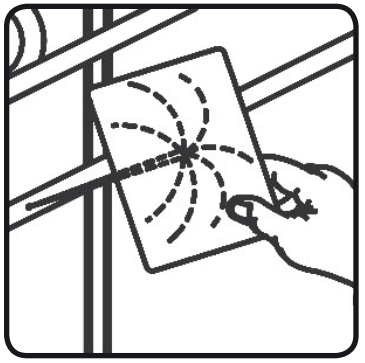
⚠ ATTENTION

- *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.*



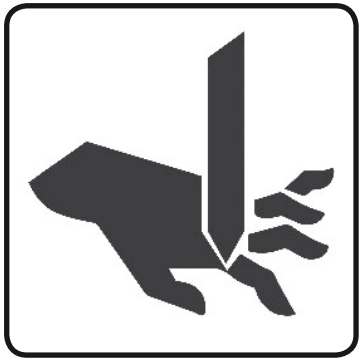
⚠ ATTENTION

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



⚠ ATTENTION

- *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.*

⚠ ATTENTION

- *The hydraulic fluid is under pressure and can cause serious injuries in case of leaks. Periodically check the conservation condition of the hoses. If there is evidence of leaks, replace them immediately.*
- *Before connecting or disconnecting hydraulic hoses, relieve the pressure of the system, triggering the command with the tractor off.*

⚠ ATTENTION

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

⚠ ATTENTION

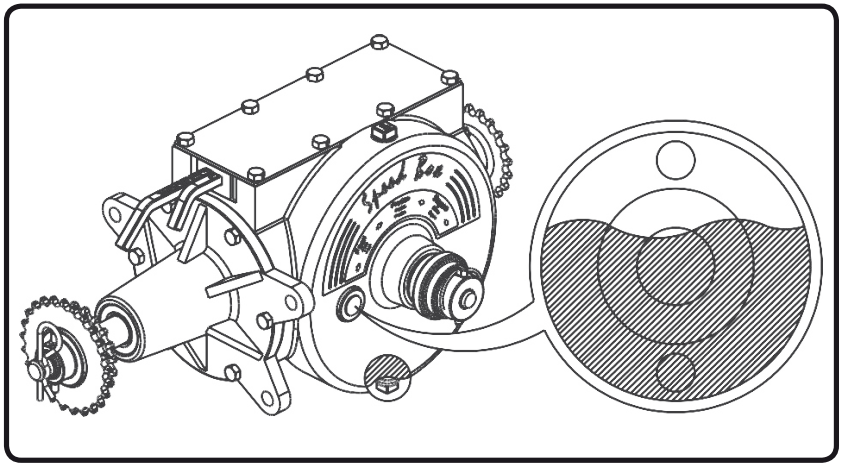
- *When operating the seed drill, do not allow the permanence of people on the machine.*
- *Do not stay on the platforms with the machine in motion.*

⚠ 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

- *Check the oil level daily.*
- *Replace the oil in the gearbox (Speed Box) after the first 30 hours of work, then every 1500 hours, always using ISO VG 150 mineral oil at 40°C (amount of oil used 1.8 liters).*
- *Use only factory original fuse, because only this one has controlled hardness.*



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

WARNING

THE 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 or on it.**

02- **In making any assembling and disassembling service in the discs, always use safety gloves.**

03- **Before connecting or disconnecting hydraulic hoses, relieve the system pressure by moving the command with the tractor off.**

04- **Periodically check the conservation status of the hoses. If there is evidence of leaks, immediately replace them because the oil works under high pressure and can cause serious injury.**

05- **Do not wear loose clothing as they can become entangled in moving parts.**

06- **When turning the tractor engine on, be properly seated on the operator's seat and aware of the correct and safe management of both tractor and implement. Always put the selector lever in neutral, turn off the power take-off command and place the hydraulic commands in the neutral position.**

07- **Do not run the engine in indoor environments without adequate ventilation, as the exhaust fumes are harmful to health.**

08- **When maneuvering the tractor to the implement hitch, make sure that there is plenty of room and that there is nobody very close, always do the maneuvers in low gear and be prepared to brake in emergency situations.**

09- **Do not make adjustments with the implement in operation.**

10- **When working on slopes, proceed with caution when trying to maintain the necessary stability. In case of early imbalance, reduce the acceleration, turn the tractor wheels to the side of the terrain slope.**

11- **Always drive the tractor at speeds compatible with safety, especially when working on uneven ground or slopes, always keep the tractor engaged.**

12- **When driving the tractor on roads, keep the brake pedals connected and use of safety signs.**

13- **Do not operate the tractor if its front is light. If there is a tendency to rise, add weights on the front or front wheels.**

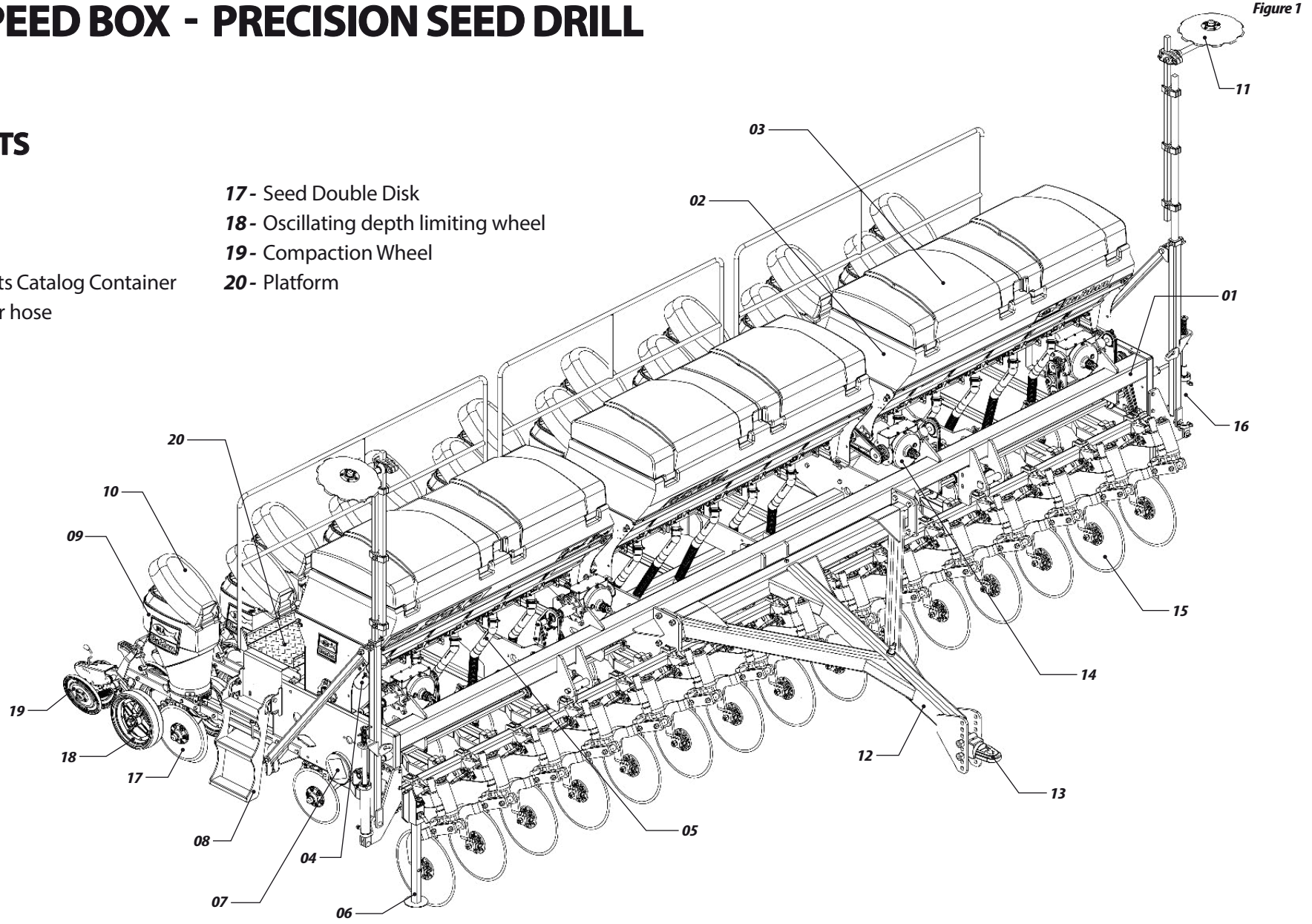
14- **Leaving the tractor, put the selector lever in neutral and pull the parking brake.**

PPSOLO SPEED BOX - PRECISION SEED DRILL

02. COMPONENTS

01 - Chassis
02 - Fertilizer tank
03 - Fertilizer tank cap
04 - Handbook and Parts Catalog Container
05 - Fertilizer conductor hose
06 - Support leg
07 - Central shaft
08 - Ladder
09 - Seed Tank
10 - Line marker disc
11 - Seed tank cap
12 - Coupling Header
13 - Coupling shackle
14 - Speed Box
15 - Cutting disc
16 - Marker Cylinder
17 - Seed Double Disk
18 - Oscillating depth limiting wheel
19 - Compaction Wheel
20 - Platform

Figure 1



03. TECHNICAL SPECIFICATIONS

Table 1

Model	Nr of Rows	Useful width (mm)	Working width (mm)	Total width (mm)	Working depth (mm)	Fertilizer tank capacity (L)		Number of wheels	Approximate weight (Kg)	Tractor power (HP)
						Metalic	Polyethylene			
4000	8	3390	3800	4300*	0 - 120	1400	1240	2	3200	90 - 100**
4500	10	4060	4480	5000*	0 - 120	1750	1500	4	4100	100 - 110**
5000	12	4940	5350	6000*	0 - 120	2100	1860	4	5050	120 - 150**
5500	13	5400	6300	6500*	0 - 120	2100	1860	4	5450	130 - 160**
6500	15	6300	6715	7300*	0 - 120	2600	2250	6	7800	160 - 190**
7500	17	7200	7615	8200*	0 - 120	3000	2610	6	8000	170 - 200**

(*) The dimensions of the overall width (mm) comprise the seeder with line marker. The seeder without line marker should be reduced to 200 mm in dimensions.
(**) Approximate Power (hp) depends on normal situations for planting may be variations according to the soil type, topography, etc.

- Minimum spacing between lines ..... 415 mm
- Max spacing between lines ..... 450 mm
- Seed tank capacity ..... 65 L
- Total Height ..... 2000 mm
- Wheels ..... Militar 700 x 16 x 10 L
- Fertilizer flow ..... 57 - 1700 kg/ha

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

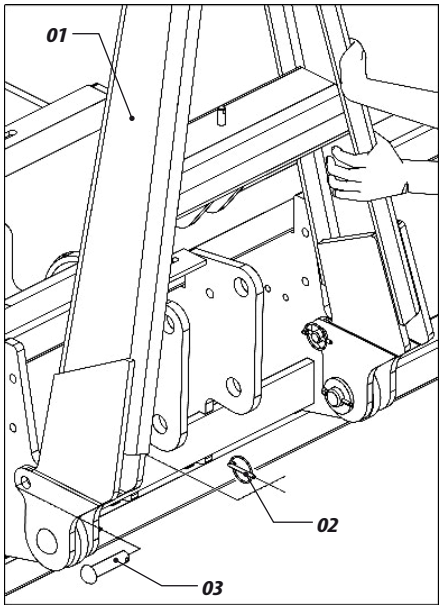
- The Baldan seed drill model PPSOLO Speed Box Air are factory semi-assembled, with only some components of the assembly that must be assembled as indicated below:

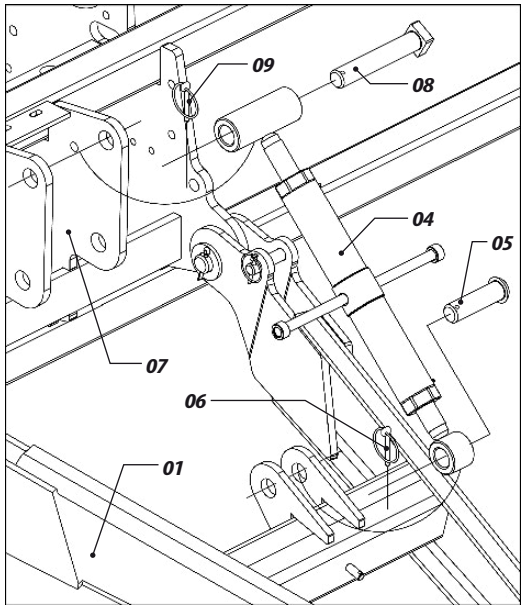
ASSEMBLY OF THE COUPLING HEADER

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

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

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



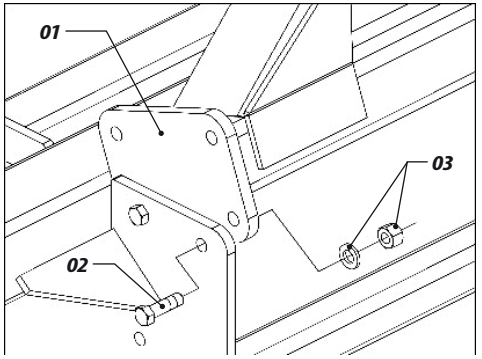


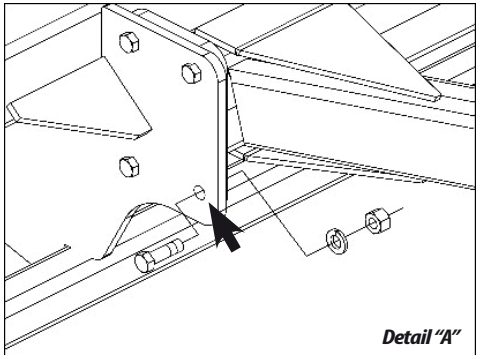
Figures 2

ASSEMBLY OF THE COUPLING HEADER - PPSOLO 6500 / 7500

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

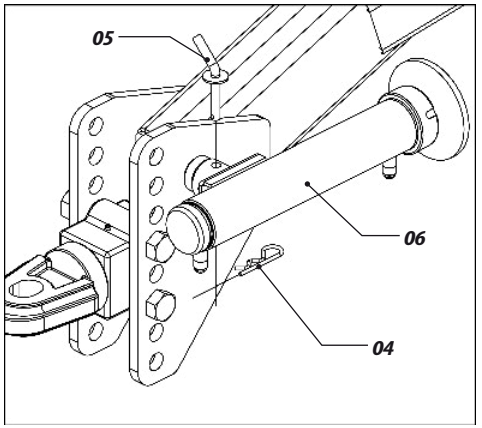
01 - Place the coupling head (1) in the working position by removing the screw (2), washer and nut (3) that were placed to transport the seed drill. Then, replace them in the holes that match in the work position, as shown in detail "A".

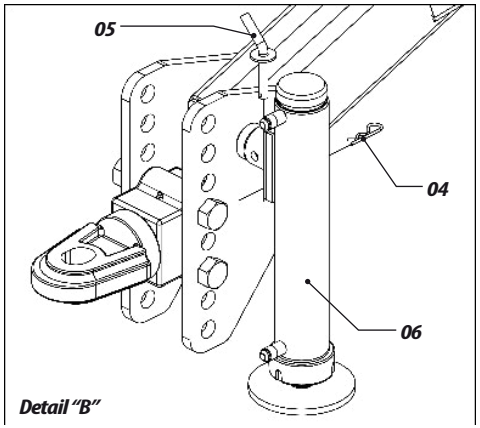




Figures 3

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





Figures 4

ASSEMBLING THE CARTS

- To make the assembly of carts, proceed as follows:

01 - Attach the "V" wheel bracket (1) to the depth wheel cart (2) fixing it with sleeves (3), washers and screws (4).

02 - Then, put the lever (5) fully forward as shown in detail "C" and engage the spring (6) on the lever (5) and on the depth wheel cart support (7).

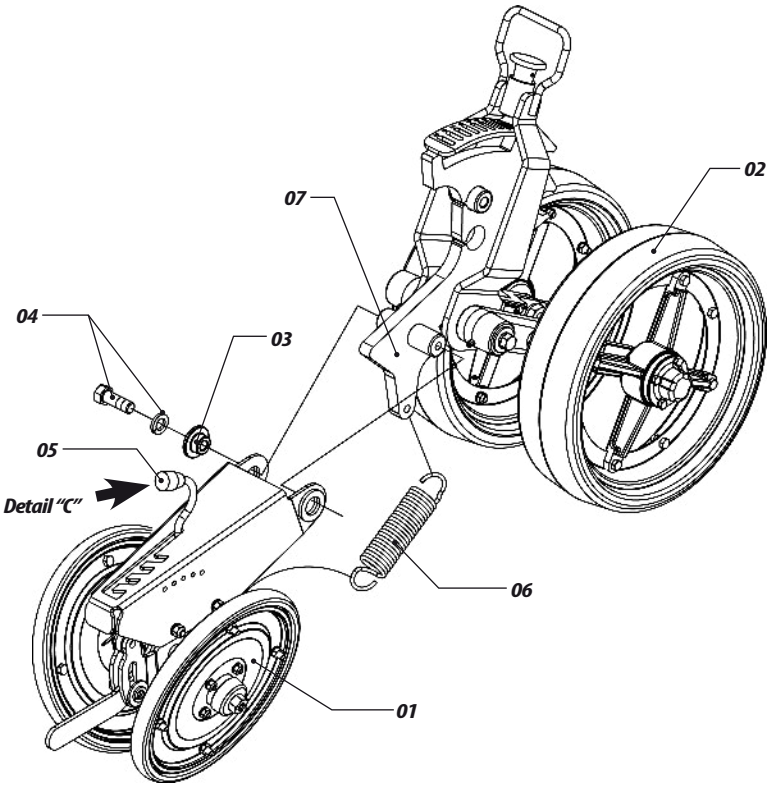


Figure 5

IMPORTANT

Do the same procedure as above to assemble the other carts.

ASSEMBLING THE CARTS ON LINES

- To make the assembly of carts on lines, proceed as follows:

01 - Insert the cart (1) between the plates of the line (2), fixing it with screws (3), washers and nuts (4).

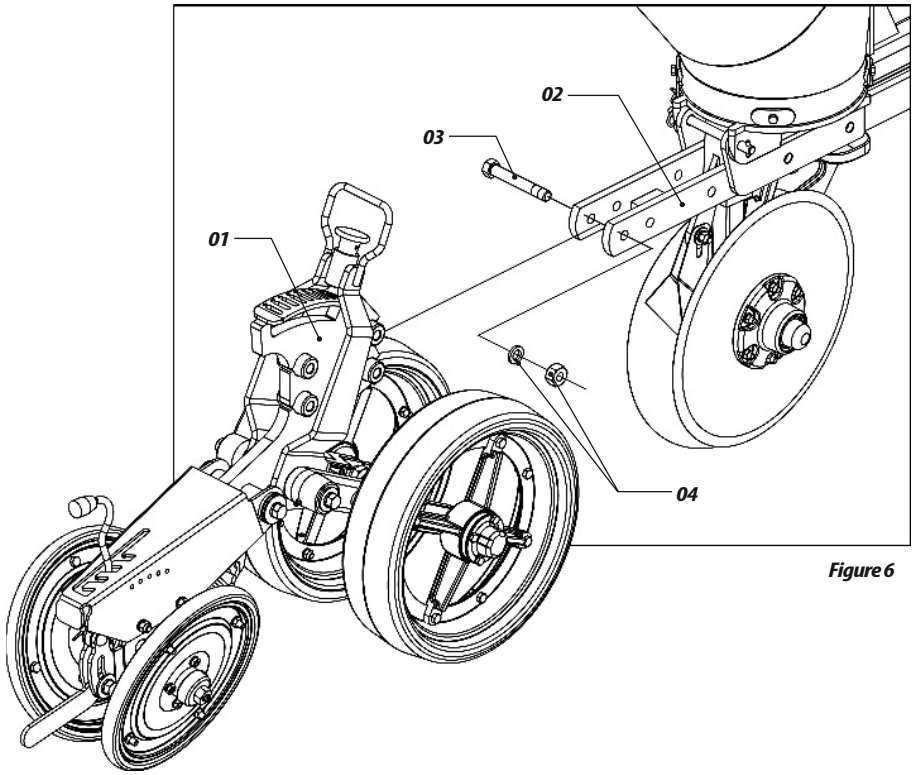


Figure 6

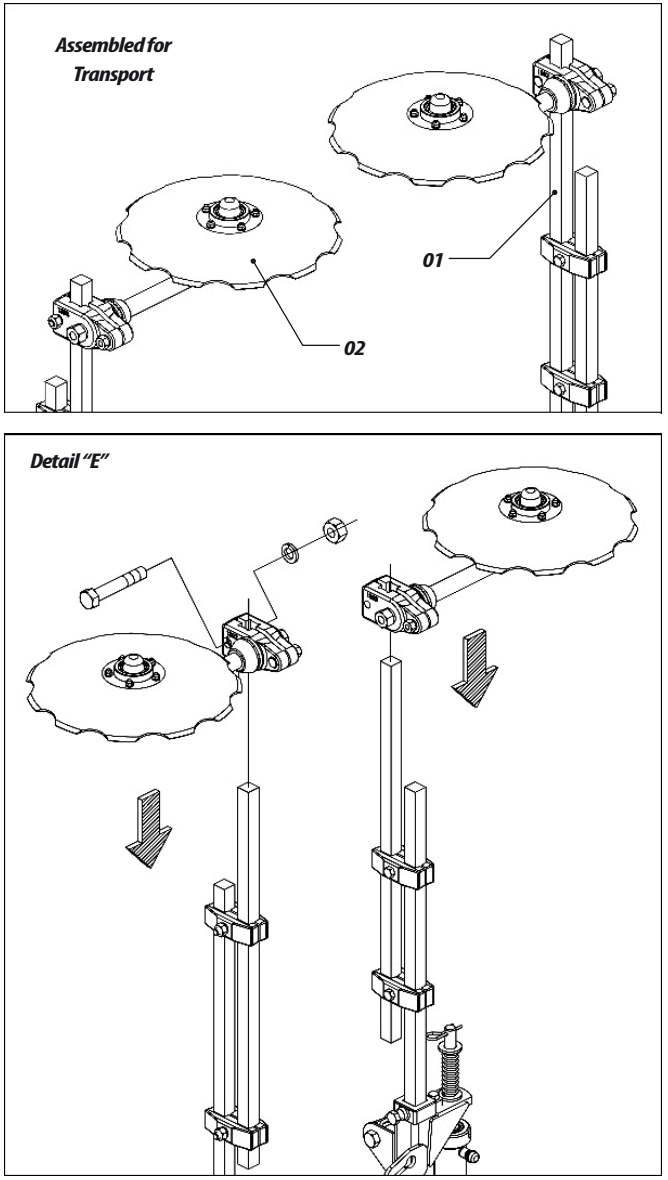
ATTENTION

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

ASSEMBLING THE CUTTING DISC OF THE LINE MARKER

- The seed drills leave the factory with line markers (1) already assembled. Discs (2) are assembled inversely to their respective markers to avoid the risk of accidents in the drill transport. Before start working with the drill, change the discs (2) in line markers (1), for this do the following:

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



Figures 7

05. TRACTOR COUPLING

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.

