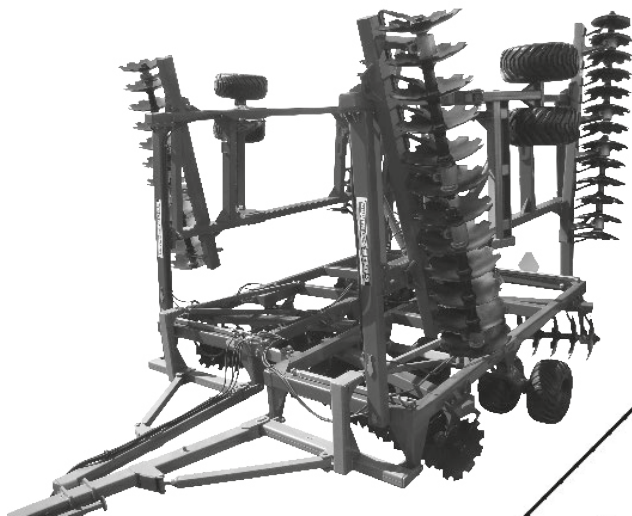


# ***Instruction Manual***



**GDOB**

Offset Double Disc Harrow Baldan

**> > BALDAN**



# INTRODUCTION

We 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.

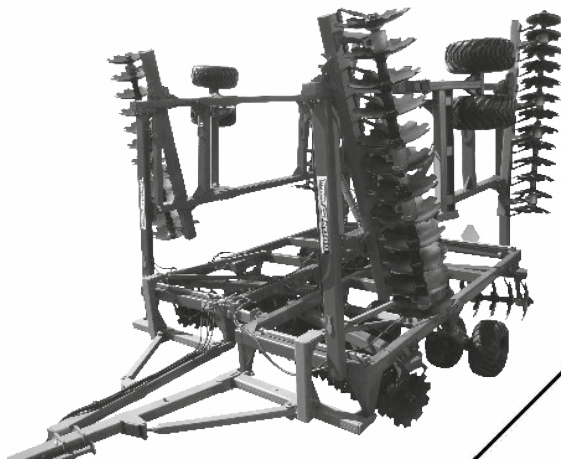
Reaffirm the necessity to read carefully of warranty certificate and note all of items from this manual, therefore you will increase the working life of your equipment.



# ***Instruction Manual***

## **GDOB**

Offset Double Disc Harrow Baldan



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



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

**> > BALDAN**

# TABLE OF CONTENTS

<b>01 - SAFETY STANDARDS .....</b>	<b>6</b>
<b>02 - COMPONENTS .....</b>	<b>11</b>
<b>03 - DIMENSIONS .....</b>	<b>12</b>
<i>Dimensions GDOB 78 Discs .....</i>	<i>12</i>
<i>Dimensions GDOB 90 Discs .....</i>	<i>13</i>
<b>04 - TECHNICAL SPECIFICATIONS .....</b>	<b>14</b>
<b>05 - ASSEMBLY .....</b>	<b>14</b>
<i>Assembly of the Disc Session .....</i>	<i>14 - 15</i>
<i>Assembly of the Finishing Disc .....</i>	<i>16</i>
<i>Assembly of the Disc Session - GDOB 78 Discs .....</i>	<i>17</i>
<i>Assembly of the Disc Session - GDOB 90 Discs .....</i>	<i>18</i>
<i>Installation of Frames on Central Left Structure .....</i>	<i>19</i>
<i>Assembly of Disc Sections on Frames of the Central Left Structure .....</i>	<i>20</i>
<i>Installation of Frames on Lateral Left Structure .....</i>	<i>21</i>
<i>Assembly of Disc Sections on Frames of the Lateral Left Structure .....</i>	<i>22</i>
<i>Assembly of Wipers .....</i>	<i>23</i>
<i>Assembly of Wheel Support on Central Structure .....</i>	<i>24</i>
<i>Assembly of the Shaft on the Lateral Structure .....</i>	<i>24</i>
<i>Assembly of Wheel Support on the Central Structure .....</i>	<i>25</i>

<i>Assembly of Wheel Support on the Lateral Structure.....</i>	<i>26</i>
<i>Assembly of Tires .....</i>	<i>27</i>
<i>Installation of locks on Central and Left Structures.....</i>	<i>28</i>
<i>Assembly of the Coupling Brackets on the Structures .....</i>	<i>29</i>
<i>Assembly of The Hydraulic Cylinder.....</i>	<i>30</i>
<i>Assembly of the Coupling Header.....</i>	<i>31</i>
<i>Assembly of the Regulating Rods .....</i>	<i>32</i>
<i>Assembly of the Signaling Plates .....</i>	<i>33</i>
<i>Assembly of the Hydraulic System - GDOB 78 Discos .....</i>	<i>34</i>
<i>Assembly of the Hydraulic System - GDOB 90 Discos .....</i>	<i>35</i>
<b>06 - COUPLING .....</b>	<b>36</b>
<i>Coupling the Disc Harrow to the Tractor Drawbar .....</i>	<i>36</i>
<i>Disc Harrow Leveling .....</i>	<i>37 - 38</i>
<b>07 - ADJUSTMENTS .....</b>	<b>38</b>
<i>Adjustments for Transportation .....</i>	<i>38 - 40</i>
<i>Adjustment of The Attack Angle .....</i>	<i>41</i>
<i>Adjustment of The Working Depth .....</i>	<i>41 - 42</i>
<i>Adjustment of The Hydraulic Cylinder Support Bracket .....</i>	<i>43</i>
<i>Adjustment for Disc Harrow Centralization .....</i>	<i>44</i>
<b>08 - OPERATIONS .....</b>	<b>45</b>

<i>Preparing the GDOB and the Tractor .....</i>	<i>45</i>
<i>Union Support of the Structure .....</i>	<i>46</i>
<b>09 - MAINTENANCE .....</b>	<b>47</b>
<i>Tire Pressure .....</i>	<i>47</i>
<i>Lubrication .....</i>	<i>48</i>
<i>Table of Greases and Equivalents .....</i>	<i>48</i>
<i>Lubricate Every 24 Hours of Work.....</i>	<i>49</i>
<i>Lubricate Every 24 Hours of Work (Continued) .....</i>	<i>50</i>
<i>Adjustment of Bearings .....</i>	<i>51</i>
<i>Bearing Lubrication .....</i>	<i>51</i>
<b>10 - CALCULATIONS.....</b>	<b>52</b>
<i>Approximate Hourly Production .....</i>	<i>52</i>
<i>Table of Approximate Hourly Production .....</i>	<i>53</i>
<i>Maintenance Care.....</i>	<i>54</i>
<i>General Cleaning .....</i>	<i>54</i>
<b>11 - IDENTIFICATION .....</b>	<b>55</b>
<i>Product Identification .....</i>	<i>55 - 56</i>
<b>NOTES .....</b>	<b>57</b>
<b>CERTIFICATE .....</b>	<b>58</b>
<i>Certificate of Warranty .....</i>	<i>58 - 65</i>

## 01 - SAFETY STANDARDS

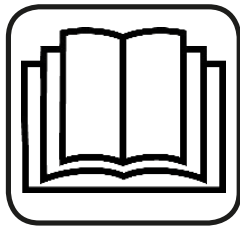


*This symbol indicates important safety warning. Whenever you find it in this handbook, carefully read the message that follows and be aware as for the possibility of personal injury.*



### ATTENTION

- Read the instructions handbook carefully to learn more about recommended safety practices.



### ATTENTION

- Only start operating the tractor when you are properly seated and with seat belt fastened.



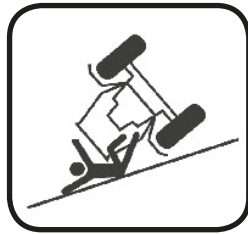
### ATTENTION

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



### ATTENTION

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



**BALDAN**

*Instruction Manual*

**GDOB - 6**





## ATTENTION

• Do not operate the tractor if the front is not ballasted enough for the back equipment. Having tendency to lift, add weights on the front or front wheels.



## ATTENTION

• Before doing any maintenance on your equipment, make sure it is properly stopped.  
• Avoid getting hit.



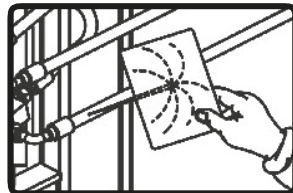
## ATTENTION

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



## ATTENTION

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





## ATTENTION

- In the transportation of this equipment, do not exceed the speed limit of 16km / h or 10 MPH, avoiding risk of damage and accidents.



## ATTENTION

- The hydraulic oil works under pressure and can cause serious injuries, if case of leaks. Periodically check the condition of hoses.
- If there are signs of leaks, replace them immediately.
- Before connecting or disconnecting the hydraulic hoses, relieve the system pressure, triggering the command with the tractor off.



NR-31 - HEALTH AND SAFETY AT WORK IN AGRICULTURE, LIVESTOCK, FORESTRY AND AQUACULTURE.

*This Norm aims to establish the principles to be observed in the organization and work environment, which should be consistent with planning and development of activities in agriculture, livestock, forestry and aquaculture with health and safety in the work environment.*

MR. OWNER OR EQUIPMENT OPERATOR.

*Read and carefully follow the provisions of NR-31*

*For further information, check the website and read the NR-31.*

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



**BALDAN**








**Instruction Manual**










**GDOB - 8**



## WARNING

*The mismanagement of this equipment can result in serious or fatal accidents. Before placing the equipment in operation, carefully read the instructions in this handbook. Make sure that the person responsible for the operation is instructed on the proper and safe handling, if he has read and understood the handbook of this product.*

- 01 -  When operating the equipment, do not allow people to stay very close or on it.
- 02 -  In making any assembling and disassembling service in the discs, always use safety gloves.
- 03 -  Before connecting or disconnecting hydraulic hoses, relieve the system pressure.
- 04 -  Periodically check the conservation status of hoses. If there are signs of leakages, immediately replace them because the oil works under high pressure and can cause serious injury.
- 05 -  Do not wear loose clothing as they can become entangled in moving parts.
- 06 -  When turning the tractor engine on, be properly seated on the operator's seat and aware of the correct and safe management of both tractor and implement. Always put the selector lever in neutral, turn off the power take-off command and place the hydraulic commands in neutral position.
- 07 -  Do not run the tractor engine in indoor environments without adequate ventilation, as the exhaust fumes are harmful to health.

- 08 -  When maneuvering the tractor to the implement hitch, make sure that there is plenty of room and that there is nobody very close, always do the maneuvers in low gear and be prepared to brake in emergency situations.
- 09 -  Do not make adjustments with the implement in operation.
- 10 -  When working on slopes, proceed with caution when trying to maintain the necessary stability. In case of early imbalance, reduce the acceleration, turn the tractor wheels to the side of the terrain slope and never lift the implement.
- 11 -  Always drive the tractor at speeds compatible with safety, especially when working on uneven ground or slopes, always keep the tractor engaged.
- 12 -  When driving the tractor on roads, keep the brake pedals connected.
- 13 -  Do not operate the tractor if its front is light. If there is a tendency to rise, add weights on the front or front wheels.
- 14 -  Leaving the tractor, put the selector lever in neutral and pull the parking brake. Never leave implements connected to the tractor at the raised position of the hydraulic system.
- 15 -  Alcoholic beverages and some medications can cause loss of reflexes and change the operator's physical conditions. Therefore, never operate this equipment on the use of these substances.
- 16 -  Read or explain all the procedures above if the user cannot read.

