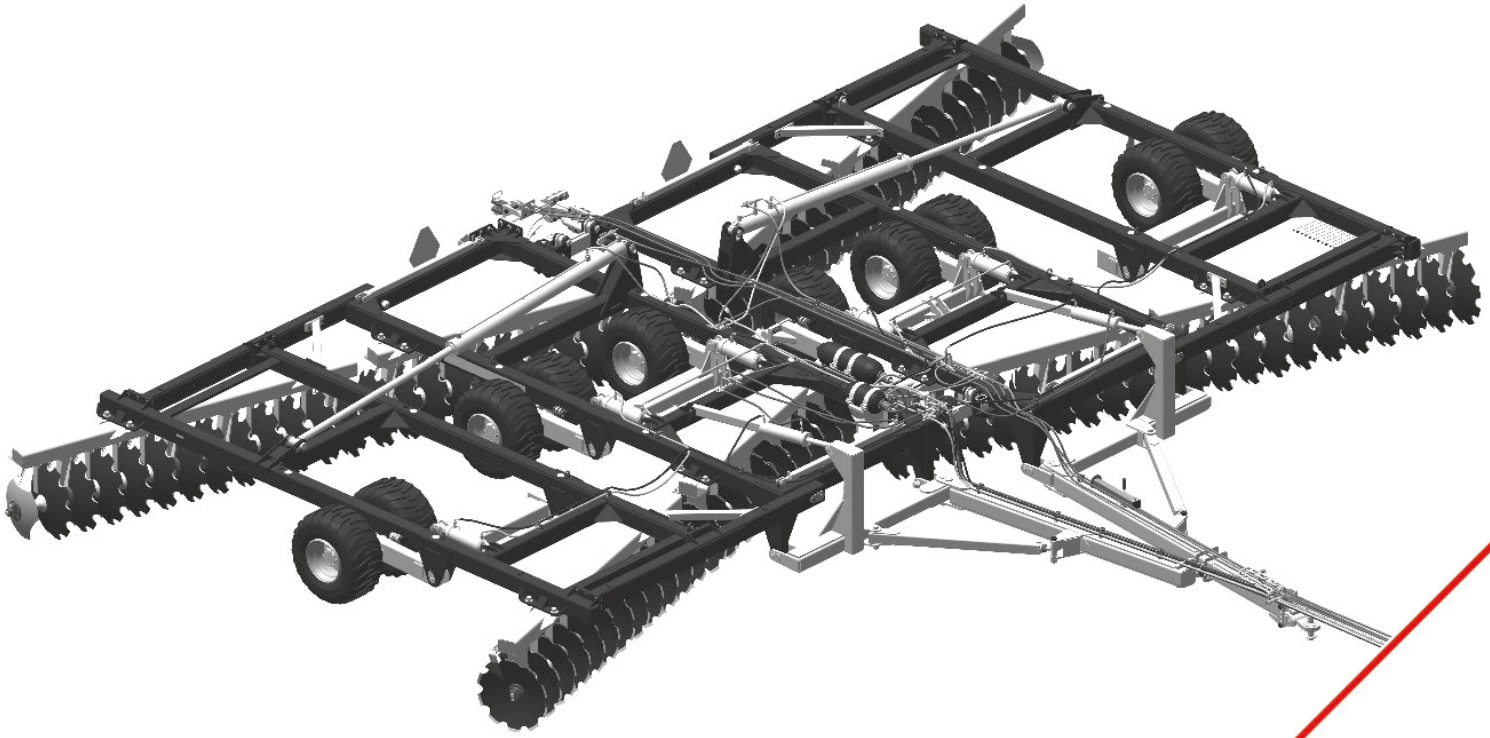
Instruction Manual



GDOBS

Baldan Super Double Offset Disc Harrow

BALDAN

▪ Presentation

We appreciate the preference and would like to congratulate you for the excellent choice you just made, since you have acquired a product manufactured with **BALDAN IMPLEMENTOS AGRÍCOLAS S/A** technology.

This manual will guide you through the procedures required since its acquisition until operational procedures of usage, safety and maintenance.

BALDAN assures that it has delivered this implement for resale in full and in perfect conditions.

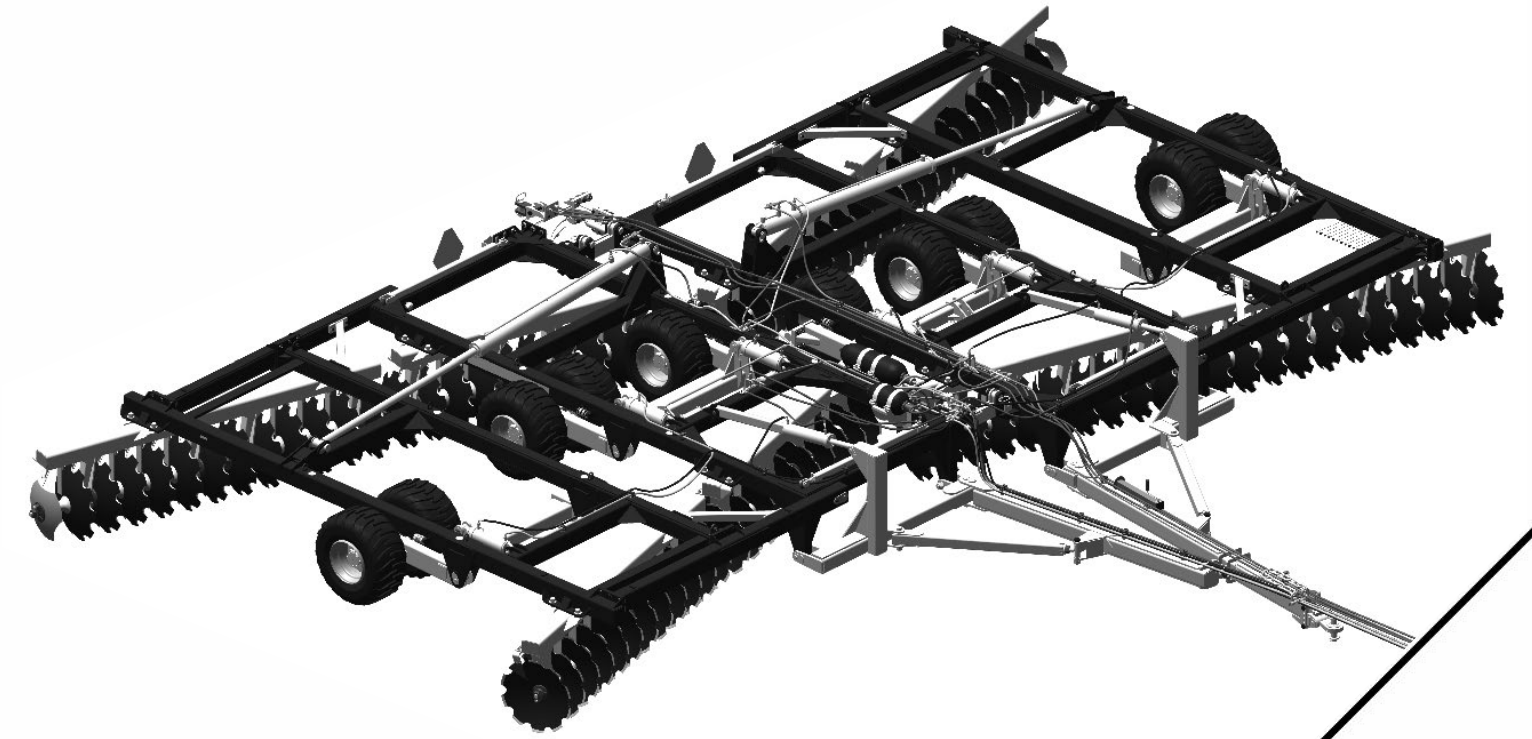
Resale was responsible for the custody and maintenance during the period in its possession, and also for the assembly, retightening, lubrication and overhaul.

During the technical delivery, dealer should guide the user regarding maintenance, safety, their obligations in eventual technical assistance, strict compliance with the warranty term and reading the instructions manual.

Any technical assistance request while in warranty should be made to the dealer from whom you have purchased it.

We reiterate the need for a careful read of the warranty certificate and compliance of all items from this manual, because by doing so you will increase the life of your device.

Instruction
Manual



GDOBS

Baldan Super Double Offset Disc Harrow

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

Índex

BALDAN WARRANTY **08**
GENERAL INFORMATION **09**
To the owner *09*
SAFETY RULES **10**
To the operator ..... *10 - 13*
WARNINGS ..... **14 - 15**
COMPONENTS **16**
GDOBS - Baldan Super Double Offset Disc Harrow *16*
DIMENSIONS **17**
GDOBS 90 Discs *17*
ESPECIFICAÇÕES **18**
GDOBS - Baldan Super Double Offset Disc Harrow *18*
ASSEMBLY **19**
Wrench set *19*
Assembly of the disc session *20*
Assembly of the finishing disc *21*
Assembly disc sections *22*
Installation of frames on central left structure *23*
Assembly of disc sections on frames of the central left structure *24*
Assembly of frames on lateral left structure *25*
Assembly of disc sections on frames of the lateral left structure *26*
Assembly of wipers *27*
Assembly of wheel support on central structure *28*
Assembly of the shaft on the lateral structure *28*
Assembly of wheel support on the central structure *29*
Assembly of wheel support on the lateral structure *30*
Assembly tires *31*
Installation of locks on central and left structures *32*
Assembly of the latch brackets on the left-side trusts *33*

Índex

Assembly of the coupling brackets on the structures *34*
Assembly of the hydraulic cylinder *35*
Assembly of the coupling header *36*
Assembly of the hydraulic cylinders of the head *37*
Assembly of bladder accumulators *38*
Assembly of rear linkage *39*
Assembly of rear linkage on the strut *40*
Assembly of the signaling plates *41*
Assembly of the hydraulic system without accumulators *42*
Assembly of hydraulic system with accumulators ..... *43 - 44*
HITCH **45**
Harrow coupling in the tractor bar of the tractor *45*
Support bracket *46*
LEVELING **46**
Disc harrow leveling *46*
ADJUSTMENTS **47**
Regulating release valves *47*
Adjustment for transportation - Part I *48*
Adjustment for transportation - Part II *49*
Adjustment of the working depth *50*
Adjustment of the hydraulic cylinder support bracket *51*
Adjustment for disc harrow centralization *51*
OPERATIONS **52**
Nitrogen load of 10L bladder accumulator *52*
Nitrogen load of 20L bladder accumulator *53*
Operating recommendations - Part I *54*
Operating recommendations - Part II *55*
Union support of the structure *56*
Rear linkage *57*

Índex

CALCULATION **58**
Approximate hourly output *58*
MAINTENANCE **59**
Tires pressure *59*
Lubrification *60*
Lubrification every 24 hours of work *61*
Oil bearing *62*
Grease bearing *62*
Operational maintenance *63*
Cares *63*
General cleaning *64*
Conservation of the harrow - Part I *64*
Conservation of the harrow - Part II *65*
LIFTING **66**
Lifting points *66*
OPTIONAL **67**
Optional accessories *67*
IDENTIFICATION **68**
Identification Plate *68*
Production Identification *68*
NOTES **69**
CERTIFICATE **70**
Certificate of warranty ..... *70 - 72*

▪ Baldan Warranty

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 to **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 repairment carried 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, 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 running 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.

⚠ ATTENTION

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

This Regulatory Standard has the purpose of establishing precepts to be observed in the organization and work environment, compatible to the planning and development of agriculture, livestock, forestry, forest exploitation and aquaculture with safety and health and work environment.

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

For more information, refer to the side and read NR-31 in full.
http://portal.mte.gov.br/legislacao/normas-regulamentadoras-1.htm

▪ Safety rules

• To the operator

THIS SYMBOL INDICATES IMPORTANTE SAFETY WARNING. IN THIS MANUAL, WHENEVER YOU FIND IT, READ THE FOLLOWING MESSAGE CAREFULLY AND PAY ATTENTION TO THE POSSIBILITY OF PERSONAL ACCIDENTS.

⚠ ATTENTION

Carefully read the instructions manual to learn about the recommended safety practices.

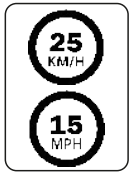
⚠ ATTENTION

Only start to operate the tractor when you are properly seated and with the seat belt locked.

⚠ ATTENTION

Do not perform adjustments while GDOBS is running. When performing any service on GDOBS, switch off the tractor first. Use appropriate tools.

⚠ ATTENTION



When transporting the GDOBS, do not exceed the speed of 25 Km/h or 15 MPH, avoiding risks of damages and accidents.

⚠ ATTENTION

Do not transport people on the tractor or over the equipment.

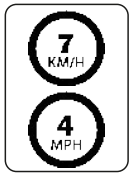
⚠ ATTENTION

There are risks of severe injuries due to tipping when working in sloped terrains. Do not over speed.

⚠ ATTENTION

When looking for possible leaks in hoses, use a cardboard or wood, never use your hands.
Avoid fluid incision into the skin.

⚠ ATTENTION



When working with the GDOBS, do not exceed the speed of 7 Km/h or 4 MPH, avoiding risk of damages and accidents.

⚠ ATTENTION

Do not work with the tractor if the front has insufficient ballast to the rear equipment.
Should there be a trend to lift, add weights or ballasts to the front or the front wheels.

⚠ ATTENTION

Before performing any maintenance in your equipment, make sure it is properly stopped.
Avoid being run over.

⚠ ATTENTION

Always maintain places of access and work free of residues such as oil or grease to prevent accidents.

⚠ ATTENTION

Before commencing work or transportation to GDOBS, check for any nearby persons or obstructions.

▪ Safety rules

⚠ ATTENTION | FOLLOW ALL RECOMMENDATIONS, 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!

⚠ ATTENTION

Avoid heating parts near the fluid lines.
Heating may generatee fragility in the material, rupture and exit of the pressurized fluid, causing burns and injuries.

⚠ ATTENTION

Be careful when handling the GDOBS support leg, as there is a risk of accidents.

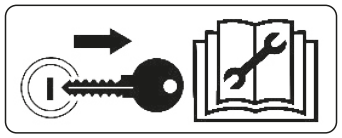
⚠ ATTENTION

Never weld the tiremounted wheel, the heat may cause increased air pressure and cause the tire to burst.
When filling the tire, position yourself besides the tire, never in front of it. To inflate a tire, always use a containment device (inflation cage).

⚠ ATTENTION

Keep the joint area free while the GDOBS is in operation.
In closed curves, prevent tractor wheels from touching the head.

⚠ ATTENTION



Remove the ignition key before performing any type of maintenance in GDOBS. Protect yourself against possible injuries or death caused by GDOBS unexpected start-up.
Do not start up the tractor if GDOBS is not properly coupled.

⚠ ATTENTION

Hydraulic oil works under pressure and may cause serious injuries if there are any leakages.
Periodically check the conservation status of the hoses. If there are any sign of leakage, replace them immediately. Before connecting or diskonnecting the hydraulic hoses, relief the system pressure by activating the control with the tractor power switched off.

⚠ ATTENTION

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

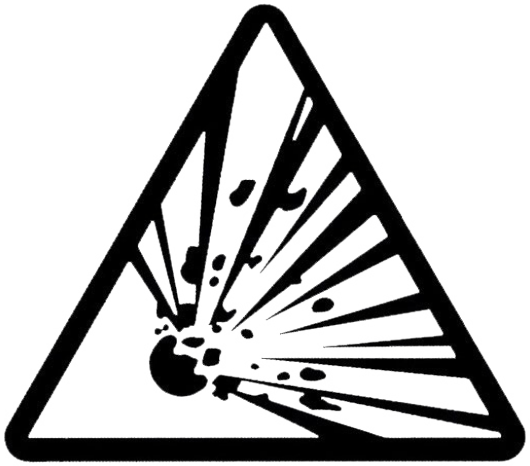
PROTECT THE ENVIRONMENT!

▪ Safety rules

⚠ ATTENTION

THE HYDRO-PNEUMATIC ACCUMULATOR IS LOADED WITH NITROGEN AT HIGH PRESSURE, THEREFORE READ CAREFULLY THE FOLLOWING INSTRUCTIONS IN ORDER TO AVOID SEVERE ACCIDENTS OR EVEN DEATH.

- Do not try to disassemble or repair the hydro-pneumatic accumulator.
- Do not expose the hydro-pneumatic accumulator to high temperatures.
- Do not weld the hydro-pneumatic accumulator.
- Do not perform mechanical machining in the hydro-pneumatic accumulator.
- Do not cause impacts in the hydro-pneumatic accumulator or in its surroundings.
- Do not make calibrations in the hydro-pneumatic accumulator.
- In case it is necessary to handle de hydro-pneumatic accumulator, use Personal Protective Equipment (PPE).



RISK OF EXPLOSION

⚠ ATTENTION | See pages 51 and 52 for guidance on correct loading of nitrogen accumulators.

❗ IMPORTANT

The hydro-pneumatic accumulator should be purchased with the certificate according with the country of destination to which the equipment has been sold. The certificate is required by law in order to ingress the countries, therefore, the hydro-pneumatic accumulator certificate should always be shipped together with the GDOBS. The lack of such documentation may case product embargo by the surveillance bodies of each country.

▪ Safety rules

• PPE Equipament

⚠ ATTENTION | **DO NOT WORK WITH GDOBS WITHOUT FIRST WEARING PPES (SAFETY EQUIPMENT). IGNORING THIS WARNING MAY CAUSE DAMAGES TO HEALTH, SEVERE ACCIDENTS OR DEATH.**

When performing certain procedures with the **GDOBS**, place the following Safety Equipment (PPE) below:

OBSERVATION | **All PPEs (Safety Equipment) should have certificate of authenticity.**

IMPORTANT

The safety practice must be performed in all stages of working with the GDOBS, thus avoiding accidents such as impact of objects, fall, noise, cuts and ergonomics, ie the person responsible for operating the GDOBS is subject to internal and external damage to your body.

▪ Warnings

⚠ When operating with the GDOBS, do not let people stay close or on it.

⚠ When performing any maintenance service, use PPEs equipment.

⚠ Before connecting or disconnecting hydraulic hoses, relief the system pressure by activating the command with the tractor power switched off.

⚠ Periodically check the conservation status of the hydraulic hoses. If there are indications of oil leakage, replace the hose immediately, because the oil works under high pressure and may cause serious accidents.

⚠ Do not wear loose clothing, as they may get caught in the GDOBS.

⚠ When operating the tractor engine, be properly seated in the operator's seat and be aware of the full knowledge of the correct and safe handling of both the tractor and the GDOBS. Always put the gear shift in neutral position, unplug the power take-off gear switch and place the hydraulic controls in neutral position.

⚠ Do not start the motor in a closed environment or with no proper ventilation since the exhaust gases are harmful to health.

⚠ When maneuvering the tractor to the GDOBS hitch, make sure you have adequate clearance and that there are no people too close, always maneuver at idle and be prepared to brake in an emergency.

⚠ Do not make adjustments with the GDOBS in operation.

⚠ When working in sloped terrains, proceed with precautions, always trying to maintain the required stability. In case of imbalance, reduce acceleration, turn the wheels to the slope side of the terrain and never lift the GDOBS.

⚠ Always conduct the tractor in speeds compatible to the safety, especially during works in bumpy lands or slopes, keep the tractor always engaged.

⚠ When driving the tractor in highways, keep the brake pedals interconnected.

⚠ Do not work with the tractor with light rear. If the rear has a tendency to lift, add more weights on the rear wheels.

⚠ When leaving the tractor, put the gear lever in neutral position and apply the parking brake. Never leave the GDOBS on the tractor in the raised position of the hydraulic system.

⚠ The GDOBS must be turned off before any maintenance work.

⚠ Do not travel on highways especially at night. Use warning signs throughout the course.

⚠ If you need to travel with the GDOBS on highways, consult traffic authorities.

▪ Warnings

⚠ The GDOBS must not be operated by untrained people, i.e. people who do not know to properly operate it.

⚠ Do not transport or work with the GDOBS near obstacles, rivers or streams.

⚠ The transportation of people on self-propelled machines and implements is forbidden.

⚠ Changes to the original GDOBS characteristics are not allowed, as they may alter the safety, operation and life of the GDOBS.

⚠ Read all safety information contained in this manual and the GDOBS carefully.

⚠ Read or explain all the procedures of this manual to the operator who cannot read.

⚠ Always check that the GDOBS is in perfect conditions of use. In the event of any irregularity that may interfere with the operation of the GDOBS, ensure proper maintenance before any work or transportation.

⚠ Maintenance and especially inspection in GDOBS risk areas should be done only by a qualified or qualified worker, observing all safety guidelines. Before starting maintenance, disconnect all GDOBS drive systems.

⚠ Periodically check all components of the GDOBS before using it.

⚠ Due to the equipment used and work conditions on field or in maintenance areas, precautions are required. Baldan has no direct control over precautions, so it is the owner's responsibility to implement safety procedures while working with GDOBS.

⚠ Check the recommended minimum tractor power for each GDOBS model. Only use tractor with power and ballast compatible with the load and topography of the terrain.

⚠ When transporting the GDOBS, travel at speeds compatible with the terrain and never exceed 16 km/h, as this reduces maintenance and consequently increases the life of the GDOBS.

⚠ Alcoholic beverage or some medications may cause loss of reflexes and change the operator´s physical conditions. Therefore, never operate this GDOBS under the influence of these substances.

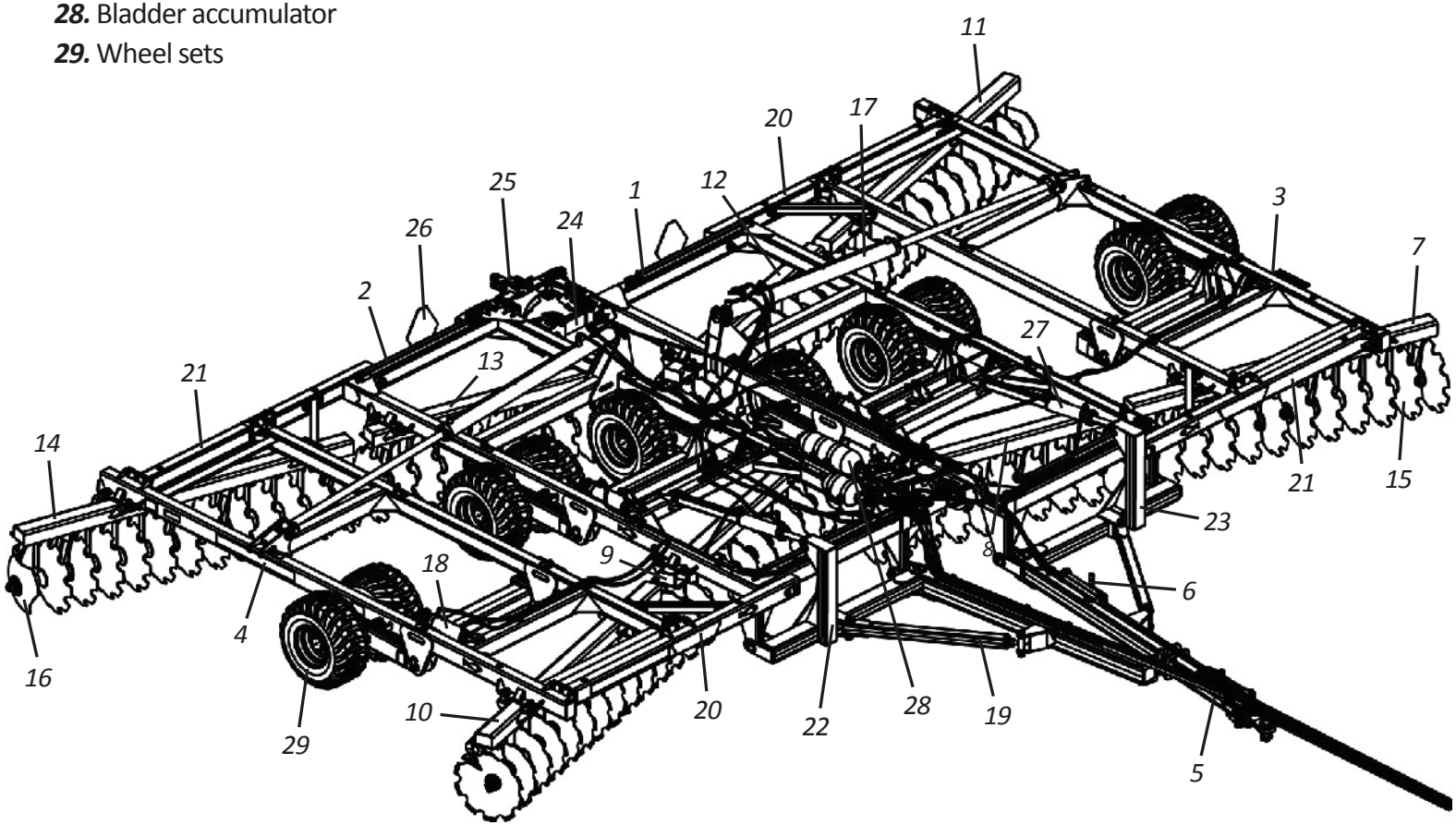
⚠ Read or explain all the procedures of this manual to the operator who cannot read.

