CAMB MP

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®

Baldan

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WARRANTY

PRODUCT WARRANTY

BALDAN IMPLEMENTOS AGRÍCOLAS S/A guarantees the dealer the normal functioning of the equipment for a period of 6 (six) months as from the date of delivery on the sales invoice to the rst end consumer.

During this period **BALDAN** is committed to repairing material and/or manufacturing defects under its responsibility, which includes manual labor, freights and other expenses under the responsibility of the dealer.

During the warranty period, the request and replacement of eventual defective parts should be executed by the regional dealer, who will send the defective part to **BALDAN** for analysis.

When this procedure is not possible and the problem solving capacity of the dealer is exhausted, the dealer must request the support from **BALDAN** Technical Assistance through the specic form distributed to dealers.

After **BALDAN** Technical Assistance analyzes the replaced items and concludes that it is not a warranty issue, the dealer becomes responsible for the costs related to the replacement as well as the expenses with material, trip including accommodation and meals, accessories, lubrication used and other expenses resulting from calling Technical Assistance, and **BALDAN** is authorized to make the respective billing in the name of the dealer.

Any repair made by the dealer on the product during the warranty period will only be authorized by **BALDAN** through prior presentation of the budget describing the parts and manual labor to the executed.

This deed does not include the product subjected to repairs or modications at ocial dealers not belonging to the network of **BALDAN** dealers as well as the application of non genuine parts or components to the user product.

The present warranty becomes void when it is conrmed that the defect or damage is the result of undue use of the product, non-observation of the instructions or the inexperience of the operator.

It is agreed that the present warranty does not cover tires, polyethylene hoppers, cardans, hydraulic component, etc, which are equipments under warranty by their manufacturers.

The manufacturing and/or material defects subject to this warranty deed will not include, under any circumstance, reason for termination of purchase and sales contract or for indemnication of any kind.

BALDAN reserves the right to change and/or improve the technical characteristics of its products without prior warning and without obligation of doing so with the previously manufactured products.

OWNER

BALDAN IMPLEMENTOS AGRÍCOLAS S/A is not responsible for any accidental damage caused by the undue use, transport or storage of your equipment, be it due to the negligence and/or inexperience of any person.

Only persons with full knowledge of the tractor and the equipment should execute the transport and operation.

BALDAN is not responsible for any damage caused in unpredictable or abnormal situations during the normal use of the equipment.

Incorrect use of this equipment may result in serious or fatal accidents. Before placing equipment into operation, carefully read manual's instructions. Ensure that the person responsible for the operation is instructed on the correct and safe handling. Also ensure that the operator read and understood the produc'st instruction manual.

NR-31 - OCCUPATIONAL SAFETY AND HEALTH IN AGRICULTURE, LIVESTOCK, SILVICULTURE, FOREST EXPLORATION AND AQUACULTURE.

The objective of this Regulatory Standard is to establish the principles to be observed in the organization and in the work environment, compatible with the planning and development of agricultural, livestock, silviculture, forest exploration and aquiculture activities with occupational safety, health and environment. Also ensure that the operator read and understood the product instruction manual.

THE OWNER OR OPERATOR OF THE EQUIPMENT.
Carefully read and observe the provision in NR-31.

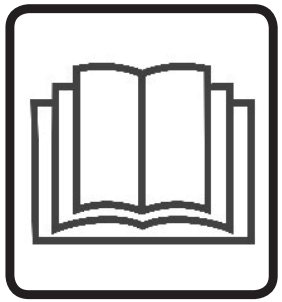
For more information, consult site and read the NR-31 fully.
http://portal.mte.gov.br/legislacao/normas-regulamentadoras-1.htm

GENERAL INFORMATION

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.

WARNING



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

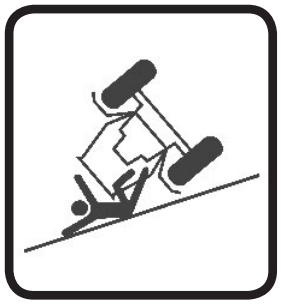
WARNING

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

WARNING

• 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.

WARNING



• There are risks of serious injury by tumbling when working on slopes.

• Do not use excessive speed.

WARNING

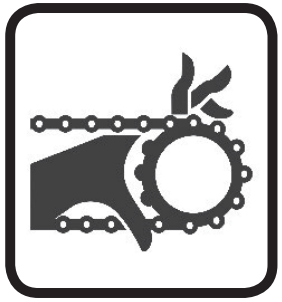
• Whenever the seed machine is being operated, watch out for surrounding people.

• Do not transport people on the tractor nor in or on the equipment.

WARNING

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

⚠ WARNING



• 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.

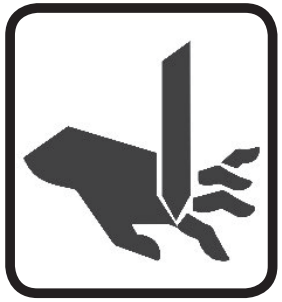
• Do not make adjustments with the machine in motion.

⚠ WARNING

• The hydraulic oil works under pressure and can cause serious injury in case of leaks. Periodically check the condition of hoses. If there is evidence of leakage, replace them immediately.

• Before connecting or disconnecting the hydraulic hoses, relieve the system pressure, triggering the command with the tractor off.

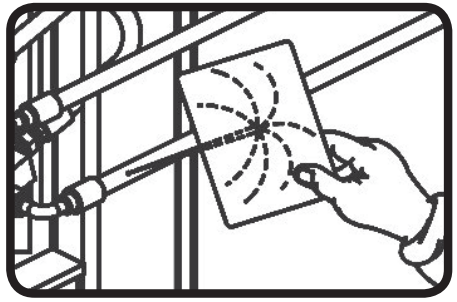
⚠ WARNING



• 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 afety gloves on hands.

⚠ WARNING



• When searching for a possible leak in hoses, use a piece of cardboard or wood, never use your hands.

• Avoid fluid incision through the skin.

⚠ *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.*

SAFETY RULES

SAFETY RULES

⚠ WARNING

• Do not make adjustments while the harrow is in motion.

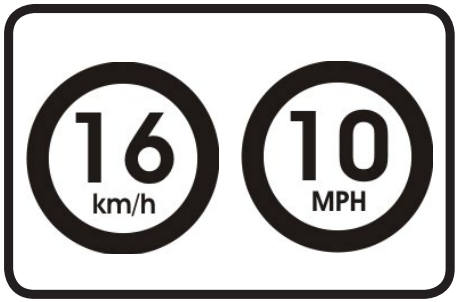
• Turn off the tractor when executing any service on the harrow.

⚠ WARNING

• 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.

⚠ WARNING



• When transporting this equipment do not exceed the speed of 16km/h or 10 MPH, avoiding risk of damage and accidents.

⚠ *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.*

01 - ⚠ Do not allow people to remain very nearby or on the equipment when it is operating.

02 - ⚠ Do not proceed in any assembly and disassembly job on the discs without wearing gloves on the hands.

03 - ⚠ Do not wear loose clothing, which can get trapped in the equipment.

04 - ⚠ Be properly seated on the operator seat when operating the tractor motor and be completely aware of correct and safe handling of the tractor and the implement as well. Always place the transmission gearshift in neutral, turn off the power take-off and put the hydraulic control in neutral.

05 - ⚠ Do not turn the motor on in closed surroundings or without proper ventilation, as the exhaust gases are harmful to your health.

06 - ⚠ When driving the tractor towards the implement for coupling, certify and make sure there is enough space and no people nearby. Always drive in low gear and be prepared for emergency braking.

07 - ⚠ Do not perform adjustments on the implement, when it is operating.

08 - ⚠ Whenever working on sloped terrains proceed carefully and always seek to maintain the necessary stability. In case the operator begins to lose balance, reduce the speed, and turn the tractor wheel towards the sloped side of the terrain.

09 - ⚠ Always drive the tractor at appropriate speeds, especially on sloped or declined terrains. Always keep the tractor gear engaged.

10 - ⚠ When driving the tractor on roadways keep the brake pedal interlocked and display safety signage.

11 - ⚠ Do not operate the tractor if the front is too light. If there is a lifting tendency, add weights to the front of the tractor or the front wheels.

12 - ⚠ When leaving the tractor, place the gearshift in the neutral position and engage the parking brake.

13 - ⚠ Alcoholic beverages or some medications can cause decreased reflexes and modify the physical condition of the operator. For this reason, never operate this equipment, under the influence of these substances.

14 - ⚠ Read or explain all the above procedures to an illiterate operator.

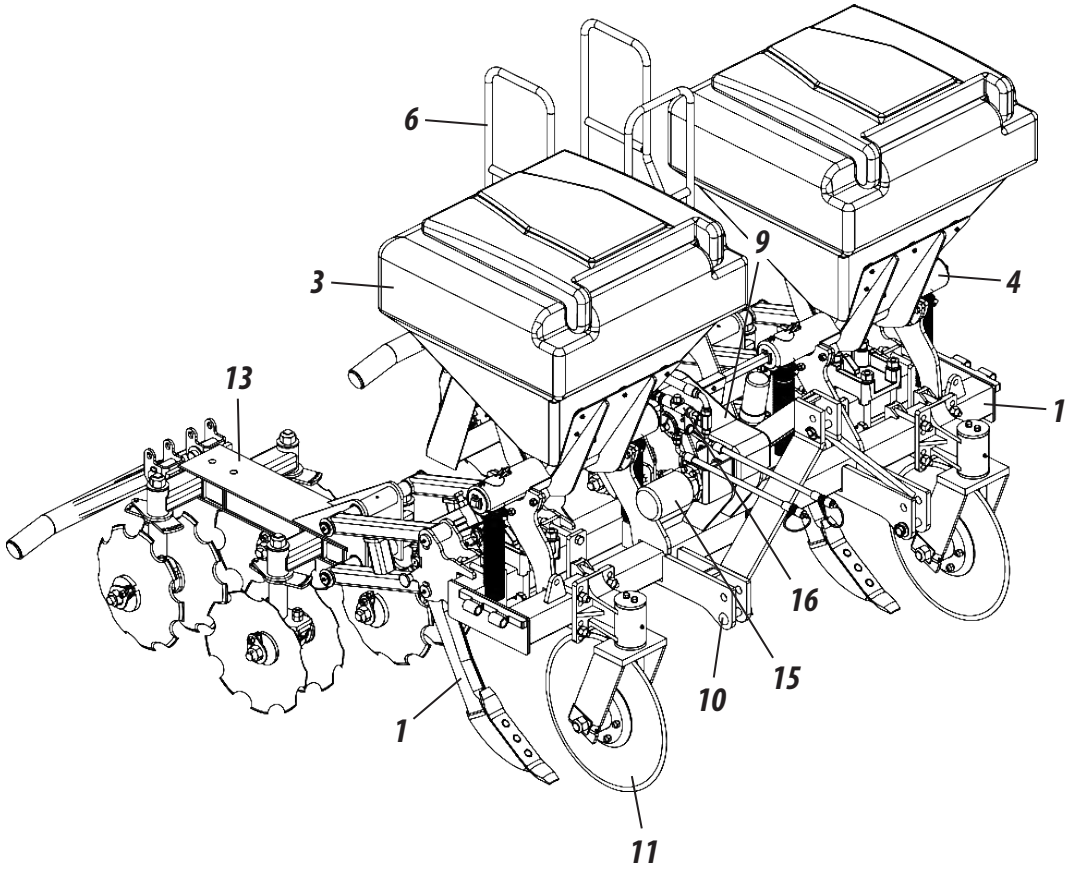
In case of any questions or doubts; consult with After Sales
Telephone: 0800-152577 / E-mail: posvenda@baldan.com.br

