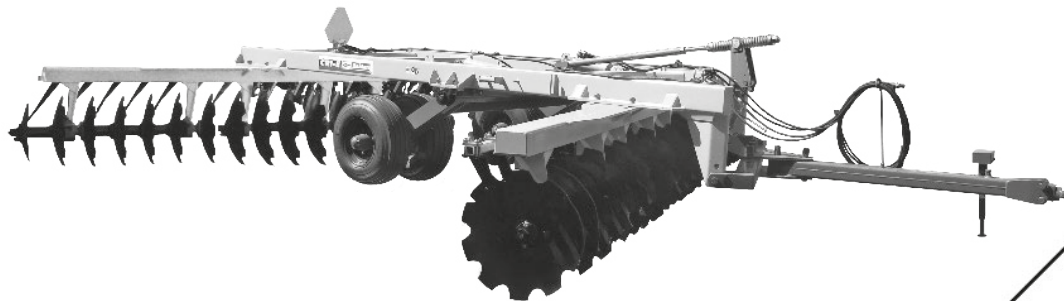


# ***Instruction Manual***



**CRI-E**

Drag Type Offset Disc Harrow Remote Control - Special

 **BALDAN**



# INTRODUCTION

**W**e thank you for the preference and congratulate your excellent choice in acquiring an implement of outstanding quality, manufactured in accordance with the advanced technology of **BALDAN IMPLEMENTOS AGRÍCOLAS S/A**.

This manual will assist you, in proceeds necessities, since when you bought until the operational proceeds application, security and maintenance.

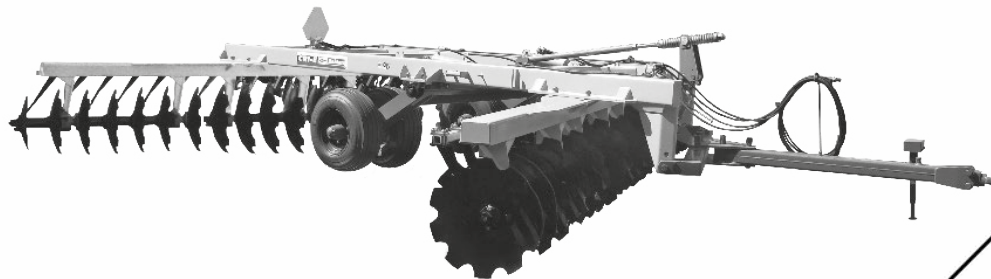
The **BALDAN** guarantees that deliver this implement to the dealer, working properly, and in perfect conditions.

The dealers it's under the responsibility to keep the protection and conservation while keep the implement in your stock, and than, to assembly, tighten, lubrication and overhaul.

On time of the technical deliver, the dealer must to have conducted the user customer about the manutentation, safety, and your obligations in a possible technical assistance, the obligation to see the warranty terms and read the instruction manual. Any solicitation of warranty, please contact our Baldan technical service, by your Baldan dealer that you bought our implement. Reaffirm the necessity to read carefully of warranty certificate and note all of items from this manual, therefore you will increase the working life of your equipment.



# ***Instruction Manual***



## **CRI-E**

Drag Type Offset Disc Harrow Remote Control - Special

BALDAN IMPLEMENTOS AGRÍCOLAS S/A.

CNPJ: 52.311.347/0009-06

Insc. Est.: 441.016.953.110



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

**> BALDAN**

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## WARRANTY

### PRODUCT WARRANTY

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

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

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

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

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

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

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

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

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

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

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



## GENERAL INFORMATION

### TO THE OWNER

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

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

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

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



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

The purpose of this Regulatory Standard is to establish the precepts to be observed in the organization and in the work environment, in a manner compatible with the planning and development of agriculture, livestock, forestry and aquaculture activities with the safety and health and environment work environment.

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

*For more information, refer to the site and read in full NR-31.*

*<http://portal.mte.gov.br/legislacao/normas-regulamentadoras-1.htm>*

## SAFETY RULES



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



### WARNING

- Read this instruction manual carefully to know the recommended safety rules.



### WARNING

- Only start the tractor operations, when are you properly accommodated and with the seat belt fasted.



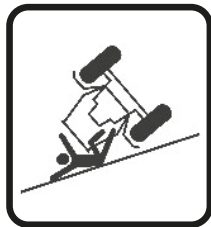
### WARNING

- Never carry people over the tractor or equipment.



### WARNING

- There are risks of serious injury by tipping when working on slopes.
- Never use excessive speed.



## SAFETY RULES



### WARNING

• Do not work with the tractor if the front be without enough weight to the rear equipment. There is tendency to lift, add weights at front or front wheels.



### WARNING

• Before any equipment maintenance, make sure that is properly stopped  
• Avoid getting hit.



### WARNING

• Keep always away from the machine's active elements (discs), they are sharp and can cause accidents.  
• When carrying out any service on the discs, use safety gloves on his hands.



### WARNING

• Dispose residues inappropriately affects the environment and the ecology since you will be polluting, canais or the soil.  
• Inform yourself about the proper way or recycling or disposing residues.

**PROTECT THE ENVIROMMENT!**



## SAFETY RULES



**FOLLOW ALL RECOMENDATIONS, WARNINGS AND SAFE PRACTICES RECOMMENDED IN THIS MANUAL, UNDERSTAND THE IMPORTANCE OF YOUR SAFETY. ACCIDENTS MAY LEAD TO DISABILITY OR INCLUDING DEATH. REMEMBER, ACCIDENTS CAN BE AVOIDED!**



### WARNING

- The hydraulic system operate with a high pressure fluid, existing risk of serious injuries or death, search for damaged hose every day and replace it.
- Before coupling or uncouple the hoses relief the pressure, using the tractor's control when it is turned off.



### WARNING

- Never weld the wheel mounted with tire, the heat may cause air pressure increase and provoke the explosion of the tire.
- When filling the tire, stand at the side of the tire, never in front of it.
- When filling the tire, always use a containment device (filling cage).



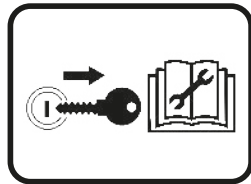
### WARNING

- Do not make adjustments to the CRI-E during operation.
- When doing any service on the CRI-E, turn off the tractor first. Use appropriate tools.












### WARNING








- Remove the ignition key before performing any maintenance on the CRI-E. Protect yourself from possible injury or death caused by suddenly starting the CRI-E.
- If the CRI-E is not properly engaged, do not start the tractor.



