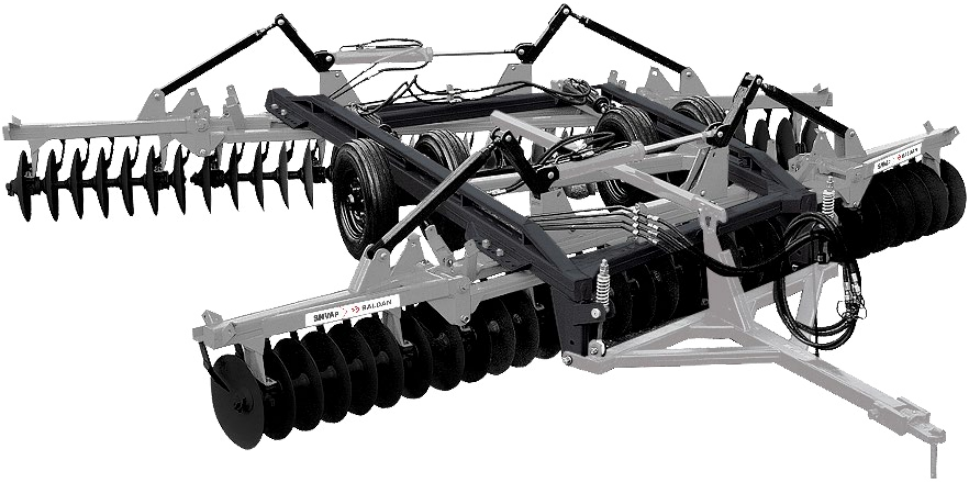
Instruction Manual



SNVAP

Leveling Disc Harrow Remote Control

BALDAN

Presentation

We appreciate your preference and congratulate you for the Excellent choice you have justa made, as you have purchased a product manufactured with **BALDAN IMPLEMENTOS AGRÍCOLAS S/A.**

This manual will guide you through the procedures that are necessary since its acquisition until the operating procedures of use, safety and maintenance.

BALDAN guarantees that it delivered this implement to the reseller complete and in perfect condition.

The resale is accountable for the custody and maintenance during the period it was in its power, and also for assembly, retightening, lubrication and overhaul.

In technical delivery, the dealer should guide the user customer regarding maintenance, security, their obligation to possible technical assistance, the strict observance of the warranty and reading the instructions manual.

Any request for technical assistance under warranty must be made to the dealer where it was purchased.

We reiterate the need for careful reading of the warranty certificate and the observance of all items in this manual, because doing so will increase the life of your implement.

Instruction Manual

SNVAP

Leveling 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 nameplate of your equipament and access this instruction Manual online.

BALDAN

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▪ Baldan Warranty

BALDAN IMPLEMENTOS AGRÍCOLAS S/A guarantees the normal operation of the implement to the dealer for a period of 6 (six) months from the date of delivery on the resale invoice to the first end consumer.

During this period, **BALDAN** undertakes to remedy defects in materials and/or workmanship of its responsibility, being labor, freight and other expenses the dealer's responsibilities.

During the warranty period, the request and replacement of any defective parts must be made to the regional dealer, who will send the defective part for analysis at **BALDAN**.

When such procedure is not possible and the reseller has exhausted its resolution capacity, it will request support from **BALDAN**'s Technical Assistance, through a specific form distributed to resellers.

After analyzing the replaced items by **BALDAN**'s Technical Assistance, and concluding that it is not a warranty, then the costs related to the replacement will be the responsibility of the dealer;

as well as expenses for material, travel including accommodation and meals, accessories, used lubricant and other expenses arising from the call for Technical Assistance, and the company **BALDAN** is authorized to make the respective billing on behalf of the reseller.

Any repair made to the product that is within the warranty period by the dealer, will only be authorized by **BALDAN** upon prior presentation of a quote describing parts and labor to be performed.

This term excludes the product that undergoes repairs or modifications by officials who do not belong to the **BALDAN** dealer network, as well as the application of non-genuine parts or components to the user's product.

This guarantee will become null when it is determined that the defect or damage is resulting from improper product use, failure to follow instructions or the inexperience of the operator.

It is agreed that this warranty does not cover tires, deposits of polyethylene, cardans, 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, reason for purchase and sale contract termination, or compensation of any nature.

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.

▪ General Information

• To owner

BALDAN IMPLEMENTOS AGRÍCOLAS S/A, is not responsible for any damage caused by accident from use, transport or in improper or incorrect storage of your implement, whether by negligence and / or inexperience of anyone.

Only people who have full knowledge of the tractor and the implement must make the transport and the operation thereof

BALDAN is not responsible for any damage caused in unpredictable situations or others to implement's normal use.

Improper handling of this equipment can result in serious or fatal accidents. Before putting the equipment into operation, carefully read the instructions contained in this manual. Make sure that the person responsible for the operation is instructed in the correct and safe handling. Also make sure the operator has read and understood the product instruction manual.

⚠ ATTENTION

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

This Regulatory Standard is to establish the principles to be observed in the organization and in the workplace, consistent with planning and development of agricultural, livestock, forestry, logging and aquaculture activities with safety and health, environment of Work.

MR. OWNER OR EQUIPMENT OPERATOR.
Read and follow carefully the provisions of NR-31.

More information, visit the website and read in full the NR-31.
http://portal.mte.gov.br/legislacao/normas-regulamentadoras-1.htm

▪ Safety Standards

• To the operator

THIS SYMBOL IS AN IMPORTANT SAFETY WARNING.WHENEVER YOU FIND IT IN THIS MANUAL, PLEASE READ THE MESSAGE THAT FOLLOWS CAREFULLY AND BE AWARE OF POTENTIAL PERSONAL ACCIDENTS.

ATTENTION

Read the instruction manual carefully for recommended safety practices.

ATTENTION

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

ATTENTION

Do not carry people on or inside the tractor or on the equipment.

ATTENTION

There is a risk of serious injury from tipping over when working on sloping ground.
Do not use excessive speed.

ATTENTION

Do not work with the tractor if its front does not have enough ballast for the rear equipment.
If it tends to lift, add weights or ballasts to the front of the machine or its front wheels..

ATTENTION

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

ATTENTION

Never use chemical products without proper protection, thus avoiding contact with the skin.

ATTENTION

Be careful when handling the SNVAP support foot, as there is a risk of accidents.

▪ Safety Standards

⚠ ATTENTION

FOLLOW ALL RECOMMENDATIONS, WARNINGS, AND SAFETY PRACTICES IN THIS MANUAL, UNDERSTAND THE IMPORTANCE OF YOUR SAFETY. ACCIDENTS CAN LEAD TO DISABILITY OR EVEN DEATH. REMEMBER, ACCIDENTS CAN BE AVOIDED!

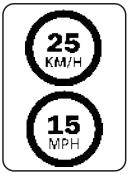
⚠ ATTENTION

Do not make adjustments with the SNVAP running. When performing any service on the SNVAP, turn off the tractor first. Use appropriate tools.

⚠ ATTENTION

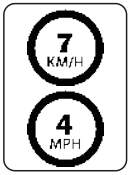
When checking hoses for leaks, use a piece of cardboard or wood, never use your hands. Avoid incision of fluid in the skin.

⚠ ATTENTION



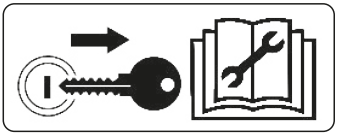
When transporting the SNVAP, do not exceed the speed of 25Km/h or 15 MPH to avoid the risk of damage and accidents.

⚠ ATTENTION



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

⚠ ATTENTION



Remove the ignition key before performing any maintenance on the SNVAP. Protect yourself from potential injury or death caused by the SNVAP starting up unexpectedly.
If the SNVAP is not properly hitched, do not start the tractor.

⚠ ATTENTION

Pressurized hydraulic oil under may cause serious injury if leaks occur. Periodically check the condition of the hoses. If there are signs of leaks, replace immediately. Before connecting or disconnecting hydraulic hoses, relieve system pressure by activating the control with the tractor off.

▪ Safety Standards

ATTENTION

FOLLOW ALL RECOMMENDATIONS, WARNINGS, AND SAFETY PRACTICES IN THIS MANUAL, UNDERSTAND THE IMPORTANCE OF YOUR SAFETY. ACCIDENTS CAN LEAD TO DISABILITY OR EVEN DEATH. REMEMBER, ACCIDENTS CAN BE AVOIDED!

ATTENTION

Always keep walking and working spaces free from residues such as oil or grease, as they can cause accidents.

ATTENTION

Before working or transporting the SNVAP, check for people or obstructions near the machine.

ATTENTION

Avoid heating parts near fluid lines.
Heating can make the material brittle, zzed fluid leaks, which can lead to burns and injuries.

ATTENTION

Keep the articulation area clear while operating the SNVAP.
In sharp turns, keep the tractor wheels from touching the head.

ATTENTION

Never weld a wheel that has a tire mounted on it, as the heat can cause the air pressure to rise and.
result in the tire exploding. When inflating the tire, stay beside the tire, never in front of it. To inflate the tire, always use a containment device (inflation cage).

ATTENTION

• Always stay away from the active elements of the SNVAP (discs), they are sharp and can cause accidents.
When carrying out any service on the discs, wear safety gloves on your hands.

▪ Safety Standards

⚠ ATTENTION

FOLLOW ALL RECOMMENDATIONS, WARNINGS, AND SAFETY PRACTICES IN THIS MANUAL, UNDERSTAND THE IMPORTANCE OF YOUR SAFETY. ACCIDENTS CAN LEAD TO DISABILITY OR EVEN DEATH. REMEMBER, ACCIDENTS CAN BE AVOIDED!

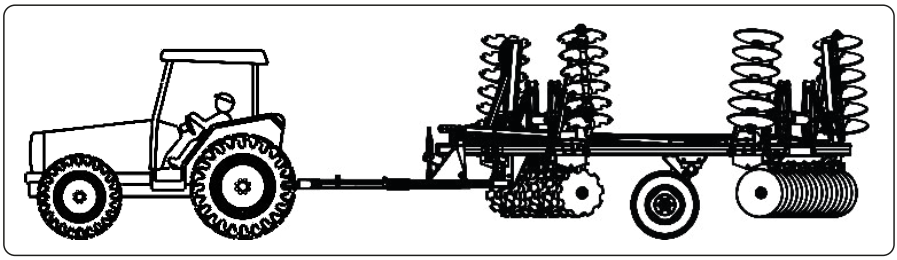
⚠ ATTENTION

The degradation of the environment reflects on everyone. May our day-to-day actions aim to recover it.
Make sure that chemicals are handled in a way that does not contribute to such degradation.

⚠ ATTENTION

Do not drink water from the 30-liter tank of clean water, as it is unfit for human consumption "Non-drinkable water". Ignoring this warning may cause health risks.

⚠ ATTENTION



Be careful and cautious when transporting the SNVAP.Carry it slowly.

⚠ ATTENTION

Always observe the recommendations on the chemical product package before purchasing and using it. If you do not read these recommendations you may use the product incorrectly, thus affecting people, animals, and yourself, causing serious illness or even death.
When emptying the chemical product package, do not throw it into rivers or lakes, proceed according to the instructions on the package, if there is no information, contact the competent body in your region.
Observe the triple washing recommendation on the chemicals' packaging.

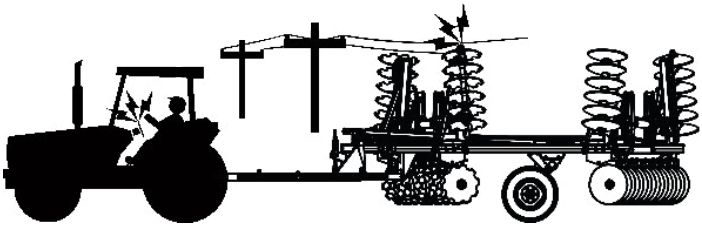
▪ Safety Standards

⚠ ATTENTION

FOLLOW ALL RECOMMENDATIONS, WARNINGS, AND SAFETY PRACTICES IN THIS MANUAL, UNDERSTAND THE IMPORTANCE OF YOUR SAFETY. ACCIDENTS CAN LEAD TO DISABILITY OR EVEN DEATH. REMEMBER, ACCIDENTS CAN BE AVOIDED!

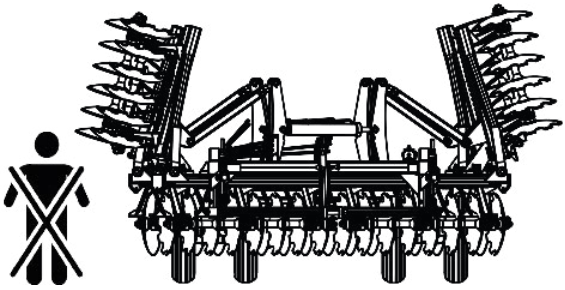
⚠ ATTENTION

Be careful when transporting the SNVAP under power lines, low tree branches and other overhead obstructions to avoid serious injury or even death. Before transporting the SNVAP, do a full check of the location.



⚠ ATTENTION

DO NOT allow people to stand under the side frames or in their area of action as there is a risk of serious injury or death from mechanical or hydraulic failure.



⚠ ATTENTION

•Improper waste disposal affects the environment and ecology as it will pollute rivers, canals, or the soil. Find out about the correct way to recycle or dispose of waste.

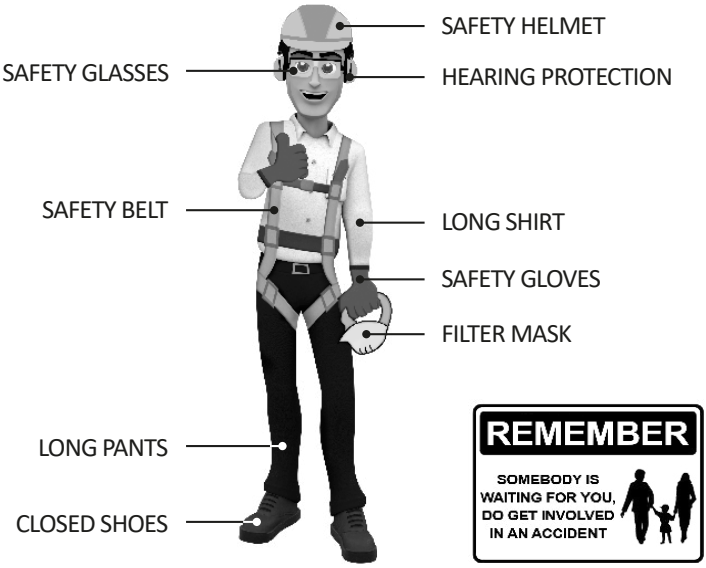
PROTECT THE ENVIRONMENT!

▪ Safety Standards

• PPE Equipment

ATTENTION **DO NOT WORK WITH THE SNVAP WITHOUT PUTTING THE PPE (SAFETY EQUIPMENT) ON BEFORE. IGNORING THIS WARNING COULD CAUSE HEALTH DAMAGE, SERIOUS INJURY OR DEATH.**

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



IMPORTANT

The safety practice must be carried out at all stages of work with the SNVAP, thus avoiding accidents such as impact from objects, falls, noise, cuts and ergonomics; that is, the person responsible for operating the SNVAP is subject to internal and external damage to his or her body.

NOTE **All PPE (Security Equipment) must have a certificate of authenticity.**

▪ Warnings

⚠ When operating the SNVAP, do not allow people to stand too close to or on top of it.

⚠ When servicing the machine, wear PPE.

⚠ Before connecting or disconnecting the hydraulic hoses, relieve the system pressure by activating the command with the tractor turned off.

⚠ Check the condition of the hydraulic hoses from time to time. If there is evidence of oil leakage, replace the hose immediately as the oil works under high pressure and may cause serious accidents.

⚠ Do not wear clothes that are too loose, as they could get caught in the SNVAP.

⚠ When starting the tractor engine, be properly seated in the operator's seat and be fully aware of the correct and safe handling of both the tractor and the SNVAP. Always put the shift lever in the neutral position, disconnect the control gear from the PTO and put the hydraulic controls in the neutral position.

⚠ Do not start the tractor engine indoors without adequate ventilation as exhaust fumes are harmful to health.

⚠ When driving the tractor to the SNVAP's hitch, make sure that you have space enough and that no one is too close, always carry out the maneuvers at idle speed and be prepared to brake in an emergency.

⚠ Do not make adjustments with the SNVAP running.

⚠ When working on slopes, be careful to always maintain the required stability. In the event of an imbalance starting, reduce the acceleration, turn the wheels to the side of the terrain slope and never raise the SNVAP.

⚠ Always drive the tractor at safety compatible speeds, especially when working on rough or sloping terrain, always keep the tractor hitched.

⚠ When driving the tractor on roads, keep the brake pedals interconnected.

⚠ Do not work with the tractor with a light rear end. If the rear tends to lift, add more weights to the rear wheels.

⚠ When leaving the tractor, shift to neutral and set the parking brake. Never leave the SNVAP hitched to the tractor with the hydraulic system on the raised position.

⚠ The SNVAP must always be stationary and the tractor must always be turned off before any servicing.

⚠ Do not drive on highways, especially at night. Use warning signs all the way.

⚠ If it is necessary to travel with the SNVAP on highways, consult the traffic authorities.

⚠ Do not allow the SNVAP to be used by people who have not been trained, that is, who do not know how to operate it correctly.

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

▪ Warnings

⚠ It is forbidden to transport people on self-propelled machines and implements.

⚠ Alterations to the original characteristics of the SNVAP are not authorized, as they could affect safety, function, and service life.

⚠ Carefully read all safety information in this manual and on the SNVAP.

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

⚠ Always check that the SNVAP is in perfect conditions of use. In case of any problem that may affect the operation of the SNVAP, provide maintenance before any work or transport.

⚠ Maintenance and especially inspection in the SNVAP's risk zones must only be carried out by trained or qualified workers, observing all safety instructions. Before maintenance, disconnect all drive systems of the SNVAP.

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

⚠ According to the equipment used and the working conditions in the country or in areas of maintenance, precautions are necessary. Baldan has no direct control over precautions, so it is the owner's responsibility to use safety procedures while working with the SNVAP.

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

⚠ When transporting the SNVAP, travel at speeds suitable for the terrain and never exceed 25 km/h, this reduces servicing and consequently increases the useful life of the SNVAP.

⚠ Alcoholic beverages or some medications may cause loss of reflexes and change the operator's physical condition. Therefore, never operate this SNVAP under the influence of these substances.

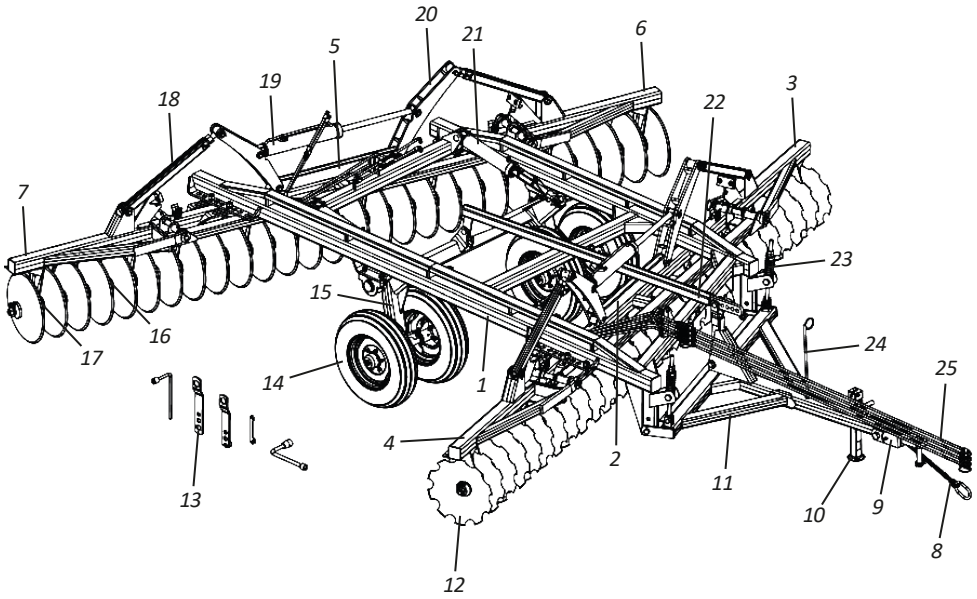
⚠ Read or explain all procedures in this manual to a user who cannot read.

If it doubt, contact the After Sales.
Telephone: 0800-152577 / E-mail: posvenda@baldan.com.br

▪ Components

• SNVAP - Leveling Disc Harrow Remote Control

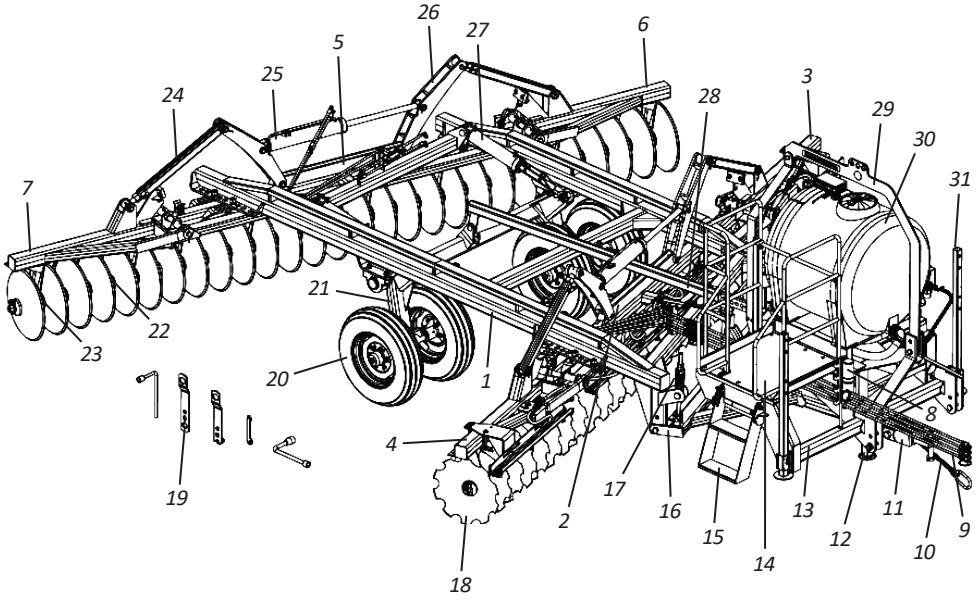
1. Upright
2. Center front frame
3. Left side front frame
4. Right side front frame
5. Center back frame
6. Left side back frame
7. Right side rear frame
8. Traction chain
9. Shackle
10. Mechanical jack
11. Hitch header
12. Discs
13. Wrenches
14. Tires
15. Tires Articulation shaft
16. Spool
17. Bearing
18. Articulation Bar
19. Articulation hydraulic cylinder of the frames
20. Articulation bar lever
21. Articulation hydraulic cylinder os the tires
22. Stabilizer bar
23. Stabilizer rod
24. Hose support
25. Hydraulic hoses



▪ Components

• SNVAP - Leveling Disc Harrow Remote Control - With PPI tank

1. Upright
2. Center front frame
3. Left side front frame
4. Right side front frame
5. Center back frame
6. Left side rear frame
7. Right side rear frame
8. Manual container
9. Hydraulic hoses
10. Traction chain
11. Shackle
12. Mechanical jack
13. Tank support
14. Platform
15. Ladder
16. Hitch header
17. Stabilizer rod
18. Discs
19. Wrenches
20. Tires
21. Articulation shaft of the tires
22. Spool
23. Bearing
24. Articulation bar
25. Articulation hydraulic cylinder of the frames
26. Articulation bar lever
27. Articulation hydraulic cylinder od the tires
28. Stabilizer bar
29. Lifting support
30. 600 liters tank
31. Support bracket



▪ Specifications

• SNVAP - Leveling Disc Harrow Remote Control

Model	No. of Discs	Disc Spacing (mm)	Working Width (mm)	Aproximate Weight (Kg)				Tractor Power (HP)
				Without Inoculant System		With System Inoculante		
				20"	22"	20"	22"	
SNVAP	60	175	5150	3461	3554	4001	4094	168 - 180
	64	175	5500	3528	3652	4068	4192	180 - 192
	72	175	6200	3698	3840	4238	4380	200 - 216
	76	175	6550	3766	3913	4306	4453	212 - 228
	84	175	7260	3942	4115	4482	4655	236 - 252
	56	200	5500	3453	3518	3993	4058	168 - 190
	60	200	5900	3495	3617	4035	4157	180 - 204
	64	200	6300	3518	3579	4058	4119	192 - 218
	68	200	6700	3617	3703	4157	4243	205 - 230
	72	200	7100	3856	3926	4396	4466	220 - 250

Wheelset ..... Double
Shaft diameter ..... 1.1/4"
Disc diameter..... 20" - 22"
Working depth ..... 50 - 150 mm

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 products manufactured. Technical specifications are estimates and reported under normal working conditions.