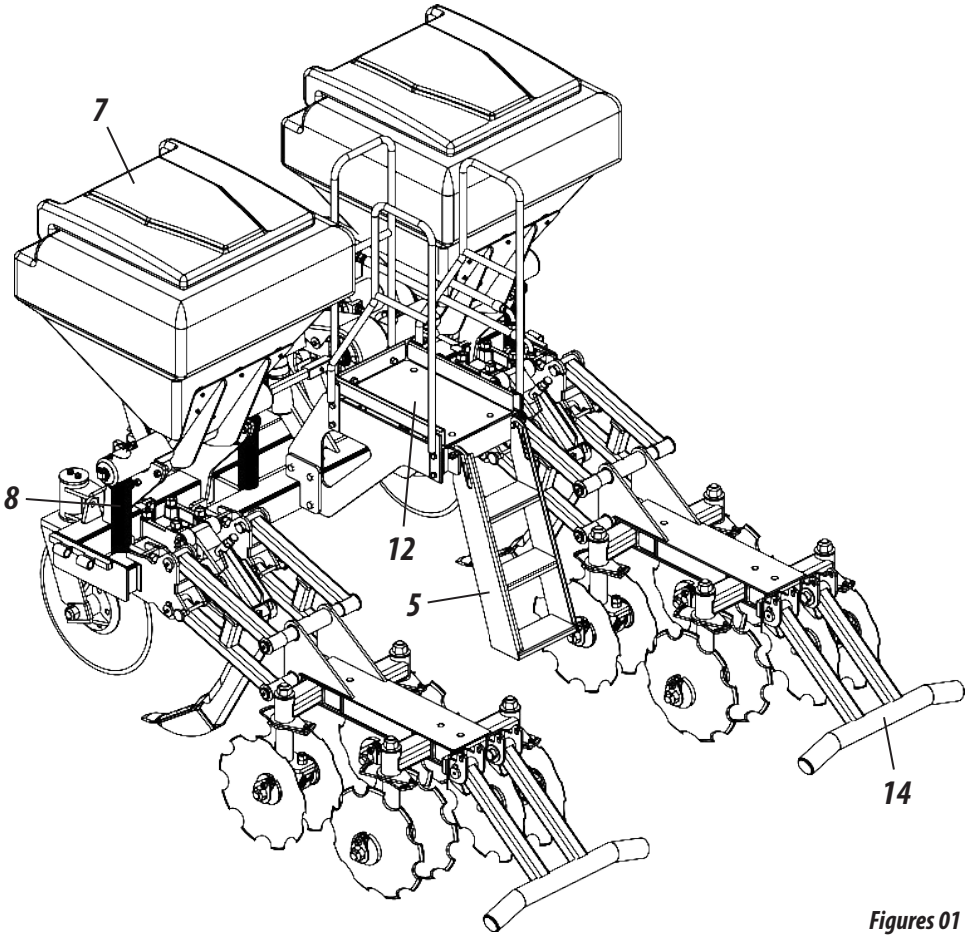
WARNINGS

COMPONENTS

MULTIPLE SUBSOILER/FERTILIZER AND CULTIVATOR

1 - Chassis
2 - Sub-soil Shank
3 - Fertilizer Tank
4 - Fertilizer Spout
5 - Ladder
6 - Handrail
7 - Fertilizer Tank Cover
8 - Sleeve
9 - Chain Cover
10 - Cat. II Coupling Pin
11 - Cutting Disc
12 - Plataform
13 - Pantographic System Grate
14 - Leveling Brace
15 - Hydraulic Motor
16 - Oil Flow Control Valve





Figures 01

Table 01

Model	*Nr of Rows*	*Rows Spacing (mm)*	*Total Width (mm)*	*Total Height (mm)*	*Total Lenght (mm)*	*Fertilizer Hooper (L)*	*Fertilzer Rate (kg/Ha)*	*Approx. Weight (kg)*	*Required Tractor Power (hp)*
						Polietileno			
CAMB MP	02	1300 / 1400 / 1500	2330	2200	2688	800	250 - 1200	1600	100 - 140

Baldan reserves the right to modify and/or perfect the thecnical characteristics of its products, without previous notification, and without any similar obligation in previously manufactured products. The technical specifications are approximate and informed based on normal operating conditions.

TECHNICAL SPECIFICATIONS

ASSEMBLY

The model **CAMB MP** Baldan cultivator is shipped from the factory partially assembled, it is just necessary to assemble the casting wheels, as described in the following instructions:

CASTING WHEEL ASSEMBLY (FIGURE 02)

Proceed as follows (1), to assemble the casting wheels:

1- Mark the place where the assembly (2) will be attached to the casting wheels (1).

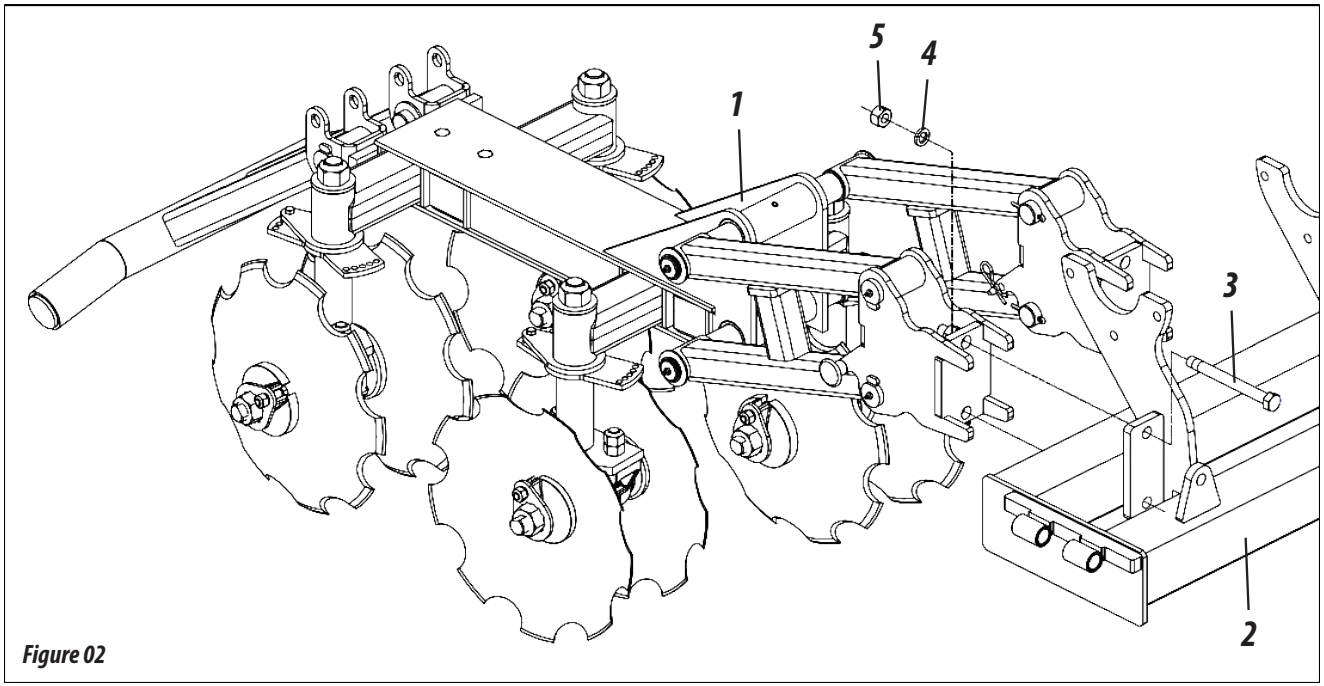


Figure 02

2- Then couple the casting wheels (1) to the assembly (2) fastening it with the screws (3), lock washers (4) and the nuts (5).

NOTE

Perform the same procedure to assemble the other casting wheels.

WARNING ***After concluding the assembly of the casting wheels, perform a general maintenance check on the cultivator, make sure there are no objects (nuts, screws, or other parts inside the tanks. Retighten the screws and nuts, check all the pins, counter pins, and latches, check all the hoses.***

IMPORTANT ***Before beginning to assemble the casting wheel, look for an ideal location where it is easy to identify the components, parts, and assemble them.***

COUPLING TO THE TRACTOR (FIGURE 03)

Before coupling the cultivator to the tractor, verify if the tractor is equipped with a set of weights or ballast on the front or front wheels, so the tractor does not lift up. The rear wheels provide more stability and ground surface traction.

Proceed as follows when coupling the cultivator:

1- Drive the tractor in reverse towards the cultivator and pay special attention when using the brakes.

2- Then, place the hydraulic position control lever when approaching the cultivator, and leave the lower left arm at the same level as the cultivator.

3- Engage the lower left arm of the tractor through the coupling pin (1) in the **"A"** bracket of the cultivator.

4- Engage the 3-point linkage of the tractor in the **"B"** bracket of the cultivator.

5- After that, using the help of the adjustment lever **"C"**, engage the lower right arm of the tractor in the **"D"** bracket of the cultivator.

6- Finally couple the hydraulic hoses (2 and 3) to the tractor.