## WARNINGS

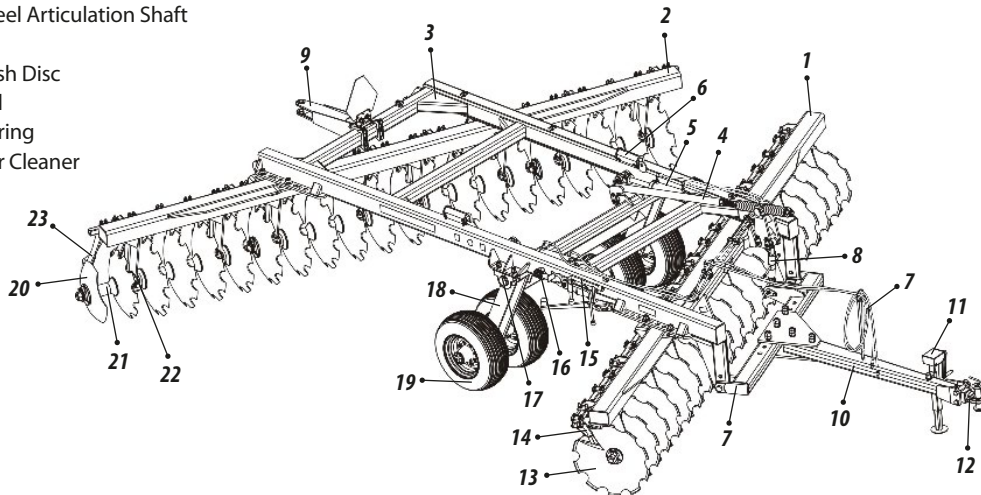
- 01 -  When operate with the implement, do not allow people to stay close or above the implement. (The platforms are used to supply the stores and not to transport people).
- 02 -  During assembly or desassembly the discs section use protection gloves.
- 03 -  When turn on or off the hydraulic rubbers, alleviate the circuit pressure.
- 04 -  Check periodically the rubbers conservation. If there is indicium of oil emptying change it immediatelly because the oil works under high pressure and may cause serious damages.
- 05 -  Do not use much large clothes because they can fasten the implement.
- 06 -  Putting in action the tractor, be correctly placed at the operator seat and aware about the correct and safety handling both tractor and implement. Place always the gearshift crank at the neutral position, turn off the gear of the power command and place the hydraulic commands at the neutral position.
- 07 -  Do not turn on the tractor in a closed place, without appropriate ventilation because the gas are bad for health.
- 08 -  While maneuver the tractor to clamp the implement be sure if there is space enough and nobody is too much close, maneuver always in slow gear and be ready to brake in case of emergency.
- 09 -  Do not adjust the implement working.

## WARNINGS

- 10 -  Working in inclined soil try to keep the necessary stability. In case of instability reduce the acceleration, turn the wheels to the inclined side of the soil and never lift the implement.
- 11 -  Conduct the tractor always in safety speeds, specially working in irregular or inclined soil, keep the tractor always geared.
- 12 -  In case of conducting the tractor on road, keep the brake pedal connected.
- 13 -  Do not work with the front of the tractor light. If there is trend to lift up add more weight in front or at the front wheels.
- 14 -  Getting out the tractor place the gearshift at the neutral position and apply the park brake. Do never let clamped implements at the tractor with the hydraulic system at the lifted position.
- 15 -  Drugs and alcohol will affect an operator's alertness and coordination. Do not operate any engine under these conditions.
- 16 -  Explain the operation, inspect and maintenance instructions to those users or operators who can not read.

## CRI-E - DRAG TYPE OFFSET DISC HARROW REMOTE CONTROL - SPECIAL

- 01 - Front Frame
- 02 - Back Frame
- 03 - Stiffener
- 04 - Stabilizer Rod
- 05 - Piston
- 06 - Piston Lock
- 07 - Hoses
- 08 - Complete Adjuster
- 09 - Back Coupler for Harrow Roller
- 10 - Coupling Header
- 11 - Mechanical Jack
- 12 - Coupling Shackle
- 13 - Disc
- 14 - Front Cleaner
- 15 - Keys
- 16 - Piston Limiter
- 17 - Articulation Shaft Hub
- 18 - Wheel Articulation Shaft
- 19 - Tire
- 20 - Finish Disc
- 21 - Reel
- 22 - Bearing
- 23 - Rear Cleaner



## TECHNICAL SPECIFICATIONS

TABLE 1

Model	Number of Discs	Disc Diameter (ø)	Disc Thickness (mm)	Shaft Diameter (ø)	Working Width (mm)	Working Depth (mm)	Spacing between Discs (mm)	Approximate Weight with 28" x 6mm Disc (kg)	Approximate tractor power (HP)
CRI-E	36	28"	6,0 e 7,5	1.5/8"	4826	150 a 250	262	4652	210 a 230
CRI-E	40	28"	6,0 e 7,5	1.5/8"	5360	150 a 250	262	4883	240 a 260
CRI-E	44	28"	6,0 e 7,5	1.5/8"	5896	150 a 250	262	5115	264 a 280
CRI-E	44	28"	6,0 e 7,5	1.5/8"	6432	150 a 250	262	5345	288 a 303

*Baldan reserves the right to change the technical features of this product without prior warning.  
The technical specifications are approximate and informed in the normal working conditions.*

## MOUNTING

### MOUNTING OF DISC SECTION (FIGURE 02)

- When mounting the **CRI-E**, always start with the set of discs and proceed as follows:

- 1 - Place the concave thrust washer (2) on the shaft (1), followed by the nut (3), latch (4), securing it with the pressure washer (5) and screw (6).
- 2 - Then put the disc (7), bearing (8), another disc (7), separator reel (9) on the shaft (1) and so on successively, as shown in figure 2.
- 3 - When the set is complete with all the discs, bearings, separator reels, put the convex thrust washer (10) and the other nut (3), tightening with the key until the entire set is firmly secured.



4- Then wedge the set of discs and tighten the nut (3) through impacts. When the maximum tightness is almost achieved, adjust the lock (4) on the convex washer (10) tightening the nut until the hole coincides and secure it with the pressure washer (5) and screw (6).

### **ATTENTION**

*Use safety gloves on your hands when performing mounting and dismounting services on the discs.*

*Do not use loose clothing because it can get caught on the equipment.*

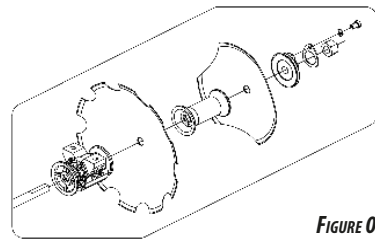
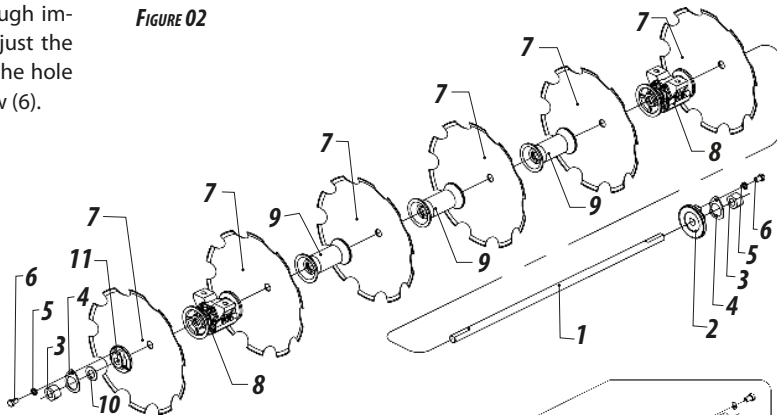
### **MOUNTING OF FINISH DISC (FIGURE 03)**

- To mount the finish disc, proceed as follows:

1 – Place the concave thrust washer (2) on the shaft (1), followed by the nut (3), latch (4), securing it with the pressure washer (5) and screw (6).

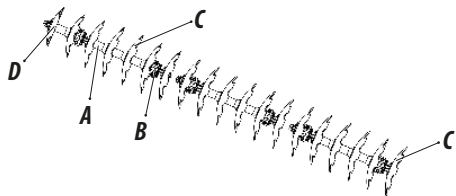
2 – Then put the finish disc (7), reel (8), disc (9) and bearing (10) on the shaft (1) and so on successively, as shown in figure 3.