In case of doubts, refer to Post-Sales.
Telephone: 0800-152577 / E-mail: posvenda@baldan.com.br

▪ Components

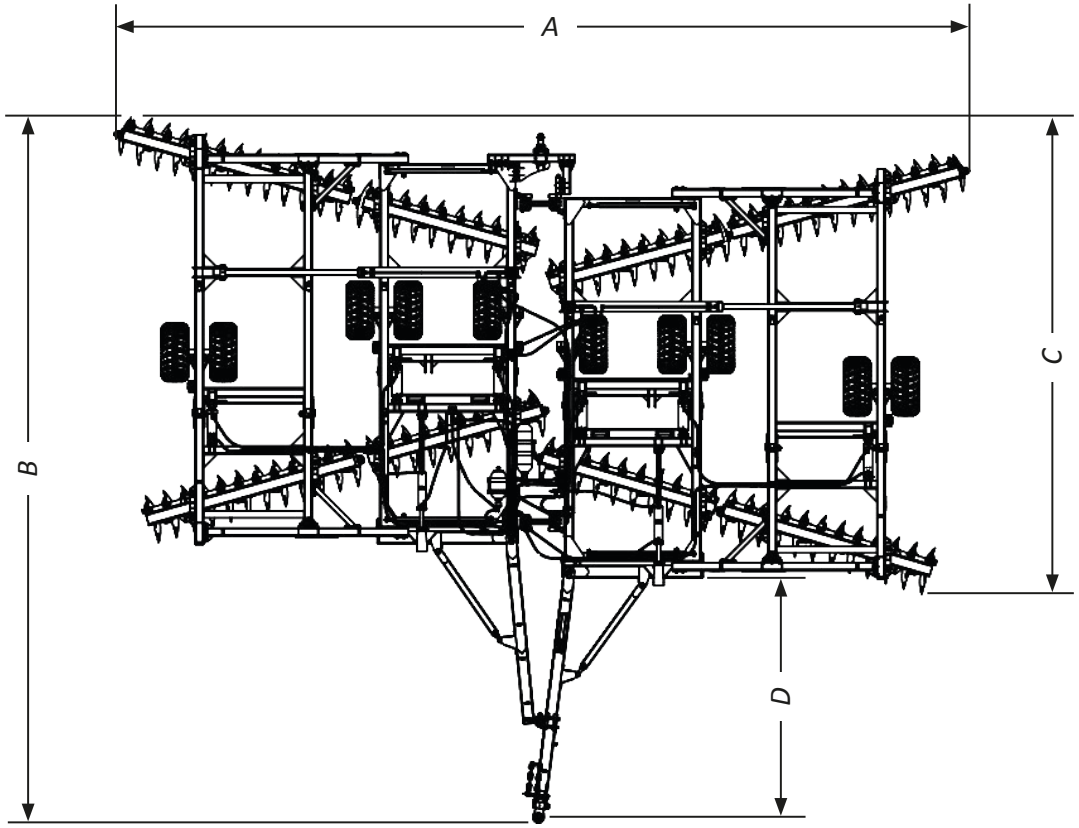
• GDOBS - Baldan Super Double Offset Disc Harrow

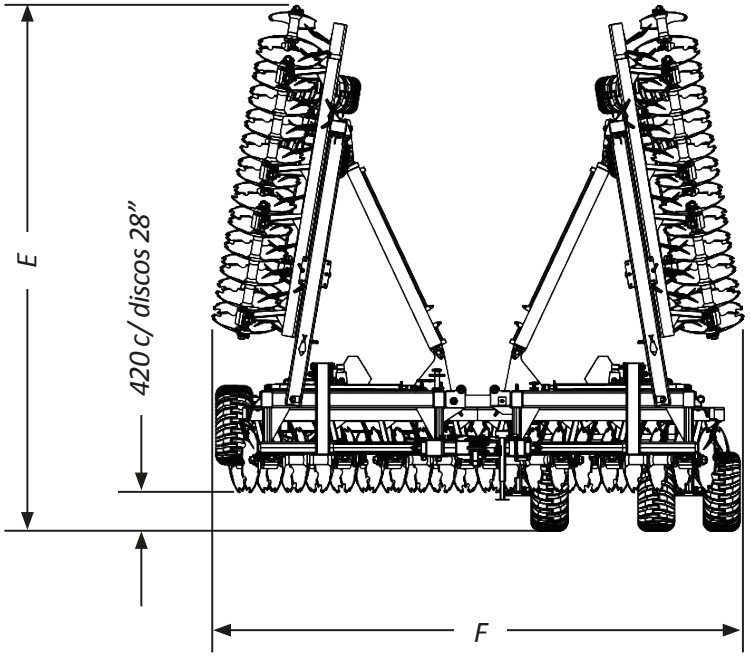
1. Left central structure
2. Right central structure
3. Left lateral structure
4. Right lateral structure
5. Coupling header
6. Mechanical jack
7. Left front lateral frame
8. Left front frame
9. Right front frame
10. Right front lateral frame
11. Left back lateral frame
12. Left back frame
13. Right 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. Rear linkage
26. Signaling plate
27. Hydraulic cylinder
28. Bladder accumulator
29. Wheel sets



▪ Dimensions

• GDOBS 90 Discs





Model	Nr of Discs	Measure A (mm)	Measure B (mm)	Measure C (mm)	Measure D (mm)	Measure E (mm)	Measure F (mm)
GDOBS	90	12319	10220	6985	3385	5710	5805

▪ Specifications

• GDOBS - Baldan Super Double Offset Disc Harrow

Model	Nr of Discs	Disc Spacing (mm)	Working width (mm)	Disc Diameter (ø)	Axle Diameter (ø)	Approximate Weight (Kg)			Tractor Power (HP)	Tires	
						26”	28”	30”		Amount	Model
GDOBS	90	270	12319	26” - 28” - 30”	1.5/8”	13720	13910	14220	500 to 535	06	400x60

Working depth ..... 150 - 250 mm

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. Technical specifications are approximate and informed under normal work conditions.

INTENDED USE OF THE GDOBS

GDOBS was developed to soil preparation works in large areas and in many types of terrains.
The **GDOBS** must be conducted and operated only by a properly instructed operator.

UNAUTHORIZED USE OF THE GDOBS

To avoid damage, serious accident or death, do not transport people over any part of the **GDOBS**.
The **GDOBS** must not be used by an inexperienced operator who is not familiar with all driving, command and operation techniques.

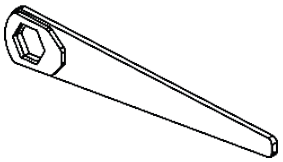
▪ Assembly

The **GDOBS** leaves the factory disassembled. To assembly it, follow the instructions below:

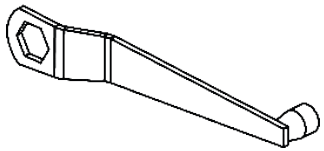
⚠ The **GDOBS** must be assembled by the resale, through trained and qualified personnel for this work.
⚠ Before assembling the **GDOBS**, look for an ideal location where you can easily identify its parts and assembly.
⚠ Do not wear loose clothing, as they may get caught into the **GDOBS**.
⚠ Use PPE (Safety Equipment).

• Wrench set

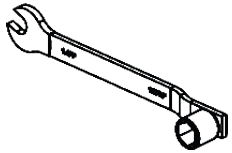
When assembling, disassembling, or servicing the **GDOBS**, use the set of wrenches provided with the harrow. The Wrench Set consists of:



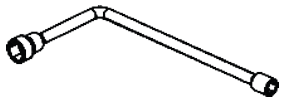
WRENCH FOR 1.5/8" HEX NUT



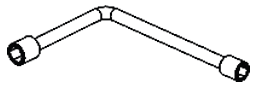
WRENCH FOR 1.5/8" AND 1" HEX NUT



WRENCH FOR 3/4" AND 7/8" HEX NUT



WRENCH FOR 5/8" AND 1" HEX NUT



WRENCH FOR 5/8" AND 3/4" HEX NUT

WRENCH FOR 1.1/4" - 1" - 3/4" AND 5/8" HEX NUT

WRENCH FOR 5/8" AND 1.1/2" SELF-LOCKING HEX NUT AND 3/8" AND 5/8"

⚠ ATTENTION | **If any wrench is lost or broken, get another one immediately. Always use original Baldan wrenches.**

▪ Assembly

• Assembly of the disc session

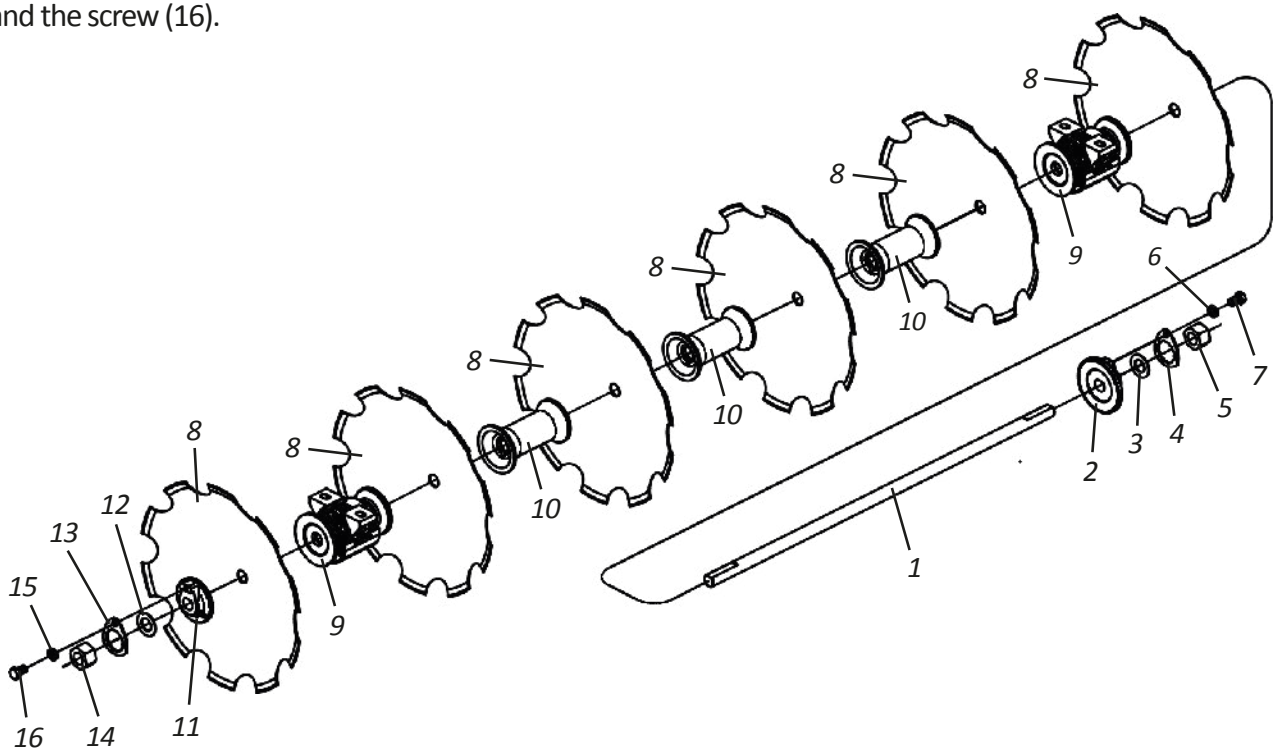
When you start assembling the **GDOBS**, always start by the disc set. For this, proceed as follows:

01 - Fit the washer (2), flat washer (3), lock (4), nut (5) onto the shaft (1) and fix it with the locking washer (6) and the bolt (7).

02 - Then place the disc (8), bearing (9), other disc (8), separator spool (10) on the shaft (1) and so on.

03 - When the assembly is complete with all discs, bearings, separator spools, fit the convex thrust washer (11), flat washer (12), lock (13), nut (14), tightening with the wrench until all the set.

04 - After this, fit the disc assembly and tighten the nut (14) through impact. When adjusting the locking lever (13) with the convex washer (11), always tighten the nut until it coincides with the hole, secure it with the locking washer (15) and the screw (16).



⚠ ATTENTION

Check the right side of the separating spools and the bearings according to the concavity of the discs.

▪ Assembly

• Assembly of the finishing disc

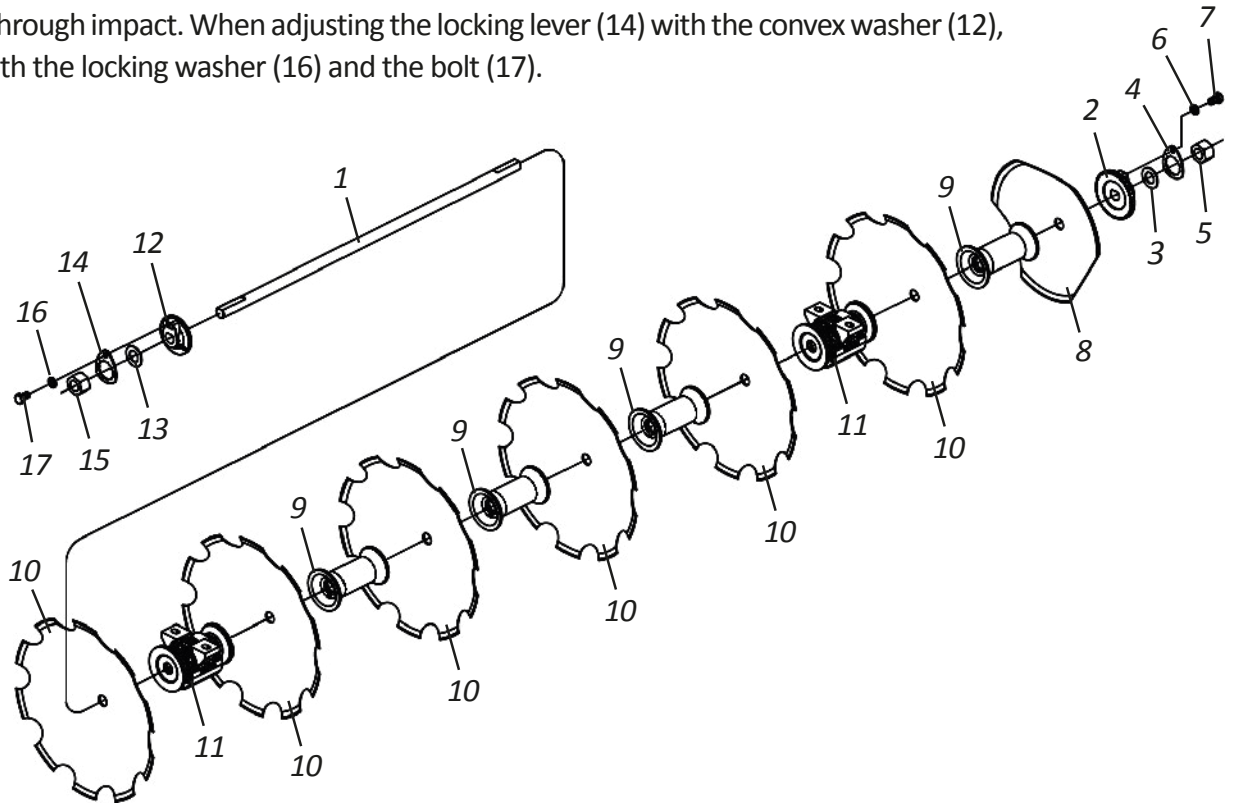
To assemble the finishing disc, proceed as follows:

01 - Insert the washer (2), flat washer (3), lock (4), nut (5) onto the shaft (1) and fix it with the locking washer (6) and nut (7).

02 - Then, place the finishing disc 8, separator spool 9, disc 10, bearing 11, another disc 10, separator spool 9, and so forth on the shaft 1.

03 - When the assembly is complete with all discs, bearings, separator spools, place the convex thrust washer (12), flat washer (13), lock (14), nut (15), tighten with wrench until firm the whole.

04 - Once finished, tighten the disc assembly and tighten the nut (15) through impact. When adjusting the locking lever (14) with the convex washer (12), always tighten the nut until it coincides with the hole, secure it with the locking washer (16) and the bolt (17).



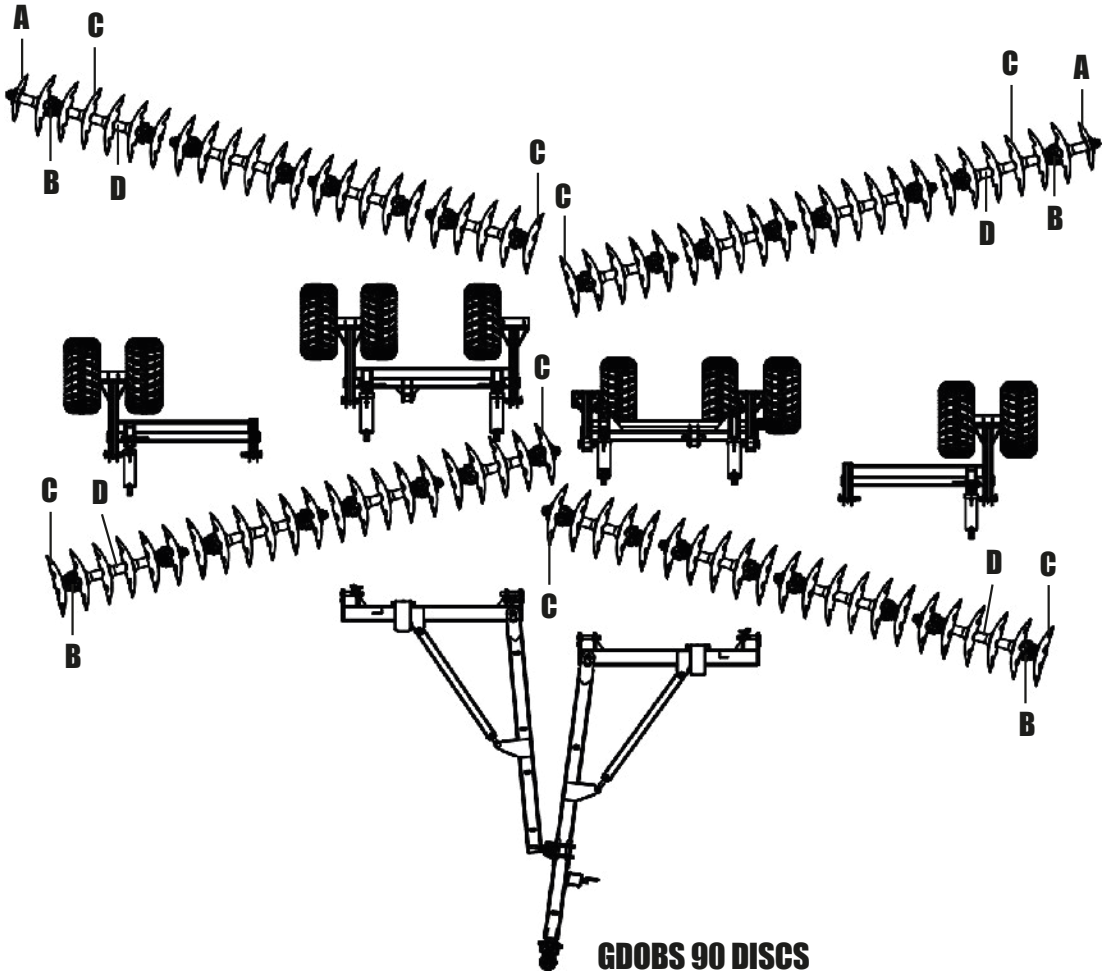
⚠ ATTENTION

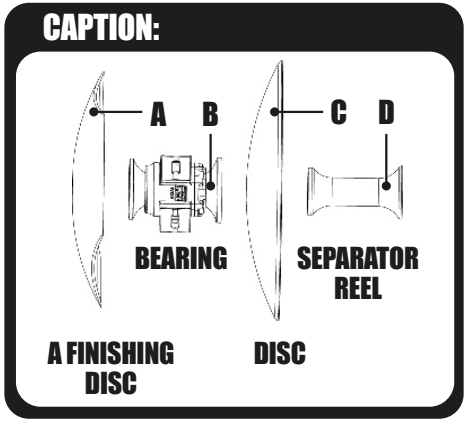
Check the right side of the separating spools and the bearings according to the concavity of the discs.

▪ Assembly

• Assembly disc sections

Check the assemblies of disc sections of the **GDOBS** 90 discs.





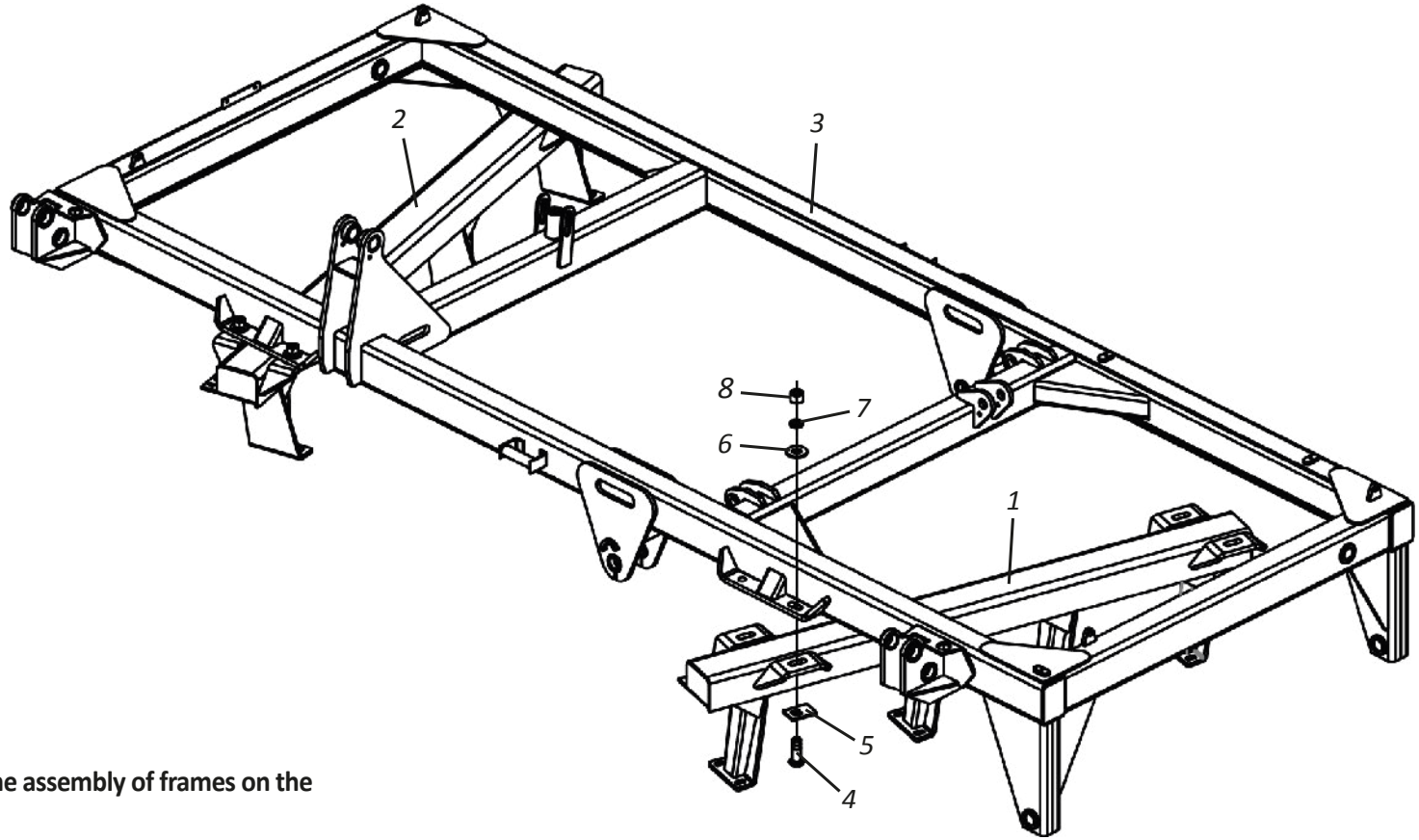
▪ Assembly

• Installation of frames on central left structure

Start by assembly of the **GDOBS** 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.**