- To couple the seed drill, proceed as follows:

02 - Align the coupling header (1) of the seed drill in relation to the tractor coupling through the regulator (2). Then, slowly move the tractor in reverse towards the seed drill, being aware to the application of brakes.

03 - Couple the drill to the tractor by fixing it through the hitch pin (3) and lock (4).

04 - Connect the hoses (5) the quick hitch of the tractor.

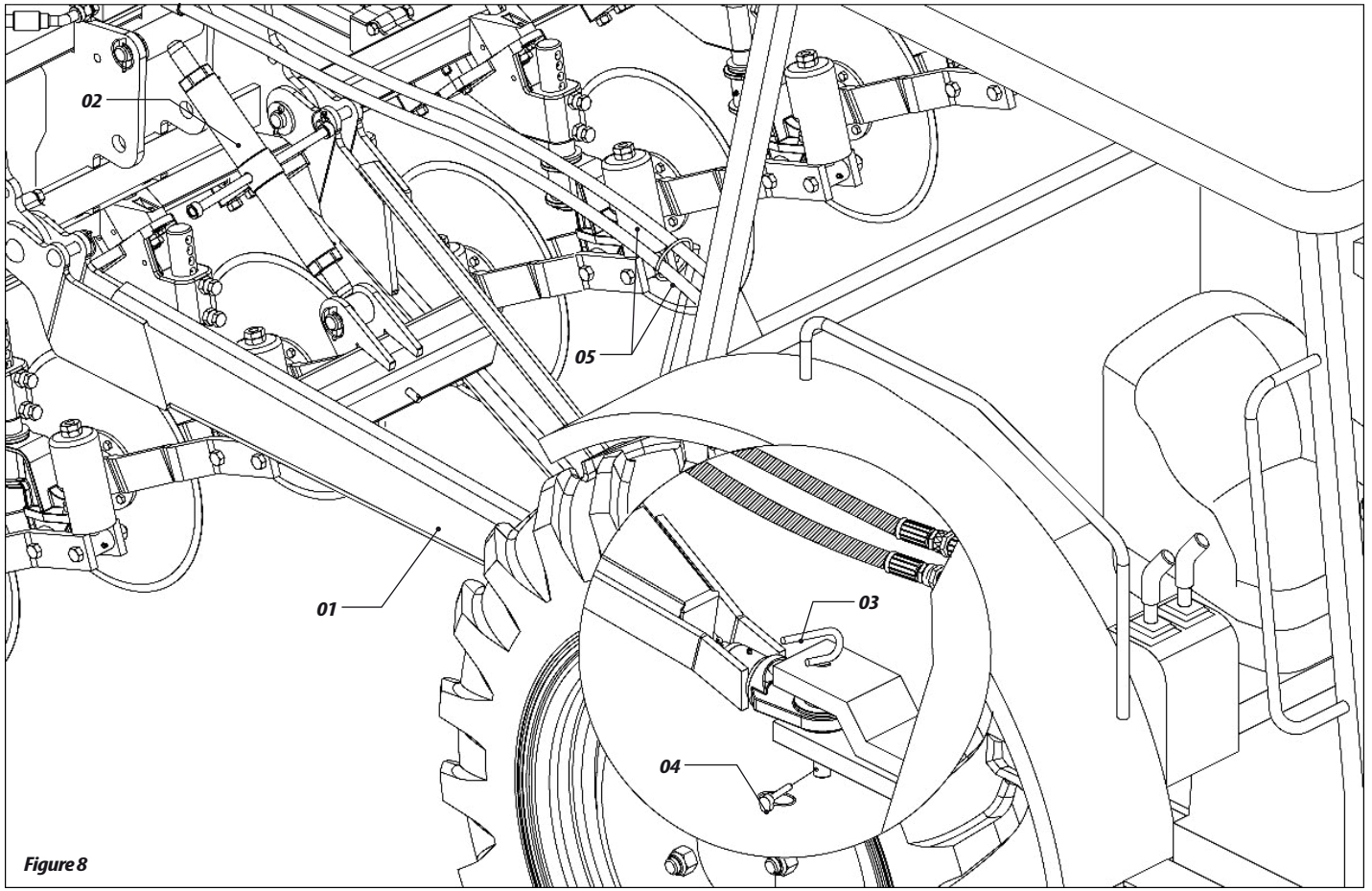


Figure 8

⚠ ATTENTION

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

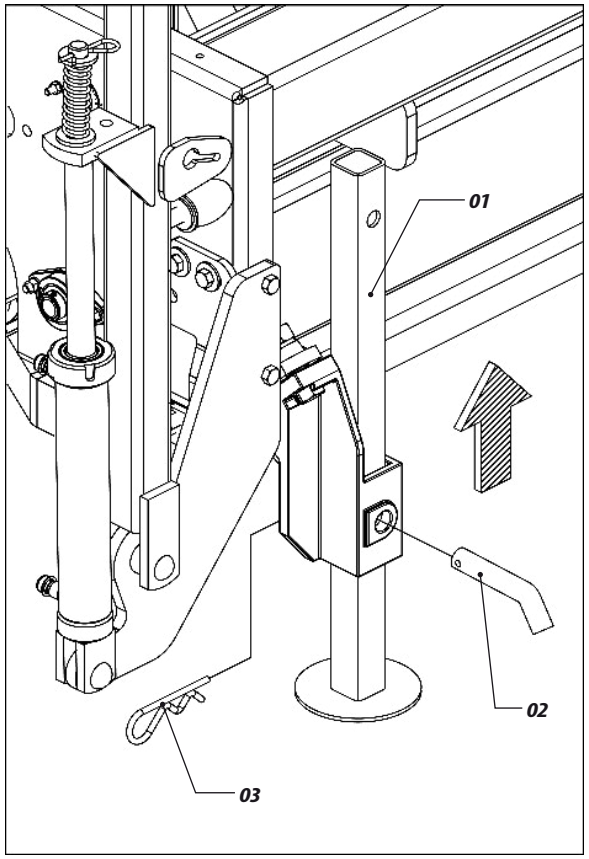
IMPORTANT

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

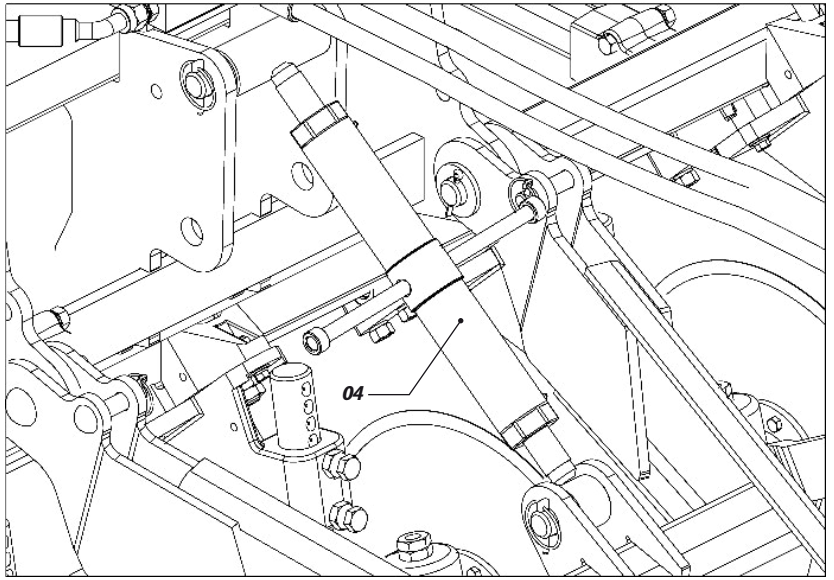
WORK / TRANSPORTATION

- Before working or moving the planter, do the following:

01 - Retract the support bracket (1) and fix it with the pin (2) and lock (3).

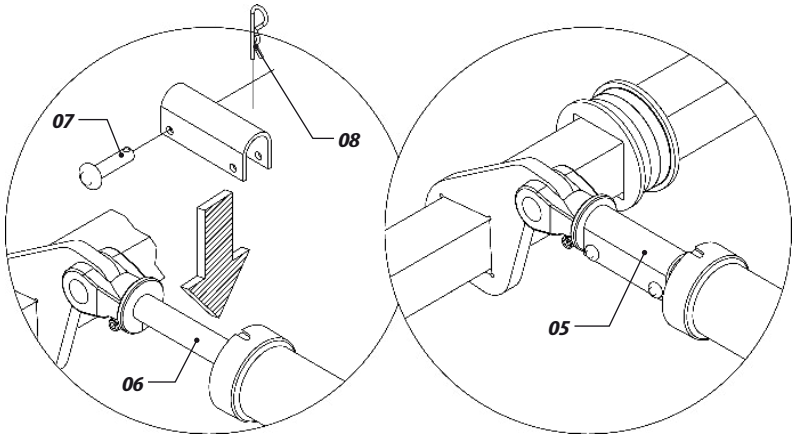


02 - With the planter lowered, make sure it is leveled in relation to the ground, otherwise, level it through the header regulator (4).



Figures 9

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



IMPORTANT

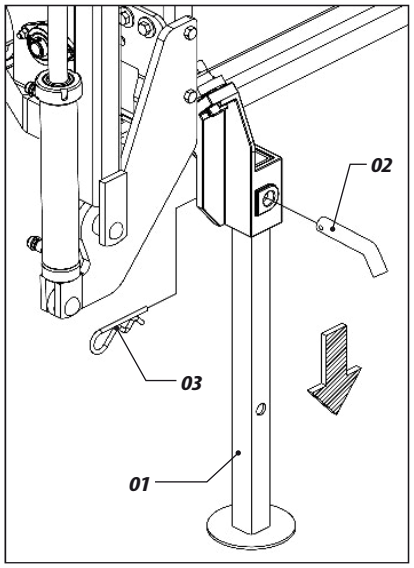
Do not transport the planter if it is loaded, since it may damage the equipment. Supplying it only in at the workplace is recommend. If the planter is to remain on the field for any reason, we recommend covering it with impermeable canvas tarpaulin to prevent moisture.

06. OPERATIONS

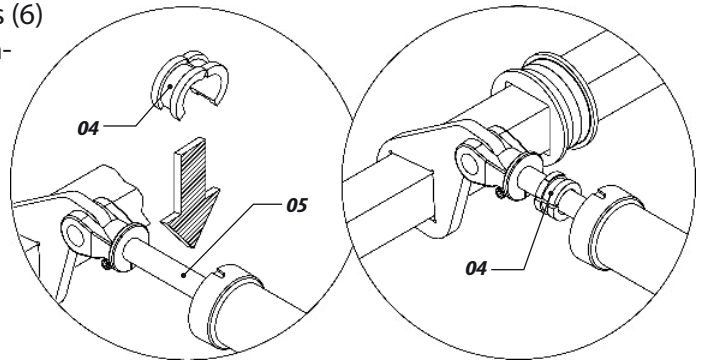
NEW SPACING

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

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



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



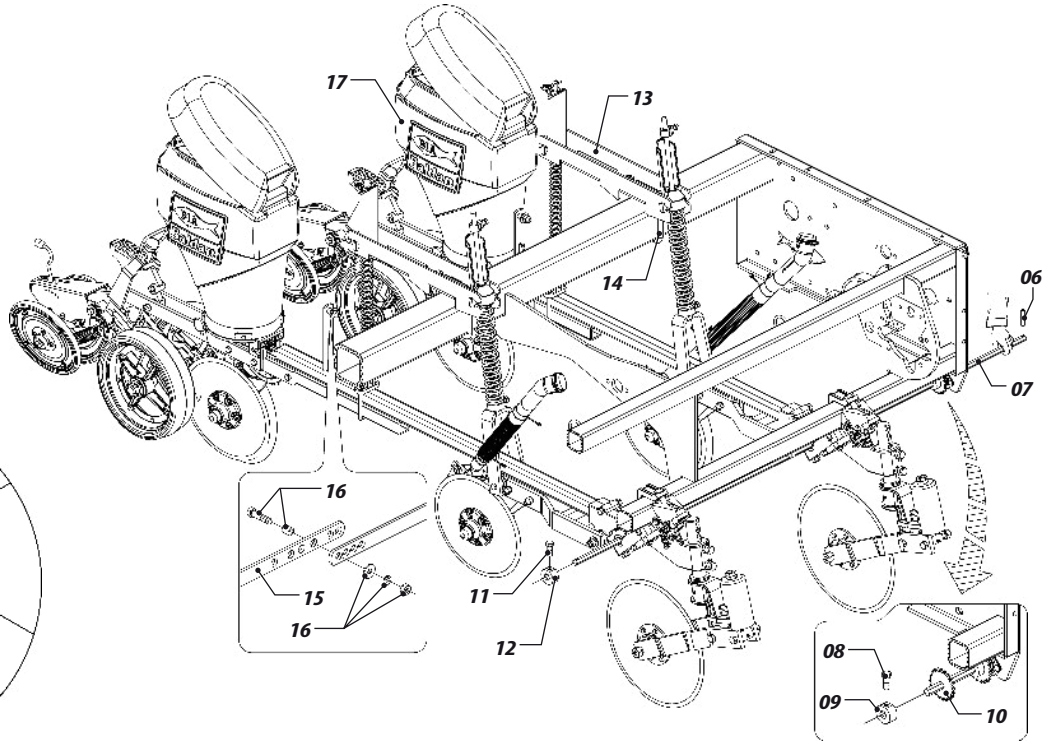
Figures 10

03 - Remove the latch (6) from the tip of the hexagon shaft (7), loosen the screws (8) releasing the latches (9) that fix the gear (10). Then, loosen the screws (11) by releasing the latches (12) and remove the hexagon shaft (7). Check the lines that will be removed or displaced and loosen the nuts from the support of the springs (13), remove the fixation clamp (14) from the lines, loosen the clamps (15), unplug the hoses (16), remove the spacing bars (17) using the screws and sleeves (19), washers and nuts (20). Finally, remove complete lines by pulling them back;

04 - Replace the hexagon shaft (7) and latches (6). Align the gear (10) and tighten the screws (8).

05 - Slide the lines to the desired spacing and retighten the nuts of clamps (14). Reposition the latches (12) and tighten the screws (11).

06 - Then, replace the spacing bars (15), adjusting them to the new spacing and tighten the screws with sleeves, washers and nuts (16).

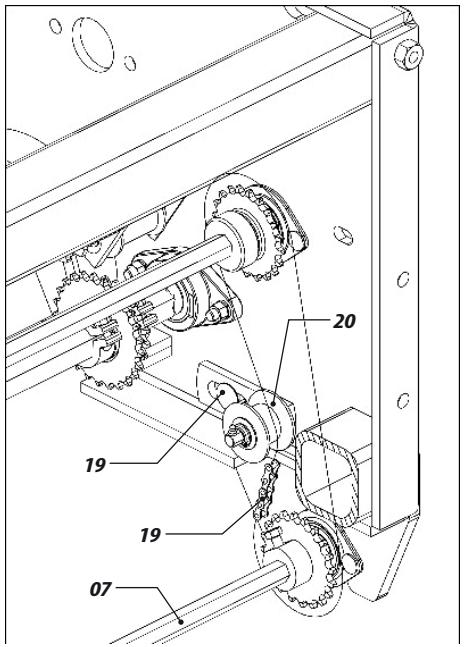


07 - If there is need to remove the shaft (7), tighten the transmission chain (8) by loosening the screw (19) by releasing the tensioner (20).

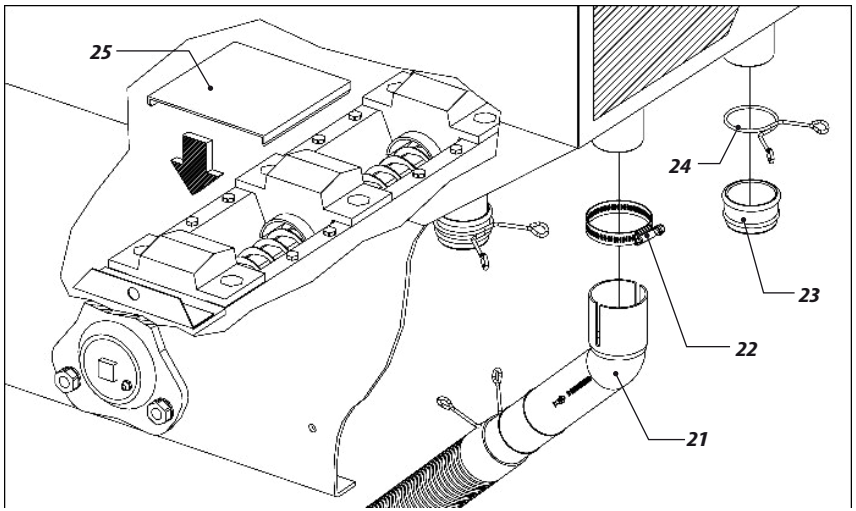
⚠ ATTENTION

Note the alignment between gears.

08 - When removing the lines to adjust the new spacing, also remove the fertilizer conductive spouts (21) through the clamp (22) and close the tank outputs, placing the cap (23), and locking with the clamp (24). Then, close the tank inputs, and place the cap (25).



Figures 10



WHEELS POSITION

- To modify the wheels position, do the following:

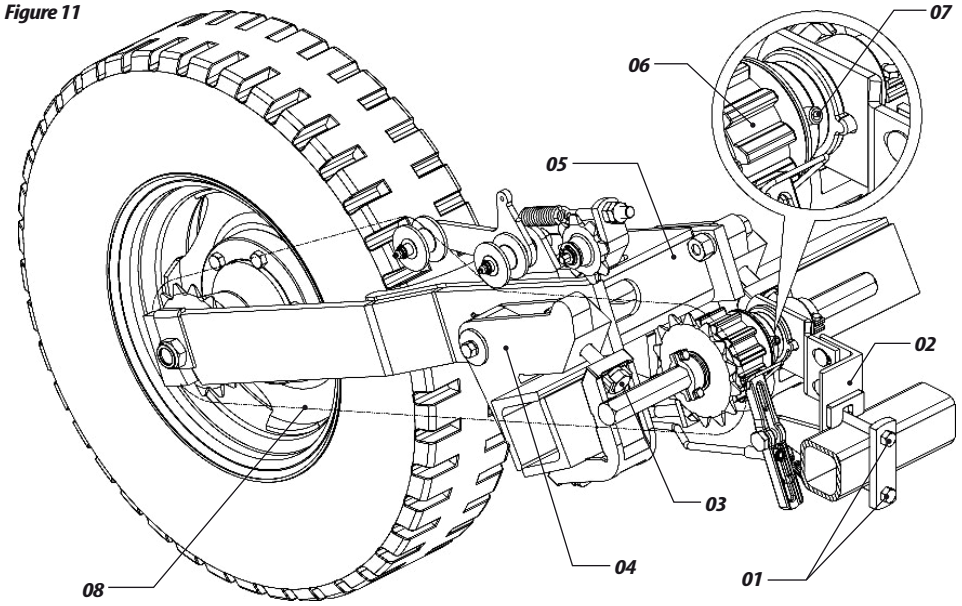
01 - Loosen the screws (1) from the ratchet support (2) and screws (3) from the clamps (4) of the wheel support (5).

02 - Then, loosen the screws (6) from the clamp (7), releasing all the structure to move it.

03 - Then, slide the wheel and ratchet sets.

04 - Note the alignment of the ratchet and wheel gears with the transmission chain (8).

Figure 11



IMPORTANT

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

SPACING TABLES IN MM (TABLES 02)

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

The planters are provided with spacing according to the number of rows requested new spacings may be effected as desired type of culture.

Tables 02

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

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

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

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

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

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

Spacings with an asterisk (*) may change up to 25 mm in some lines.

Spacings with an asterisk (**) may change up to 30 mm in some lines.

ADJUSTMENT OF LINE MARKERS

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.

02 - To adjust the line markers, proceed as follows: 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 06 lines in the seed drill, spacing of 0.90 meters and tractor front gauge with 1.43 meters, determine:***

Figure 12

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

04 - 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.