*If in doubt, refer to the After Sales*  
*Phone: 0800-152577 / E-mail: posvenda@baldan.com.br*

# GRADE ARADORA DUPLA OFFSET BALDAN - GDOB

## 02 - COMPONENTS

- 01 - Left central structure
- 02 - Right central structure
- 03 - Left lateral structure
- 04 - Right lateral structure
- 05 - Coupling header
- 06 - Mechanical jack
- 07 - Left Front Lateral Frame
- 08 - Left Front Frame
- 09 - Right Front Frame
- 10 - Right Front Lateral Frame
- 11 - Left Back Lateral Frame
- 12 - Left Back Frame
- 13 - Right Back Frame
- 14 - Right Back Lateral Frame
- 15 - Disc
- 16 - Finishing disc
- 17 - Side Articulation Pistons
- 18 - Wheels Articulation Pistons
- 19 - Coupling header Regulator
- 20 - Right and left front / rear beam
- 21 - Right and left front / rear beam

- 22 - Right Crossbar
- 23 - Left Crossbar
- 24 - Union Support of Structures
- 25 - Stabilizer bar
- 26 - Wheel sets

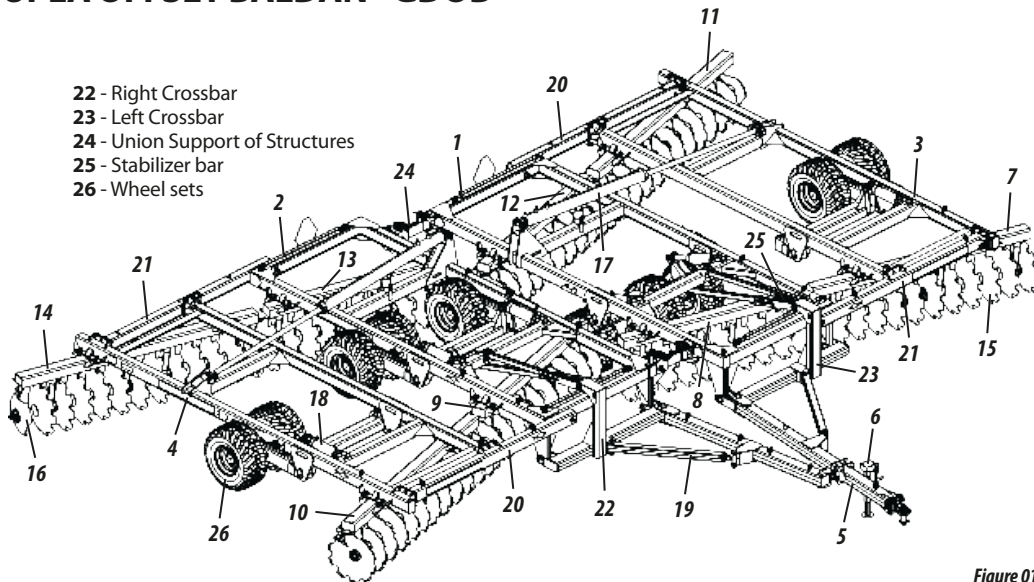
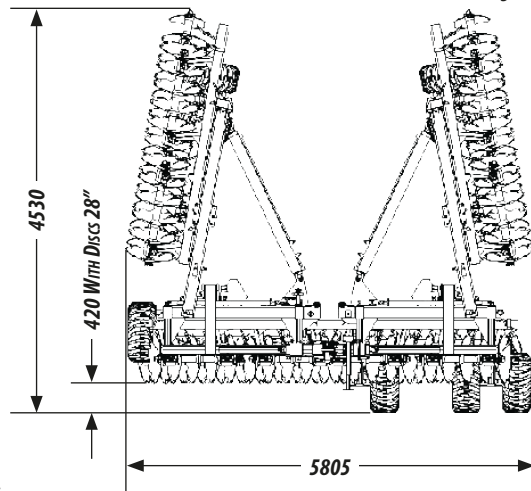
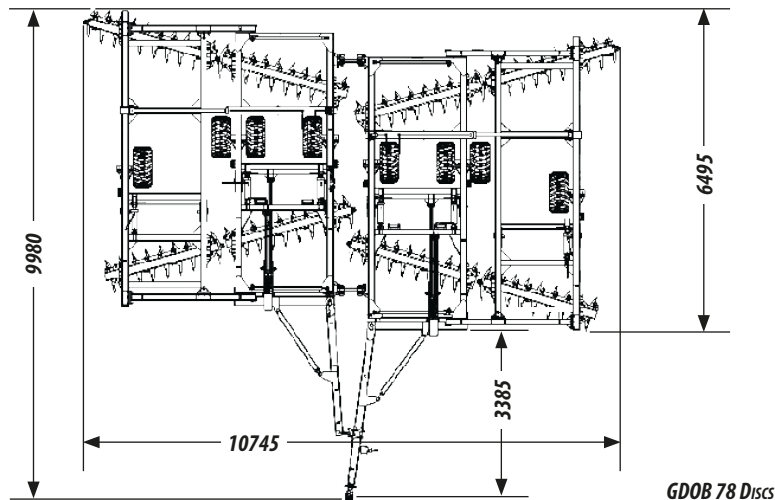


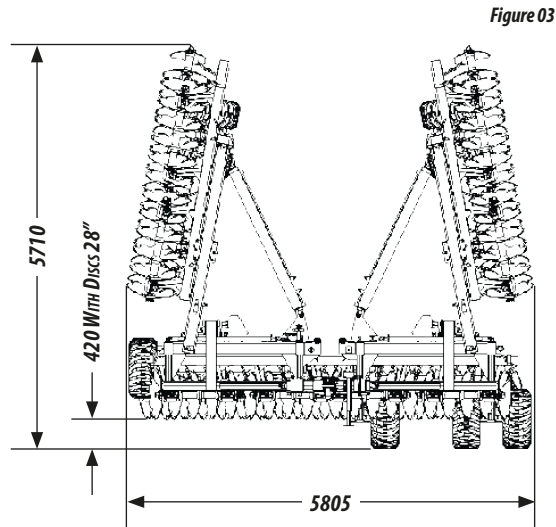
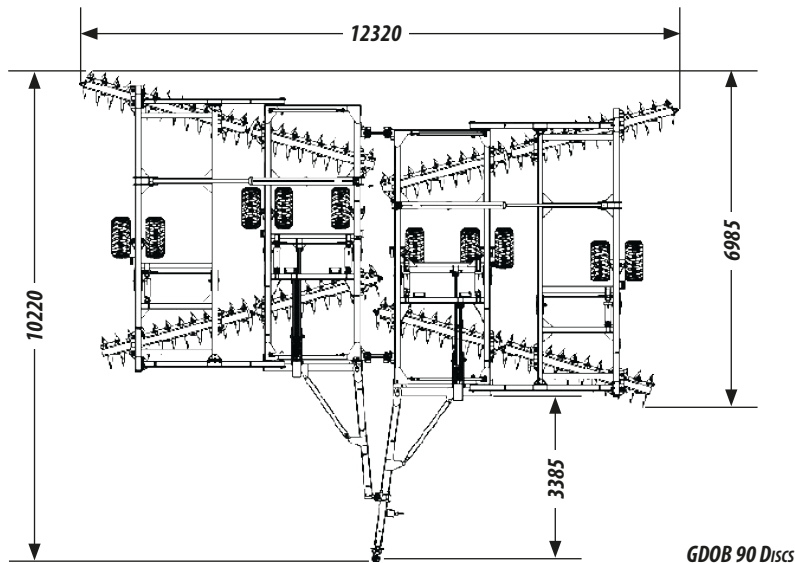
Figure 01

## DIMENSIONS GDOB 78 DISCS ( FIGURE 02 )

Figure 02



## DIMENSIONS GDOB 90 DISCS ( FIGURE 03 )



## 04 - TECHNICAL SPECIFICATIONS



Table 01

Model	Number of Discs	Spacing between Discs (mm)	Dimeter of Discs (ø)	Concave discs (mm)	Diameter of shaft (ø)	Work Width (mm)	Work Depth (mm)	Approximate weight without tire (Kg)			Tractor Power (HP)	Wheel Sets
								26"	28"	30"		
GDOB	78	270	26" - 28" - 30"	7,5	1.5/8"	10745	150 - 250	12430	12600	12870	430 - 465	Double 400x60
GDOB	90	270	26" - 28" - 30"	7,5	1.5/8"	12320	150 - 250	13720	13910	14220	500 - 535	

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

## 05 - ASSEMBLY

- The GDOB Disc Harrow is shipped disassembled. To assemble it, follow the instructions below:

- 1 -  In making any assembly and disassembly service on discs, use gloves in hands.
- 2 -  Do not use loose clothes as they can curl up on the equipment.

### ASSEMBLY OF THE DISC SESSION ( FIGURE 04 ) GDOB 78 / 90 DISCS

- When you start assembling the GDOB, always start by the disc set. For this, proceed as follows:



- 01 - Insert the shaft (1) concave thrust washer (2), washer (3), nut (4), latch (5) fixing it with the pressure washer (6) and screw (7).
- 02 - Then, place the shaft (1) the disc (7), bearing (8), another disc (7), separating reel (9) and so on **as shown in Figure 04**.
- 03 - When the set is complete with all discs, bearings, separating reel, place the convex thrust washer (10), the other washer (3), the nut (4), tightening with the key to fasten the whole set.
- 04 - Then, wedge the disc set and tighten the nut (4) through impacts. When almost achieving maximum tightening, adjust the latch (5) with the convex washer (10), always tightening the nut to match the hole, secure it with the pressure washer (6) and screw (7).

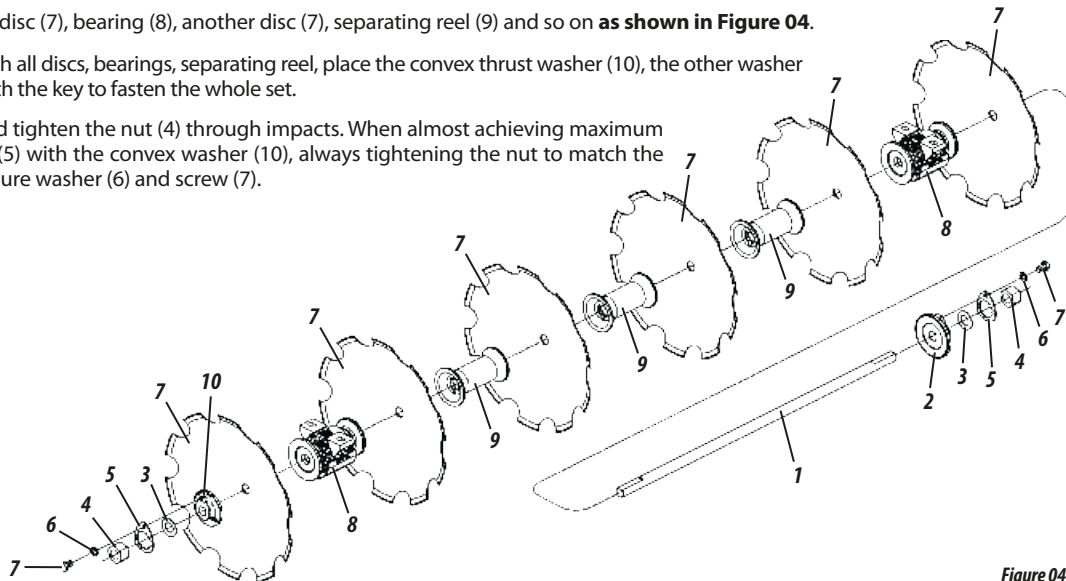


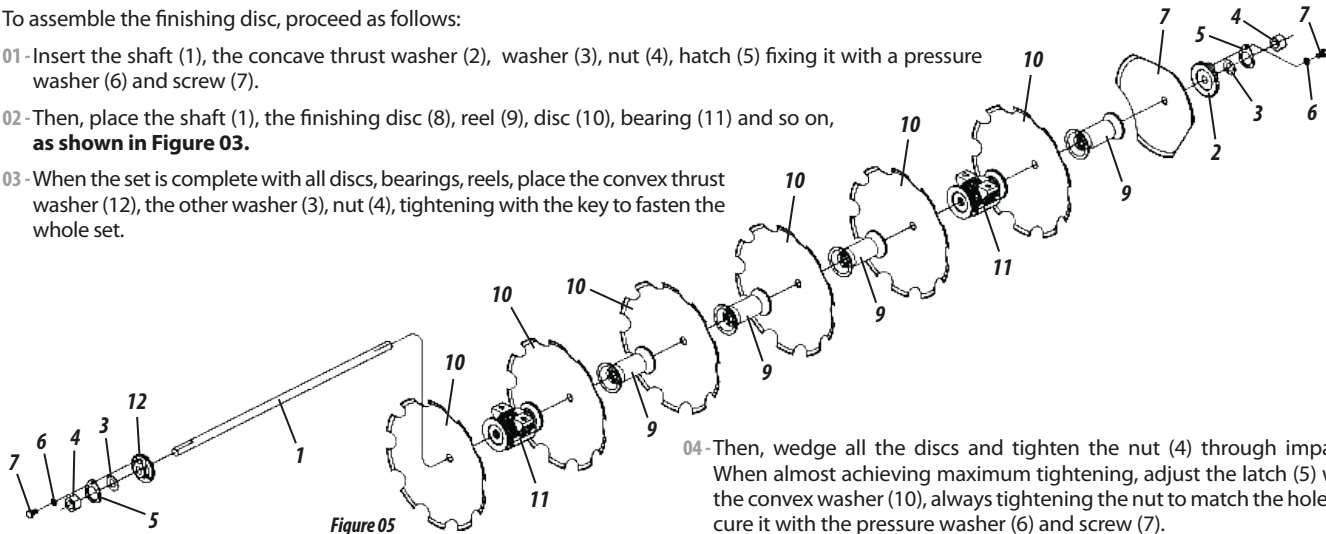
Figure 04

## ASSEMBLY OF THE FINISHING DISC ( FIGURE 05 )

### GDOB 78 / 90 DISCS

To assemble the finishing disc, proceed as follows:

- 01 - Insert the shaft (1), the concave thrust washer (2), washer (3), nut (4), hatch (5) fixing it with a pressure washer (6) and screw (7).
- 02 - Then, place the shaft (1), the finishing disc (8), reel (9), disc (10), bearing (11) and so on, **as shown in Figure 03.**
- 03 - When the set is complete with all discs, bearings, reels, place the convex thrust washer (12), the other washer (3), nut (4), tightening with the key to fasten the whole set.