INTENDED USE OF THE SNVAP

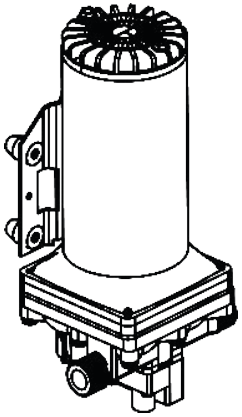
- The **SNVAP** was developed to make operations faster and it ensures optimal working depth control through its tires, which are interconnected to the pistons.
- The **SNVAP** must only be conducted and operated by a properly instructed operator.

UNAUTHORIZED USE OF THE SNVAP

- To avoid damage, serious injury or death, DO NOT carry people over any part of the **SNVAP**.
- The **SNVAP** must NOT be used by an inexperienced operator who does not know all driving, command and operation techniques.

▪ Specifications

• Electric pump - Part I



MODEL NUMBER: 5059-1311-D011

PUMP TYPE: Positive Displacement - 4 Diaphragm Chambers

SAFETY VALVE: (1 - Way) Prevents Reverse Flow

CAM: 2.0 Degrees

ENGINE: Permanent Magnet, 71-Series 10-16.5-L

VOLTAGEM: 12 VCC Rated

PRESSOSTATO: Adjustable Shutoff (Range 40-60 PSI)
Factory setting: 60 PSI, 45 PSI Alloy ± 5 PSI

LIQUID TEMPERATURE: 49°C Max.

SUCTION: Self-priming up to 2.4m, vertical, Max. Inlet Pressure 30 PSI (2.1 Bar)

OUTLETS: ½" NPS male

BUILDING MATERIALS:

PLASTICS: Polypropylene

VALVES: Viton

DIAPHRAGM: Santoprene

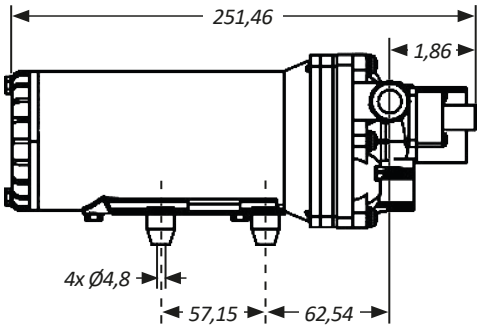
BASE: Zinc-Plated Steel

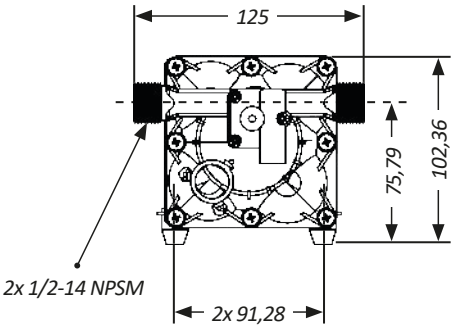
PESO LÍQUIDO: 2,7 Kg

CICLO DE SERVIÇO: Flashing (See Temperature Curve)

APLICAÇÕES TÍPICAS: Agricultural Spraying

DIMENSIONS:

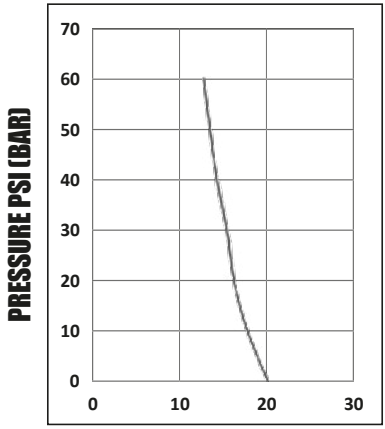




▪ Specifications

• Electric pump - Part II

TYPICAL PERFORMANCE:



Specifications subject to change without notice.

Pressure (PSI)	Flow (LPM)	Current (AMPS)	Voltage (VOLTS)
0	20.1	6.5	12
10	17.8	9.0	12
20	16.3	11.8	12
30	15.5	12.4	12
40	14.4	14.0	12
50	13.6	15.4	12
60	12.9	17.0	12

ELECTRIC PUMP

- It can work dry;
- Co-molded diaphragm;
- 4 Diaphragm chambers;
- Resistant to corrosive and abrasive chemicals;
- Flow of 20.1 L/m
- Regulated pressure switch 50PSI
- Voltage 12 VDC
- 17 Amps

RECOMMENDED APPLICATIONS:

- Work pressure: 15 to 25 PSI
- Application rate (L/HC)

NOTE: At times when the density of the product increases (we recommend up to 1.2), it is necessary to increase the volume of water, consequently replace the filter mesh and replace the nozzle for a higher flow rate.

-Filters:
Mesh #100 #80 #50

RECOMMENDATIONS TO IMPROVE THE PUMP'S SERVICE LIFE:

- It is recommended to clean the filters by running the clean water system at the end of the workday, as instructed on pages 75 and 76.
- On average the brush motor useful life is 3,000 hours.

▪ Assembly

The **SNVAP** leaves the factory disassembled. To assemble it, follow the instructions below:

⚠ The assembling the **SNVAP** must be carried out by the dealer, providing people trained and qualified for such work.

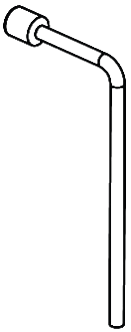
⚠ Before assembling the **SNVAP**, look for a place where it would be easier to identify parts and assemble it.

⚠ Do not wear loose clothing, as it could get caught in the **SNVAP**.

⚠ Use PPE (Safety Equipment).

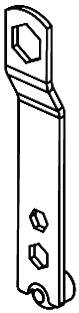
• Wrench set

When assembling, disassembling or maintaining the **SNVAP**, use the wrench set that comes with the harrow. The wrench set consists of:



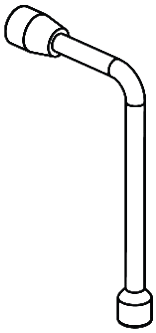
5/8" HEX NUT "L" WRENCH

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



5/8" - 3/4" - 1.1/4" HEX NUT WRENCH

3/8" - 1/2" HEX NUT WRENCH



3/4" - 1" HEX NUT "L" WRENCH

⚠ ATTENTION | **In case of loss or breakage of any key, acquire another one immediately. Always use original Baldan wrenches.**

▪ Assembly

• Assembling the disc section

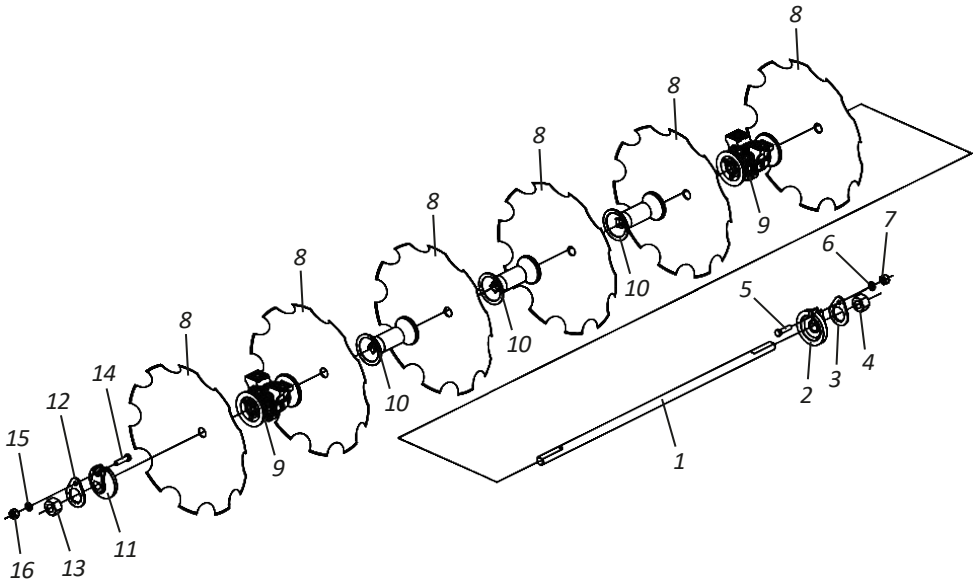
When first assembling the **SNVAP**, always start by assembling the discs:

01 - Place on the shaft (1) the concave thrust washer (2), lock (3), nut (4), securing it with the screw (5), lock washer (6), and nut (7).

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

03 - When the assembly is complete with all discs, bearings, and spacer spools, place the convex thrust washer (11), lock (12), and nut (13), tightening with the wrench until the whole assembly is secure.

04 - Then, wedge the disc set and tighten the nut (13) by means of impacts.When it is almost at maximum tightness, adjust the lock (12) with the convex washer (11), always tightening the nut until the hole matches, secure it with the screw (14), lock washer (15), and nut (16).

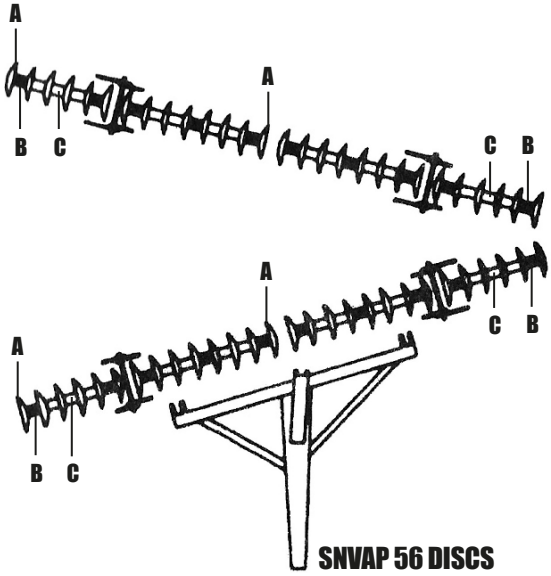


ATTENTION **Check the right side of the separator spools and bearings, according to the concavity of the discs.**

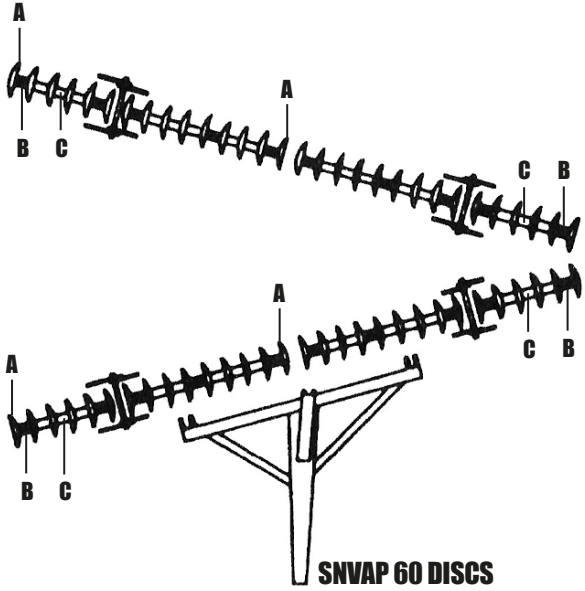
▪ Assembly

• Assembling the disc section - Part I

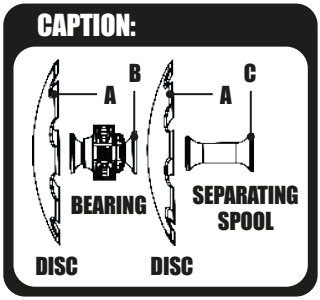
See below how to assemble the disc sections of the **SNVAP** 56 and 60 discs.



SNVAP 56 DISCS



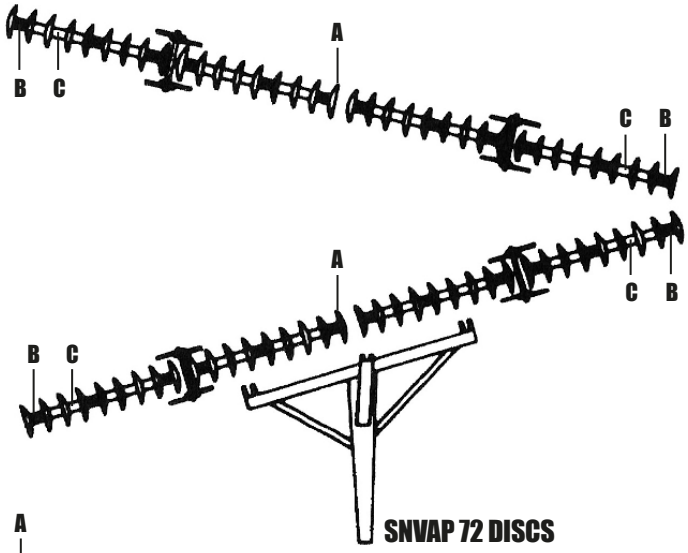
SNVAP 60 DISCS



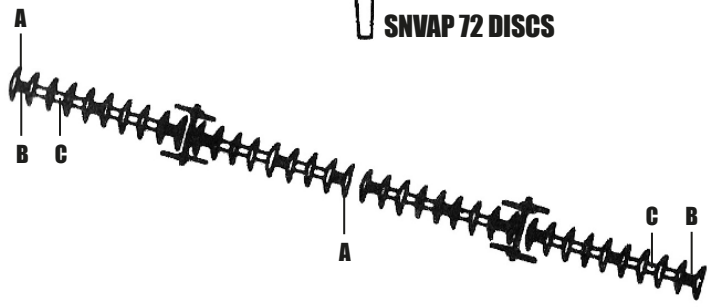
▪ Assembly

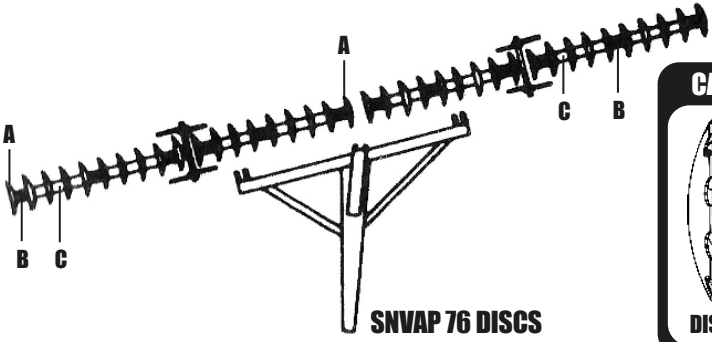
• Assembling the disc section - Part II

See below how to assemble the disc sections of the **SNVAP** 72 and 76 discs.

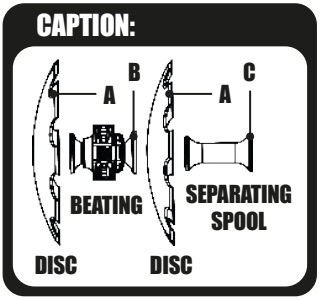


SNVAP 72 DISCS





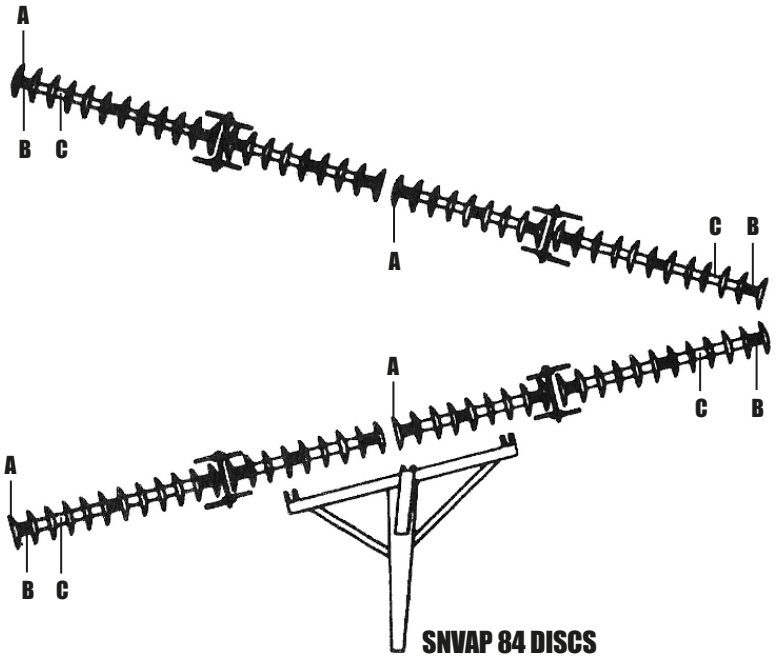
SNVAP 76 DISCS



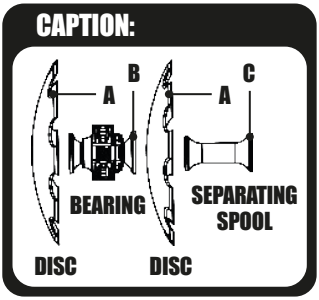
▪ Assembly

• Assembling the disc section - Part II

See below how to assemble the disc sections of the **SNVAP** 84 discs.



SNVAP 84 DISCS



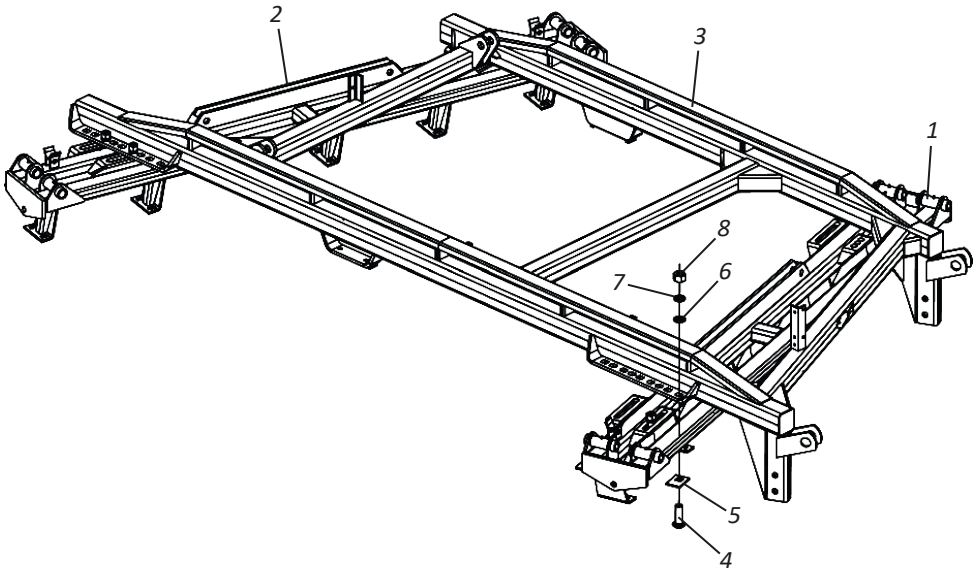
▪ Assembly

• Assembling the central frames on the upright

To mount the central frames on the upright, proceed as follows:

01 - Place the front (1) and rear (2) central frames in a flat and clean place.

02 - Then, place the upright (3) on the front (1) and rear (2) central frames, fastening them with the screw (4), lock (5), flat washer (6), lock washer (7), and nut (8).



▪ Assembly

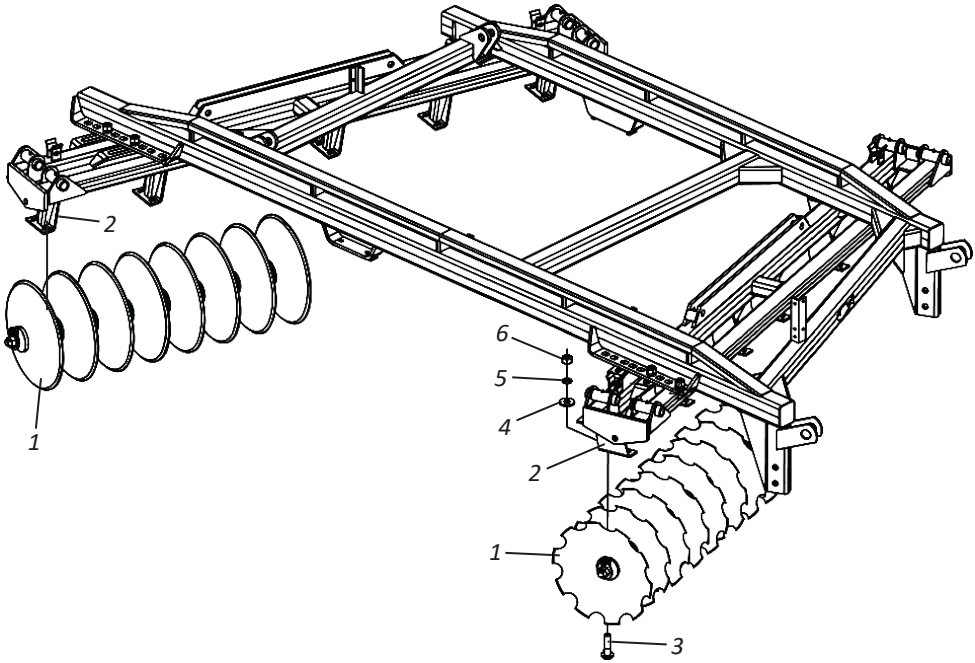
• Assembling the disc sections on the central frames

After securing the central frames to the upright, secure the disc sections, to do this, proceed as follows:

01 - Raise the front or rear of the harrow and place the disc section (1) in line and match the holes in the shoes (2) with those in the bearings and fasten them with the (3) flat washers (4), lock washers (5), and nuts (6).

02 - Then, lift the other part of the harrow and repeat the operation, checking the concavity of the discs from one section to the other, which should be the opposite.

03 - When finishing the assembly, check that the shoes (2) are facing the concavity of the discs.



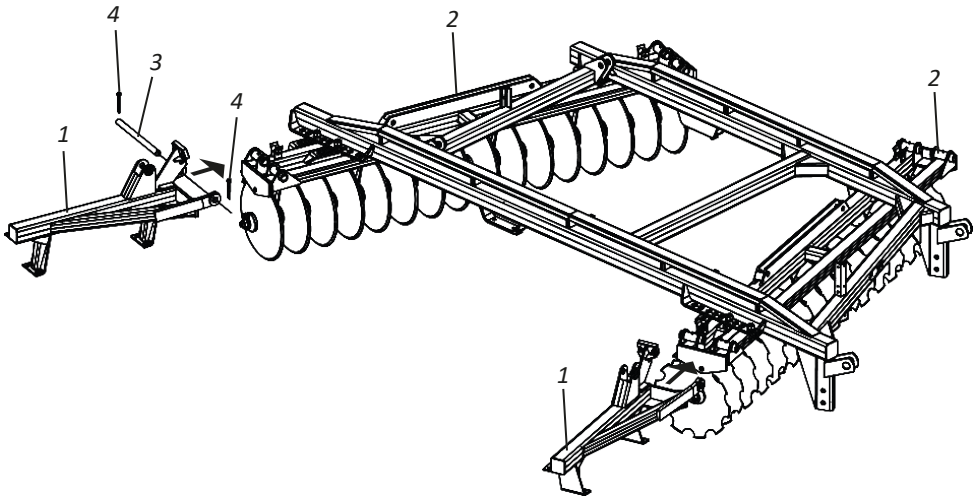
ATTENTION **When mounting the disc sections on the central frames, note that the frame shoes must face the concavity of the discs.**

▪ Assembly

• Assembling the side frames

After securing the disc sections to the central frames, securing the side frames to the central frames, to do so, proceed as follows:

01 - Couple the side frames (1) to the central frames (2), fastening them with the pins (3) and cotter pins (4).