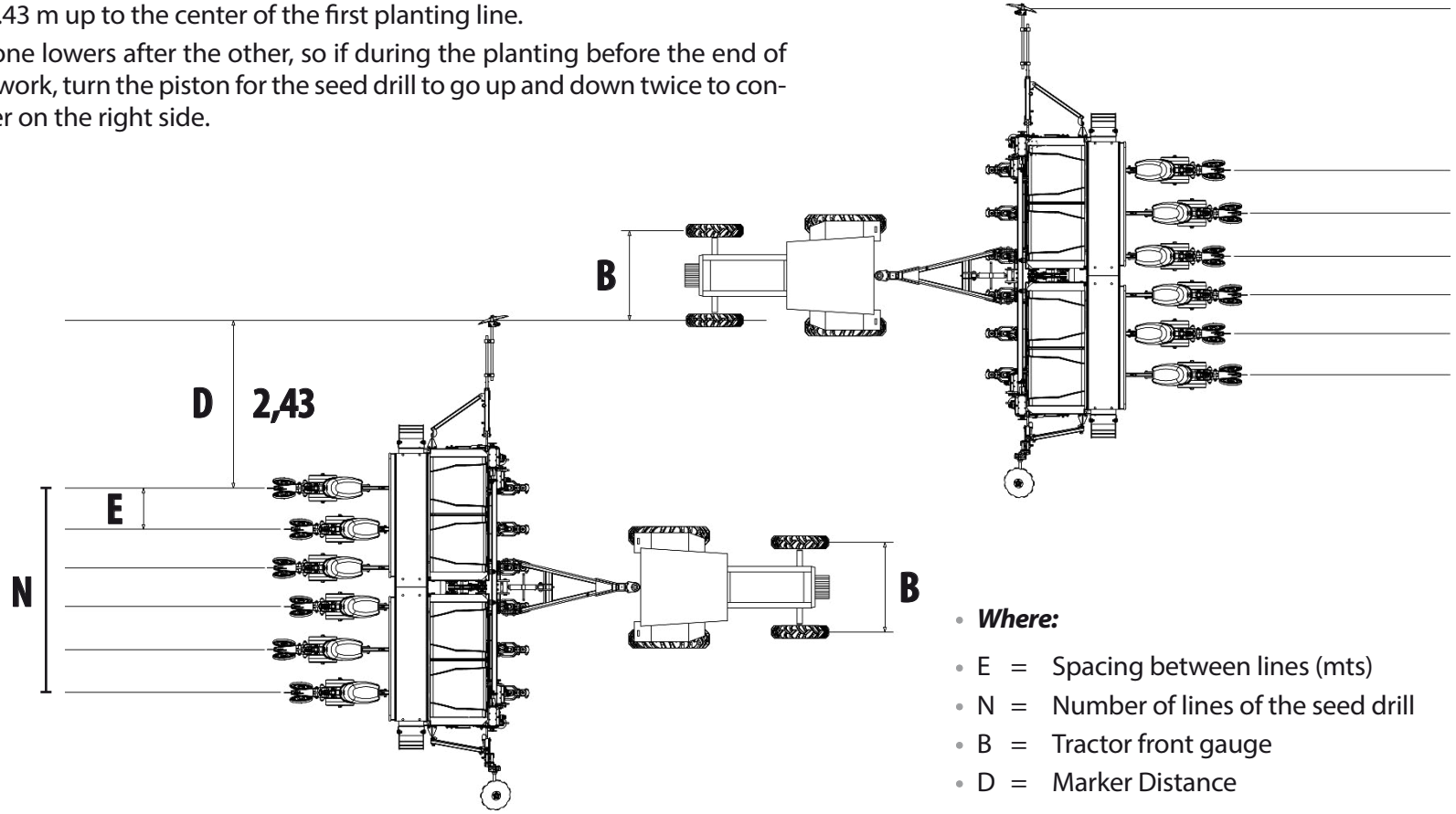
- ***Formula:***

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

- ***Solva:***

$$D = \frac{0{,}90 \times 7 - 1{,}43}{2}$$

- D = 2,43 grams



- ***Where:***
- E = Spacing between lines (mts)
- N = Number of lines of the seed drill
- B = Tractor front gauge
- D = Marker Distance

CONVENTIONAL FINISHING SYSTEM

- The seed drills come standard with the conventional finishing system, which allows the planting with only one machine side, or half the lines. To do this, proceed as follows:

01 - First, choose the side of the seed drill to be done the finishing. Then, manually pull the latch (1) from the ratchet (2), for the chosen side.

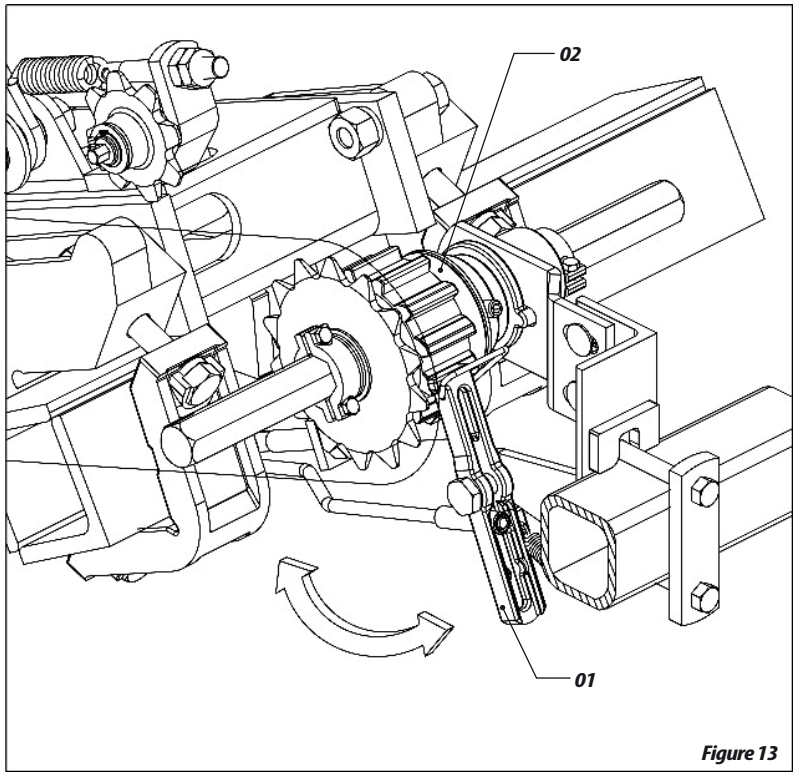


Figure 13

⚠ ATTENTION

With the seed drill stopped, disarming and reset the ratchet to avoide risks of accidents.

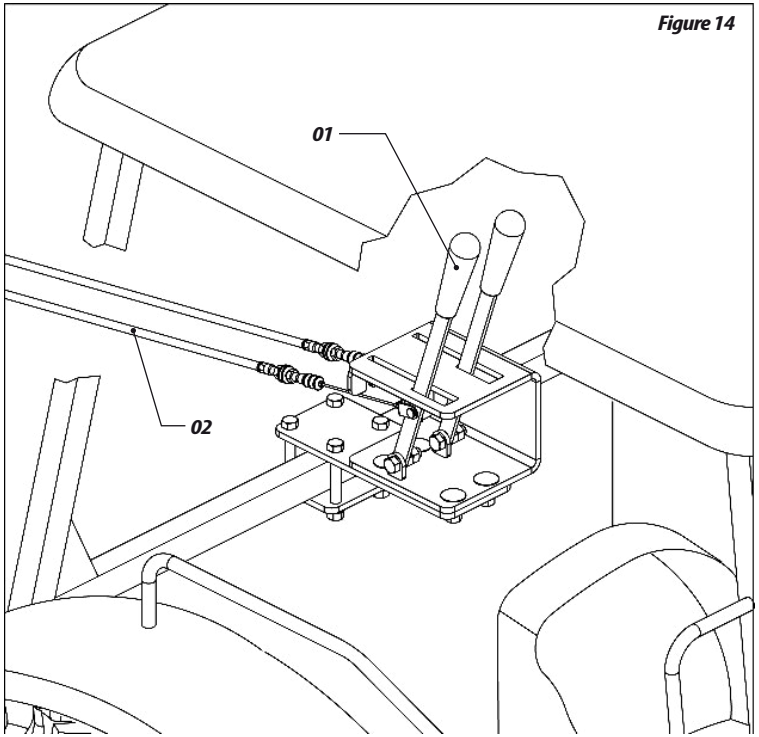
MECHANICAL FINISHING SYSTEM - OPTIONAL

- The mechanical finishing system allows the operator through a simple operation to trigger it without leaving the tractor. This is done through the lever and cable. To do this, proceed as follows:

01 - First choose the side of the drill that the finishing will be done. Then, pull the lever (1) to the chosen side.

02 - When you do it, the cable (2) will lock the ratchet, setting the see drill to work.

Figure 14



⚠ ATTENTION

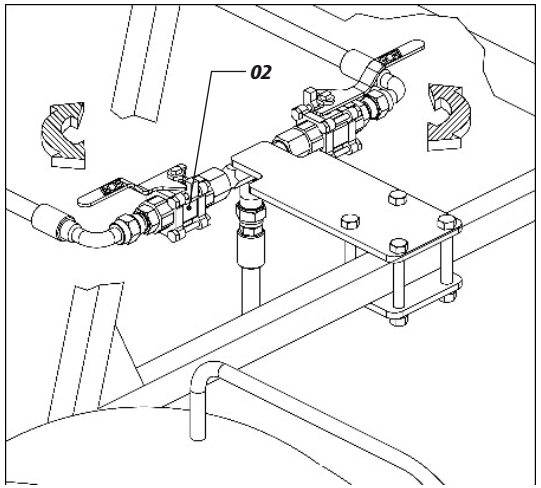
When disarming and resetting the ratchet, make sure there are no people near the machine, avoiding the risk of accidents.

HYDRAULIC CLOSURE SYSTEM - OPTIONAL

- The mechanical finishing system allows the operator through a simple operation to trigger it without leaving the tractor. This is done through the lever and cable. To do this, proceed as follows:

01 - First choose the side of the drill that the finishing will be done. Then, pull the lever (1) to the chosen side.

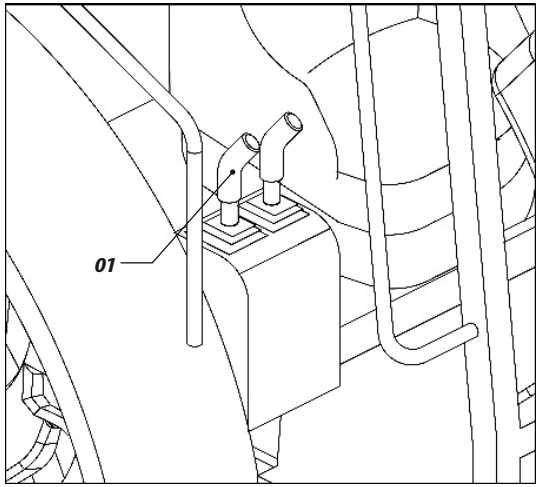
02 - When you do it, the cable (2) will lock the ratchet, setting the see drill to work.



⚠ ATENÇÃO

When disarming and resetting the ratchet, make sure there are no people near the machine, avoiding the risk of accidents.

03 - Then, drive the remote control lever (1) of the tractor so that the hydraulic cylinder locks the ratchet, the seeder being ready for work.



Figures 15

ADJUSTING LINE MARKER DISCS

- The line marker disc (1) has angular adjustment to facilitate the work of soil marking. To do this, proceed as follows:

01 - Loosen the nut (2), turn the disc (1) to the desired position and retighten the nut.

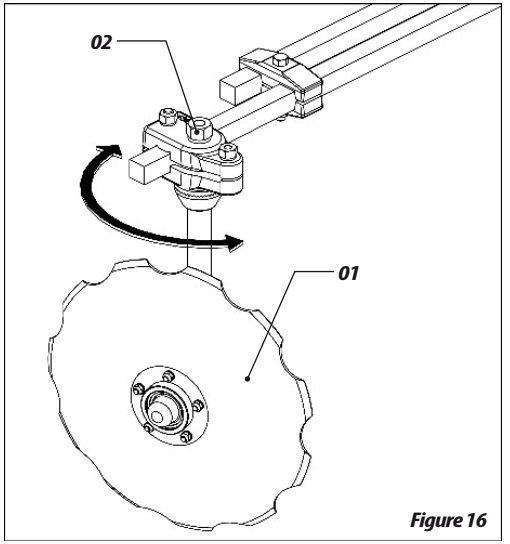


Figure 16

07. ADJUSTMENT FOR SEED DISTRIBUTION

CHOOSING THE ADEQUATE DISC

01 - Use large seeds as a parameter for selecting the appropriate disc.

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

03 - To avoid damage to the seed, the thickness of the distribution discs (1) must be equal to or slightly greater than that of the seed.

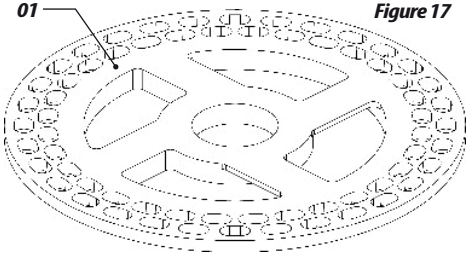


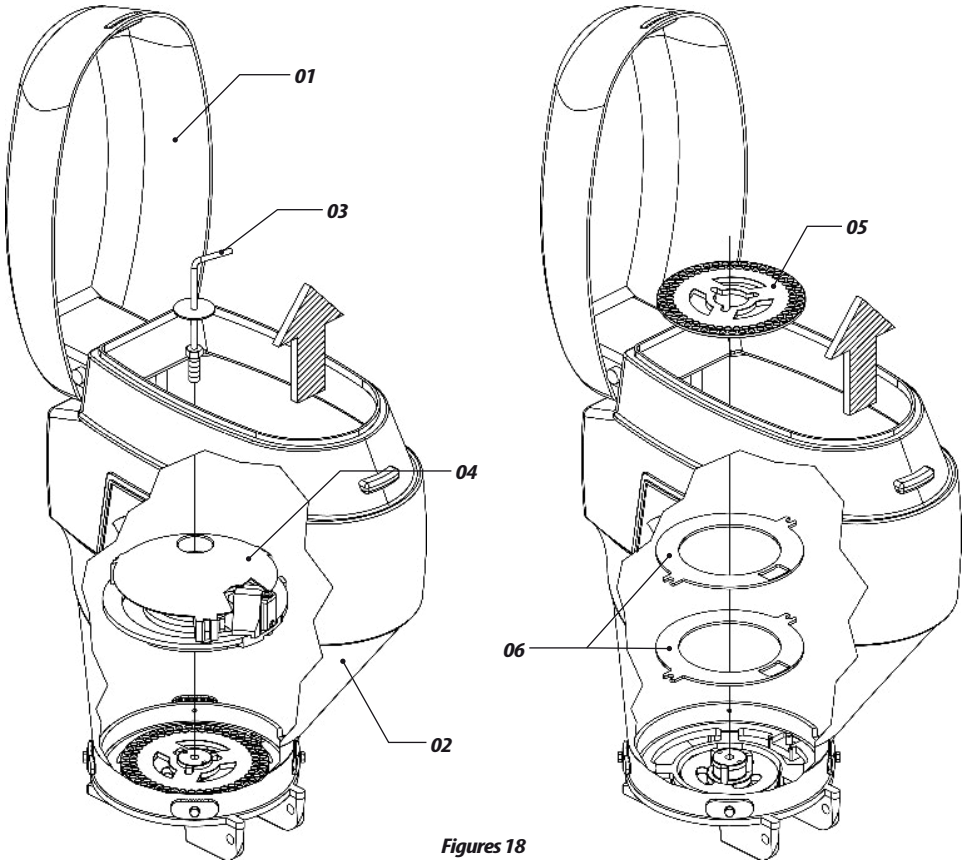
Figure 17

EXCHANGING SEED DISCS

- To exchange or replace the seed distribution discs, proceed as follows:

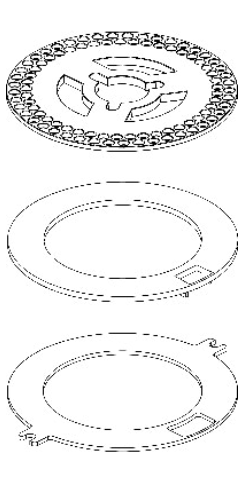
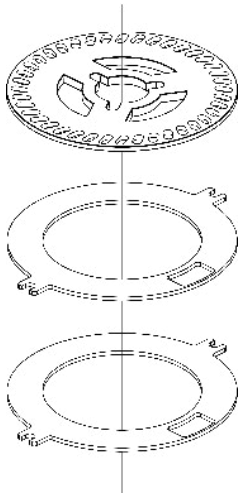
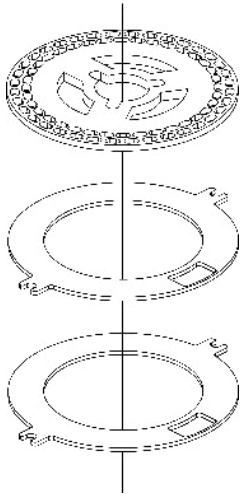
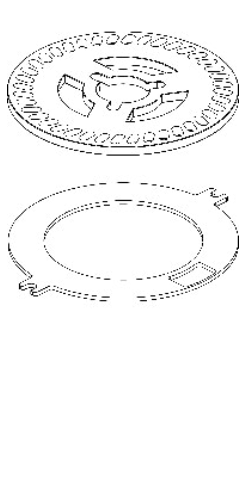
01 - Open the cover (1) of the seed box (2), remove the screw (3), the top support (4), the distribution disc (5) and metal rings (6), which will be replaced. Next, assemble all components again.

02 - Select the desired distribution disc and assemble it in the seed box. Check the placement of the rings according to distribution discs indicated in the table on the following page.



Figures 18

DISTRIBUTION DISC MODEL

Distribution disc of 3mm	*Distribution disc of 4,5mm*	*Distribution disc of 5,5mm*	*Distribution disc of 8mm*
			
Use 1 elastic ring of 5mm and 1 metal ring of 3.5mm	*Use 2 metal rings 3.5mm*	*Use 1 plastic ring 2.5 mm and 1 metal ring of 3.5mm*	*Use 1 metal ring 3.5mm*

Figures 19

IMPORTANT

Always use the spacing ring with the distribution discs. The sum of the set, seed disc and ring should always be equal to 11.5 mm thick to perfect adjustment of the system. Then, when the distribution disc has thickness different from 4.5 mm or 8.0 mm in crops such as sorghum and beans, use the special ring according to the table above.

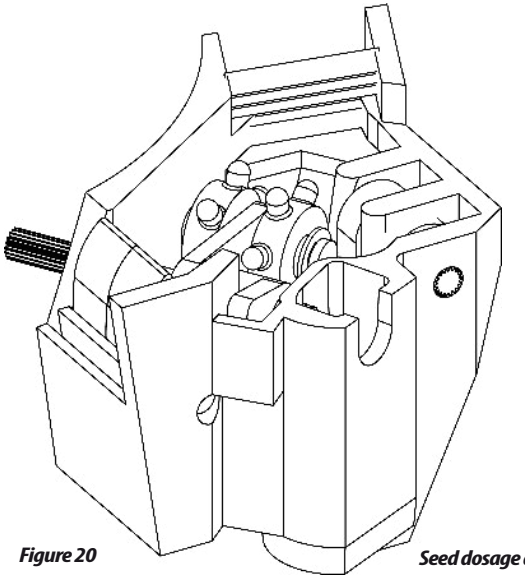


Figure 20 Seed dosage dispenser

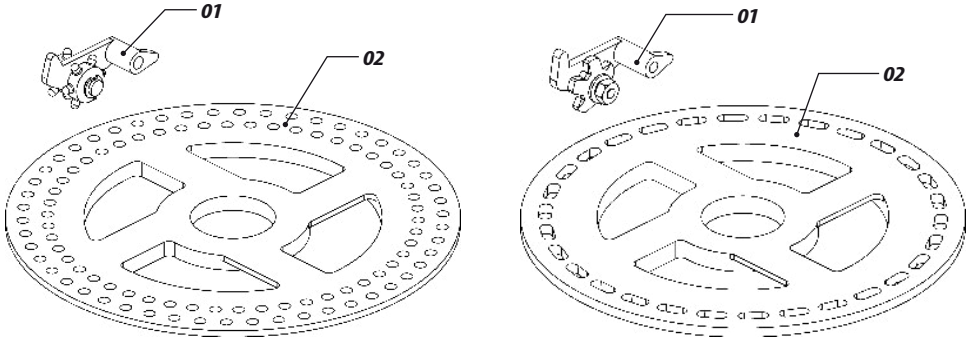
⚠ ATTENTION

Before replacing the disk and ring to work with new seed, check the conditions of trigger (1) and rosette (2), because the wear these items impair adequate seed dosage. As appropriate, proceed to replace them.

SEED METERING ROSETE

01 - The seed distribution box leaves the factory with the trigger assembled with double rosettes (1), for double-line discs (2).

02 - For single-line discs (1), proceed to change from trigger assembled with double rosettes to trigger assembled with single rosettes (2) as shown below.



Figures 21

EXCHANGING FROM DOUBLE ROSETTE TO SIMPLE ROSETTE

- To exchange from trigger with double rosettes to single rosettes, do the following:

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

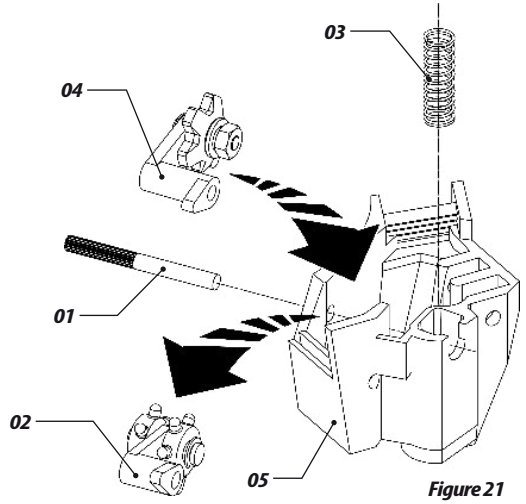


Figure 21

CONVERSION SYSTEM FOR UNIVERSAL SEED DISC "OPTIONAL"

01 - The conversion system for universal seed disc is an option for drills that came standard with the Baldan system. The conversion system is composed of the following items as the following page:

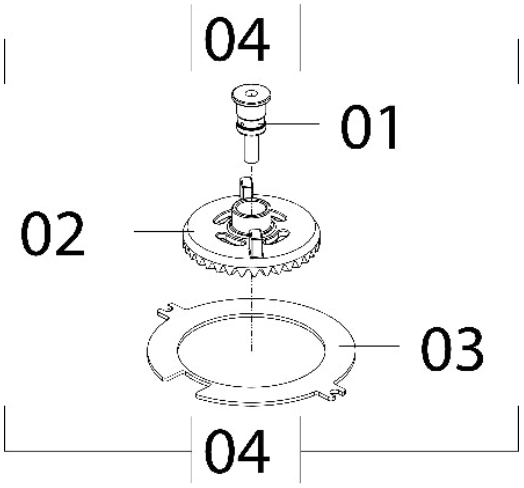


Figure 22

Item	Code	DESCRIPTION
01	52320108837	Seed distribution shaft
02	60106021778	33-teeth Crown
03	52200101022	Disc Ø 185mm Ø x 3.50 mm
04	55280103615	Conversion System w / universal seed disc cpl

Table 3

SEED DISTRIBUTION DISCS "UNIVERSAL SYSTEM"

01 - The universal system being optionally purchased or already leaving the factory standard has 2 models of standard discs and rings, and can optionally be purchased loose.