▪ Assembly

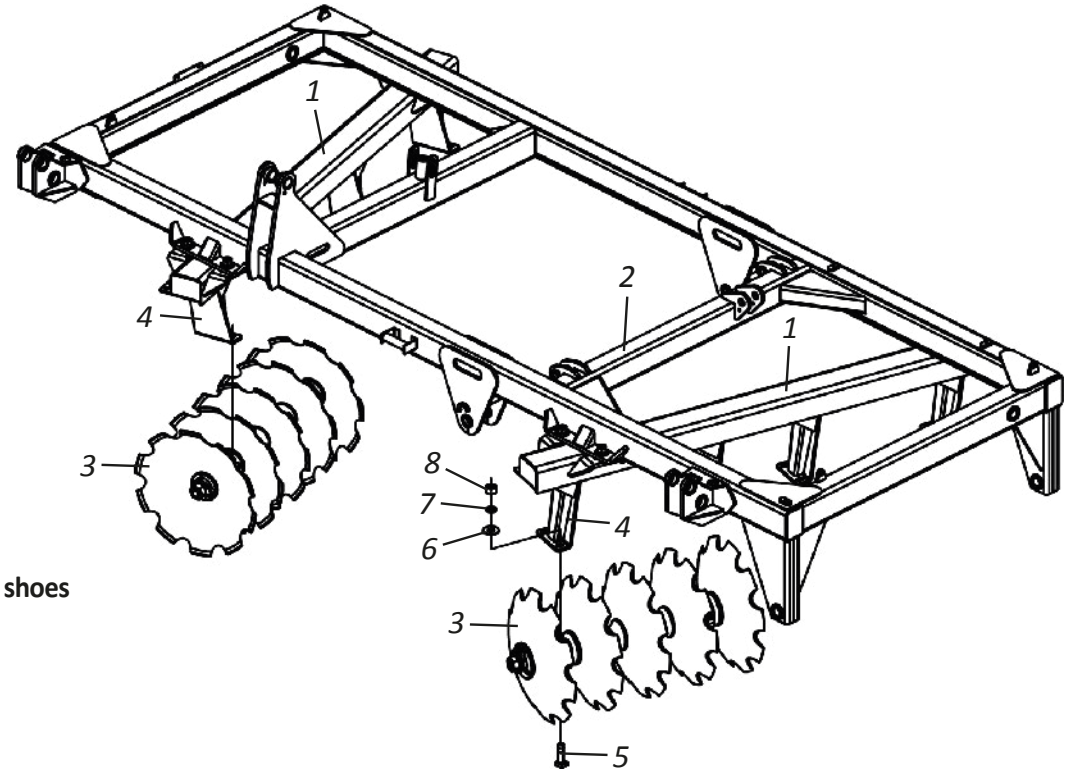
• Assembly of disc sections on frames of the central left structure

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**

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

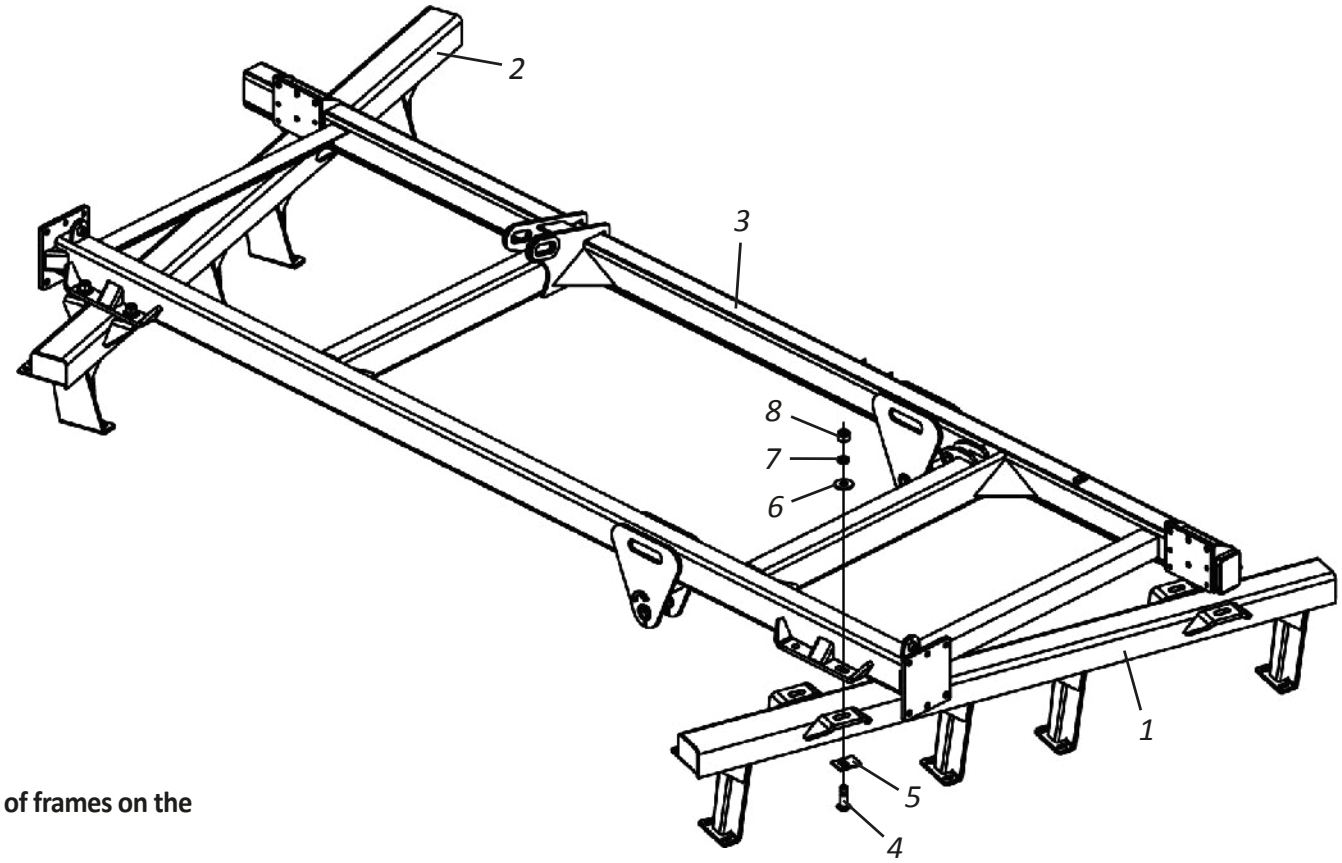
▪ Assembly

• Installation of frames on lateral left structure

Then mount the left side stud, 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

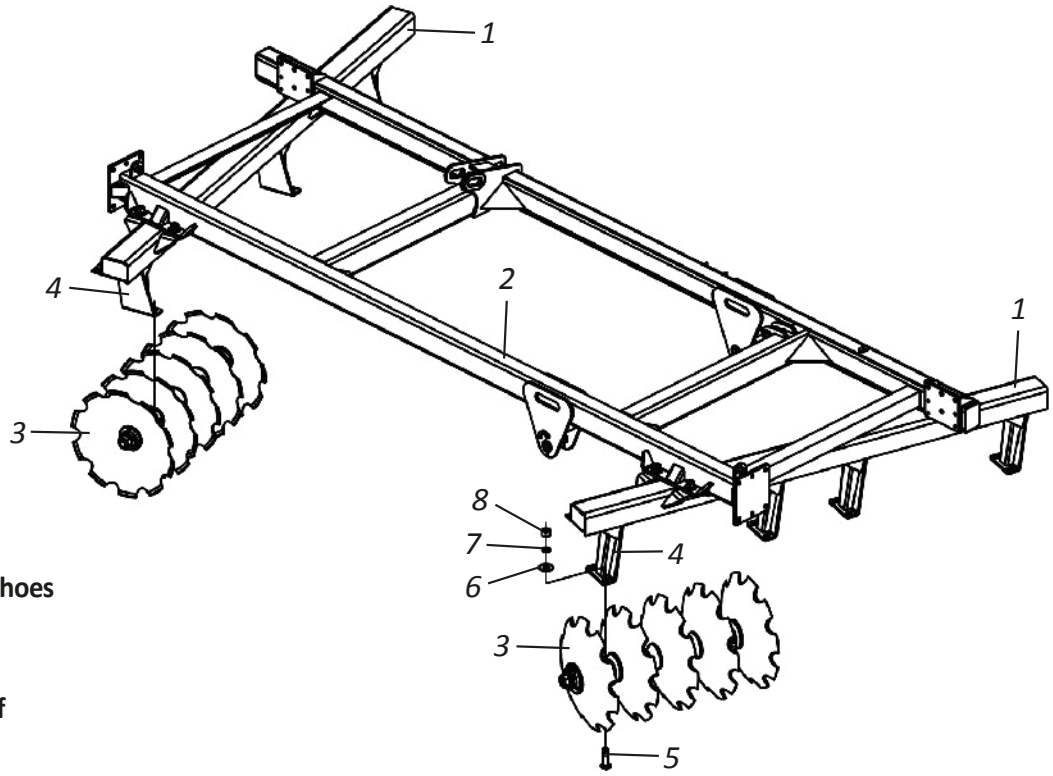
• Assembly of disc sections on frames of the lateral left structure

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.**

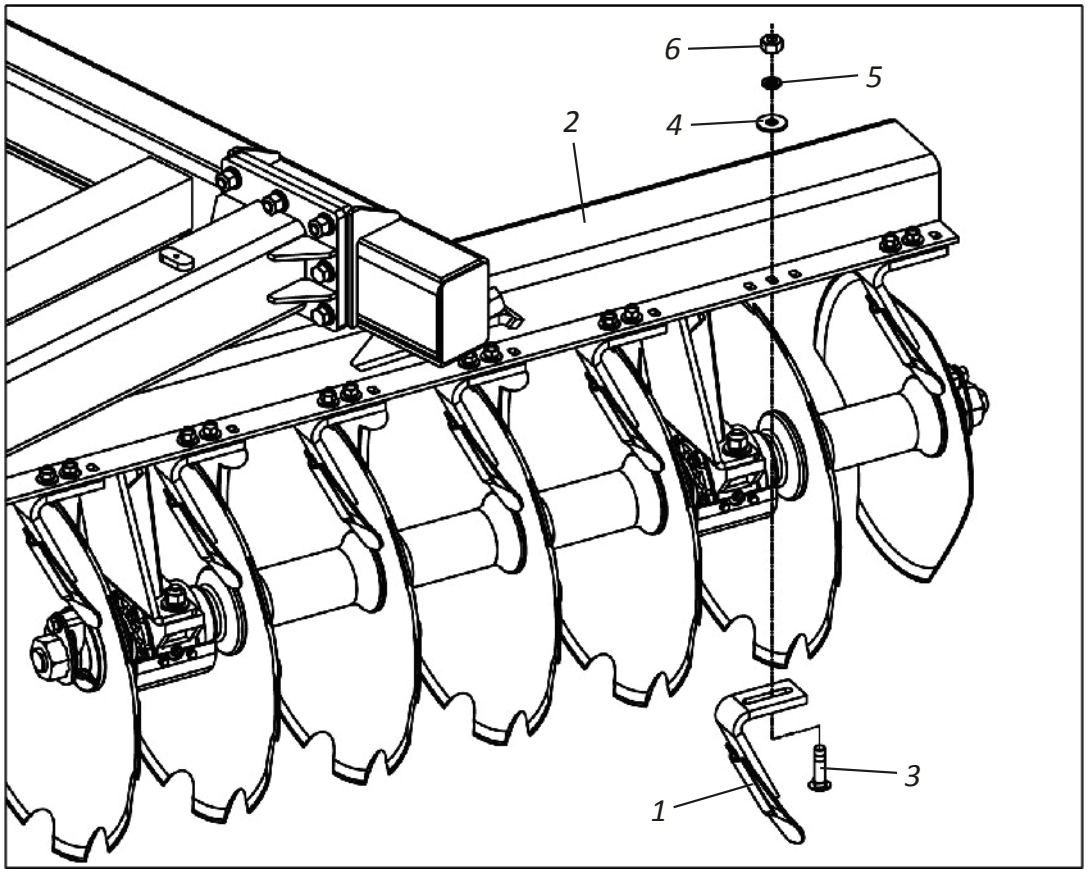
NOTE | **Repeat this procedure for the assembly of the disc sections on the frames of the central right structure.**

▪ Assembly

• Assembly of wipers

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).



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

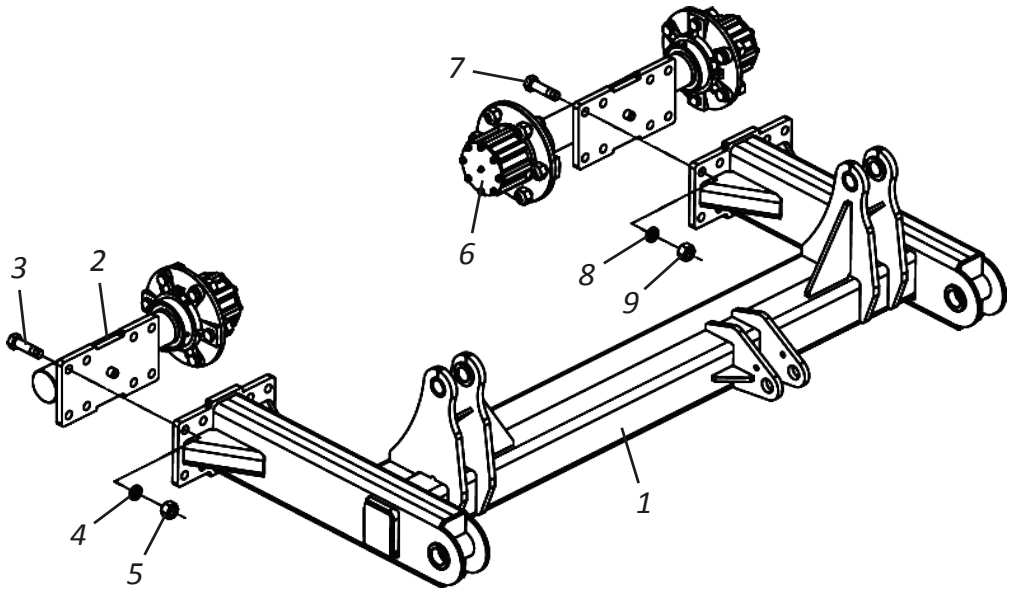
▪ Assembly

• Assembly of wheel support on central structure

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).

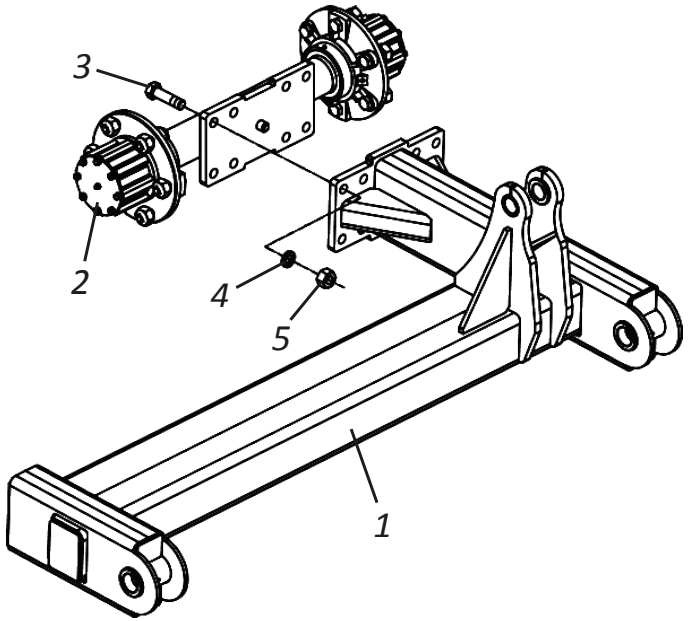
02 - Then, couple the dual shaft (6) on the wheel support (1), fixing with screws (7), washers (8) and nuts (9).



• Assembly of the shaft on the lateral structure

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).

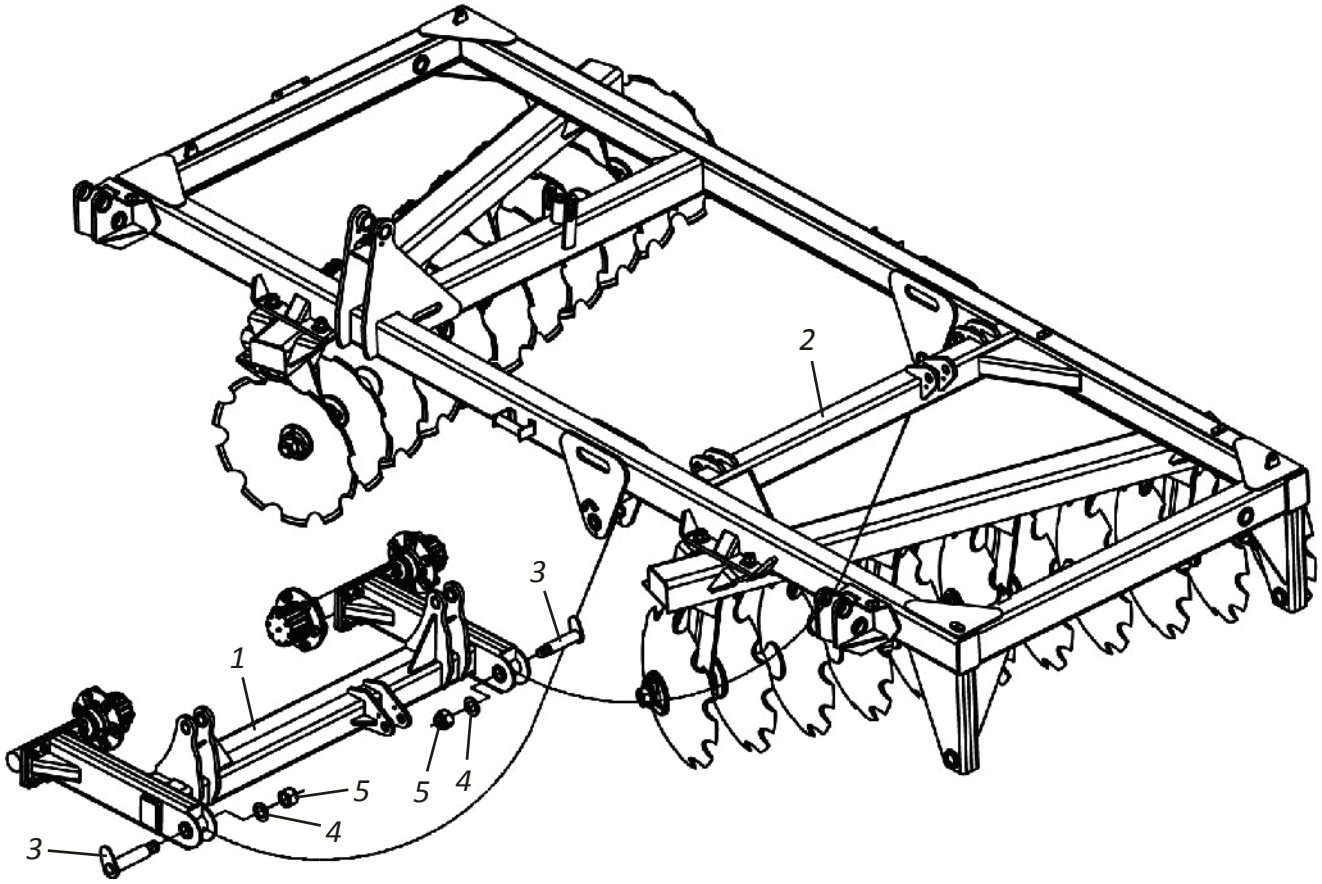


▪ Assembly

• Assembly of wheel support on the central structure

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

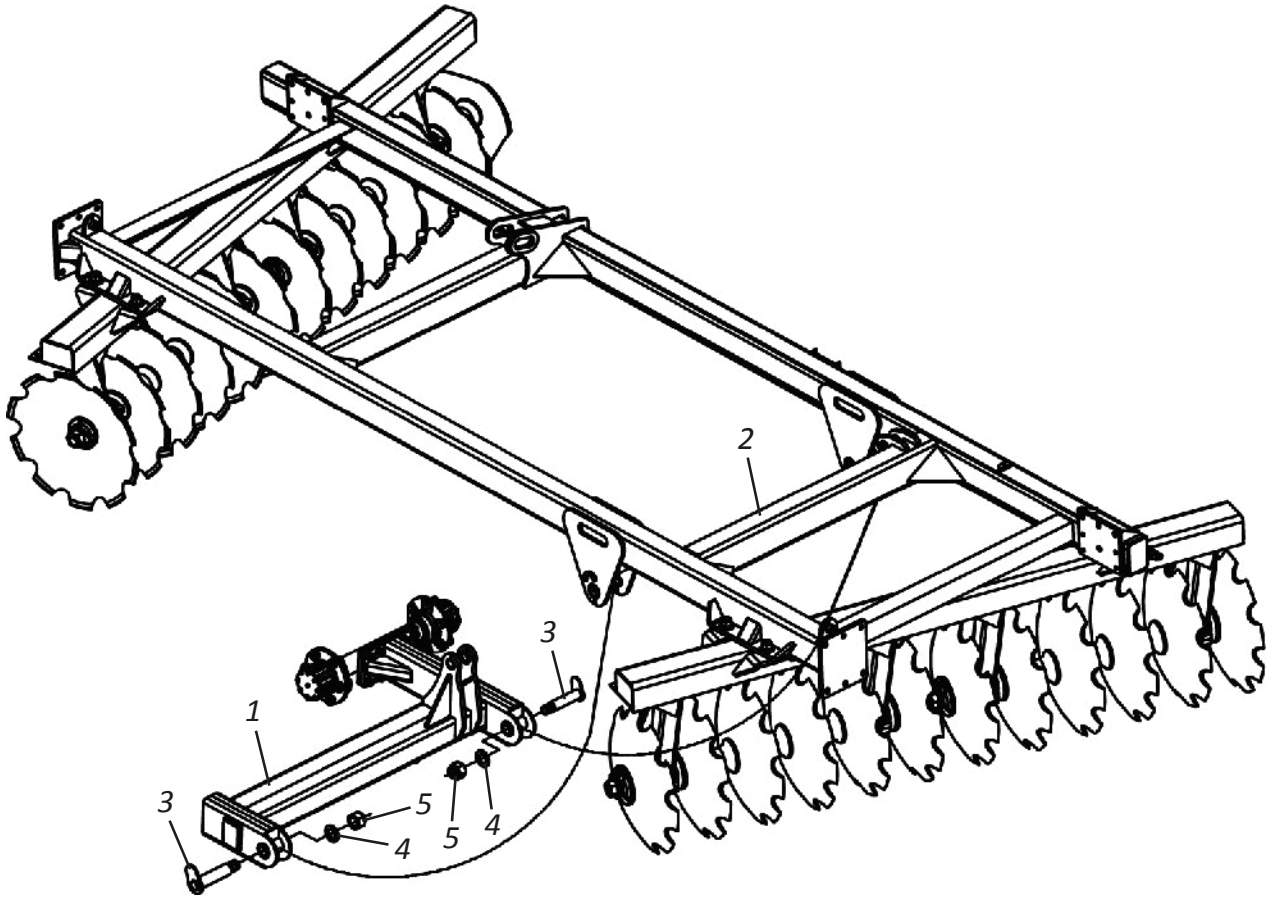
Repeat this procedure for the assembly of the wheel support on the central right structure.

▪ Assembly

• Assembly of wheel support on the lateral structure

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

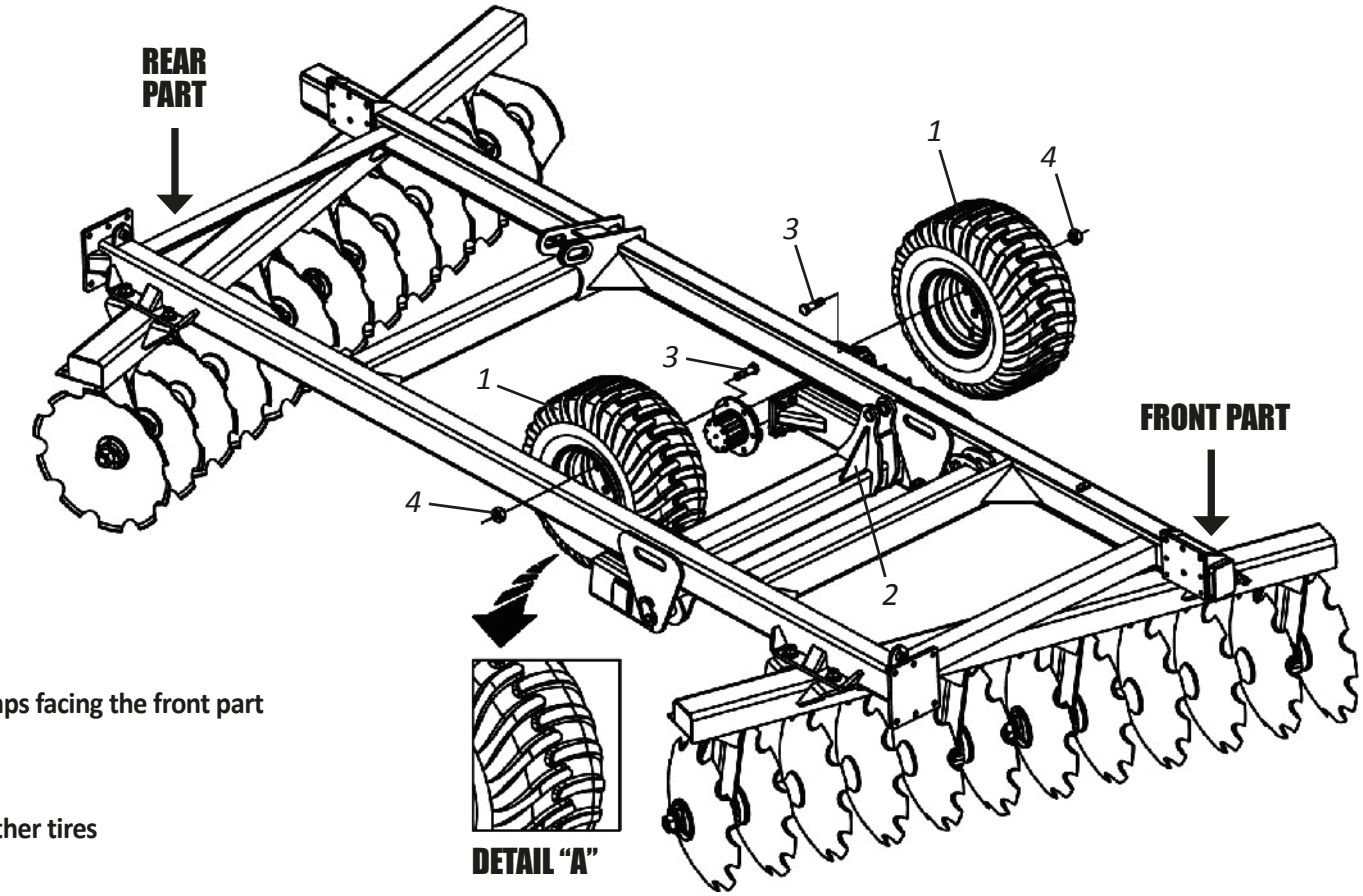
Repeat this procedure for the assembly of the wheel support on the central right structure.