NOTE **Repeat the above procedure to mount the left side frames on the center frames.**

▪ Assembly

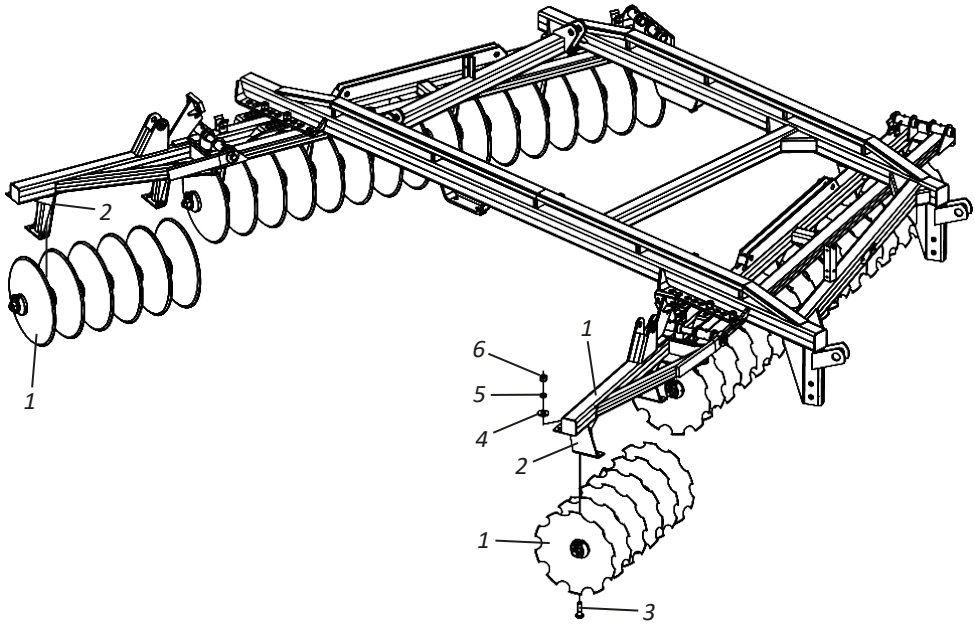
• Assembling the disc sections on the side frames

After fastening the side frames to the central frames, fasten the disc sections, for that, proceed as follows:

01 - Raise the front or back of the harrow and place the disc section (1) in line and match the holes in the shoes (2) with those in the bearings and fasten them with the screws (3) flat washer (4) lock washer (5) and nut (6).

02 - Then, lift the other part of the harrow and repeat the operation, checking the concavity of the discs from one section to the other, which should be the opposite.

03 - When the assembly is finished, check that the shoes (4) are facing the concavity of the discs.



ATTENTION **When mounting the disc sections on the side frames, note that the shoes of the frames must face the concavity of the discs.**

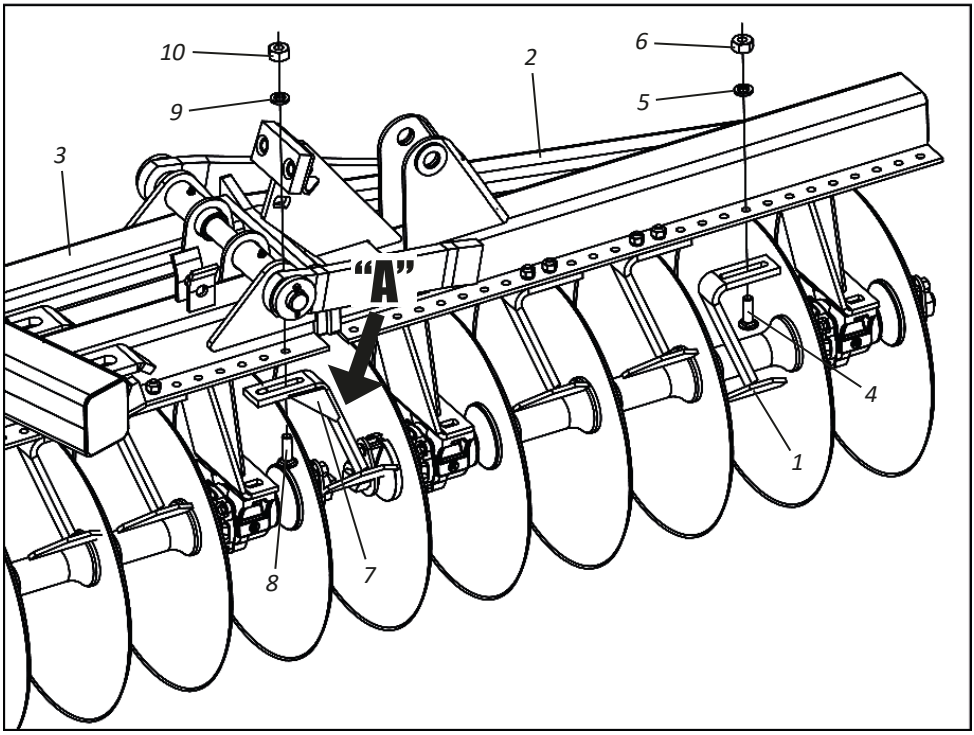
▪ Assembly

• Assembling the wipers

After assembling the disc sections on the side frames, attach the wipers, to do so, proceed as follows:

01 - Place the wipers (1) on the side (2) and central (3) frames, fastening them with the screws (4), lock washers (5) and nuts (6).

02 - Then, on the articulation of the side (2) and central (3) frames, secure the wiper (7) through the screws (8), lock washers (9) and nuts (10).



ATTENTION **When fastening the wiper (7) to the articulations of the side (2) and central (3) frames, pay attention to the correct position as shown in detail "A".**

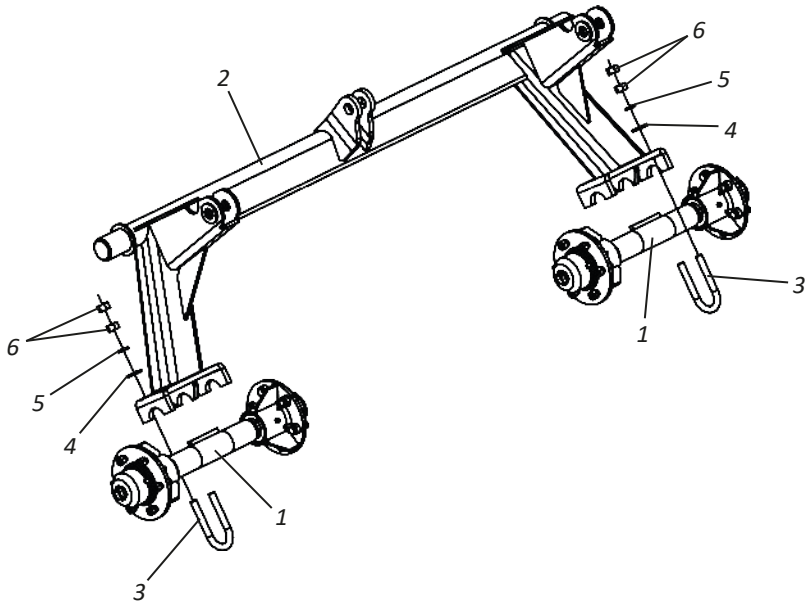
NOTE **When assembling the wipers, they should be 0.5 to 1.0 cm away from the discs.**

▪ Assembly

• Assembling the wheel support

After assembling the wipers, assemble the wheel support, to do so, proceed as follows:

01 - Couple the shafts (1) to the wheel support (2) fastening them with the clamps (3),flat washers (4), lock washers (5) nuts, and locknuts (6).

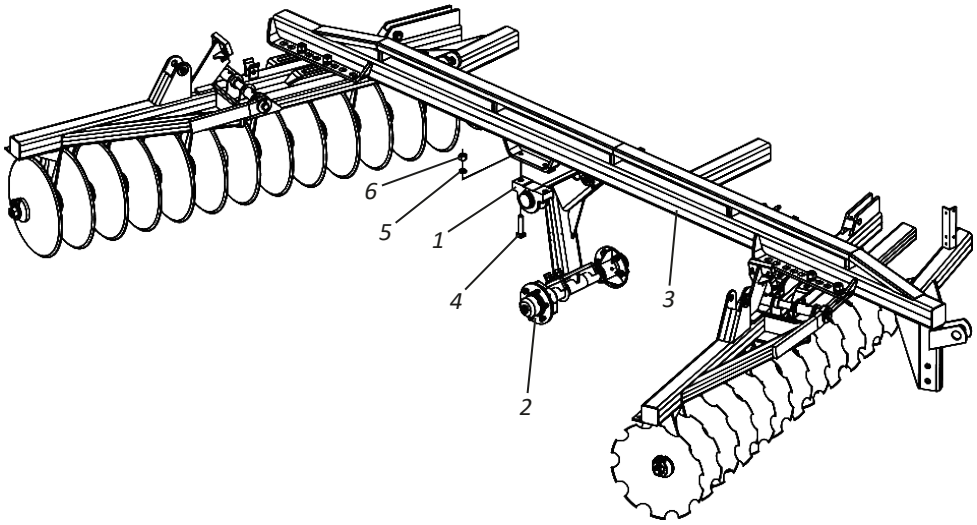


▪ Assembly

• Assembling the wheel support on the upright

After assembling the shaft on the wheel support, secure it on the frame, to do so, proceed as follows:

01 - Couple the hubs (1) to the wheel support (2).
02 - Then secure the hubs (1) on the upright (3) using the screws (4), lock washers (5) and nuts (6).

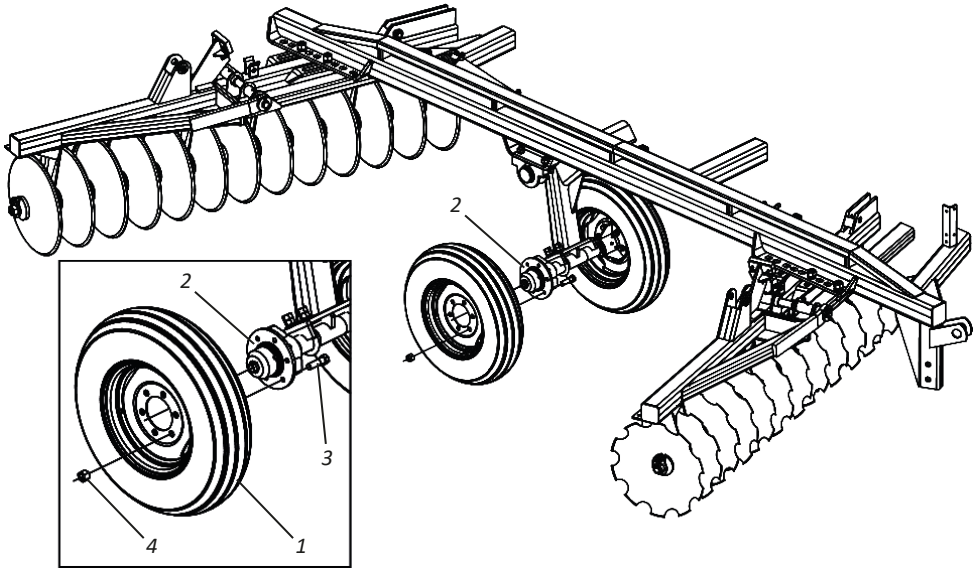


▪ Assembly

• Tires Assembly

After assembling the wheel support on the upright, secure the tires, to do so, proceed as follows:

01 - Couple the tires (1) to the wheel support (2), fastening them with the screws (3), and nuts (4).



⚠ ATTENTION | **Check page 85 for the correct calibration of the tires.**

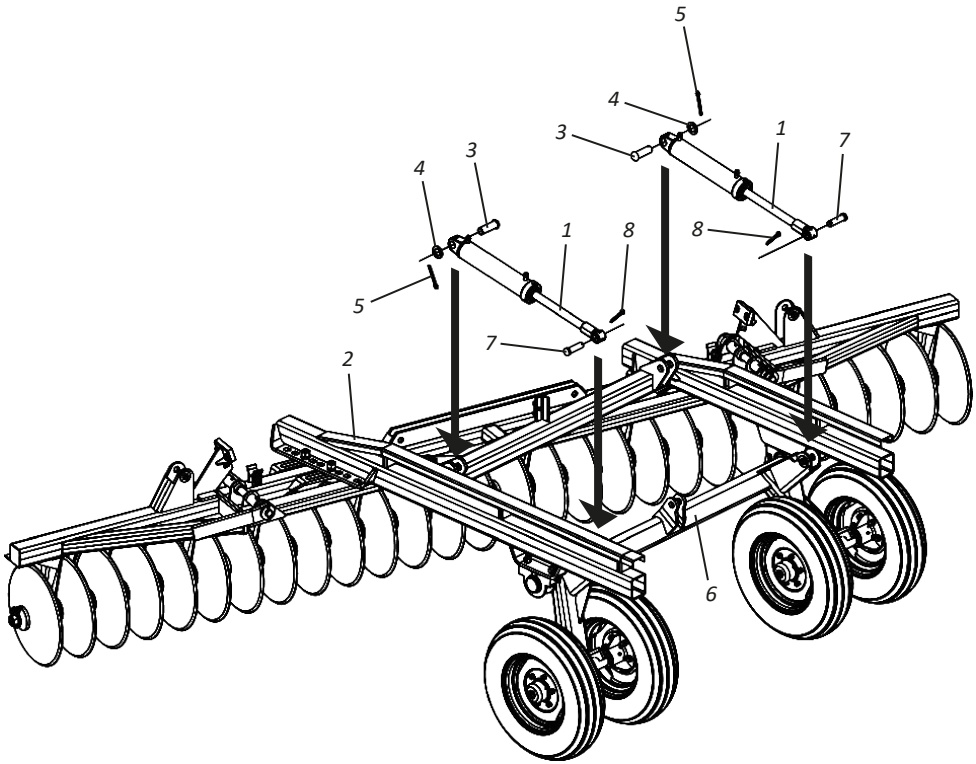
▪ Assembly

• Assembling the hydraulic cylinder

After mounting the tires, secure the hydraulic cylinders, to do so, proceed as follows:

01 - Couple the bases of the hydraulic cylinders (1) to the upright (2), fastening them with the pins (3), flat washers (4) and cotter pins (5).

02 - Then, couple the hydraulic cylinder rods (1) to the wheel support (6), fastening them with the pins (7) and cotter pins (8).



NOTE | **When assembling the hydraulic cylinders, their terminals must be positioned upwards.**

▪ Assembly

• Assembling the hitch header

After assembling the hydraulic cylinders, secure the hitch header, to do so, proceed as follows:

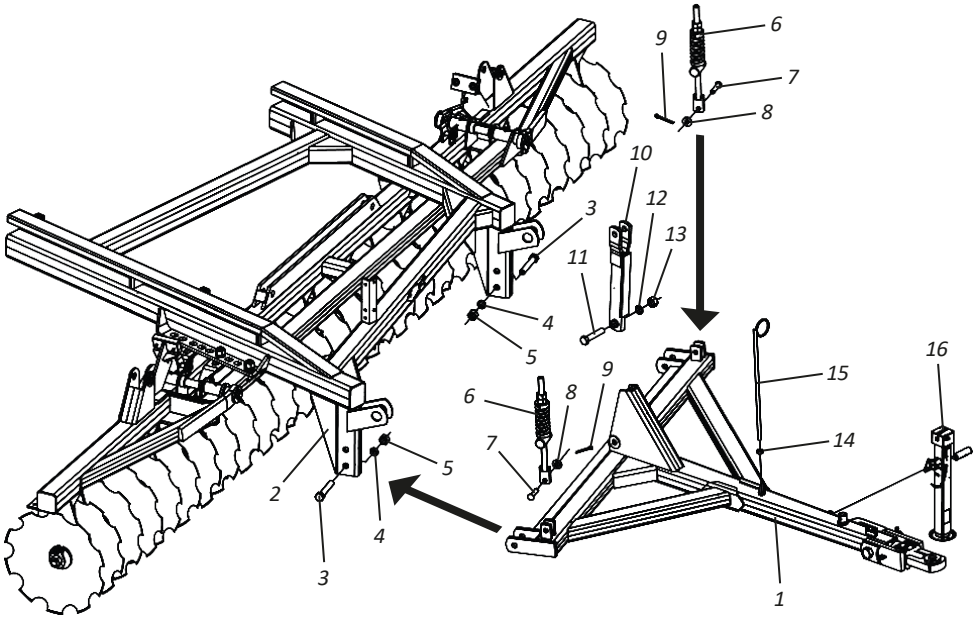
01 - Couple the hitch header (1) to the upright (2) fastening them with the screws (3), lock washers (4) and nuts (5).

02 - Then fasten the rods (6) to the hitch header (1) and in the upright (2) fastening them with the pins (7), flat washers (8) and cotter pins (9).

03 - Then, couple the stabilizer bar support (10) to the hitch header (1) securing it with the pin (11), flat washer (12) and cotter pin (13).

04 - Then place the lock nut (14) and the hose support (15) on the hitch header (1).

05 - Finish by securing the lifting support (16) on the hitch header (1).



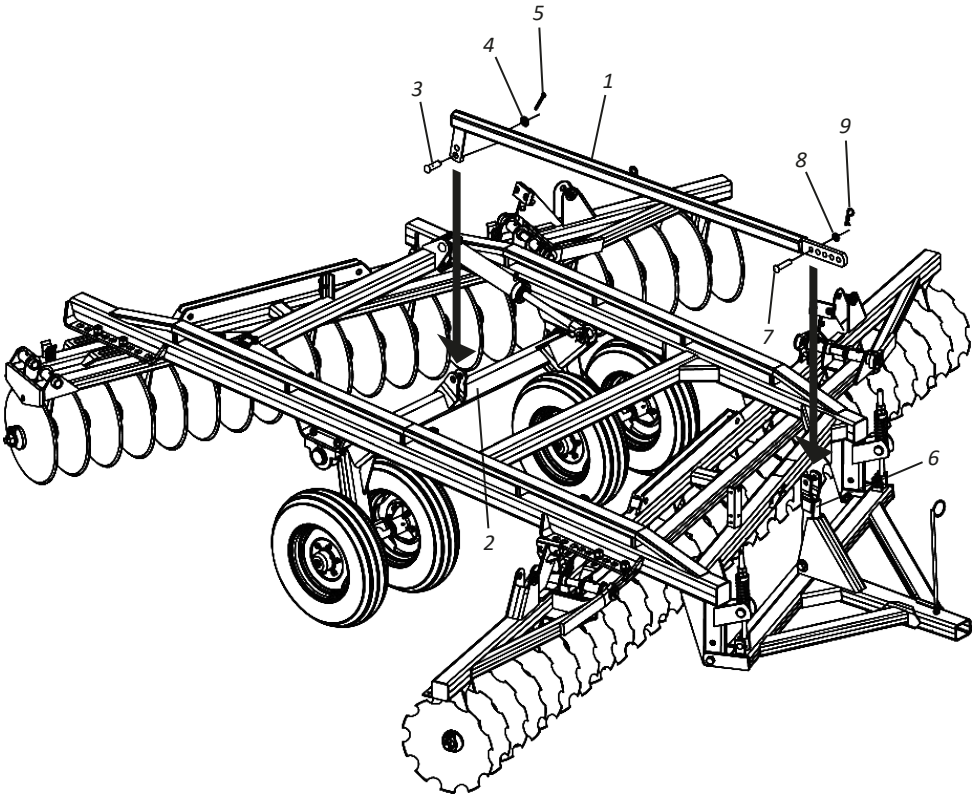
▪ Assembly

• Assembling the regulation rod

After assembling the hitch header, secure the regulating rod, to do so, proceed as follows:

01 - Couple the back of the regulating rod (1) to the wheel support (2) securing it with the pin (3), flat washer (4) and cotter pin (5).

02 - Then secure the front of the regulating rod (1) in the rod support (6) securing it with the pin (7), flat washer (8) and cotter pin (9).



▪ Assembly

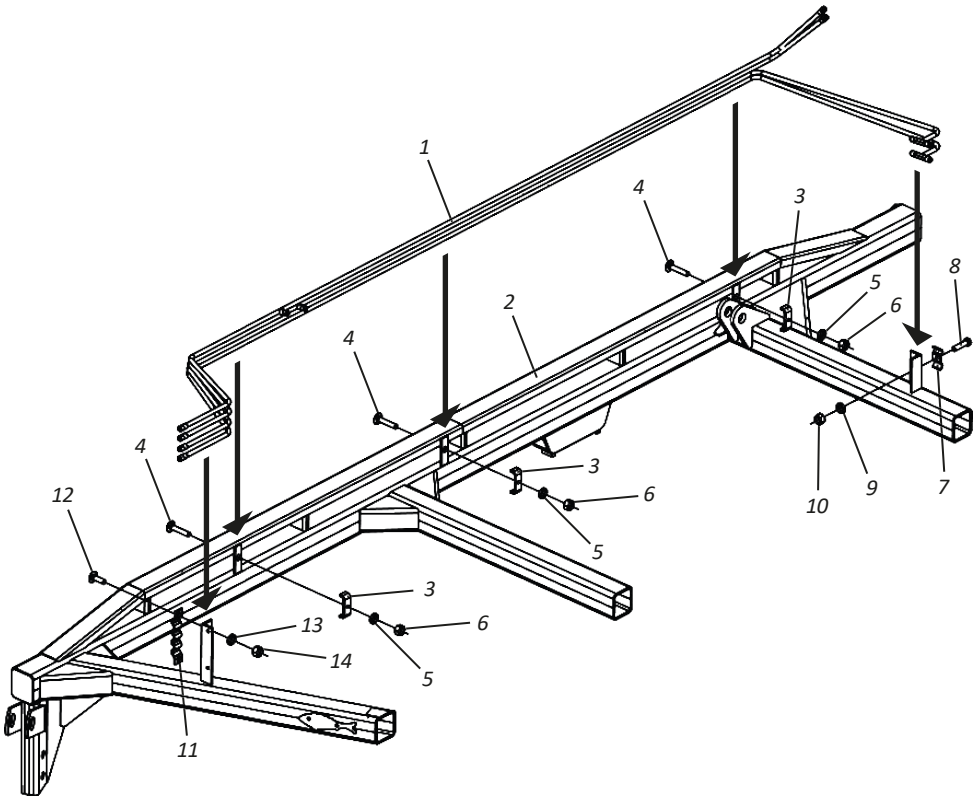
• Assembling the pipes

After assembling the regulating rod, secure the pipes, to do so, proceed as follows:

01 - Couple the pipes (1) to the upright (2), fastening it to the side of the upright (2) using the clips (3), screws (4), lock washers (5), and nuts (6).

02 - Then secure the pipes (1) on the back of the upright (2) using the clip (7), screws (8), lock washers (9) and nut (10).

03 - Then, secure the pipes (1) on the front of the upright (2) using the larger clip (11), parafuso (12), screw (12), lock washer (13), and nut (14).



▪ Assembly

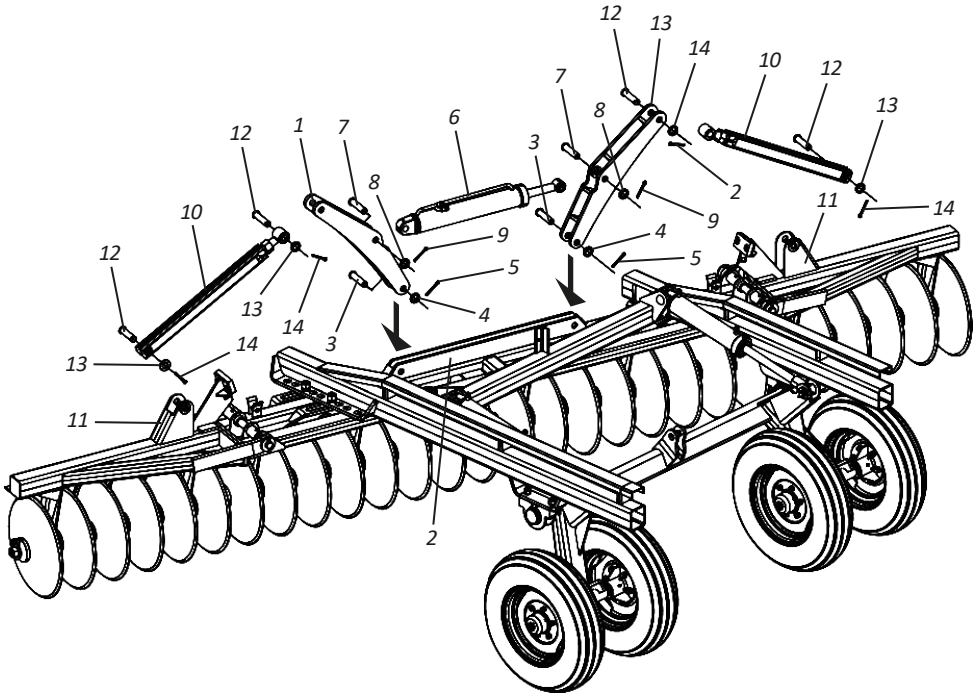
• Assembling the articulation supports

After assembling the pipes, secure the joint supports by proceeding as follows:

01 - Couple the articulation brackets (1) to the back center frame (2), securing with pins (3), flat washers (4), and cotter pins (5).

