

# **GSPCR** 28-36

Drag Type Offset Disc Harrow Remote Control



# Presentation

e appreciate the preference and would like to congratulate you for 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 must 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.



# **GSPCR** 28-36

Drag Type Offset Disc Harrow Remote Control

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.







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#### 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 for **BALDAN** analysis.

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

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

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

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

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

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

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

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



#### General Information

To the owner

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

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

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

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



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

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

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

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

O8 GSPCR 28-36



#### Safety Rules

To the operator



THIS SYMBOL INDICATES IMPORTANT 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 transport people or equipment on the tractor.

#### **ATTENTION**



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

### ?\ 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



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



#### 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



make adiust-Dο not ments with the GSP-CR in operation. When doing any service on the GSPCR, turn the tractor first Use appropriate tools.

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

### **!\ ATTENTION**





When working with the GSPCR, do not exceed the speed of 12Km/h or 7 MPH, avoiding risk of damages and accidents.

# **ATTENTION**



Remove the ignition key before performing any maintenance on the GSPCR. Protect yourself from possible injury or death caused by an unforeseen GSPCR start up. If the GSPCR is not properly engaged, do not start the tractor.

# **ATTENTION**



Hydraulic oil works under pressure and may cause serious injuries if there are any leakages.

Periodically check hoses for conservation. If there are any sign of leakage, replace them immediately. Before connecting or disconnecting hydraulic hoses, relief system pressure by activating the command with the tractor power switched off.



#### Safety Rules

#### **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 GSPCR, check for any nearby persons or obstructions.

#### **ATTENTION**



Avoid heating parts near the fluid lines. Heating may generatee fragility in the mate-

rial, rupture and exit of the pressurized fluid, causing burns and injuries

### **ATTENTION**



Keep the joint area free while the GSPCR is in operation.

In closed curves, prevent tractor wheels

from touching the head.

#### **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



Always stay away from the active elements of the GSPCR (discs), they are sharp and can cause acci-

dents.

When performing any service in the discs, wear safety gloves.

### M

#### ATTENTION



Disposing of waste improperly affects the environment and the environment, as it will pollute rivers, canals or the soil. Inform yourself about the proper way of recycling or disposing residues.

PROTECT THE ENVIRONMENT!



#### Safety Rules

PPE Equipment

DO NOT WORK WITH THE GSPCR WITHOUT WEARING PPE (SAFETY **EQUIPMENT). IGNORING THIS WARNING MAY CAUSE DAMAGES TO** HEALTH, SEVERE ACCIDENTS OR DEATH.

When performing certain procedures with the GSPCR, wear the following Safety Equipment (PPE):





# IMPORTANT

Safety practice must be performed in all stages of working with the GSPCR, thus avoiding accidents such as impact of objects, fall, noise, cuts and ergonomics, in other words, the person responsible for operating the GSPCR is subject to internal and external bodily damage.

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

















!\ When operating with the GSPCR, do not let people stay close or on it.

Pefore connecting or disconnecting hydraulic hoses, relief the system pressure by activating the

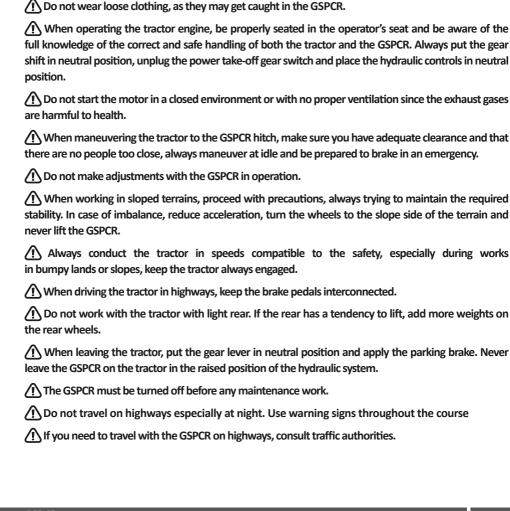
Periodically check the conservation status of the hydraulic hoses. If there are indications of oil leakage, replace the hose immediately, because the oil works under high pressure and may cause

!\ When performing any maintenance service, use PPEs equipment.

command with the tractor power switched off.

#### Warnings

serious accidents.





#### Warnings

1 The GSPCR 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 GSPCR near obstacles, rivers or streams.

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

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

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

(!\) Read or explain all the procedures of this manual to the operator who cannot read.

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

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

Periodically check all components of the GSPCR before using it.

① 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 GSPCR.

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

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

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

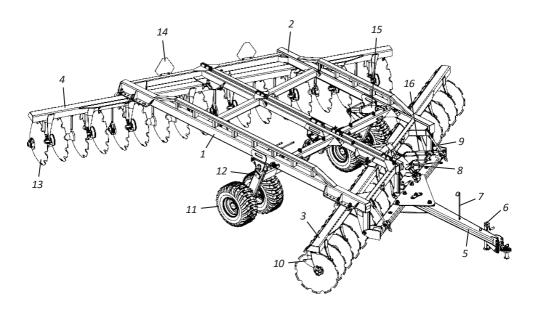
Read or explain all the procedures of this manual to the operator who cannot read.



#### Components

- GSPCR Drag Type Offset Disc Harrow Remote Control
- 1. Right main frame
- 2. Left main frame
- 3. Front gang
- 4. Rear gang
- 5. Hitch drawbar
- 6. Lifting Support
- 7. Hoses support
- 8. Cylinder of drawbar articulation

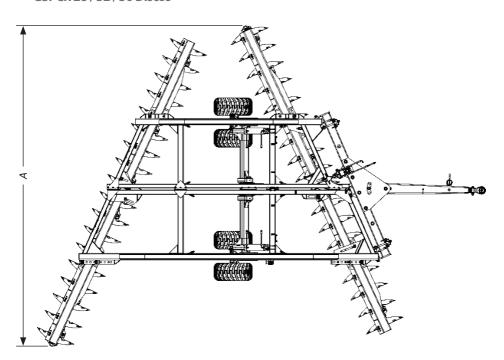
- 9. Stabilizer rod
- 10. Scrapper
- **11.** Tyre
- 12. Wheel shaft support
- **13.** Disc
- 14. Signpost
- 15. Cylinder of wheel articulation
- 16. Hydraulic hoses

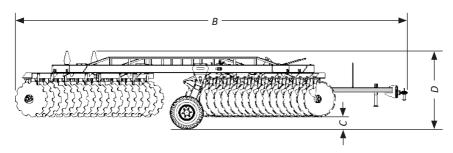




### Dimensions

• GSPCR 28 / 32 / 36 Discos





Model	No. of Discs	Measure A (mm)	Measure B (mm)	Measure C (mm)	Measure D (mm)
GSPCR	28	5728	9550	320	1865
GSPCR	32	6430	9830	320	1865
GSPCR	36	7240	10040	320	1865



### Specifications

#### • GSPCR - Drag Type Offset Disc Harrow Remote Control

Model	No. of Discs	Width of Job (mm)	Diameter of the Discs (ø)	Discs Concave (mm)	Diameter Axis (ø)
	28	5605	32" - 34" - 36"	12	2.1/2"
GSPCR	32	6377	32" - 34" - 36"	12	2.1/2"
	36	7147	32" - 34" - 36"	12	2.1/2"

Modelo	No. of Discs	Weight Approximate (Kg)		Wattage Tractor (HP)	Tires		
		32"	34"	36"	, ,	Quantity	Model
	28	8070	8225	8435	420 à 470	04	400x60
GSPCR	32	9540	9720	9960	480 à 535	04	400x60
	36	10.030	10.230	10.500	540 à 560	04	400x60

Disc spacing	430 mm
Working depth	
Recommended maximum working speed	
Recommended maximum transport speed	·

Baldan reserves the right to change and or improve the technical characteristics of its products, without prior notice, and without obligation to do so with previously manufactured products. Technical specifications are approximate and reported under normal working conditions.