Tables 4

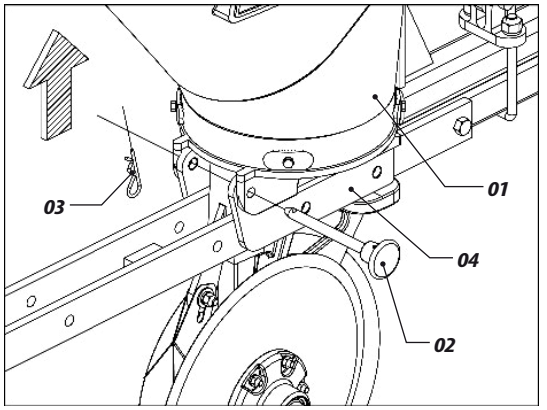
CULTURE	STANDARD DISCS AND RINGS SYSTEM (UNIVERSAL SYSTEM)
SOY	Disc of 5.5 mm thick w / 90holes Ø 8mm
	Ring of Ø 189 x 3mm
CORN	Disc of 4.5 mm thick w / 28 holes Ø 11.5 mm
	Ring of Ø 189 x 4mm c / recess

CULTURE	OPTIONAL DISCS AND RINGS SYSTEM (UNIVERSAL SYSTEM)
BEAN	Disc of 5.5 mm thick w / 64 holes Ø 8 x 12.5 mm
SORGHUM	Disc of 3mm thick w / 100 holes Ø 5mm
	Ring of Ø 189 x 5,5 mm w / lock for sorghum
SUNFLOWER	Disc of 4.5 mm thick w / 30 holes Ø 4.5 x 13mm
COTTON	Disk of 5.5 mm thick w / 64 holes Ø 7 x 12mm
RICE	Disc of 5.5 mm thick w / 40 holes Ø 6.5 x 19.5 mm

BALDAN CONVERSION SYSTEM FOR UNIVERSAL SEED DISC "OPTIONAL"

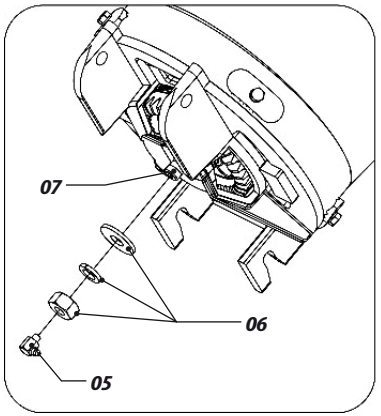
- To convert from the Baldan system for universal seed disc, proceed as follows:

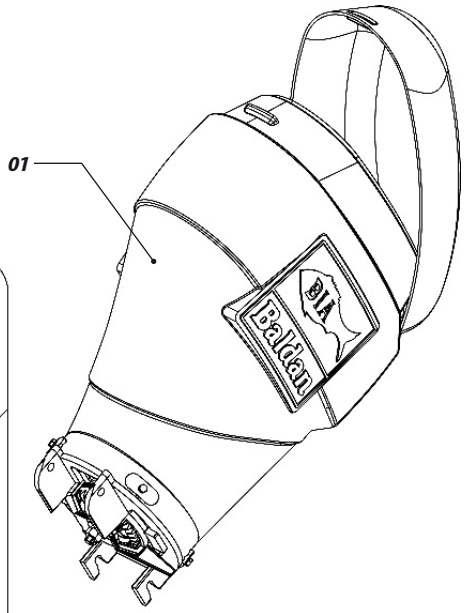
01 - Unlock the seed box (1) through pin (2) and lock (3). Then, remove the seed box (1) from the line (4).

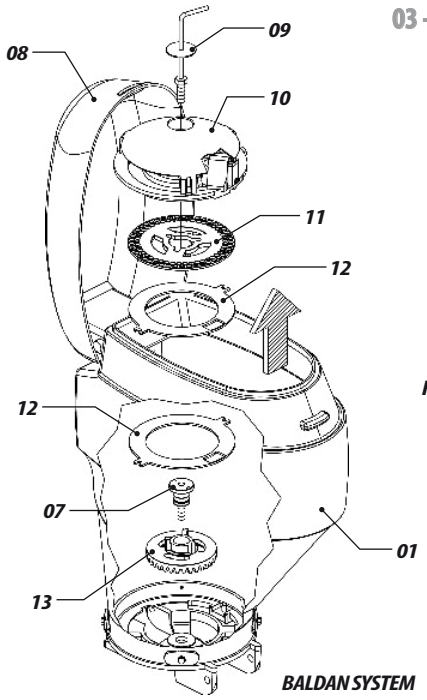


Figures 23

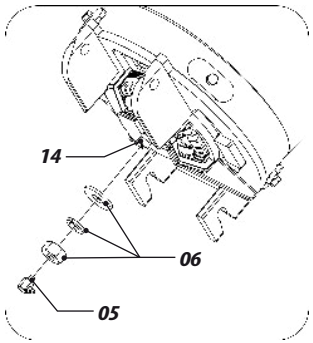
02 - Then, turn the seed box (1), remove the grease fitting (5), loosen the nut and washers (6) from the distribution shaft (7).





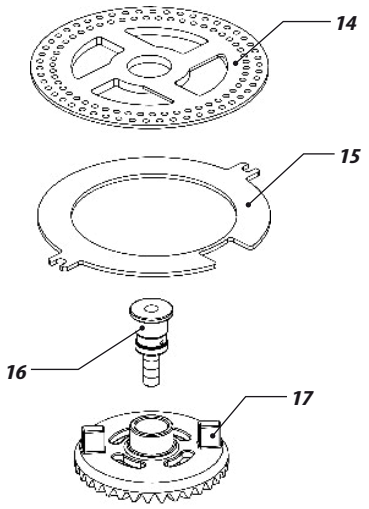


BALDAN SYSTEM



03 - Turn the box upright, open the cover (8) of the seed box (1), remove the screw (9) and the upper support (10). Then, replace the distributor disc (11), the rings (12), the distribution shaft (7) and the crown (13) by distribution disc (14), ring (15), the distribution shaft (16) and crown (17). Next, assemble the top bracket (10) and screw (9) again.

Figures 24



UNIVERSAL SYSTEM

04 - Finalize by fixing washers and nut (6) on the distribution shaft (14) and grease fitting (5). Then, reassemble the seed box (1) on the line and lock it.

IMPORTANT *When assembly is complete, repeat this procedure on all lines, avoiding variation between lines.*

ATTENTION *The distribution disc (14) does not come with the universal conversion system.*

"BALDAN SYSTEM" SEED DISTRIBUTION DISCS

01 - The seeder comes standard with 7 different sets of standard discs, which can be purchased optionally loose.

Tables 5

CODE	STANDARD DISC (BALDAN SYSTEM)
60200700093	Seed distribution disc 90F of 8.5 x 9mm (Ø43xØ186x4.5mm)
60200700026	Soybean distribution disc 40F of 8 x 15mm (Ø43xØ186x8mm)
60200700700	Rice distribution disc 26F of 13.5mm (Ø43xØ186x4.5mm)
60200700727	Rice distribution disc 26F 11mm (Ø43xØ186x4.5mm)
60200700743	Corn / rice distribution disc 26F 13mm (Ø43xØ186x4.5mm)
60200700808	Soybean distribution disc 40F of 7.5 x 15mm (Ø43xØ186x4.5mm)
60200701030	Jack bean distribution disc 72F of 7.5 x 12.5 mm (Ø43xØ186x5.5mm)

CODE	OPTIONAL DISC (BALDAN SYSTEM)
52200100824	Discs of 185 x 3.50 mm c / recess (corn)
60200701022	Bean distribution disc 64F
60200700875	Hard distr. 90F seed 5 x 5.5 mm (Ø43xØ186x3mm)
60200700867	Seed distribution disc 90F of 7 x 7.5 mm (Ø43xØ186x4.5mm)
60200700883	Seed distribution disc 40F of 8 x 13.5 mm (Ø43xØ186x4.5mm)
52200200950	Sunflower distribution disc 20F of 5.5 x 13mm (Ø43xØ186x4.5mm)
52200200756	Cotton distribution disc 30F of 5.5 x 11mm (ø43.1xØ185.9x7.9mm)
52200200020	Cotton distribution disc 40F of 7.5 x 12.5 mm (ø43.1xØ185.9x4.5mm)

NOTE *The optional discs above are some of the models to be supplied. If you need other models, check the parts catalog page which contains the remaining discs.*

OPTIONAL KIT FOR PEANUTS

- Peanut culture uses an optional kit which is composed of the following items:

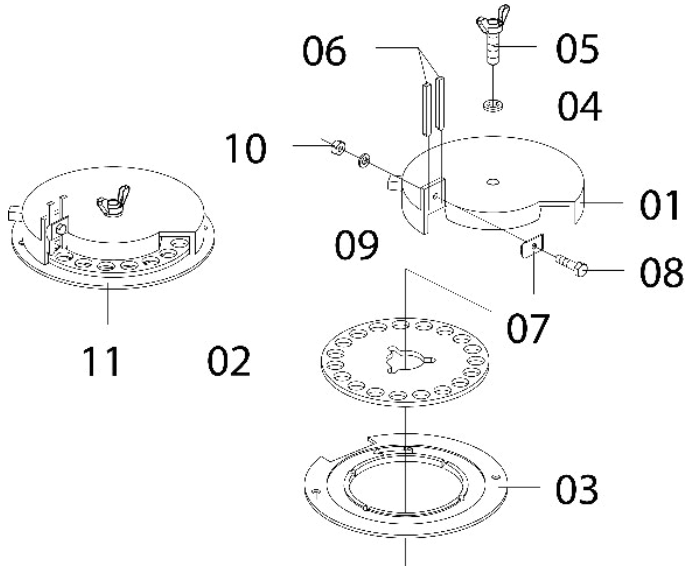


Figure 25

Table 6

Item	Code	Description
01	54840600028	Internal flow regulator
02	60200700050	Peanut distribution disc 19F of Ø 20mm
03	52200100450	Bifacial plate disc for peanut seed
04	60200104105	Pressure washer Ø 1/2 "average (bichromatic)
05	54201100022	Thumbscrew 1/2"
06	52120100017	Plastiprene seed distribution clamp
07	54600400030	Seed distribution clamp
08	60203100194	Hexagon screw Ø 1/4 "x 1" 20F UNC1A GR2 RT
09	60200104024	Pressure washer Ø 1/4 "medium (bichromatic)
10	60203107423	Hexagon Nut 1/4 "20F UNC GR5
11	25182000402	Complete kit for planting peanuts

USE OF POWDER GRAPHITE OR INDUSTRIAL TALC

01 - To facilitate the distribution and increase the life of the distribution mechanism, powder graphite or industrial talc should be mixed with seeds.

TABLE OF THE AMOUNT OF GRAPHITE OR INDUSTRIAL TALC PER OG OF SEED

Seed drills with distribution system type	Seeds previously treated with Insecticide
Horizontal discs	04 grams per kg of seed

Table 7

IMPORTANT

- Graphite should not be mixed prior to treatment of seeds.
- Graphite should not be mixed with insecticide for application in seeds.

SEED DISTRIBUTION TABLE

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

ATTENTION

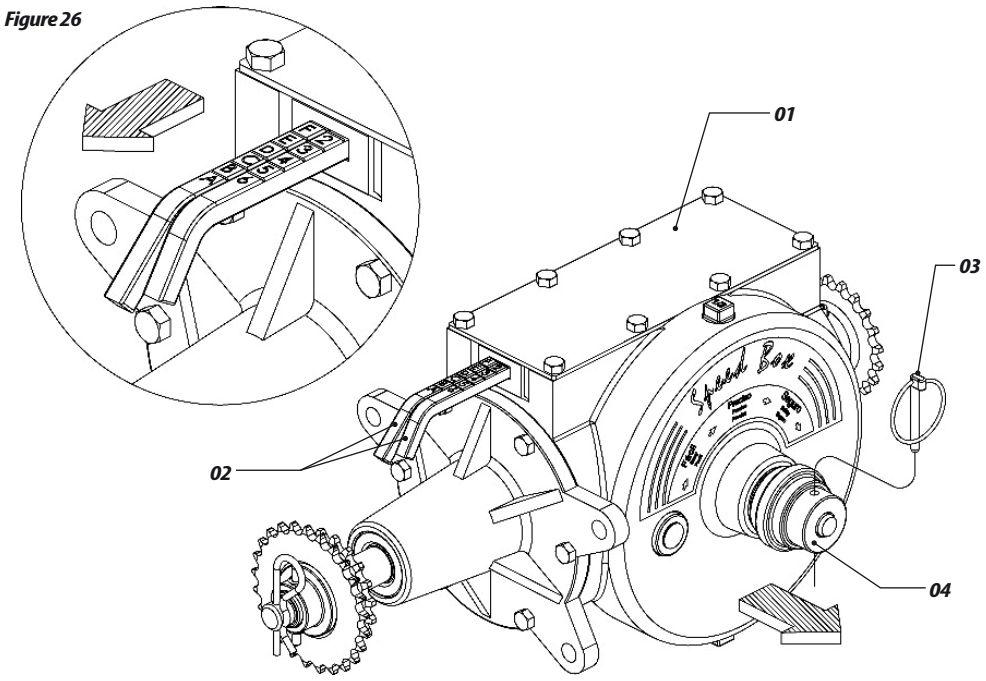
If there is need for the check the seeds distributed on the ground, open the furrow and count from the first seed found up to 5 linear meters. Then, take the result and divide by 5 linear meters and you will have the seed distribution result per linear meter.

SPEED BOX

01 - Seed drills are equipped with the Speed box Gear Box system, which drives the distribution system with simple settings, ensuring fast gear exchange. To make the seed adjustment, proceed as follows:

02 - For seed adjustments, select the desired quantity in tables and check the corresponding combination of levers (2). Example: position F2 indicates that the cursor with letters must be at position "F" and the cursor with numbers must be at position "2" as Figure below.

Figure 26



03 - To move the levers, remove the lock (3), pull the handle (4) and adjust them. At the end of the combination, return the handle (4) and replace the lock (3).

FERTILIZER DISTRIBUTION ADJUSTMENT

01 - The fertilizer adjustment is made through the Speed Box. For other adjustments, re-position the chain in motor gear "A" and moved gear "B".

02 - After the repositioning of the gears, check the chain tension. The tensioner (1) is provided with a tension spring for greater flexibility. If you need more pressure on the tensioner, proceed as Instruction of Figure 57, page 50.

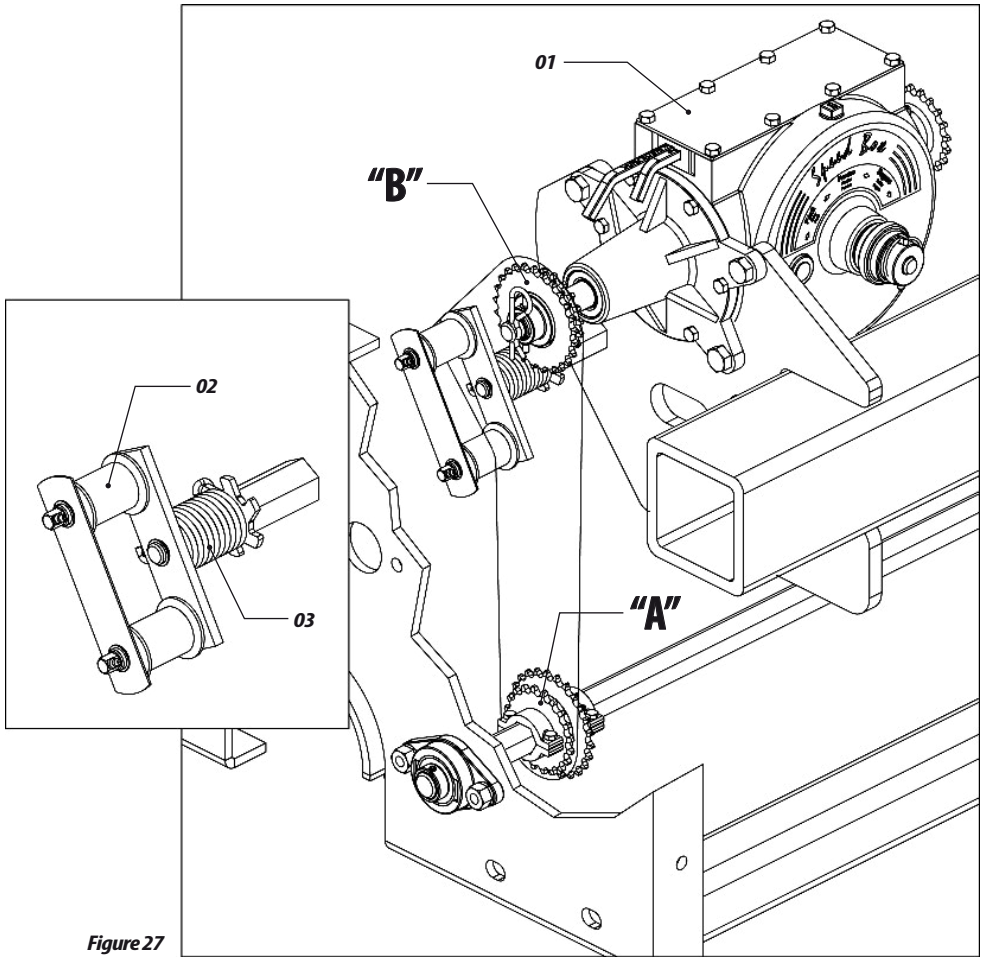


Figure 27

SEED DISTRIBUTION TABLE

Table 7

Combination	Output Gear of the Ratchet Shaft				20	Number of Holes in the Disc		Input Gear of the Speed Box					25
	17	18	19	20	24	26	30	38	40	48	50	62	90
F - 1	1,3	1,3	1,4	1,5	1,8	1,9	2,2	2,8	3,0	3,6	3,7	4,6	6,7
F - 2	1,4	1,5	1,6	1,7	2,0	2,2	2,5	3,2	3,3	4,0	4,2	5,2	7,5
E - 1	1,6	1,7	1,8	1,9	2,2	2,4	2,8	3,5	3,7	4,5	4,6	5,8	8,3
F - 3	1,6	1,7	1,8	1,9	2,3	2,5	2,9	3,6	3,8	4,6	4,8	5,9	8,6
E - 2	1,8	1,9	2,0	2,1	2,5	2,7	3,1	4,0	4,2	5,0	5,2	6,5	9,4
D - 1	.1,9	2,0	2,1	2,2	2,7	2,9	3,3	4,2	4,5	5,3	5,6	6,9	10,0
F - 4	1,9	2,0	2,1	2,2	2,7	2,9	3,3	4,2	4,5	5,3	5,6	6,9	10,0
E - 3	2,0	2,1	2,3	2,4	2,9	3,1	3,6	4,5	4,8	5,7	6,0	7,4	10,7
D - 2	2,1	2,3	2,4	2,5	3,0	3,3	3,8	4,8	5,0	6,0	6,3	7,8	11,3
C - 1	2,2	2,3	2,5	2,6	3,1	3,4	3,9	4,9	5,2	6,2	6,5	8,1	11,7
F - 5	2,3	2,4	2,5	2,7	3,2	3,5	4,0	5,1	5,3	6,4	6,7	8,3	12,0
E - 4	2,4	2,5	2,6	2,8	3,3	3,6	4,2	5,3	5,6	6,7	7,0	8,6	12,5
D - 3	2,4	2,6	2,7	2,9	3,4	3,7	4,3	5,4	5,7	6,9	7,2	8,9	12,9
C - 2	2,5	2,6	2,8	2,9	3,5	3,8	4,4	5,6	5,8	7,0	7,3	9,1	13,1
B - 1	2,5	2,7	2,8	3,0	3,6	3,9	4,5	5,6	5,9	7,1	7,4	9,2	13,4
A - 1	2,8	3,0	3,2	3,3	4,0	4,3	5,0	6,3	6,7	8,0	8,3	10,4	15,0
A - 2	3,2	3,4	3,6	3,8	4,5	4,9	5,6	7,1	7,5	9,0	9,4	11,6	16,9
B - 3	3,2	3,4	3,6	3,8	4,6	5,0	5,7	7,3	7,6	9,2	9,5	11,8	17,2
C - 4	3,3	3,5	3,7	3,9	4,7	5,1	5,8	7,4	7,8	9,4	9,7	12,1	17,5
D - 5	3,4	3,6	3,8	4,0	4,8	5,2	6,0	7,6	8,0	9,6	10,0	12,4	18,0
E - 6	3,5	3,8	4,0	4,2	5,0	5,4	6,3	7,9	8,3	10,0	41,4	12,9	18,8
A - 3	3,6	3,9	4,1	4,3	5,2	5,6	6,4	8,2	8,6	10,3	10,7	13,3	19,3
B - 4	3,8	4,0	4,2	4,5	5,3	5,8	6,7	8,5	8,9	10,7	11,1	13,8	20,0
C - 5	4,0	4,2	4,4	4,7	5,6	6,1	7,0	8,9	9,4	11,2	11,7	14,5	21,0
D - 6	4,3	4,5	4,8	5,0	6,0	6,5	7,5	9,5	10,0	12,0	12,5	15,5	22,5
A - 4	4,3	4,5	4,8	5,0	6,0	6,5	7,5	9,5	10,0	12,0	12,5	15,5	22,5
B - 5	4,5	4,8	5,1	5,3	6,4	6,9	8,0	10,2	10,7	12,8	13,4	16,6	24,0
C - 6	5,0	5,3	5,6	5,8	7,0	7,6	8,8	11,1	11,7	14,0	14,6	18,1	26,3
A - 5	5,1	5,4	5,7	6,0	7,2	7,8	9,0	11,4	12,0	14,4	15,0	18,6	27,1
B - 6	5,7	6,0	6,3	6,7	8,0	8,7	10,0	12,7	13,4	16,0	16,7	20,7	30,1
A - 6	6,4	6,8	7,1	7,5	9,0	9,8	11,3	14,3	15,0	18,0	18,8	23,3	33,8