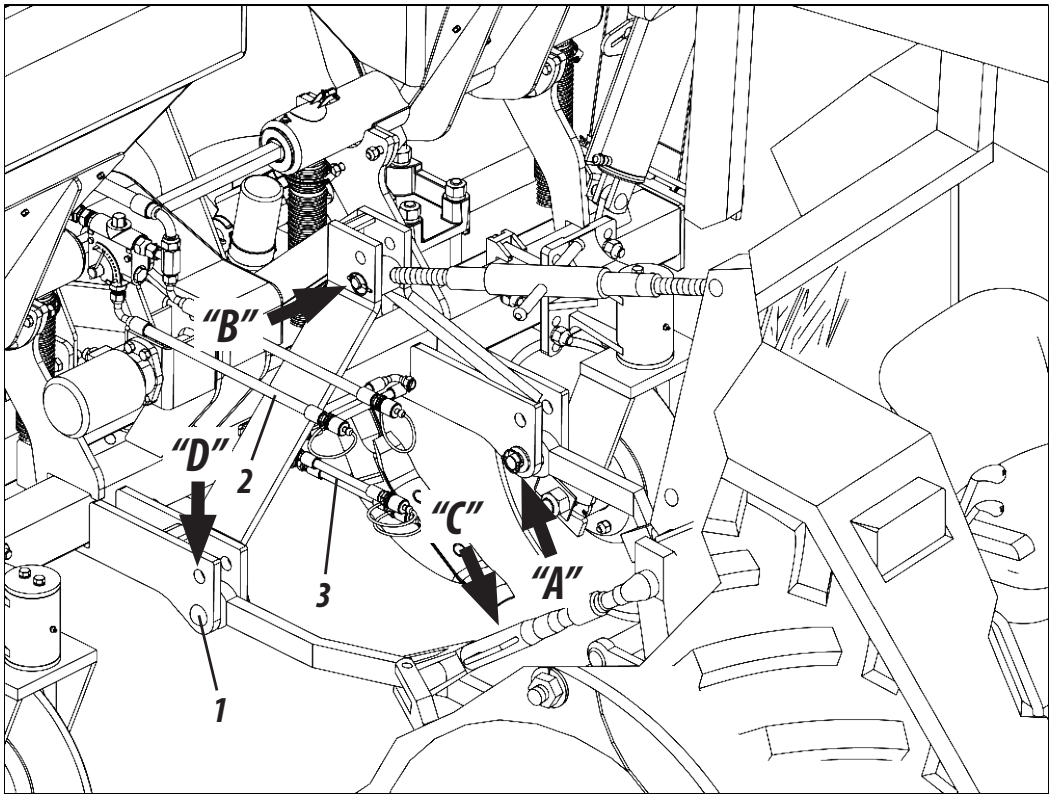


Figure 03

WARNING

Before connecting or disconnecting the hydraulic hoses, turn off the motor and release the hydraulic system pressure by completely actuating the control levers. Before releasing the pressure from the system, check to see if anybody is nearby the surrounding areas of the equipment.

IMPORTANT

Do not transport the cultivator when filled, as it can damage the equipment. We recommend filling it only in the actual operating location. If the cultivator remains in the field for any reason, we recommend covering it with a waterproof tarp to avoid damage from moisture.

NOTE

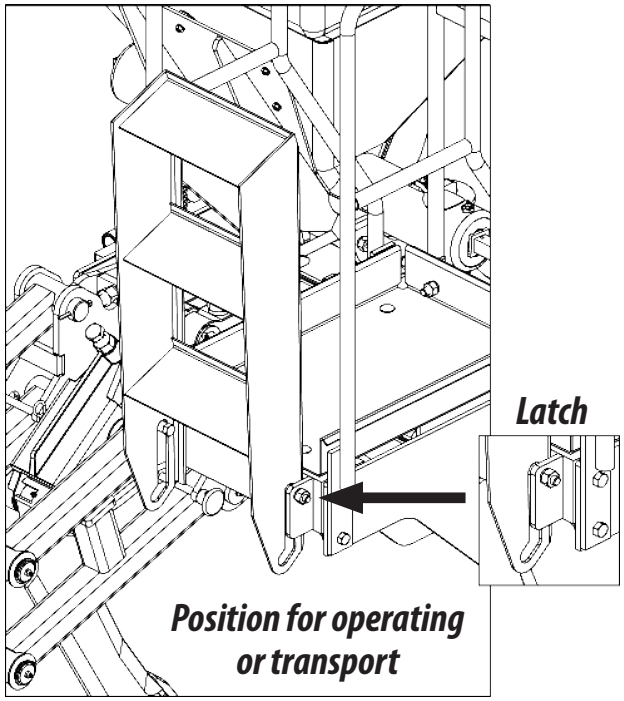
When coupling the cultivator, look for a safe and easily accessible location, always engage in low gear and reduced acceleration when operating.

TRANSPORT / OPERATING

USING THE LADDER (FIGURES 04)

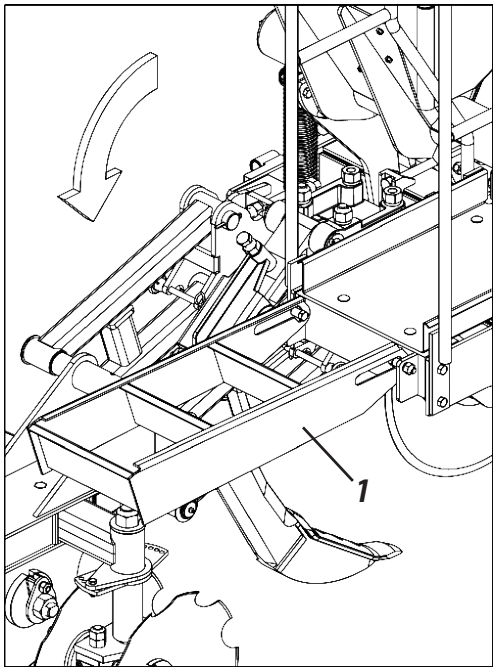
The **CAMB MP** is equipped with an articulating ladder (1), which must be used only when filling or performing maintenance on the equipment. Proceed as follows when using it:

1- Lift the articulating ladder (1), unlatching it.



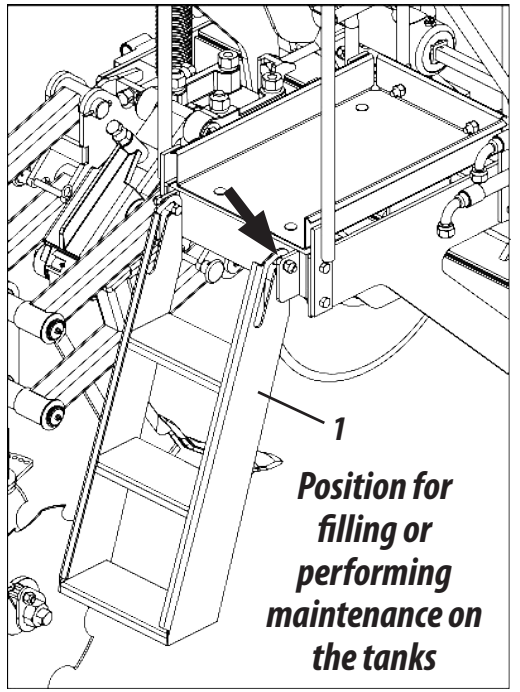
Closed Ladder

2- Then, articulate the ladder (1) lowering it.



Figures 04

3- After finishing using the ladder (1), perform the inverse procedure, closing and latching it.



Open Ladder

⚠ WARNING

Do not remain on the ladder when the cultivator is operating or being transported.
Do not work or transport the cultivator when the ladder is open.
Do not transport people on the platform, ladder, or any other part of the cultivator.
Ignoring these warnings could result in serious accidents or even death.

IMPORTANT

Always use the articulating ladder (1) when accessing or filling the tank. The articulating ladder (1) complles with the NBR standards.

CENTRALIZATION (FIGURE 05)

Proceed as follows to centralize the longitudinal axle of the **CAMB MP** cultivator:

1- Align the upper connector of the 3-point linkage of the tractor, verifying if the distances **"A"** in the lower hydraulic arms are equal related to the tractor tires. The lower arms must be at the same level.

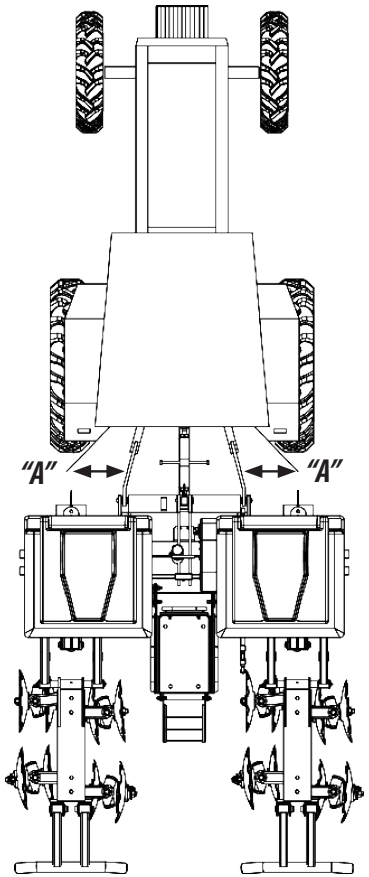


Figure 05

LEVELING (FIGURE 06)

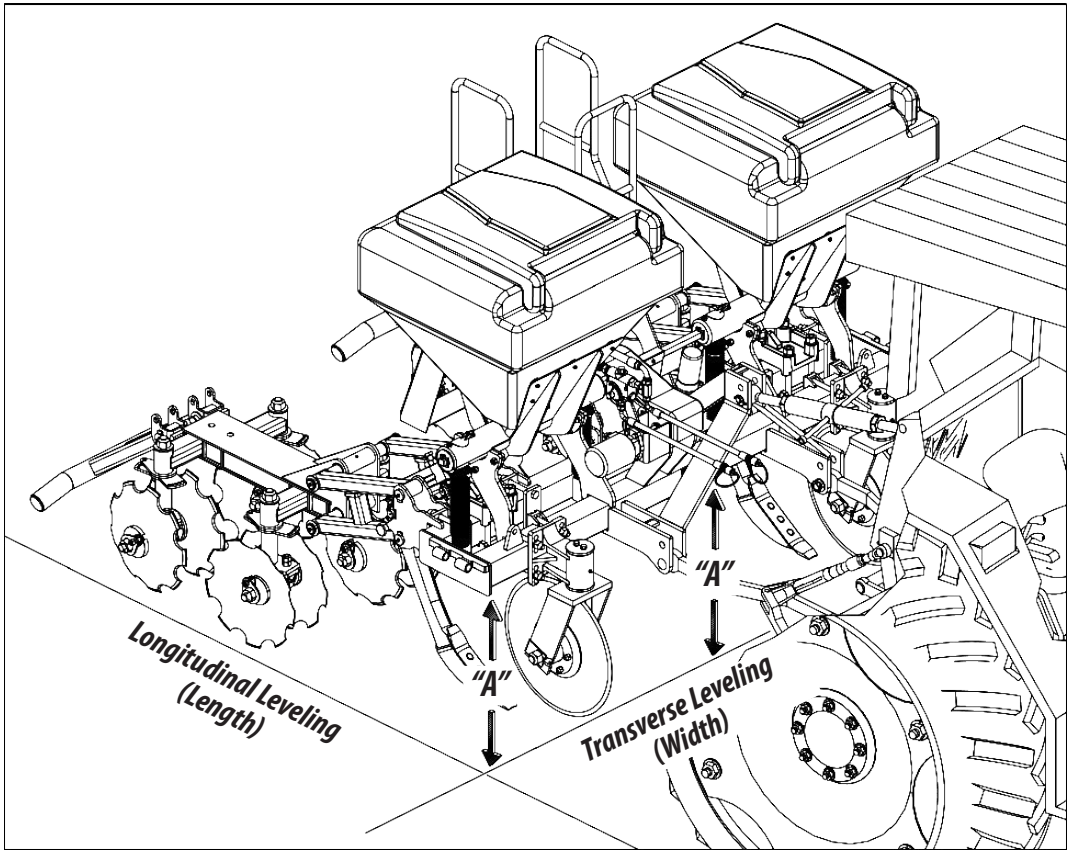
Proceed as follows to level the **CAMB MP** cultivator:

1- The tractor must be on a flat location;

2- Then level the furrower in the transverse direction (width) using the right lower arm handle of the hydraulic connector. Make sure the **"A"** measurements are equal.