▪ Assembly

• Assembly of Tires

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 GDOBS, as shown in detail "A".**

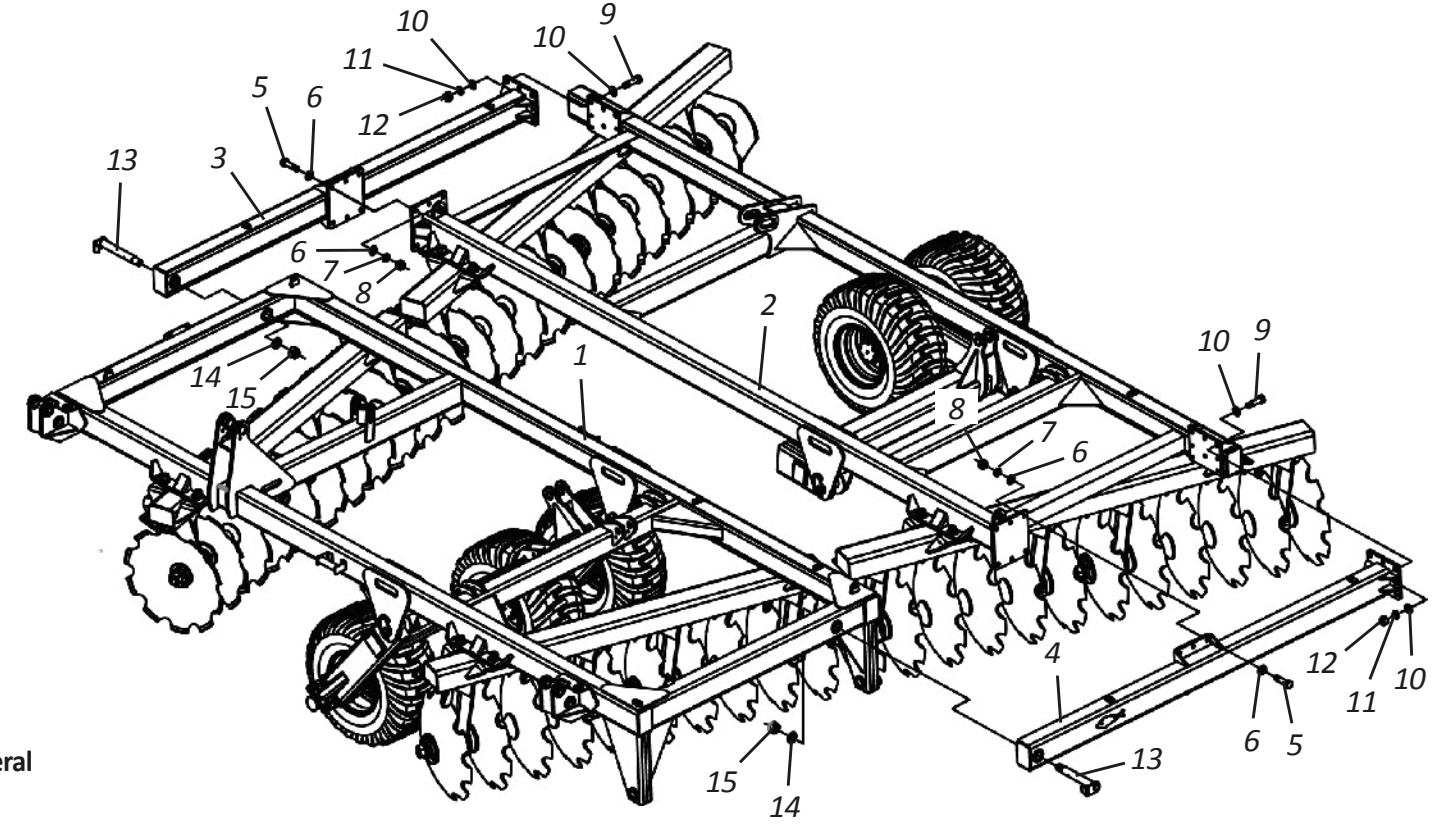
NOTE | **Repeat this procedure for the assembly of the other tires on the wheel support.**

▪ Assembly

• Installation of locks on central and left structures

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).



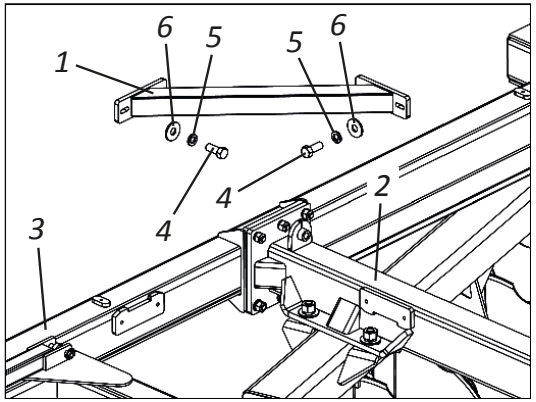
NOTE Repeat this procedure to lock the right lateral and central structures.

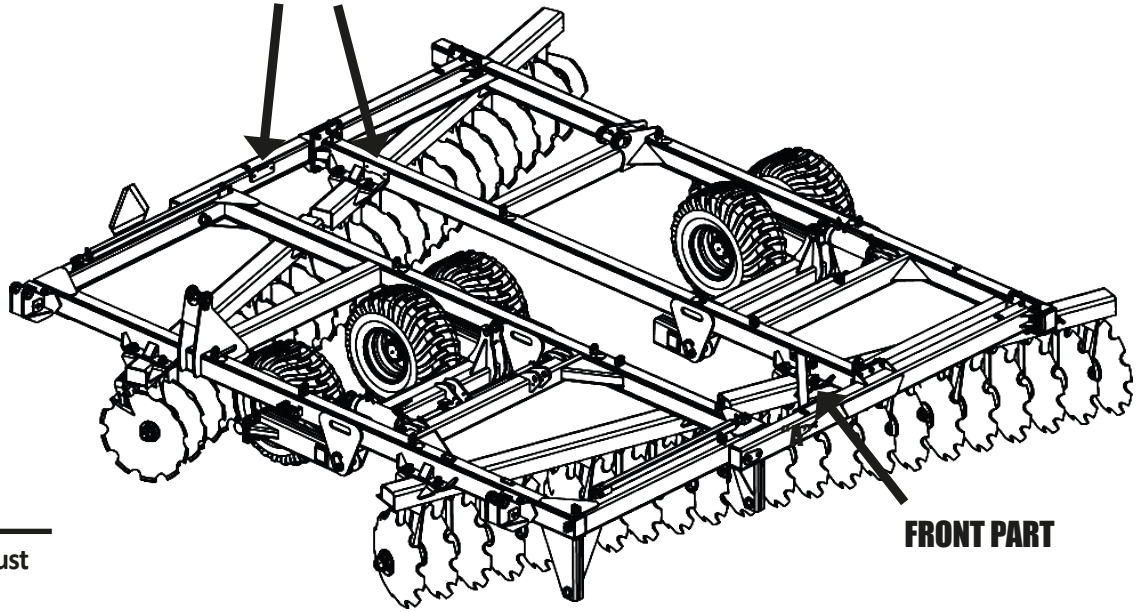
▪ Assembly

• Assembly of the latch brackets on the left-side trusts

After attaching the latches to the center and side struts, attach the latch brackets to the side struts. For such, proceed as follows:

01 - Place the latch bracket (1) between the left-side strut (2) and the back latch (3), by using the the screws (4), spring washers (5) and the flat washer (6).





NOTE

Repeat this procedure to place the latch bracket on the front end of the left-side trust and on the back and front ends of the right-side strut.

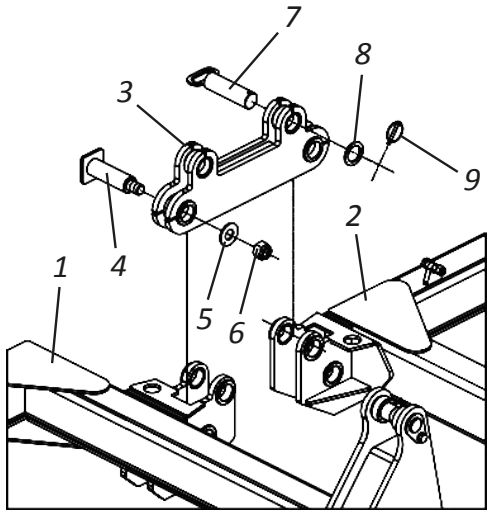
▪ Assembly

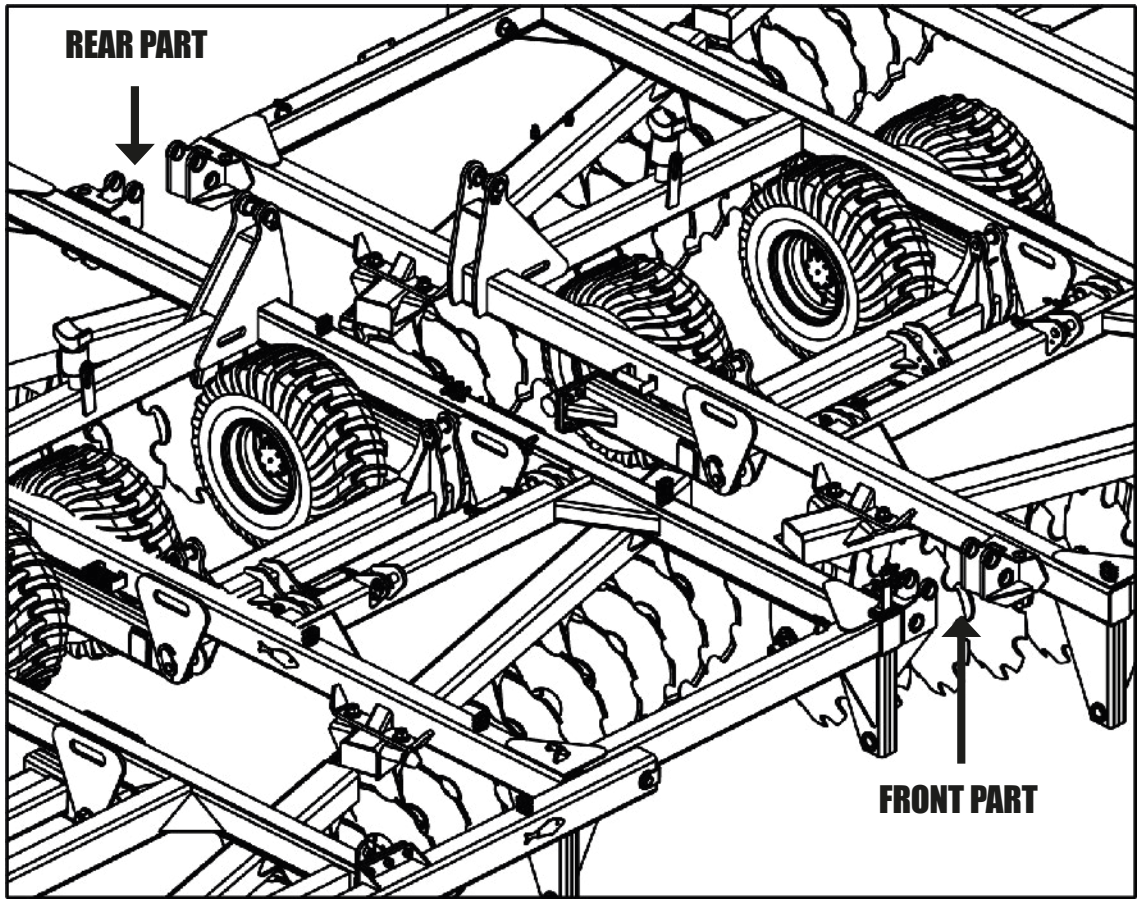
• Assembly of the coupling brackets on the structures

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

▪ Assembly

• Assembly of the hydraulic cylinder

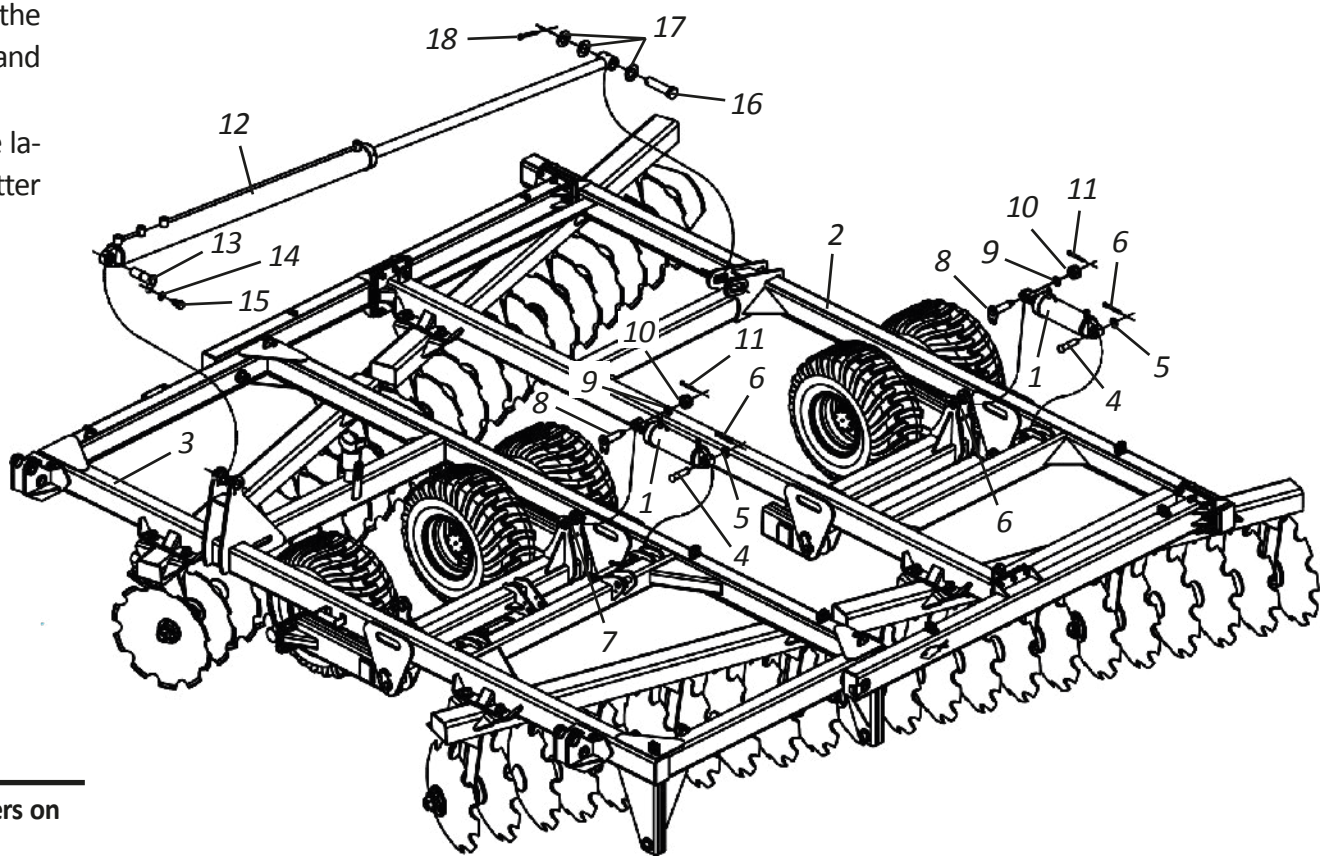
After assembling the latch on the central and lateral structure, fix the hydraulic cylinders, for this, proceed as follows:

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).



NOTE

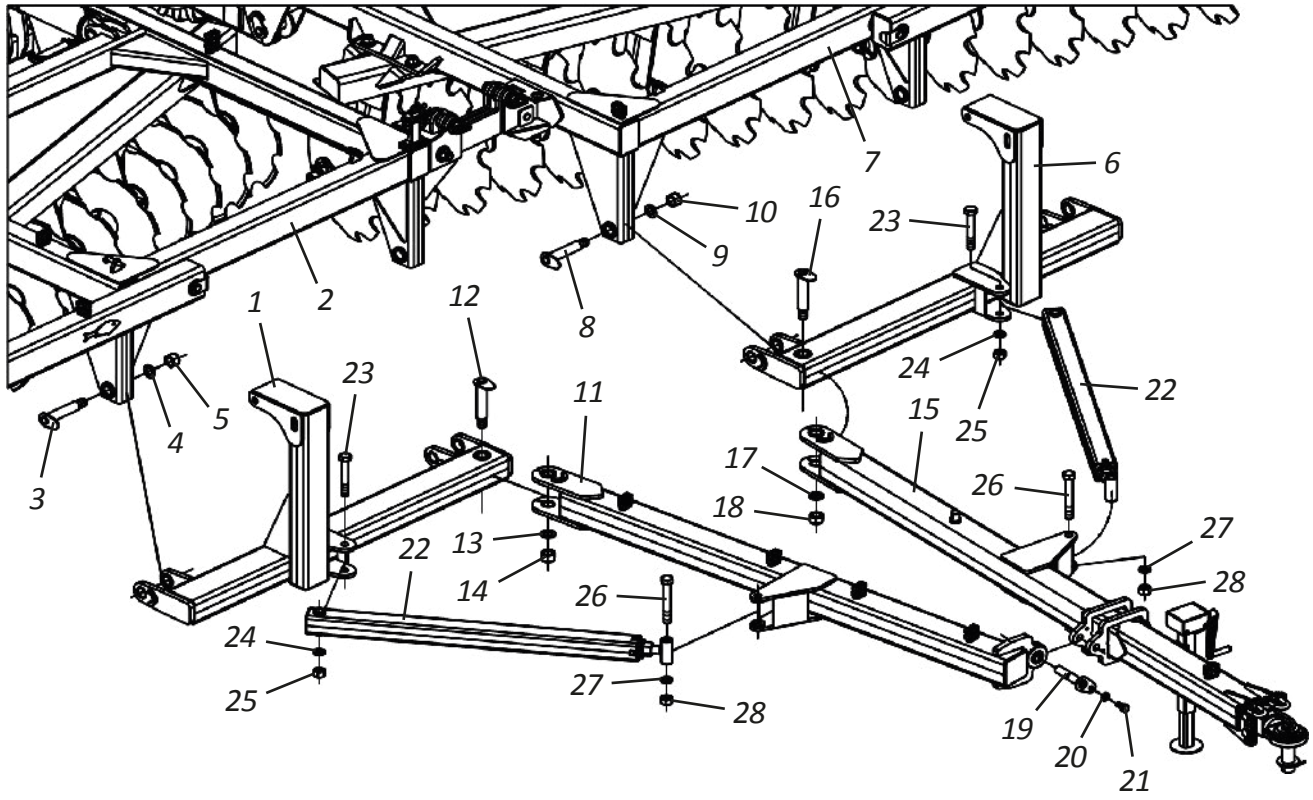
Repeat this procedure for the assemblage of the hydraulic cylinders on the central and lateral right structure.

▪ Assembly

• Assembly of the coupling header

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).



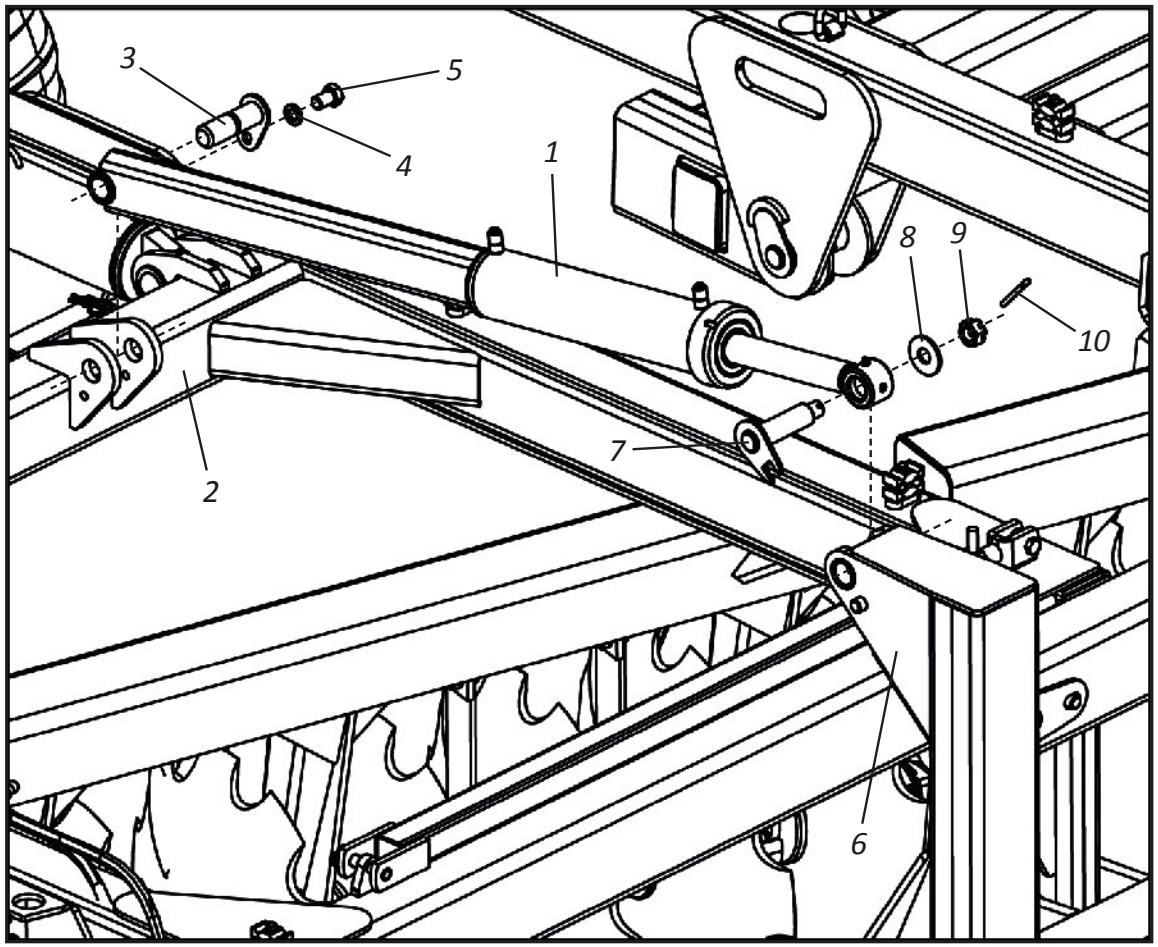
▪ Assembly

• Assembly of the hydraulic cylinders of the head

After installing the coupling head, attach the hydraulic cylinders to the head, proceeding as follows:

01 - Attach the base of the hydraulic cylinder (1) to the left central strut (2), by using the pin (3), spring washer (4) and screw (5).

02 - Then attach the base of the hydraulic cylinder (1) to the cross bar (6), by using the pin (7), flat washer (8), nut (8) and cotter pin (10).



NOTE

Repeat this procedure for the assembly of the hydraulic cylinder on the right central strut.