#### **EXPECTED USE OF GSPCR**

- The GSPCR was developed for soil preparation work in large areas and in various types of terrain.
- The GSPCR must be driven and operated only by a properly instructed operator.

#### **NOT ALLOWED USE OF GSPCR**

- To avoid damage, serious accident or death, DO NOT transport people over any part of the **GSPCR**.
- It is NOT allowed to use the GSPCR to attach, tow or push other implements or accessories.
- The **GSPCR** must NOT be used by an inexperienced operator who does not know all the driving, command and operation techniques.



#### Assembly

GSPCR leaves the factory dismantled. To assemble it, follow the instructions below:

The **GSP**CR Assembly must be done by resale, through trained, qualified and qualified people for this work.

⚠ Before starting the **GSP**CR Assembly, look for an ideal location, where it will facilitate the identification of the parts and the assembly thereof.

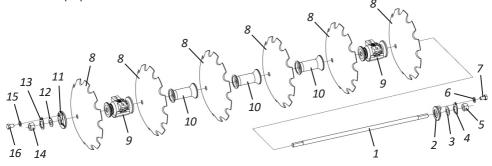
Do not wear loose clothing, as they may get caught in the GSPCR.

#### Assembly

Discs section assembly

When starting the GSPCR Assembly, always start with the disk set for this, proceed as follows:

- 01 Place on the shaft (1) the concave thrust washer (2), flat washer (3), lock (4), nut (5), fixing it with the pressure washer (6) and the screw (7).
- **02** Then place the disc (8), bearing (9), another disc (8), separator spool (10) on the shaft (1), and so on.
- 03 When the set is complete with all the discs, bearings, separating reels, place the convex thrust washer (11), flat washer (12), lock (13), nut (14), tightening it with the key until it is firm the set.
- **04** Once this is done, put on the disc set and tighten the nut (14) with impacts. When you are almost getting maximum tightness, adjust the lock (13) with the convex washer (11), always tightening the nut until the drilling coincides, fix it with the pressure washer (15) and the screw (16).



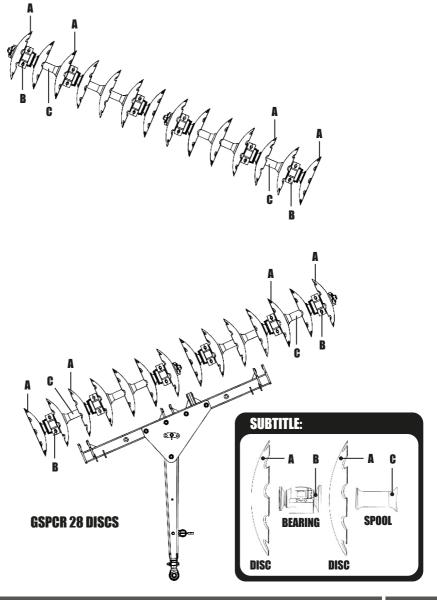
**ATTENTION** 

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



• Discs section assembly - GSPCR 28 discs

Check below the Assembly of the GSPCR 28 discs sections.

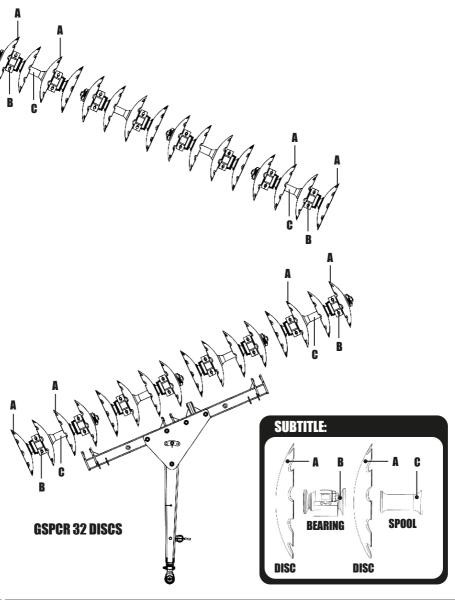




#### Assembly

• Discs section assembly - GSPCR 32 discs

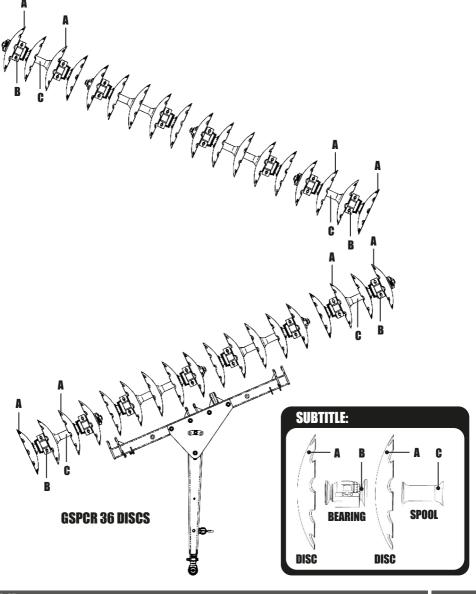
Check below the Assembly of the GSPCR 32 discs sections.





• Discs section assembly - GSPCR 36 discs

Check below the Assembly of the GSPCR 36 discs sections.



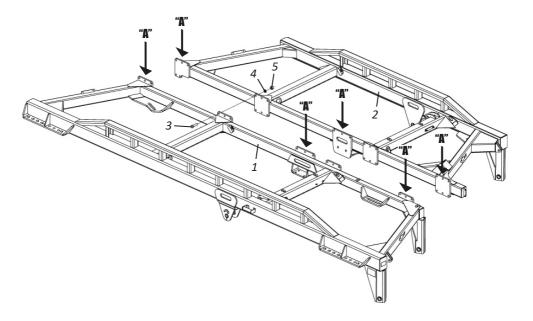


#### Assembly

• Assembly of the right main frame in te left main frame

Start the **GSPCR** Assembly by the main frame. For this, proceed as follows:

01 - Couple the right main frame (1) with the left main frame (2), fixing using the screws (3), lock washers (4) and nuts (5).