**FIGURE 02**

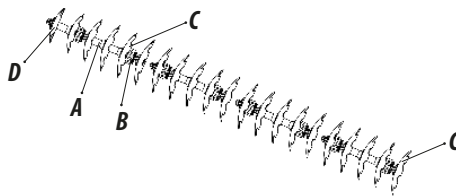


**FIGURE 03**

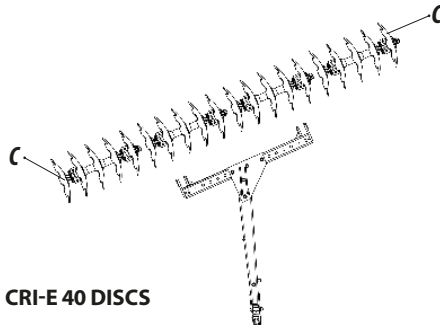
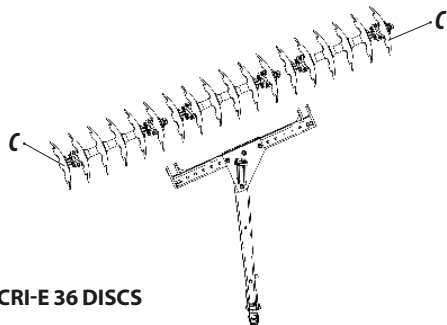
## MOUNTING OF DISC SECTIONS (FIGURES 04) - CRI-E 36 / 40 DISCS



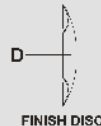
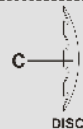
CRI-E 36 DISCS



CRI-E 40 DISCS

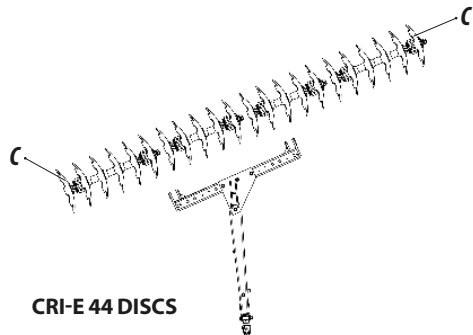
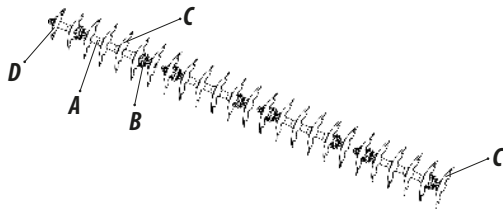
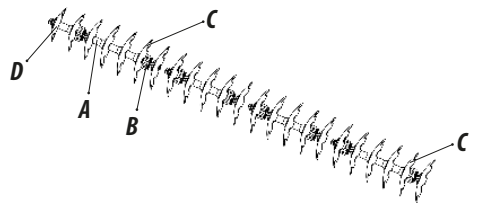


### LEGEND

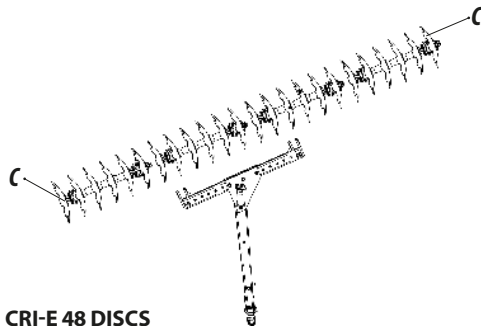


FIGURES 04

## MOUNTING OF DISC SECTIONS (FIGURES 05) - CRI-E 44 / 48 DISCS

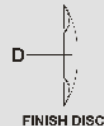
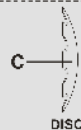


CRI-E 44 DISCS



CRI-E 48 DISCS

### LEGEND



FIGURES 05

## MOUNTING OF FRAMES (FIGURE 06) - CRI-E 36 / 40 / 44 DISCS

- To mount the front and back frames of the **CRI-E**, proceed as follows:

1 - Put the front frames (1) and back frames (2) on a flat and clean place.

2 - Then put the stiffener (3) on the front (1) and back frames (2), securing them with the screw (4), latch (5), flat washer (6), pressure washer (7) and nut (8).

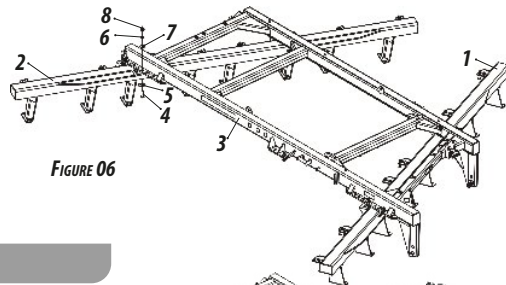


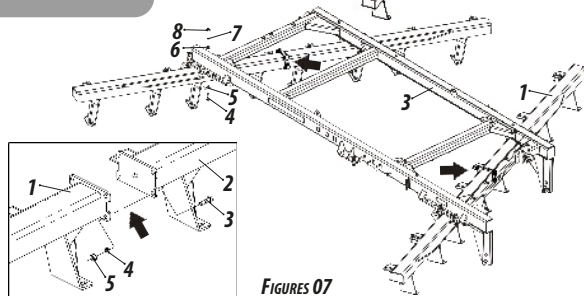
FIGURE 06

## MOUNTING OF FRAMES (FIGURES 07) - CRI-E 48 DISCS

- To facilitate loading and transportation, **CRI-E** 48 discs leaves the factory with the front and back frames in parts, and these must be mounted as follows:

1 - Couple the front frames (1 and 2) and secure them with the screws (3), pressure washers (4) and nut (5). Repeat the procedure for the back frames.

2 - Then put the stiffener (3) on the front (1) and back frames (2), securing them with the screw (4), latch (5), flat washer (6), pressure washer (7) and nut (8).



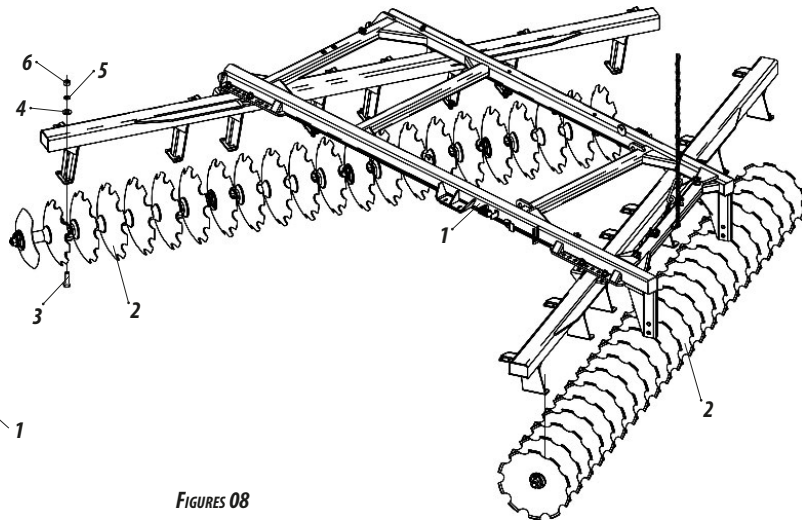
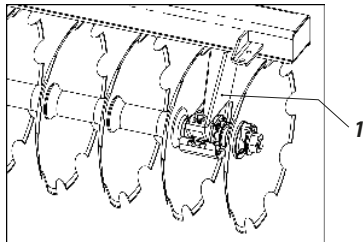
FIGURES 07

## MOUNTING OF DISC SECTION ON THE FRAME (FIGURES 08)

1 – After securing the frames on the stiffener (1), raise the front or back part of the harrow and place the disc section (2) in row and coincide the hole of the wedges with that of the bearings and secure using the screws (3), flat washer (4), pressure washer (5) and nut (6).