02 - Then couple the hydraulic cylinder (6) between the articulation brackets (1), securing it with pins (7), washers (8), and cotter pins (9).

03 - Then couple the link bars (10) to the articulation bars (1) and the back side frames (11) by securing them with pins (12), plain washers (13), and cotter pins (14).



NOTE **After securing the articulation supports on the rear frames, repeat the procedure to secure them on the front frames.**

▪ Assembly

• Assembling the hydraulic hoses

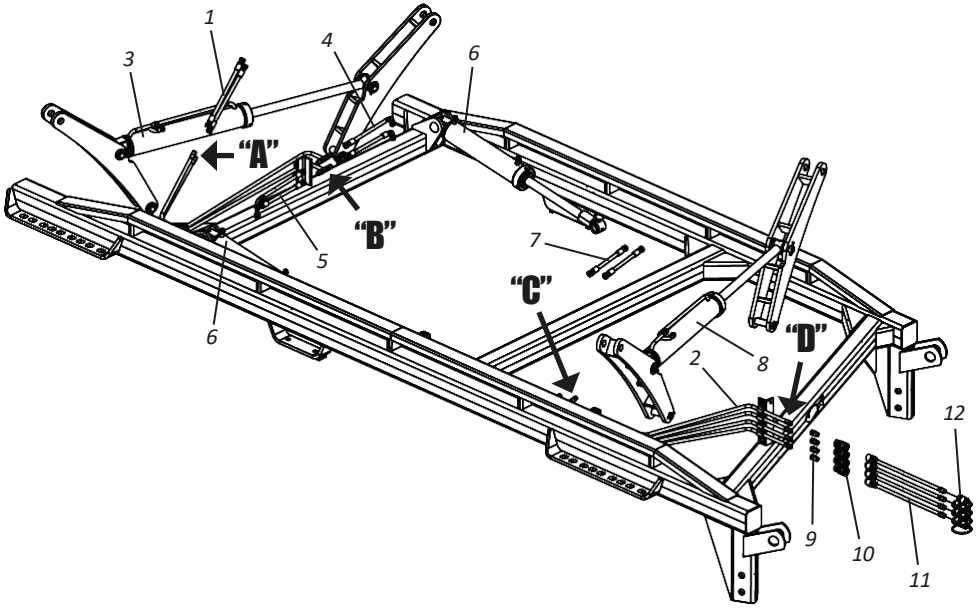
After assembling the articulation supports, secure the hydraulic hoses, to do so, proceed as follows:

01 - Couple the hydraulic hoses (1) to points **"A"** of the pipe (2) and to the hydraulic cylinder (3).

02 - Then, couple the hydraulic hoses (4 and 5) to points **"B"** of the pipe (2) and to the hydraulic cylinders (6).

03 - Then, couple the hydraulic hoses (7) to points **"C"** of the pipe (2) and to the hydraulic cylinder (8).

04 - Then, secure to the piping **"D"** points (2) the nipples (9), the female quick hitches (10), the hydraulic hoses (11) and the male quick hitches (12).



Items	Description	Quant.
1	3/8" x 1400 hydr. hose mm w/ 2 TRG	2
4	3/8" x 1100 hydr. hose mm w/ 1 TCG and 1 TRG	2
5	3/8" x 1300 hydr. hose mm w/ 1 TCG and 1 TRG	2
7	3/8" x 1000 hydr. hose mm w/ 2 TRG	2
11	3/8" x 3500 hydr. hose mm w/ 2 TRF w/ 2 males quick hitches	4

▪ Assembly

• Assembling the PPI System (Optional)

The **SNVAP** can optionally be purchased with a PPI tank. To assemble the PPI tank, proceed as follows:

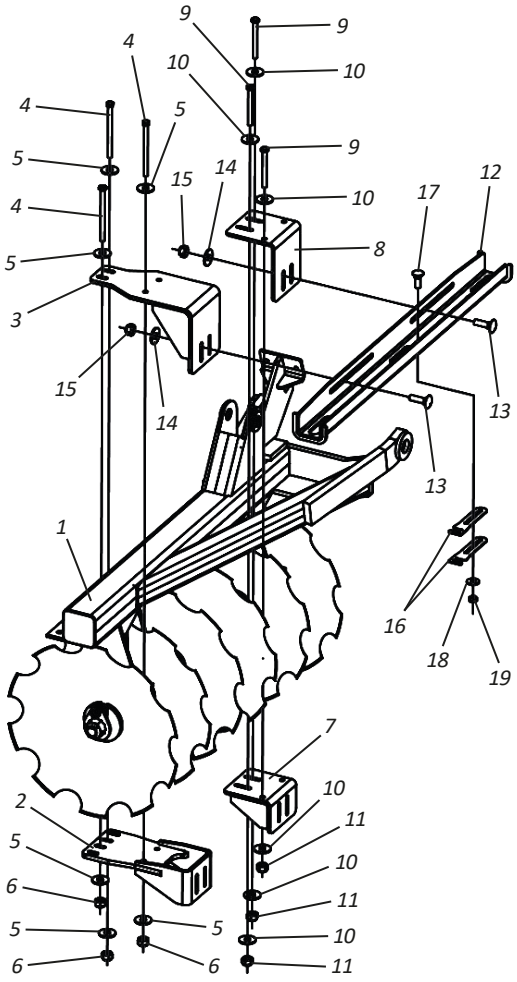
RIGHT FRONT SIDE FRAME - PART I

01 - Under the front right side frame (1), couple the lower support (2) and above the larger support (3) securing it with the screws (4), flat washers (5), and nuts (6).

02 - Then, under the side tube of the right front side frame (1), couple the smaller support (7) and above it the "L" plate (8) securing it with the screws (9), flat washers (10), and nuts (11).

03 - Then, couple the hose support (12) to the larger support (3) and to the "L" plate (8) securing it with the screws (13), flat washers (14), and nuts (15).

04 - Then couple the mounting plates for the nozzles (16) to the hose support (12) fastening it with the screws (17), flat washers (18) and nuts (19).



IMPORTANT

The expression "right" on the front side frame is meant looking from behind the harrow.

NOTE

Repeat this procedure for mounting on the front left side frame.

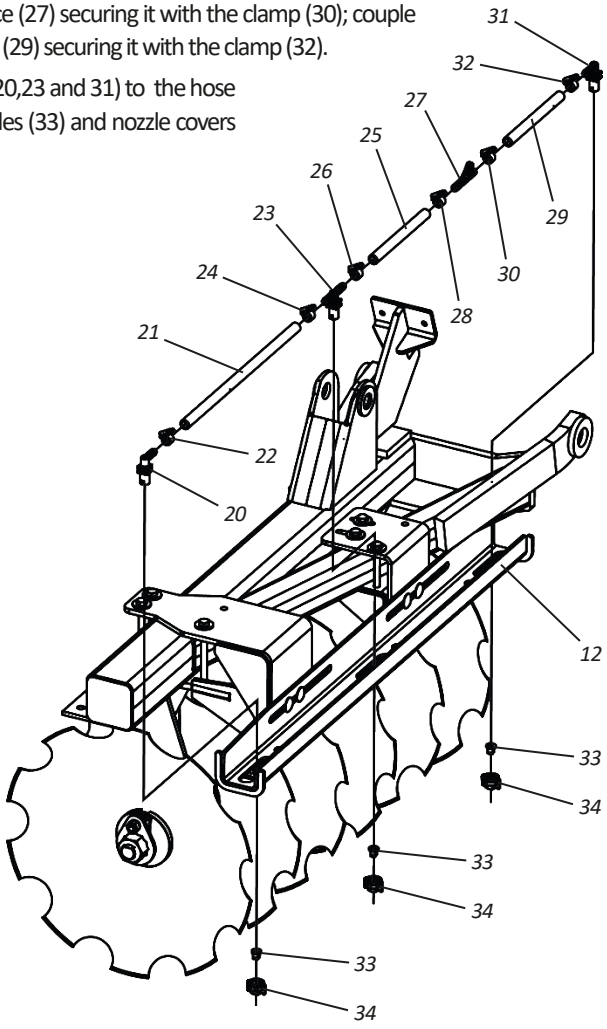
▪ Assembly

• Assembling the PPI system (Optional)

RIGHT FRONT SIDE FRAME - PART II

05 - Then, couple the nozzle holder (20) to the hose (21) securing it with the clamp (22); couple the intermediate nozzle holder (23) to the hose (21) securing it with theclamp (24); couple the hose (25) to the intermediate nozzle holder (23) securing itwith the clamp (26); couple the "T" type splice (27) to the hose (25) 31securing it with the clamp (28); couple the hose (29) to the "T" type splice (27) securing it with the clamp (30); couple the nozzle holder (31) to the hose (29) securing it with the clamp (32).

06 - Then, couple the nozzle holders (20,23 and 31) to the hose support (12) and couple the nozzles (33) and nozzle covers (34) to them.



IMPORTANT

The expression "right" on the front side frame is meant looking from behind the harrow.

NOTE

Repeat this procedure when mounting on the front left side frame.

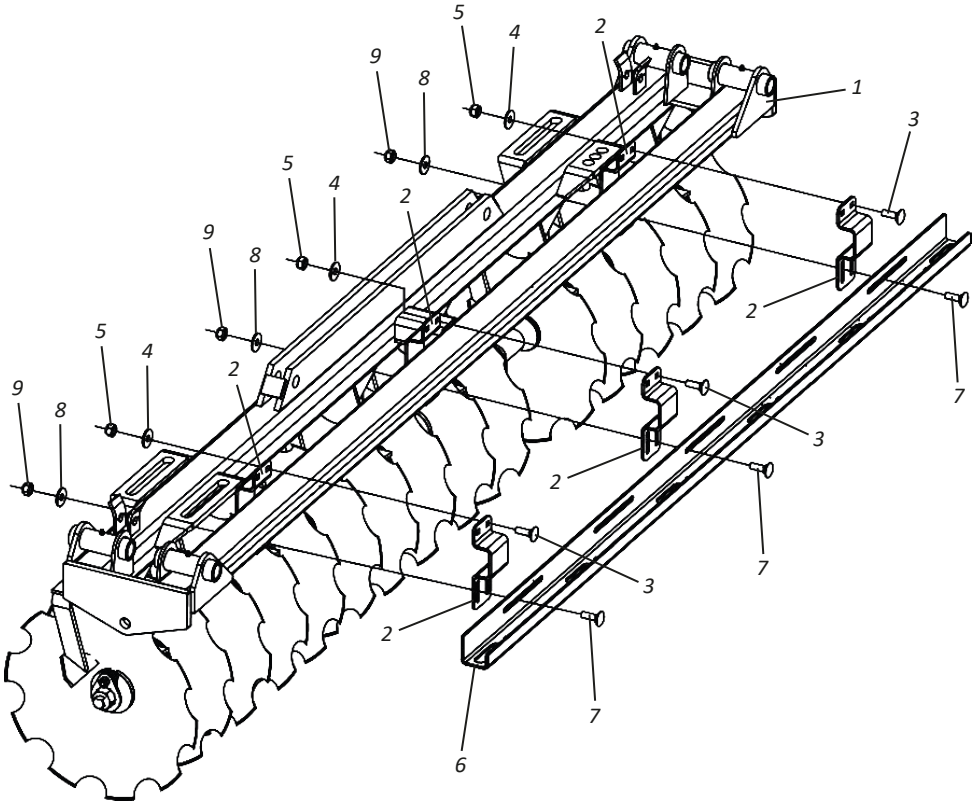
▪ Assembly

• Assembling the PPI System (Optional)

FRONT CENTRAL FRAME - PART I

01 - Between the tubes of the front central frame (1), place the beam supports (2) fastening them with the screws (3), flat washers (4), and nuts (5).

02 - Then, secure the hose support (6) on the beam supports (2), securing it with the screws (7), flat washers (8), and nuts (9).



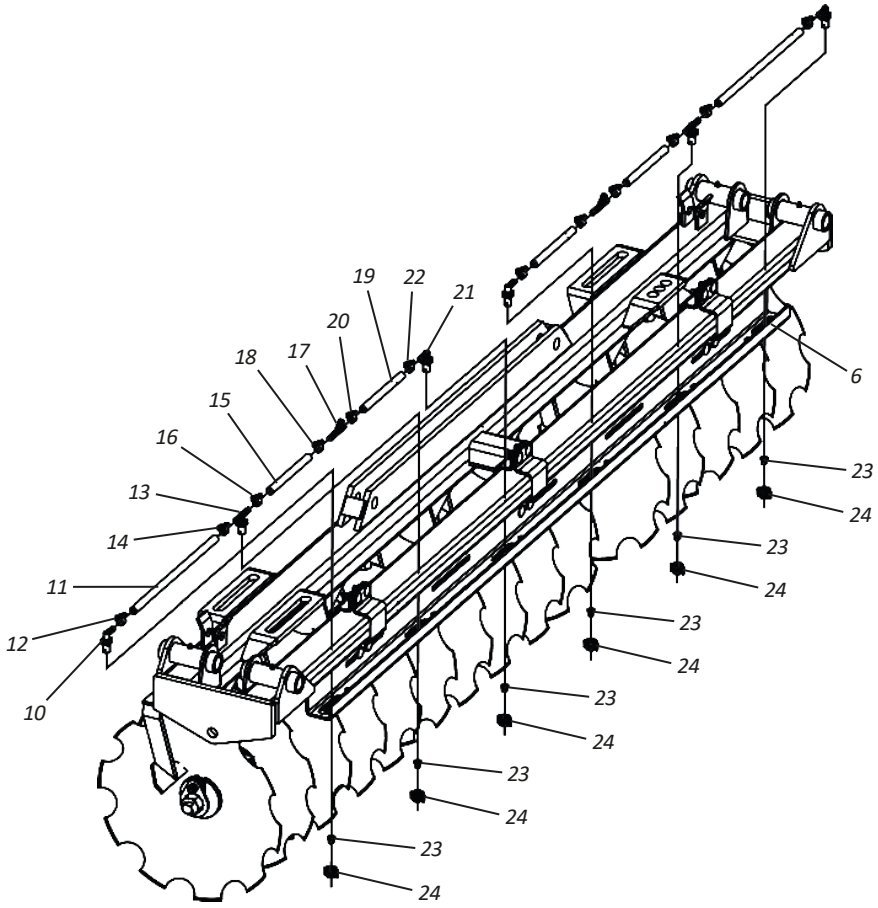
▪ Assembly

• Assembling the PPI System (Optional)

FRONT CENTRAL FRAME - PART II

03 - Then, couple the nozzle holder (10) to the hose (11) securing it with the clamp (12); couple the intermediate nozzle holder (13) to the hose (11) securing it with the clamp (14); couple the hose (15) to the intermediate nozzle holder (13) securing it with the clamp (16); couple the "T" type splice (17) to the hose (15) securing it with the clamp (18); couple the hose (19) in the "T" type splice (17) securing it with the clamp (20); couple the nozzle holder (21) to the hose (19) securing it with the clamp (22).

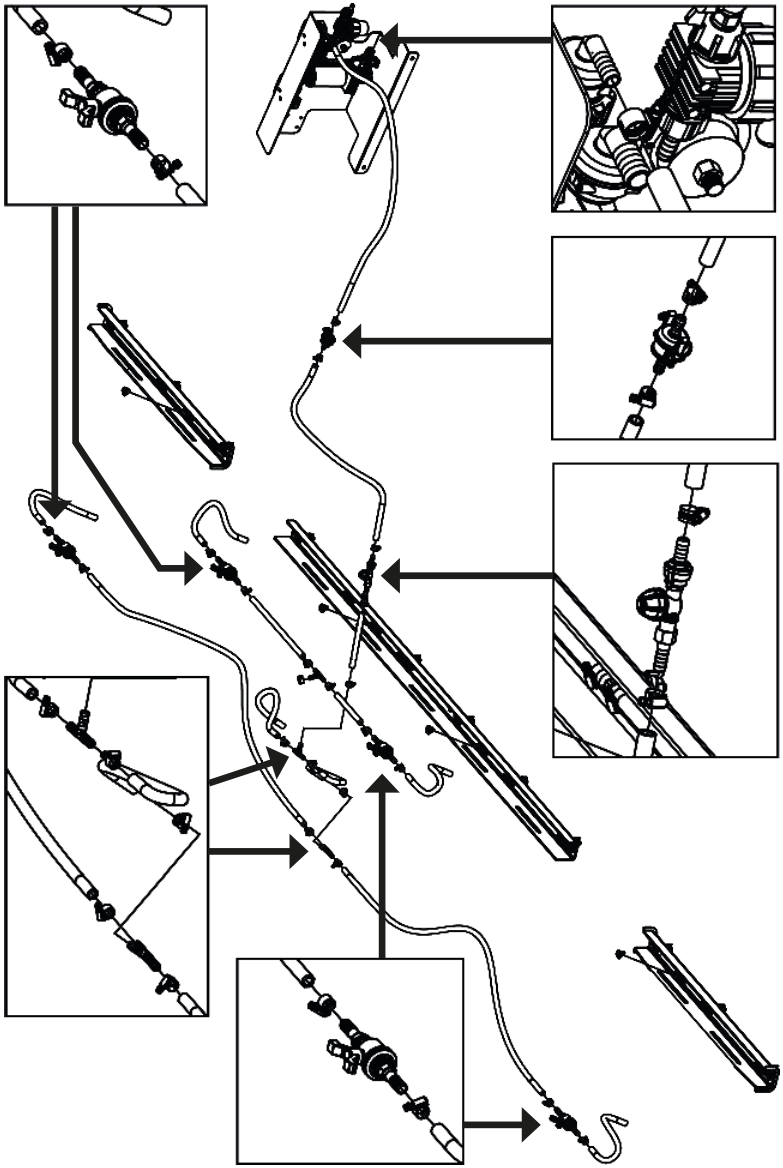
04 - Then, couple the nozzle holders (10, 13 and 21) to the hose support (6) and couple the nozzles (23) and nozzle covers (24) to them.



▪ Assembly

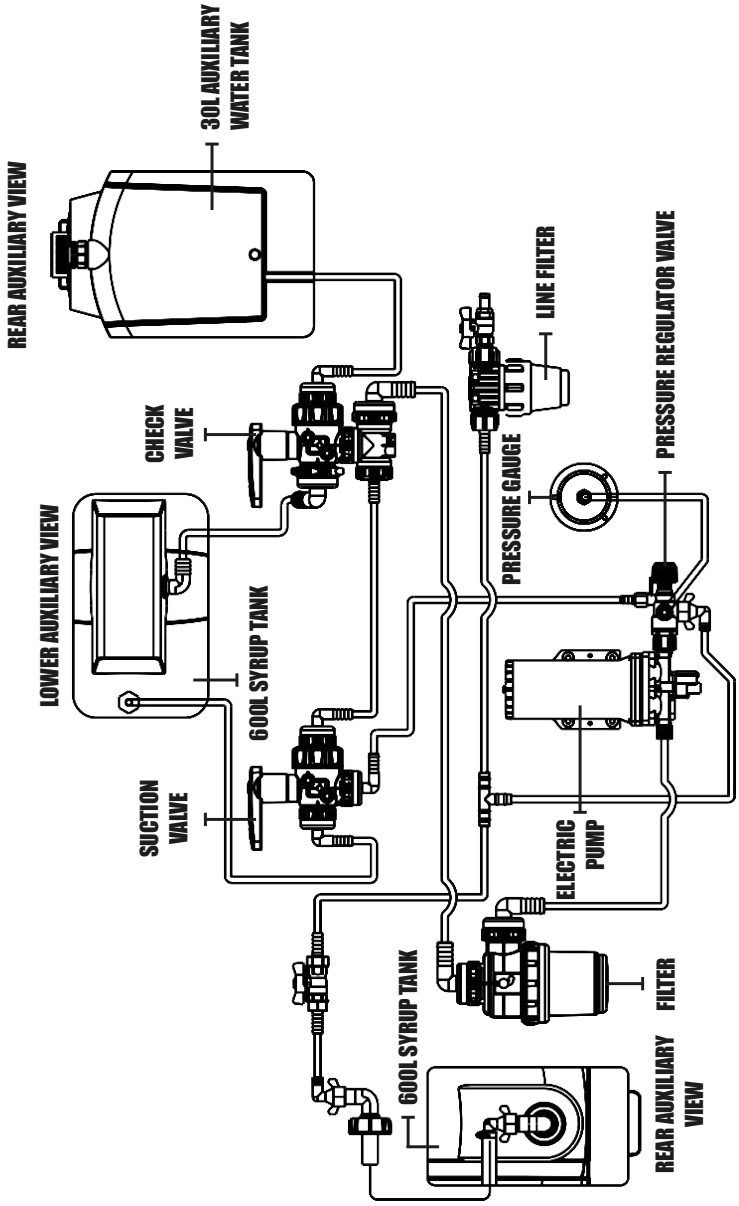
• Assembling the PPI System(Opcional)

SPRAYING SYSTEM



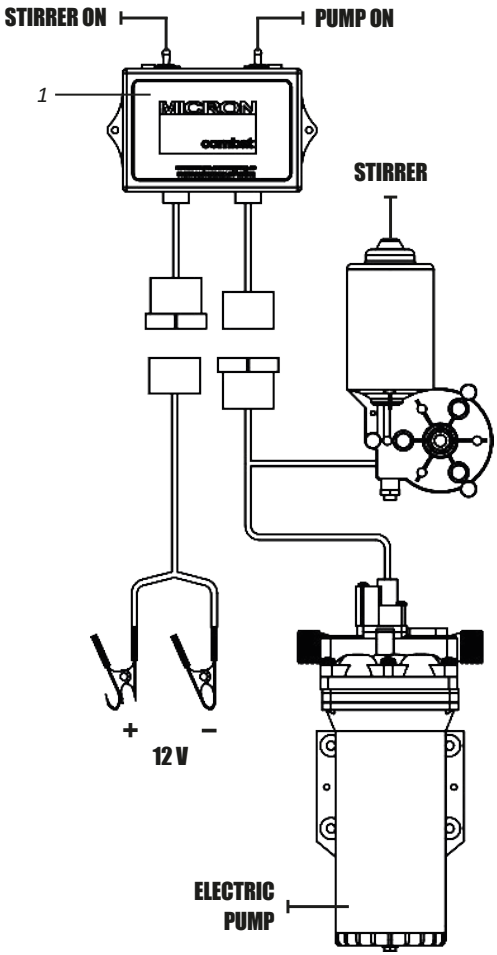
▪ Assembly

• Assembling the hydraulics of the control panel- SNVAP with PPI tank (Optional)



▪ Assembly

• Assembling the eletronic system - SNVAP with PPI tank (Opctional)



IMPORTANT

The panel (1) will be assembled on the tractor. The electrical harness must be connected to the tractor's battery, respecting the system's load capacities. The panel (1) must be installed in a place protected from water, humidity and dust. When it is not possible to make the installation in a protected location, disconnect and transport it after using the SNVAP.