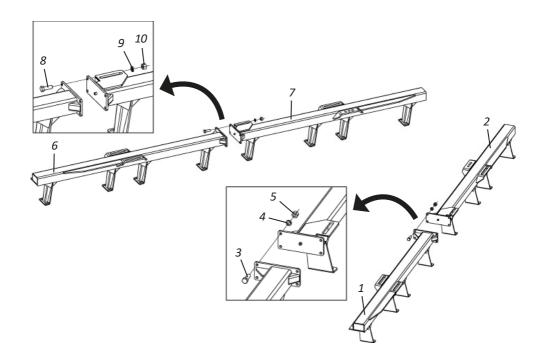
**OBSERVATION** Fix the main frames with the screws (3), lock washers (4) and nuts (5) at all other points "A".



Gangs assembly

After coupling the main frames, attach the gangs. For this, proceed as follows:

- 01 Place the front and rear gangs in a flat, clean place.
- **02** Then, attach the right front gang (1) to the left front gang (2) by fixing using the screws (3), lock washers (4) and nuts (5).
- **03** Then, attach the right rear gang (6) to the left rear gang (7) by fixing using the screws (8), lock washers (9) and nuts (10).



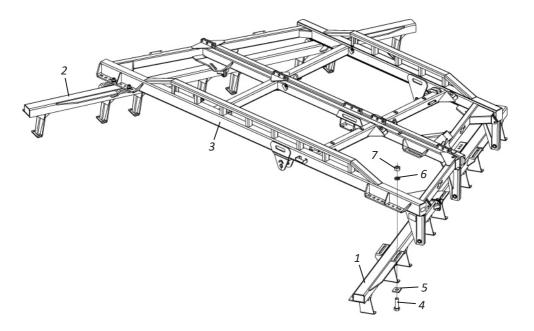


#### Assembly

• Assembly of the gangs in the main frame

After attaching the gangs, fix the frames to the main frames. For this, proceed as follows:

- 01 Place the front (1) and rear (2) gangs in a flat, clean place.
- 02 Then, place the main frame (3) on the front (1) and rear (2) gangs, fixing them through the screw (4), lock (5), lock washer (6) and nut (7).



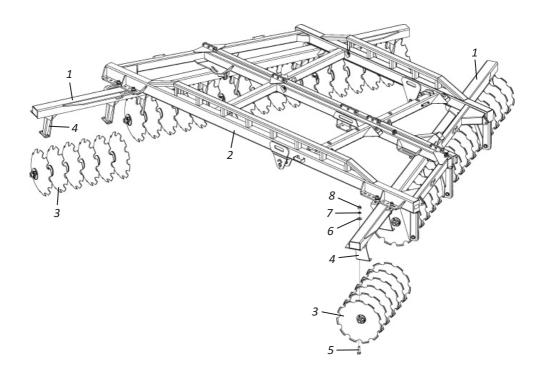
**OBSERVATION** Repeat the above procedure for the assembly of the gangs in the right central main frame.



· Assembly of the disc sections in the gangs

After fixing the gangs (1) on the main frame (2), fix the disc sections (3) for this, proceed as follows:

- 01 Lift the front or rear of the disc harrow and place the disc section (3) in line and match the drilling of the shoes (4) with those of the bearings and make the fixation using the screws (5), flat washers (6), lock washers (7) and nuts (8).
- **02** Then, lift the other part of the grid and repeat the operation, checking the concavity of the disks from one section to the other, which should be opposite.
- 03 When finishing the Assembly, check that the shoes (4) were facing the concavity of the discs.





When mounting the disc sections on the frames, note that the frame shoes should face the disc's concavity.

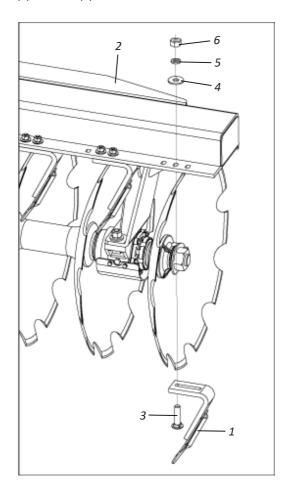


#### Assembly

Scrappers Assembly

After mounting the disk sections on the gangs, fix the wipers (1), to do this, proceed as follows:

**01** - Place the scrappers (1) on the frames (2), fixing using the screws (3), plain washers (4), pressure washers (5) and nuts (6).





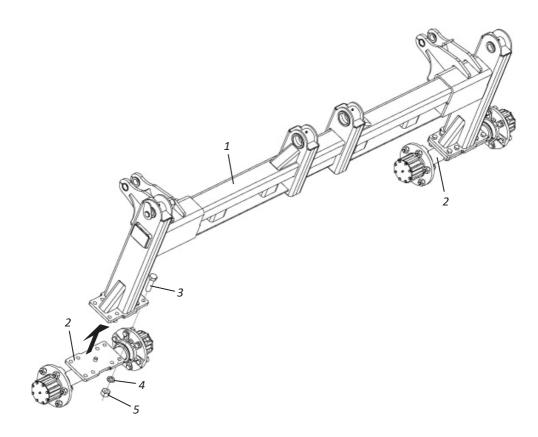
When installing the cleaners, they should be 0.5 to 1.0 cm away from the discs.



Wheel shaft support assembly

To mount the wheel shaft support (1), proceed as follows:

**01** - Couple the wheel shaft (2), to the wheel shaft support (1) by fixing through the screws (3), lock washers (4) and nuts (5).



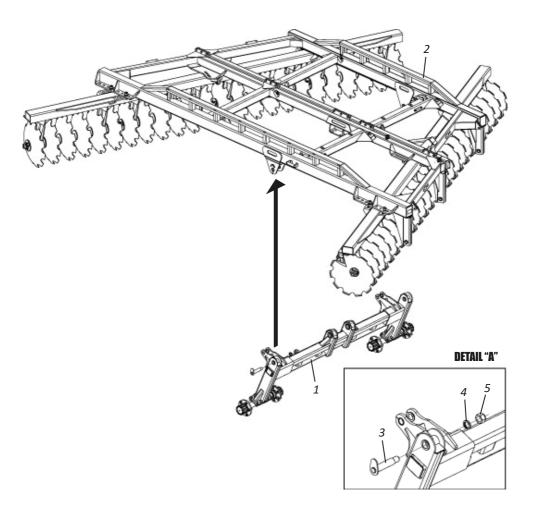


#### Assembly

• Assembly of the wheel axle support in the main frame

After assembling the wheel shaft support, fix the wheel shaft support (1) to the main frame (2) for this, proceed as follows:

**01** - Attach the wheel shaft support (1) to the main frame (2) fixing through the pins (3), lock washers (4) and nuts (5), **as shown in detail "A".** 

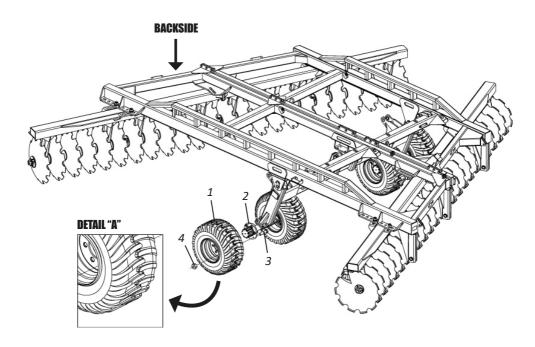




Wheels assembly

After assembling the wheel shaft support, fix the tires (1) for this, proceed as follows:

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





All tires must be mounted with anti-traction, that is, with the jaws facing the front of the GSPCR as shown in detail "A".