3- The longitudinal leveling (length) is done by using the 3rd linkage point arm. Make sure the shanks are parallel to the ground.

Figure 06



ADJUSTMENTS

ADJUSTMENTS

SPACING (FIGURE 07)

The **CAMB MP** cultivator is supplied with a spacer, which can be modified according to the type of desired crop. Proceed as follows to adjust the casting wheel (1) spacing:

1- Loosen the screws (2) using the lock washers (3) and nuts (4).

2- Then, adjust the casting wheels (1) to the desired spacing.

3- After that, fasten the screws (2), tightening the lock washers (3) and nuts (4).

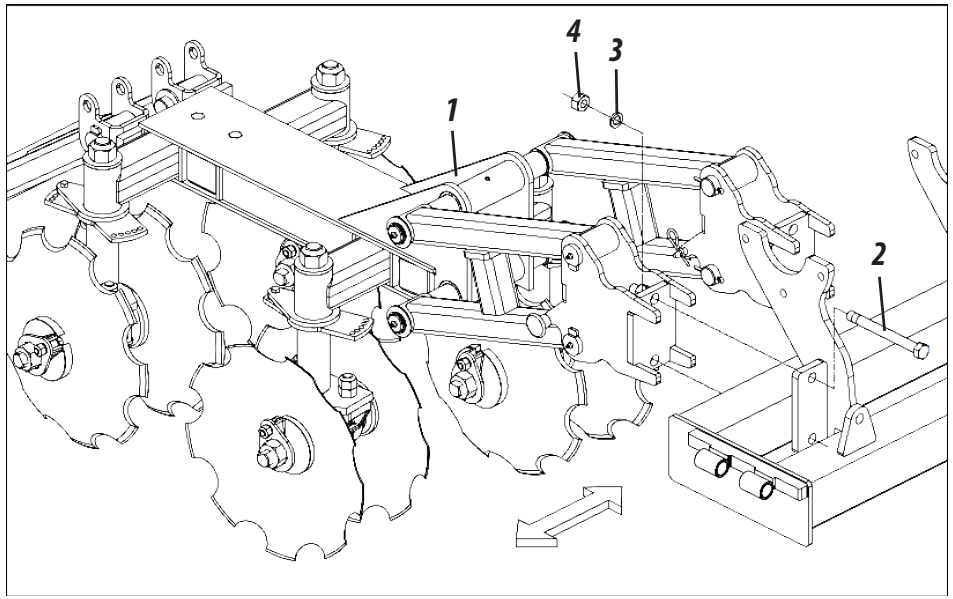


Figure 07

⚠ WARNING

After concluding that, proceed in adjusting the spacing of the other casting wheels (4), so both are adjusted the same way.

CUTTING DISC (FIGURE 08)

The **CAMB MP** cultivator is equipped with cutting discs (1) for working on areas with reduced preparation or annual straw crops used for the rotation of areas being reworked, thereby facilitating their cutting. The cutting disc adjustment (1) is performed as follows:

1- First loosen the nuts (2), lock washers (3) and remove the screws (4).

2- Then, move the cutting disc (1) until the desired adjustment.

3- After that, replace the screws (4) fastening them using the lock washers and nuts (2).

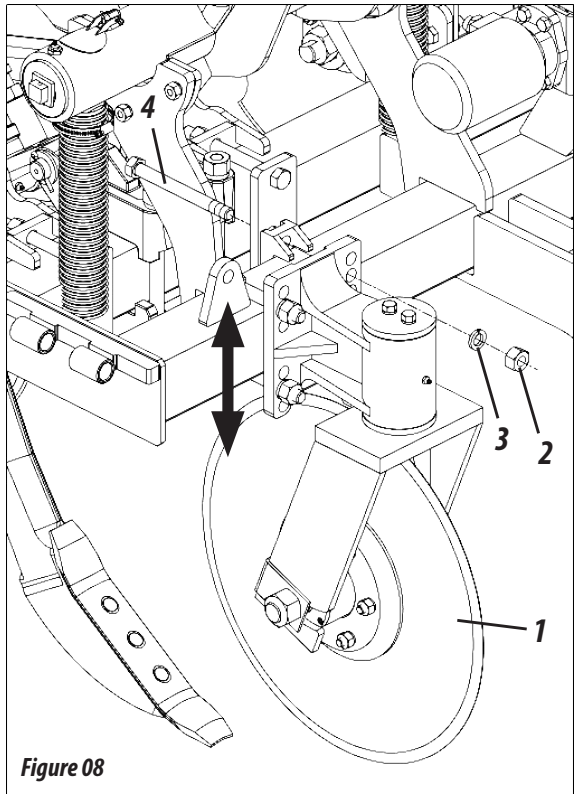


Figure 08

⚠ WARNING

After concluding, proceed in adjusting the other cutting disc (1), so they are both adjusted the same way.

ADJUSTMENT OF THE AUTOMATIC LOAD DISABLES THE SHANKS (FIGURES 09)

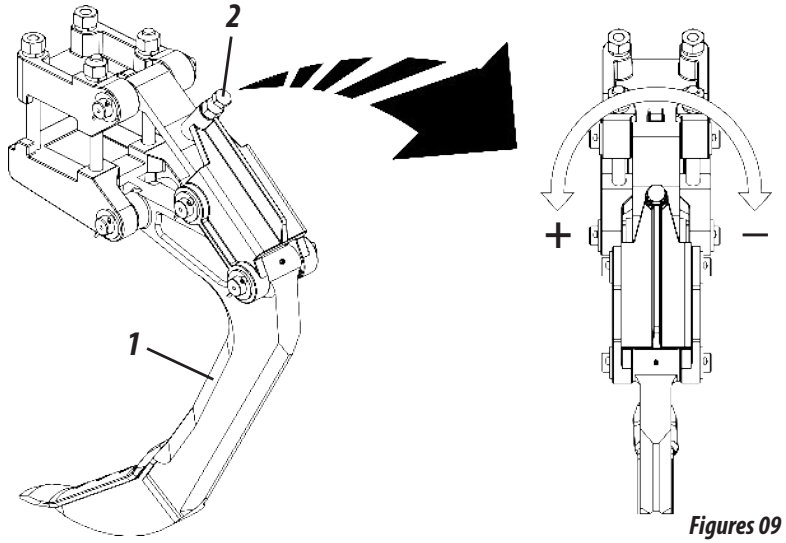
The automatic disabling of the shanks (1), is shipped from the factory with a preset load setting. To decrease or increase the load setting, proceed as follows:

Turn the screw (2), 90º (1/4 of a turn) towards the right (clockwise).

That will decrease the disabling load by 5kgs.

Turn the screw (2), 90º (1/4 of a turn) towards the left (counter clockwise).

That will increase the disabling load by 5kgs.



Figures 09

WARNING | ***Decrease or increase the load only if the shank is disabled all the time.***

IMPORTANT | ***Always adjust the load ¼ of a turn, which means, this adjusts by 5kg intervals until it stops disabling.***

NOTE

These adjustments must be done in the field, but before starting to operate, pay attention to the soil type being cultivated, as that improves the performance of the furrower.

SWEEPER SHANK - OPTIONAL (FIGURE 10)

By using the sweeper shank (5), it is possible to break it using the furrower, leveling the area, which is very important in avoiding wastes from the harvest, especially when it is mechanized. This even makes it possible to completely fertilize the crop.

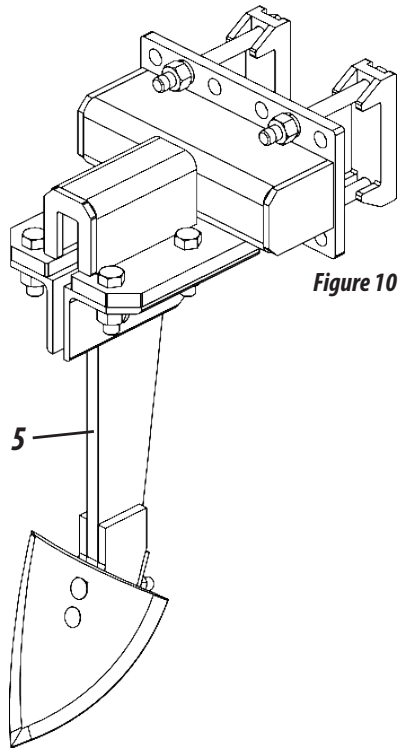
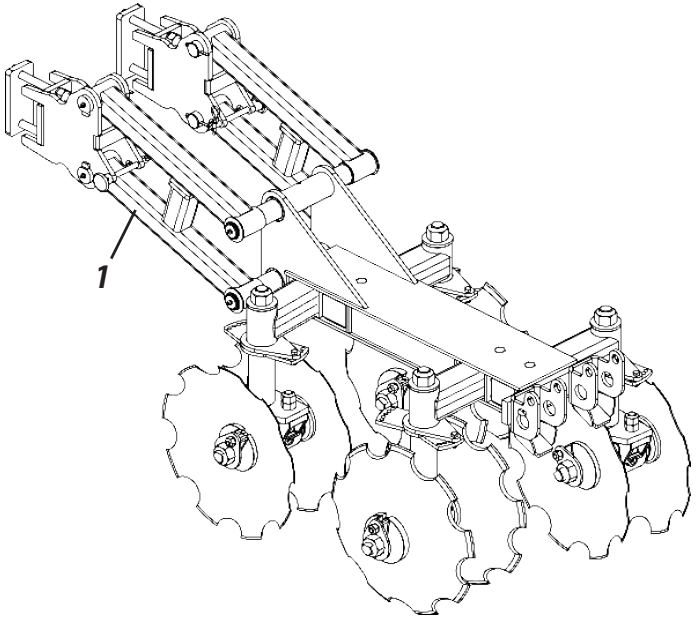