▪ Hitch

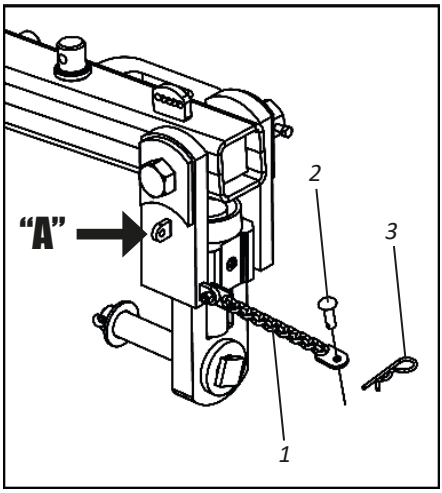
• Tractor hitch - Part I

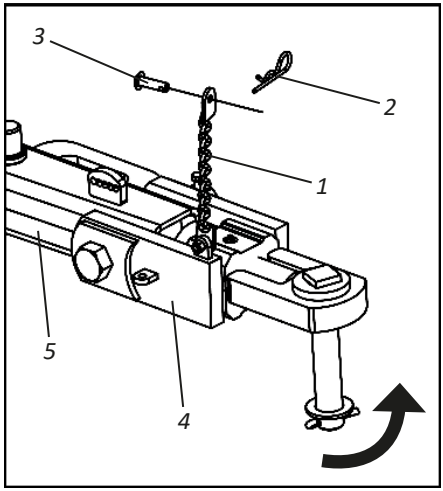
To couple the **SNVAP** to the tractor drawbar, proceed as follows:

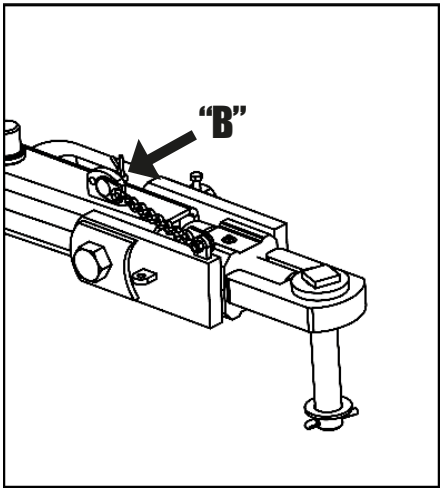
01 - Slowly approach the tractor to **SNVAP** in reverse, paying attention to the use of thebrakes. Then, turn off the tractor engine, relieve pressure from the control by pressing the lever a few times, and check if the couplings are clean, and if not, clean them.

02 - Then release the chain (1) from point **"A"** via the pin (2) and lock (3).

03 - Then, articulate the shackle (4) and secure the chain (1) with the pin (2) and lock (3) in one of the points **"B"** in a way that keeps the shackle (4) parallel to the hitch header (5).







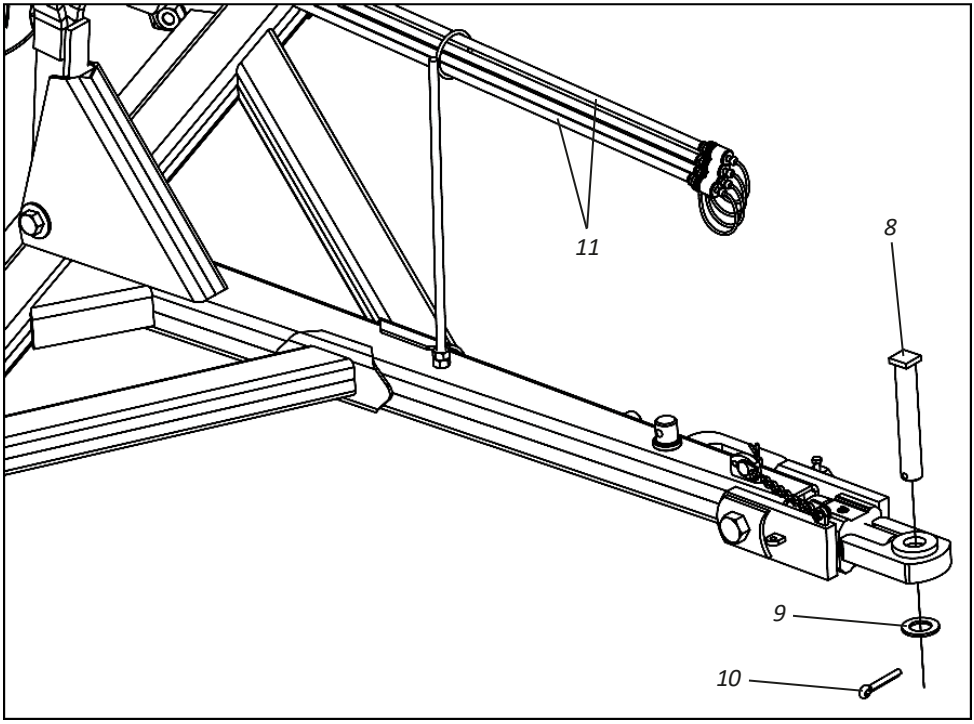
▪ Hitch

• Tractor hitch - Part II

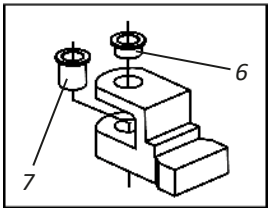
04 - Then, take the smaller (6) and larger (7) adapter bushings from the packaging box, according to the tractor category and place them on the tractor hitch, according to **detail "A".**

05 - Then, slowly approach the tractor to the **SNVAP** in reverse gear, paying attention to the application of the brakes and hitch the **SNVAP** to the tractor, securing it with the hitch pin (8), flat washer (9), and cotter pin (10).

06 - Then couple the hydraulic hoses (11) to the tractor's quick hitch.



DETAIL "A"



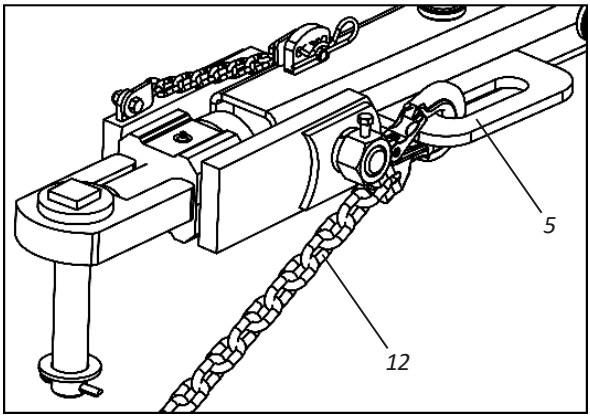
IMPORTANT

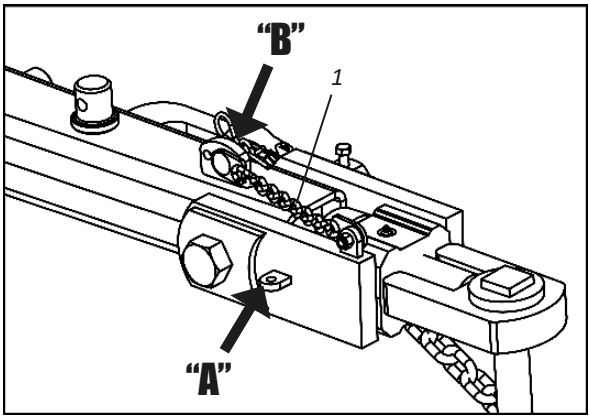
Before connecting or disconnecting the hydraulic hoses, turn off the engine and relieve the pressure in the hydraulic system by operating the control levers fully. When relieving system pressure, make sure no one is near the equipment moving area. Always use low gear with low throttle.

▪ Hitch

• Tractor hitch - Part III

07 - Afterwards, only secure the traction chain (12) to the hitch header (5) and to the tractor when transporting or working with the **SNVAP**.





⚠ ATTENTION

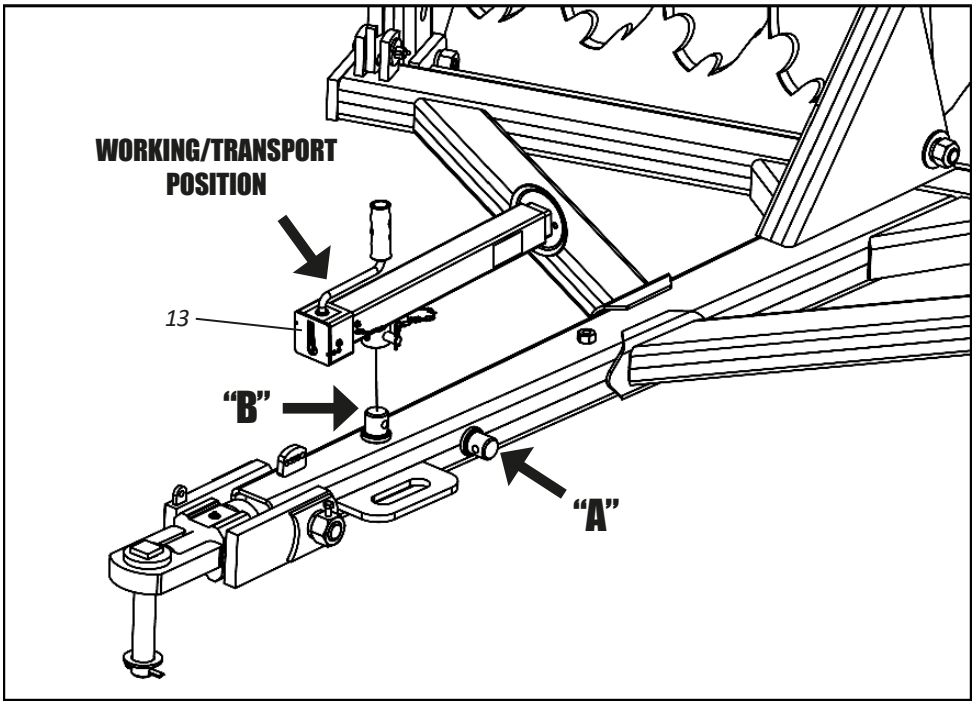
The traction chain (12) makes work or transport safer, preventing the SNVAP from unhitching from the tractor should the hitch pin (8) break. Do not work or transport the SNVAP without securing the traction chain (12). Ignoring this warning could result in serious accidents or death.

Before working or transporting the SNVAP, release the chain (1) from point "B" and secure it at point "A". Ignoring this warning could result in damage to the SNVAP.

▪ Hitch

• Tractor hitch - Part IV

08 - After coupling the **SNVAP** to the tractor, place the support bracket (13) in the transport/work position, removing it from point **"A"** and placing it at point **"B".**



⚠ ATTENTION

DO NOT work or carry the SNVAP with the support bracket (13) at point "A". Ignoring this warning may cause damage or serious accidents.

▪ Hitch

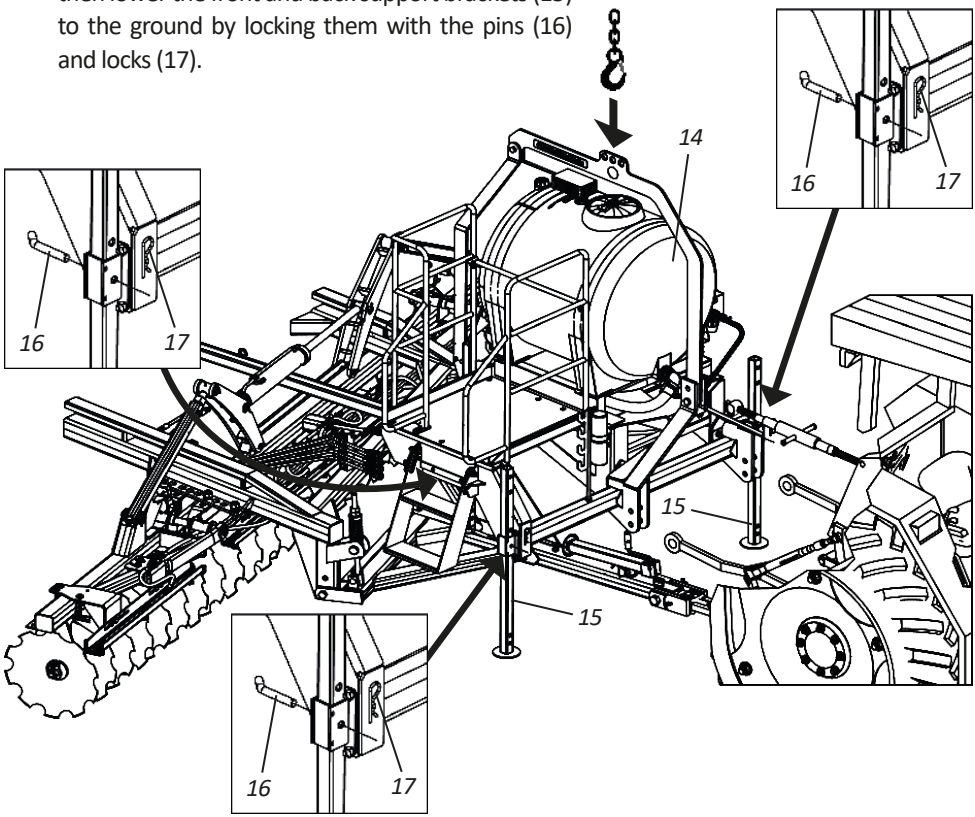
• Tractor hitch - Part V

After coupling the harrow to the tractor, in case you purchased the **SNVAP** with PPI tank (optional), couple the PPI tank (Optional) to the tractor, to do this, proceed as follows:

09 - Assemble the PPI tank lifting system (14) as instructed on page 103.

10 - Then, lift the PPI tank (14) as instructed on page 104.

11 - Then, lower the PPI tank (14) onto the SNVAP hitch header, aligning the PPI tank chassis (14) to the 3rd point and the tractor's stabilizing arms; then lower the front and back support brackets (15) to the ground by locking them with the pins (16) and locks (17).



⚠ ATTENTION

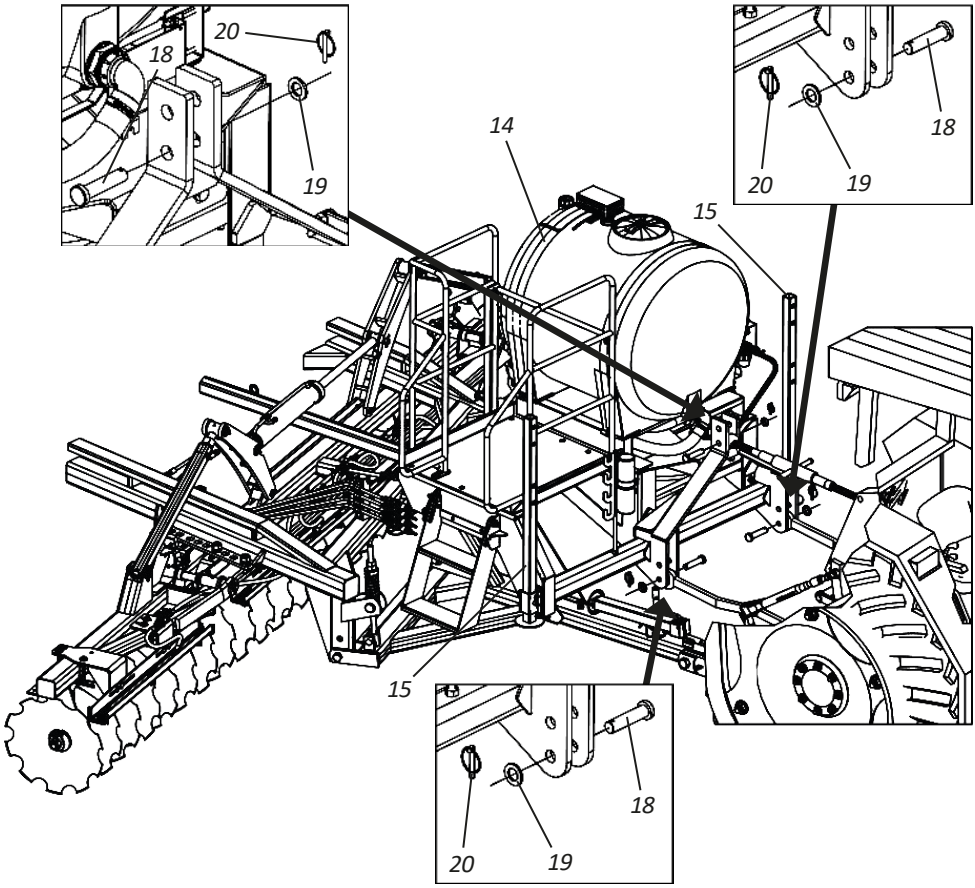
Release the PPI tank lifting chain (14) only after making sure that all support brackets (15) of the PPI tank (14) are adjusted at the same height, properly supported on the ground and locked with the pins (16) and locks (17).

▪ Hitch

• Tractor hitch - Part VI

12 - Then, in reverse gear, couple the 3rd point and the tractor's stabilizer arms to the PPI tank chassis (14) securing it with the pins (18), flat washers (19), and locks (20).

13 - Then lift the front and back support brackets (15) locking them.



⚠ ATTENTION

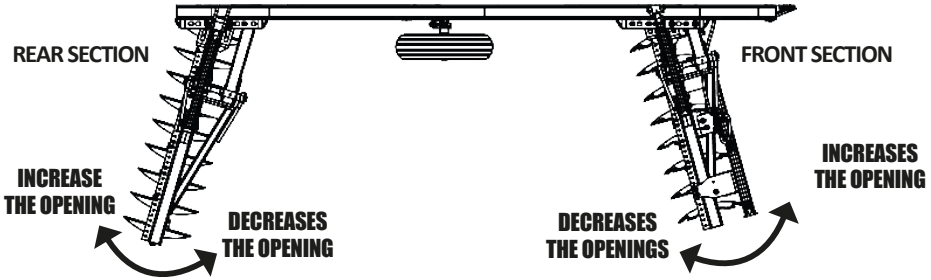
Only lift the front and back support brackets (15) of the PPI tank (14) after making sure that the PPI tank chassis (14) is properly secured on the 3rd point and on the tractor's stabilizer arms with the pins (18), plain washers (19), and locks (20).

▪ Adjustments

• Adjusting the opening of the harrow

To obtain the ideal penetration of the discs, the **SNVAP's** opening must be adjusted, which varies according to the type of soil.

LANDS HARDER TO PENETRATE: The opening of the harrow must be increased.
LIGHT AND LOOSE TERRAIN: The opening of the harrow must be decreased.



INCREASES THE OPENING: More Depth.

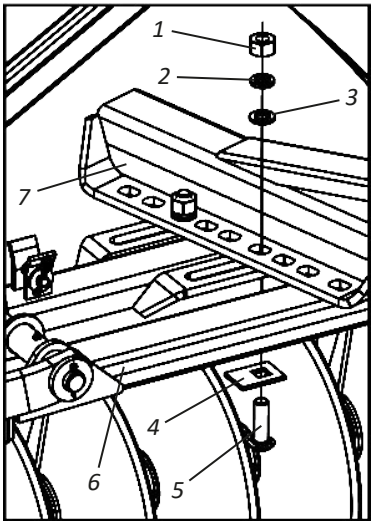
DECREASES THE OPENING: Less Depth.

To increase or decrease the opening of the **SNVAP**, 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 - DThen reattach the frames (6) to the upright (7) using the bolts (5), locks (4) plain washers (3) lock washers (2), and nuts (1).

IMPORTANT

To start the work we advise 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 controlling the depth of the discs.



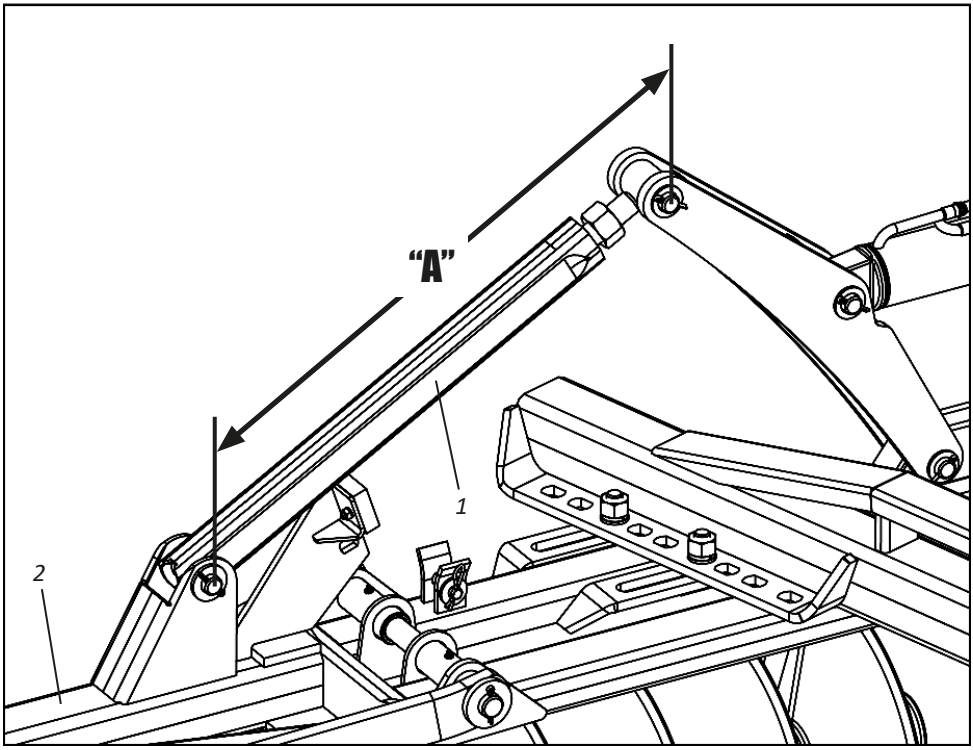
NOTE

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

▪ Adjustments

• Adjusting the articulation bar

Before working or transporting the **SNVAP**, level the articulation bars (1) for the correct articulation of the side frames (2). To level the articulation bars (1), measurement **"A"** must be **894 mm.**



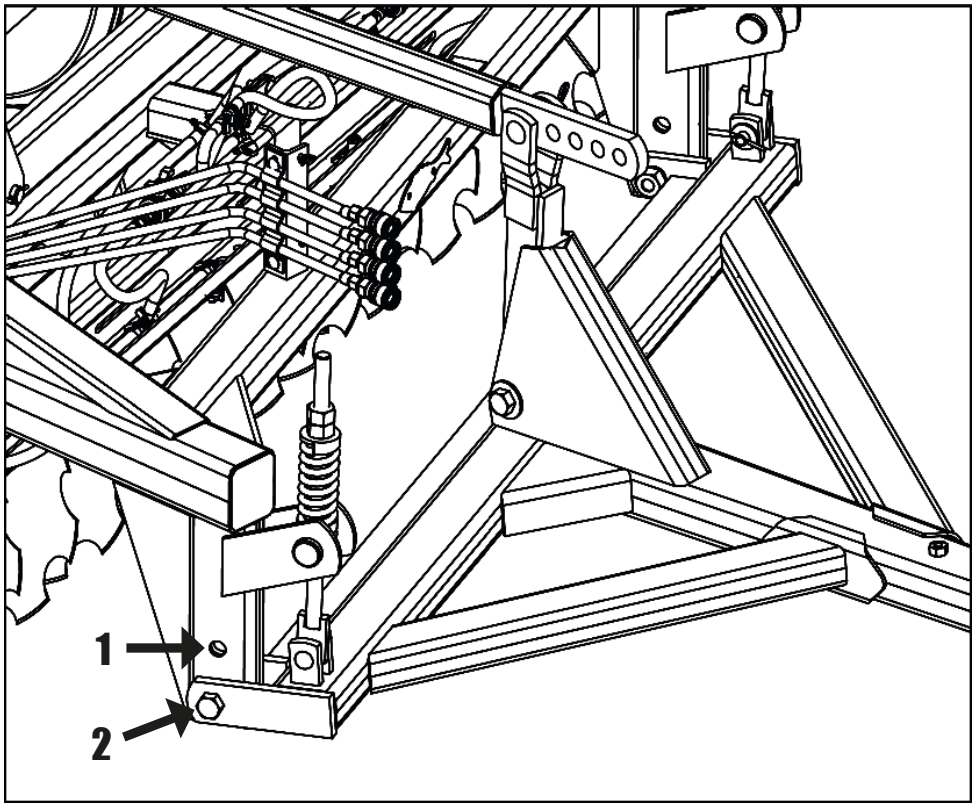
ATTENTION **All articulation bars (1) must have the same adjustment for the correct articulation of the side frames (2).**

▪ Adjustments

• Adjusting the crossbar

The **SNVAP** post has 2 points whose main purpose is to level the harrow header in relation to the tractor's drawbar.