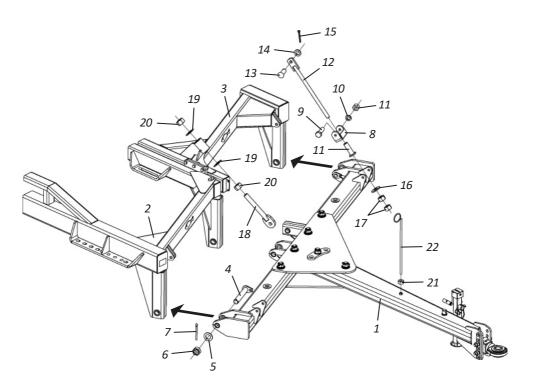


#### Assembly

Hitch drawbar assembly

To assembling the hitch drawbar, proceed as follows:

- **01** Engage the hitch drawbar (1), on the main frames (2 and 3) fixing through the pins (4), flat washers (5), nuts (6) and cotter pins (7).
- **02** Then, fix the support (8), through the screws (9) and nuts (10) and place the bushing (11) the rod (12), fixing with the pin (13), flat washer (14), cotter pin (15), plain washers (16) and nuts (17).
- 03 Then, place the rod (18) and secure with the flat washers (19) and nuts (20).
- 04 Finish by placing the nut (21) and the hose support (22).

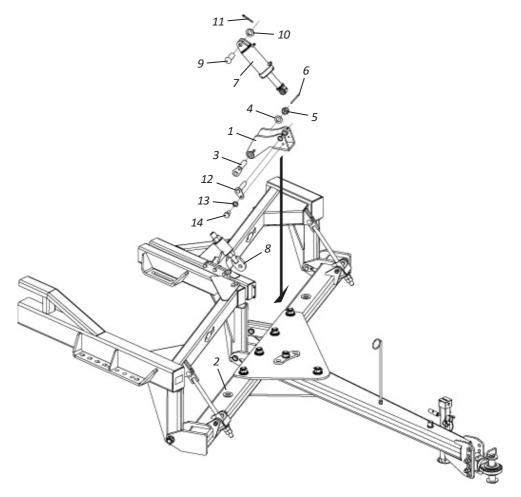




• Hydraulic cylinder assembly on the hitch drawbar

To mount the hydraulic cylinder on the hitch drawbar, proceed as follows:

- **01** Place the articulation support (1) on the crossbar (2) fixing with the pin (3), washer (4), castle nut (5) and cotter pin (6).
- **02** Then, attach the base of the hydraulic cylinder (7) to the regulator (8) fixing through the pin (9), washer (10) and cotter pin (11).
- **03** Then, attach the hydraulic cylinder rod (7) to the articulation support (1), fixing through the pin (12), pressure washer (13) and screw (14).



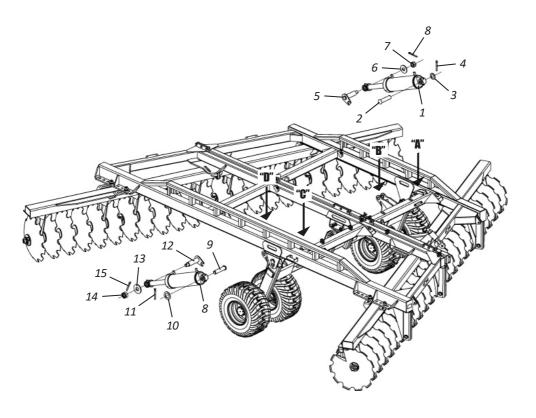


#### Assembly

• Hydraulic cylinder assembly on the main frames

To mount the hydraulic cylinders on the uprights, proceed as follows:

- **01** Couple the base of the hydraulic cylinder (1) at point "A", fixing through the pin (2), flat washer (3), cotter pin (4) and the hydraulic cylinder rod (1) at point "B", through the pin (5), plain washers (6), castle nut (7) and cotter pin (8).
- O2 Then, attach the hydraulic cylinder base (8) to point "C", fixing through the pin (9), flat washers (10), cotter pin (11) and the hydraulic cylinder rod (8) to point "D", through the pin (12), flat washer (13), castle nut (14) and cotter pin (15).

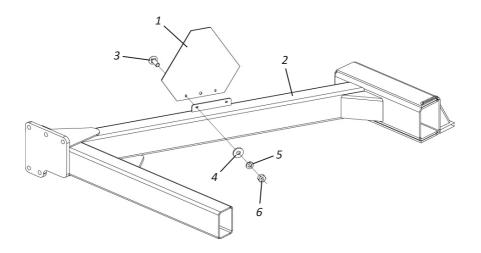




Signpost assembly

To mount the signposts on the uprights, proceed as follows:

01 - Attach the sign plate (1) to the left central post (2) using the screws (3), plain washers (4), lock washers (5) and nuts (6).



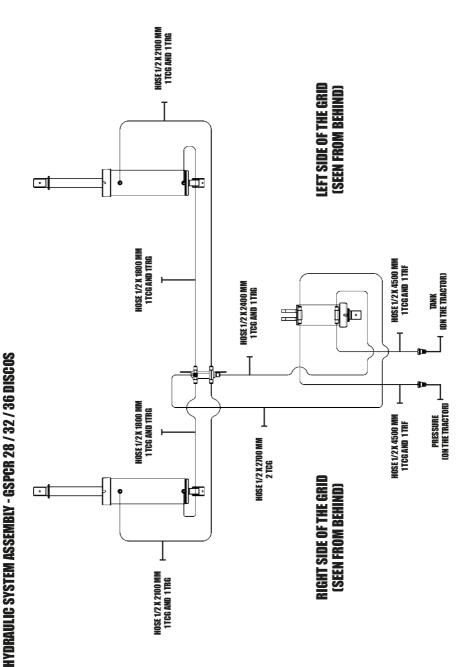


**ATTENTION** DO NOT work or transport the GSPCR mainly on highways without signposts.



Repeat the above procedure to mount the signpost on the right post.





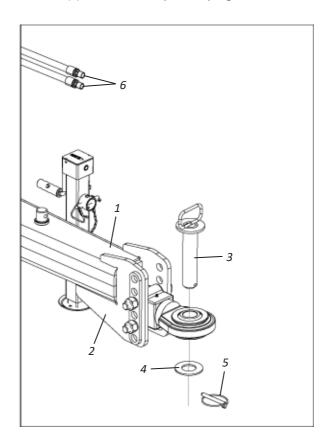


#### Hitch

#### DISC HARROW HITCH IN THE TRACTOR DRAWBAR

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

- 01 Level the GSPCR coupling header (1) in relation to the tractor coupling through adjustments(2) of the coupling wheel. Then, slowly approach the harrow in reverse with the tractor, paying attention to the application of the brakes.
- **02** Proceed with the coupling of the **GSPCR** to the tractor fixing it through the coupling pin (3), flat washer (4) and lock (5).
- 03 Finally, attach the hoses (6) to the tractor's quick coupling.