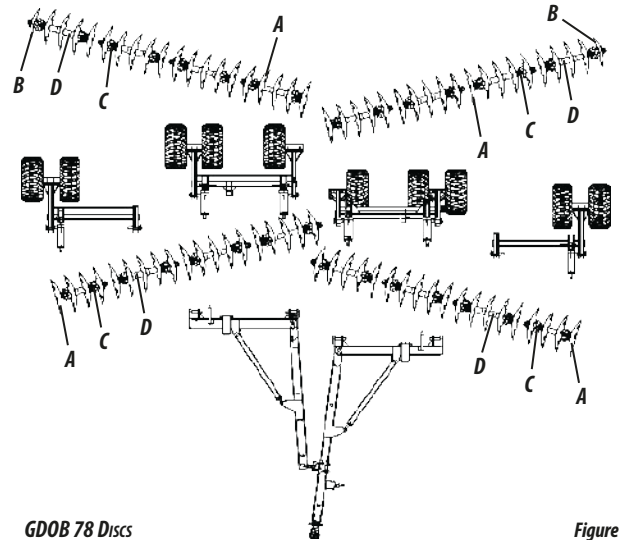
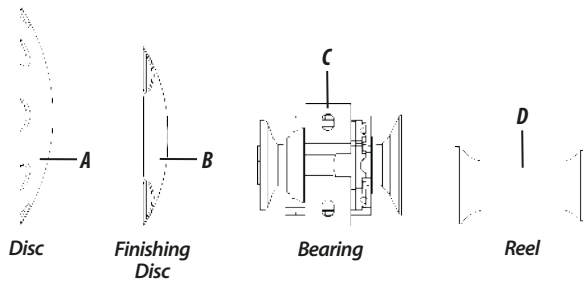


- 04 - Then, wedge all the discs and tighten the nut (4) through impacts. When almost achieving maximum tightening, adjust the latch (5) with the convex washer (10), always tightening the nut to match the hole, secure it with the pressure washer (6) and screw (7).

## ASSEMBLY OF THE DISC SESSION ( FIGURE 06 ) GDOB 78 DISCS

- **Figura 06** shows the assembly of the disc sections of GDOB 78 discs.

### LEGEND:



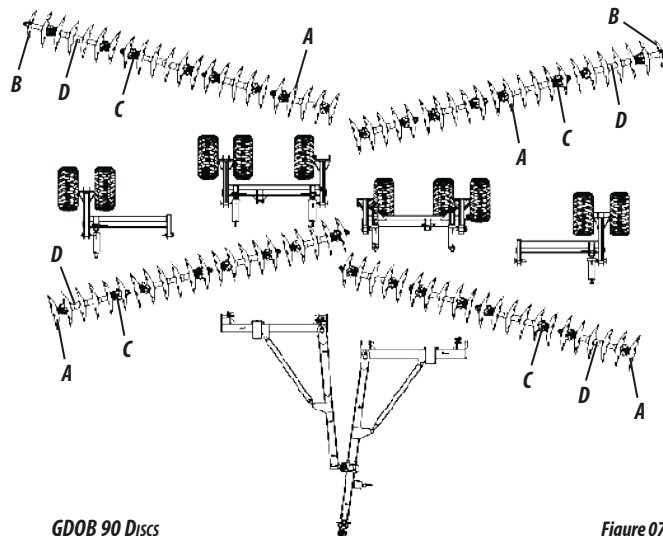
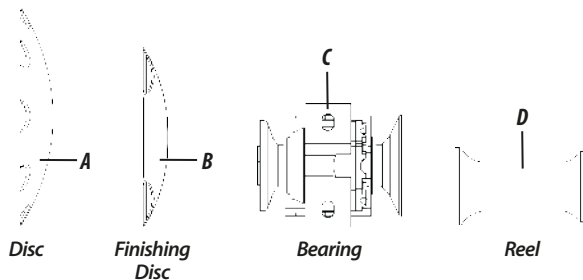
GDOB 78 Discs

Figure 06

## ASSEMBLY OF THE DISC SESSION ( FIGURE 07 ) GDOB 90 DISCS

- *Figure 07* shows the assembly of the disc sections of GDOB 90 discs.

### LEGEND:



GDOB 90 Discs

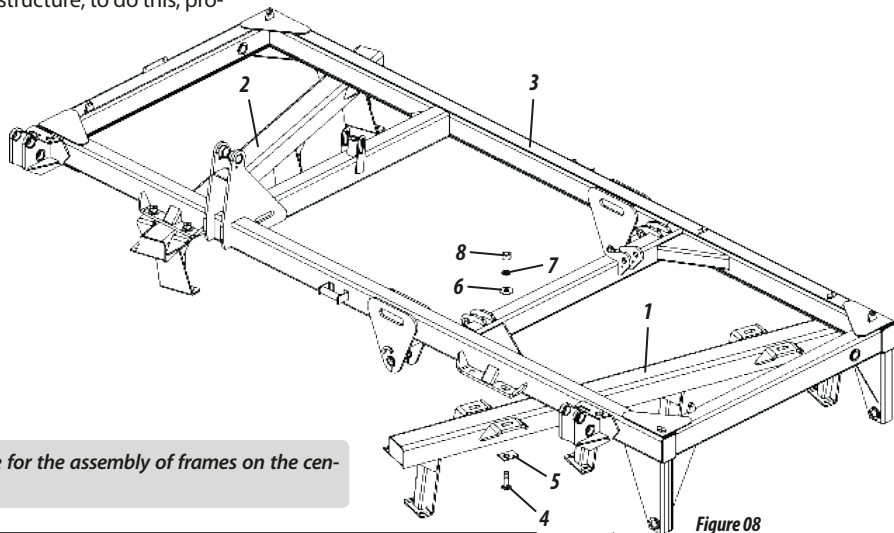
Figure 07

## INSTALLATION OF FRAMES ON CENTRAL LEFT STRUCTURE ( FIGURE 08 )

### GDOB 78 / 90 DISCS

- Start by assembly of the GDOB by the left central structure, to do this, proceed as follows:

- 01 - Put the front (1) and rear frames (2) on flat and clean place.
- 02 - Then, place the structure (3) frames on the front (1) and rear frames (2) fixing them through the screw (4), lock (5), flat washer (6), pressure washer (7) and nut (8).



**ATTENTION**

*Repeat this procedure for the assembly of frames on the central right structure.*

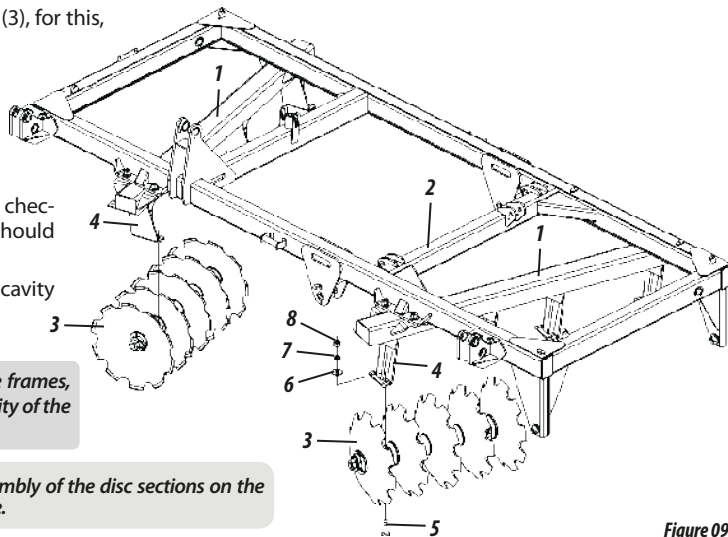
Figure 08

## ASSEMBLY OF DISC SECTIONS ON FRAMES OF THE CENTRAL LEFT STRUCTURE ( FIGURE 09 )

### GDOB 78 / 90 DISCS

- After fixing the frames (1) on the structure (2), fix the disc sections (3), for this, proceed as follows:

- 01 - Lift the front or rear portion of the disc harrow and place the disc section (3) aligned so as to match the holes of the shoes (4) with the holes of the bearings and make the fixation through screw (5), flat washer (6), pressure washer (7) and nut (8).
- 02 - Then, lift the other part of the disc harrow and repeat operation checking the concavity of the discs from one section to the other that should be the opposite.
- 03 - At the end of the assembly, make sure that shoes (4) face the concavity of the discs.



#### ATTENTION

*When assembling the disc sections on the frames, note that the shoes should face the concavity of the discs.*



#### IMPORTANT

*Repeat this procedure for the assembly of the disc sections on the frames of the central right structure.*

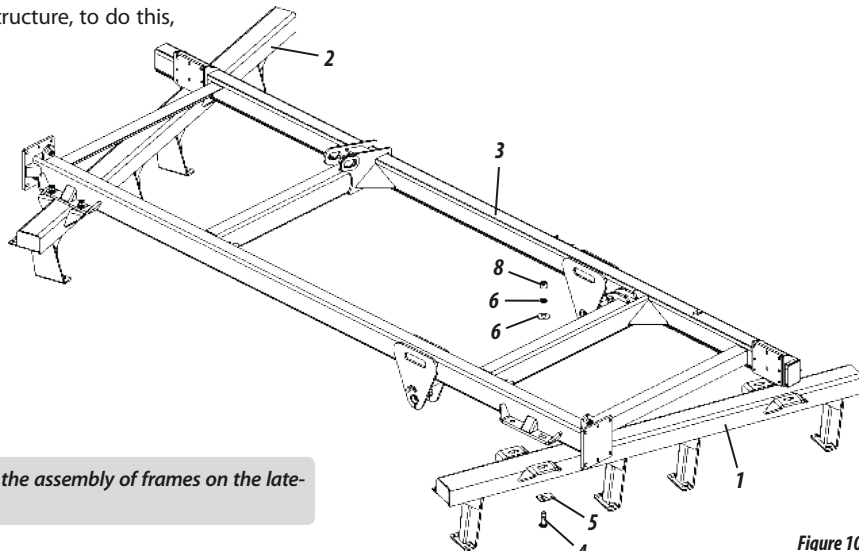


## INSTALLATION OF FRAMES ON LATERAL LEFT STRUCTURE ( FIGURE 10 )

### GDOB 78 / 90 DISCS

- Start by assembly of the GDOB by the central left structure, to do this, proceed as follows:

- 01 - Place the front (1) and rear frames (2) on a flat and clean place.
- 02 - Then, put the structure (3) on the front (1) and rear frames (2) fixing them through the screw (4), lock (5), flat washer (6), pressure washer (7) and nut (8).