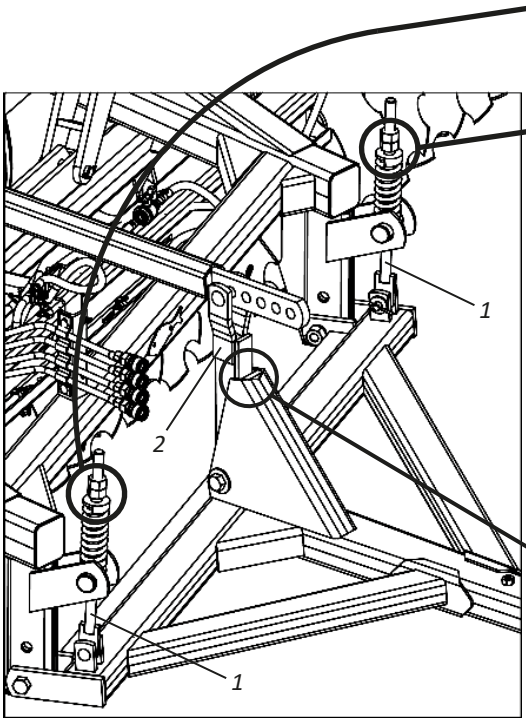
POINT 1: Increases penetration.
POINT 2: Decreases penetration..

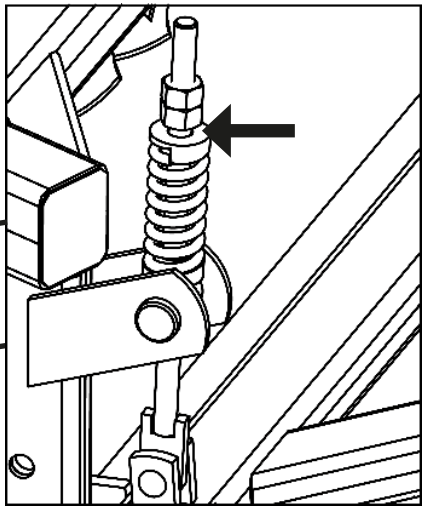


▪ Adjustments

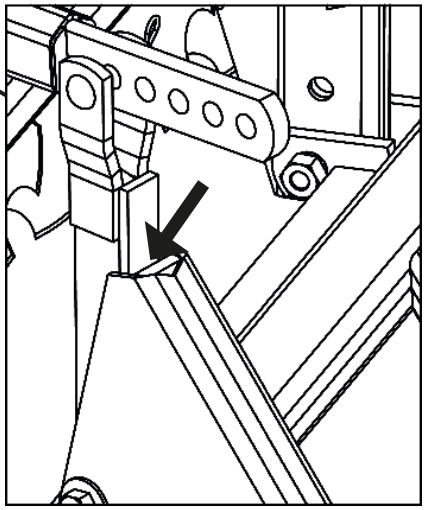
• Adjusting the stabilizer rod and stabilizer rod support

On the stabilizer rod (1), leave a **10 to 20 mm** gap between the nut and the spring stop, as shown in **detail "A".**





DETAIL "A"



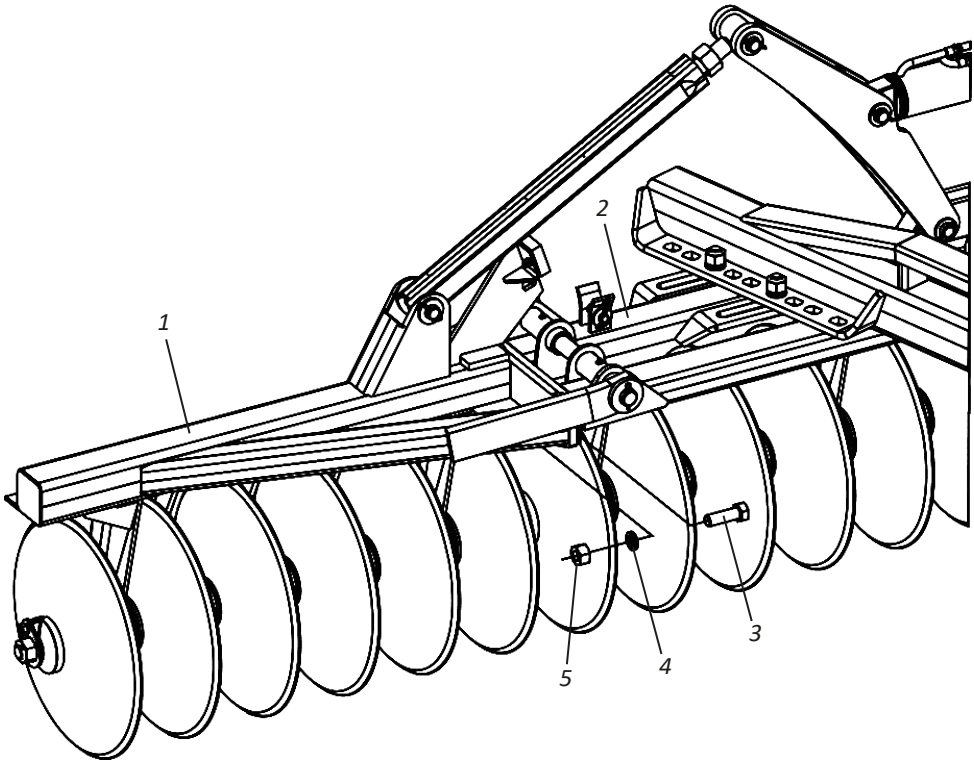
DETAIL "B"

On the stabilizer rod support (2), leave a **10 to 20 mm** gap between the stabilizer rod support and the stop of the upper header plate, as shown in **detail "B".**

▪ Adjustments

• Adjusting for transport - Part I

For logistical purposes, the **SNVAP** is delivered with its side frames (1) locked in the central frames (2); the screws (3), lock washers (4), and nuts (5) that lock these frames must not be used under any circumstances, therefore, remove them from the **SNVAP**, leaving the frames unlocked for transport.



⚠ ATTENTION

Do not articulate the side frames (1) before removing the screws (3), lock washers (4), and nuts (5). Ignoring this warning could result in damage, serious injury, or death.

NOTE

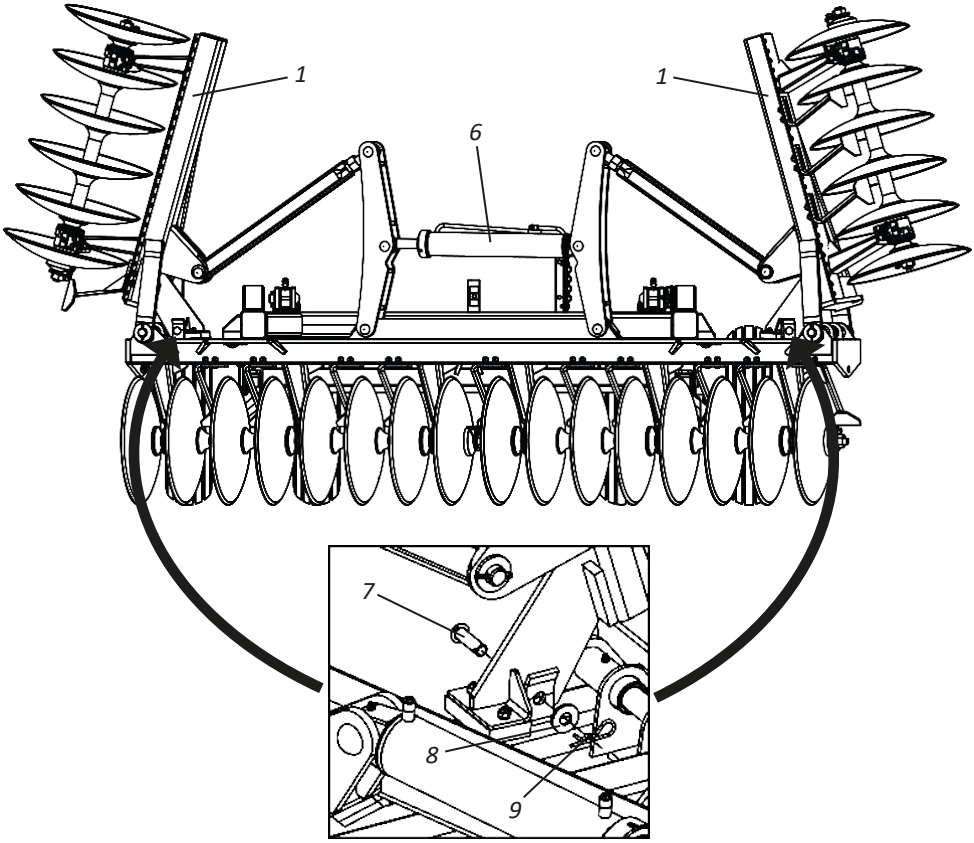
After observing the instructions above, articulate the side frames (1) according to the instructions on the next page.

▪ Adjustments

• Adjusting for transport - Part II

To articulate the side frames (1), proceed as follows:

01 - Activate the hydraulic cylinders (6) to articulate the side frames (1).
02 - Then lock the side frames (1) with the pins (7), flat washers (8), and locks (9).



⚠ ATTENTION

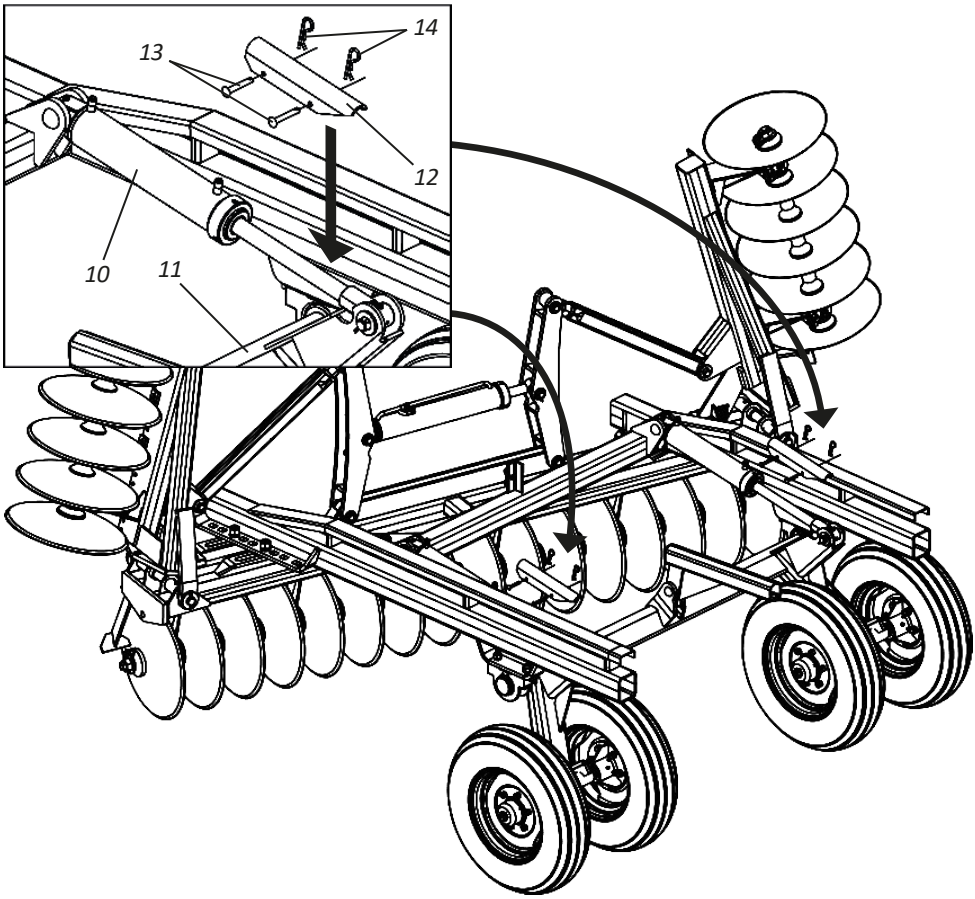
During the articulating procedure of the side frames (1), keep people clear of it. Ignoring this warning could result in serious accidents or death. Do not transport the SNVAP without first locking the side frames (1).

▪ Adjustments

• Adjusting for transport - Part III

03 - After articulating the side frames (1), fully activate the stroke of the hydraulic cylinders (10) of the wheel set (11).

04 - Then place the locks (12) fastening them with the pins (13) and locks (14).



⚠ ATTENTION

Do not transport the SNVAP without placing the locks (12) on the hydraulic cylinders (10) of the wheel set (11). Ignoring this warning could causedamageto the hydrauliccylinders(10).

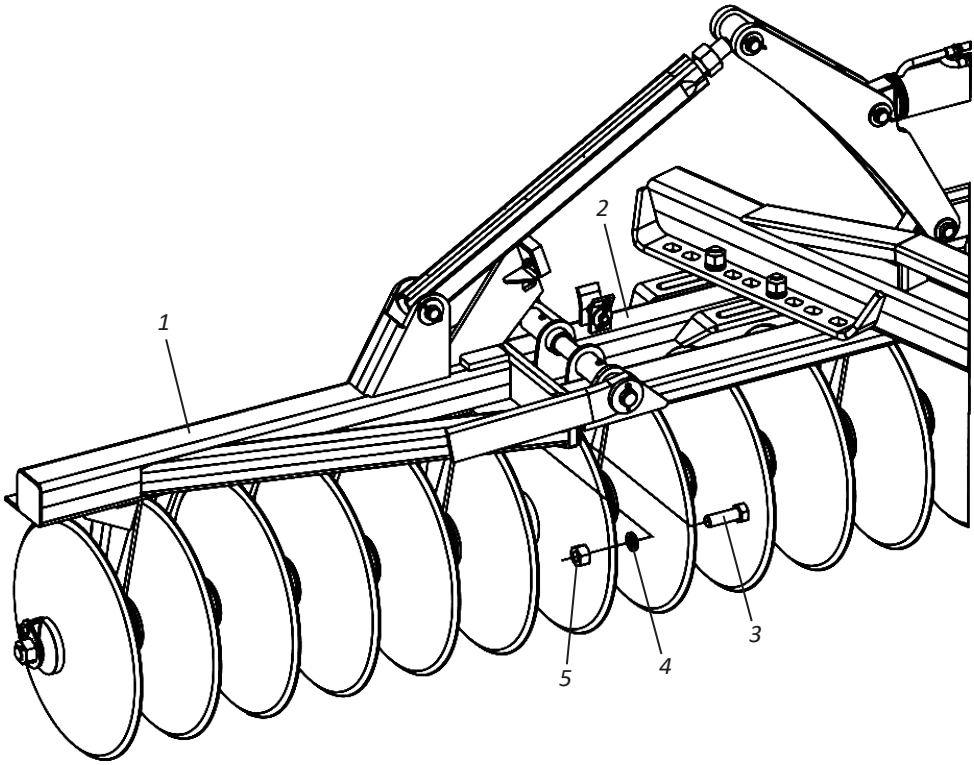
❗ IMPORTANT

When you have finished transporting the SNVAP, remove the locks (12) from the hydraulic cylinders (10) by releasing the locks(14) and the pins (13).

▪ Adjustments

• Adjusting for work - Part I

For logistical purposes, the **SNVAP** leaves the factory with the side frames (1) locked in the central frames (2); the screws (3), lock washers (4) and nuts (5) that lock these frames must not be used under any circumstances, therefore, remove them from the **SNVAP** leaving the frames unlocked for work.



NOTE

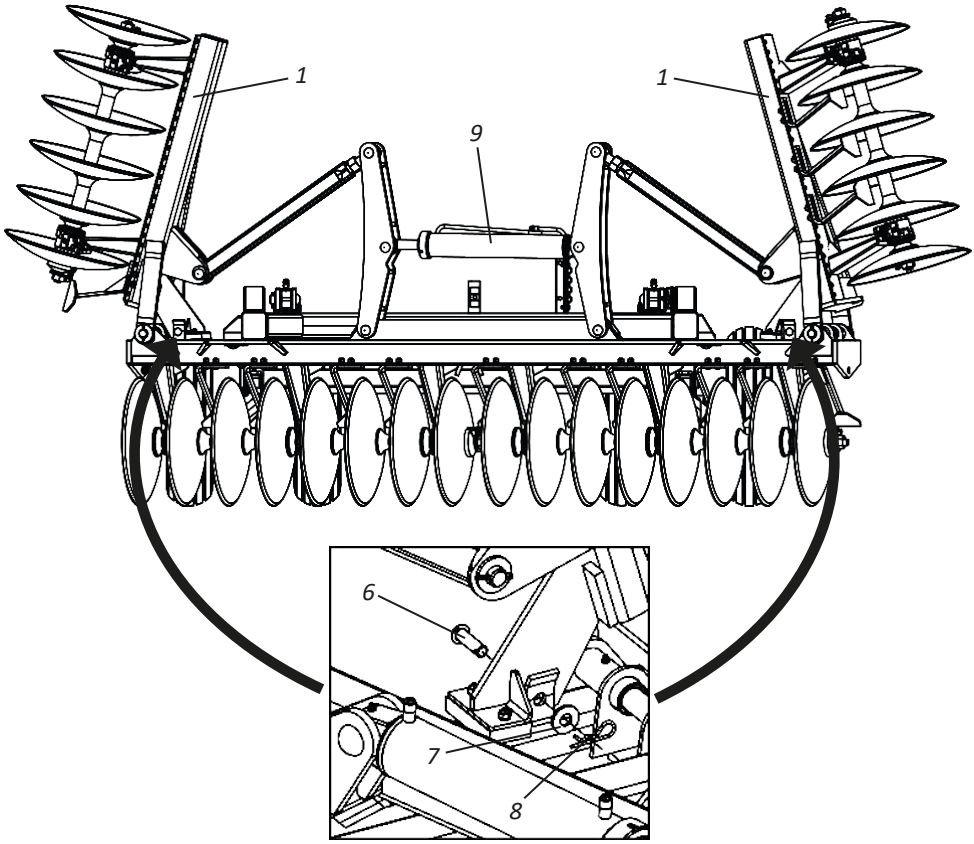
If the side frames (1) are articulated before starting the work, disassemble them according to the instructions on the next page.

▪ Adjustments

• Adjusting for work - Part II

To disarticulate the side frames (1), proceed as follows:

01 **-** Unlock the side frames (1) by removing the pins (6), flat washers (7), and locks (8).
02 **-** Then, activate the hydraulic cylinders (9) to disarticulate the side frames (1).



⚠ ATTENTION

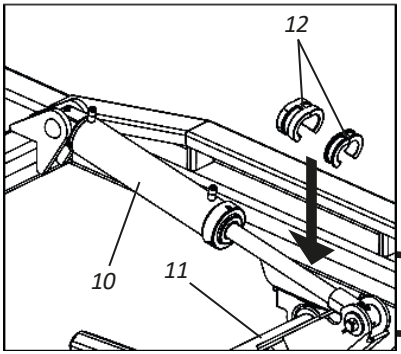
Do not dismantle the side frames (1) before removing the pins (6), flat washers (7), and locks (8). During the dismantling procedure of the side frames (1), keep people away. Ignoring these warnings could result in serious injury or death.

▪ Adjustments

• Adjusting for work - Part III

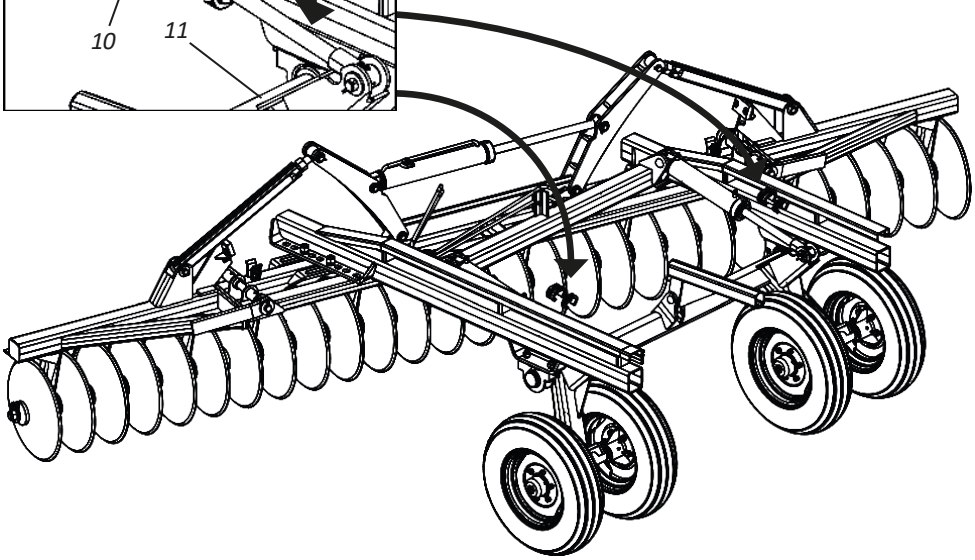
To regulate the working depth using the tires, limiting rings are used on the rods of the hydraulic cylinders, resulting in a number of working depth adjustments.To adjust the working depth, proceed as follows:

03 - Activate the rods of the hydraulic cylinders (10) of the wheel set (11) to the required extent.
04 - Then place the stop rings (12) on the rods of the hydraulic cylinders (10) until the entire space between the rod hitch and the piston of the hydraulic cylinder (10) is filled.



⚠ ATTENTION

The limiting rings (12) that come with the SNVAP have different sizes that when combined offer several depth adjustments. Always put the same number of limiting rings (12) on the two hydraulic cylinders (10) that lift the wheels.



❗ IMPORTANT

After adjusting, the SNVAP will always operate at the same depth, both in hard and loose terrain, this is because the limiting rings (12) are limiting the stroke of the hydraulic cylinders (10), that is, preventing the oscillation of the wheels. When finishing work with the SNVAP, remove the limiting rings (12) from the hydraulic cylinders (10).

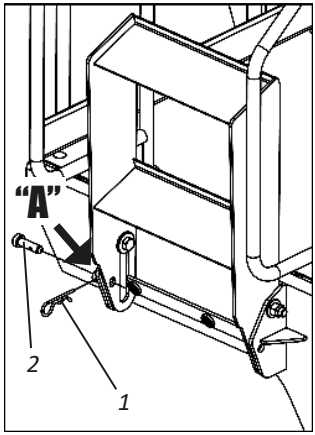
▪ Ladder

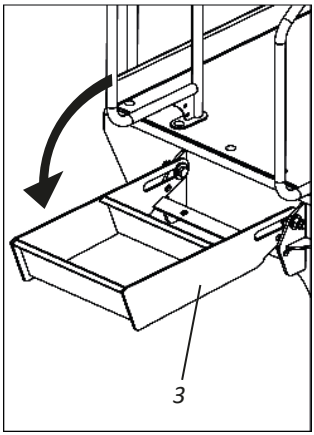
• Use of the ladder - SNVAP with PPI tank (Optional)

The **SNVAP** can be optionally purchased with a PPI tank; when purchased with a PPI tank, it consists of a platform and an articulated ladder that must be used only when refueling or servicing the PPI tank. To use the articulated ladder, proceed as follows:

01 - Release the lock (1), pull the pin (2) locking it on bushing **"A".**
02 - Then pull the ladder (3) up and fully articulate it.
03 - Then, release the lock (1) of bushing **"A"**, push the pin (2) all the way in and place the lock (1) between the bracket and ladder (3) locking it.

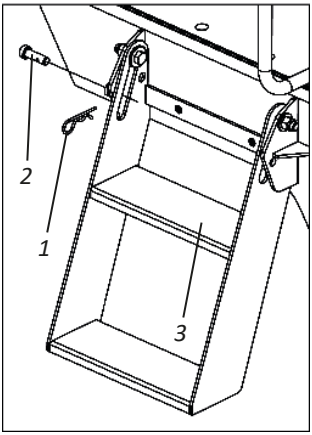
CLOSED LADDER:





FOR WORK OR TRANSPORT.