When engaging the GSPCR, look for a safe and easily accessible place. Always use low gear with low acceleration.

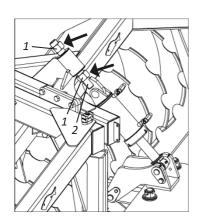


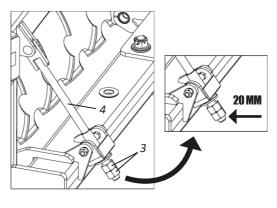
#### Leveling

#### **DISC HARROW LEVELING - PART I**

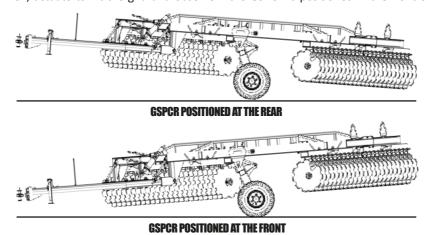
To level the **GSPCR**, proceed as follows:

- 01 Place the tractor and GSPCR in a flat location.
- **02** Then, before lifting the **GSPCR**, loosen the nuts (1) of the central rods (2) halfway through.
- 03 Then, loosen the nuts and locknuts (3) of the header rods (4) leaving them at a distance of 20 mm from their face.





04 - Then, actuate to lift the grid and observe if the GSPCR is positioned in the front or rear:



05 - Depending on the position of the GSPCR, make the following adjustments:

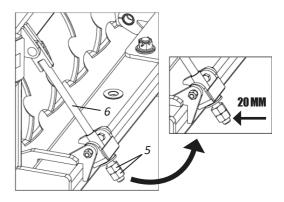


### Leveling

#### **DISC HARROW LEVELING - PART II**

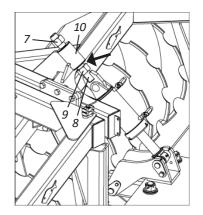
#### 06 - REAR POSITION:

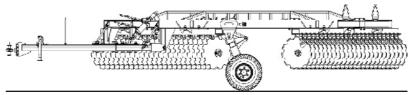
With the **GSPCR** in this position, first lower it by relieving the hydraulic system. Then tighten the nuts and locknuts (5) of the header rods (6) every 10 mm. Then, activate the hydraulic system to lift the **GSPCR** and check its position. If you still need to adjust it, lower it again, tighten the nuts and locknuts (5) + 10 mm and again lift it up and check again. Repeat this procedure until the **GSPCR** is level.



#### 07 - FRONT POSITION:

With the **GSPCR** in this position, first lower it by relieving the hydraulic system. Then, loosen the upper nuts (7) of the central bars (8) every 10 mm. Then, tighten the lower nuts (9) until they touch the face of the bushing (10). Then, activate the hydraulic system to lift the **GSPCR** and check its position. If you still need to adjust it, lower it again, loosen the upper nuts (7) + 10 mm and again lift it up and check again. Repeat this procedure until the **GSPCR** is level.





**GSPCR LEVEL POSITION** 



The measures mentioned in the leveling are initial parameters for leveling the GSPCR.

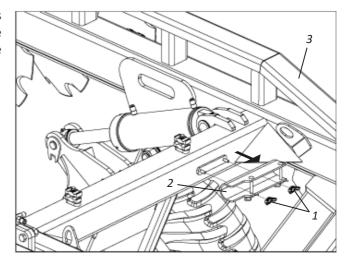


### Regulations

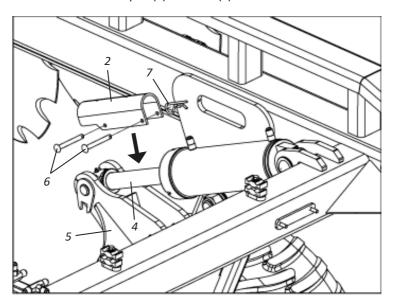
• Regulation for transportation - Part I

Before transporting the GSPCR, proceed as follows:

01 - SLoosen the wing nuts(1) and remove the latches (2) from the upright (3).



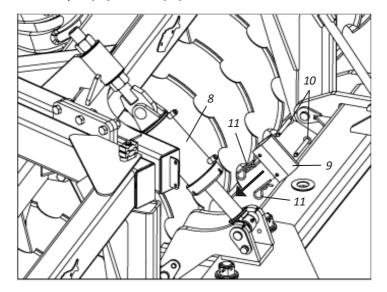
**02** - Then, fully activate the stroke of the hydraulic cylinders (4) of the wheel (5), place the locks (2) and secure them with the pins (6) and locks (7).



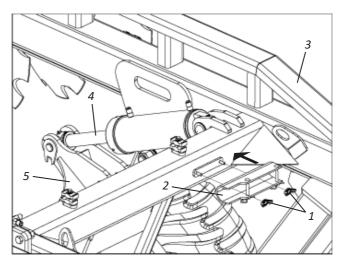


### Regulations

- Regulation for transportation Part II
- **03** Then, fully activate the stroke of the hydraulic cylinder (8) of the header, place the lock (9) and fix it with the pins (10) and locks (11).



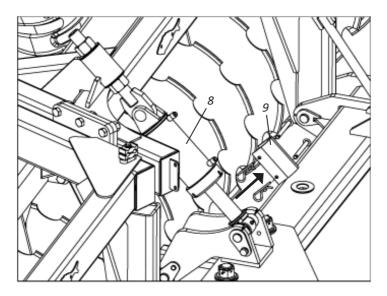
**04** - When the transport is finished, remove the locks (2) of the hydraulic cylinders (4) from the wheel (5) and fix them again on the main frame (3) using the wing nuts (1).





### Regulations

- Regulation for transportation Part III
- 05 Then, also remove the lock (9) of the hydraulic cylinder (8) from the drawbar.





Do not transport the GSPCR without placing the locks (2) on the hydraulic cylinders (4) of the wheel (5) and on the hydraulic cylinder (8) of the header. Ignoring this warning could damage the hydraulic cylinders.

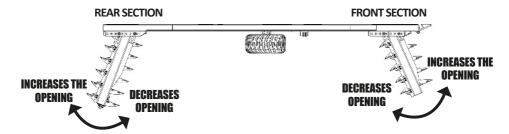


### Regulations

· Adjustment of disc harrow opening

To obtain the ideal penetration of the discs, the opening of the grid must be regulated, which varies according to the type of soil:

- TERRAIN WITH GREATER DIFFICULTY OF PENETRATION: The grid opening must be increased.
- LIGHT AND LOOSE TERRAIN: The grid opening must be decreased.



**OPENS UP:** Greater Depth.

**DECREASES OPENING:** Less Depth.

To increase or decrease the opening of the grid, proceed as follows:

- 01 Loosen the nuts (1), lock washers (2), plain washers (3), remove the locks (4) and screws (5).
- 02 Then adjust the frames (6) by decreasing or increasing their opening.
- **03** Then, fix the frame (6) upstream again (7) using the screws (5), locks (4) flat washers (3), lock washers (2) and nuts (1).