2 – Then raise the other part of the harrow and repeat the operation, checking the concavity of the discs of one section to the other, which must be otherwise.

3 – After mounting, check to see if the wedges (1) are facing the concavity of the discs.

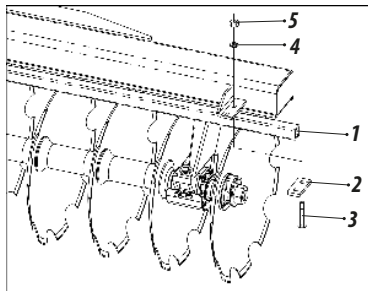


FIGURES 08

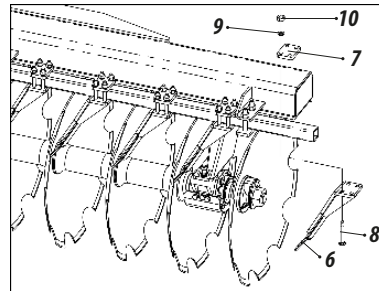
## MOUNTING OF BARS AND CLEANERS (FIGURES 09)

- To mount the bars and cleaners, proceed as follows:

- 1 – Put the bar (1) and plate (2) and secure them with the screws (3), pressure washers (4) and nuts (5).
- 2 – Then put the cleaners (6) and plate (7) and secure them with the screws (8), pressure washers (9) and nut (10).



FIGURES 09



## MOUNTING OF WHEEL SHAFTS (FIGURE 10)

- To mount the wheel shaft, proceed as follows:

- 1 – Couple the shaft hub (1) to the wheel shaft (2) and secure the shaft hub (1) to the stiffener (3) through screws (4), flat washers (5), pressure washers (6) and nuts (7).

2 – Then secure the wheel support (8) through the screw (9), pressure washer (10) and nut (11).

3 – After, place the piston (12) securing the back part with the screw (13), flat washer (14) and retaining pin (15) and the front part with the pin (16), pressure washer (17) and screw (18).

4 – Then, couple the hoses (19) and secure them using the clip (20), pressure washer (21) and screw (22).

5 – Couple the stabilizer rod (23) to the wheel shaft (2), securing it using the screw (24) and pressure washer (25).

6 – Finish mounting by coupling the tire (27) to the wheel support (8) using the screw (28) and nut (29).

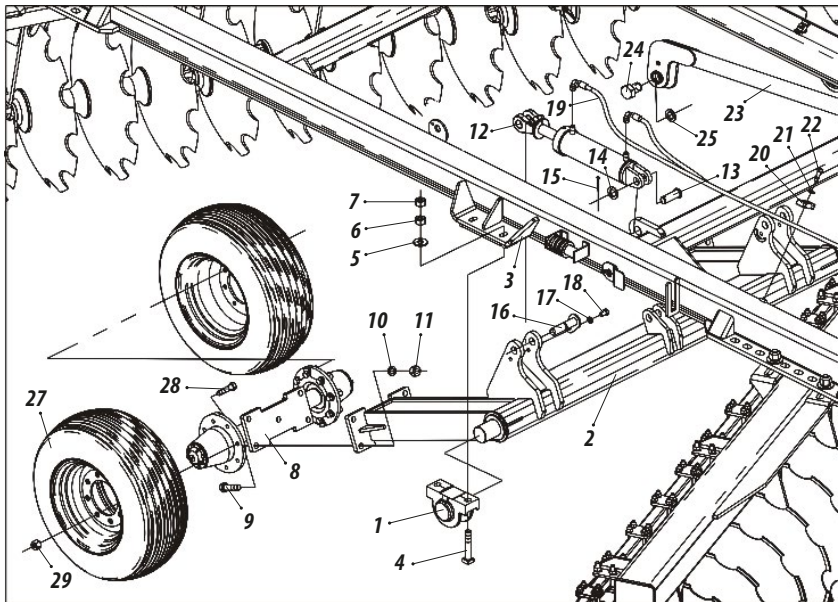


FIGURE 10

## MOUNTING OF COUPLING HEADER (FIGURE 11)

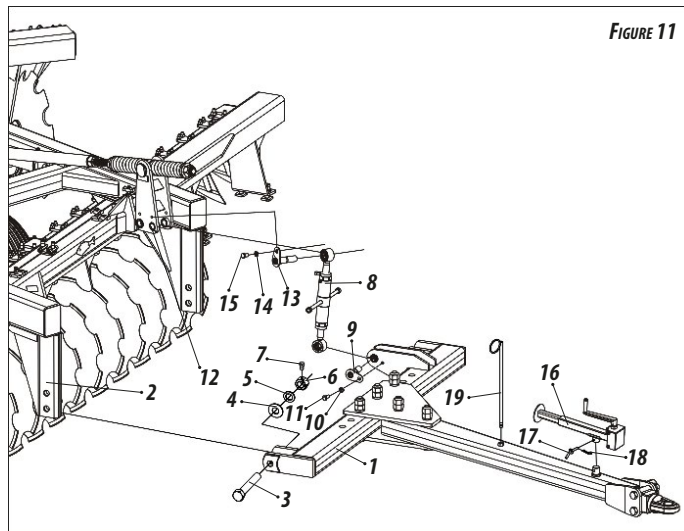
- To mount the coupling header (1), proceed as follows:

1 – Couple the coupling header (1) to the stiffener (2) and secure with screws (3), flat washer (4), pressure washers (5), nuts (6) and tighten the screw (7).

2 – Then put the complete adjuster (8) on the coupling head (1), securing it with the latch and pin (9), pressure washer (10) and screw (11).

3 – Next, secure the complete adjuster (8) to the stabilizer rod (12) using the latch and pin (13), pressure washer (14) and screw (15).

4 – Finish mounting the coupling header (1), securing the support (16) using the pin (17) and latch (18) and secure the support of the hoses (19).





## MOUNTING THE HYDRAULIC SYSTEM (FIGURE 12)

- After attaching the wheel shaft and mounting the pistons, install the remaining hydraulic system, proceeding as follows:

1 – Attach the hydraulic hoses (1) to the stiffener (2) using brackets (3), pressure washers (4) and screws (5).

2 – Then attach the oil divider (6) to the stiffener (2) using pressure washer (7) and screw (8) and then couple the hydraulic hoses (1) to it.

3 – Finish mounting, coupling the hydraulic hoses (9) to the oil divider (6), passing them through the hole of the hose support (10).