OPEN LADDER:



FOR MAINTENANCE OR FILLING THE PPI TANK.

⚠ ATTENTION

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

❗ IMPORTANT

For access to the platform, refueling, or maintenance in the tanks, use the folding ladder (1). Before using the articulated ladder (1), make sure that the SNVAP is stopped and the tractor is turned off. The articulated ladder (1) complies with NBR standards.

▪ Systems

• BD Nozzles

The **SNVA** is provided with **BD** nozzles from factory**.**

CHARACTERISTICS

- Made with technical ceramic cores (99% Alumina).
- Exceptional resistance to all types of chemicals and excellent flow rate accuracy.
- Nozzles with 80° and 110° of standard angle according to the series used.
- The nozzle produces medium droplets at low pressures to fine droplets at medium and high pressures.
- Suitable for herbicide, fungicide, and insecticide applications.

BD NOZZLE 02
(M017)

BD NOZZLE 04
(M019)

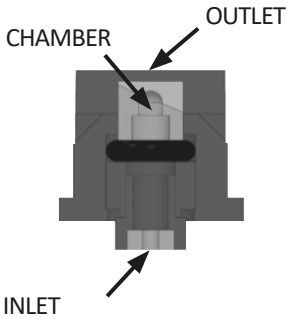
JET SHAPE

FAN OPENING
80° - 110°

15 - 60 LBF/POL²
1 - 4,1 BAR

COVER

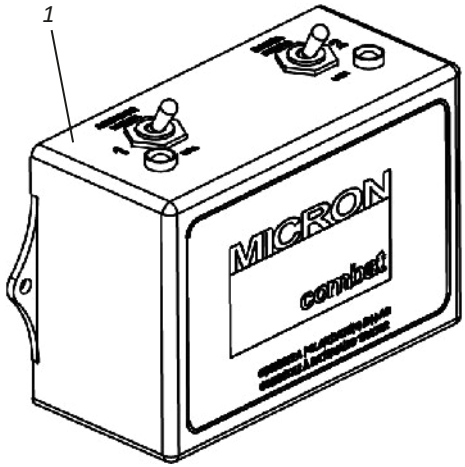
	BD			
	lbf/pol²			
	15	30	45	60
BD-02	M	F	F	F
BD-04	M	M	F	F



▪ Systems

• Control panel of the pump stirrer - SNVAP with tank PPI (Optional)

The **SNVAP**, when purchased with a PPI Tank (Optional), has a control panel for the stirrer and pump (1) which is used to turn on the system (stirrer and pump).



ATTENTION **The control panel of the stirrer and pump (1) must be installed on the tractor. When installing, observe the polarity (+) and (-) when connecting to the tractor battery.**

IMPORTANT **For assembling the stirrer and pump control (1), proceed as instructed on page 48.**

▪ Systems

• Control panel - SNVAP with tank PPI (Optional)

When purchased with a PPI tank (Optional), the **SNVAP** is provided with a control panel. Several adjustments are made through the control panel, such as:Application, system flushing, stirring, and cleaning the suction filter.

COMPONENTS:

01 **-** Line Filter Valve
02 **-** Line Filter
03 **-** Pressure regulator
04 **-** Pressure gauge
05 **-** Suction Valve
06 **-** Check Valve
07 **-** Stirrer Valve
08 **-** Suction Filter

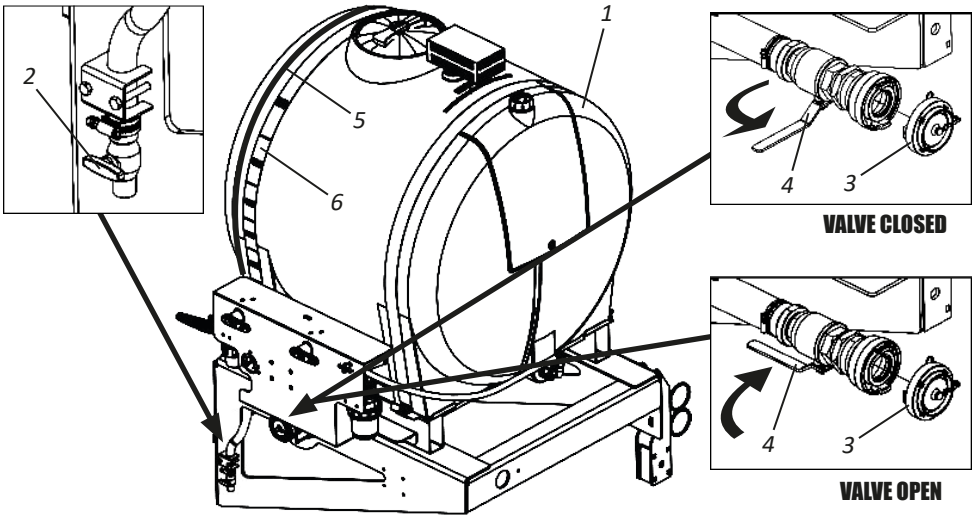
CONTROL PANEL

▪ Work

• Filling the 600 liters tank (Syrup) - SNVAP with PPI tank (Optional)

When the **SNVAP** is purchased with a PPI tank (Optional), it has a 600 liter tank (1). To fill the 600 liter tank (1), proceed as follows:

01 - Close the valve (2) if it is open.
02 - Then, remove the cap (3), open the valve (4), and fill up, observing the level hose (5) and the liter marking belt (6).
03 - When you have finished filling, close the valve (4) and put the cap again (3).



NOTE

After filling the 600 liter tank (1), fill the 30 liter tank (clean water) as shown on the next page.

IMPORTANT

The SNVAP packaging box comes with a swivel adapter to attach to the truck's supply hose if it does not have an adapter.

ATTENTION

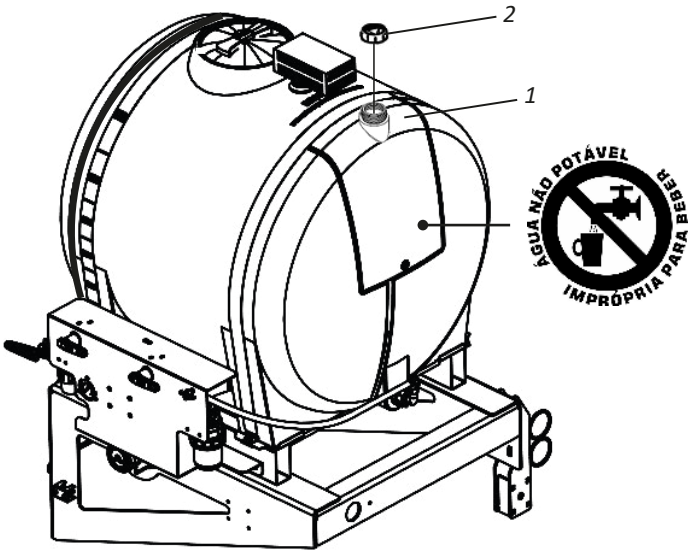
We recommend preparing the syrup before filling the 600 liter tank, mixing the products and water before placing in the tank. Fill the tank to 1/3 of its capacity with clean water, add the products, stir the syrup - turn on the mechanical syrup. Fill up with water and stir again.

▪ Work

• Filling the 30 liters tank (Clean water) - SNVAP with PPI tank (Optional)

When the **SNVAP** is purchased with a PPI tank (Optional), it has a 30 liter tank (1) for clean, “undrinkable” water. When the flush system is turned on (see pages 72 and 73), clean water will clean the hoses and nozzles (see page 46) after the work is finished. In order to fill the 30 liter tank (1), proceed as follows:

01 - Remove the cover (2).
02 - Then fill it with clean water.
03 - When the filling is finished, place the cap (2).



IMPORTANT

The 30 liter (1) tank for “undrinkable” clean water is used only for cleaning the hoses and nozzles, and should not be ingested under any circumstances, as it is unfit for human consumption. Ignoring this warning may cause health risks.

NOTE

After filling the 30 liter tank (1), make working adjustments according to the instructions on the following pages.

▪ Work

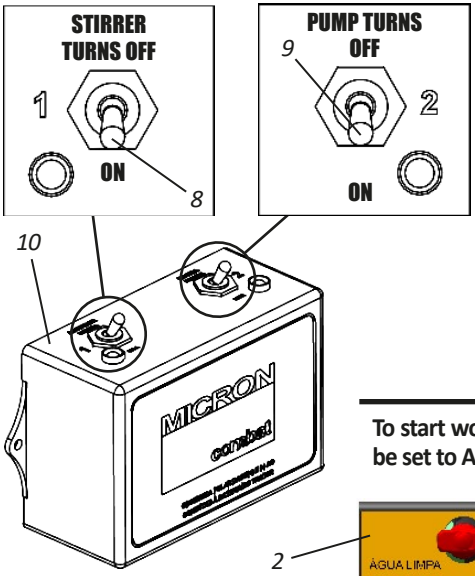
• Adjusting the pressure (BAR) - SNVAP with PPI tank (Optional)

In order to adjust the pressure BAR on the pressure gauge (1) of the control panel (2), proceed as follows:

01 - Make sure the control panel (2) is in **APPLICATION** mode.

- In **APPLICATION** mode, the valve (3) must be **OPEN**, the crank (4) in the **SYRUP** position, the crank (5) in the **TANK** position, and the damper (6) in the **OPEN** position.

02 - Then, looking at the pressure gauge (1) turn the pressure regulator (7) **CLOCKWISE** to increase pressure and **COUNTERCLOCKWISE** to decrease pressure.

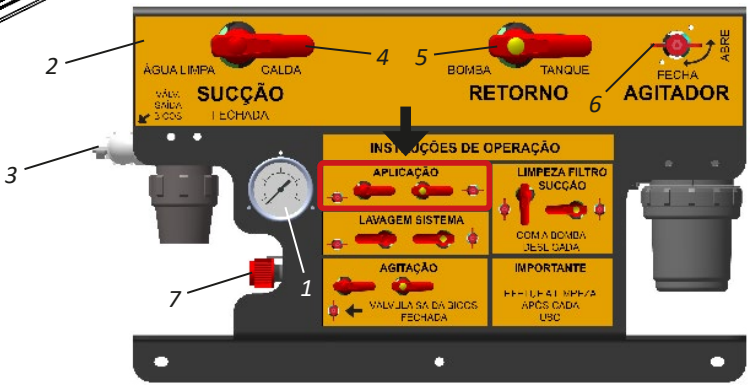


⚠ ATTENTION

Before starting to adjust the pressure, the stirrer and the pump must be turned ON. To turn on the stirrer, activate the STIRRER switch (8) and to turn on the pump, activate the PUMP switch (9) on the control panel (10) installed on the tractor.

❗ IMPORTANT

To start working with the SNVAP, the control panel (2) must be set to APPLICATION mode.



▪ Work

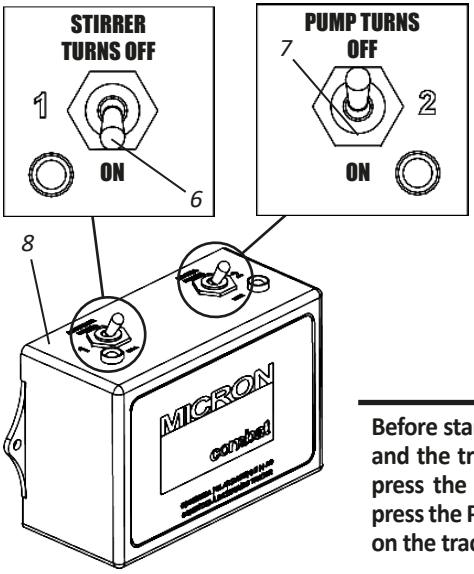
• Adjusting for system flushing - SNVAP with PPI tank (Optional) - Part I

In order to flush the system, proceed as follows:

01 - Make sure the control panel (1) is in **SYSTEM FLUSHING** mode.

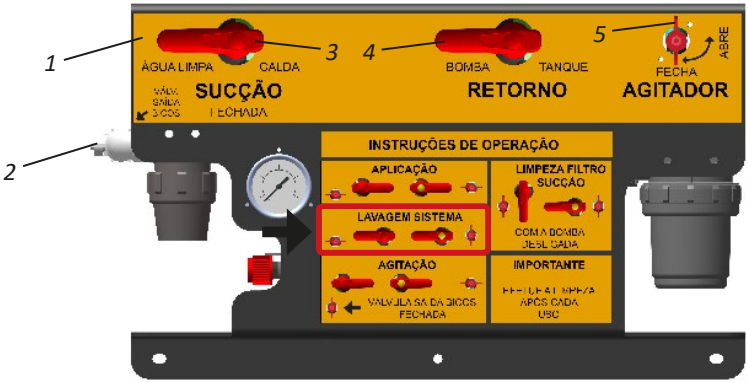
- In **SYSTEM FLUSHING** mode, the valve (2) must be **OPEN**, the crank (3) in the **CLEAN WATER** position, the crank (4) in the **PUMP** position and the valve (5) in the **CLOSED** position.

02 - Then proceed to flush the system according to the instructions on the following page:



⚠ ATTENTION

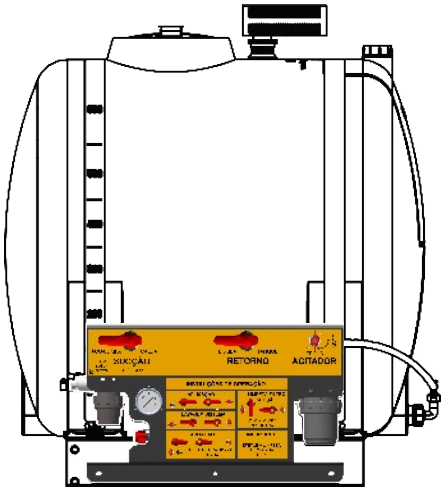
Before starting to flush the system, the stirrer must be ON and the tractor pump OFF. In order to turn on the stirrer, press the STIRRER switch (6), and to turn the pump off, press the PUMP switch (7) on the control panel (8) installed on the tractor.

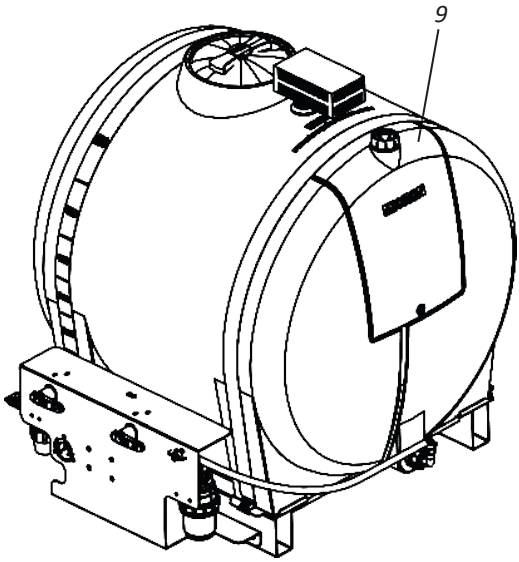


▪ Work

• Adjusting for system flushing - SNVAP with PPI tank (Optional) - Part II

A) Turn on the pump and wait for clean water to come out of the nozzles.
B) Then, turn off the pump.





ATTENTION

Before starting the system flushing process, make sure that the 50 liter (9) tank is filled with water. Failure to observe this can burn out the pump.

IMPORTANT

When you are finished washing, remember to return the valves to their original position before reapplying products and returning the system to its original pressure.

NOTE

We recommend performing this operation every day before stopping the SNVAP, and depending on the product, on every filling.

▪ Work

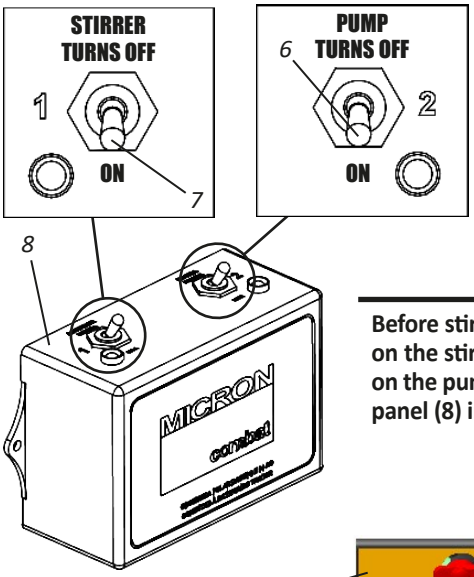
• Adjusting the stirring - SNVAP with PPI tank (Optional)

When the product to be applied is dense, first activate the **STIRRING** system to homogenize the product, to do so, proceed as follows:

01 - Make sure the control panel (1) is in **STIRRING** mode.

- In **STIRRING** mode, the valve (2) must be **CLOSED**, the crank (3) in the position **SYRUP**, the crank (4) in the **TANK** position and the valve (5) in the **OPEN** position.

02 - Then activate the **STIRRING** system.



⚠ ATTENTION

Before stirring, the stirrer and pump must be ON. To turn on the stirrer, activate the STIRRER switch (6) and to turn on the pump, activate the PUMP switch (7) on the control panel (8) installed on the tractor.

▪ Work

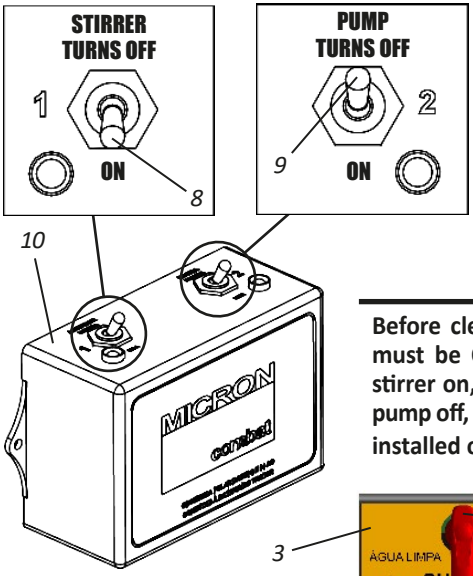
• Adjusting for cleaning the suction and line filters - SNVAP with PPI tank(Optional) - Part I

In order to clean the suction (1) and line (2) filters of the control panel (3), proceed as follows:

01 - Make sure that the control panel (3) is in **SUCTION FILTER CLEANING** mode.

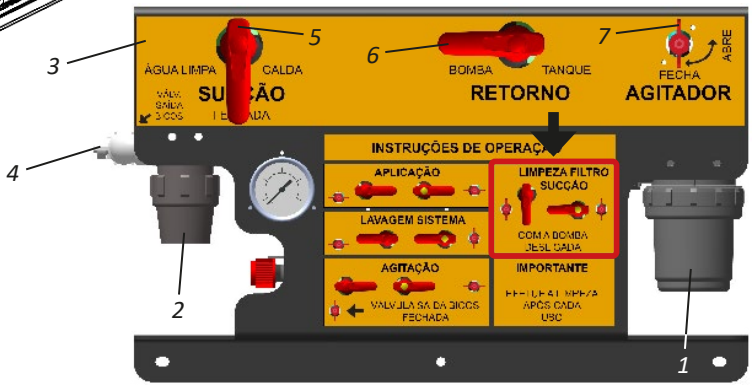
- In the **SUCTION FILTER CLEANING** mode, the valve (4) must be **CLOSED**, the crank (5) in the **CLOSED SUCTION** position, the crank (6) in the **PUMP** position, and the valve (7) in the **CLOSED** position.

02 - Then proceed to clean the suction filters (1) and line (2), as follows:



⚠ ATTENTION

Before cleaning the suction and line filters, the stirrer must be ON and the pump OFF. In order to turn the stirrer on, press the STIRRER switch (8), and to turn the pump off, press the PUMP key (9) on the control panel (10) installed on the tractor.

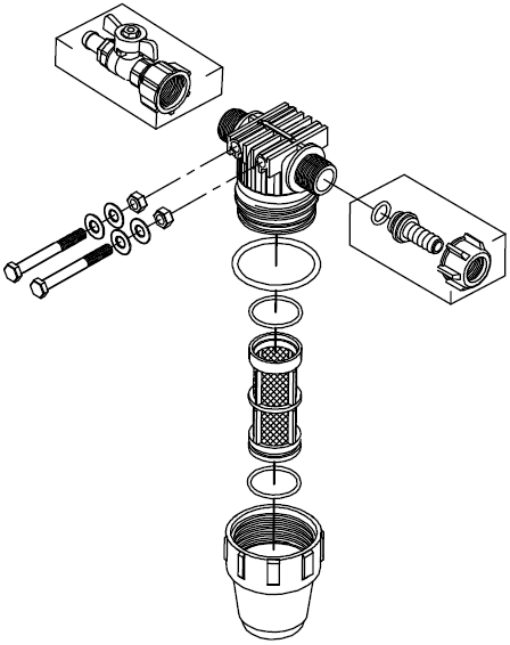


▪ Work

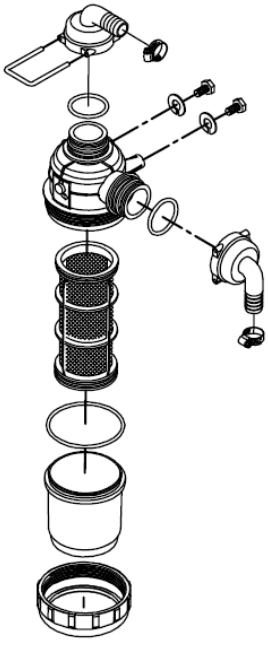
• Adjusting for cleaning the suction and line filters - SNVAP with PPI tank (Optional) - Part II

A) Turn off the pump. Keep the mechanical stirrer on.
B) Clean the Suction and Line filters.
C) Unscrew the filter cups as shown in the figure below.
D) Then wash the filter element with water.
E) Then return the filter element and filter bowl.
F) Return the suction valve to its initial position.

LINE FILTER



SUCTION FILTER



⚠ ATTENTION

Before cleaning the suction and line filters, wear PPE equipment (specially gloves). Ignoring this warning can cause serious illness or even death.

▪ Work

• Calculating the application of inoculant for localized seed treatment - SNVAP with PPI tank (Optional)

Due to the variability of inoculants, we recommend that you calculate based on the dosage tables in liters/hectares on the following page.

EXAMPLE: **Nozzle** FLOW (litres/min) = ?
Tractor SPEED (km/h) = **6 km/h**
SPACING between nozzles (cm) = **50 cm**
VOLUME to be applied (liters/hectare) = **40 Liters/Hectare**

FORMULA: $$\text{FLOW} = \frac{\text{SPEED} \times \text{SPACING} \times \text{VOLUME}}{60.000}$$

CALCULATION: $$\text{FLOW} = \frac{6 \times 50 \times 40}{60.000} = \textbf{0.2 liters/min.}$$

CONCLUSION: Fit a nozzle that “dumps” **0.2 liters/min.**

▪ Tables

• BD nozzles table

Code	Tips	bar	lbf/pol²	DMV VMD	l/min	0,5 m l/ha											
						4 km/h	5 km/h	6 km/h	7 km/h	8 km/h	9 km/h	10 km/h	12 km/h	14 km/h	16 km/h	18 km/h	20 km/h	25 km/h
80° M 004 110° M 017	BD 02 MESH 50	1	15	M	0,48	144	115	96	82	72	64	58	48	41	36	32	29	23
		2	30	F	0,66	198	158	132	113	99	88	79	66	56	49	44	39	32
		3,1	45	F	0,82	246	197	164	141	123	109	98	82	70	61	54	49	39
		4,1	60	F	0,95	285	228	190	163	143	127	114	95	81	71	63	57	46
80° M 006 110° M 019	BD 04 MESH 50	1	5900	M	0,96	288	230	192	164	144	128	115	96	82	72	64	57	46
		2	6300	M	1,32	396	317	264	226	198	176	158	132	113	99	88	79	63
		3,1	6700	F	1,62	486	389	324	278	243	216	194	162	139	121	108	97	77
		4,1	7100	F	1,89	567	454	378	324	284	252	227	189	162	142	126	113	91

▪ Operations

• Operating recommendations - Part I

Preparing the **SNVAP** and the tractor will allow you to save time and obtain better results in field work. The following suggestions may be helpful to you.