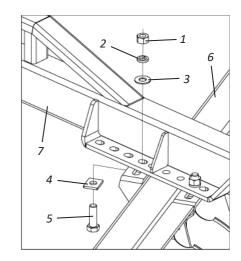
# **O** IMPORTANT

To start the work we recommend using a medium opening in the disc sections. If you need more penetration, increase the opening angle of the rear section.

The front section generally does not operate with a larger opening than the rear section. The wheels also assist in disc depth control.

# **OBSERVATION**

We advise you to control the working depth of the GSPCR by opening the disc sections and using the tires only in places where the GSPCR penetrates too much.



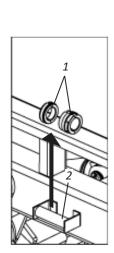


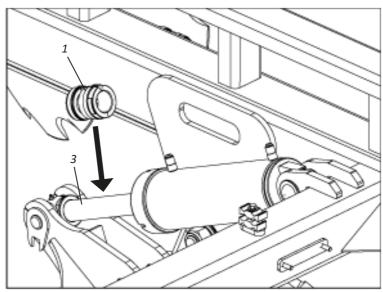
### Regulations

• Working depth adjustment - Part I

To adjust the working depth through the tires, the limiting rings (1) that are placed on the rods of the hydraulic cylinders are used, obtaining numerous working depth regulations. To adjust the working depth, proceed as follows:

- 01 Remove the limiting rings (1) from the amount (2).
- 02 Then, actuate the rods of the hydraulic cylinders (3) of the wheel until the necessary measure.
- **03** Then, place the limiting rings (1) on the rods of the hydraulic cylinders (3) until the entire space between the coupling of the rod and the piston of the hydraulic cylinder (3) is filled.





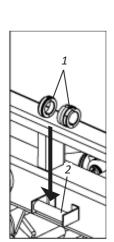


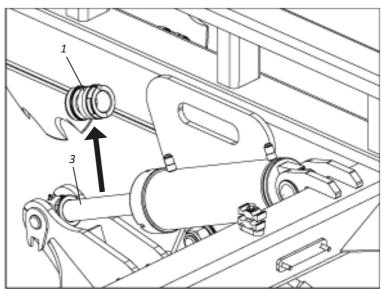
Always place the same number of limit rings (1) on the hydraulic cylinders (3) of the wheel.



### Regulations

- · Working depth adjustment Part II
- **01** After finishing the work with **GSPCR**, remove the limiting rings (1) from the hydraulic cylinders (3) of the wheel and place them in the upright (2).





# IMPORTANT

After adjustment, GSPCR will always operate at the same depth, both in hard and loose terrain, this is because the limit rings (1) are limiting the travel of the hydraulic cylinder (3) of the wheel, that is, preventing the wheels from oscillating.

# **OBSERVATION**

The limiting rings (1) that come with the GSPCR, have different sizes that, in combination, offer various depth regulations.

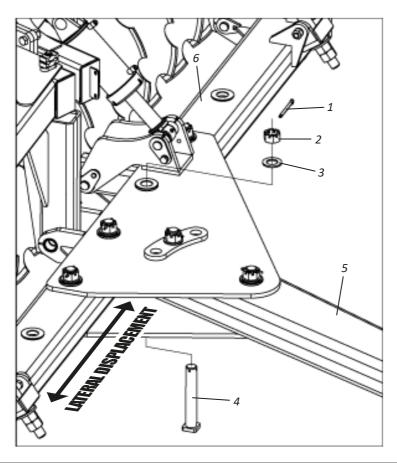


### Regulations

• Adjustment of disc harrow displacement - Part I

The displacement of the harrow must be done when the harrow is not giving a perfect finish, that is, leaving a trail of the tractor. For the harrow to work centrally with the tractor's traction line, proceed as follows:

- **01** Remove the cotter pins (1), loosen the castle nuts (2), flat washers (3) and remove the screw (4).
- 02 Then, move the coupling header (5) on the crossbar (6), making the ideal adjustment.
- 03 Finish by fixing the screws (4), flat washers (3), castle nuts (2) and cotter pins (1).

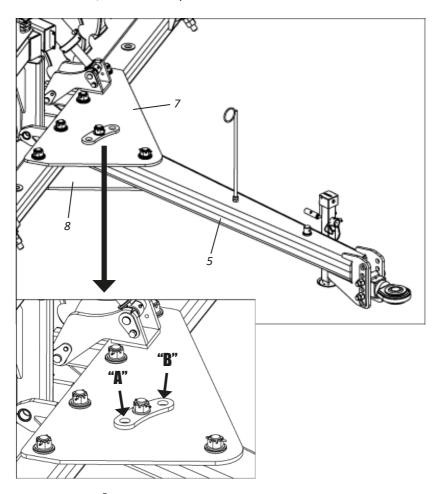




### Regulations

### • Adjustment of disc harrow displacement - Part II

Under normal working conditions and during transport, the coupling header (5) must remain in the central hole of the upper (7) and lower (8) plates. By changing the coupling header (5) to the other holes "A" and "B", small lateral displacements of the GSPCR are obtained.





The GSPCR header and the tractor drawbar must be as aligned as possible with the working direction.

The tractor drawbar must remain loose during work and secure during transport.



### Operations

Operating recommendations - Part I

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

#### **STRUCTURE**

After the first day of work with the **GSPCR**, retighten all screws, nuts and check the condition of the pins and locks of the grid structure. Then perform a general tightening on all the screws and nuts of the grid structure every 24 hours of work.

#### **DISC SECTIONS**

Special attention to the **GSPCR** disc sections. Retighten all bolts and nuts on the disc sections daily during the first week of use. Then, retighten the bolts and nuts of the disk sections periodically.

#### **GENERAL RECOMMENDATIONS**

- **01** Aadjust the tractor according to the contents of the instruction manual, always using the front and rear weights to stabilize the equipment.
- 02 Always do the coupling to the tractor at slow speed and with great care.
- 03 When using the GSPCR it is important to check the coupling and cross leveling system to make sure that the discs will have the same depth of penetration into the ground.
- 04 After coupling and leveling, the next Regulations 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 GSPCR.
- **05** On the tractor, choose a gear that allows you to maintain a certain reserve of power, ensuring against unforeseen efforts.
- 06 Observe the working and transport speeds specified on page 10. We do not recommend exceeding speeds to maintain service efficiency and avoid possible damage to the GSPCR.
- **07** When executing maneuvers at the headlands, first activate the hydraulic cylinders gradually, lifting the disk sections.
- **08** Do not disconnect any hoses without first relieving the pressure in the circuit. To do this, operate the control levers a few times with the engine off.
- 09 Remove sticks or any other object that may get caught in the discs.



### Operations

- Operating recommendations Part II
- 10 In compacted terrain where disc penetration is difficult, the depth can be minimal, making work unsatisfactory. In these cases, the application of other more suitable products is recommended.
- 11 During work or transportation, the tractor drawbar must remain fixed.
- **12** When carrying out any maintenance on the **GSPCR**, it must be lowered to the ground and the engine turned off.
- **13 GSPCR** has several Regulations, however, only local conditions can determine the best regulation.