Figure 10

ADJUSTMENTS

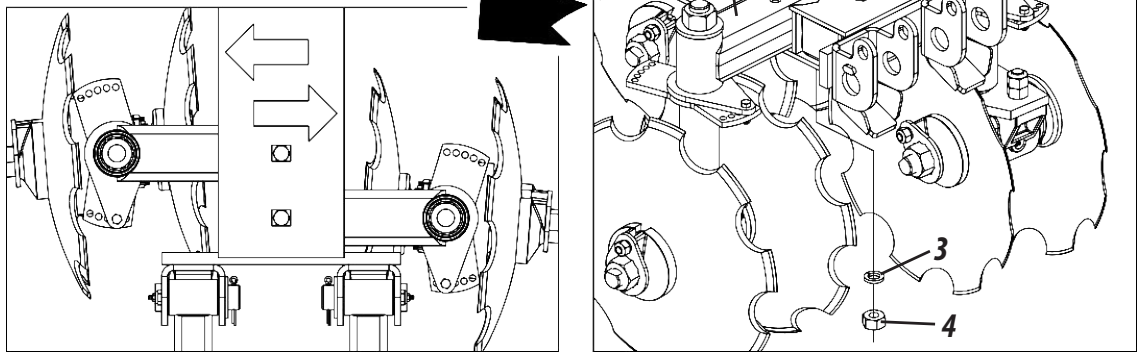
ADJUSTING THE PANTOGRAPH CASTING WHEELS FOR THE "BURNT SUGARCANE SYSTEM" - OPTIONAL (FIGURES 11)

In order to cultivate an area after a sugarcane crop, the **CAMB MP** cultivator can be purchased optionally, which is equipped with the "burnt sugarcane system" (1) composed of two sets of 18"pantographic cutting discs and a leveler. Proceed as follows to adjust the pantographic casting wheels in the "burnt sugarcane system" (1):



1- Loosen the screws (2), lock washers (3), and nuts (4).

2- Then, move the tubes (5) to the desired 5 width and then retighten them.

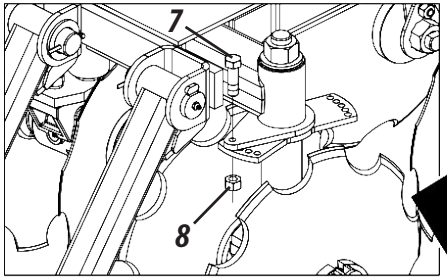


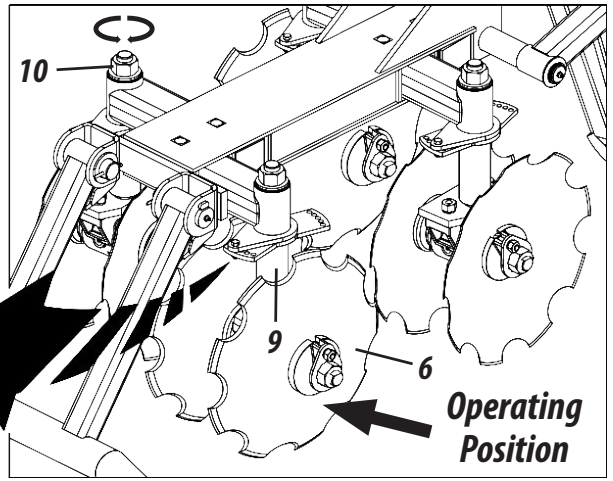
Figures 11

3- After, adjust the cutting angle of the discs (6), loosening the screw (7) and nuts (8) which fasten the shoe (9) to the discs.

4- Then, loosen the nut (10), turn the disc section to the desired position.

5- Conclude by retightening the nut (10) and replace the screws (7) and nuts (8).





Figures 11

⚠ WARNING

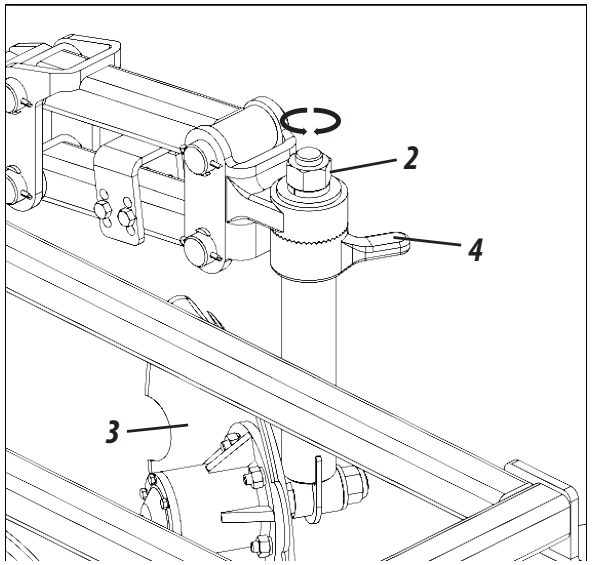
After concluding, perform the same adjustment on the other casting wheels (1), as they must both be adjusted the same way.

ADJUSTING THE CASTING WHEELS IN THE "RAW SUGARCANE SYSTEM" - OPTIONAL (FIGURES 12)

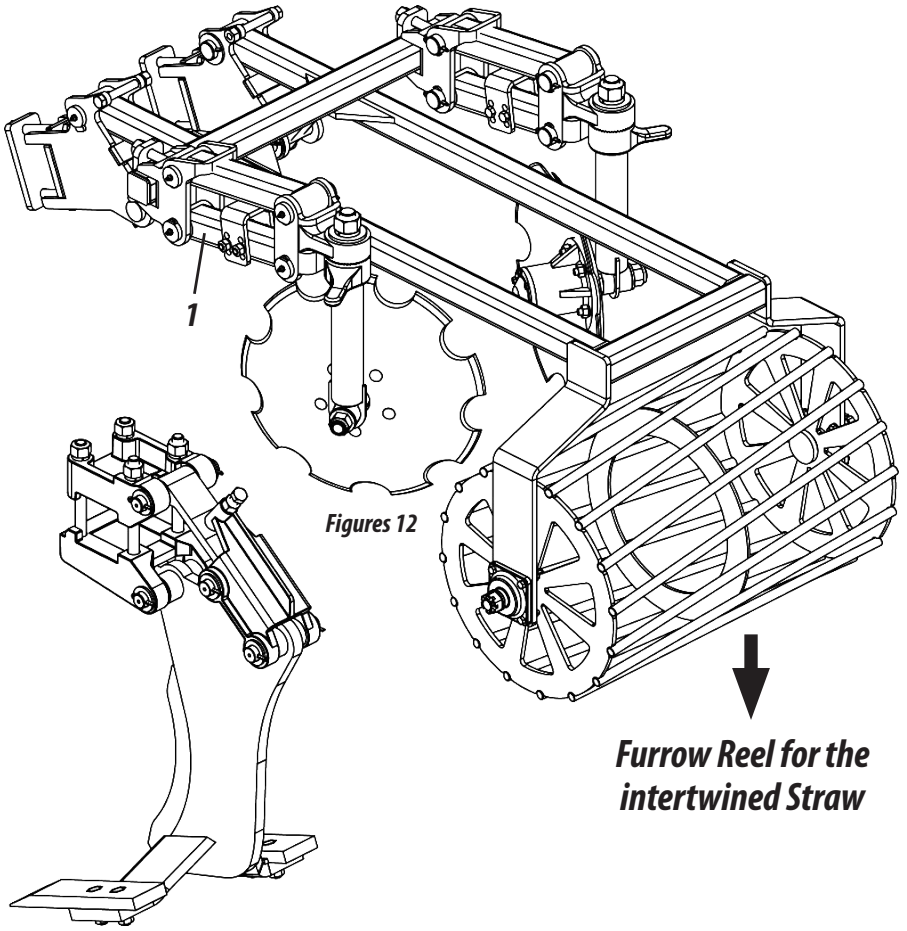
In order to cultivate and fertilize mechanically harvested sugarcane areas and without burning, the **CAMB MP** cultivator can be equipped with the optional raw sugarcane system (1), which makes it possible to cut the sub-soil between the crop rows and fertilize without damaging the straw matting provided by the mechanized harvest. It is composed of arms and cutting discs with angular adjustment and two furrowing reels, with adequate weight to furrow the straw between the rows of the crop. Proceed as follows to adjust the "raw sugarcane system" (1):

1- Loosen the nut (2), adjust the cutting angle by turning the cutting disc (3), using the handle (4) until the desired position is achieved.

2- After, retighten the nut (2), locking it.



Figures 12



Figures 12

NOTE

This type of adjustment makes it possible to perform excellent work on raw sugarcane, whereas the straw matting from crop can be kept intact or incorporating part of the straw, by just adjusting the operating depth of the cutting discs.

WARNING

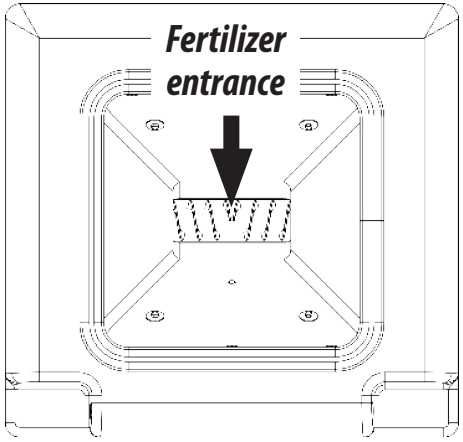
When the adjustment is concluded, perform the same adjustment on the other casting wheels (1), as both must be adjusted the same way.