SEED DISTRIBUTION TABLE

Table 8

Combination	Output Gear of the Ratchet Shaft				25	Number of Holes in the Disc		Input Gear of the Speed Box					20
	17	18	19	20	24	26	30	38	40	48	50	62	90
F - 1	2,0	2,1	2,2	2,3	2,8	3,0	3,5	4,4	4,6	5,6	5,8	7,2	10,4
F - 2	2,2	2,3	2,5	2,6	3,1	3,4	3,9	5,0	5,2	6,3	6,5	8,1	11,7
E - 1	2,5	2,6	2,8	2,9	3,5	3,8	4,3	5,5	5,8	7,0	7,2	9,0	13,0
F - 3	2,5	2,7	2,8	3,0	3,6	3,9	4,5	5,7	6,0	7,2	7,5	9,2	13,4
E - 2	2,8	2,9	3,1	3,3	3,9	4,2	4,9	6,2	6,5	7,8	8,2	10,1	14,7
D - 1	3,0	3,1	3,3	3,5	4,2	4,5	5,2	6,6	7,0	8,3	8,7	10,8	15,7
F - 4	3,0	3,1	3,3	3,5	4,2	4,5	5,2	6,6	7,0	8,3	8,7	10,8	15,7
E - 3	3,2	3,4	3,5	3,7	4,5	4,8	5,6	7,1	7,5	8,9	9,3	11,6	16,8
D - 2	3,3	3,5	3,7	3,9	4,7	5,1	5,9	7,4	7,8	9,4	9,8	12,7	17,6
C - 1	3,4	3,7	3,9	4,1	4,9	5,3	6,1	7,7	8,1	9,7	10,1	12,6	18,3
F - 5	3,5	3,8	4,0	4,2	5,0	5,4	6,3	7,9	8,3	10,0	10,4	12,9	18,8
E - 4	3,7	3,9	4,1	4,3	5,2	5,7	6,5	8,3	8,7	10,4	10,9	13,5	19,69
D - 3	3,8	4,0	4,2	4,5	5,4	5,8	6,7	8,5	8,9	10,7	11,2	13,9	20,1
C - 2	3,9	4,1	4,3	4,6	5,5	5,9	6,8	8,7	9,1	11,0	11,4	14,2	20,5
B - 1	3,9	4,2	4,4	4,6	5,6	6,0	7,0	8,8	9,3	11,1	11,6	14,4	20,9
A - 1	4,4	4,7	5,0	5,2	6,3	6,8	7,8	9,9	10,4	12,5	13,0	16,2	23,5
A - 2	5,0	5,3	5,6	5,9	7,0	7,6	8,8	11,2	11,7	14,1	14,7	18,2	26,4
B - 3	5,1	5,4	5,7	6,0	7,2	7,8	8,9	11,3	11,9	14,3	14,9	18,5	26,8
C - 4	5,2	5,5	5,8	6,1	7,3	7,9	9,1	11,7	12,2	14,6	15,2	18,9	27,4
D - 5	5,3	5,6	5,9	6,3	7,5	8,1	9,4	11,9	12,5	15,0	15,7	19,4	28,2
E - 6	5,5	5,9	6,2	6,5	7,8	8,5	9,8	12,4	13,0	15,7	16,3	20,2	29,4
A - 3	5,7	6,0	6,4	6,7	8,1	8,7	10,1	12,7	13,4	16,1	16,8	20,8	30,2
B - 4	5,9	6,3	6,6	7,0	8,3	9,0	10,4	13,2	13,9	16,7	17,4	21,6	31,3
C - 5	6,2	6,6	6,9	7,3	8,8	9,5	11,0	13,9	14,6	17,5	18,3	22,6	32,9
D - 6	6,7	7,0	7,4	7,8	9,4	10,2	11,7	14,9	15,7	18,8	19,6	24,3	35,2
A - 4	6,7	7,0	7,4	7,8	9,4	10,2	11,7	14,9	15,7	18,8	19,6	24,3	35,2
B - 5	7,1	7,5	7,9	8,3	10,0	10,9	12,5	15,9	16,7	20,0	20,9	25,9	37,6
C - 6	7,8	8,2	8,7	9,1	11,0	11,9	13,7	17,4	18,3	21,9	22,8	28,3	41,1
A - 5	8,0	8,5	8,9	9,4	11,3	12,2	14,1	17,8	18,8	22,5	23,5	29,1	42,3
B - 6	8,9	9,4	9,9	10,4	12,5	13,6	15,7	19,8	20,9	25,0	26,1	32,4	47,0
A - 6	10,0	10,6	11,2	11,7	14,1	15,3	17,6	22,3	23,5	28,2	29,4	36,4	52,8

08. FERTILIZER DISTRIBUTION SYSTEM

METALLIC FERTILIZER TANK / STAINLESS STEEL

- The floating spiral fertilizer distribution system is in a shaft disposed at the bottom of the fertilizer tank, which begin to rotate, the fertilizer involves the shaft, carrying it to the exits, avoiding intermediate bearings. When the number of lines and desired spacing are determined, proceed as follows:

01 - Fit the spouts (1) in the distributor outputs (2) through the clamp (3), making the connection of spouts that are closer to the lines, preventing them from getting bent or folded.

02 - The fertilizer outputs that will not be used must be closed with caps (4) inside the tank with the cap (5) through the clamp (6) at the external outputs, this will prevent fine fertilizer particles from falling onto the seed drill.

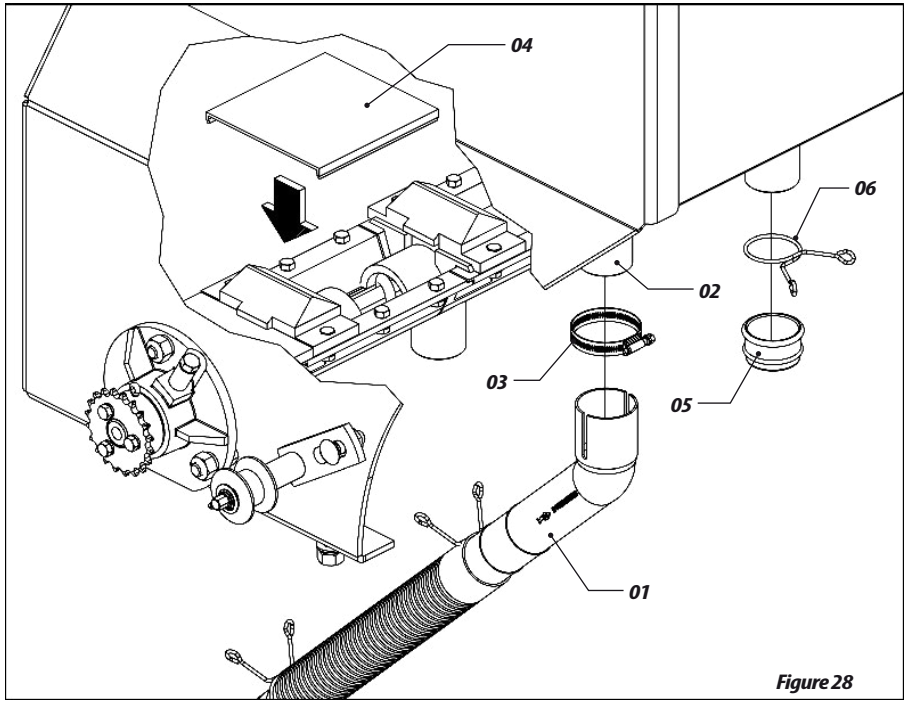


Figure 28

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

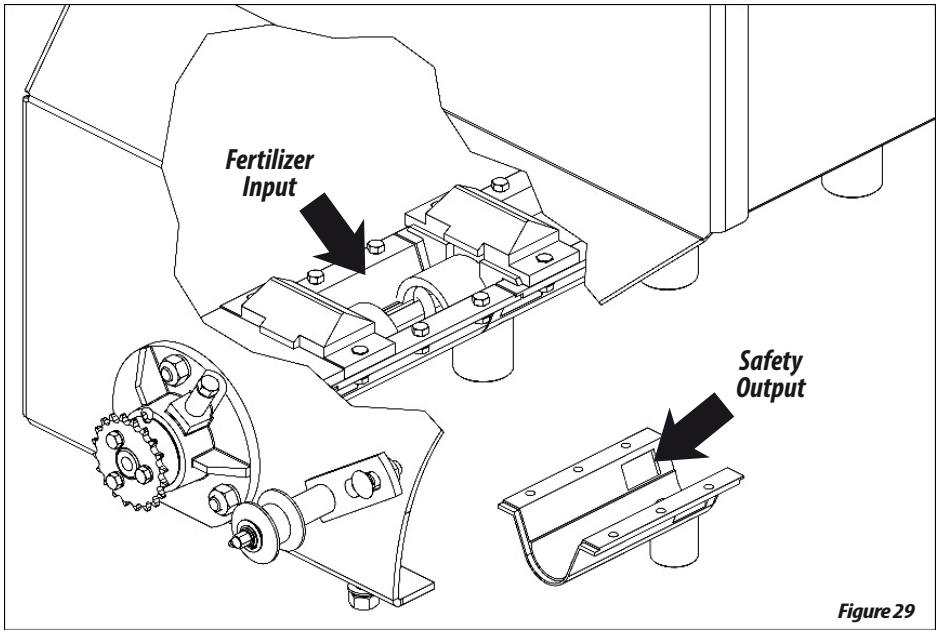


Figure 29

IMPORTANT

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

POLYETHYLENE FERTILIZER TANK

INDEPENDENT SYSTEM

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

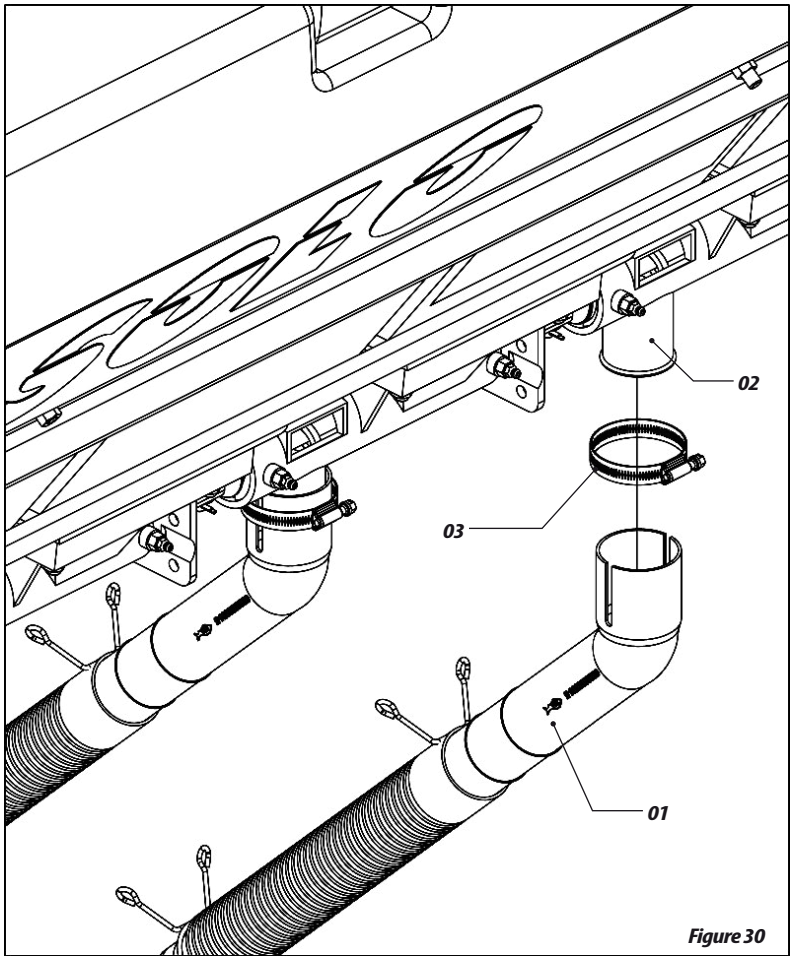


Figure 30

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

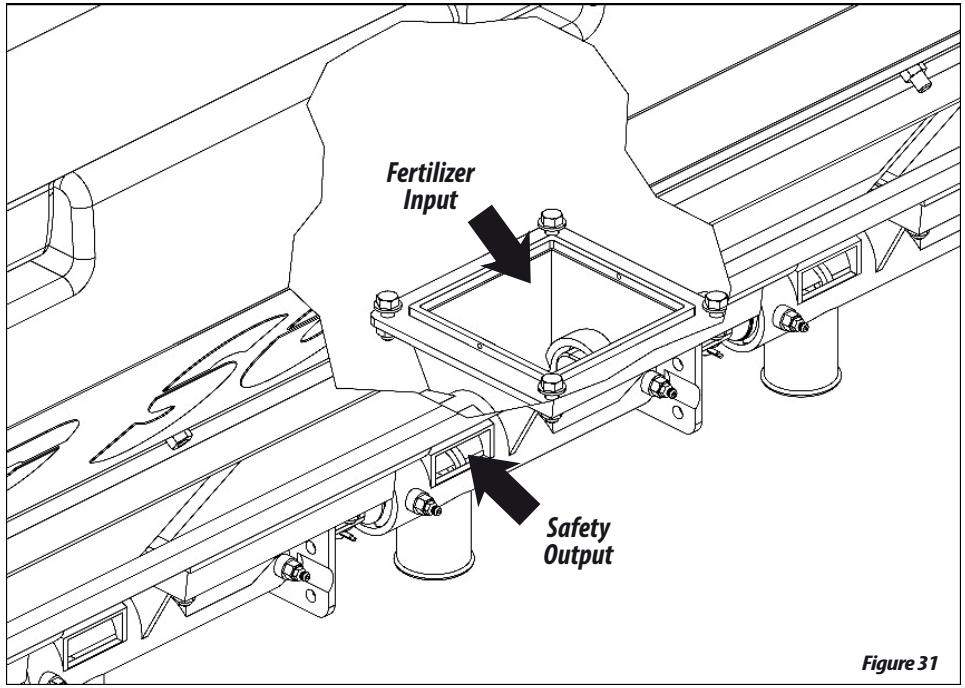


Figure 31

IMPORTANT

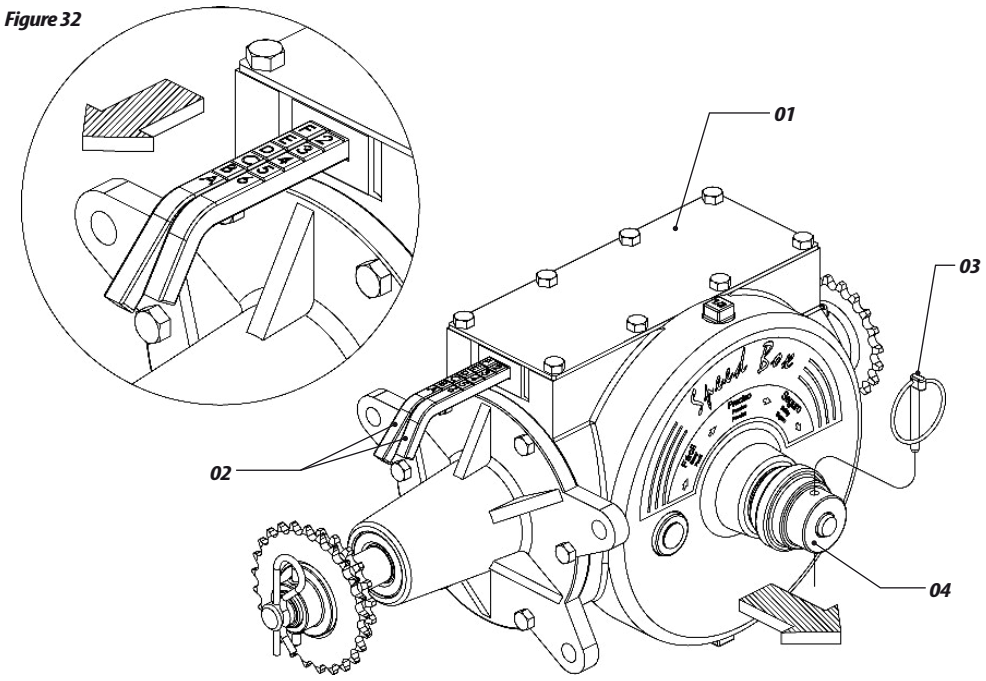
Check distributors and hoses daily, and clean their outputs. When the fertilizer is wet or has impurities, proceed to clean more often.

SPEED BOX

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

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

Figure 32



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

ADJUSTING THE FERTILIZER DISTRIBUTION

01 - The fertilizer adjustment is made by the Speed Box (1). To make further adjustments, reverse current in the motor "A" and moved "B" gear.

02 - After changing the gears, check the chain tension. The tensioner (2) is provided with a torsion spring (3) to provide increased flexibility.

03 - If you need more pressure on the stretcher, proceed as shown in Figure 57, página 50.

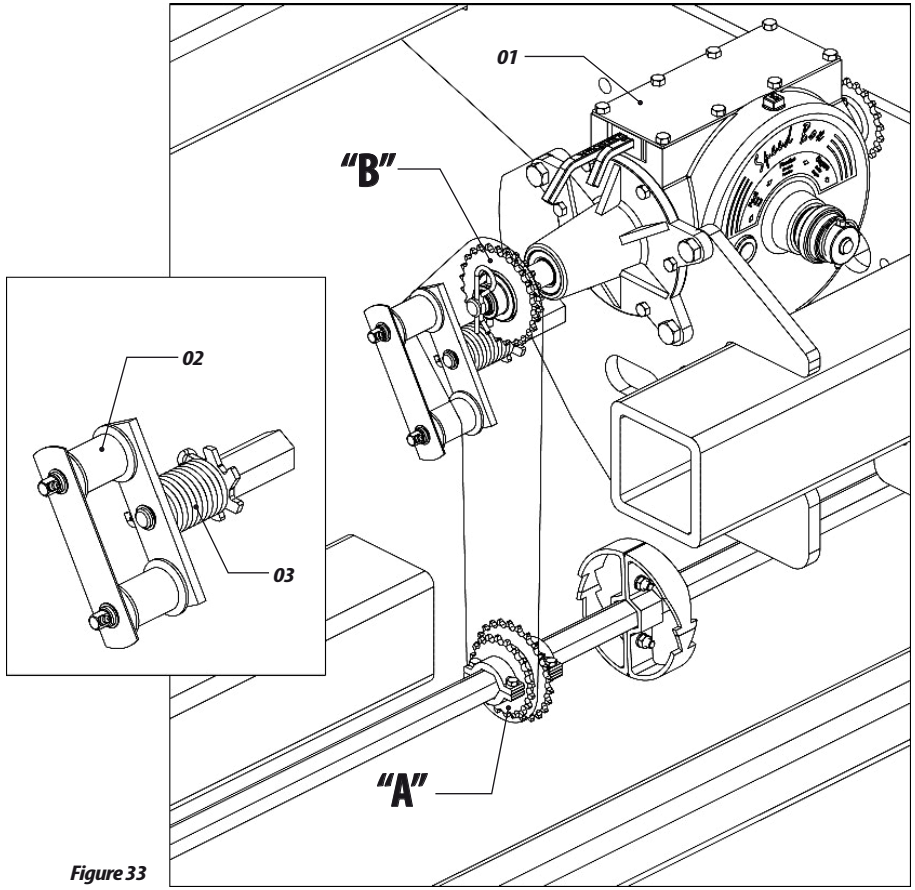


Figure 33

FERTILIZER DISTRIBUTION TABLE

Table 9

Ratchet shaft output gearbox		20	Spacing between lines				Speed Box Input Gear					31
Combination	Grams / 50 Mts	430	450	500	550	600	650	700	750	800	850	900	950	1000
F - 1	332	154	148	133	121	111	102	95	89	83	78	74	70	66
F - 2	374	174	166	149	136	125	115	107	100	93	88	83	79	75
E - 1	415	193	184	166	151	138	128	119	111	104	98	92	87	83
F - 3	427	199	190	171	155	142	131	122	114	107	100	95	90	85
E - 2	467	217	208	187	170	156	144	133	125	117	110	104	98	93
D - 1	498	232	221	199	181	166	153	142	133	125	117	111	105	100
F - 4	498	232	221	199	181	166	153	142	133	125	117	111	105	100
E - 3	534	248	237	213	194	178	164	152	142	133	126	119	112	107
D - 2	560	261	249	224	204	187	172	160	149	140	132	125	118	112
C - 1	581	270	258	232	211	194	179	166	155	145	137	129	122	116
F - 5	598	278	266	239	217	199	184	171	159	149	141	133	126	120
E - 4	623	290	277	249	226	208	192	178	166	156	147	138	131	125
D - 3	640	298	285	256	233	213	197	183	171	160	151	142	135	128
C - 2	654	304	291	262	238	218	201	187	174	163	154	145	138	131
B - 1	664	309	295	266	242	221	204	190	177	166	156	148	140	133
A - 1	747	348	332	299	272	249	230	213	199	187	176	166	157	149
A - 2	841	391	374	336	306	280	259	240	224	210	198	187	177	168
B - 3	854	397	380	342	311	285	263	244	228	213	201	190	180	171
C - 4	872	405	387	349	317	291	268	249	232	218	205	194	184	174
D - 5	897	417	399	359	326	299	276	256	239	224	211	199	189	179
E - 6	934	434	415	374	340	311	287	267	249	234	220	208	197	187
A - 3	961	447	427	384	349	320	296	274	256	240	226	213	202	192
B - 4	996	463	443	399	362	332	307	285	266	249	234	221	210	199
C - 5	1046	487	465	418	380	349	322	299	279	262	246	232	220	209
D - 6	1121	521	498	448	408	374	345	320	299	280	264	249	236	224
A - 4	1121	521	498	448	408	374	345	320	299	280	264	249	236	224
B - 5	1196	556	531	478	435	399	368	342	319	299	281	266	252	239
C - 6	1308	608	581	523	475	436	402	374	349	327	308	291	275	262
A - 5	1345	626	598	538	489	448	414	384	359	336	316	299	283	269
B - 6	1494	695	664	598	543	498	460	427	399	374	352	332	315	299
A - 6	1681	782	747	672	611	560	517	480	448	420	396	374	354	336

FERTILIZER DISTRIBUTION TABLE

Table 10

Ratchet shaft output gearbox		31	Spacing between lines				Speed Box Input Gear					20
Combination	Grams / 50 Mts	430	450	500	550	600	650	700	750	800	850	900	950	1000
F - 1	798	371	355	319	290	266	245	228	213	199	188	177	168	160
F - 2	898	417	399	359	326	299	276	256	239	224	211	199	189	180
E - 1	997	464	443	399	363	332	307	285	266	249	235	222	210	199
F - 3	1026	477	456	410	373	342	316	293	274	256	241	228	216	205
E - 2	1122	522	499	449	408	374	345	321	299	280	264	249	236	224
D - 1	1197	557	532	479	435	399	368	342	319	299	282	266	252	239
F - 4	1197	557	532	479	435	399	368	342	319	299	282	266	252	239
E - 3	1282	596	570	513	466	427	395	366	342	321	302	266	270	256
D - 2	1346	626	598	539	490	449	414	385	359	337	317	285	283	269
C - 1	1396	649	621	558	508	465	430	399	372	349	329	299	294	279
F - 5	1436	668	638	574	522	479	442	410	383	359	338	310	302	287
E - 4	1496	696	665	598	544	499	460	427	399	374	352	319	315	299
D - 3	1539	716	684	615	560	513	473	440	410	385	362	332	324	308
C - 2	1571	731	698	628	571	524	483	449	419	393	370	342	331	314
B - 1	1596	742	709	638	580	532	491	456	426	399	375	349	336	319
A - 1	1795	835	798	718	653	598	552	513	479	49	422	355	378	359
A - 2	2020	939	898	808	734	673	621	577	539	505	475	399	425	404
B - 3	2052	945	912	821	746	684	631	586	547	513	483	449	432	410
C - 4	2094	974	931	838	762	698	644	898	558	524	493	456	441	419
D - 5	2154	1002	957	862	783	718	663	615	574	539	507	465	454	431
E - 6	2244	1044	997	898	816	748	690	641	598	561	528	479	472	449
A - 3	2308	1074	1026	923	839	769	710	659	615	577	543	499	486	462
B - 4	2394	1113	1064	957	870	798	736	684	638	598	563	513	504	479
C - 5	2513	1169	1117	1005	914	838	773	718	670	628	591	532	529	503
D - 6	2693	1252	1197	1077	979	898	829	769	718	673	634	558	567	539
A - 4	2693	1252	1197	1077	979	898	829	769	718	673	634	598	567	539
B - 5	2872	1336	1277	1149	1044	957	884	821	766	718	676	598	605	574
C - 6	3142	1461	1396	1257	1142	1047	967	898	838	785	739	638	661	628
A - 5	3231	1503	1436	1293	1175	1077	994	923	862	808	760	698	680	646
B - 6	3590	1670	1596	1436	1306	1197	1105	1026	957	898	845	718	756	718
A - 6	4039	1879	1795	1616	1469	1346	1243	1154	1077	1010	950	798	850	808

09. PRACTICAL CALCULATION FOR FERTILIZER DISTRIBUTION

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

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

- ***Formula:***

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

- ***Formula Data:***
- E = Spacing between lines (mm)
- Q = Amount of fertilizer to be distributed [kg]
- A = Area to be fertilized [m^2]
- D = Distance of 50 meters (test)
- X = Grams of fertilizer in 50 meters

- ***Solve:***

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

- X = 22,50 x 50 = 1125 grams

- X= 1125 grams in 50 meters per row

PRACTICAL TEST TO MEASURE THE SEED AND FERTILIZER DISTRIBUTION AMOUNT

01 - 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.