▪ Assembly

• Assembly of bladder accumulators

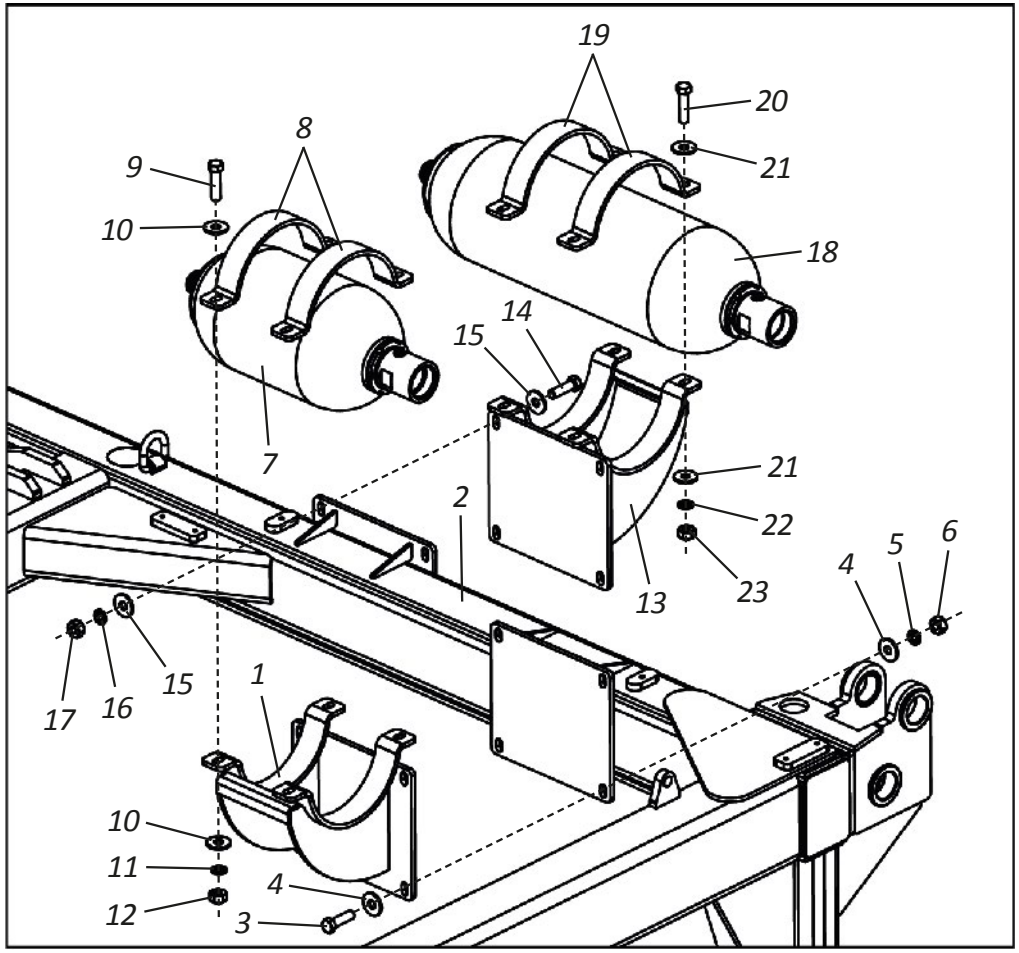
After assembling the hydraulic cylinder, secure the bladder accumulators, proceeding as follows:

01 - Connect the bracket (1) to the inner part of the right central strut (2), by using the screws (3), flat washer (4), spring washers (5), and nuts (6).

02 - Then, place the smaller accumulator (7) by using the support straps (8), screws (9), flat washers (10), spring washers (11) and nuts (12).

03 - Afterwards, connect the bracket (13) to the outer part of the right central strut (2), using the screws (14), flat washers (15), spring washers (16) and nuts (17).

04 - Then, place the bigger accumulator (18) by using the support straps (19), screws (20), flat washers (21), spring washers (22) and nuts (23).



▪ Assembly

• Assembly of rear linkage

After assembling the bladder accumulators, attach the rear linkage, proceeding as follows:

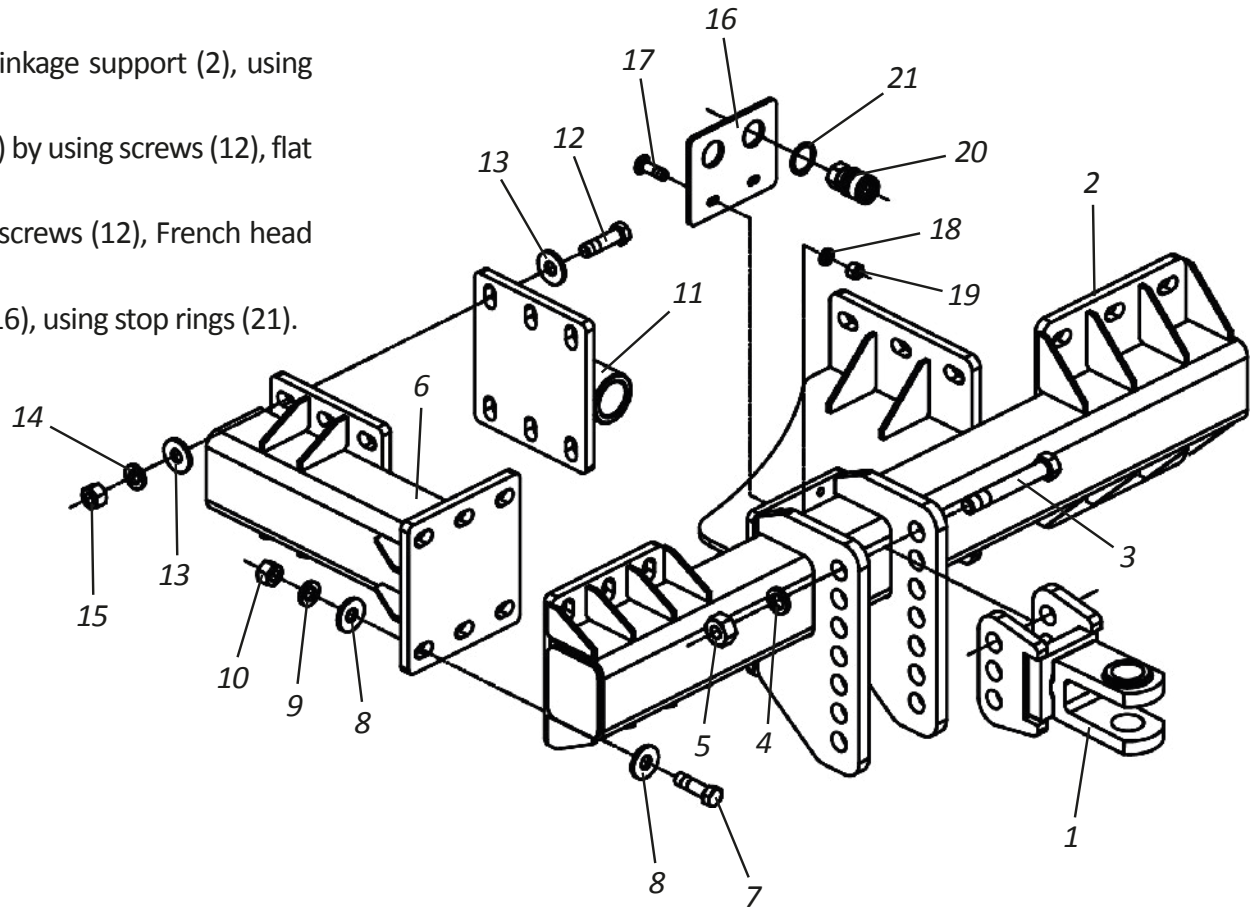
01 - Connect the shackle support (1) to the rear linkage support (2), using screws (3), spring washers (4) and nuts (5).

02 - Afterwards, connect the connection support (6) to the rear linkage support (2), using screws (7), flat washers (8), spring washers (9) and nuts (10).

03 - Then attach the joining plate (11) to the connection support (6) by using screws (12), flat washers (13), spring washers (14) and nuts (15).

04 - Attach the plate (16) to the rear linkage support (2) by using screws (12), French head screws (17), spring washers (18) and nuts (19).

05 - After that, attach the groove quick coupling (20) to the plate (16), using stop rings (21).



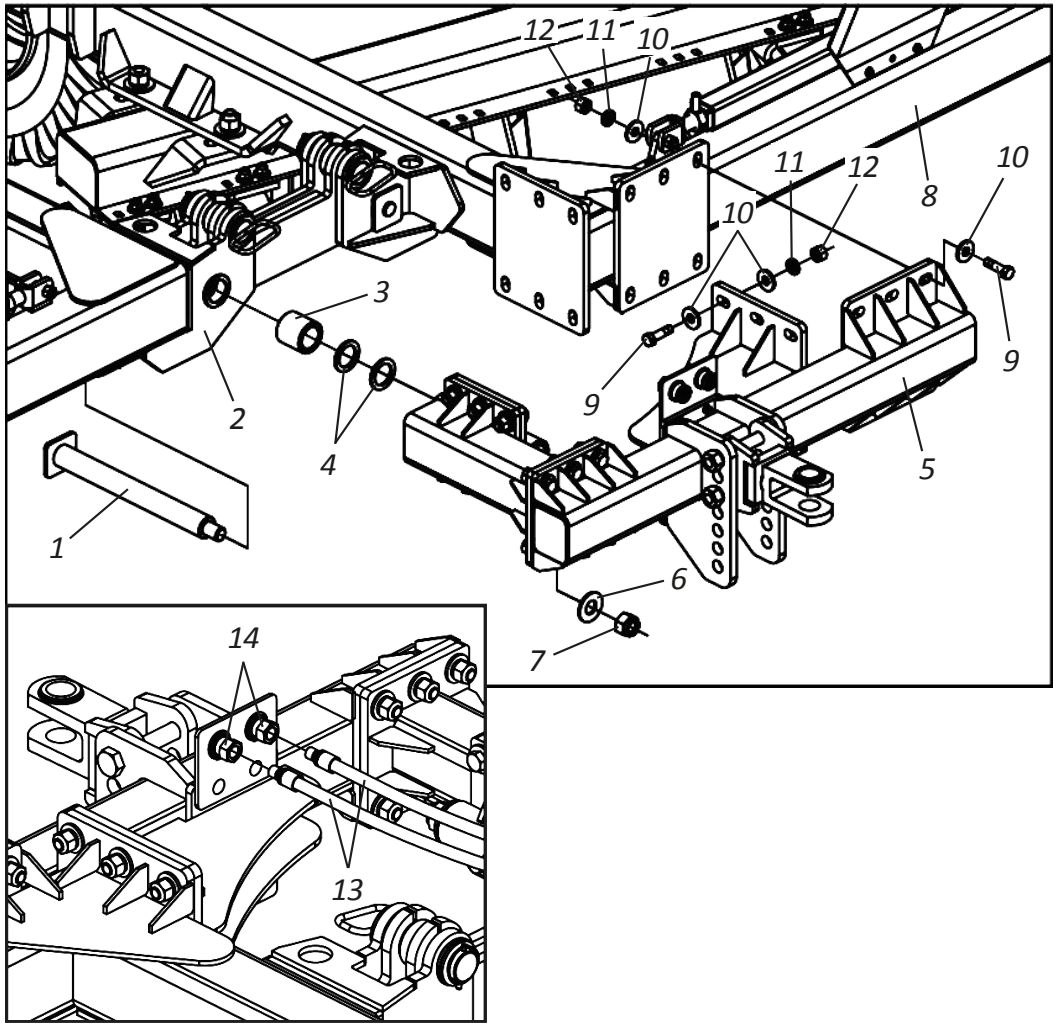
▪ Assembly

• Assembly of rear linkage on the strut

After assembling the rear linkage, attach the rear linkage to the strut, proceeding as follows:

01 - Place the pin (1) on the strut (2), with the bushing (3), flat washers (4), connect the rear linkage (5) with flat washers (4) and nuts (7).

02 - Then attach the rear linkage (5) to the strut (8) using screws (9), flat washers (10), spring washers (11), and nuts (12).



NOTE

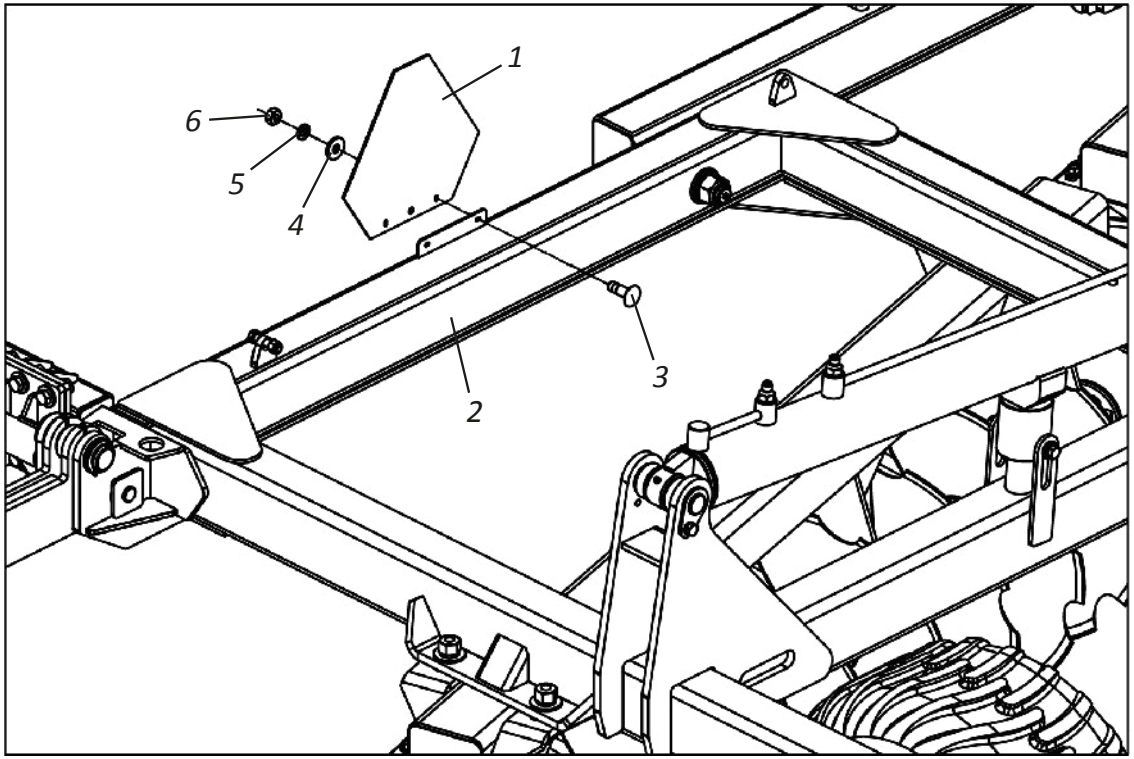
After finishing the assembly, attach the hydraulic hoses (13) to the groove quick couplings (14) and the tractor.

▪ Assembly

• Assembly of the signaling plates

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

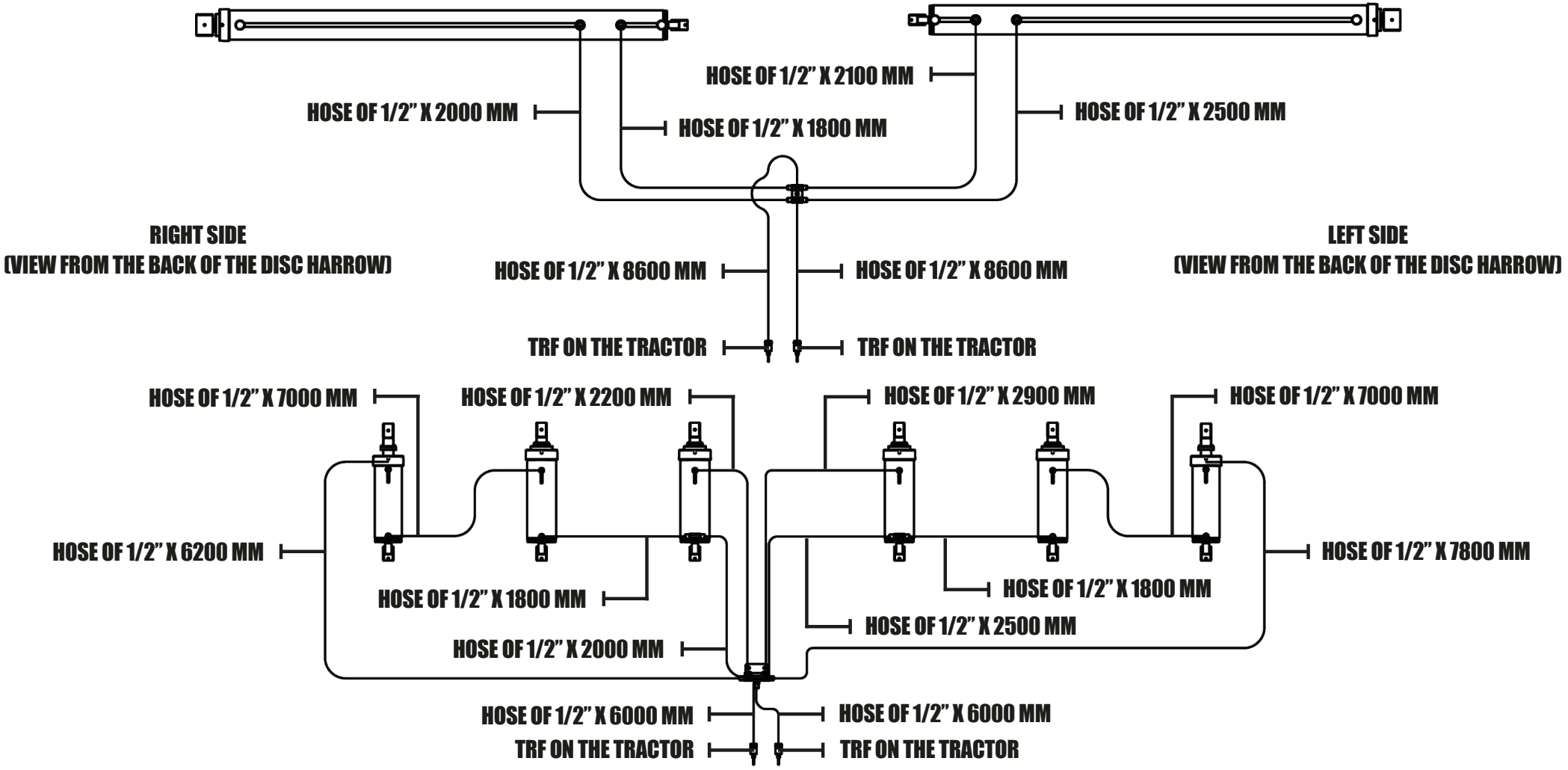
DO NOT work or transport GDOBS primarily on highways without the signpost.

❗ NOTE

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

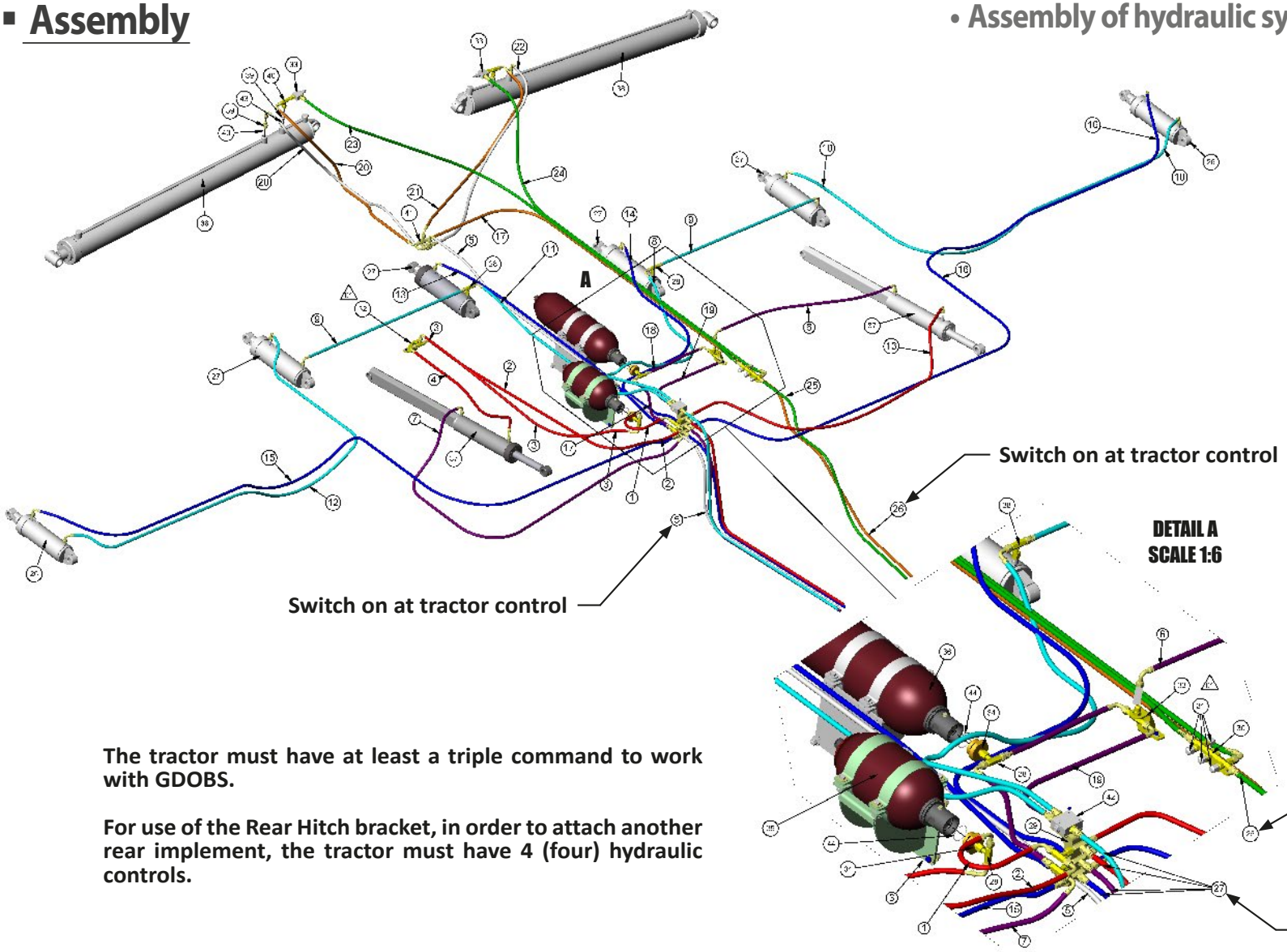
▪ Assembly

• Assembly of the hydraulic system without accumulators



▪ Assembly

• Assembly of hydraulic system with accumulators - Part I



The tractor must have at least a triple command to work with GDOBS.

For use of the Rear Hitch bracket, in order to attach another rear implement, the tractor must have 4 (four) hydraulic controls.

Return to tank (All hoses attached to the relief valves must be connected to Distributor item 32 and 1 hose direct to the tank).