**ATTENTION**

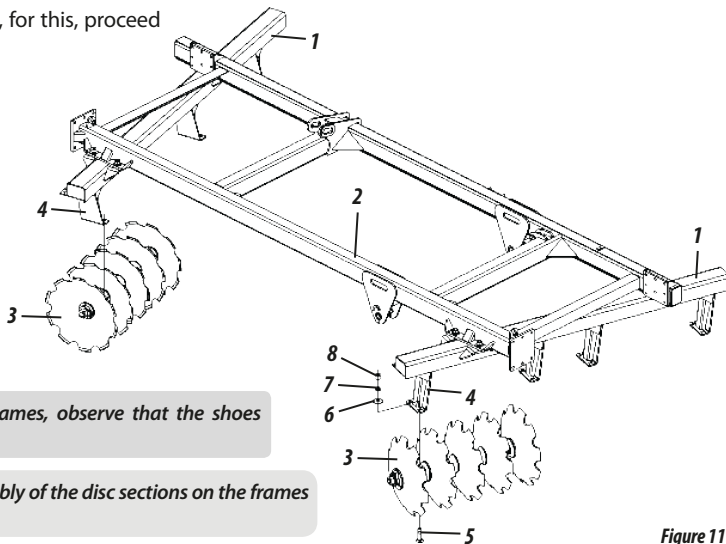
*Repeat this procedure for the assembly of frames on the lateral right structure.*

## ASSEMBLY OF DISC SECTIONS ON FRAMES OF THE LATERAL LEFT STRUCTURE ( FIGURE 11 )

### GDOB 78 / 90 DISCS

- After fixing the frames (1) the structure (2), fix the disc sections (3), for this, proceed as follows:

- 01 -Lift the front or front portion of the disc harrow and place the disc section (3) aligned so as to match the holes of the shoes (4) with the holes of the bearings and make the fixation through screw (5), flat washer (6), pressure washer (7) and nut (8).
- 02 -Then, lift the other part of the disc harrow and repeat operation checking the concavity of the discs from one section to the other that should be the opposite.
- 03 -At the end of the assembly, make sure that shoes (4) face the concavity of the discs.



#### ATTENTION

*When assembling the disc sections on frames, observe that the shoes should be facing the concavity of the discs.*



#### IMPORTANT

*Repeat this procedure for the assembly of the disc sections on the frames of the central right structure.*



## ASSEMBLY OF WIPERS ( FIGURE 12 )

### GDOB 78 / 90 DISCS

- After assembling the disc sections on frames, fix the wipers (1), for this, proceed as follows:

01 - Place the wipers (1) on frames (2), fixing them with screws (3), flat washers (4), washers (5) and nuts (6).

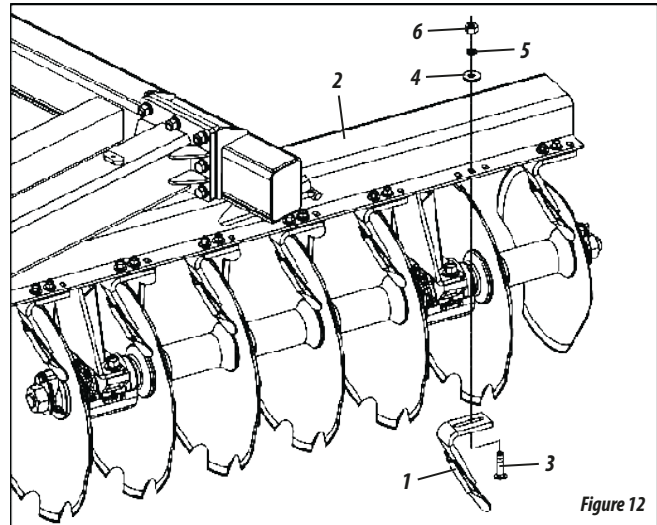


Figure 12



**ATTENTION**

*When assembling the wipers, they should be 0.5 to 1.0 cm away from the discs.*

## ASSEMBLY OF WHEEL SUPPORT ON CENTRAL STRUCTURE ( FIGURE 13 ) - GDOB 78 / 90 DISCS

- To assemble the wheel support (1) on the central structure, proceed as follows:

- 01 - Attach the single shaft (2) on the wheel support (1) and fix it with screws (3), pressure washers (4) and nuts (5).
- 02 - Then, couple the dual shaft (6) on the wheel support (1), fixing with screws (7), washers (8) and nuts (9).

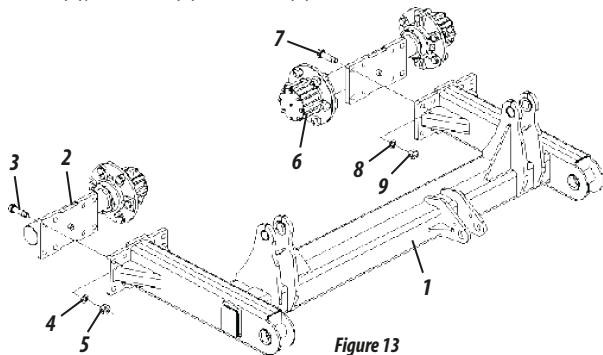


Figure 13

## ASSEMBLY OF THE SHAFT ON THE LATERAL STRUCTURE ( FIGURE 14 ) - GDOB 78 / 90 DISCS

- To assemble the wheel support (1) on the lateral structure, proceed as follows:

- 01 - Couple the dual shaft (2) on the wheel support (1) fixing with screws (3), pressure washers (4) and nuts (5).

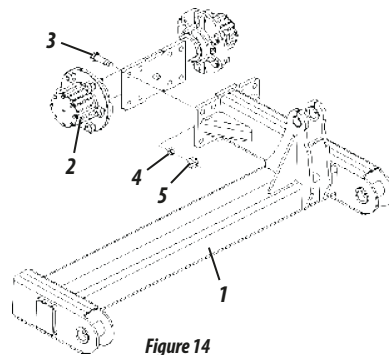


Figure 14

## ASSEMBLY OF WHEEL SUPPORT ON THE CENTRAL STRUCTURE ( FIGURE 15 )

### GDOB 78 / 90 DISCS

- After assembling the shaft on the wheel support, fix the wheel support (1) on the central structure (2), for this, proceed as follows:

- 01 - Attach the wheel support (1) on the central structure (2) using pins (3), pressure washers (4) and nuts (5).



### ATTENTION

*Repeat this procedure for the assembly of the wheel support on the central right structure.*

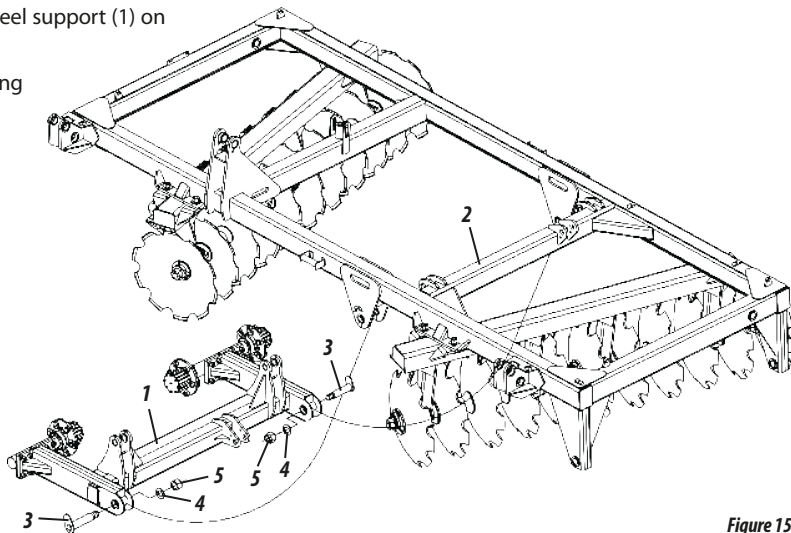
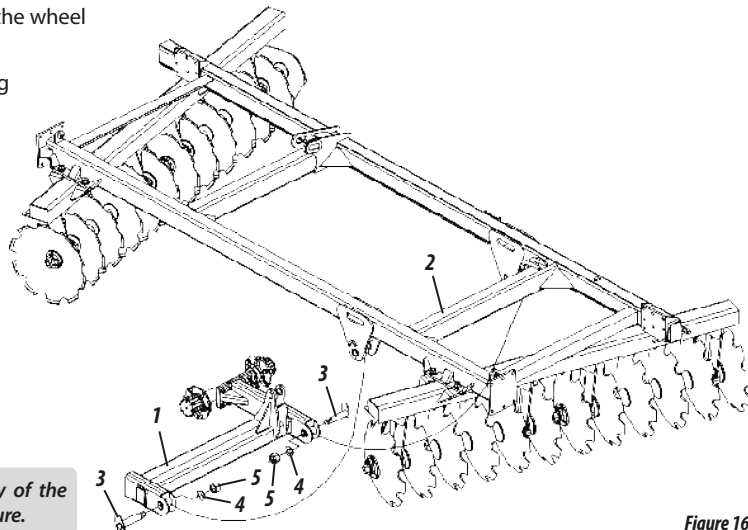


Figure 15

## ASSEMBLY OF WHEEL SUPPORT ON THE LATERAL STRUCTURE ( FIGURE 16 ) GDOB 78 / 90 DISCS

- After assembling the wheel support on the central structure, fix the wheel support (1) on the lateral structure (2), for this, proceed as follows:

- 01 - Attach the wheel support (1) on the lateral structure (2) using pins (3), pressure washers (4) and nuts (5).



**ATTENTION**

*Repeat this procedure for the assembly of the wheel support on the central right structure.*

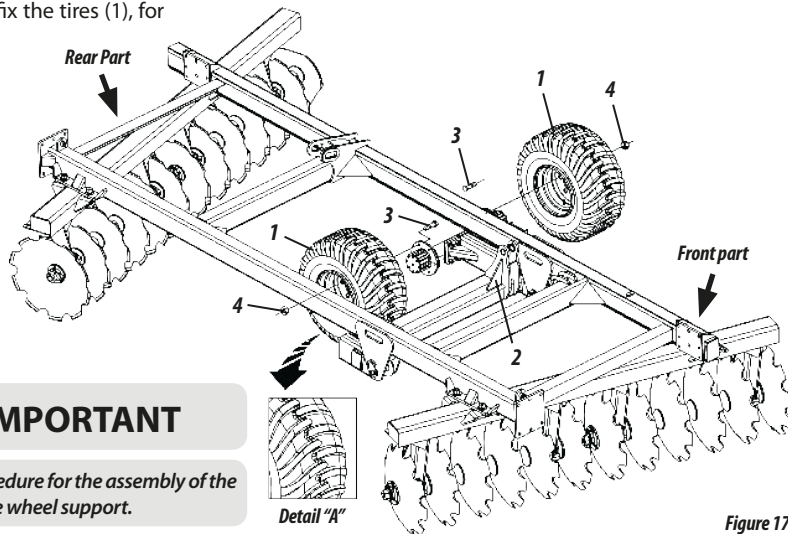
Figure 16

## ASSEMBLY OF TIRES ( FIGURE 17 )

### GDOB 78 / 90 DISCS

- After the assembly of the wheel support on the structures, fix the tires (1), for this, proceed as follows:

- 01 - Place the tires (1) on the wheel support (2) using screws (3) and nuts (4).



### ATTENTION

*All tires must be assembled with clamps facing the front part of the GDOB, as shown in detail "A".*



### IMPORTANT

*Repeat this procedure for the assembly of the other tires on the wheel support.*



Detail "A"

Figure 17

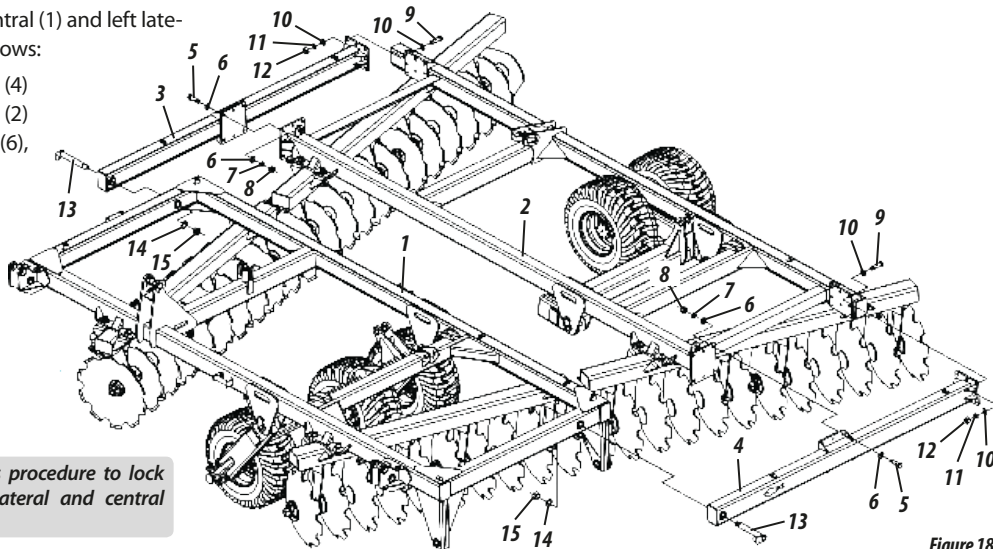


## INSTALLATION OF LOCKS ON CENTRAL AND LEFT STRUCTURES ( FIGURE 18 )

### GDOB 78 / 90 DISCS

- After fixing the wheel sets, lock the central (1) and left lateral structures (2), for this, proceed as follows:

- 01 - Attach the rear (3) and front latches (4) to the center of the lateral structure (2) using the screws (5), flat washers (6), pressure washer (7) and nut (8).
- 02 - Then, fix the rear (3) and front latches (4), to the side of the lateral structure (2) using screws (9), flat washers (10), pressure washer (11) and nut (12).
- 03 - Then, lock the central structure (1) on the side (2) using pin (13), flat washer (14) and nut (15).