FERTILIZER SPREADING SYSTEM

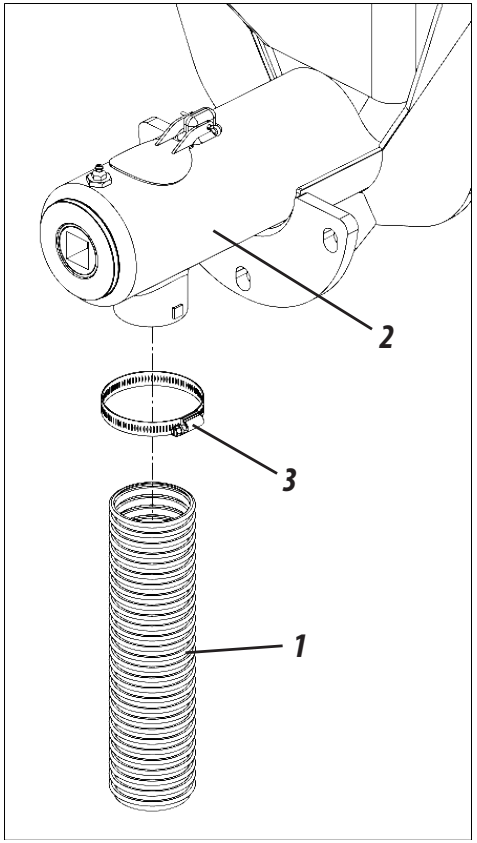
FERTILIZER SPREADER - INDEPENDENT SYSTEM (FIGURES 13/14)

Proceed as follows in order to transport the fertilizer from the spreader to the soil:

1- Couple the hose sleeves (1) to the high-pressure flow spreader outlets (2), using the clamp to fasten them (3), **as shown in figure 13.**



Figures 13



2- The individual high-pressure flow spreader system is equipped with a safety outlet valve, so if the hose is stopped up, when the fertilizer is being dispensed, then it will begin to be released through this safety outlet valve, thereby preventing any damage to the system, **as shown in figure 14.**

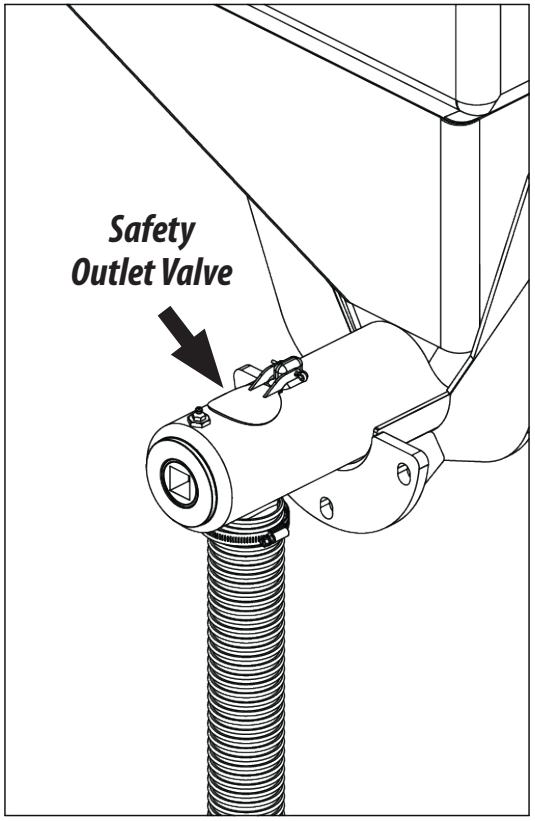


Figure 14

WARNING | ***Verify daily the spreaders and hose sleeves and proceed in cleaning these outlets. Whenever there are impurities in the fertilizer or dampness, clean them more frequently.***

ADJUSTING FERTILIZER USING A HYDRAULIC MOTOR (FIGURE 15)

1- Fertilizer adjustment can be done by using an oil flow adjustment valve (1), when the tractor is not moving, but at the same as the operating rotation speed. Collect the fertilizer spread in a 50 or 100 meter distance during a timed period and calculate as shown in the following page.

NOTE

It is necessary to wait for a few seconds before beginning to collect the fertilizer, so that it completely surrounds the axle. Before starting the test, heat the tractor oil to a normal operating temperature.

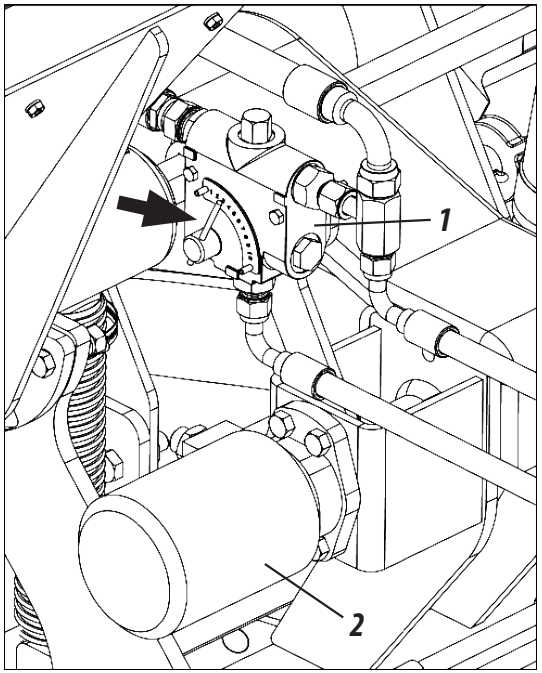


Figure 15

2- The variation in the quantity of fertilizer is obtained by opening or closing the oil flow adjustment valve (1).

3- When the oil flow adjustment valve is opened more, then the hydraulic motor (2) turns faster and increases the quantity of fertilizer.

IMPORTANT

The oil flow adjustment valve(1), is equipped with a pressure release valve (safety system), it is preset, and its purpose is to stop the rotation of the hydraulic motor, in case of any possible locking in an individual fertilizer spreading system (nozzles). We recommend adjusting operating setting from 2 to 3, based on the desired spreading of the fertilizer. Never change the adjustment of this valve (1).

FERTILIZER SPREADING TABLES (TABLE 02)

Remote Controlled hydraulic coupling - 1800 rpm			
Adjustment	Spacing (mm)		(Kg / Ha)
	1300	1400	1500
2.3	263	244	227
2.4	388	360	335
2.5	513	477	443
3.0	535	497	462
3.5	555	515	479
4.0	574	534	496
4.5	750	697	648
5.0	927	862	801
5.5	1213	1128	1048
6.0	1500	1394	1296

Continuous Flow hydraulic coupling - 1800 rpm			
Adjustment	Spacing (mm)		(Kg / Ha)
	1300	1400	1500
2.3	141	131	122
2.4	199	185	172
2.5	256	238	221
3.0	484	450	418
3.5	505	470	436
4.0	524	487	453
4.5	670	626	582
5.0	823	765	711
5.5	774	905	841
6.0	1124	1044	971

Tables 02

CALCULATION

PRACTICAL CALCULATION FOR SPREADING FERTILIZER

- To spread other quantities of fertilizer in different spacing and areas as displayed on the spreading tables, utilize the following formula and proceed as follows:

1- Measure the spacing between rows and the quantity of fertilizer to be spread per acre (Aa) or hectare (Ha).

2- ***Example:*** The cultivator is spaced at 1.50m, and the quantity for spreading is 400 kgs of fertilizer per Ha, then use the following formula:

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

Formula Legend Data:
E = Spacing between rows (m)
Q = Quantity of fertilizer to be spread [kg]
A = Area to be fertilized [m^2]
D = Distance 50 meters (test)
X = Grams of fertilizer spread in 50 meters

Solution: $X = \frac{1500 \times 400}{10.000} \times 50$

$X = 60{,}00 \times 50 = 3000$

X = 3000 grams in 50 meters per shank.

NOTE

To obtain the solution, adjust the cultivator so that it spreads the defined quantity, or as near as possible to the predetermined space for the test.

PRACTICAL TEST FOR MEASURING THE QUANTITY OF FERTILIZER SPREAD

1- Do the quantity test spreading in the respective operating location in order to achieve greater precision, as each terrain is different. Proceed as follows:

2- As much as possible, always use the same tractor for doing the spreading.

3- Mark the test distance as shown on the table for 50 linear meters.

4- Fill the cultivator tank at least half full. Go about 10 meters outside the testing area, so that the fertilizer fills the dispensers.

5- Place the containers on the outlets for collecting the fertilizer. Move the tractor to the marked area, move at the same speed as when planting, from 5 to 7 Km/hr.

6- After traveling the marked space, remove the containers from the fertilizer nozzles for weighing the collected quantity. If necessary, increase or decrease the quantity of fertilizer being spread, check the table.

7- After achieving the desired quantity, while still in the spreading area, move the tractor at the same speed, but let the fertilizer reach the soil, in order to check the uniformity of the spreading.

IMPORTANT

We suggest performing a practical test spreading the fertilizer for a distance of 50 meters, so that you can compare the fertilizing results.

WARNING

The variation in operating speed, affects the uniform fertilizer spreading. Whenever the fertilizer brand is changed, it is necessary to measure again. After the first operating day, check all the adjustments again.

OPERATIONS

01 - After the first day operating the cultivator, retighten all the screws and nuts. Verify the condition of the pins and latches.

02 - Do not steer or go in reverse on the recessed soil rows.

03 - Comply with the lubrication maintenance intervals.

04 - When filling the tanks, verify if there are any objects inside them, such as nuts, screws, etc. Always spread fertilizer without any impurities.

05 - Always observe the operation of the fertilizer spreading mechanisms operation and also the adjustments when beginning to cultivate.

Keep the cultivator always level, the tractor towing bar must always remain attached and the operating speed must remain constant.

06 - Observe the position of the fertilizer related to the seeds in the soil.

07 - When verifying or performing maintenance on the cultivator, it must be lowered onto the ground and the tractor motor must be turned off.

08 - Never make sharp turns when the cultivator is operating.

09 - The cultivator is equipped with several adjustments, however the local operating conditions but the local conditions best define the adjustment needs.

10 - Fill the cultivator only in the respective operating location.

11 - Never transport or operate when the cultivator is overloaded.

12 - The instructions defined for the right and left sides are based on the direction from behind the cultivator.

13 - The **CAMB MP** cultivator operates best at a speed range from 5 to 7 km/hr.

14 - In case of any doubts or questions, never operate or handle the cultivator before consulting with the After Sales Support Department.

15 - Telephone: 0800-152577 or e-mail: posvenda@baldan.com.br

MAINTENANCE

MAINTENANCE

LUBRICATION

1- Lubrication is essential for achieving good performance and longer durability of the moving parts of the furrower, contributing to cost savings in maintenance.

2- Before beginning to operate, carefully lubricate the grease fittings and comply with the lubrication intervals in the following pages. Certify the quality of the lubricant, regarding its efficiency and purity, avoid using products contaminated by water, soil, and other agents.

IMPORTANT

If there are other lubricants and/or equivalent brands of grease as listed on the table, consult the technical manual of the respective lubricant manufacturer.