▪ Assembly

• Assembly of hydraulic system with accumulators - Part II

ITEM	PRODUCT DESCRIPTION	ALL
1	High Pressure Hydraulic Hose 1/2” X 500mm W/2TCG (SAE 100R2 AT - P.T.4000PSI)	1
2	High Pressure Hydraulic Hose 1/2” X 2300mm W/2TCG(SAE 100R2 AT - P.T.4000PSI)	1
3	High Pressure Hydraulic Hose 1/2” X 1700mm W/2TCG and 1TRF (SAE 100R2 AT - P.T.4000PSI)	1
4	High Pressure Hydraulic Hose 1/2” X 1400mm W/2TCG (SAE 100R2 AT - P.T.4000PSI)	1
5	High Pressure Hydraulic Hose 1/2” X 8600mm W/1TCG and 1TRF (SAE 100R2 AT - P.T.4000PSI)	1
6	High Pressure Hydraulic Hose 1/2” X 1500mm W/2TCG (SAE 100R2 AT - P.T.4000PSI)	1
7	High Pressure Hydraulic Hose 1/2” X 3000mm W/2TCG(SAE 100R2 AT - P.T.4000PSI)	1
8	High Pressure Hydraulic Hose 1/2” X 2100mm W/1TCG and 1TRG (SAE 100R2 AT - P.T.4000PSI)	1
9	High Pressure Hydraulic Hose 1/2” X 1400mm W/1TCG and 1TRG (SAE 100R2 AT - P.T.4000PSI)	2
10	High Pressure Hydraulic Hose 1/2” X 3500mm W/2TCG (SAE 100R2 AT - P.T.4000PSI)	1
11	High Pressure Hydraulic Hose 1/2” X 1800mm W/1TCG and 1TRG (SAE 100R2 AT - P.T.4000PSI)	1
12	High Pressure Hydraulic Hose 1/2” X 3900mm W2TCG (SAE 100R2 AT - P.T.4000PSI)	1
13	High Pressure Hydraulic Hose 1/2” X 2400mm W1TCG and 1TRG (SAE 100R2 AT - P.T.4000PSI)	2
14	High Pressure Hydraulic Hose 1/2” X 2500mm W/1TCG and 1TRG (SAE 100R2 AT - P.T.4000PSI)	1
15	High Pressure Hydraulic Hose 1/2” X 5500mm W/1TCG and 1TRG(SAE 100R2 AT - P.T.4000PSI)	1
16	High Pressure Hydraulic Hose 1/2” X 6500mm W/1TCG and 1TRG(SAE 100R2 AT - P.T.4000PSI)	1
17	High Pressure Hydraulic Hose 1/2” X 9000mm W/1TRG and 1TRF (SAE 100R2 AT - P.T.4000PSI)	1
18	High Pressure Hydraulic Hose 1/2” X 600mm W/1TCG and 1TRG (SAE 100R2 AT - P.T.4000PSI)	1
19	High Pressure Hydraulic Hose 1/2” X 1100mm W/2TCG (SAE 100R2 AT - P.T.4000PSI)	1
20	High Pressure Hydraulic Hose 1/2” X 1600mm W/2TCG(SAE 100R2 AT - P.T.4000PSI)	2
21	High Pressure Hydraulic Hose 1/2” X 1800mm W/2TCG(SAE 100R2 AT - P.T.4000PSI)	1
22	High Pressure Hydraulic Hose1/2” X 1900mm W/1TCG and 1TRG (SAE 100R2 AT - P.T.4000PSI)	1
23	High Pressure Hydraulic Hose 1/2” X 4300mm W/2TRG(SAE 100R2 AT - P.T.4000PSI)	1

ITEM	PRODUCT DESCRIPTION	ALL
24	High Pressure Hydraulic Hose 1/2” X 3400mm W/1TCGE 1TRG (SAE 100R2 AT - P.T.4000PSI)	1
25	High Pressure Hydraulic Hose 1/2” X 6000mm W/1TRG and 1TRF (SAE 100R2 AT - P.T.4000PSI)	5
26	Hydraulic Cylinder “D.A.” Ø2” x Ø116 x 260mm(Course) x 601mm(Closed)	2
27	Hydraulic Cylinder “D.A” Ø2” x 5” x 256mm (Course) x 605mm (Closed)	4
28	Nipple “T” R.1/2” BSP x 100 W/Hexagonal 7/8”	6
29	Oil Divider With Nipple R. Ø1/2” BSP	1
30	Oil Divider R.Ø1/2” 14FPP BSP	1
31	Nipple Cover R.1/2” BSP (G)	4
32	Oil Divider With Nipple R. Ø1/2” BSP	2
33	Relieve Valve W/ Nipples 1/2” BSP (HYDAC)	2
34	Nipple R. Ø 2” 11FPP -BSP x R.Ø 1/2” 14 FPP- BSP x 60mm (Especial)	2
35	Accumulator SB330-10 A 1 / 112 * - 330A (HYDAC)	1
36	Accumulator SB330-20A1/112 * - 330A (HYDAC)	1
37	Hydraulic Cylinder “D A” Ø 2” X Ø 4” X 406 mm(Course) x 1520 mm(Closed)	2
38	Hydraulic Cylinder “D.A” Ø2.3/4” x Ø5.1/2” x 1.961mm (Course) x 2.322mm (Closed)	2
39	Nipple R.1/2” BSP x R.1.1/16” UN x 55mm - Hexagonal 1.1/4”	4
40	Nipple “T” R.1/2” BSP x 100 W/Hexagonal 7/8” W/ 2 Nuts 1/2” BSP	2
41	Oil Divider With 2 Nipples R.Ø1/2” BSP	1
42	Flow Divider ValveHydac (HBF00468) W/Nipples RØ1/2”BSP JIC	1
43	O’ring 6-042 N3006-90 NBR (Ø23 x Ø2,50mm)	4
44	O’ring 2-139 (Internal Ø55,25) x Ø2,62mm	2

▪ Hitch

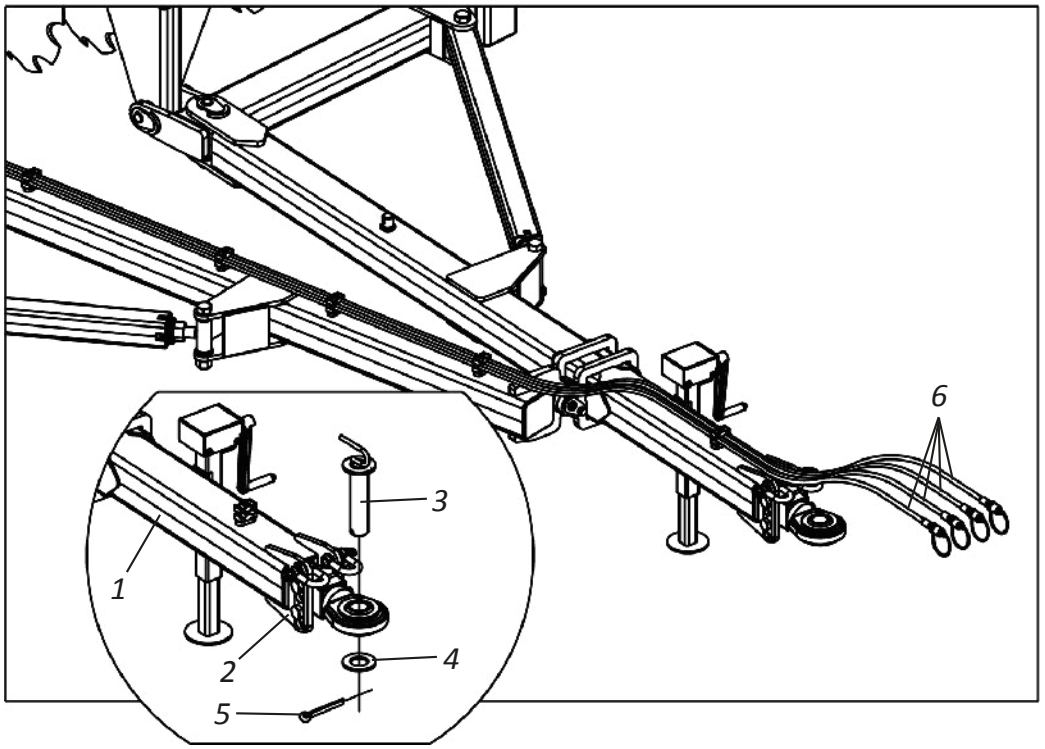
• Harrow coupling in the traction bar of the tractor

To couple the **GDOBS**, proceed as follows:

01 - Level the coupling header (1) of the **GDOBS** 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 **GDOBS** 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

Before connecting or disconnecting the hydraulic hoses, relieve system pressure by turning the control on with the tractor off.

NOTE

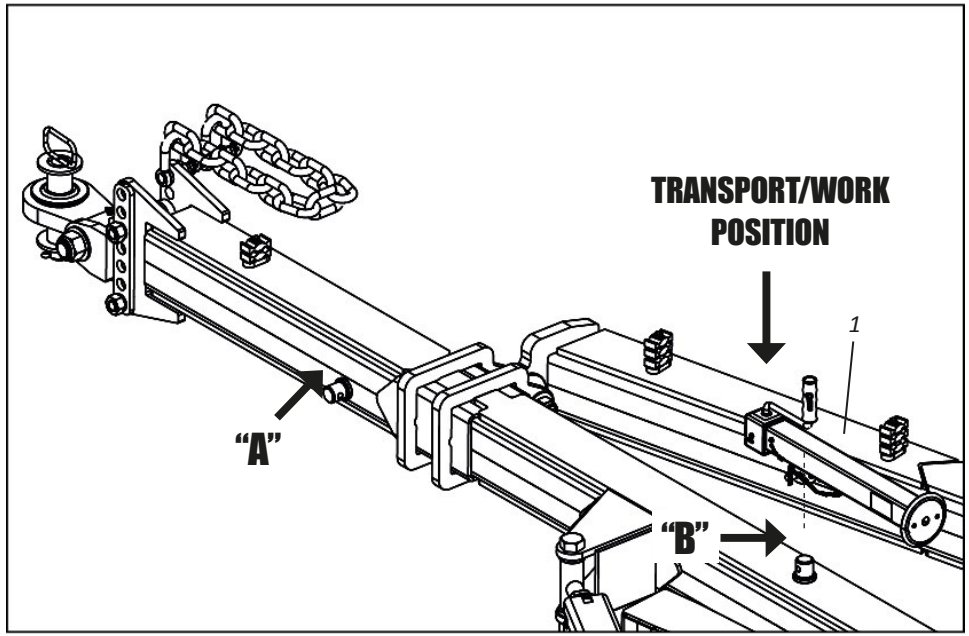
By coupling the GDOBS, find a safe and easily accessible place, always use low gear with low throttle.

▪ Hitch

• Support bracket

After engaging the **GDOBS** on the tractor, place the support bracket (1) in the transportation/work position by doing the following:

01 - Remove the support bracket (1) from point "A" and place it on "B".



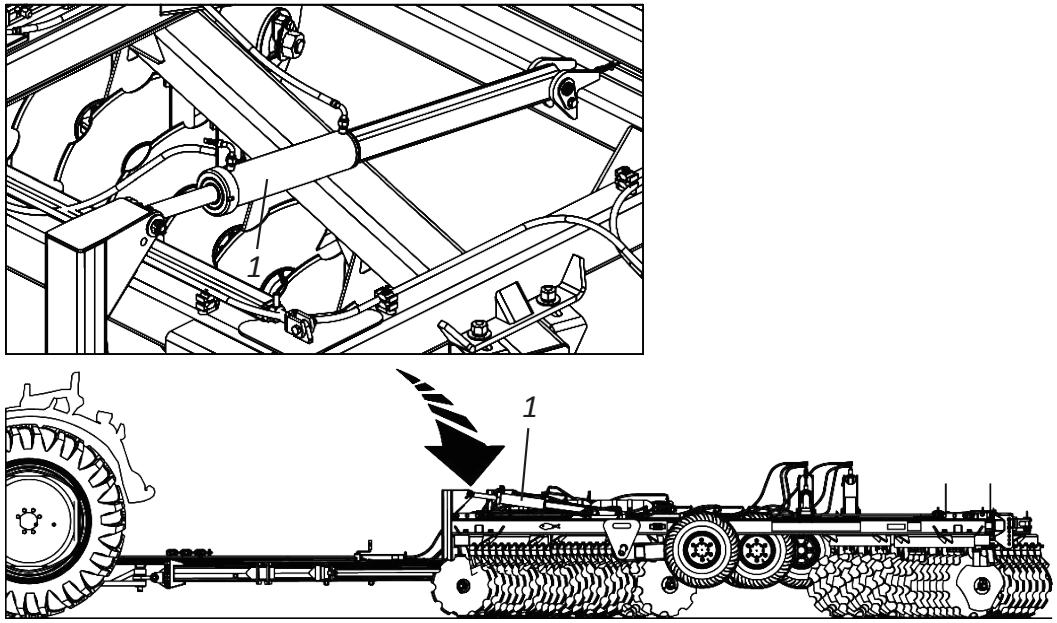
⚠ ATTENTION | **Do not work or transport the GDOBS with the support bracket (1) at point "A". Ignoring this warning may cause severe accidents or damages.**

▪ Leveling

• Disc harrow leveling

To level the **GDOBS**, proceed as follows:

01 - Place the tractor on a flat place;
02 - Then, level the **GDOBS** through the stabilizing bar (1), tightening or loosing the nuts and locknuts (2) to reach the desired level.

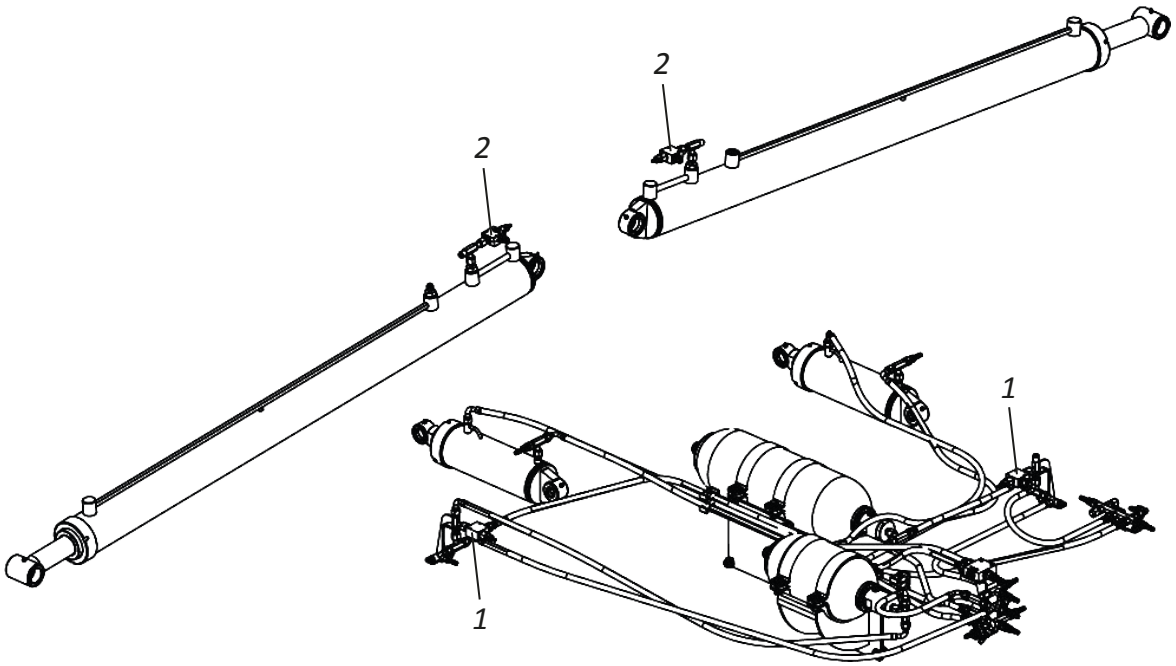


NOTE | **Repeat this adjustment on the hydraulic cilynder of the right center post.**

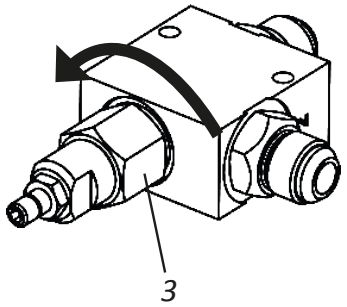
▪ Adjustments

• Regulating release valves

GDOBS has 4 release valves that leave the factory regulated at 25 mbar. Two release valves (1) are assembled in the same line as the accumulators, and must remain with this regulation of 25 mbar, but the other release valves (2) are assembled in the uprising hydraulic cylinders. The regulation must be changed reducing the pressure according to their work need.



In order to reduce the release valve pressure (2), turn the hexagon head screw (3) anticlockwise.



⚠ ATTENTION **Never disassemble or remove the release valve (1 and 2). Ignoring this warning can cause damage to the accumulator and the hydraulic cylinder of articulation of the frames, as well as the mechanical parts attached to them. The release valves (1 and 2) serve as a hydraulic circuit safety system.**

▪ Adjustments

• Adjustment for transportation - Part I

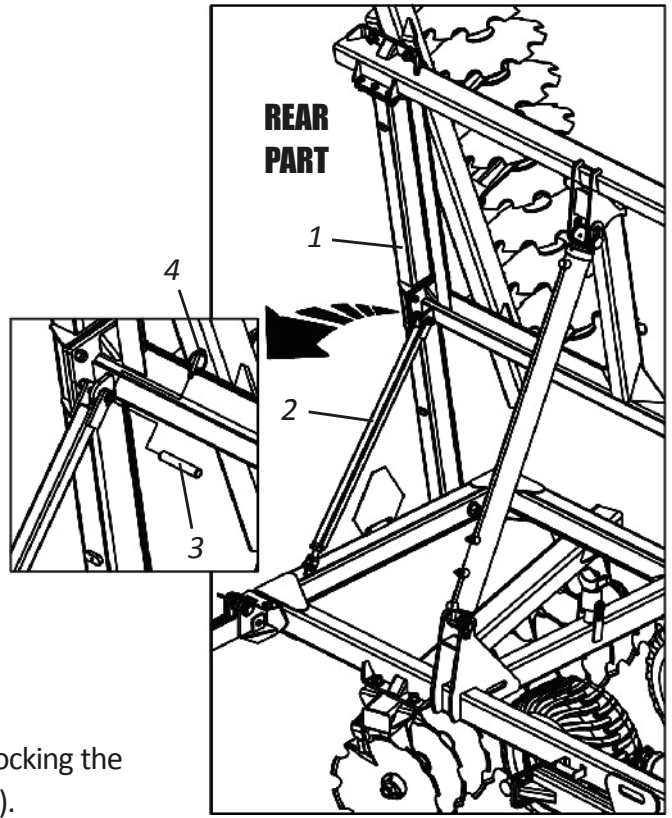
Before any operation on the **GDOBS**, read the following information:

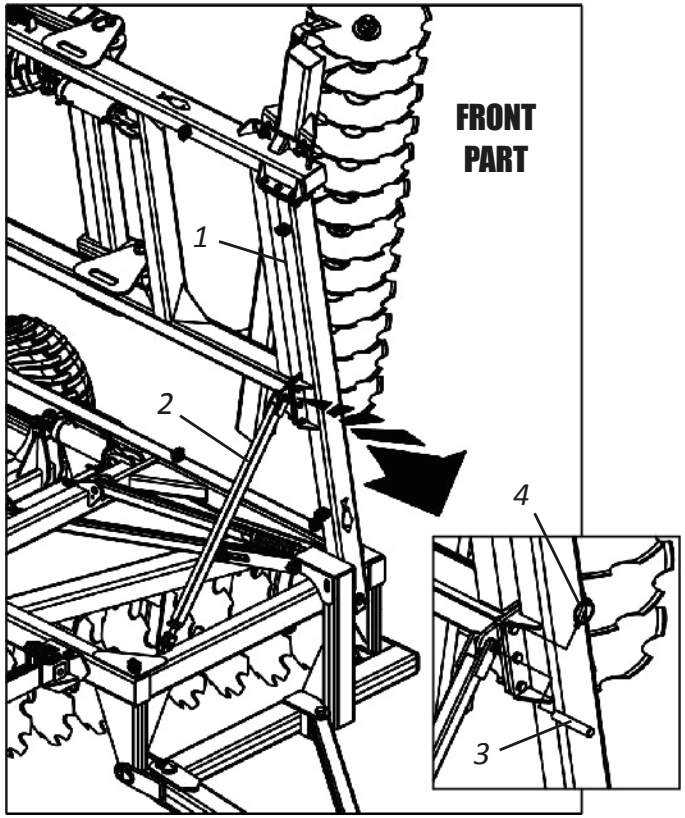
⚠ When starting the hydraulic process for the first time, there is a greater need for hydraulic flow in the tractor. Check the hydraulic oil level of the tractor in the 1 st operation.

⚠ Before beginning the articulation of the **GDOBS** for transport, check the oil flow adjustment so that the joint is not abrupt, causing damage to the equipment.

⚠ When articulating the **GDOBS**, if necessary, complete the hydraulic oil level of the tractor. Check the tractor's technical manual.

⚠ Leave the oil flow slower.





Before transporting the **GDOBS**, proceed as follows:

01 - Attach the side frames (1).

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

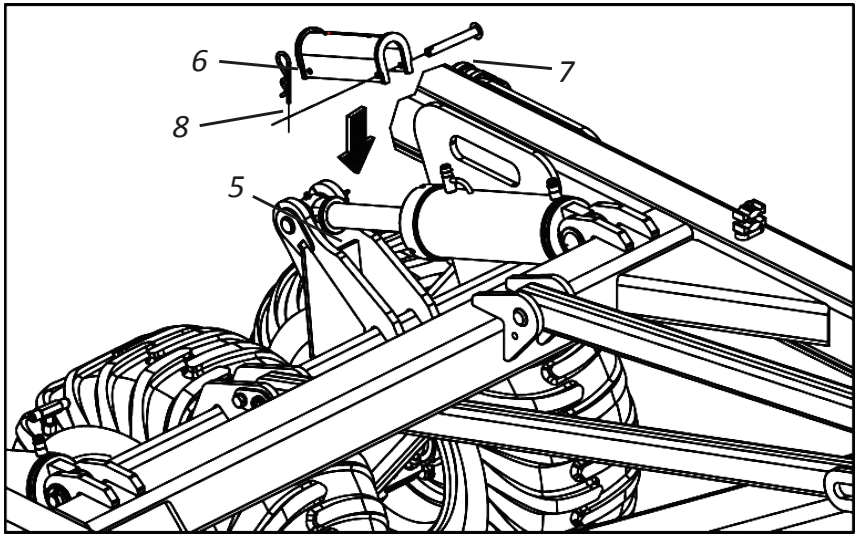
▪ Adjustments

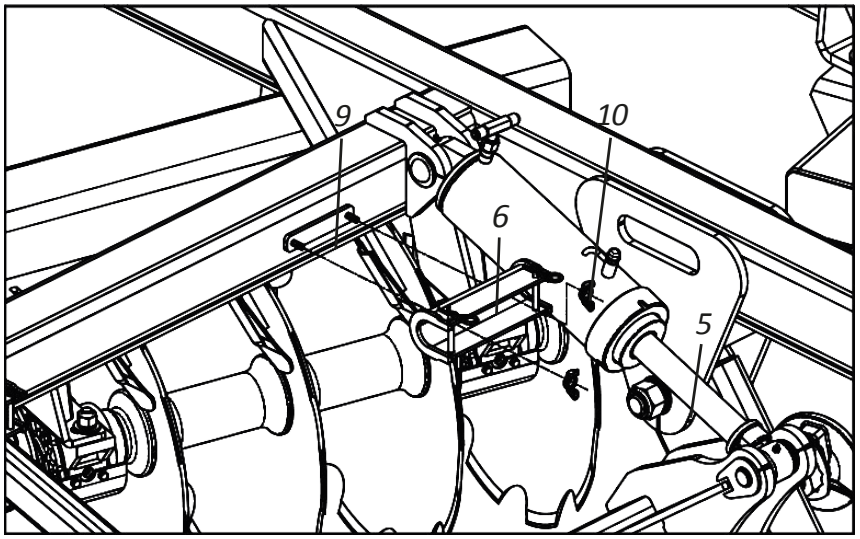
• Adjustment for transportation - Part II

⚠ ATTENTION

Do not transport the GDOBS without locking the side frames (2).
Do not transport the GDOBS 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.

01 - 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).
02 - 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).





⚠ ATTENTION

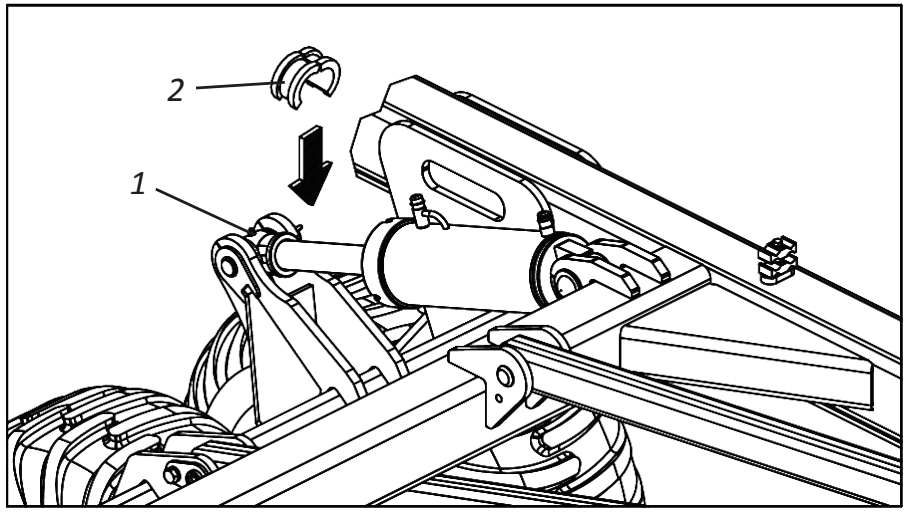
Do not transport the GDOBS without fixing the latches (8) on the hydraulic cylinders (5).

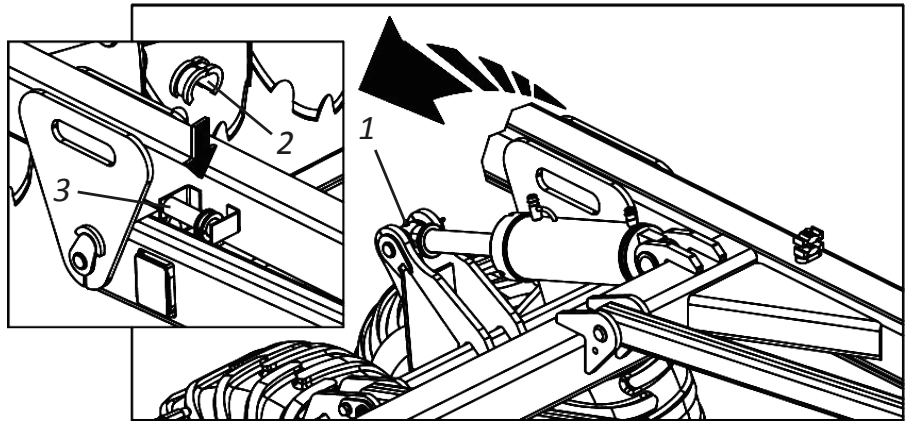
▪ Adjustments

• Adjustment of the working depth

To adjust the working depth of the GDOBS, 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 GDOBS, remove the limiting rings (2) from the hydraulic cylinders (1) and fix them to the structure (3).