In case of doubt, never operate or handle GSPCR, consult the After Sales. Telephone: 0800-152577 / E-mail: posvenda@baldan.com.br

#### Direction of maneuvers

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.



With the disk sections on the ground it is necessary to perform maneuvers on the left (closed side of the GSPCR) avoiding overloads.



### Operations

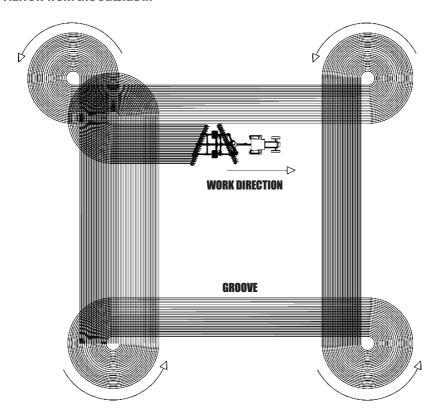
· How to start harrowing

When starting the railing, one must always follow the terraces or contour cord, starting the operation in the sense that the terrace is always on the left side of the tractor.

# **OBSERVATION**

Before starting operations with GSPCR, check it completely, retightening all screws, nuts, hose terminals, shafts and especially the disk sections.

#### Harrow from the outside in



IMPORTANT

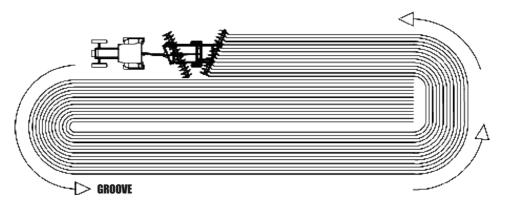
Try to drive the tractor for good performance between GSPCR passes. Avoid forming non-harrowed tracks.



### Operations

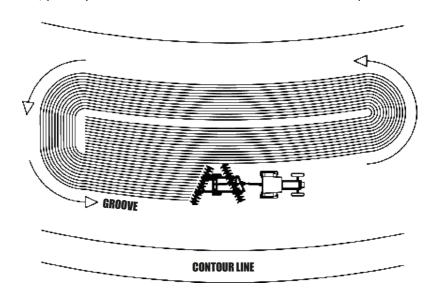
#### · Harrow from the inside out

In this direction, greater perfection is obtained. When walking on headers too much, you may want to start another block.



#### Blocks with contour lines

For terrains with contour line, it is usual to start with two blocks at a time, starting the work with the contour line on the left side of the tractor. When you reach the middle of the contour line, you may want to start another block to reduce fuel consumption.





### Calculations

Approximate hourly production

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

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

#### WHERE:

A = Area to be worked

L = Working width of the harrow (in meters)

**V** = Average speed of the tractor (in meters/hour)

**F** = Production factor: 0.90

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

Example: A GSPCR 28 disks, how much Ha it will produce in an hour of work at an average speed of 7 km / h.

 $A = 5,60 \times 7.000 \times 0,90 = 3,52 \text{ Ha/h}$ 

A = ?

**L** = 5,60 m

V = 7.000 m/h

F = 0.90

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

Model	Nr of Discs	Working Width (mm)	Average Speed (m/h)	Production Factor	Approximate Production in Hectare Hour
GSPCR	28	5605	7.000	0,90	3,52
	32	6377	7.000	0,90	4,01
	36	7147	7.000	0,90	4,49

The formula for calculating the approximate production, refers to the calculation of areas to work or worked by **GSPCR**. If you want to know the time it will take to work an area of known value, just divide the value of this area by the hourly production of **GSPCR**.

Example: How much time "X" will it take for a 28-disk GSPCR grid to produce 35 hectares, at an average speed of 7km / h?

$$X = 35 \text{ Ha} = 9,94 \text{ hours approximately to work 35 hectares.}$$
  
3,52 Ha/h



The hourly production of the GSPCR can vary due to factors that change the rhythm of work such as (humidity and hardness of the soil, slope of the land, inadequate regulations and speed of work).



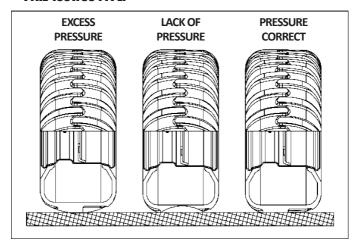
### Maintenance

The **GSPCR** was developed to provide you with the maximum return on land conditions. Experience has shown that periodic Maintenance of certain parts of the **GSPCR** is the best way to help you avoid problems, so we suggest checking.

#### Tire pressure

The tires must always be correctly calibrated, avoiding premature wear due to excess or lack of pressure.

#### **TYRE 400 X 60 14 PLY**



USE: 52 LBS/POL<sup>2</sup>

# **ATTENTION**

Never weld the tire-mounted wheel, heat can cause an increase in air pressure and cause the tire to explode.

When inflating the tire, position yourself next to the tire, never in front of it.

When inflating the tire, always use a containment device (inflation cage).

Assemble the tires with suitable equipment. The service should only be performed by people trained for the job.



**O** NOTE

When inflating tires, do not exceed the recommended inflation.

The tire pressure of the tractor must be made according to the manufacturer's recommendation.



#### Maintenance

**GSPCR** was developed to provide you with the maximum return on land conditions. Experience has shown that periodic Maintenance of certain parts of the **GSPCR** is the best way to help you avoid problems, so we suggest checking.

#### Lubrication

Lubrication is essential for good performance and longer durability of **GSPCR** moving parts, contributing to savings in Maintenance costs.

Before starting the operation, carefully lubricate all grease fittings, always observing the lubrication intervals on the next page. Make sure the quality of the lubricant, as to its efficiency and purity, avoiding using products contaminated by water, earth and other agents.

#### Greases and equivalents table

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	
	Tutela Jota MP 2 EP	
Petronas	Tutela Alfa 2K	
	Tutela KP 2K	

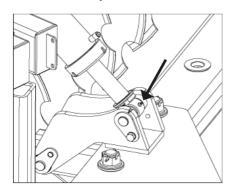


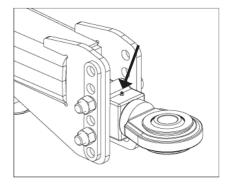
If there are manufacturers and / or equivalent brands that are not listed in the table, consult the manufacturer's technical manual.

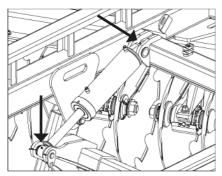


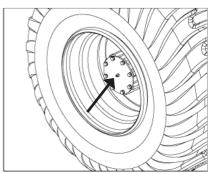
### Maintenance

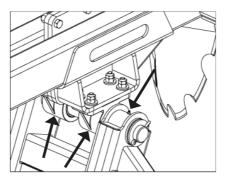
• Lubricate every 24 hours of work











# **ATTENTION**

When lubricating the GSPCR, do not exceed the amount of new grease. Enter a sufficient amount.