LUBRICATE AFTER EVERY 10 HOURS OF OPERATION (FIGURE 16)

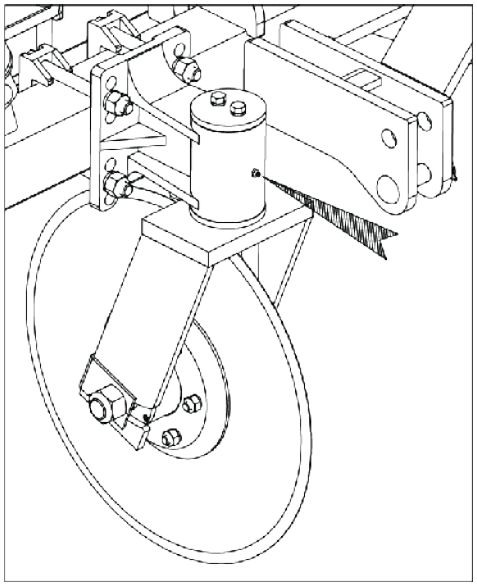


Figure 16

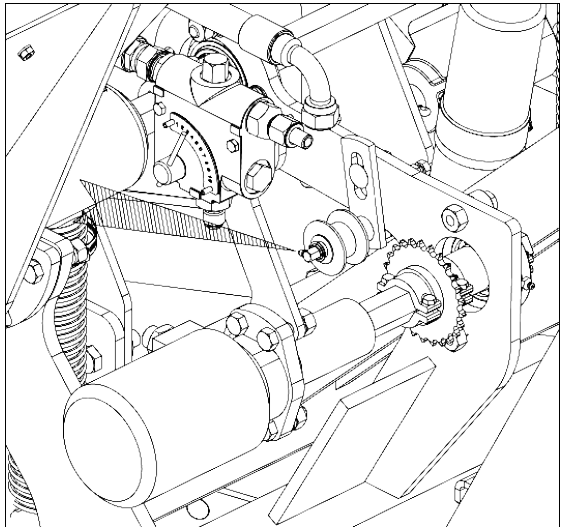
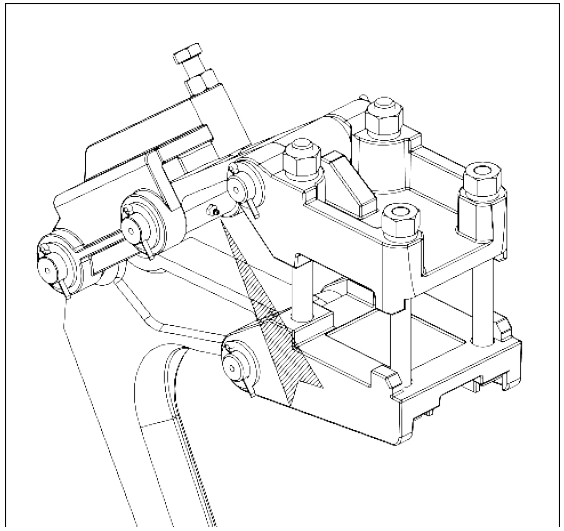
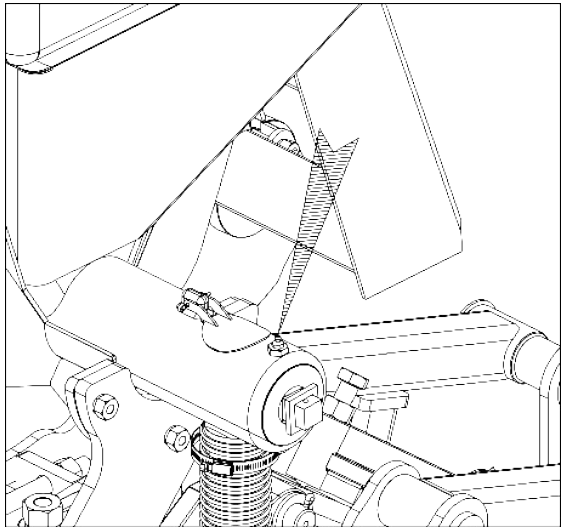
GREASE TABLE AND EQUIVALENTS

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

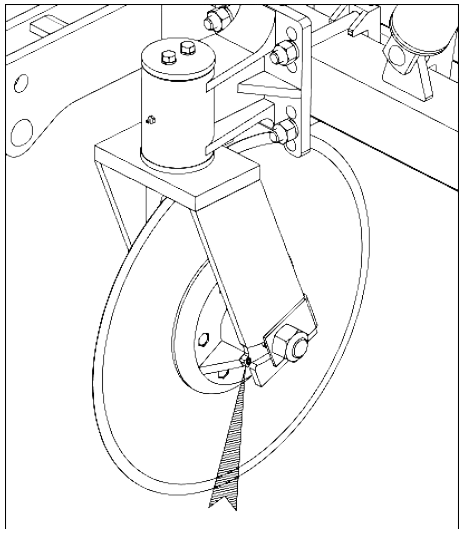
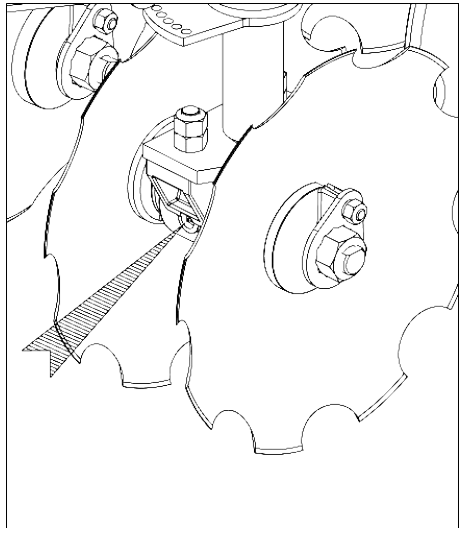
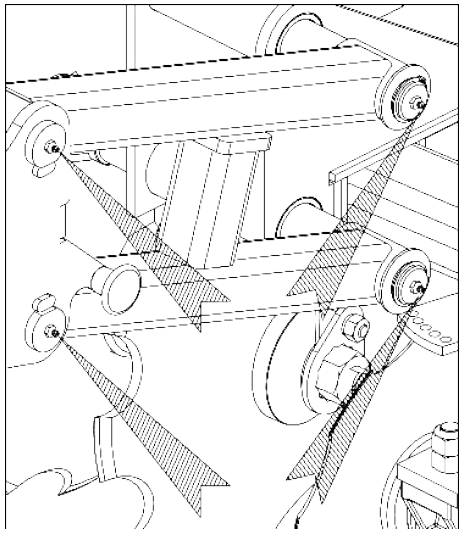
Table 03

WARNING | ***Do not place too much grease; abide by the lubrication interval before lubricating again.***

LUBRICATE EVERY 10 HOURS OF OPERATION - CONTINUED (FIGURES16)

Figuras 16

MAINTENANCE

CHAIN TIGHTNESS (FIGURE 17)

Proceed as follows for tightening the chain:

1- Loosen the screw (1), slide the stretcher (2) until the required tightness. Then, retighten the nut, as shown **in Figure 17.**

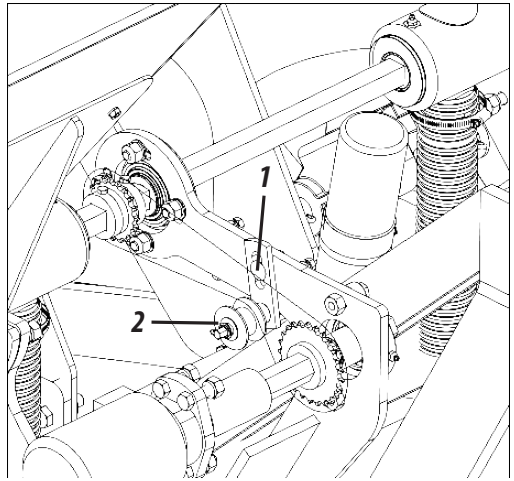


Figure 17

WARNING | ***Check the tightness of the chain daily, the normal play must be + - 1cm in the very middle of the chain.***

OPERATIONAL MAINTENANCE OPERACIONAL

PROBLEMS	*PROBABLE CAUSES*	*SOLUTIONS*
Fertilizer leaks from the safety outlet valve while cultivating.	The hoses are stopped up or pieces of plastic block the fertilizer spiral conductor.	Unblock the hoses or remove the upper conduit going to the spiral, turn the axle the opposite direction until the foreign body is loosened.
The fertilizer hub axle does not turn.	The spiral conductor is block with wet fertilizer or excessive fertilizer in the closed line.	Unblock the spiral tubing, check if the spout is loose and the fertilizer is entering by its sides.
The tractor lifts when lifting the cultivator.	There is not enough ballast in the front part of the tractor.	Add ballast to the front of the tractor.
The cultivator moves out of place while cultivating on very sloped terrains.	The lower arms of the tractor linkage are loose and move sideways.	Fasten the lower arms of the tractor linkage, as to eliminate the sideways movement.
The shanks become disabled frequently.	Improper adjustment of the screws.	Apply the correct torque to the screws.
	There are obstacles in the area (logs, rocks). The terrain is too compacted.	Reduce the operating speed or avoid hitting the obstacles.

Table 04

SPECIAL MEASURES

1- Verify the conditions of all the pins and screws before starting to operate the cultivator.

2- The moving speed must be carefully controlled based on the terrain conditions.

3- Baldan cultivators are used for several applications and require knowhow and special care when handling.

4- Only the local conditions, can define the best manner for operating the cultivator.

5- Whenever assembling or disassembling any part of the cultivator only use proper methods and tools.

6- Carefully comply with the lubrication intervals, in the diverse lubrication points of the cultivator.

7- Always check if parts are worn out. Whenever necessary replace them and always **use original Baldan parts**.

GENERAL CLEANING

1- When storing the cultivator, do a general cleaning and wash it just with water. Verify if any paint is worn and if this happened, cover it with a coat of protective oil, and completely lubricate the cultivator. Do not spread burnt used oil.

2- After finishing the job, proceed as follows:

- Remove the transmission chains and bathe them in oil until the next time the machine is used.

- Remove all the hoses and wash them immediately with water and mild soap. Do not use other chemical products.

3- Completely lubricate the cultivator. Verify all the respective moving parts, if there are any worn or play in the parts, perform the necessary adjustment or replace the part, and leave the cultivator ready for the next job.

4- After all the maintenance tasks are done, store the cultivator in a covered and dry location, properly supported. Avoid letting the discs remain in direct connect with the ground.

5- Whenever hooking up or disconnecting the hydraulic hoses from the cultivator, do not let the ends touch the ground. Before hooking up the hydraulic hoses, clean the fittings with a dry cloth that is free of any threads **(do not use a waste cotton cloth).**

6- Replace any adhesive labels, especially warning labels, which are damaged or missing. Make everyone aware of the importance of these labels and accident hazards when instructions are not followed.

7- We recommend washing the cultivator using only water at the beginning of any new job.