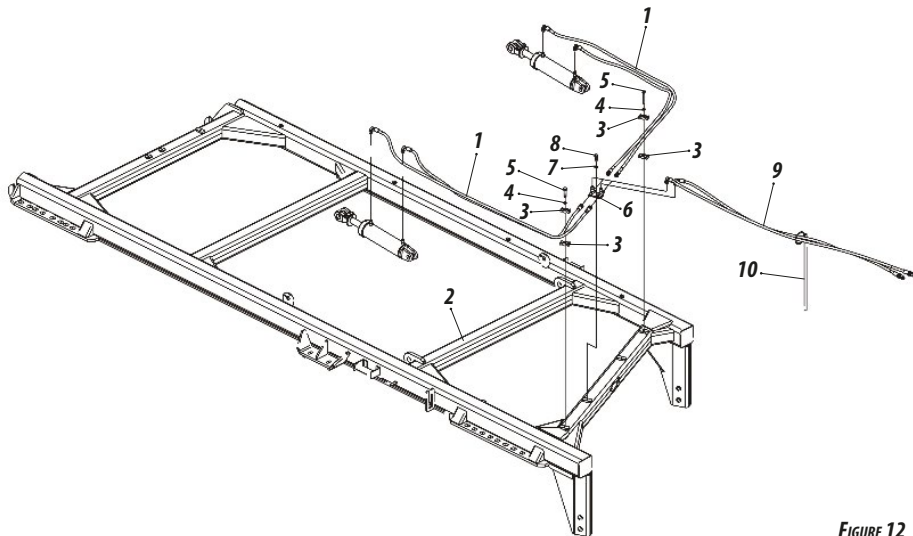


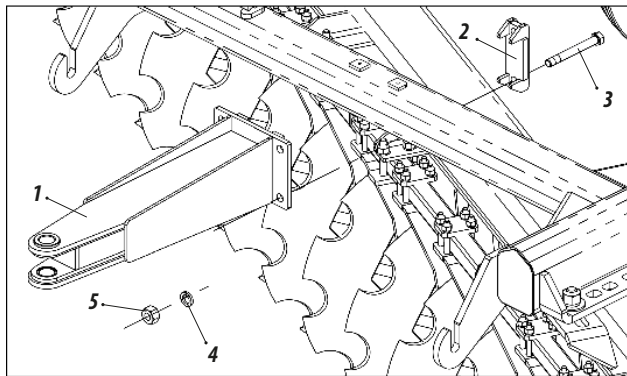
FIGURE 12

## MOUNTING OF THE BACK COUPLER (FIGURE 13)

- To mount the back coupler (1), proceed as follows:

1 – Put the back coupler (1) and bracket (2), and secure them with the screw (3), pressure washers (4) and nut (5).

FIGURE 13



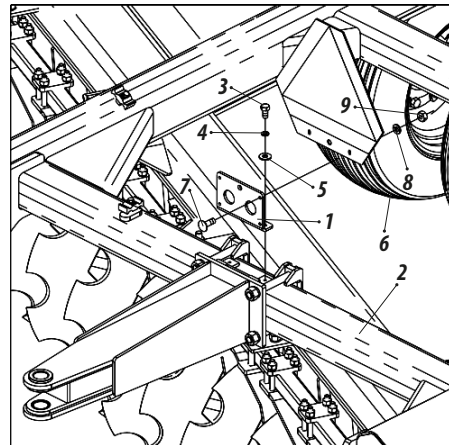
## MOUNTING OF WARNING SIGN (FIGURE 14)

- To mount the warning sign, proceed as follows:

1 – Put the support (1) on the stiffener (2) and secure with the screws (3), pressure washers (4) and flat washers (5).

2 – Then put the warning sign (6) and secure with the screws (7), pressure washers (8) and nuts (9).

FIGURE 14



## OPERATIONS

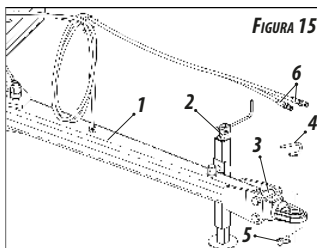
### COUPLING THE HARROW TO TRACTION BAR OF THE TRACTOR (FIGURE 15)

- To couple the **CRI-E** to the traction bar of the tractor, follow the instructions below:

- ⚠ 1 - Before coupling the harrow, look for a safe place of easy access.
- ⚠ 2 - Always use reduced gear with low acceleration.
- ⚠ 3 - Before connecting or disconnecting the hydraulic hoses, stop the engine and release the pressure of the circuit by fully activating the control handles.
- ⚠ 4 - Make sure no one gets injured by the equipment movement when releasing the pressure of the system.

- Observed the warnings above and proceed as follows:

1 - To couple the **CRI-E** to the traction bar of the tractor, first align the harrow then adjust to the exact height of the coupling header (1) using the mechanical jack (2).



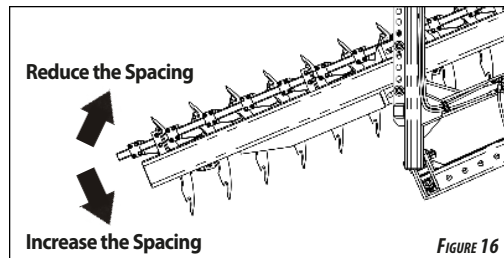
2 - Then couple the coupler shackle (3) to the tractor, securing using the pin and puller (4) and the lock and ring (5).

3 - Finish coupling the hydraulic hoses (6) to the quick coupling system of the tractor.

### ADJUSTMENT OF HARROW SPACING (FIGURES 16)

- To obtain the ideal penetration of the discs, the harrow spacing that varies with the type of soil should be adjusted:

- ⚠ 1 - On lands of greater penetration difficulty, increase the harrow spacing.
- ⚠ 2 - On light and loose lands, reduce the harrow spacing.



- To open or close the harrow, proceed as follows:

1 – Loosen the nuts (1), pressure washers (2), flat washers (3), remove the latches (4), screws (5) and then adjust the frames (6) reducing or increasing the spacing, then secure it back on the stiffener (7).

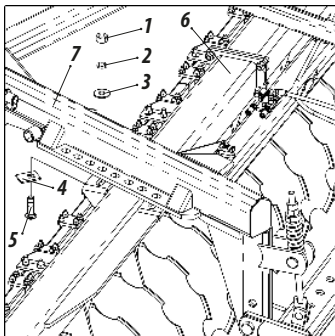


FIGURE 16



## ATTENTION

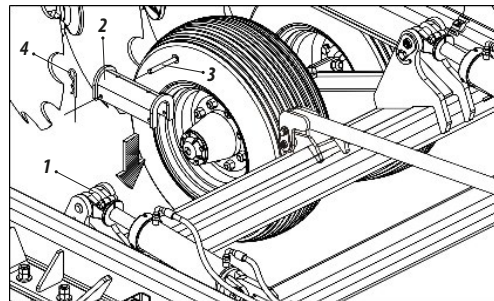
*The wheels also aid in controlling the depth of the discs.*

## TRANSPORTATION / WORK

### TRANSPORTATION (FIGURES 17)

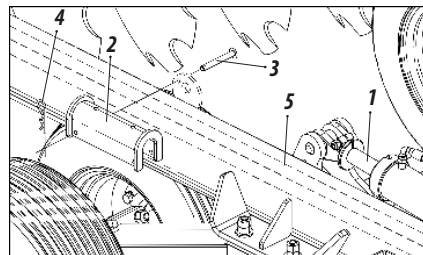
- Before transporting the **CRI-E**, proceed as follows:  
Operate the full stroke of the hydraulic cylinder (1), put the latch (2)

and secure with pin (3) and latch (4).



FIGURES 17

2) Finish transporting the **CRI-E**, remove the latch (2) from the hydraulic cylinder (1) and attach it to the stiffener (5) using the pin (3) and latch (4).