**ATTENTION**

*Repeat this procedure to lock the right lateral and central structures.*

## ASSEMBLY OF THE COUPLING BRACKETS ON THE STRUCTURES ( FIGURES 19 ) GDOB 78 / 90 DISCS

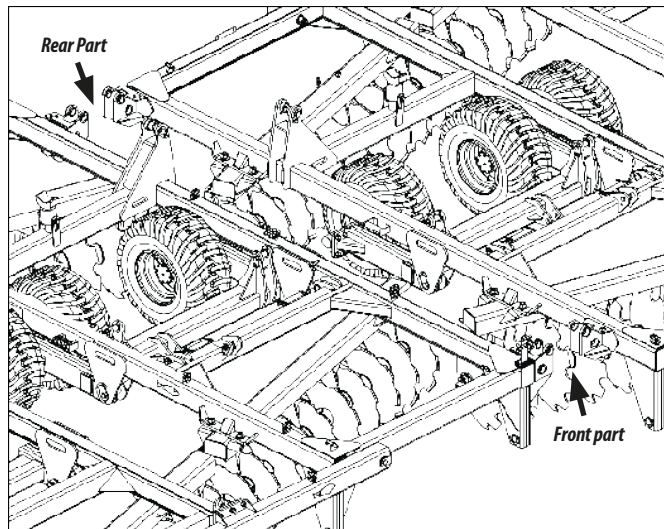
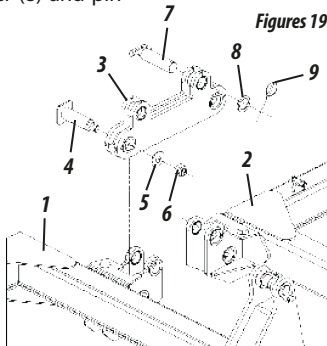
- After fixing the lateral and central structures, lock the right central structure (1) and the left central structure (2), for this, proceed as follows:

- 01 - Attach the coupling bracket of the structures (3) between the right central structure (1) and the left central structure (2) using pin (4) flat washer (5) and nut (6).
- 02 - Then, place the pins (7) flat washer (8) and pin with ring (9).



### ATTENTION

*When working or transporting, the GDOB must be with the coupling brackets (3) assembled at the rear and front. Do not operate or transport the GDOB with only one coupling bracket assembled in order to avoid risk of accidents or damage to the GDOB.*



## ASSEMBLY OF THE HYDRAULIC CYLINDER ( FIGURE 20 )

### GDOB 78 / 90 DISCS

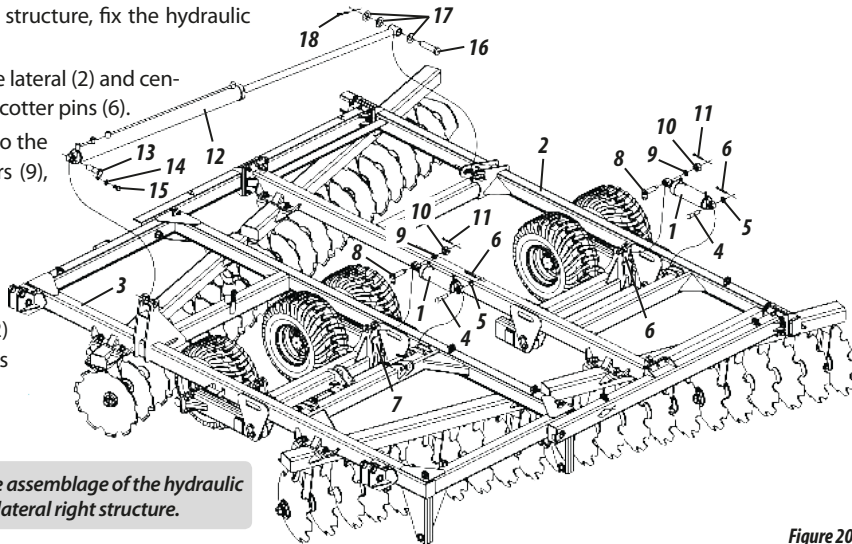
- After assembling the latch on the central and lateral structure, fix the hydraulic cylinders, for this, proceed as follows:

01 - Attach the bases of the hydraulic cylinders (1) on the lateral (2) and central structures (3) using pins (4), flat washers (5) and cotter pins (6).

02 - Next, attach the rods of the hydraulic cylinders (1) to the wheel support (6 and 7) using pins (8), flat washers (9), nuts (10) and cotter pins (11).

03 - Then, attach the bases of the hydraulic cylinders (12) to the central structure (3) using pin (13), pressure washer (14) and screw (15).

04 - Finally, attach the rod of the hydraulic cylinder (12) to the lateral structure (2) using pin (16), flat washers (17) and cotter pin (18).



#### ATTENTION

*Repeat this procedure for the assemblage of the hydraulic cylinders on the central and lateral right structure.*



## ASSEMBLY OF THE COUPLING HEADER ( FIGURE 21 )

### GDOB 78 / 90 DISCS

- To assemble the coupling header, proceed as follows:

- 01 - Couple the right crossbar (1) to the central structure (2) using pins (3), flat washers (4) and nut (5).
- 02 - Then, couple the left crossbar (6) to the lateral structure (7) using pins (8), flat washers (9) and nut (10).
- 03 - Then, couple the header union bar (11) to the right crossbar (1) using pin (12), flat washer (13) and nut (14).
- 04 - Following, couple the header (15) to the left crossbar (6) using screw (16), flat washer (17) and nut (18).
- 05 - Lock the header (15) to the header union bar (11) using pin (19), pressure washer (20) and screw (21).
- 06 - Finally, place the regulators (22), fixing them using the screws (23), pressure washers (24), nuts (25). Then, fix the rod of regulators (22), using the screws (26), pressure washers (27) and nuts (28).

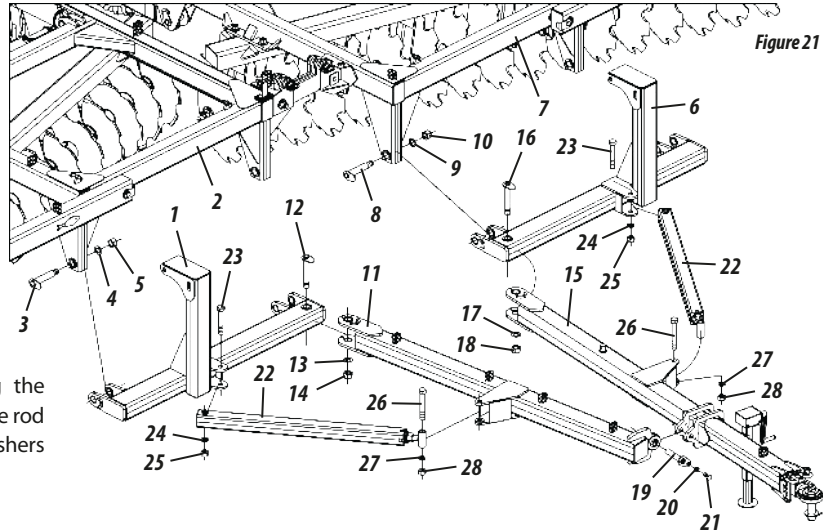


Figure 21

## ASSEMBLY OF THE REGULATING RODS ( FIGURE 22 )

### GDOB 78 / 90 DISCS

- After the assembly of the coupling header, fix the regulating rods, for this, proceed as follows:

- 01 - Attach the rod (1) to the central left structure (2) using pin (3), pressure washer (4) and screw (5).
- 02 - Then, attach the rod (6) to the left crossbar (7) using pin (8), pressure washer (9) and screw (10).
- 03 - Then, put the rods (1) and (6) and flat washers (11) on the left crossbar (7) using the pin (12).
- 04 - Place the rods (13), and bars (1) and (6), flat washers (14), locking them with the pins with rings (15).
- 05 - Finally, couple the bars (13), in the rods (1) and (6), fixing them through flat washers (16) and nuts (17).

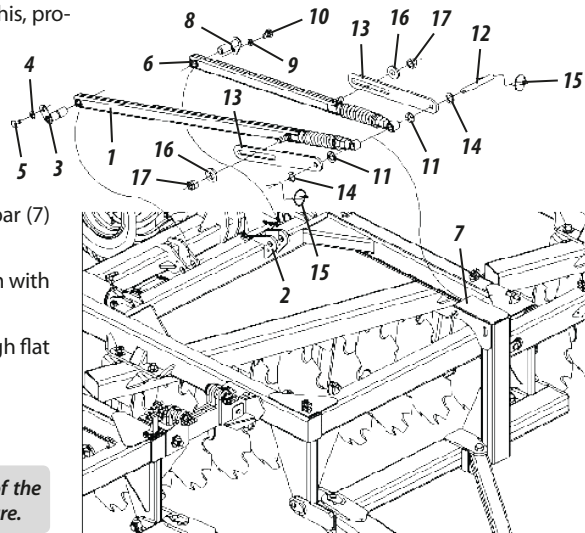


Figure 22



**ATTENTION**

*Repeat this procedure for the assembly of the regulating rods on the central right structure.*

## ASSEMBLY OF THE SIGNALING PLATES ( FIGURE 23 ) GDOB 78 / 90 DISCS

- After the assembly of the coupling header, fix the signaling plates (1), for this, proceed as follows:

- 01 - Attach the signaling plates (1) on the central left structure (2) using the screws (3), flat washers (4), washers (5) and nuts (6).



### ATTENTION

*Repeat this procedure for the assembly of the signaling plate on the central right structure.*