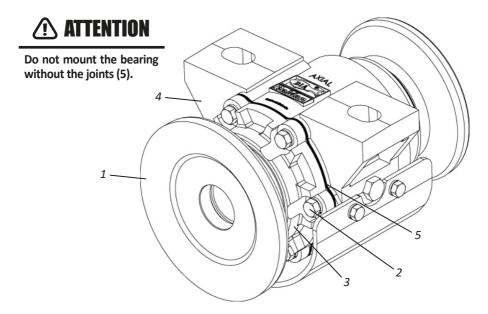


### Maintenance

Disc section bearings adjustments

When the disc section bearings have gaps, proceed as follows to adjust them:

- 01 Remove the washer (1).
- 02 Then, loosen the screws (2) and remove the cover (3) from the bearing (4).
- **03** Then, remove one or two gaskets (5) from the bearing cover (3) (4). Replace the cover (3) and retighten it.
- **04** If the gap persists, you can face the cover (3) to increase the adjustment, then mount it on the bearing with as many joints as necessary.
- 05 The bearing must rotate freely, that is, without looseness.



#### Bearing oil

In the first days of work with **GSPCR**, check the oil level of the bearings daily, then check every 120 hours of work.

The oil change must be done every 1200 hours of work. Use 90 API GL4 transmission oil, MIL-L-2105; SAEJ306, May / 81: SAE 80W, 90 and 140.



The ideal oil level is when it reaches the plug hole. To check the oil level of the bearing, look for a flat place.



### Maintenance

### • Operational Maintenance

PROBLEMS	PROBABLE CAUSES	SOLUTIONS	
Tires are	Work area with rocks, stubs or crop remains with stems that shred the tire.	Eliminate elements that damage tires before using the GSPCR.	
damaged.	Improper tire pressure, creating deformations.	Maintain proper tires pressure.	
Weird noise on	Loosen wheels or gap in wheel hub.	Retighten the wheel nuts and adjust wheel hub bearings.	
wheels.	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	Lack of sealing material on the thread.	Use sealing tape and retighten carefully.	
hydraulic hose.	Insufficient tightening.	Retighten carefully.	
	Damaged repairs.	Replace hubs.	
Leakage in	Insufficient tightening.	Retighten carefully without excess.	
quick couplings.	Damaged repairs.	Replace hubs.	
	Couplings of different brands.	Use a quick coupling of the same brand.	
Quick coupling is not coupling.	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.	



#### Maintenance

- Care
- **01** Before each job, check the condition of all hoses, pins, bolts, bearings, discs and sections. Where necessary, retighten them.
- 02 The displacement speed should be carefully controlled according to the land's conditions.
- **03** The **GSPCR** is used in several applications, requiring knowledge and attention during handling.
- 04 Only local conditions can determine the best method of operation of GSPCR.
- 05 When assembling or dismantling any part of the GSPCR, employ appropriate methods and tools.
- **06** Carefully observe the lubrication intervals in the various lubrication points of the **GSPCR**. 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 the GSPCR discs always sharp.



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

### Maintenance

- General cleaning
- 01 When storing the GSPCR, 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 GSPCR. Do not use burned oil or other abrasive.
- 02 Fully lubricate the GSPCR. Check all moving parts of the GSPCR 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, properly supported.

Avoid: - That the discs come into direct contact with the ground.

- The compression of the springs.
- That the hydraulic hoses be properly capped.



#### Maintenance

- General cleaning
- 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 GSPCR on a flat, covered, dry surface, away from animals and children.
- 07 We recommend washing the GSPCR with water only at the start of work.



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

#### Conservation of the harrow - Part I

To prolong the life and appearance of the **GSPCR** 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.

#### Conservation of the harrow - Part II

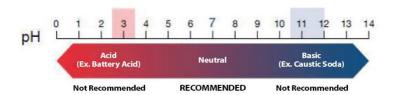
The practices and care below if adopted by the owner or operator make a difference to the conservation of the GSPCR.

- 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.



#### Maintenance

- 06 Do note 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.

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

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

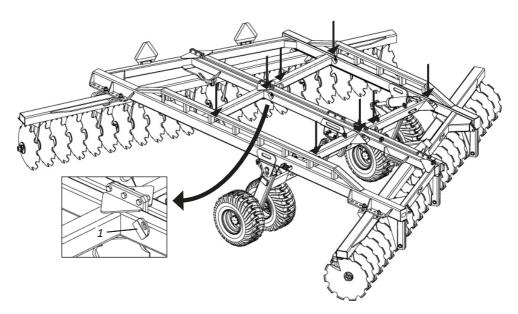
Ignoring the conservation measures mentioned above may result in the loss of warranty for painted or zinc-coated components which may exhibit oxidation (rust).



### Lifting

Lifting points

**GSPCR** has several lifting points located in the uprights. When mounting or maintaining **GSPCR**, if you have to hoist with a winch, it is essential to engage the chains at the lifting points.



### Optional

Cutting Disc

**GSPCR** can be optionally purchased with 32", 34" or 36".



**NOTCHED DISC** 



### Identification

#### Nameplate

To consult the parts catalog or request technical assistance from Baldan, always indicate the model (01), serial number (02) and date of manufacture (03), which can be found on the identification plate of your **GSPCR**.





The drawings contained in this Instruction Manual are for illustrative purposes.



In case of doubt, never operate or handle your equipment without consulting After Sales.

Phone: 0800-152577

e-mail: posvenda@baldan.com.br

## **PUBLICATIONS**

Code: 53850104863 | CPT: GSPCR283600615







### Identification

#### 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:
· / <del></del>
City:
State:
Certificate of Warranty no.:
Implement:
Serial No:
Purchase Date:
Invoice:



• Notes		





• Notes	



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	



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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:	
	Number:
City:	State:
E-mail:	
Sale date:	
Signature / Dealer Stamp	



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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**

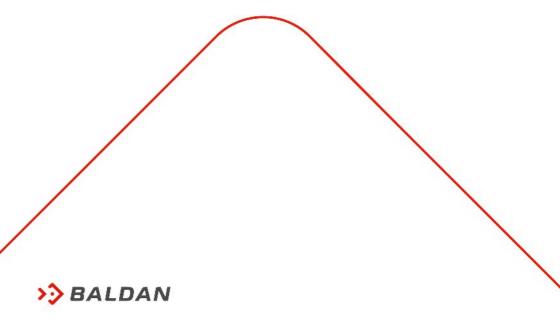
**NO STAMPING IS REQUIRED** 

#### THE STAMP WILL BE PAID BY:



### BALDAN IMPLEMENTOS AGRÍCOLAS S/A.

Av. Baldan, 1500 | Nova Matão | CEP: 15993-900 | Matão-SP. | Brasil Tel: (16) 3221-6500 | Fax: (16) 3382-6500 | www.baldan.com.br | email: sac@baldan.com.br | Export: Tel: +55 (16) 3221-6500 | Fax: +55 (16) 3382-4212 | 3382-2480 | email: export@baldan.com.br



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+55 16 3221 6500 baldan.com.br