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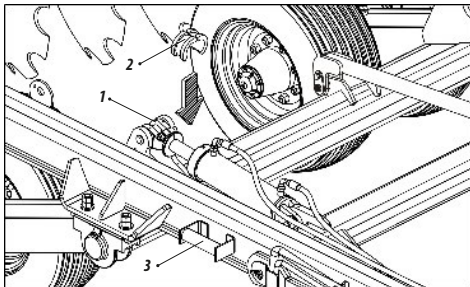
*Instruction Manual*

**CRI-E - 26**

## WORK (FIGURES 18)

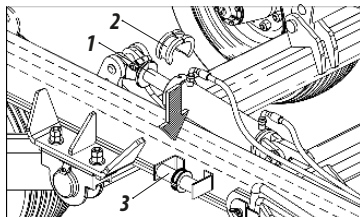
- Before operating the **CRI-E**, proceed as follows:

1) To limit the depth of the **CRI-E**, operate the full stroke of the hydraulic cylinder (1), put the limiter rings (2).



FIGURES 18

2) Finish working with the **CRI-E**, remove the limiter rings (2) from the hydraulic cylinder (1) and attach to the stiffener (3).



## HARROW DISPLACEMENT (FIGURE 19)

- Displacement of the harrow must be performed when the harrow is not giving a perfect finish, meaning that it is leaving a trail of the tractor. In order for the harrow to work centralized with the traction line of the tractor, proceed as follows:

1 - Loosen the nuts (1), pressure washers (2), then remove the screw (3) and move the header (4), performing the ideal adjustment.

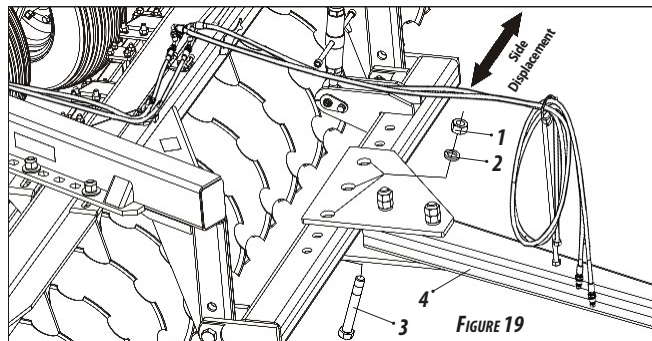


FIGURE 19

## CROSSBAR ADJUSTMENT (FIGURE 20)

- The coupler arms are welded to the stiffener, and these have two holes mainly used for leveling the harrow header in relation to the traction bar of the tractor.

- 1 - INCREASE PENETRATION.
- 2 - REDUCE PENETRATION.

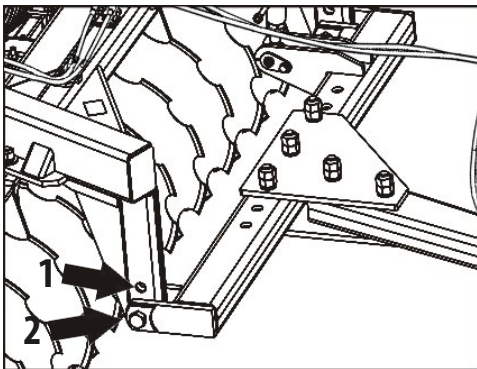


FIGURE 20

## ADJUSTMENT OF STABILIZER BAR AND COMPLETE ADJUSTER

- To adjust the leveling of the harrow, operate the hydraulic cylinders completely and observe their leveling. If necessary, level using the adjuster (letter "A").

**Note:** If necessary, the springs (B) can also be adjusted using the nuts (C).

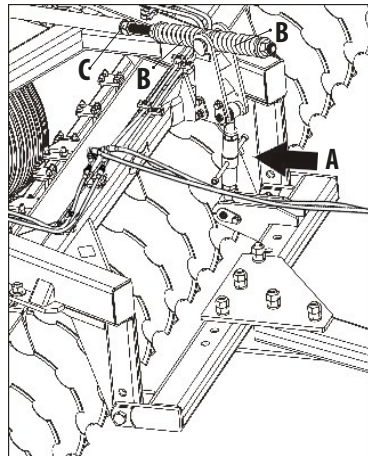


FIGURE 21

## HOW TO START HARROWING

- When harrowing, always follow the terraces or contour line, starting operation with the terrace on the left side of the tractor operator.
- Do not turn to the right, the harrowed land must always be to the left of the tractor operator.

## HARROWING FROM OUTSIDE TO INSIDE (FIGURE 22)

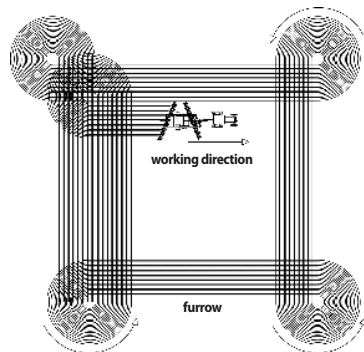


FIGURE 22

## HARROWING FROM INSIDE TO OUTSIDE (FIGURE 23)

- Greater perfection is obtained in this direction. Start another plot when moving a lot on the headers.

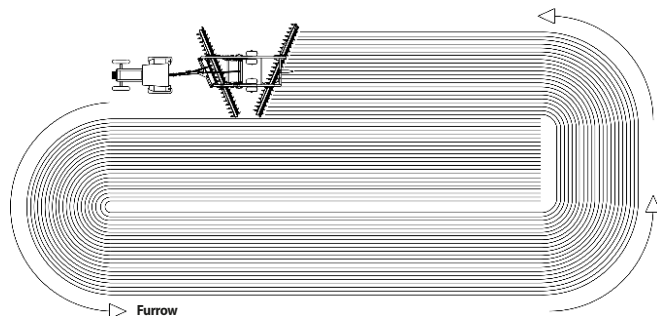


FIGURE 23

## PLOTS WITH LEVEL CURVES (FIGURE 24)

- On lands with level curve, it is normal to start two plots at a time, carefully starting the work with the level curve on the left side of the tractor operator. When reaching the middle of the level curve, start the other half of the level curve, and start another plot to reduce the use of fuel.

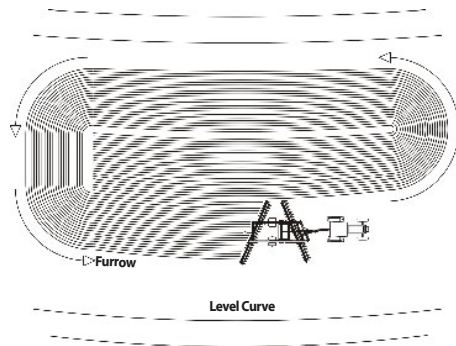


FIGURE 24

## OPERATIONS

- The preparation of the tractor will enable you to save time besides having a better result in the field works. The suggestions below may be useful.

*1- After the first day of work with the CRI-E, retighten all screws and nuts. Check the conditions of the pins and latches.*

*2- Adjust the tractor according to the content of the instruction manual, always using the front and back weights to stabilize the equipment.*

*3- When using the CRI-E, it is important to check the coupling and cross-leveling system to make sure the discs will have the same penetration depth on the ground.*

*4- After coupling and leveling, the next adjustments should be performed directly on the field, analyzing the land in terms of texture, wetness and types of operations to be executed with the CRI-E.*



## MAINTENANCE

- **CRI-E** was developed to provide the maximum yield on the land conditions. Experience has shown that periodic maintenance of certain parts of the equipment is the best way to prevent problems; hence we suggest the check.



### ATTENTION

*Constantly check the nuts and screws, and retighten if necessary. General retightening maintenance of the equipment should be performed every 8 (eight) working hours.*

## TIRE PRESSURE (FIGURE 25)

The tires must always be correctly calibrated to avoid premature wears by excess or lack of pressure and ensuring precision in the distribution.