*Do not transport the machine without the signaling plate assembled.*

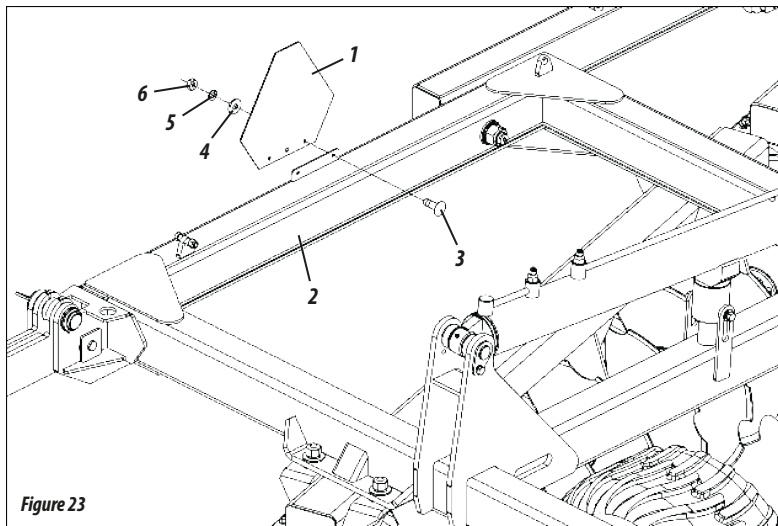


Figure 23



## ASSEMBLY OF THE HYDRAULIC SYSTEM ( FIGURE 24 ) GDOB 78 DISCS

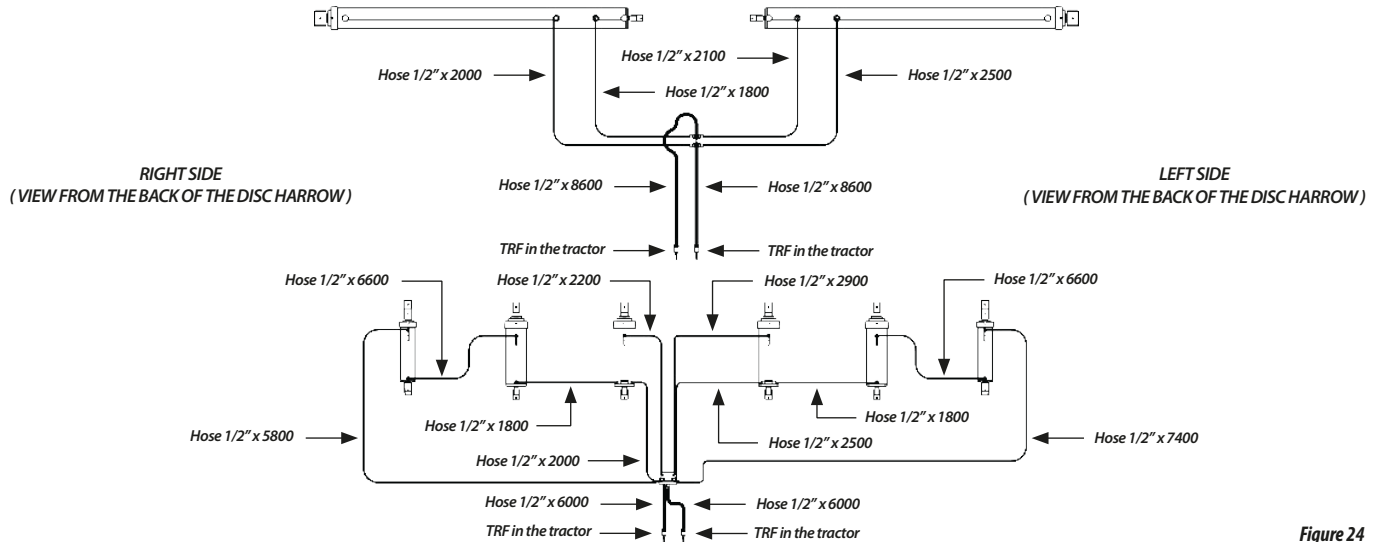


Figure 24

## ASSEMBLY OF THE HYDRAULIC SYSTEM ( FIGURE 25 ) GDOB 90 DISCS

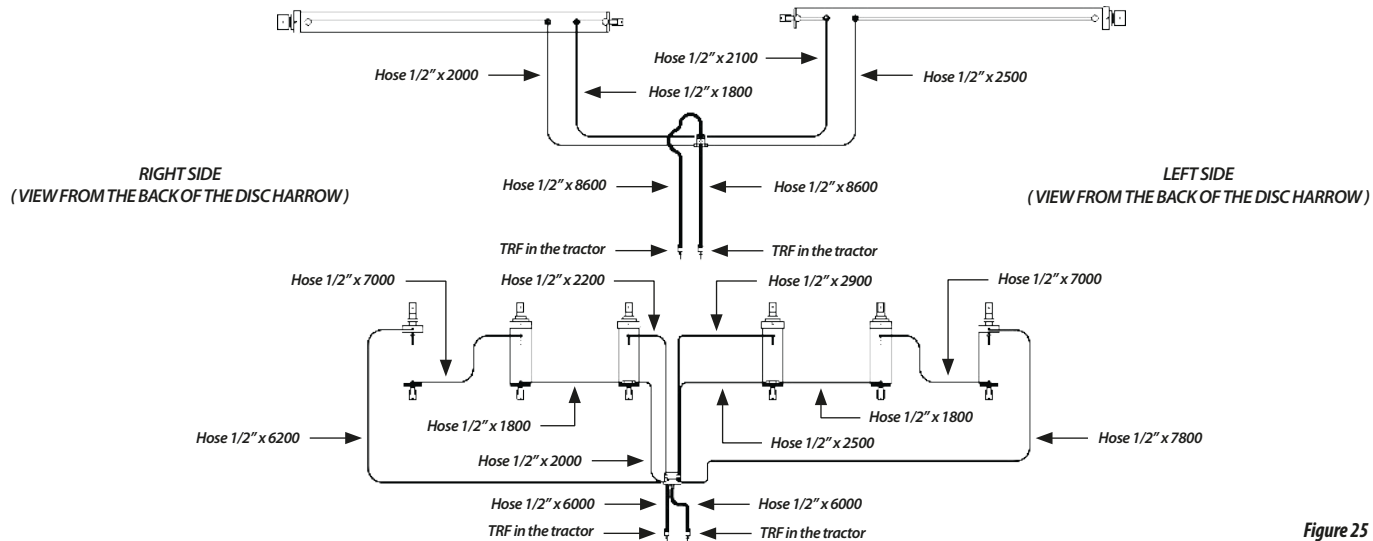


Figure 25

### COUPLING THE DISC HARROW TO THE TRACTOR DRAWBAR ( FIGURE 26 ) GDOB 78 / 90 DISCS

- To couple the GDOB, proceed as follows:

- 01 - Level the coupling header (1) of the GDOB in relation to the Tractor coupling through the adjustments (2) of the coupling shackle. Then, slowly approach the tractor to the disc harrow in reverse, being aware for the application of brakes.
- 02 - Couple the GDOB to the tractor by fixing it through the coupling pin (3), flat washer (4) and lock (5).
- 03 - Finally, couple the hoses (6) in the quick hitch of the tractor.



#### IMPORTANT

*By coupling the GDOB, find a safe and easily accessible place, always use low gear with low throttle.*

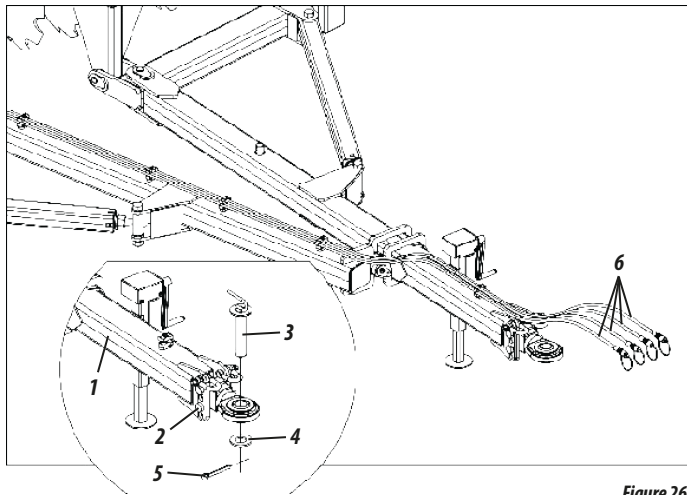


Figure 26

## DISC HARROW LEVELING ( FIGURES 27/28 )

### GDOB 78 / 90 DISCS

- To level the GDOB, proceed as follows:

01 - Place the tractor on a flat place;

02 - Then, level the GDOB through the stabilizing bar (1), tightening or loosening the nuts and locknuts (2) to reach the desired level.

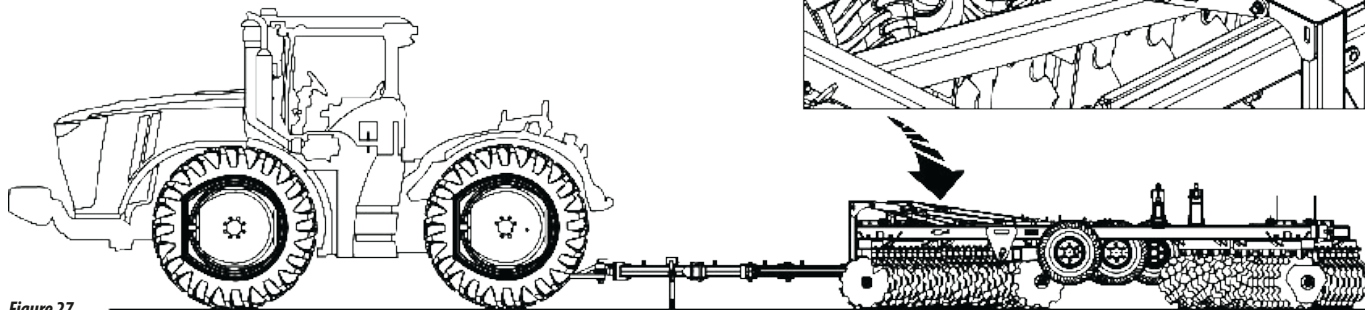


Figure 27

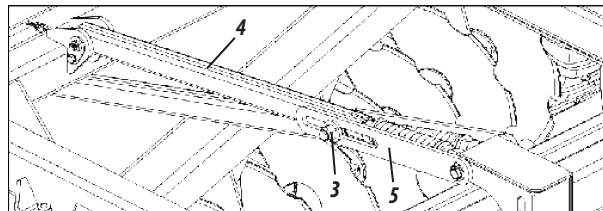
- 03 - Finally, check the nut (3) and if necessary, tighten or loosen it enough so that the rod (4) can run on the plate (5) during operation.

Figure 28



## ATTENTION

*Repeat this adjustment on the regulator rod of the central right structure.*



## 07 - ADJUSTMENTS

### ADJUSTMENTS FOR TRANSPORTATION ( FIGURES 29/30 ) GDOB 78 / 90 DISCS

- Before any operation on the GDOB, read the following information:

- 01 - When starting the hydraulic process for the first time, there is a greater need for hydraulic flow in the tractor. Check the hydraulic oil level of the tractor in the 1st operation.
- 02 - Antes de iniciar a articulação da GDOB para o transporte, verifique a regulação do fluxo de óleo para que a articulação não seja brusca, causando danos ao equipamento.
- 03 - When articulating the GDOB, if necessary, complete the hydraulic oil level of the tractor. Check the tractor's technical manual.
- 04 - Leave the oil flow slower.



- Before transporting the GDOB, proceed as follows:

01 - Articulate as armações laterais (1).

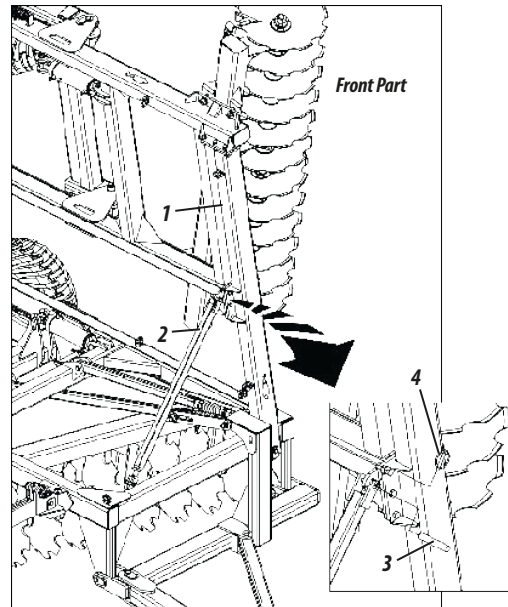
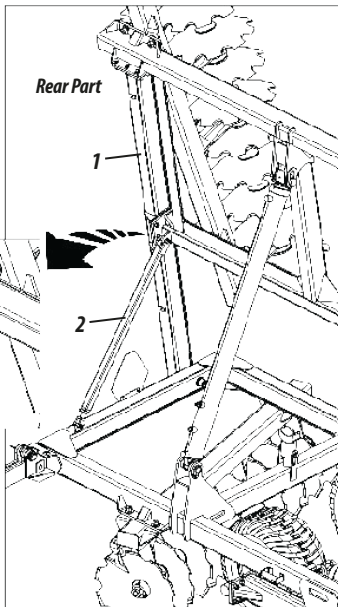
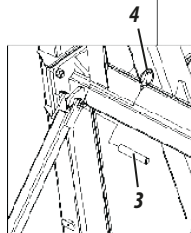
02 - Place the bars (2) on the rear and front of GDOB, locking the side frames (1) using pins (3) and latches with ring (4).