02 - Check and keep the tire calibration of you seed drill with 70 lb / pol 2.

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

04 - 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.

05 - 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.

06 - 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

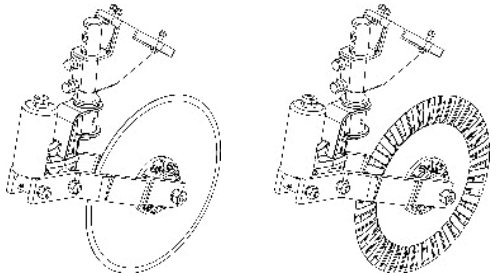
We suggest that it is carried out a practical test in the fertilizer and seed distribution over 50m, to subsequently compare the fertilizer results with the values of the 2nd column shown in tables on pages 36 and 37 and the seed results with values indicated in the number of holes of the discs and the amount of seed per linear meter in tables on page 31 and 32.

10. PLANTING LINES

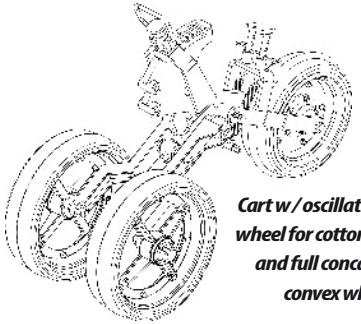
MODELS OF LINES AND OPTIONAL LINES

Figures 34

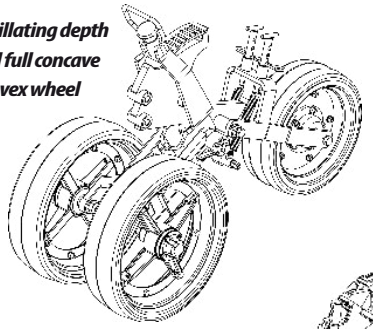
- The planting lines were developed in parallel or off-centered systems, and can be assembled with several options such as:



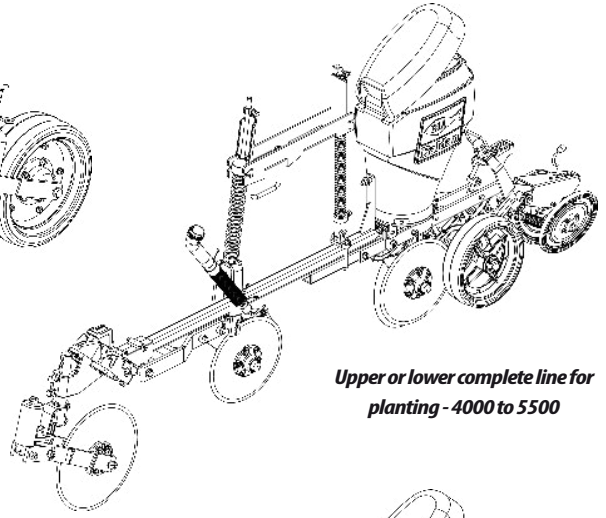
Support w / flat cutting disc of 18 "and 20" and grooved disc of "18" - 4000 5500



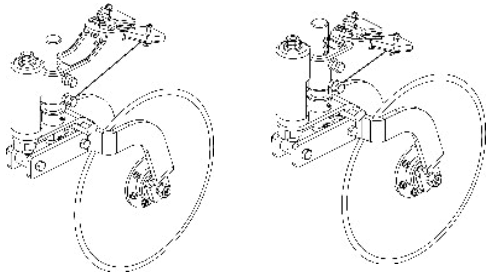
Cart w / oscillating depth wheel for cotton planting and full concave and convex wheel



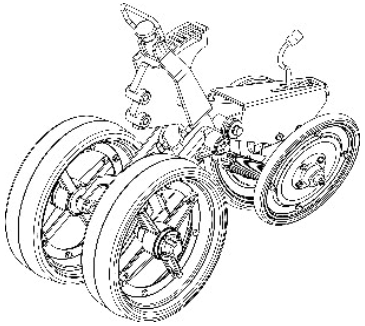
Cart w / oscillating depth wheel and full concave and convex wheel



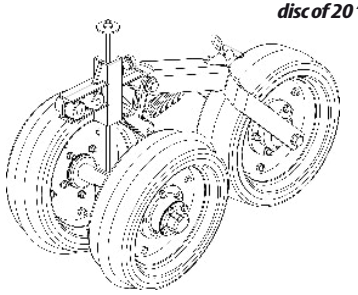
Upper or lower complete line for planting - 4000 to 5500



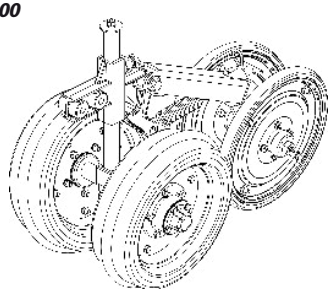
Upper or lower support w / flat cutting disc of 20 "- 6500 and 7500



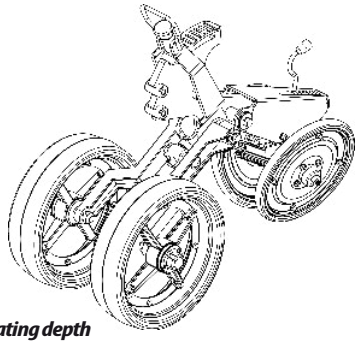
Cart w / oscillating depth wheel and full "v" wheel



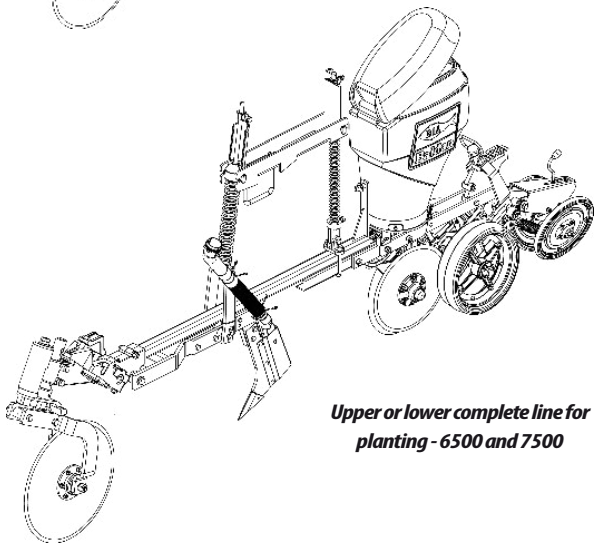
Complete cart of the flat, concave and convex compaction wheel



Cart w / fixed depth wheel and full "v" wheel



Cart w / oscillating depth wheel for cotton planting and full "v" wheel



Upper or lower complete line for planting - 6500 and 7500

11. ADJUSTMENT OF DEPTH

FURROW OPENING AND FERTILIZER POSITION ON THE SOIL

- The furrow opening in the soil so that the fertilizer is deposited is done by or double discs or furrowers in the following systems:

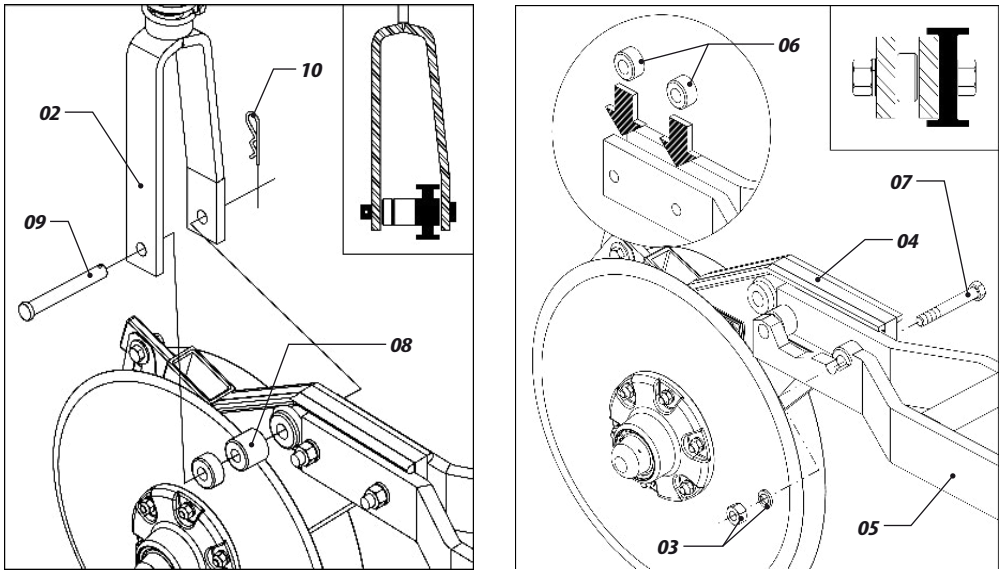
01 - ***Side fertilization and below the seed.***

02 - ***Fertilization on the same line and below the seed.***

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

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

Figures 35



ADJUSTING THE FURROWER

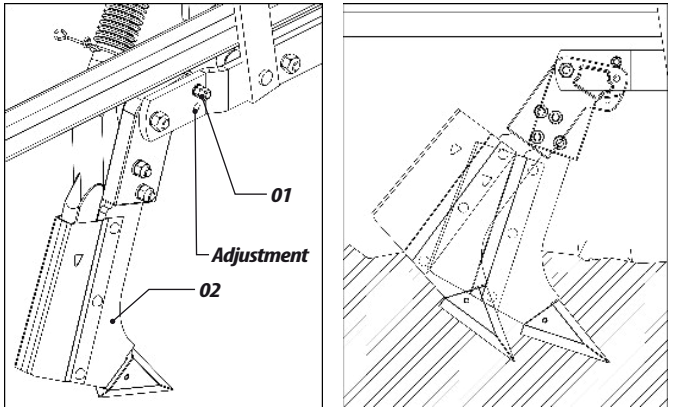
01 - O sulcador de adubo, possui várias regulagens de trabalho, para melhor ajuste ao tipo de solo a ser trabalhado.

ADJUSTING THE FURROWER ATTACK ANGLE

- 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 36

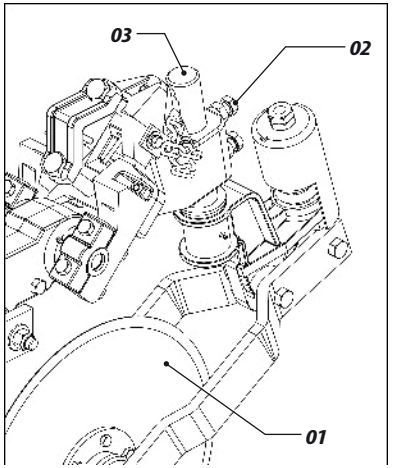


ADJUSTING THE CUTTING DISC DEPTH

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

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

Figure 37

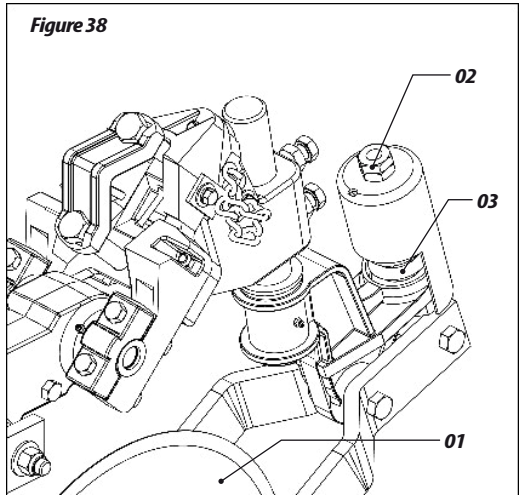


ADJUSTING THE CUTTING DISC PRESSURE

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

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

Figure 38



⚠ ATTENTION

By regulating the pressure on the cutting disc, take proper care not to nullify 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.

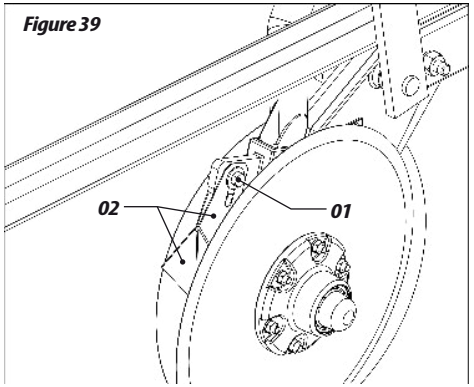
ADJUSTING THE DOUBLE DISC WIPERS

- 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 cleaners (2) into the ideal position and retighten the screw.

When you finish adjusting the wipers make the adjustment on the double discs of the seed drill.

Figure 39

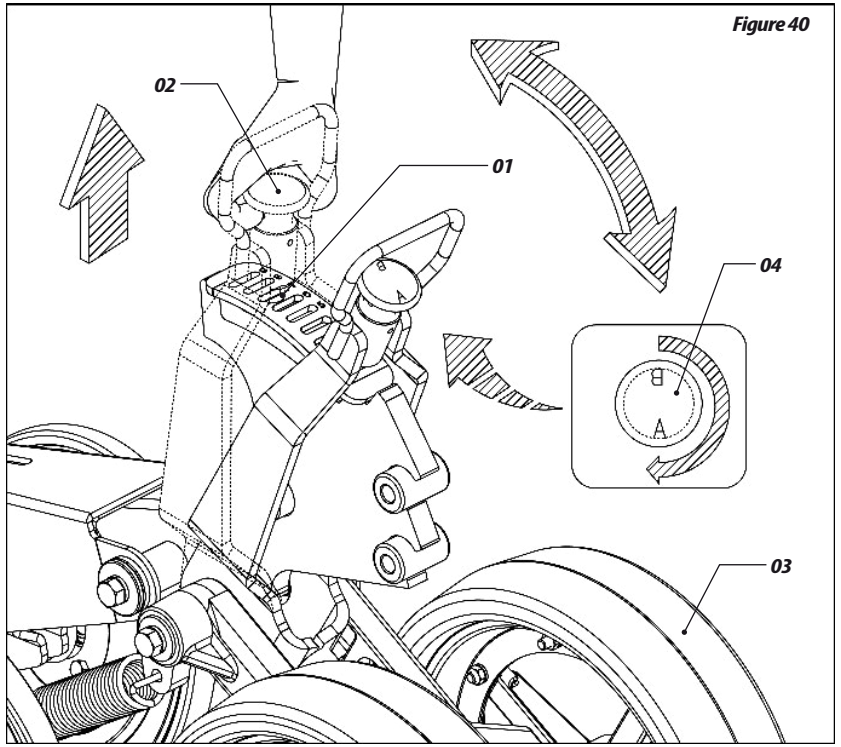


ADJUSTING THE OSCILLATING DEPTH WHEEL

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

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

Figure 40



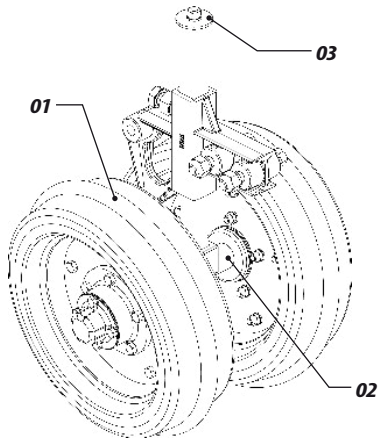
NOTE

The settings "A" and "B" (4) provide 18 adjustment points 9 in "A" and 9 in "B" interspersed.

ANGLE OF THE LIMITING DEPTH WHEEL

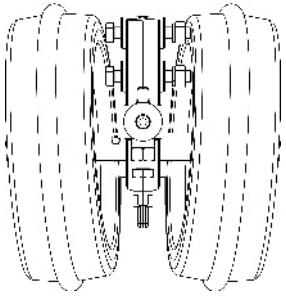
01 - The angle of the depth limiting wheel (1) is intended to press the furrow, causing the soil to be immediately placed on the seed, avoiding excessive compression, facilitating germination and plant growth.

02 - The wheels are fixed on a shaft with the ends in degree (2), specially designed to enable compression, depth control and bury the seed. For these settings on the wheel, loosen the nut (3) and rotate the shaft (2), watching the movements of the wheel.

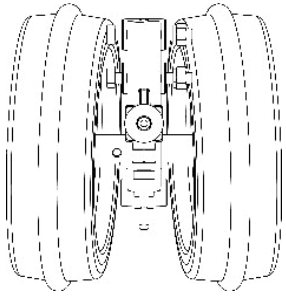


Figures 41

ANGLE POSITIONS OF WHEELS



Angle Position Fully closed (Less land on the seed)



Angle Position Fully open (More land on the seed)

⚠ ATTENTION

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

ADJUSTING THE "V" COMPACTION WHEELS

- The "v" compaction wheels (1) are used to close the furrow laterally, causing the land to be immediately placed on the seed, preventing excess compaction and removing air bubbles, thus facilitating germination and plant growth. To adjust the higher or lower closing angle of "v" compaction wheels (1), proceed as follows:

CART WITH OSCILLATING DEPTH WHEEL AND "V" COMPACTION WHEEL

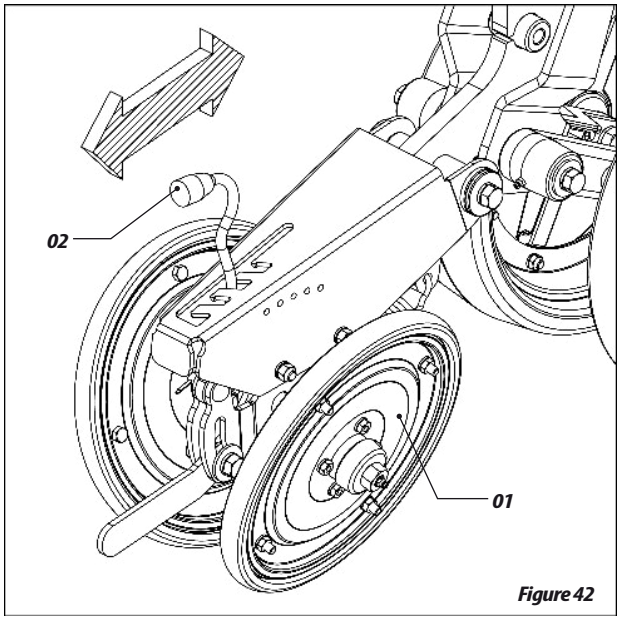


Figure 42

GREATER PRESSURE:

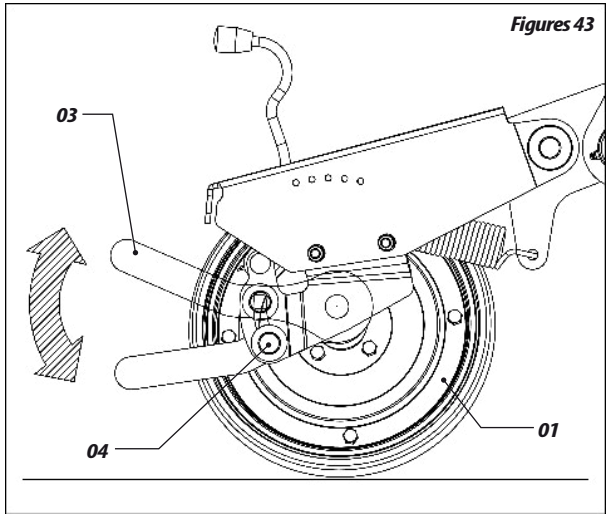
- Move the lever (2) back, giving greater pressure on the wheel (1).

LOWER PRESSURE:

- Move the lever (2) forward, giving less pressure on the wheel (1).

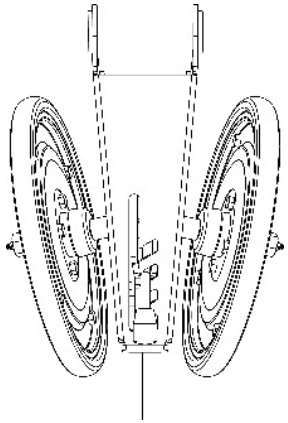
- The model of "V" compaction wheel shown in the previous page may also have its inclination adjusted by the lever (3). For this adjustment, proceed as follows:

01 - Loosen the nut (4) and move the lever (3) observing the best position according to your need.