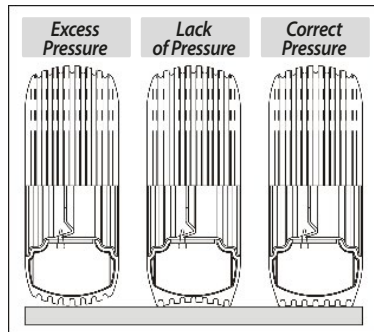


FIGURE 25



### ATTENTION

*The recommended calibration of 52 lb/inch<sup>2</sup> is for tires model 11 x 15 supplied with the CRI-E. When purchasing the harrow without tires, it is recommended for the manufacturer to be consulted on the ideal calibration for the model of tire to be used on the harrow.*



## LUBRICATION

Lubrication is indispensable for a good performance and higher durability of the moving parts of the harrow, which helps economize maintenance costs. Before executing the operation, carefully lubricate all greasers, always observing the lubrication intervals in the pages below. Check the quality of the lubricant in relation to its efficiency and purity, avoiding the use of products contaminated with water, soil and other agents.



### IMPORTANT

*In the case of other lubricants and/or brands of equivalent greases that are not on this table, consult the technical manual of the lubricant manufacturer.*



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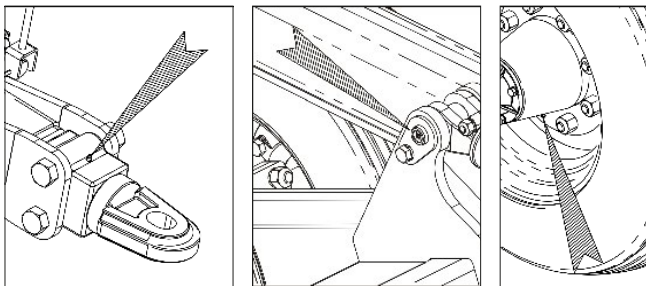
## Instruction Manual

### TABLE OF GREASES AND EQUIVALENTS (TABLE 2)

<i><b>Manufacturer</b></i>	<i><b>Type of grease recommended</b></i>
Petrobrás	Lubrax GMA 2
Atlantic	Litholine MP 2
Ipiranga	Ipiflex 2
Castrol	LM 2
Mobil	Mobilgrease MP
Texaco	Marfak 2
Shell	Alvania EP 2
Esso	Multi H
Bardahl	Maxlub APG 2 EP
Valvoline	Palladium MP 2
Petronas	Tutela Jota MP 2 EP
	Tutela Alfa 2K
	Tutela KP 2K

TABLE 2

## LUBRICATE EVERY 60 WORKING HOURS (FIGURES 26)



FIGURES 26

## SELF-LUBRICATING BUSHINGS (FIGURE 27)

- **CRI-E** has self-lubricating bushings in the “A” clamping hub. These bushings do not require any type of grease or lubricant.

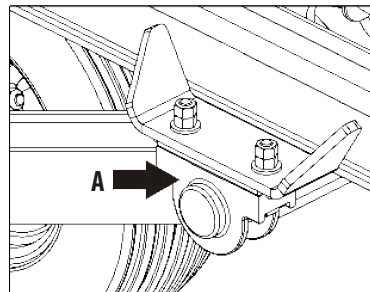


FIGURE 27



### ATTENTION

*Only in the initial assembly of the clamping hub “A”, should grease be inserted in the entire bushing to prevent oxidation on the wheel axle.*



### IMPORTANT

*When replacing the self-lubricating bushings of the wheel hub “A”, also insert grease in the entire bush.*

## DISCS

- Keep the **CRI-E** discs sharp.
- Before every work, check all the bearings, discs, sections, screws and flanges and retighten when necessary.



### ATTENTION

*Appropriate and periodic maintenance are necessary to ensure the long life of the equipment.*

## BEARINGS

- **CRI-E** is equipped with AXI FORTI bearings that have greater resistance and superiority.
- The oil level of the bearings should be checked every 8 hours of work, removing it from the drum.
- The oil should be changed every 800 hours of work, using the recommended oil.



### ATTENTION

*Use the SAE 90 recommended oil.*

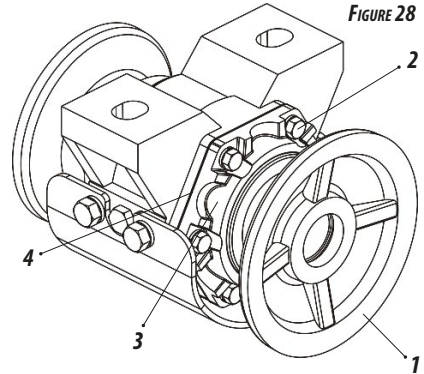


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**Instruction Manual**

## ADJUSTMENT OF BEARINGS (FIGURE 28)

- When the bearings become slack, proceed as follows:
  - 1) Remove the washer (1), loosen the screws (2) and remove the cover (3).
  - 2) Then remove one or two joints (4) from the bearing cover, adjust them again and replace the cover (3), securing it with the screws (2).
  - 3) Should the slackness persist, execute facing of the cover (3) to increase adjustment, and this requires mounting the cover (3) with as many joints (4) considered necessary.
  - 4) The bearing should turn freely without radial or axial slacks.



### ATTENTION

*Do not mount the bearing without joint.*

## CALCULATIONS

### APPROXIMATE PRODUCTION

- Use the formula below to calculate the approximate hourly production of the harrows.

$$A = \frac{L \times V \times F}{X}$$

#### Where:

**A** = Area to be worked

**L** = Working width of the harrow (in meters)

**V** = Average velocity of the tractor (in meters)

**F** = Production Factor

**X** = Value of the hectare – 10,000 m<sup>2</sup>

- **E.g.:** For a CRI-E harrow of 36 discs, how many HA does it produce in one working hour with an average velocity of 7 km per hour.

A = ?

L = 4,85

V = 7.000 M/H

F = 0,90

X = 10.000 M<sup>2</sup> (Calculated in hectares)

$$A = \frac{4,85 \times 7.000 \times 0,90}{10.000} = 3,05 \text{ Ha/hr}$$

### APPROXIMATE HOURLY PRODUCTION TABLE

TABLE 3

Model	Working Width (m)	Average Velocity (m/h)	Production Factor	Approximate Production in Hectares
CRI-E 36	4,85	7.000	0,90	3,05
CRI-E 40	5,33	7.000	0,90	3,35
CRI-E 44	5,84	7.000	0,90	3,67
CRI-E 48	6,35	7.000	0,90	4,00

- The formula to calculate the approximate production refers to the calculation of areas to be worked or worked per harrow.

- To know the time spent working an area of known value, divide the value of this area by the hourly production of the harrow.

Example: What is the time "X" spent on a CRI-E harrow of 36 discs that produces 35 hectares at an average speed of 7km/hr?

$$X = \frac{35 \text{ Ha}}{3,05 \text{ Ha/hr}} = \text{approximately 11 hours}$$

## CLEANING

### CLEANING AND STORAGE (FIGURE 29)

- At the end of each work, the equipment should be cleaned and checked for broken or worn parts. Apply a layer of oil on all dried or corroded surfaces.
- Check the frame, cleaners and coupling bar and paint them when necessary.
- Keep the equipment on a plane surface in a protected place away from animals and children.