## ATTENTION

*Do not transport the GDOB without locking the side frames (2). Do not transport the GDOB with only one lock. Always lock the rear and front parts together. At the end of transport, remove the latches (1), leaving the side frames (2) free to pivot.*

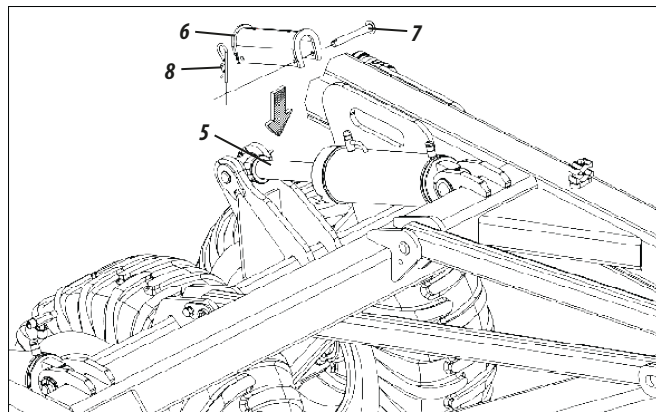
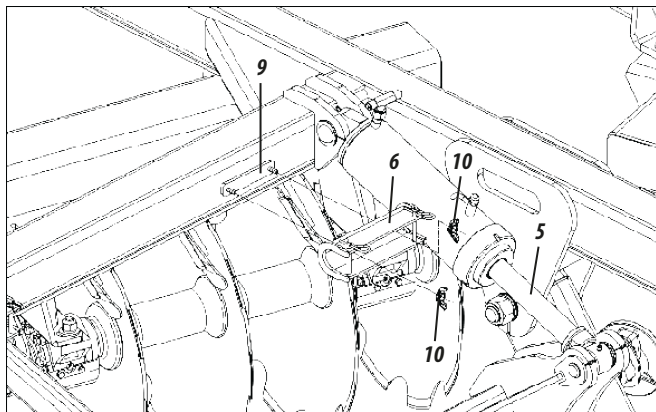
Figures 29



03 - Then, do the full drive of the hydraulic cylinder course (5), put the latch (6) and fix it with the pin (7) and lock (8).

04 - At the end of transport, remove the latch (6) from the hydraulic cylinder (5) and fix it to the structure (9) through the wing nuts (10).

Figures 30



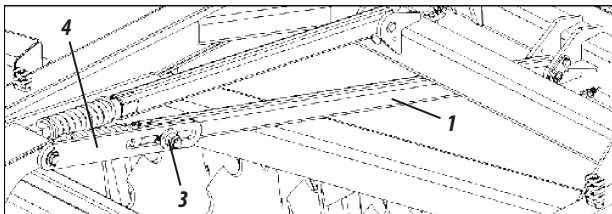
**ATTENTION**

*Do not transport the GDOB without fixing the latches (8) on the hydraulic cylinders (5).*

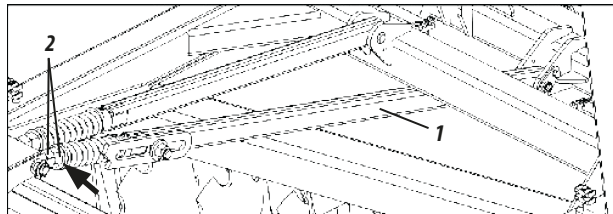
## ADJUSTMENT OF THE ATTACK ANGLE ( FIGURES 31 ) GDOB 78 / 90 DISCS

- To adjust the attack angle of the GDOB, proceed as follows:

- 01 - Adjust the stabilizing bar (1), tightening or loosening nuts and locknuts (2) as necessary.
- 02 - When you finish adjusting the attack angle of the GDOB, check the nut (3) and whenever needed, tighten or loosen it enough so that the rod (1) can run on the plate (4) during operation.



Figures 31



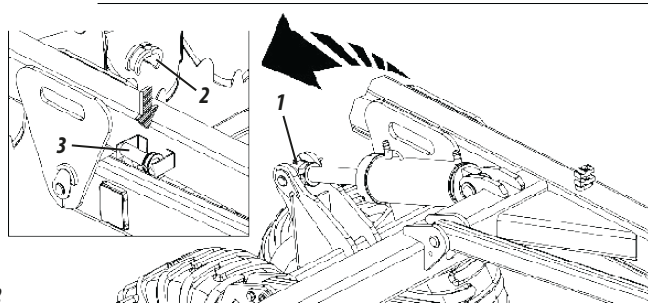
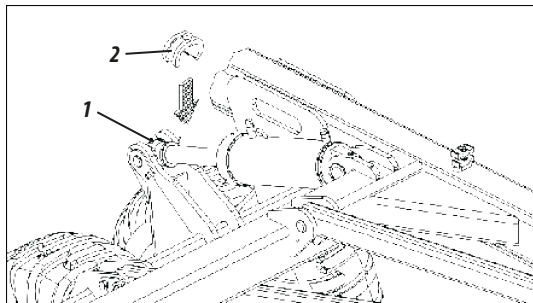
**ATTENTION**

*Repeat this adjustment on the regulator rod of the central right structure.*

## ADJUSTMENT OF THE WORKING DEPTH ( FIGURES 32 ) GDOB 78 / 90 DISCS

- To adjust the working depth of the GDOB, proceed as follows:

- 01 - Move the rods of the hydraulic cylinders (1) to the adequate position.
- 02 - Then, put the limiting rings (2) on the rods of the hydraulic cylinders (1) to fill the entire space between the rod coupling and piston of the hydraulic cylinder (1).
- 03 - After finishing work with GDOB, remove the limiting rings (2) from the hydraulic cylinders (1) and fix them to the structure (3).



Figures 32



## ATTENTION

Always use the same number of rings in the six hydraulic cylinders (1) for lifting the wheels.



## IMPORTANT

After adjustment, the GDOB will operate always at the same depth, both in hard and soft ground, this is because the limiting rings (2) are limiting the course of the hydraulic cylinder (1), i.e., preventing the oscillation of wheels.

## ADJUSTMENT OF THE HYDRAULIC CYLINDER SUPPORT BRACKET ( FIGURE 33 ) GDOB 78 / 90 DISCS

- For the support bracket (1) to dampen the fall of the hydraulic cylinder, adjust it. To do so, proceed as follows:

- 01 - Loosen the screws (2) enough so that the support bracket (1) can run on the plates (3) so as to dampen the hydraulic cylinder.

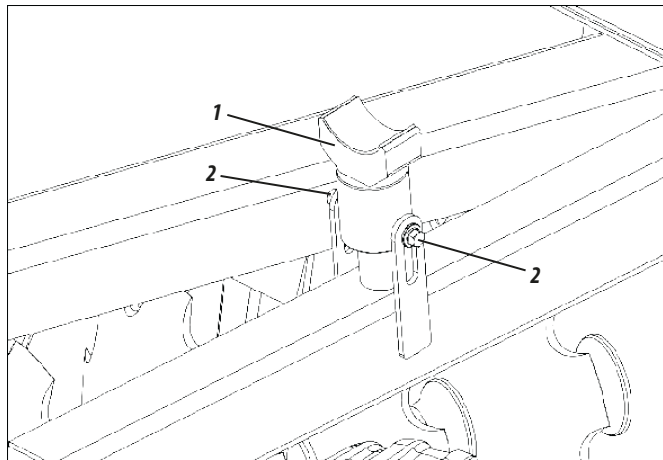


Figure 33



### ATTENTION

*Do not loosen or tighten the screw (2) so that the support bracket (1) can make its function efficiently without risk of damage to the equipment.*

## ADJUSTMENT FOR DISC HARROW CENTRALIZATION ( FIGURE 34 )

### GDOB 78 / 90 DISCS

- To centralize the GDOB, adjust the coupling header (1), for this, proceed as follows:

- 01 - According to the adjustment to be made, tighten or loosen the nut (2) of the header regulator (3) up to the desired adjustment.

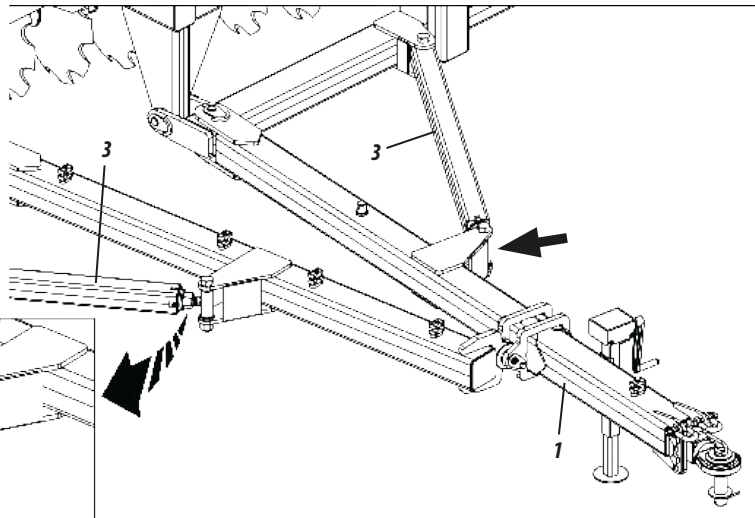


Figure 34



### ATTENTION

*Before starting work with GDOB, make sure that the nuts (2) are tightened.*

### PREPARING THE GDOB AND THE TRACTOR GDOB 78 / 90 DISCS

- The preparation of the GDOB and tractor will allow you to save time and obtain better result in the field works. The following suggestions may be helpful to you.

- 01 - After the first day of work with GDOB, re-tighten all screws and nuts. Check the condition of pins and latches.
- 02 - Adjust the tractor according to the contents of the instruction manual, always using the front and rear weights to stabilize the equipment.
- 03 - When using the GDOB, it is important to check the coupling system and cross leveling to make sure that the discs will have the same penetration depth into the soil.
- 04 - After doing the coupling and leveling, upcoming adjustments will be made directly in the work field, analyzing the soil as for its texture, moisture content and types of operations to be performed with the GDOB.

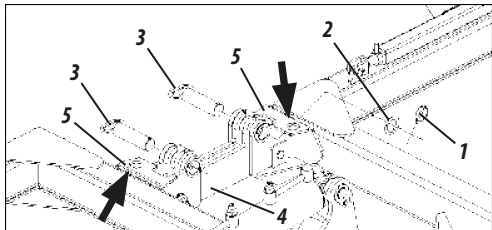
## UNION SUPPORT OF THE STRUCTURE ( FIGURES 35 )

### GDOB 78 / 90 DISCS

- Before working or transporting the GDOB, please carefully read the information below. Failure to observe this may result in damage to GDOB and / or serious accidents.

#### GDOB WORK

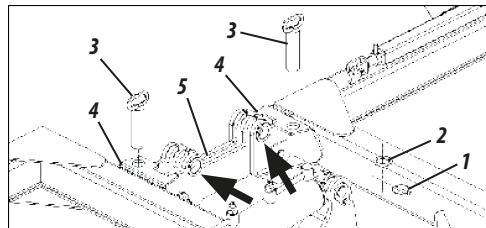
- The GDOB has a pantographic system which during operation causes the disc harrow to follow the ground irregularities. For this, before starting work, remove the latches with ring (1), flat washers (2) and pins (3) from the union support of the structures (4). Attach the pin (3) on the basis of the structures (5), locking them.



Figuras 35

#### GDOB TRANSPORT

- Before transporting the GDOB, remove the latches with ring (1), flat washers (2) and pins (3) from the base of the structure (4). Attach the pins (3) to the union support of the structures (5), locking them.



**ATTENTION**

*Do not work with GDOB without unlocking the union support (4).  
Do not transport the GDOB without locking the union support (5).*



## 09 - MAINTENANCE

- The GDOB was developed to provide you with maximum return on the different soil conditions. Experience has shown that the periodic maintenance of certain parts of the disc harrow is the best way to help you avoid problems, so we suggest doing so.



### ATTENTION

*Constantly check nuts and screws, tighten them if necessary.  
Maintaining general tightening of the equipment should be done every 8 hours.*

### TIRE PRESSURE ( FIGURE 36 ) GDOB 78 / 90 DISCS

Tires should always be properly calibrated avoiding premature wear due to excess or lack of pressure and ensuring distribution accuracy.