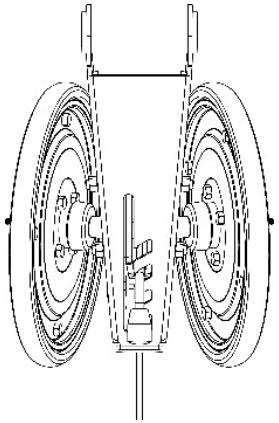


Figures 43

POSITIONS OF "V" WHEELS ANGLE



Angle Position Fully closed (Less land on the seed)



Angle Position Fully open (More land on the seed)

⚠ ATTENTION

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

CART WITH FIXED DEPTH WHEEL AND "V" COMPACTION WHEEL

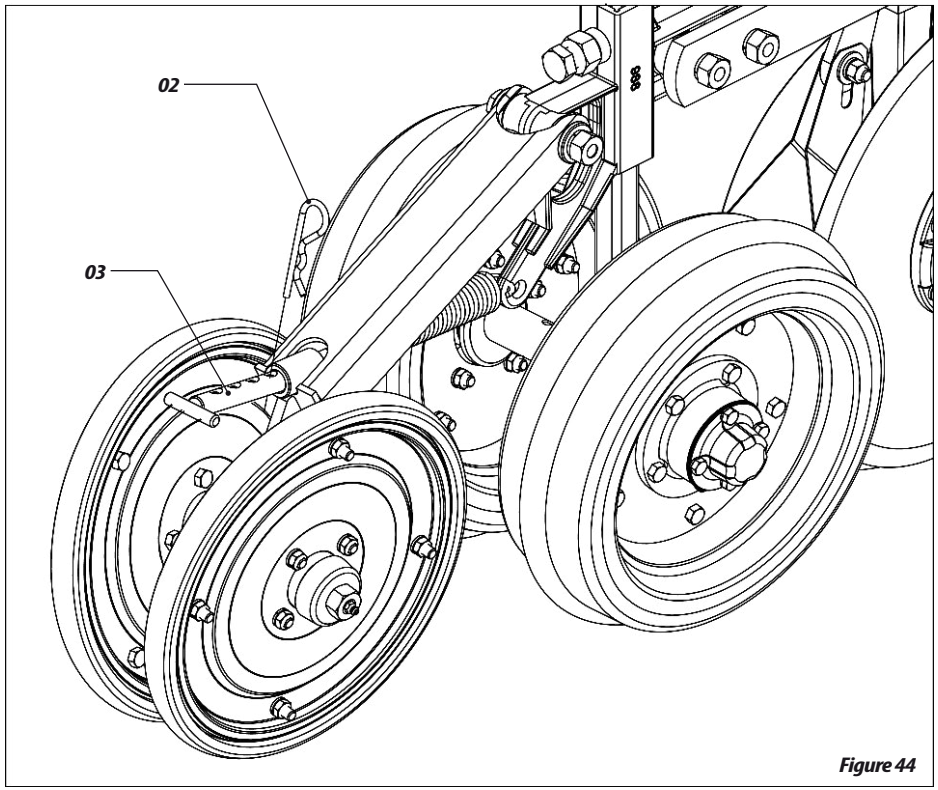


Figure 44

GREATER PRESSURE:

- Remove the lock (2), pull the pin (3) out and lock again.

LOWER PRESSURE:

- Remove the lock (2), push the pin (3) in and lock again

ADJUSTING THE FLAT, CONCAVE AND CONVEX COMPACTION WHEEL

01 - The compaction wheels (flat, concave and convex) has the purpose of pressing the furrow, causing the soil to be immediately placed on the seed, avoiding much compression, facilitating the plant germination.

- To control the pressure of the compaction wheels, proceed as follows:

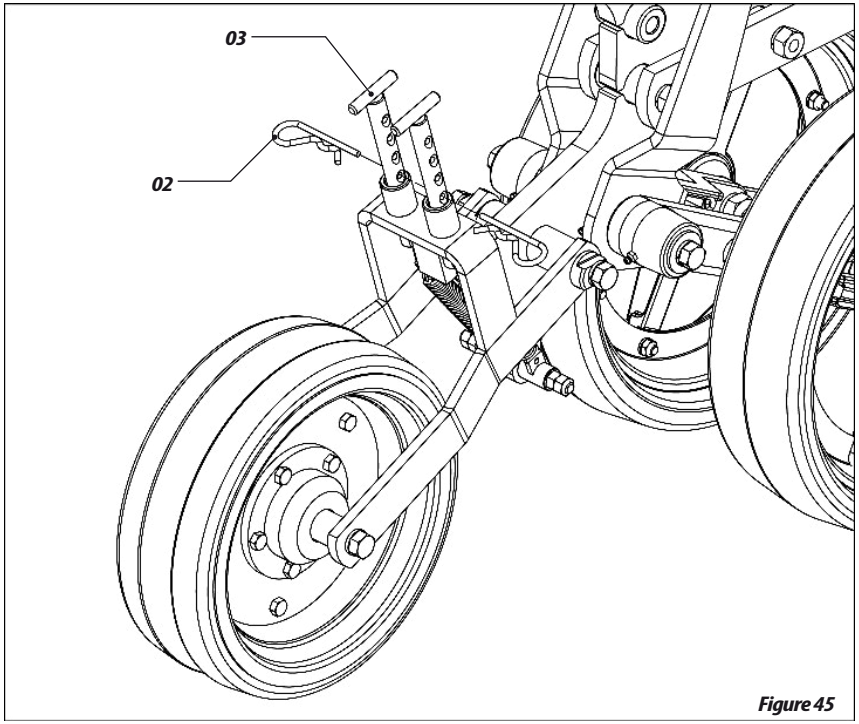


Figure 45

GREATER PRESSURE:

Remove the lock (2), pull the pin (3) out and lock again.

LOWER PRESSURE:

- Remove the lock (2), push the pin (3) in and lock again.

FERTILIZER DEPTH AND PRESSURE ON SEED LINES

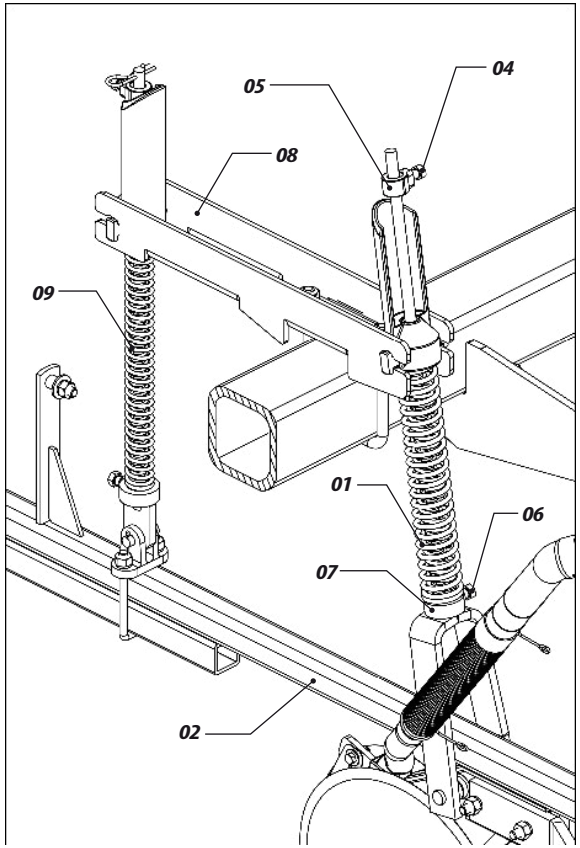
- The fertilizer depth adjustment is made by pressure of springs (1) on the planting lines (2). This adjustment is made through the sleeves (3). To control the pressure on the springs (1), proceed as follows:

01 - To increase the depth, loosen the screw (4) and place the sleeve (5) upwards;

02 - To decrease depth, place the sleeve (5) downwards.

03 - To give more pressure on the spring, loosen the screw (6) and put the sleeve (7) upwards.

04 - Always leave a space between the upper sleeve (5) and the rod support (8) for the line oscillation.



⚠ ATTENTION

To control the pressure in the seed lines, do the same procedure as above but this time in the rod (9).

IMPORTANT

When you finish adjustment, repeat this procedure on all lines, avoiding variation between lines.

ADJUST THE SPRING PRESSURE FOR CONVENTIONAL PLANTING

- For conventional planting, proceed as follows:

01 - Remove the spring pressure and put limiting rings (1) on the piston rod (2).

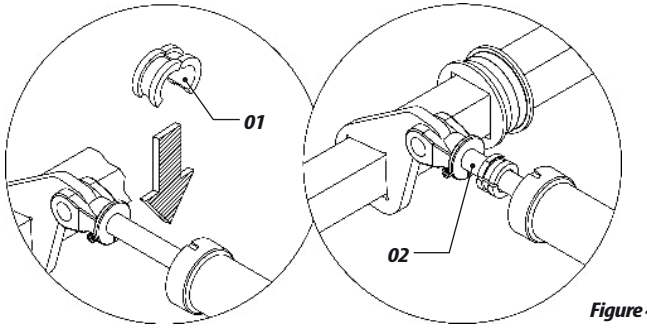


Figure 47

AUXILIARY WHEELSETS

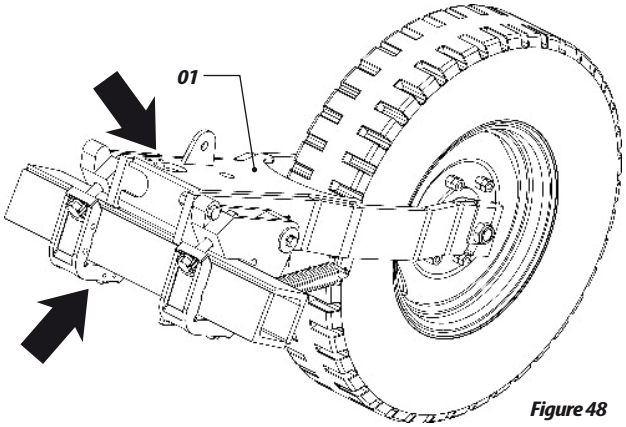


Figure 48

NOTE

The auxiliary wheelsets (1) serve only to act in the seed drill weight distribution (support) and are not related to ratchets and distribution system, as shown in the drawing above.

FIXATION SYSTEM AND ARTICULATION OF WHEELS

01 - The fixation system and tire articulation make them become free from the pressure of springs of the pantograph system on the soil, thereby allowing oscillating and following the terrain irregularities, so that making the seed and fertilizer distribution is not interrupted.

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

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

04 - The wheelsets (2), are endowed with tension springs (3), for greater adherence to the soil. Do not operate the seed drill without them.

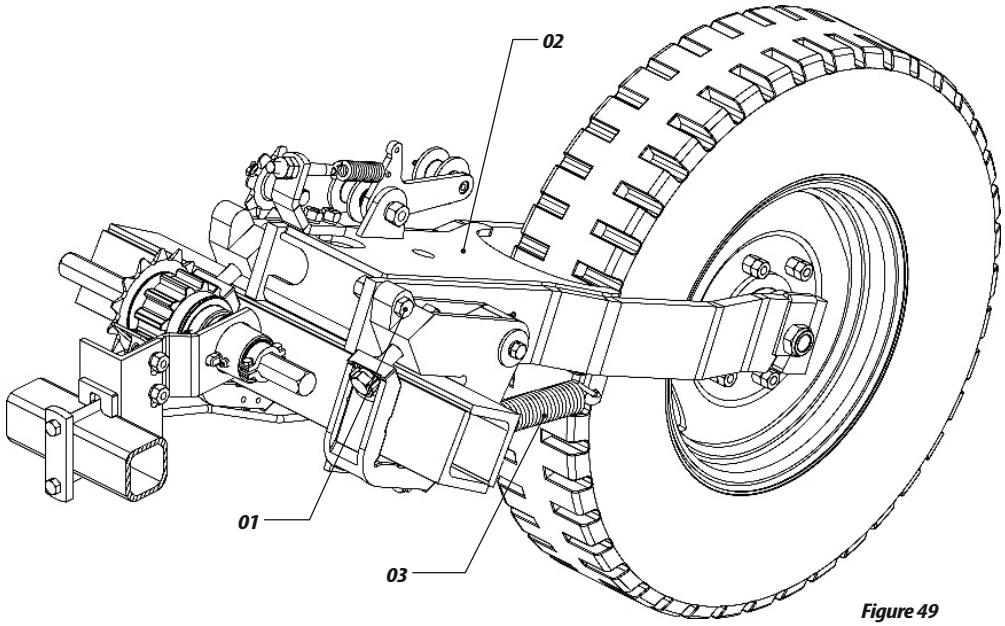


Figure 49

12. OPERAÇÕES

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- The line markers should be adjusted according to the spacing selected for the desired culture.

13. MAINTENANCE

TIRE PRESSURE

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

02 - The tire pressure must be 70 lb / in ^{2} each.

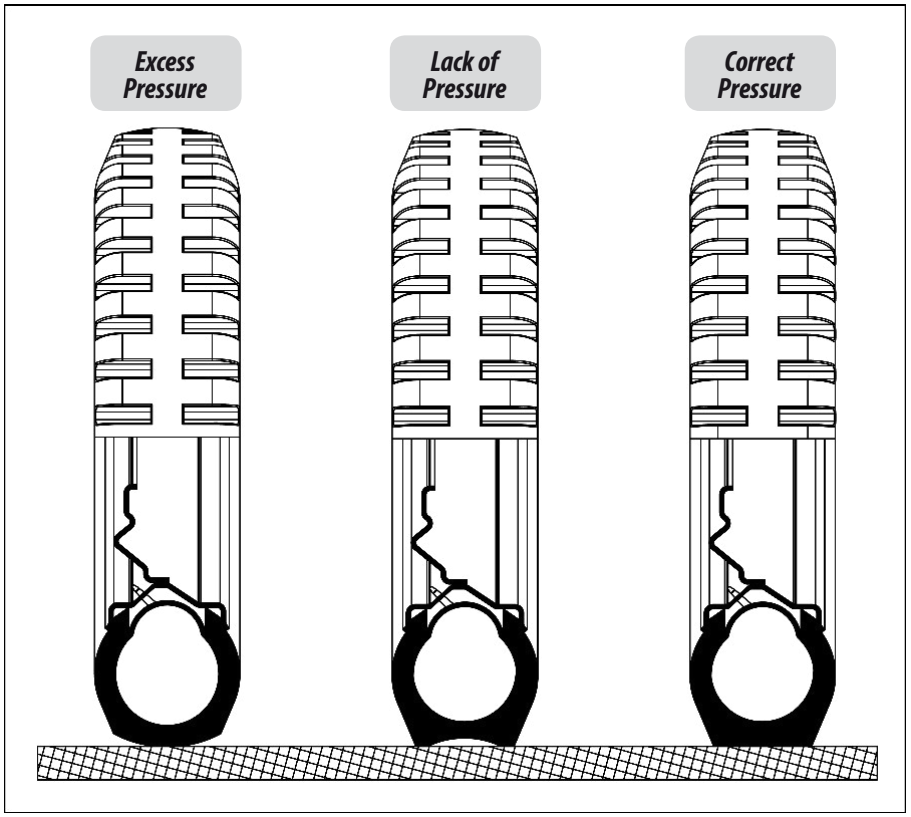


Figure 50

LUBRICATION

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

Table 11

IMPORTANT

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

CENTRALIZED LUBRICATION SYSTEM

- The centralized lubrication system (1) makes maintenance faster and easier, allowing lubricating all lateral and central points of the machine.

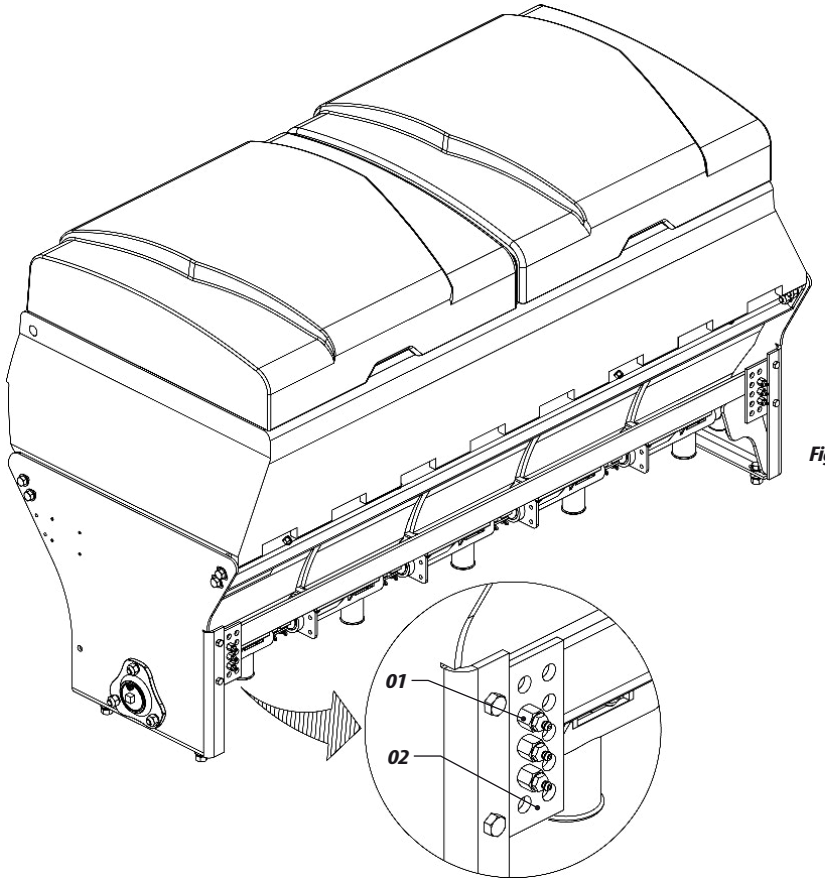


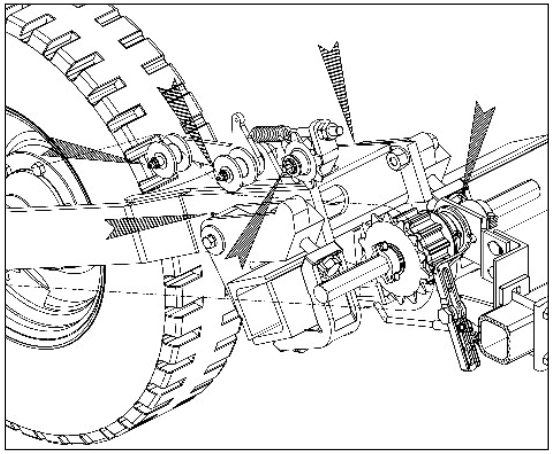
Figure 51

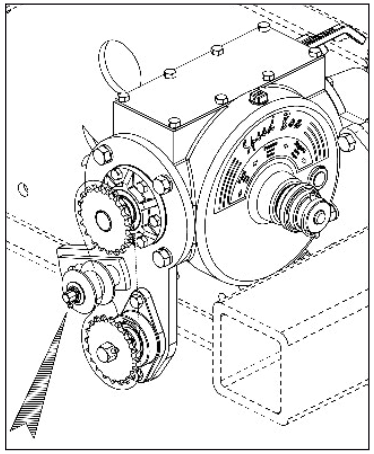
01 - Before starting the lubrication, clean all grease fittings with a soft, lint-free cloth and replace the damaged ones.

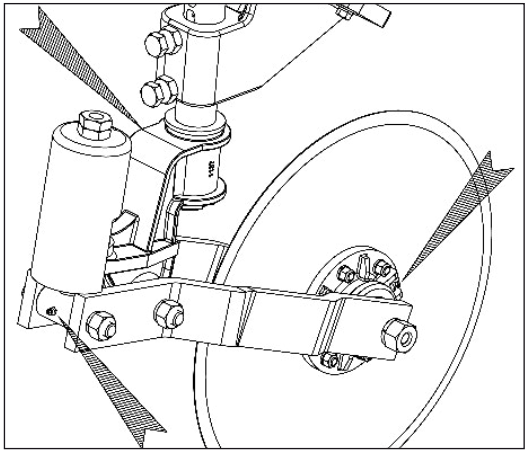
02 - Lubricate all grease fittings (1) of the centralized lubrication system (2) every 10 hours.