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

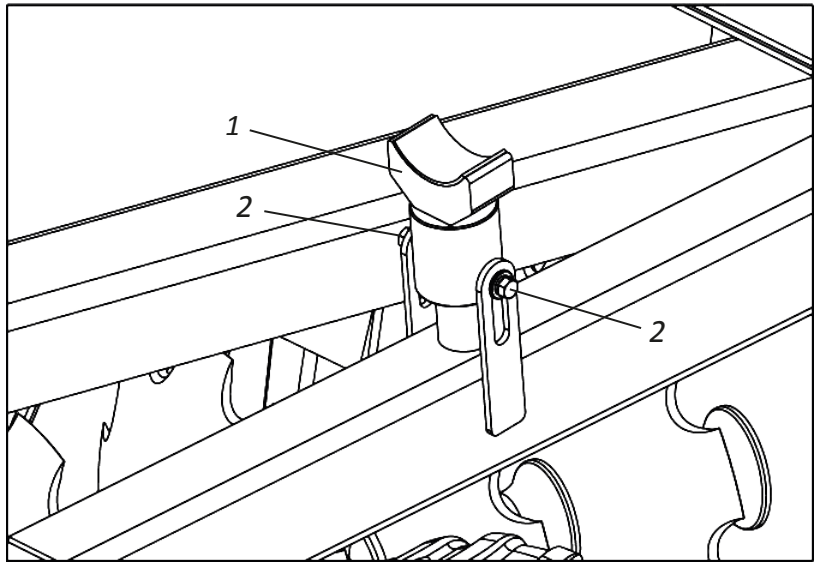
❗ IMPORTANT | **After adjustment, the GDOBS will operate always at the same depth, both in hard and soft ground, this is because the limiting rings (2) are limiting the course of the hydraulic cylinder (1), i.e., preventing the oscillation of wheels.**

▪ Adjustments

• Adjustment of the hydraulic cylinder support bracket

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.



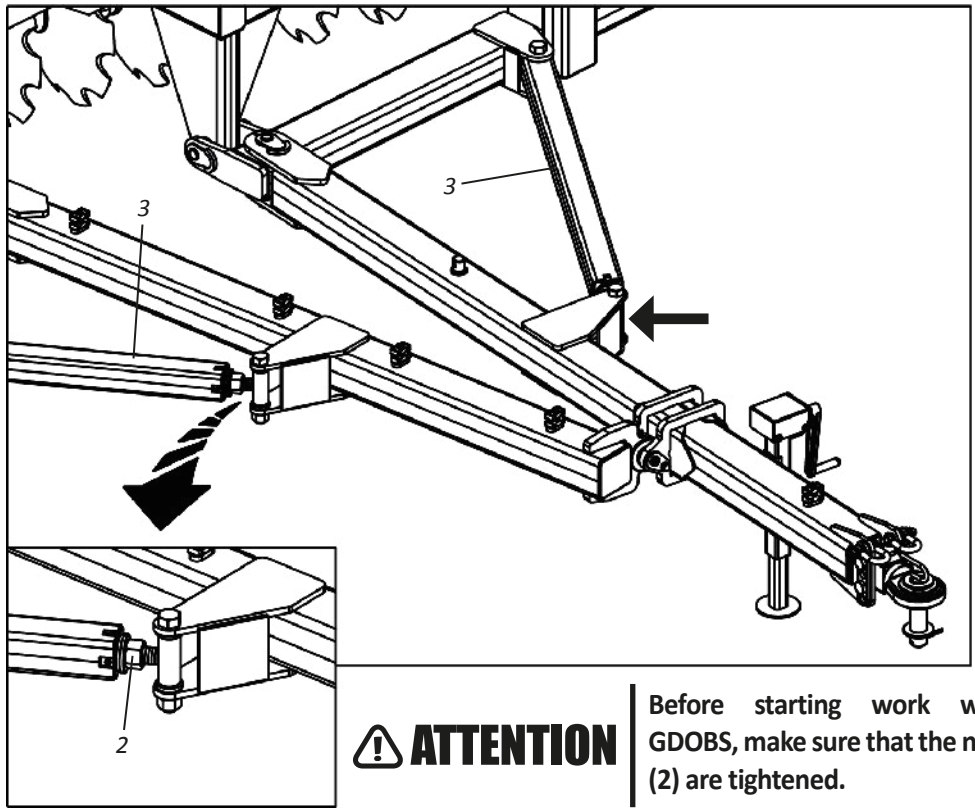
⚠ ATTENTION

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

To centralize the **GDOBS**, 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.



⚠ ATTENTION

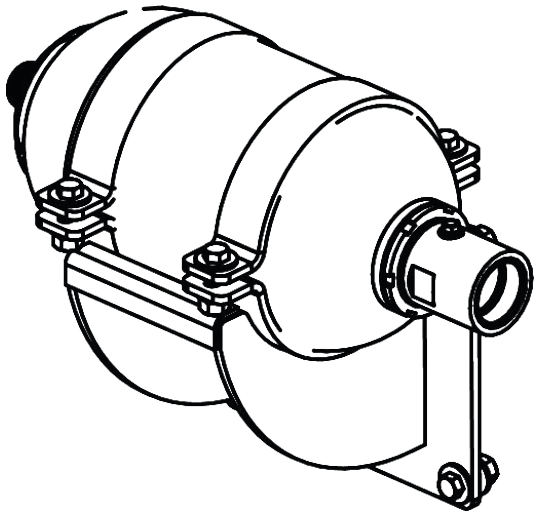
Before starting work with GDOBS, make sure that the nuts (2) are tightened.

▪ Operations

GDOBS has 2 bladder accumulators: - 1 10 liter bladder accumulator.
- 1 20 liter bladder accumulator.

• Nitrogen load of the bladder accumulator of 10L

AWhen finishing the assembly of the **GDOBS**, before starting the work, load the bladder accumulators with nitrogen. The loading procedure must be carried out in the country of origin (which bought the equipment) and by qualified professionals for that operation.



The nitrogen load in the 10L accumulator should be as shown in the table below.

IMPLEMENT X NITROGEN LOAD				
Country of Origin	**Hydac Code for Purchase**	**Bladder Accumulator (L)**	**Implement**	**Nitrogen Load (Bar)**
States member of the EU (European Union)	SB33010A1/112**U**-330A	10 Liters	GDOBS 90 Discs	50-54
Australia	SB400-10A1/212F-400A	10 Liters	GDOBS 90 Discs	50-54
Canada	SB33010A1/112**S1**[1)]-330A	10 Liters	GDOBS 90 Discs	50-54
South Africa	SB33010A1/112**S2**-330A	10 Liters	GDOBS 90 Discs	50-54
EUA	SB33010A1/112**S**-330A	10 Liters	GDOBS 90 Discs	50-54
Hong Kong	SB33010A1/112**A9**-330A	10 Liters	GDOBS 90 Discs	50-54
New Zealand	SB33010A1/112**T**-330A	10 Liters	GDOBS 90 Discs	50-54

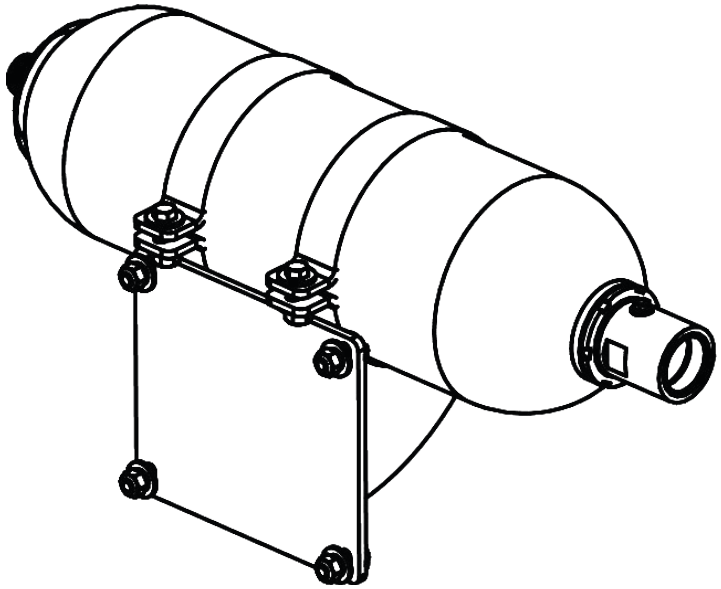
⚠ ATTENTION

In the recipient of the bladder accumulator, no welding can must be performed, as well as mechanical machining. After connecting the hydraulic line, it must be completely de-aerated (air removal). Work on accumulator equipment (fixings, repairs, connection of manometers and the like) should only be performed after the complete relief of the fluid pressure. In case of doubts, refer to bladder accumulator manufacturer manual.

▪ Operations

• Nitrogen load of 20L bladder accumulator

When finishing the assembly of the **GDOBS**, before starting the work, load the bladder accumulators with nitrogen. The loading procedure must be carried out in the country of origin (which bought the equipment) and by qualified professionals for that operation.



The nitrogen load in the 20L accumulator should be as shown in the table below.

IMPLEMENT X NITROGEN LOAD				
Country of Origin	**Hydac Code for Purchase**	**Bladder Accumulator (L)**	**Implement**	**Nitrogen Load (Bar)**
Estados membros da UE (União Européia)	SB33020A1/112**U**-330A	20 Liters	GDOBS 90 Discs	38-42
Australia	SB400-20A1/212F-400A	20 Liters	GDOBS 90 Discs	38-42
Canada	SB33020A1/112**S1**[1)]-330A	20 Liters	GDOBS 90 Discs	38-42
South Africa	SB33020A1/112**S2**-330A	20 Liters	GDOBS 90 Discs	38-42
EUA	SB33020A1/112**S**-330A	20 Liters	GDOBS 90 Discs	38-42
Hong Kong	SB33020A1/112**A9**-330A	20 Liters	GDOBS 90 Discs	38-42
New Zealand	SB33020A1/112**T**-330A	20 Liters	GDOBS 90 Discs	38-42

⚠ ATTENTION

In the recipient of the bladder accumulator, no welding can must be performed, as well as mechanical machining. After connecting the hydraulic line, it must be completely de-aerated (air removal). Work on accumulator equipment (fixings, repairs, connection of manometers and the like) should only be performed after the complete relief of the fluid pressure. In case of doubts, refer to bladder accumulator manufacturer manual.

▪ Operations

• Operating recommendations - Part I

The preparation of the **GDOBS** and the tractor will allow you to save time in addition to obtain better result in the field work. The following suggestions may be useful for you.

HARROW STRUCTURE

After the first day of working with the **GDOBS**, tighten all bolts, nuts and check the condition of the bolts and latches of the harrow structure. Then perform a general retightening on all screws and nuts in the harrow structure every 24 hours of work.

DISCS SECTIONS

Pay particular attention to the disc sections of the **GDOBS**. During the first week of use of the **GDOBS**, retighten all bolts and nuts on the disc sections daily, then retighten them periodically.

GENERAL RECOMMENDATION

01 - Adjust the tractor according to the content of the instruction manual, always using front and rear weights to stabilize the equipment.
02 - Always couple to the tractor in low gear and very carefully.
03 - When using the **GDOBS**, it is important to check the hitch and transverse leveling system to make sure that the discs will have the same penetration depth into the ground.
04 - After the hitching and leveling, the next adjustments will be made directly in the field of work, analyzing the terrain in its texture, humidity and the types of operations to be done with the **GDOBS**.
05 - On the tractor, choose a gear that allows to maintain a certain power reserve, guaranteeing against unforeseen efforts.
06 - Observe the working and transport speeds specified on page 11. We do not advise you to exceed the speeds to maintain service efficiency and avoid possible damage to the **GDOBS**.
07 - When executing maneuvers in the headwheels, first actuate the hydraulic cylinders gradually, lifting the disc sections.

▪ Operations

• Operating recommendations - Part II

08 - During harrowing (with the discs on the ground), DO NOT maneuver to the right, as the angles formed by the disc sections will transmit great effort to the equipment, especially the traction components.

09 - Do not uncouple any hose without first relieving the circuit pressure by turning thecontrol levers a couple of times with the engine off.Remove pieces of wood or any other object that may be attached to the discs.

10 - In compacted areas where the penetration of the discs is difficult, depth can be minimal, making work unsatisfactory. In these cases, applying other more suitable-products is recommended.

11 - During work or transport, the tractor's drawbar must remain fixed.

12 - When performing any maintenance on the **GDOBS**, lower it to the ground and switch off the engine.

13 - The **GDOBS** has several settings, but only local conditions can determine the bestsetting.

If in doubt, never operate or handle the GDOBS, see Post Sale.
Telephone: 0800-152577 / E-mail: posvenda@baldan.com.br

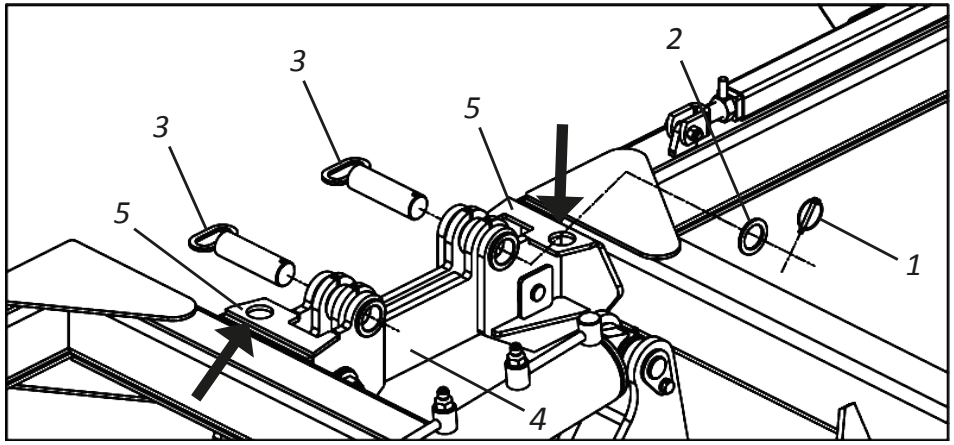
▪ Operations

• Union support of the structure

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

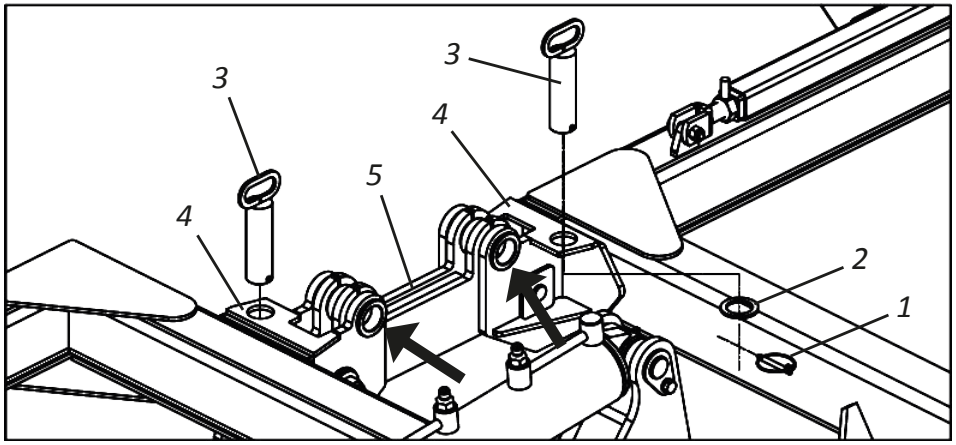
WORK - GDOBS

The **GDOBS** 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.



TRANSPORT - GDOBS

Before transporting the **GDOBS**, 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

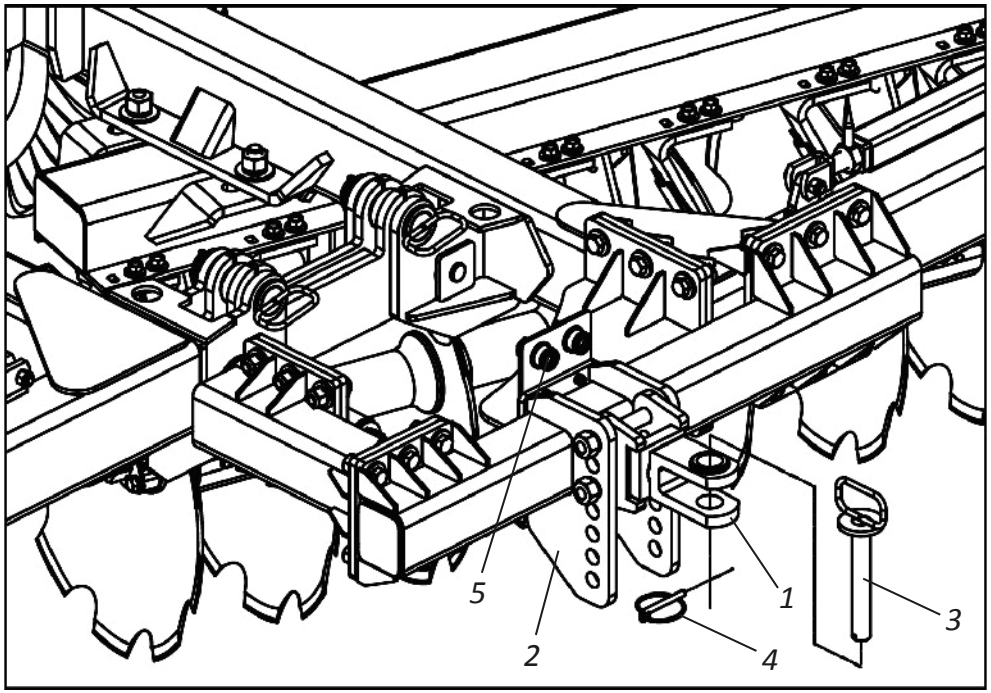
Do not work with GDOBS without unlocking the union support (4).
Do not transport the GDOBS without locking the union support (5).

▪ Operations

• Rear linkage

GDOBS has a rear linkage which, with the shackle support (1), provides for the transportation or use of other equipment coupled to a grid. To connect another equipment to the **GDOBS**, proceed as follows:

01 - Slowly approach the **GDOBS** to the equipment in reverse, paying attention to the brakes.
02 - Then level the **GDOBS** shackle support (1) with the coupling of the equipment with the regulations (2) of the shackle support.
03 - Next, attach the shackle support (1) to the equipment, using the coupling pin (3) and lock (4).
04 - Afterwards, attach the hydraulic hoses to the quick coupling (5) of **GDOBS**.



Calculation

• Approximate hourly output

To calculate the approximate hourly output of **GDOBS**, use the following formula:

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

FORMULA DATA:

A =Area to be worked
L = Working width of the harrow (in meters)
V = Average tractor speed (in meters/hour)
F = Output factor: 0.90
X = Value of the hectare: 10,000 m2 (the value varies according to the region)

Example: How much Ha will a **90 discs GDOBS** produce in an hour of work at an average speed of 7 km/h.

A = ?
L = 8,51 m
V = 7.000 m/h
F = 0,90
X = 10.000 m² (Calculated in hectare)

$$A = \frac{12{,}31 \times 7.000 \times 0{,}90}{10.000} = 7{,}75 \text{ Ha/h}$$

Model	Nr of Discs	Working Width (mm)	Speed Average (m/h)	Output Factor	Approximate Output in Hectare Hour
GDOBS	90	12319	7.000	0,90	7,75

The formula for calculating approximate output refers to the calculation of areas to be worked or worked by **GDOBS**. If you want to know the time that will be spent to work in an area of known value, just divide the value of this area by the hourly output of **GDOBS**.

Example: What will be the "X" time spent for a **GDOBS de 90 discos** harrow to produce 35 hectares, at an average speed of 7km/h?

$$X = \frac{35 \text{ Ha}}{7{,}75 \text{ Ha/h}} = 4{,}51 \text{ hours approximately to work 35 hectare.}$$

⚠ ATTENTION **The hourly output of GDOBS can vary by factors that change the work rhythm as (soil humidity and hardness, terrain slope, inadequate adjustments and speed of work).**

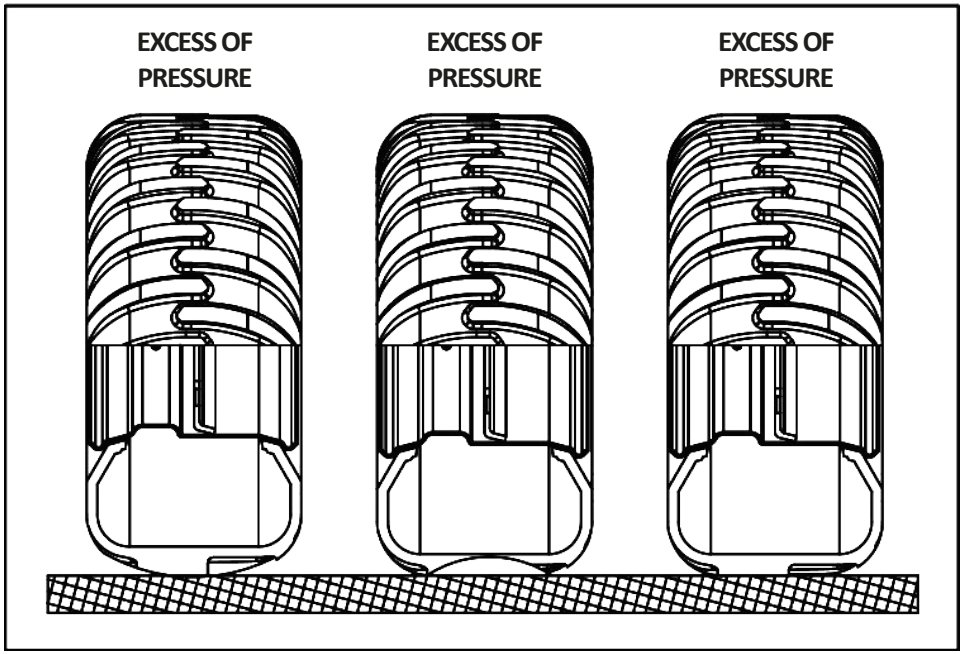
▪ Maintenance

The **GDOBS** has been developed to provide maximum performance over land conditions. Experience has shown that periodic maintenance of certain parts of the **GDOBS** is the best way to help you avoid problems, so we suggest checks.

• Tires pressure

The tires should always be properly calibrated avoiding early wear due to excess or lack of pressure.

TIRES 400 X 60 14 LINERS



USE: 52 LBS/POL²

⚠ ATTENTION

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, position yourself besides the tire, never in front of it.

To fill the tire, always use containment device (armor cage).

Assemble the tires with proper equipment. The service should only be performed by people qualified for the work.

❗ IMPORTANT

When calibrating tires, do not exceed the recommended calibration.

🔍 NOTE

The pressure of the tractor tires should be performed according to the manufacturer´s recommendation.

▪ Maintenance

• Lubrification

Lubrication is indispensable for the good performance and durability of **GDOBS** moving parts, contributing to the maintenance cost savings. Before starting the operation, carefully lubricate all grease cups, always observing the lubrication intervals in the following pages. Make sure of the lubricant quality regarding its efficiency and purity, avoiding products contaminated by water, dust and other agents.