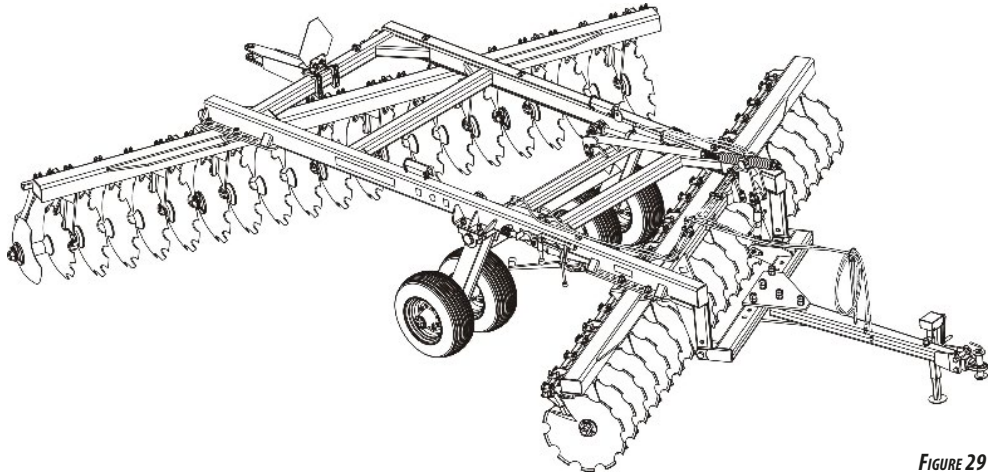


FIGURE 29

## IDENTIFICATION

### PRODUCT IDENTIFICATION

- To consult the parts catalog or request technical service from Baldan, always indicate the model (1), serial number (2), date of manufacture (3) informed on the identification.

### ALWAYS REQUIRE BALDAN ORIGINAL PARTS



### ATTENTION

*The drawings in this instructions manual are for illustrative purposes only. To enable a better overview and detailed instructions, on some drawings in this manual, safety devices (covers, shields, etc..) were removed. Never operate the agricultural wagon without these devices.*



### PUBLICATIONS

Code: 6055010501-5 | CPT: CRIE03420A



### CONTACT

*If you have questions, never operate the CRI-E see the post sale.*

Phone: 0800-152577

E-mail: posvenda@baldan.com.br



## IDENTIFICATION

### PRODUCT IDENTIFICATION

- Do the identification below to always have the properly informations about your equipment life time.

*Owner:* \_\_\_\_\_

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

*Farm:* \_\_\_\_\_ *City:* \_\_\_\_\_ *Country:* \_\_\_\_\_

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

*Warranty:* \_\_\_\_\_ *Serial Number:* \_\_\_\_\_

*Purchase Date:* \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ *Invoice Number:* \_\_\_\_\_



NOTES

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

# CERTIFICATE OF WARRANTY

- 01 - **BALDAN IMPLEMENTOS AGRÍCOLAS S/A**, guarantee the normal operation of the product for a 6 (six) months period dated from the dealers's bill of sale to the first final customer.
- 02 - During this period, **BALDAN** compromise itself to repair the material or manufacturing defects, but the labour, the freight and other expenses are the dealer's responsibility.
- 03 - At the guarantee period, all the request and replacement of any defective part must be made to the dealer of the region, which will send the defective part for analysis at **BALDAN**.
- 04 - When this procedure won't be possible and the dealer couldn't have the ability to solve the problem, the dealer can ask for **BALDAN'S Technical Assistance** using the specific form delivered to them.
- 05 - After the analysis of the items replaced by **BALDAN Technical Assistance** and if we conclude that it wasn't a guarantee problem, then the dealer will be the responsible for all costs related to the replacement; as well as material expenses, travel including accommodation and meals, also the accessories, lubricant used or any other expenses after having called the Technical Assistance. And, withal, the company Baldan is authorized to issue the billing in name of the respective reseller.
- 06 - Any repair made to the product which is in warranty period by the dealer, will only be authorized by Baldan after budget previous presentation describing pieces and labour to be accomplished.
- 07 - It is out of this term the product which has repairs or modifications not made by dealers from **BALDAN'S** network, as well as pieces applications or not authentic components to the product by the user.
- 08 - This certificate of guarantee will become invalid when notice that the damage or defect is the result of incorrect use of the product, of instructions non-observance or operator's inexperience.

- 09 - It's stipulated that this guarantee don't cover tires, polyethylene deposits, universal joints, hydraulic components, etc, wich equipments are guarantee by their manufacturers.
- 10 - The material or manufacture defects, object of this certificate of guarantee, will not be, by any hypotesis, reason for cancellation of the contract of sale, or indemnity of any kind.
- 11 - For a warranty solicitation to the distributor, you have to proceed in the following manner:
- 12 - Send the technical informe detailed telling the problem (technical assistance request form to the client), you can find it send us an email to **aftersales@baldan.com.br** or acessing our website.
- 13 - If it's possible send films and photos from the requested spare parts.
- 14 - To point at the form: serial number, manufacture year, etc, that is, all information asked at the form. The damage spare parts should be available for analysis of the the after sales department in a future visit (in case of requested).
- 15 - **BALDAN** keeps the right of changing and or improve the technical characteristics of its products, without notice and without the obligation of act like this way with its previously manufactured products.



## INSPECTION AND DELIVERY CERTIFICATE

- **SERVICE BEFORE THE DELIVERY:** This equipment was very carefully prepared by the dealer's organization, inspected in all its parts in agreement with the manufacture's prescription.
- **DELIVERY SERVICE:** The user was informed about the current guarantee terms and instructed about maintenance care and utilization.
- I confirm that I was informed about the current guarantee terms and instructed about the correct utilization and maintenance of this product.

*Product:* \_\_\_\_\_ *Serial number:* \_\_\_\_\_

*Date:* \_\_\_\_\_ *Bill of sale:* \_\_\_\_\_ *Store:* \_\_\_\_\_

*City:* \_\_\_\_\_ *State:* \_\_\_\_\_ *Zip code:* \_\_\_\_\_

*Owner:* \_\_\_\_\_ *Phone:* \_\_\_\_\_

*Address:* \_\_\_\_\_ *Number:* \_\_\_\_\_

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

*E-mail:* \_\_\_\_\_ *Date of sale:* \_\_\_\_\_



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- I confirm that I was informed about the current guarantee terms and instructed about the correct utilization and maintenance of this product.

*Product:* \_\_\_\_\_ *Serial number:* \_\_\_\_\_

*Date:* \_\_\_\_\_ *Bill of sale:* \_\_\_\_\_ *Store:* \_\_\_\_\_

*City:* \_\_\_\_\_ *State:* \_\_\_\_\_ *Zip code:* \_\_\_\_\_

*Owner:* \_\_\_\_\_ *Phone:* \_\_\_\_\_

*Adress:* \_\_\_\_\_ *Number:* \_\_\_\_\_

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

*E-mail:* \_\_\_\_\_ *Date of sale:* \_\_\_\_\_





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

Date: \_\_\_\_\_ Bill of sale: \_\_\_\_\_ Store: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip code: \_\_\_\_\_

Owner: \_\_\_\_\_ Phone: \_\_\_\_\_

Address: \_\_\_\_\_ Number: \_\_\_\_\_

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

E-mail: \_\_\_\_\_ Date of sale: \_\_\_\_\_

3<sup>a</sup> Page - Manufacturer

Please send this filled copy to Baldan, until 15 days after the purchase.

Signature / Store's stamp \_\_\_\_\_





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