### ATTENTION

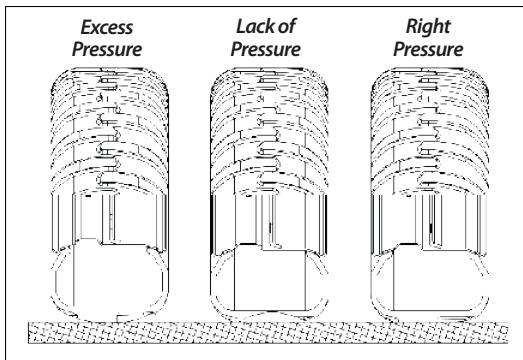
*The recommended calibration of 52 lb / in<sup>2</sup> is for tires model 400 x 60 14 plies supplied with the GDOB. When calibrating the tires, do not exceed the recommended calibration.  
By purchasing the model without tires, we recommend referring to the manufacturer about the ideal calibration for the tire model that will be used on the disc harrow.*



### NOTE

*The pressure of tractor's tires should be made according to the recommended by the manufacturer.*

Figure 36



## LUBRICATION ( TABLE 02 )

### GDOB 78 / 90 DISCS

Lubrication is essential for a good performance and durability of moving parts of the disc harrow, contributing to reductions of maintenance costs.

Before starting operation, carefully lubricate all grease cups always observing the lubrication intervals on the following pages. Make sure of the quality of the lubricant such as efficiency and purity, avoiding using products contaminated by water, dirt and other agents.

#### TABLE OF GREASES AND EQUIVALENTS

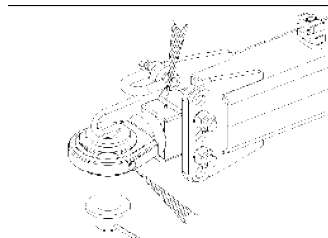
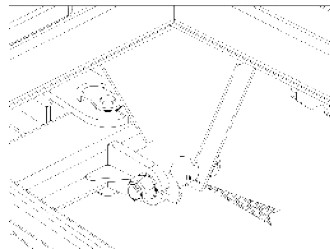
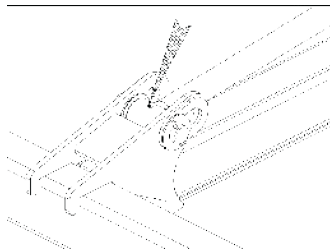
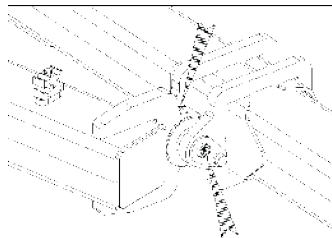
<i>Manufacturer</i>	<i>Type of recommended grease</i>
Petrobrás	Lubrax GMA 2
Atlantic	Litholine MP 2
Ipiranga	Super Graxa Ipiranga Ipiranga Super Graxa 2 Ipiflex 2
Castrol	LM 2
Mobil	Mobilgrease MP 77
Texaco	Marfak 2 Agrotex 2
Shell	Retinax A Alvania EP 2
Esso	Multipurpose grease H
Bardahl	Maxlub APG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



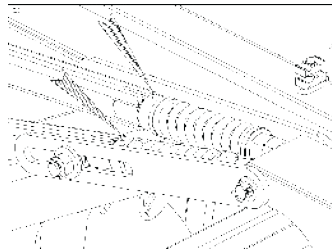
#### IMPORTANT

*If there are manufacturers and /or equivalent brands which are not listed in the table, refer to the manufacturer's technical manual.*

**LUBRICATE EVERY 24 HOURS OF WORK ( FIGURES 37 )**  
**GDOB 78 / 90 DISCS**



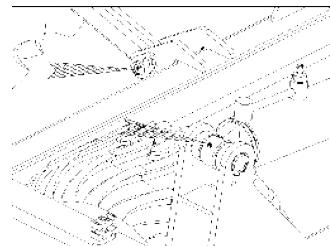
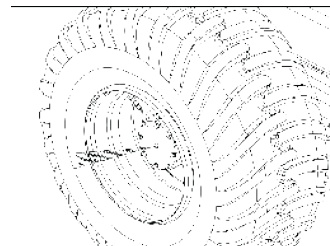
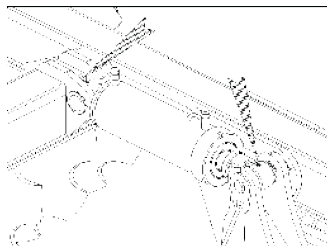
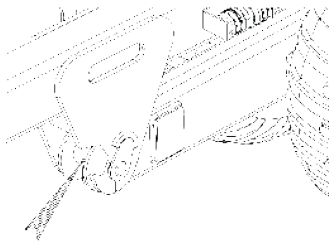
*Figures 37*



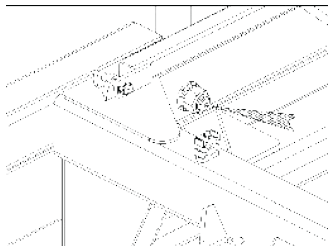
**ATTENTION**

*When lubricating the GDOB, do not exceed the amount of new grease, introducing the sufficient amount.*

**LUBRICATE EVERY 24 HOURS OF WORK (CONTINUED)**  
**GDOB 78 / 90 DISCS**



*Figures 37*



**ATTENTION**

*When lubricating the GDOB, do not exceed the amount of new grease, introducing the sufficient amount.*

## ADJUSTMENT OF BEARINGS ( FIGURE 38 )

### GDOB 78 / 90 DISCS

When the bearing present clearances, proceed as follows to adjust them:

- 01 - Remove the washer (1).
- 02 - Loosen the screws (2) and remove the bearing cover (3).
- 03 - Then, remove one or two joints (4) from the bearing cover (3). Replace the bearing cover (3) and tighten it.
- 04 - If the clearance persists, face the bearing cover (3) to increase the adjustment, then assemble it on the same bearing with as many joints (4) as required.
- 05 - The bearing should turn freely, i.e., without clearances.



*Do not assemble the bearing without joints (4).*

## BEARING LUBRICATION

- In the first days of working with GDOB, check the oil level in the bearing daily, then check it every 120 hours.
- The oil change should be done every 1200 working hours. Use oil for transmission API GL4, MIL-L-2105; SAEJ306, maio/81; SAE 80W/90 and 140.



*The optimum level is when oil reaches the plug hole. To check the oil level in the bearing, find a flat place.*

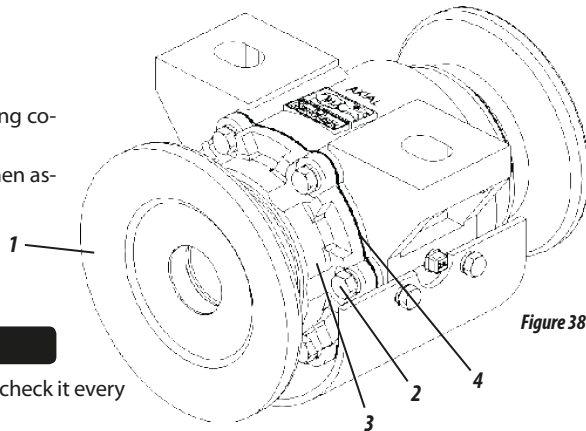


Figure 38

## 10 - CALCULATIONS

### APPROXIMATE HOURLY PRODUCTION GDOB 78 / 90 DISCS

- To calculate the approximate hourly production of GDOB, use the following formula:

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

#### WHERE:

**A** = Area to be worked

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

**V** = Average Tractor Speed (meters / hour)

**F** = Production factor - 0.90

**X** = Hectare value - 10,000 m<sup>2</sup> (value varies according to the region)

**Example: Using a disc harrow with 78 discs how many Ha it produces in an hour of work at an average speed of 7 km/h?**

**A** = ?

**L** = 10,75m

**V** = 7.000m/h

**F** = 0,90

**X** = 10.000 m<sup>2</sup> ( Calculated in hectare )

$$A = \frac{10,75 \times 7.000 \times 0,90}{10.000} = 6,77 \text{ Ha/h}$$



*The hourly production of the GDOB may vary according to factors that alter the work rhythm such as (moisture content and soil hardness, slopes, inadequate adjustments and work speed).*

## TABLE OF APPROXIMATE HOURLY PRODUCTION GDOB 78 / 90 DISCS


Model	Work Width (m)	Average Speed (m/h)	Production Factor	Aproximate Production
				in Hectare / h
<b>GDOB 78</b>	10,75	7.000	0,90	6,77
<b>GDOB 90</b>	12,31	7.000	0,90	7,75

*Table 03*

The formula used to calculate the approximate production refers to the calculation of the area to be worked or worked by the disc harrow. If you want to know how long it will take to work an area of known value, simply divide the value of this area by the hourly production.

**Example: What is the time “X” that will be spent by GDOB 78 discs to produce 35 hectares at an average speed of 7km / h?**

$$X = \frac{35 \text{ Ha}}{6,77 \text{ Ha/h}} = 5,16 \text{ hours approximately to work 35 hectares.}$$

 The hourly production of the GDOB disc harrow may vary according to factors that alter the work rhythm such as moisture content and soil hardness, slopes, inadequate adjustments and working speed), which are different from the table above, obtained with field work in soils under normal conditions.

## MAINTENANCE CARE GDOB 78 / 90 DISCS

- 01 - Before starting work, check the condition of all pins, screws, bearings, discs and sections. Whenever necessary, re-tighten them.
- 02 - The work speed must be carefully controlled according to the terrain conditions.
- 03 - GDOB model 78/90 discs are used in various applications requiring knowledge and attention during operation.
- 04 - Only local conditions will determine the best form to operate the GDOB.
- 05 - When assembling or disassembling any part of the GDOB, use appropriate methods and tools.
- 06 - Always check the parts that show wear. If they need replacement, require Baldan original parts.
- 07 - Keep GDOB discs always sharp.

## GENERAL CLEANING GDOB 78 / 90 DISCS

- 01 - When storing the GDOB, make a general cleaning and wash it. Make sure the paint is not worn, if that happened, make a full coat, use protective oil and grease the GDOB completely.
- 02 - Lubricate the GDOB completely. Check all moving parts of the GDOB and if they present wear or looseness, make the necessary adjustment or replacement of parts, making it ready for the next work.
- 03 - After all maintenance care, store your GDOB on a flat surface, covered and in a dry location, away from pets and children.
- 04 - When connecting or disconnecting the hydraulic hoses, do not let the ends touch the ground. Before connecting the hydraulic hoses, clean the connections with clean, lint-free cloth **(do not use burlap)**.
- 05 - We recommend washing the GDOB at the beginning of a new work.





## ATTENTION

*Proper and periodic maintenance are necessary to ensure long life to your GDOB. Do not use chemical cleaners to wash the GDOB, this may damage its painting.*

## 11 - IDENTIFICATION

### PRODUCT IDENTIFICATION ( FIGURE 39 )

#### GDOB 78 / 90 DISCS

- To refer to the parts catalog or request Baldan technical assistance, always indicate the model (1), serial number (2) and date of manufacture (3), which is in the GDOB identification label.

### ALWAYS REQUIRE BALDAN ORIGINAL PARTS

**BALDAN**  
BALDAN IMPLEMENTOS AGRÍCOLAS S/A.  
AV. BALDAN, 1500 | NOVA MATÃO  
CEP 15.993-900 | MATÃO-SP | BRASIL  
FONE: (16) 3221-8500  
CNPJ: 52.311.347/0009-06 | CREA/SP 0170977

QR Code

01 — Modelo / Model	Date / Date	03 —
02 — N° de Série / Serial Number	Tipo / Type	
Capacidade / Load Capacity	Peso / Weight	

Figure 39



## PUBLICACIONES

Code: 6055010027-7  
CPT: GDOB00615



## ATTENTION

*The drawings contained in this manual are for illustrative purposes only.*



## CONTACT

*If in doubt, do not operate or handle the machine. Refer to the After Sales.*  
Phone: 0800-152577  
e-mail: posvenda@baldan.com.br



## PRODUCT IDENTIFICATION

Write down the identification data below to always have accurate information about the useful life of your GDOB.

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

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

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

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

*Warranty certificate No.:* \_\_\_\_\_

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

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

*Date of purchase:* \_\_\_\_ / \_\_\_\_ / \_\_\_\_ *Invoice No.:* \_\_\_\_\_

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

# 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 doesn't cover tires, polyethylene deposits, universal joints, hydraulic components, etc, which equipments are guaranteed by their manufacturers.
- 10 - The material or manufacture defects, object of this certificate of guarantee, will not be, by any hypothesis, 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 **after-sales@baldan.com.br** or accessing 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: \_\_\_\_\_





## 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: \_\_\_\_\_



## 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: \_\_\_\_\_

3ª Page - Manufacturer

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

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





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

+55 16 3221 6500  
baldan.com.br