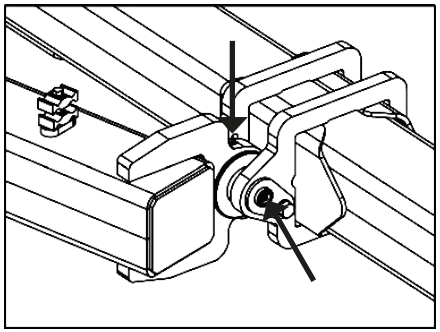
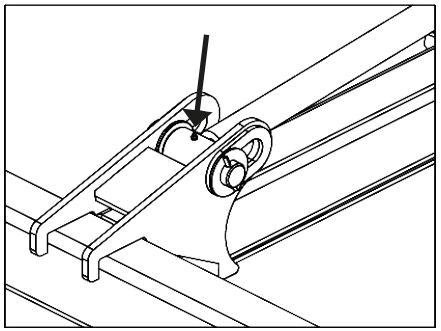
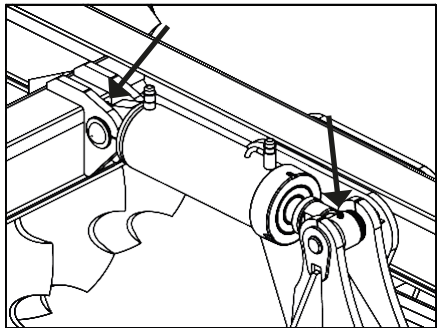
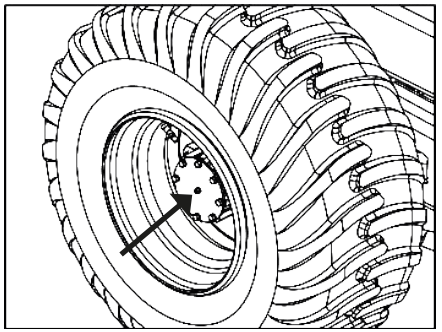
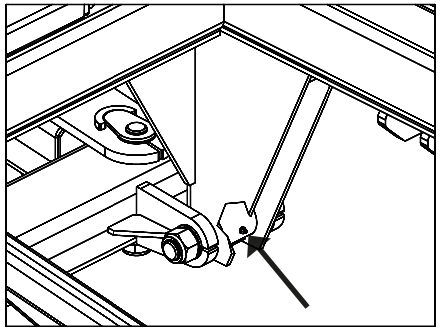
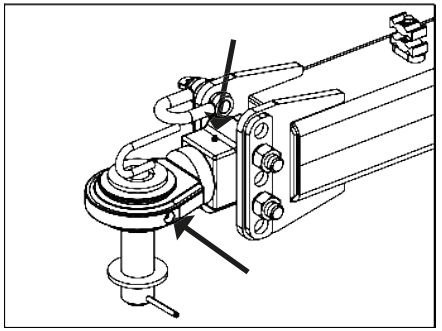
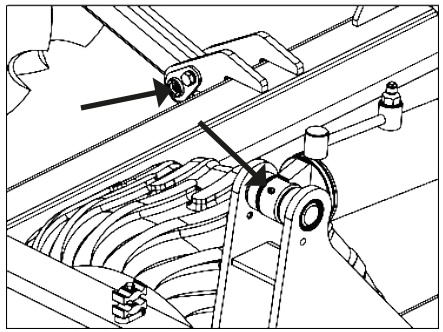
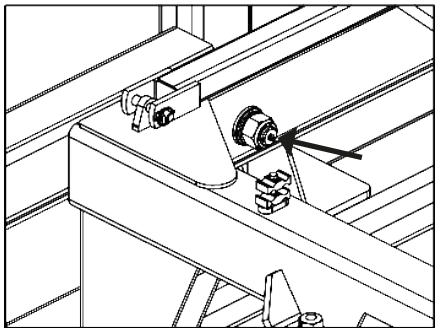
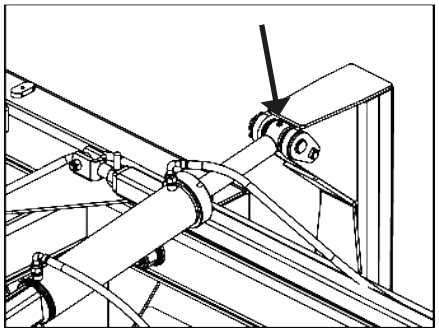
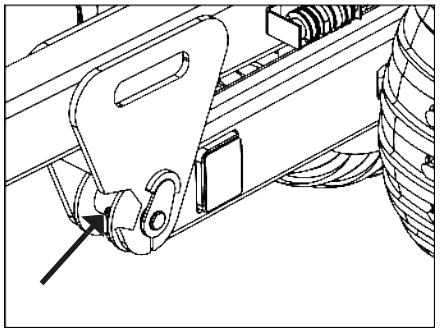
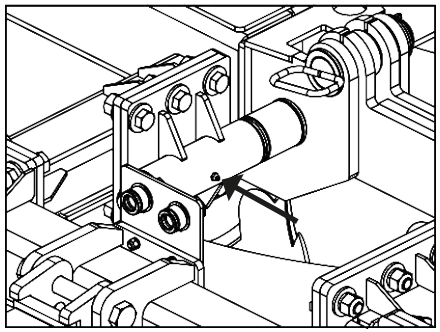
• Table of greases and equivalents

Manufacturer	Types of grease recommended
Petrobrás	Lubrax GMA-2
Atlantic	Litholine MP 2
Ipiranga	Ipiflex 2
Castrol	LM 2
Mobil	Grease MP
Texaco	Marfak 2
Shell	Alvania EP 2
Esso	Multi H
Bardahl	Maxlub APG-2EP
Valvoline	Palladium MP-2
Petronas	Tutela Jota MP 2 EP
	Tutela Alfa 2K
	Tutela KP 2K

⚠ ATTENTION | **If there are equivalent manufacturers and/or brands that are not listed in the table, consult the manufacturer's technical manual.**

▪ Maintenance

- Lubrification every 24 hours of work

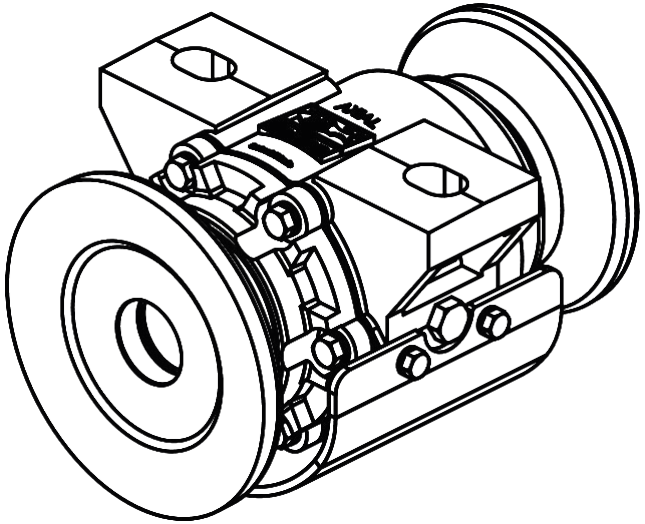
⚠ ATTENTION

When lubricating the GDOBS, do not exceed the amount of new grease. Introduce an adequate amount.

▪ Maintenance

• Oil bearing

On the first days of **GDOBS** work, check the oil level of the bearings daily, then check every 120 hours of work.



NOTE

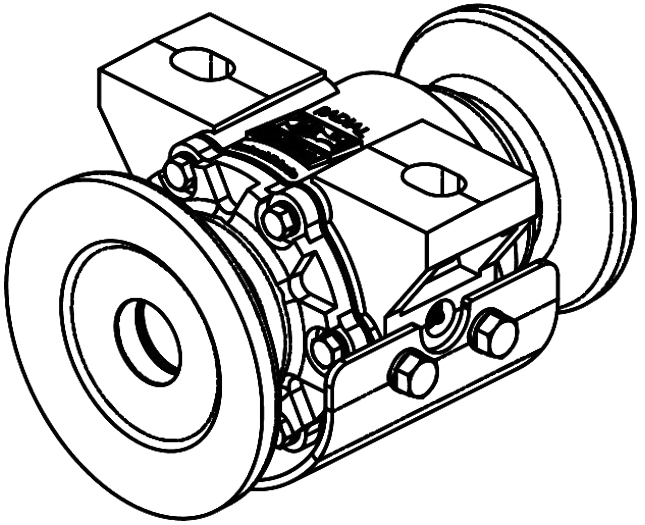
The ideal oil level is when it reaches the plug hole.
To check bearing oil level, search for a flat surface.

ATTENTION

Change the oil every 1200 hours of work using 0,270 liters.
Use transmissión: 90 API GL4, MIL-L-2105; SAEJ306, maio/81: SAE 80W,90 and 140.

• Grease bearing

Grease bearings must be lubricated every 12 working hours, using the grease specified below.



NOTE

Before lubricating bearings, wipe grease with a clean, lint-free cloth. Replace damaged grease fittings.

ATTENTION

The amount of grease in each bearing is 300 grams.
Only use the following grease: EP (Specification DIN51825 KP00K Consistency NLGI 2/3).

▪ Maintenance

• Operational maintenance

PROBLEMS	PROBABLE CAUSES	SOLUTIONS
Tires are damaged.	Work area with rocks, stubs or crop remains with stems that shred the tire.	Eliminate elements that damage tires before using the **GDOBS**.
	Improper tire pressure, creating deformations.	Maintain proper tires pressure.
Weird noise on wheels.	Loosen wheels or gap in wheel hub.	Retighten the wheel nuts and adjust wheel hub bearings.
	Breaking of bearings.	Identify the occurrence and females of the same type.
Quick coupling is not fitting.	Couplings of different types.	Change them for males and females of the same type.
Leakage in hydraulic hose.	Lack of sealing material on the thread.	Use sealing tape and retighten carefully.
	Insufficient tightening.	Retighten carefully.
	Damaged repairs.	Replace hubs.
Leakage in quick couplings.	Insufficient tightening.	Retighten carefully without excess.
	Damaged repairs.	Replace hubs.
Quick coupling is not coupling.	Couplings of different brands.	Use a quick coupling of the same brand.
	Mixing of needle-type coupling with sphere-type coupling.	Always use quick coupling of the same type.
	Pressure on the system.	Relief the pressure to couple.

• Cares

01 - Before each job, check the condition of all hoses, pins, bolts, bearings, discs and sections. Where necessary, re-tighten them.

02 - The displacement speed should be carefully controlled according to the land´s conditions.

03 - The **GDOBS** is used in several applications, requiring knowledge and attention during handling.

04 - Only local conditions can determine the best method of operation of **GDOBS**.

05 - When assembling or dismantling any part of the **GDOBS**, employ appropriate methods and tools.

06 - Carefully observe the lubrication intervals in the various lubrication points of the **GDOBS**. Respect the lubrication intervals.

07 - Always check if the parts have wears. If there is a need for replacement, always demand Baldan original parts.

08 - Keep your **GDOBS** tires always calibrated.

09 - Keep the **GDOBS** discs always sharp.

❗ IMPORTANT

Proper and periodic maintenance are necessary to ensure the long life of GDOBS.

▪ Maintenance

• General cleaning

01 - When storing the **GDOBS**, make a general cleaning and wash it thoroughly with water only.Make sure the paint has not worn out, if it did, give a general coat, pass the protective oil and fully lubricate the **GDOBS**. Do not use burned oil or other abrasive.

02 - Fully lubricate the **GDOBS**. Check all moving parts of the **GDOBS** for wear and tear, make the necessary adjustment or replacement of the parts, leaving the harrow ready for the next job.

03 - After all maintenance work, store the harrow in a covered and dry place, properlysupported.

Avoid: - That the discs come into direct contact with the ground.
- The compression of the springs.
- That the hydraulic hoses be properly capped.

04 - When connecting or disconnecting hydraulic hoses, do not let the terminals touch the ground. Before connecting the hydraulic hoses, wipe the connections with a clean, lint-free cloth. **Do not use tow!**

05 - Replace all adhesives, especially those about warnings, that are damaged or missing. Make everyone aware of the importance and risks of accidents when instructions are not followed.

06 - After all maintenance care, store your **GDOBS** on a flat, covered, dry surface, away from animals and children.

07 - We recommend washing the GDOBS with water only at the start of work.

⚠ ATTENTION | **Do not use chemicals or abrasives to rinse the GDOBS, this may damage the paint and adhesives.**

• Conservation of the harrow - Part I

To prolong the life and appearance of the **GDOBS** for longer, follow the instructions below:

01 - Wash and clean all harrow components during and at the end of the work season.

02 - Use neutral products to clean the harrow, following the safety and maintenance instructions provided by the manufacturer.

03 - Always carry out maintenance during the periods indicated in this manual.

▪ Maintenance

• Conservation of the harrow - Part II

The practices and care below if adopted by the owner or operator make a difference to the conservation of the **GDOBS.**

01 - Be careful when performing high-pressure washing; do not direct the water jet directly into the connectors and electrical components. Isolate all electrical components;

02 - Use only NEUTRAL detergent and water (pH equal to 7);

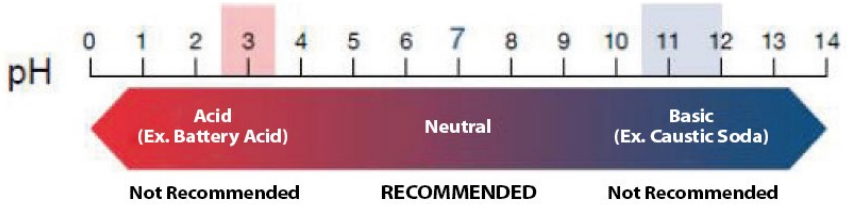
03 - Apply the product, following the manufacturer's instructions strictly, on the wet surface and in the correct sequence, respecting the time of application and washing;

04 - Stains and dirt not removed with the products should be removed with the aid of a sponge.

05 - Rinse the machine with clean water to remove any chemical residues.

06 - Do not use: - Detergents with a basic active ingredient (pH greater than 7), can attack/stain the paint on the harrow.

- Detergents with acid active ingredient (pH less than 7), act as stripper/remover of zinc coating (the protection of parts against oxidation).



07 - Allow the machine to dry in the shade so that it does not accumulate water in its components. Very fast drying can cause stains on your paint.

08 - After drying, lubricate all chains and greases according to the recommendations in the operator's manual.

09 - Spray all the machine, especially the zinc parts, with protective oil, following the manufacturer's application guidelines. The protective also prevents dirt from adhering to the machine, facilitating subsequent washings.

10 - Observe curing (absorption) time and application intervals as recommended by the manufacturer.

⚠ ATTENTION | **Do not use any other type of oil to protect the harrow (used hydraulic oil, "burnt" oil, diesel oil, castor oil, kerosene, etc.).**

❗ IMPORTANT | **We recommend the following protective oils:**
- Bardahl: Agro protective 200 or 300
- ITWChemical: Zoxol DW - Series 4000

🔍 NOTE | **Ignoring the conservation measures mentioned above may result in the loss of warranty for painted or zinc-coated components which may exhibit oxidation (rust).**

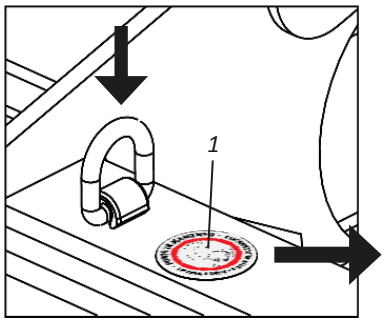
▪ Lifting

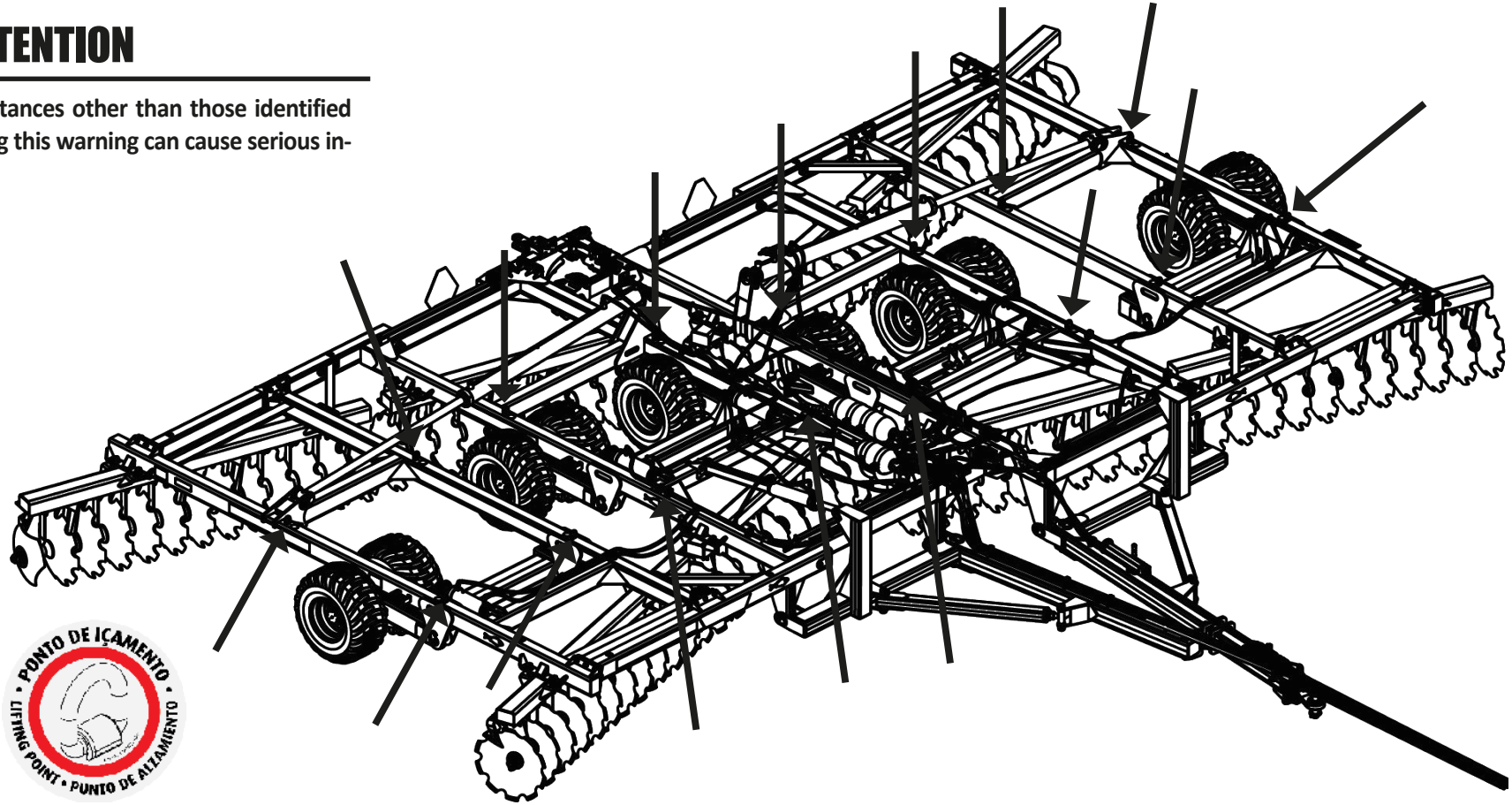
• Lifting points

The **GDOBS** has 16 lifting points located on the uprights and identified through the adhesive (1) attached to these points. When assembling, dismantling, loading, unloading or servicing the **GDOBS**, if you need to lift with a winch, it is essential that the chains are connected to the indicated lifting points.

⚠ ATTENTION

DO NOT use under any circumstances other than those identified above for lifting GDOBS. Ignoring this warning can cause serious injury or death.



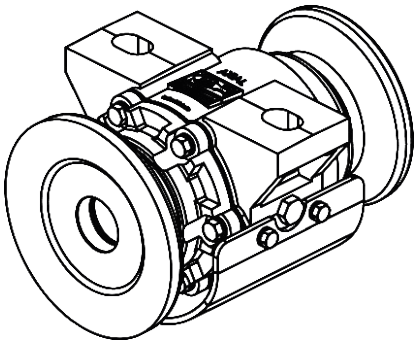


MAXIMUM LOAD: 1000 KG

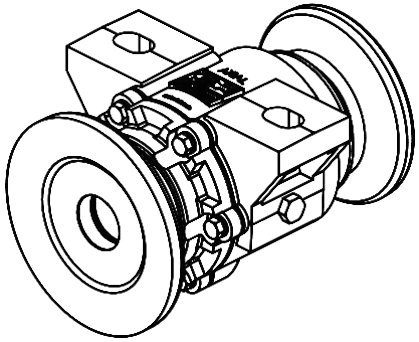
▪ Optional

• Optional accessories

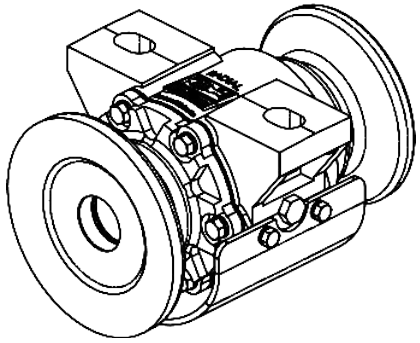
The **GDOBS** has optional accessories that can be acquired according to the need of work.



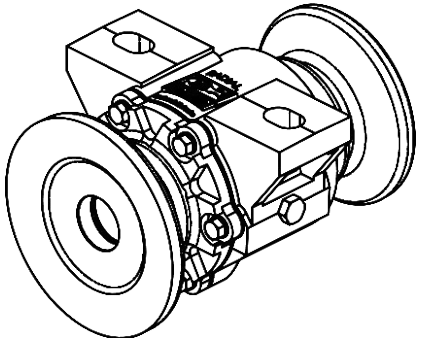
AXIAL BEARING WITH GUARD



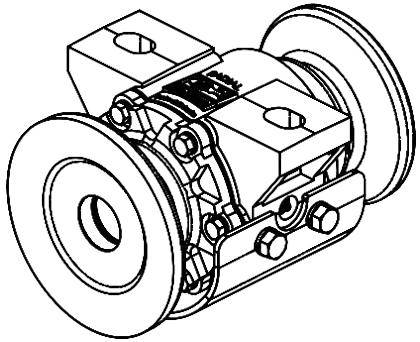
AXIAL BEARING WITHOUT GUARD



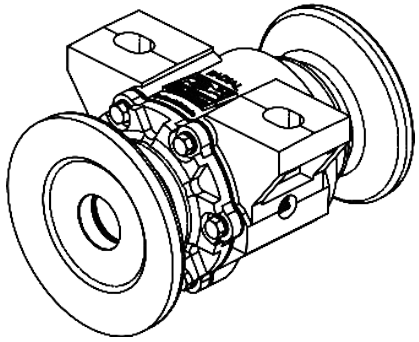
OIL BEARING WITH GUARD



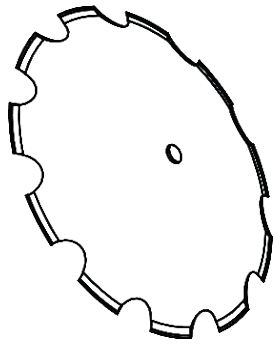
OIL BEARING WITHOUT GUARD



GREASE BEARING WITH GUARD



GREASE BEARING WITHOUT GUARD



DISC TRIMMED 26", 28", 30"

Identification

• Identification plate

To see the parts catalog or to request technical assistance from Baldan, always inform model (01), serial number (02) and date of manufacture (03), which is on your **GDOBS** nameplate.

⚠ ATTENTION

The drawings in this Instruction Manual are merely illustrative.

CONTACT

In case of doubts, never operate or handle your equipment without referring to Post-Sales.
Telephone: 0800-152577
e-mail: posvenda@baldan.com.br

PUBLICATIONS

Code: 60550108537 | CPT: GDOBS13319A

• Product Identification

Please make the correct identification of the data below, to always have information about the service life of your equipment.

Owner: _____

Dealer: _____

Property: _____

City: _____

State: _____

Certificate of Warranty no.: _____

Implement: _____

Serial No: _____

Purchase Date: _____

Invoice: _____

PEÇAS ORIGINAIS BALDAN
ORIGINAL PARTS • PIEZAS ORIGINALES

▪ Notes:

▪ Certificate of Warranty

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 in the product within the dealer warranty deadline will only be authorized by **BALDAN** upon previous budget presentation describing parts and work to be performed.

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, 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.

▪ Inspection and Delivery Certificate

SERVICE BEFORE DELIVERY: This implement was carefully prepared by the sale organization, with all its parts inspected according to the manufacturing prescriptions.

DELIVERY SERVICE: The user was informed about the current warranty terms and instructed on the usage maintenance precautions.

I confirm that the user has been informed about the current warranty terms and instructed on the usage maintenance precautions.

Implement: _____ Serial Number: _____

Date: _____ Tax Number: _____

Dealer: _____

Telephone: _____ CEP: _____

City: _____ State: _____

Owner: _____

Telephone: _____

Address: _____ Number: _____

City: _____ State: _____

E-mail: _____

Sale date: _____

Signature / Dealer Stamp _____

1st copy - Owner

▪ Inspection and Delivery Certificate

SERVICE BEFORE DELIVERY: This implement was carefully prepared by the sale organization, with all its parts inspected according to the manufacturing prescriptions.

DELIVERY SERVICE: The user was informed about the current warranty terms and instructed on the usage maintenance precautions.

I confirm that the user has been informed about the current warranty terms and instructed on the usage maintenance precautions.

Implement: _____ Serial Number: _____

Date: _____ Tax Number: _____

Dealer: _____

Telephone: _____ CEP: _____

City: _____ State: _____

Owner: _____

Telephone: _____

Address: _____ Number: _____

City: _____ State: _____

E-mail: _____

Sale date: _____

Signature / Dealer Stamp _____

2nd copy - Dealer

▪ Inspection and Delivery Certificate

SERVICE BEFORE DELIVERY: This implement was carefully prepared by the sale organization, with all its parts inspected according to the manufacturing prescriptions.

DELIVERY SERVICE: The user was informed about the current warranty terms and instructed on the usage maintenance precautions.

I confirm that the user has been informed about the current warranty terms and instructed on the usage maintenance precautions.

Implement: _____ Serial Number: _____

Date: _____ Tax Number: _____

Dealer: _____

Telephone: _____ CEP: _____

City: _____ State: _____

Owner: _____

Telephone: _____

Address: _____ Number: _____

City: _____ State: _____

E-mail: _____

Sale date: _____

Signature / Dealer Stamp _____

3rd copy - Manufacturer (Please send completed within 15 days).

1.74.05.0059-5

AC MATÃO
ECT/DR/SP

RESPONSE CARD

NO STAMPING IS REQUIRED

THE STAMP WILL BE PAID BY:

BALDAN

BALDAN IMPLEMENTOS AGRÍCOLAS S/A.

Av. Baldan, 1500 | Nova Matão | CEP: 15993-900 | Matão-SP | Brasil

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

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

Export: Phone: 55 16 3321-6500 | Fax: 55 16 3382-4212 | 3382-2480

e-mail: export@baldan.com.br

BALDAN

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

+55 16 3221 6500
baldan.com.br