⚠ WARNING ***Do not use chemical products for washing the cultivator, as they can damage the painting and the warning labels.***

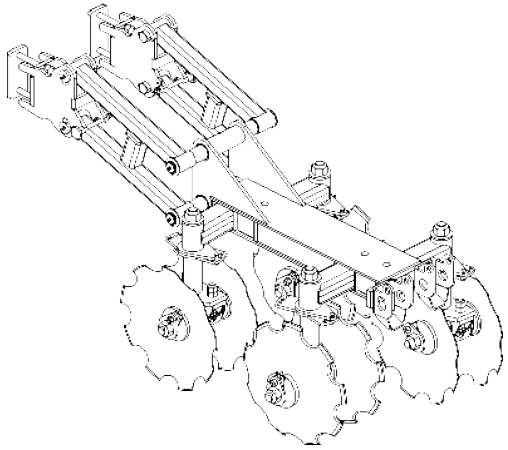
MAINTENANCE

OPTIONAL

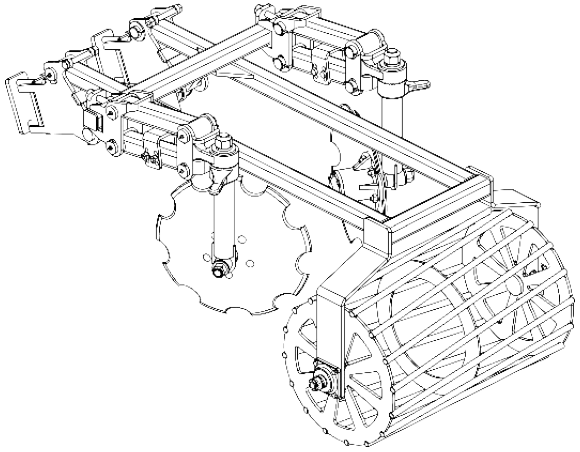
OPTIONAL EQUIPMENT (FIGURES 18)

The **CAMB MP** cultivator can be equipped with optional equipment, which can be purchased based on the respective needs of your work.

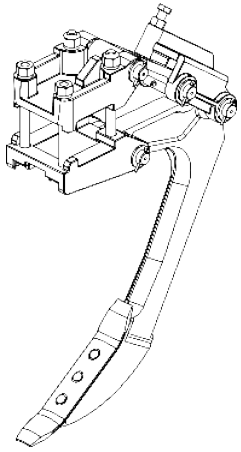
PANTOGRAPHIC LEVELER - BURNT SUGARCANE



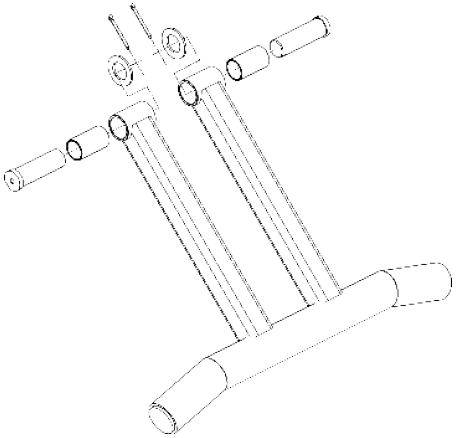
PANTOGRAPHIC LEVELER - RAW SUGARCANE



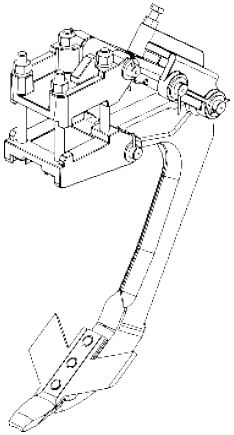
SUB-SOIL SHANK



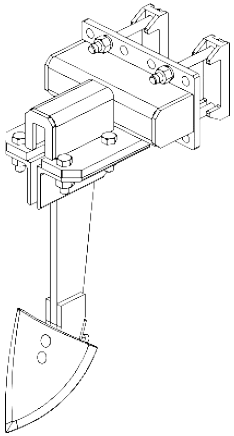
LEVELER BRACE



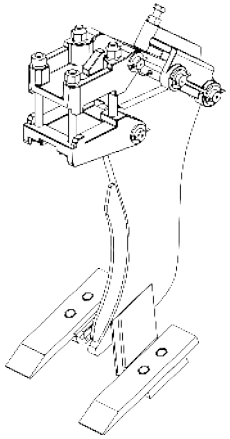
WING TYPE SHANK



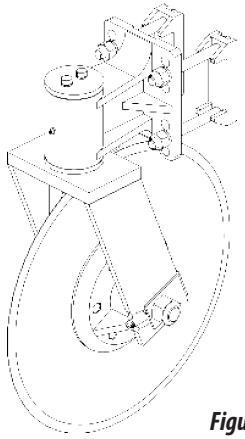
SWEEPER SHANK



Y TYPE SHANK



23" CUTTING DISC



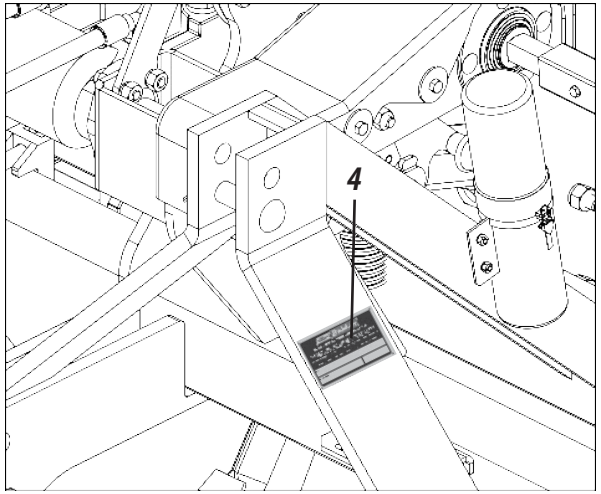
Figures 18

PRODUCT IDENTIFICATION (FIGURES 19)

1- 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.

2- **ALWAYS REQUIRE BALDAN ORIGINAL PARTS.**

Figures 19



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:* _____

Warranty: _____

Model: _____

Serial Number: _____

Date of purchase: _____ *Inovice Number:* _____

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

MARKETING
Edition of Instruction Manuals and parts catalogs

Code: 60550102377
Revision: 00
CPT: CAMBMP01917

CONTACT

In case of doubt do not operate the equipment, please contact our after-sales service.
Phone: 0800-152577
E-mail: posvenda@baldan.com.br

IDENTIFICATION

NOTES

WARRANTY CERTIFICATE

BALDAN IMPLEMENTOS AGRÍCOLAS S/A guarantees the dealer the normal functioning of the equipment for a period of 6 (six) months as from the date of delivery on the sales invoice to the rst nal consumer.

During this period **BALDAN** is committed to repairing material and/or manufacturing defects under its responsibility, which includes manual labor, freights and other expenses under the responsibility of the dealer.

During the warranty period, the request and replacement of occasional defective parts should be executed by the regional dealer, who will send the defective part to **BALDAN** for analysis

Whenever this procedure is not possible and the problem solving capacity of the dealer is exhausted, the dealer must request the support from **BALDAN Technical Assistance** through the specic form distributed to dealers.

After **BALDAN** Technical Assistance analyzes the replaced items and concludes that it is not a warranty issue, the dealer becomes responsible for the costs related to the replacement as well as the expenses with material and trip, including accommodation and meals, accessories, lubrication used and other expenses resulting from calling Technical Assistance, and Baldan is authorized to make the respective billing in the name of the dealer.

Any repair made by the dealer on the product during the warranty period will only be authorized by **BALDAN** through prior presentation of the budget describing the parts and manual labor to the executed.

The product subjected to repairs or modications at ocial dealers not belonging to the network of **BALDAN** dealers as well as the application of non genuine parts or components to the user product are not included in this deed.

The present warranty becomes void when it is conrmed that the defect or damage is the result of undue use of the product, non-observation of the instructions or the inexperience of the operator.

It is agreed that the present warranty does not cover tires, polyethylene hoppers, cardans, hydraulic components, etc, which are equipments under warranty by their manufacturers.

The manufacturing and/or material defects subject to this warranty deed will not include, under any circumstance, reason for termination of purchase and sales contract or for indemnication of any kind.

BALDAN reserves the right to change and/or improve the technical characteristics of its products without prior warning and without obligation of doing so with previously manufactured products.

CERTIFICATE OF INSPECTION AND DELIVERY

- ***SERVICE BEFORE DELIVERY***: This equipment was carefully prepared by the sales organization, inspected in all its parts according to the prescriptions of the manufacturer.
- ***DELIVERY SERVICE***: The user was informed on the eective warranty deeds and instructed on the use and maintenance precautions.
- I conrm that I was informed on the eective warranty deeds and instructed on the use and maintenance precautions.

Equipment: _____

Serial Number: _____

Date: _____ *Invoice No.:* _____

Dealer: _____ *City:* _____

State: _____ *CEP (zipe code):* _____

Owner: _____ *Phone:* _____

Address: _____ *Number:* _____

City: _____ *State:* _____

E-mail: _____

Date of sale: _____

Dealer Signature / Stamp _____

1st - Owner

CERTIFICATE

CERTIFICATE

CERTIFICATE OF INSPECTION AND DELIVERY

- ***SERVICE BEFORE DELIVERY***: This equipment was carefully prepared by the sales organization, inspected in all its parts according to the prescriptions of the manufacturer.
- ***DELIVERY SERVICE***: The user was informed on the eective warranty deeds and instructed on the use and maintenance precautions.
- I conrm that I was informed on the eective warranty deeds and instructed on the use and maintenance precautions.

Equipment: _____

Serial Number: _____

Date: _____ *Invoice No.:* _____

Dealer: _____ *City:* _____

State: _____ *CEP (zip code):* _____

Owner: _____ *Phone:* _____

Address: _____ *Number:* _____

City: _____ *State:* _____

E-mail: _____

Date of sale: _____

Dealer Signature / Stamp _____

2nd - Dealer

CERTIFICATE OF INSPECTION AND DELIVERY

- ***SERVICE BEFORE DELIVERY***: This equipment was carefully prepared by the sales organization, inspected in all its parts according to the prescriptions of the manufacturer.
- ***DELIVERY SERVICE***: The user was informed on the eective warranty deeds and instructed on the use and maintenance precautions.
- I conrm that I was informed on the eective warranty deeds and instructed on the use and maintenance precautions.

Equipment: _____

Serial Number: _____

Date: _____ *Invoice No.:* _____

Dealer: _____ *City:* _____

State: _____ *CEP (zip code):* _____

Owner: _____ *Phone:* _____

Address: _____ *Number:* _____

City: _____ *State:* _____

E-mail: _____

Date of sale: _____

Dealer Signature / Stamp _____

3rd - Manufacturer

Please send this out copy to BALDAN within a maximum of 15 days.

1.74.05.0059-5

AC MATÃO
ECT/DR/SP

REPLY-CARD

NO NEED SEAL

THE STAMP WILL BE PAID BY:

BALDAN IMPLEMENTOS AGRÍCOLAS S/A.

Av. Baldan, 1500 | Nova Matão | CEP: 15993-000 | Matão-SP | Brasil

Fone: (016) 3221-6500 | Fax: (0**16) 3382-6500**

Home Page: www.baldan.com.br | e-mail: sac@baldan.com.br

Exportação: Fone: 55 16 3321-6500 | Fax: 55 16 3382-4212 | 3382-2480

e-mail: export@baldan.com.br

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