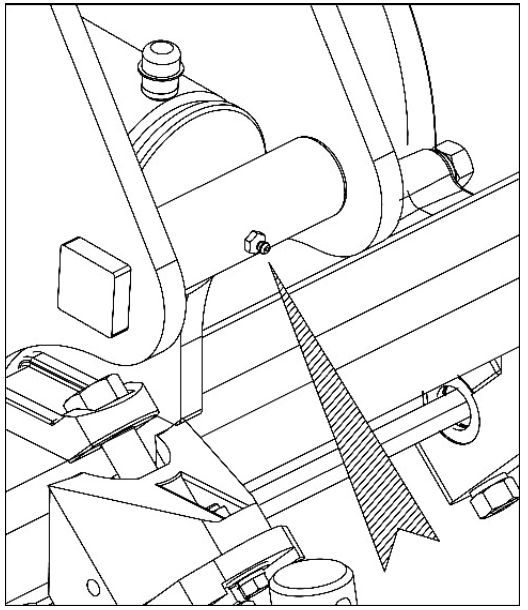
LUBRICATE EVERY 10 HOURS

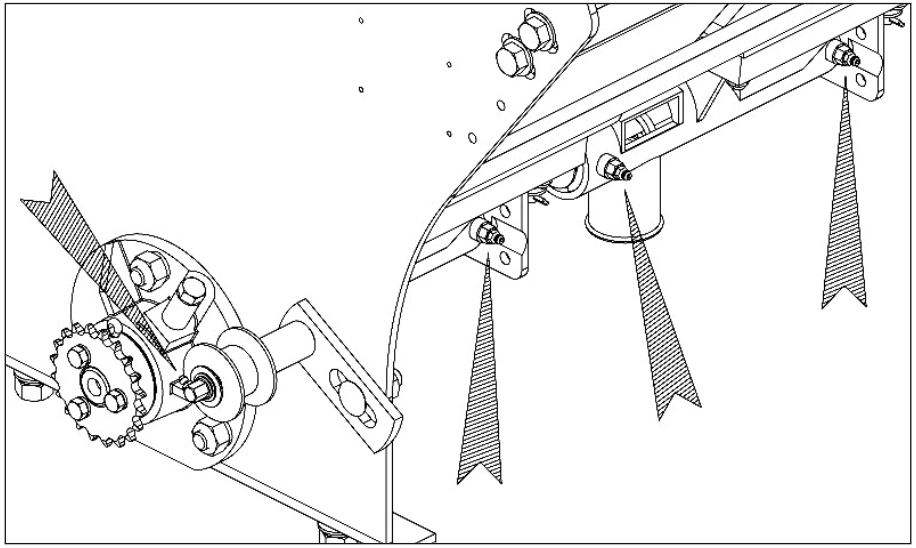
Figures 52

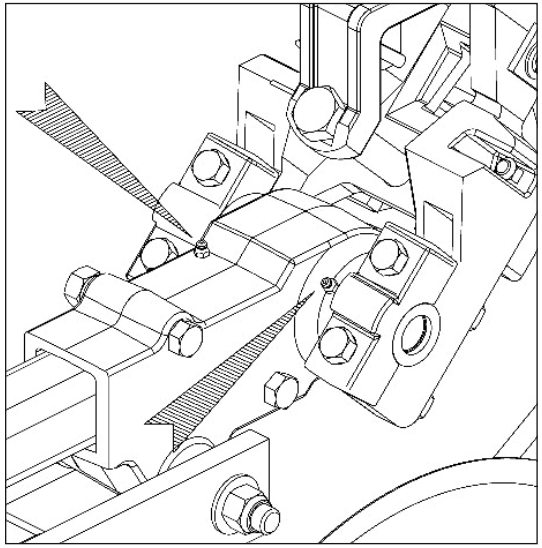


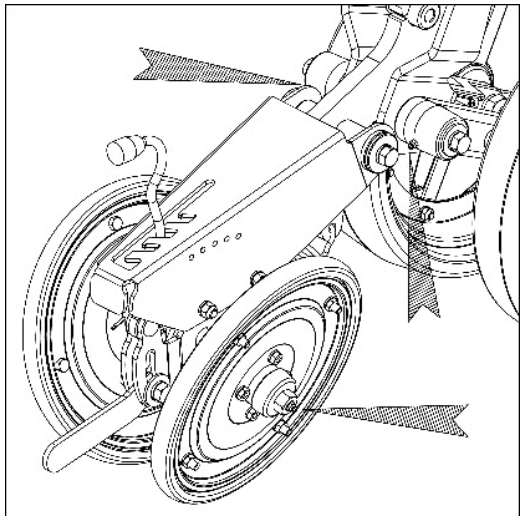






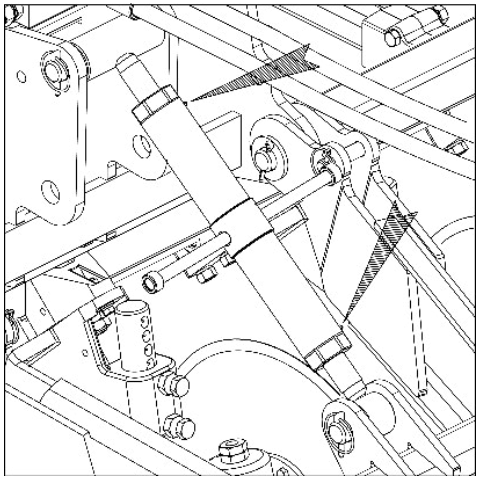


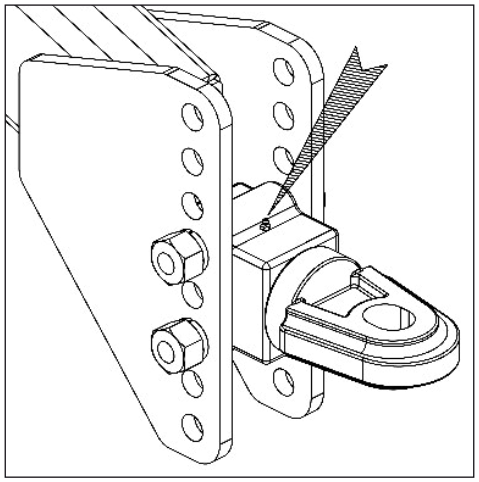


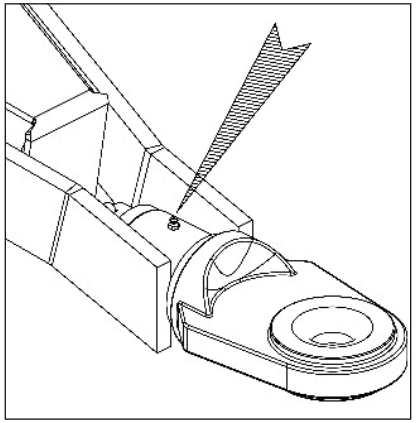


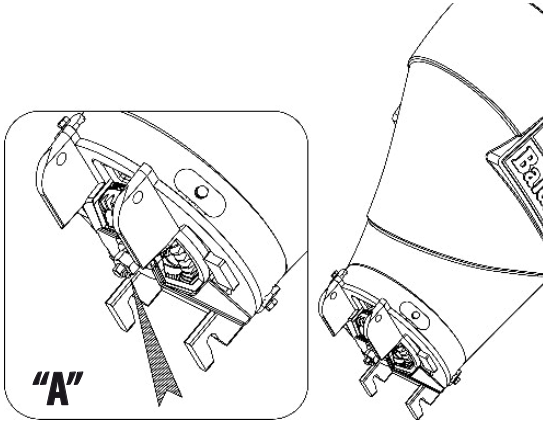
LUBRICATE EVERY 30 HOURS

Figures 53







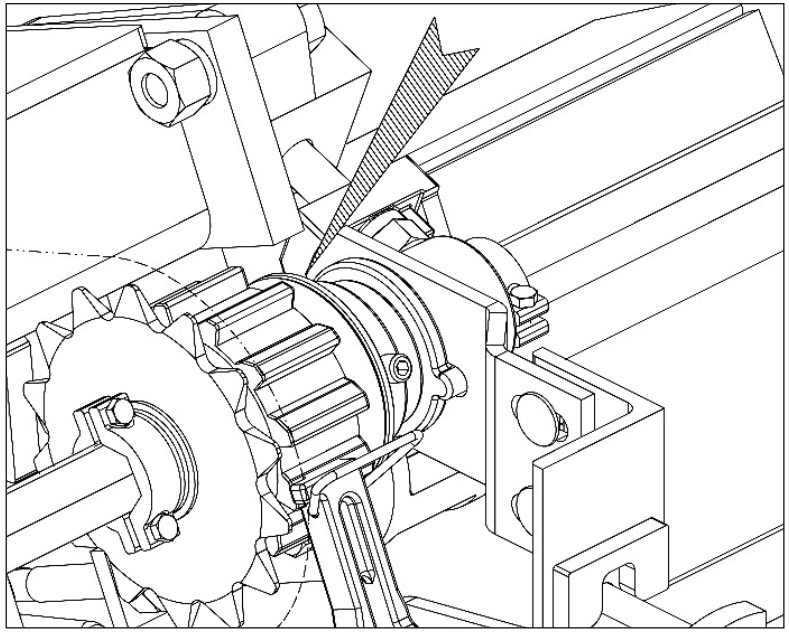


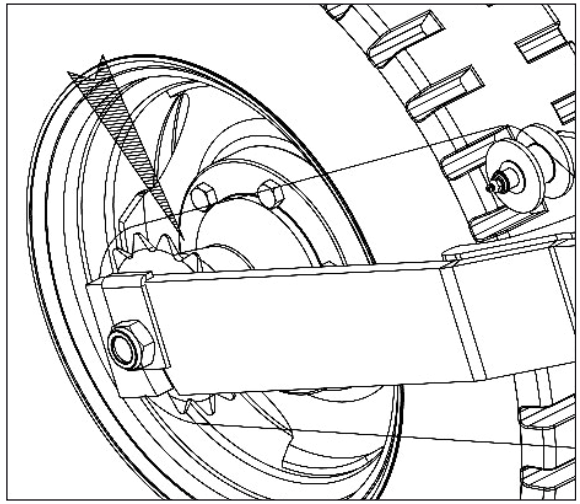
IMPORTANT

Do not over-grease the seed distribution crown "A", as this can clog the seed conductor.

LUBRICATE EVERY 60 HOURS

Figures 54





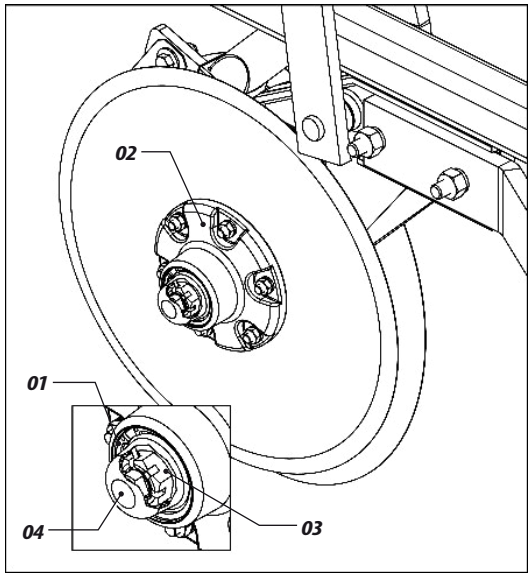
ATTENTION

Do not over-grease the ratchet, respect the interval of 60 hours for re-lubrication.

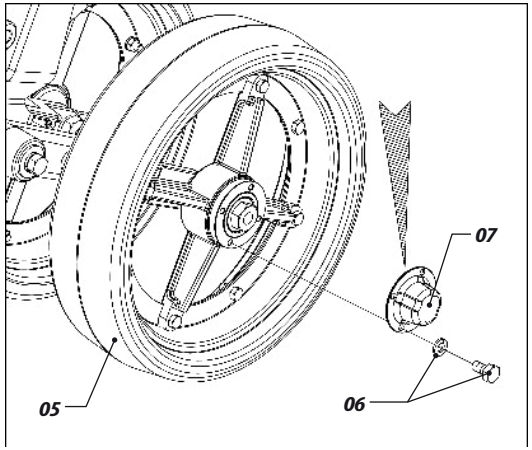
LUBRICATE EVERY 200 HOURS OF WORK

• 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:

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



02 - In the oscillating wheels (5) loosen the screws and washers (6), remove the cap (7) and put new grease. Replace the cap on the wheel and fix it with the screws and washers (6).



Figures 55

CHAIN TENSION

• To tension the chain, proceed as follows:

01 - Loosen the screw (1), slide the tensioner (2) up to the required tension. Then, tighten the nut.

⚠ ATTENTION

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

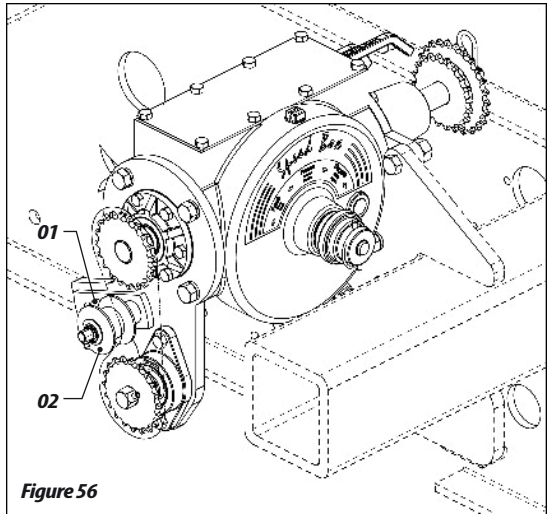


Figure 56

OSCILLATING TENSIONER

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

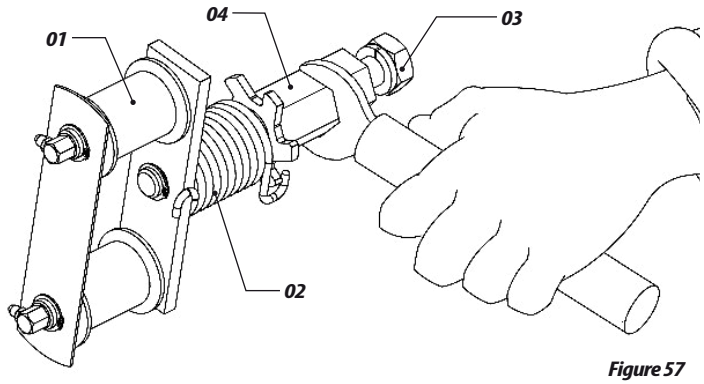


Figure 57

14. OPERATIONAL MAINTENANCE

Table 12

PROBLEMS	PROBABLE CAUSES	SOLUTIONS
There is leaking of fertilizer through fertilizer safety outputs during planting.	*Blocked hoses or pieces of plastic in spirals fertilizer conductor.*	*Unclog the hoses or remove the upper channel which provides access to the spiral, spin the shaft to leave the foreign body.*
Fertilizer hub shaft does not rotate.	*Spiral blocked with wet fertilizer or excess fertilizer on the closed line.*	*Unclog the coils, check if there is loose gutter and fertilizer may be entering the sides of them.*
One planting line is deeper than the other.	*Different pressure in the limiting depth wheel or the springs.*	*Adjust all depth wheels and pressure of the line springs.*
The furrow is too deep during planting.	*Sticky soil sticks to the discs or excessive work speed.*	*Reduce work speed.*
Strange noise when operating or riding with the seeder loaded.	*Loose wheels or wheel hub with clearance.*	*Retighten the wheel nuts. Adjust the bearings of the wheel hub.*
The seeder leaves the linew, sometimes on one side, sometimes on the nother.	*Loose tractor drawbar.*	*Use the pin that came with the seeder. Attach the tractor drawbar in the central hole.*
Is not covering the furrow.	*Wheels poorly adjusted or wet soil.*	*Adjust the covering wheel, moving it laterally in relation to the furrow.*
The hydraulic cylinders cease to operate, raises the drill and then does not lower, or vice versa.	*Different quick coupling: ball-type male and needle-type female or vice versa.*	*Replace the quick coupling by putting two of the same type.*
Broken seeds	*High planting speed.*	*Reduce work speed.*
	Inadequate disc thickness.	*Use adequate disc (thickness and diameter of the holes).*
	Disc misplaced. *The seed sieve is unsuitable for the disc used.*	*Place the disc properly (Note the phrase: THIS SIDE DOWN).*
	Wet seed	*Use dry seeds.*

15. CLEANING

METALLIC AND STAINLESS FERTILIZER SYSTEM

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

01 - Loosen the nuts and washers (1) from the hub (2), only from the outside of the seed drill, remove the cotter pin (3) from the end of the shaft (4) contrary to the hub. Then, pull the hub (2) with full shaft (4) by turning it to facilitate removal.

02 - Check the pvc gutters (5), if they present wear, replace them.

03 - Do the cleaning of tanks and shafts (4) and then rinse them with running water. Reassemble the shafts observing the correct assembly of the gutter set (5), because the outlet holes of both fertilizer the gutter (5) as the spout (6) must match.

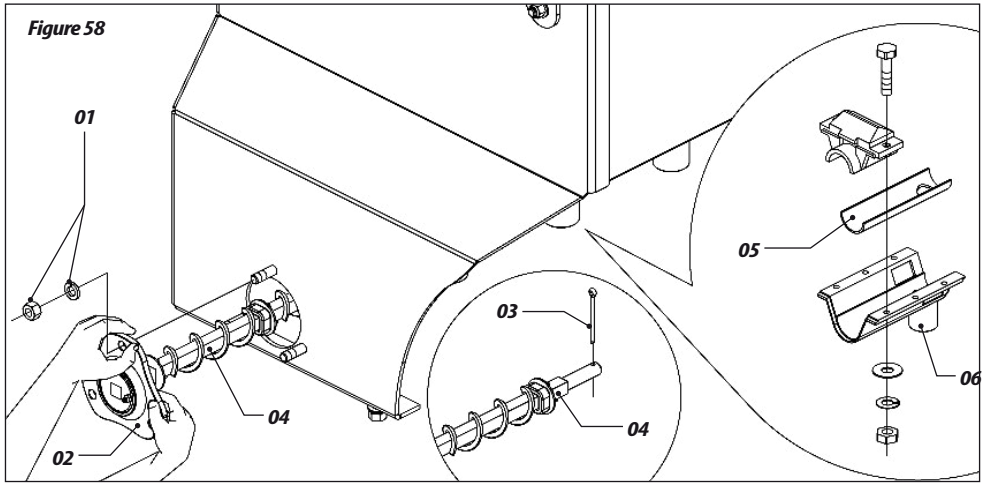


Figure 58

⚠ ATTENTION

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

IMPORTANT

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

POLYETHYLENE FERTILIZER SYSTEM

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

01 - To remove the central cannons (1), loosen the nuts and washers (2), remove the pin (3), washers and cotter pin (4) and release the latch (5). Then, wash the central cannons (1) with running water. Reassemble the axes, noting the correct assemblage of the central cannons (1).

02 - To remove the side cannons (6), loosen the nuts and washers (7), remove the cotter pin (8) releasing the hub (9) and shaft (10) from the cannon (6). Then, rinse with running water. Reassemble the axes, noting the correct assemblage of the side cannons (6).

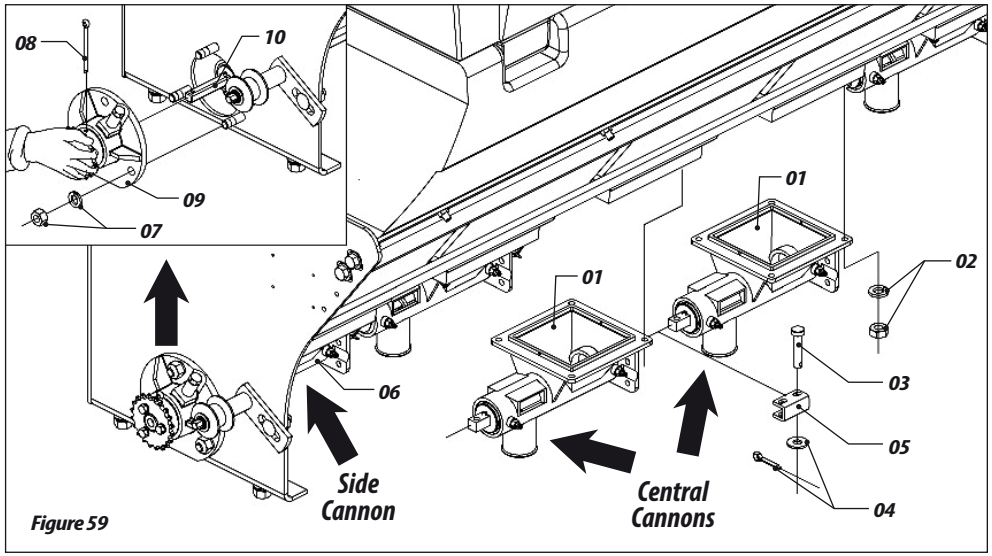


Figure 59

NOTE

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

SEED SYSTEM

01 - At the end of each working day, we recommend emptying the seed tanks (1) by removing the distribution discs (2) and cleaning them.

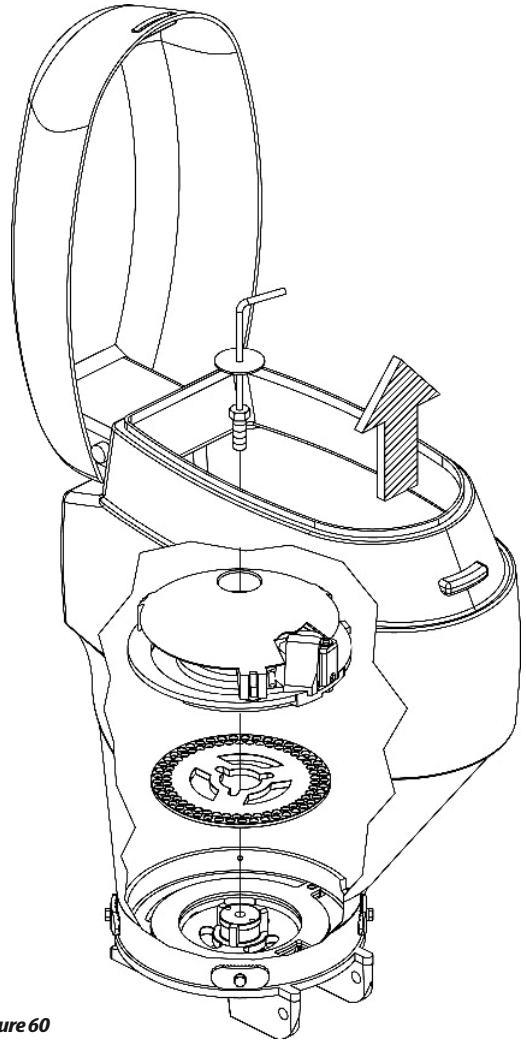


Figure 60

NOTE

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

02 - Then, observe the functioning of the seed metering box (3), checking the spring pressure of triggers (4), thus, ensuring maximum precision in seed distribution.

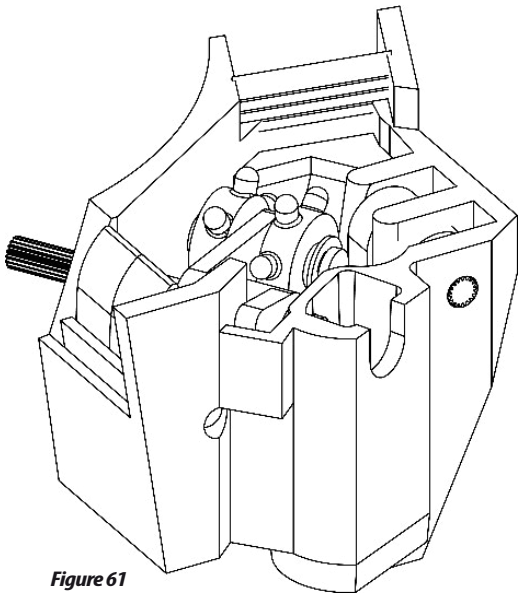


Figure 61

GENERAL CLEANING

01 - 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.

02 - Remove the transmission chains, and keep them immersed in oil until the next use.

03 - 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.

04 - 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.

05 - We recommend washing the seed drill at the beginning of a new planting.

06 - ***USE ONLY ORIGINAL PARTS BALDAN.***

16. 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

MARKETING
EDITION OF INSTRUCTION MANUALS AND PART CATALOGS

Código: 6055010420-5
CPT: PPS13717

ATTENTION

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

CONTACT

*In case of doubt **do not** operate the equipment, please contact our **after-sales service.***
Telefone: 08000-152577
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:* _____

Inovice number: _____

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

NOTES:

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