HARROW STRUCTURE

After the first day of work with the **SNVAP**, retighten all screws, nuts and check the condition of the pins and locks of the harrow structure. Afterwards, perform a general retightening of all screws and nuts of the harrow frame every 24 hours of work.

DISC SECTIONS

Pay special attention to the **SNVAP's** disc sections. For the first week of use, retighten all screws and nuts on the disc sections everyday. Afterwards, retighten the screws and nuts of the disc sections periodically.

GENERAL RECOMMENDATIONS

01 - Adjust the tractor according to the instruction manual, always using front and back weights to stabilize the equipment.
02 - Always couple to the tractor at idle speed and very carefully.
03 - When using the **SNVAP** it is important to check the coupling system and transverse leveling to make sure that the discs will have the same ground penetration depth.
04 - After hitching and leveling, the next adjustments are made directly in the work field, analyzing the terrain in its texture, humidity and the types of operations to be carried out with the **SNVAP**.
05 - On the tractor, choose a gear that allows you to maintain a certain power reserve, ensuring against unforeseen efforts.
06 - Respect the working and transport speeds specified on page 11. We do not advise exceeding speeds to maintain service efficiency and avoid possible damage to **SNVAP**.
07 - When performing maneuvers in the headlands, activate the hydraulic cylinders gradually, lifting the disc sections beforehand.
08 - When harrowing (with the discs on the ground), do not maneuver to the right or left,as the angles formed by the disc sections begin to transmit great effort to the equipment, especially the traction components.
09 - Do not decouple any hose without first relieving circuit pressure. To do this, operate the control levers a few times with the engine off.
10 - Remove pieces of wood or any other object that might get caught in the discs.

▪ Operations

• Operating recommendations - Part II

11 - In compacted soils where it is difficult for the discs to penetrate, the depth can be minimal, making the work unsatisfactory. In these cases, it is recommended that other more suitable products be applied instead.

12 - During work or transportation, the tractor's drawbar must remain fixed.

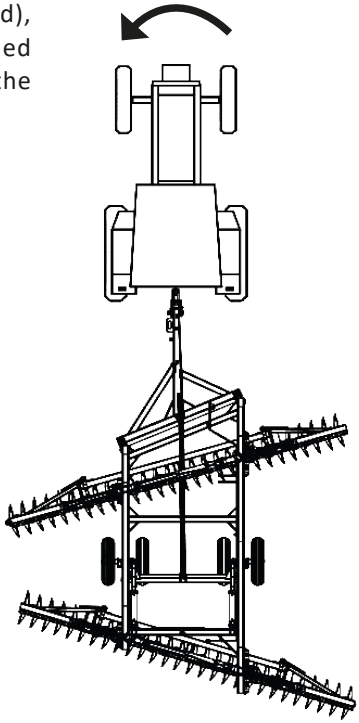
13 - When performing any maintenance on the **SNVAP**, you must lower it to the ground and turn off the engine.

14 - The **SNVAP** has several adjustments, but only local conditions can determine the best adjustment.

If in doubt, never operate or handle the SNVAP, consult After Sales.
Telephone: 0800-152577 / Email: 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 start to transmit great effort to the equipment, especially the traction components.



⚠ ATTENTION

With the disc sections on the ground, it is necessary to maneuver to the left (closed side of the SNVAP), avoiding overloads and the formation of large undesirable furrows where the maneuvers were made.

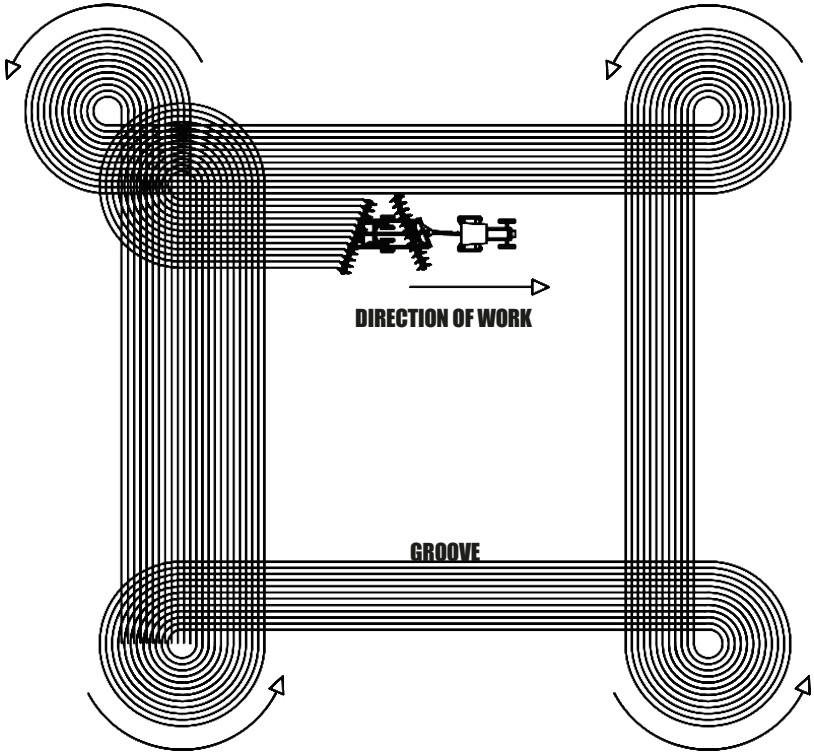
▪ Operations

• How to start harrowing

When starting the harrowing, you must always follow the terraces or contour cord, starting the operation so that the terrace is always on the left side of the tractor driver.

NOTE **Before starting operations with the SNVAP, check it thoroughly, retightening all screws, nuts, hose terminals, shafts, and especially the disc sections.**

• Harrow from outside to inside

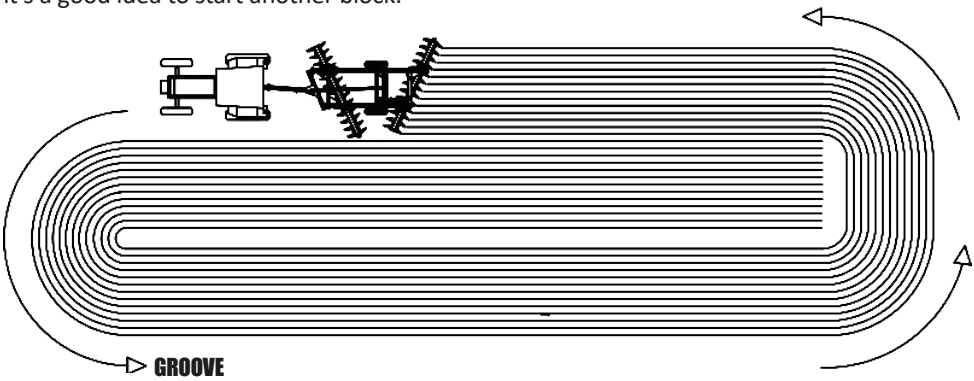


IMPORTANT **Try to drive the tractor in such a way as to obtain good performance between the SNVAP's passes. Avoid forming windrows or strips without harrowing.**

▪ Operations

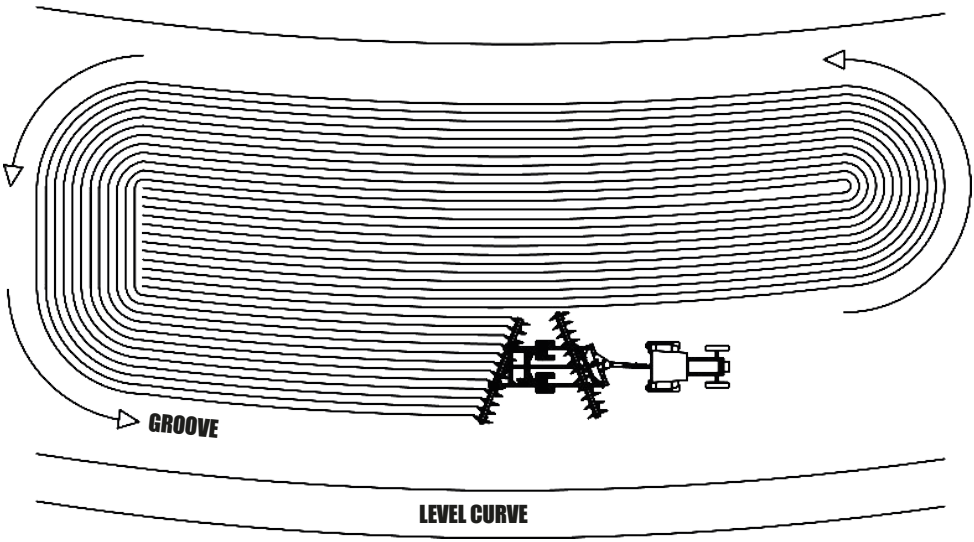
• Harrow from inside to ouside

In this sense, greater perfection is obtained. When you're walking a lot at the headlands, it's a good idea to start another block.



• Fields with contour line

In terrains with contour lines, it is usual to start two plots at a time, taking care to start the work with the contour line on the tractor driver's left side. When you reach the middle of the level curve, it is advisable to start another field to reduce fuel consumption.



▪ Calculations

• Approximate hourly production - Part I

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

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

WHE:

A = Work area
L = Harrow's working (in meters)
V = Tractor's average speed (in meters/hour)
F = Production factor : 0,90
X = Hectare value: 10.000 m² (the value varies according to the region)

Example: A **72 disc SNVAP with 200 mm spacing**, how much Ha will it produce in one hour of work at an average speed of 7 km/h.

A = ?
L = 7,10 m
V = 7.000 m/h
F = 0,90
X = 10.000 m² (Calculated in hectare)

$$A = \frac{7{,}10 \times 7.000 \times 0{,}90}{10.000} = 4{,}47 \text{ Ha/h}$$

Model	No. of Discs	Spacing (mm)	Working Width (mm)	Average Speed (m/h)	Production Factor	Approximate Production in Hectares Hour
SNVAP	56	200	5500	7.000	0,90	3,46
	60	175	5150	7.000	0,90	3,24
	60	175	5900	7.000	0,90	3,71
	64	175	5500	7.000	0,90	3,46
	64	175	6300	7.000	0,90	3,96
	68	200	6700	7.000	0,90	4,22
	72	175	6200	7.000	0,90	3,90
	72	200	7100	7.000	0,90	4,47
	76	175	6550	7.000	0,90	4,12
	84	175	7260	7.000	0,90	4,57

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

▪ Calculations

• Approximate hourly production - Part II

Example: What time "X" will it take for a 72 disc **SNVAP** harrow to produce 35 hectares, at an average speed of 7 km/h?

$$X = \frac{35\ Ha}{4{,}47\ Ha/h} = \text{around 7.82 hours to work 35 hectares.}$$

⚠ ATTENTION **SNVAP's hourly production may vary due to factors that change the pace of work, such as (soil humidity and hardness, terrain slope, improper adjustments and working speed).**

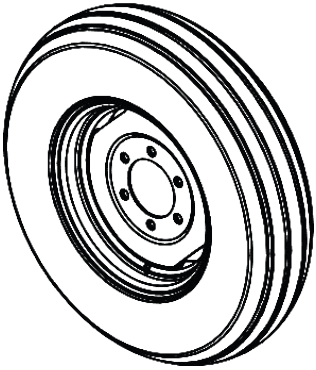
▪ Maintenance

The **SNVAP** was developed to give you maximum performance under terrain conditions. Experience has shown that periodic maintenance of certain parts of **SNVAP** is the best way to help you avoid problems, so we suggest checking it.

• Tire pressure

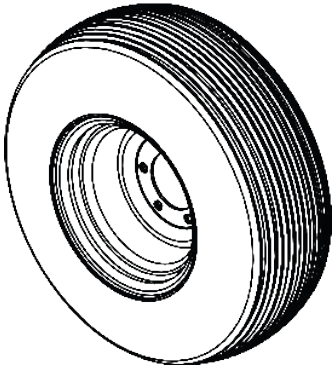
Tires must always be correctly calibrated, avoiding premature wear due to excess or lack of pressure.

TIRES 750 X 16 10 STANDARD PLIES



USE: 60 LBS/POL²

TIRES 11 X 15 - BL 10 PLIES OPTIONAL



USE: 44 LBS/POL²

⚠ ATTENTION

Never weld the tire mounted wheel, the heat can cause the air pressure to build up and cause the tire to explode.
When inflating the tire, stay beside the tire, never in front of it.
To inflate the tire, always use a containment device (inflation cage).
Mount the tires with suitable equipment. The service must be carried out only by persons qualified For the work.

❗ IMPORTANT

When calibrating the tires, do not exceed the recommended calibration.

NOTE

The pressure of the tractor tires should be made according to the manufacturer's recommendations.

▪ Maintenance

The **SNVAP** was developed to give you maximum performance under terrain conditions. Experience has shown that periodic maintenance of certain parts of **SNVAP** is the best way to help you avoid problems, so we suggest checking it.

• Lubrication

Lubrication is essential for good performance and greater durability of the moving parts of the **SNVAP**, helping to save maintenance costs.

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

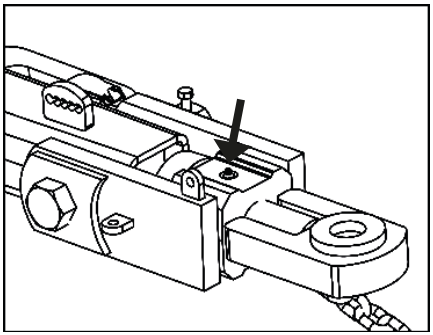
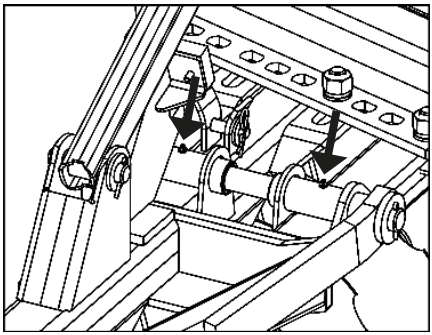
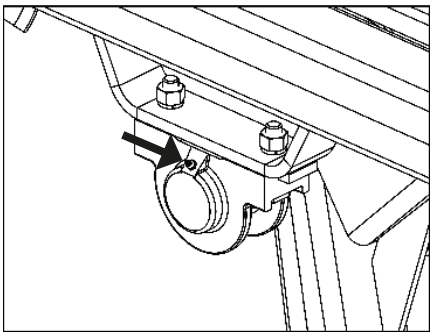
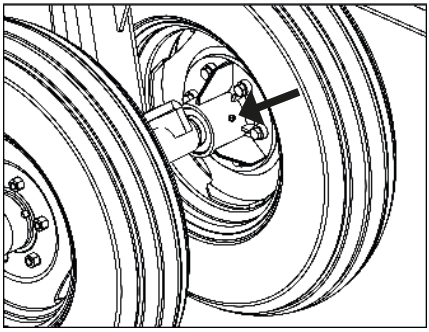
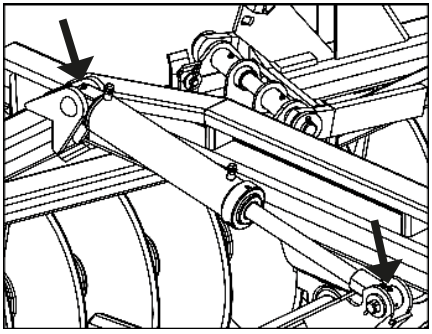
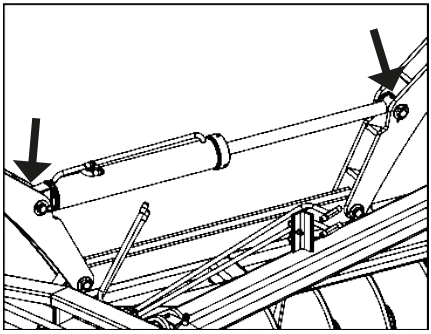
• Table of greases and equivalents

Manufacturer	Type of recommended grease
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 **For manufacturers and/or equivalent brands not listed in the table, check the manufacturer's technical manual.**

▪ Maintenance

• Lubricate every 24 hours of work - Part I

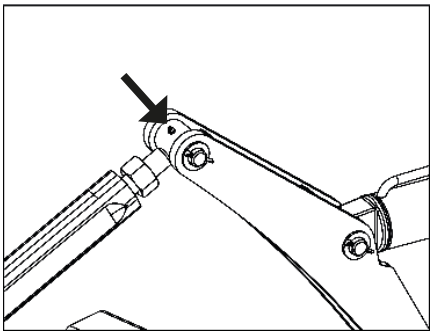







⚠ ATTENTION

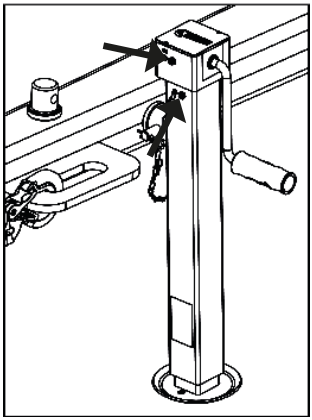
When lubricating the SNVAP, do not exceed the amount of new grease. Insert a sufficient amount.

▪ Maintenance

• Lubricate every 24 hours of work - Part II



• Lubricate every 60 hours of work



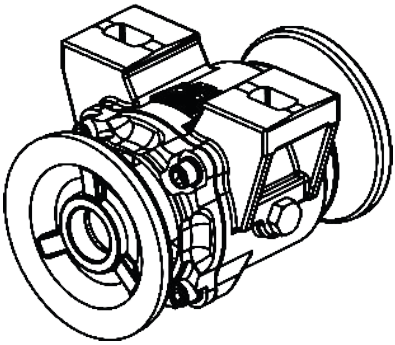
⚠ ATTENTION

When lubricating the SNVAP, do not exceed the amount of new grease. Insert a sufficient amount.

▪ Maintenance

• Axial bearing

In the first days of work with the **SNVAP**, check the oil level in the bearings daily; then check every 120 working hours.



NOTE

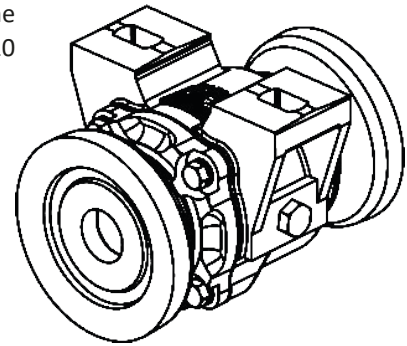
The ideal oil level is when it reaches the plug hole.
To check the bearing oil level, find a flat place.

ATTENTION

Change the oil every 1200 working hours using: Bearing 0.100 liters.
Use transmission oil: 90 API GL4, MIL-L-2105; SAEJ306, May/81: SAE 80W,90 and 140.

• Oil bearing

In the first days of work with the **SNVAP**, check the oil level in the bearings daily; then check every 120 working hours.



NOTE

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

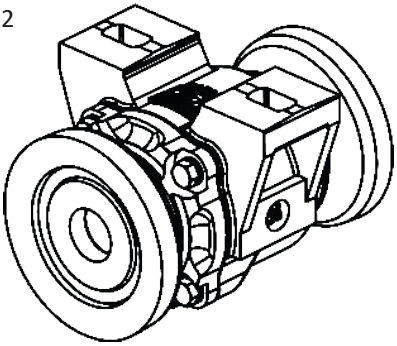
ATTENTION

Change the oil every 1200 working hours using:Bearing 0,090 liters.
Use transmission oil: 90 API GL4, MIL-L-2105; SAEJ306, maio/81: SAE 80W,90 and 140.

▪ Maintenance

• Grease bearing

Grease bearings should be lubricated every 12 hours of work, using the grease specified below.



NOTE

Before relubricating the bearing, clean the grease fitting with a clean, lint-free cloth. Replace damaged grease fittings.

ATTENTION

The amount of grease in each bearing is 120 ks.
Use only grease: EP (Specification DIN51825 KP00K Consistency NLGI 2/3).

▪ Maintenance

• Periodic maintenance

Description of parts	Number of grease fittings							Oil Change	Lubricate with grease	Re-tighten	Replace	Check	Maintenance interval
	SNVAP 56	SNVAP 60	SNVAP 64	SNVAP 68	SNVAP 72	SNVAP 76	SNVAP 84						
Shackle	1	1	1	1	1	1	1		X				24 hours
Lift cylinder base	2	2	2	2	2	2	2		X				
Articulation cylinder base	2	2	2	2	2	2	2		X				
Lift cylinder rod	2	2	2	2	2	2	2						
Articulation cylinder rod	2	2	2	2	2	2	2		X				
Hub	4	4	4	4	4	4	4		X				
Wheel support bearing	2	2	2	2	2	2	2		X				
Mechanical jack	1	1	1	1	1	1	1		X				60 hours
Bearings	20	20	24	24	24	24	24		X				12 hours
Bearings	20	20	24	24	24	24	24	X					1200 hours
Hydraulic system	-	-	-	-	-							X	40 hours
Bearings	-	-	-	-	-					X		X	120 hours
Axle bolts and nuts	-	-	-	-	-					X			200 hours
Screws and nuts	-	-	-	-	-					X			100 hours
Retainers	-	-	-	-	-						X		1500 hours
Bearings	-	-	-	-	-						X		
Discs	-	-	-	-	-						X		When necessary
Tires	-	-	-	-	-						X		

▪ Maintenance

• Operational maintenance - Part I

PROBLEMS	POTENTIAL CAUSES	SOLUTIONS
The tires are damage.	Work area has rocks, stumps, or crop remains with stalks that cause the tires to shred.	Eliminate the elements that cause damage to the tires before the **SNVAP** is used.
	The tires are not properly inflated, causing warping.	Maintain proper tire pressure.
Strange noise in the wheels.	Loose wheels or wheel hub play.	Retighten wheel nuts and adjust wheel hub bearings.
	Broken bearings.	Identify the occurrence and replace the damaged parts.
Quick hitch does not fit.	Hitches of different types.	Replace them with males and females of the same type.
Leakage in the hydraulic hoses.	There is no sealing material on the thread.	Use thread-sealing tape and retighten carefully.
	Insufficient tightness.	Retighten carefully.
	Damaged repairs.	Replace terminals.
Leakage in the quick hitches.	Insufficient tightness.	Re-tighten carefully, without excess.
	Damaged repairs.	Replace repairs.
Leakage in the hydraulic cylinder.	Damaged repairs.	Replace the repairs.
	Damaged rod.	Replace the rod.
	Oil with impurities.	Replace oil, repairs, and filter elements.
	Working pressure higher than recommended.	Adjust the control through the relief valve with the help of a pressure gauge. Normal pressure 180 Bar.

▪ Maintenance

• Operational maintenance - Part II

PROBLEMS	POTENTIAL CAUSES	SOLUTIONS
Tractor pulling to the right.	Angle too large in front section or too small in rear section.	Reduce the angle of the front section or increase the angle of the rear section.
	Oscillating drawbar touching the stop to the left.	Move the drawbar to the left.
Groove being left open on the left side	Speed too low for ground conditions.	Increase speed.
	Tractor being positioned too far to the right.	Position the tractor so the left front disc is on the edge of the furrow.
	Incorrect adjustment of the disc sections laterally.	Move rear section left or front right.
Windrow formation on the left side.	Insufficient overlap. Incorrect rear section adjustment.	In case of windrows, move the front section to the left or the rear to the right.
Sections are not at harrow level.	Front and back section are not operating at the same depth.	Adjust the angle of the disc sections.
Locked sections.	Very wet field.	Allow the field to dry or penetrate the disc superficially to aid in drying.
	Adjustment of sections with maximum angle.	Reduce the angle.
	Very deep harrowing in moist soil.	Use cappers to decrease depth. Raise disc to reduce penetration.
	Wipers worn or incorrectly adjusted.	Adjust or change wipers as needed.

▪ Maintenance

• Operational maintenance - Part III

PROBLEMS	POTENTIAL CAUSES	SOLUTIONS
Quick couplers do not engage.	Couplings of different brands.	Use quick couplers of the same brand.
	Mixture of needle-type couplings with ball-type couplings.	Always use quick couplers of the same type.
	Pressure on the system.	Relieve pressure to couple.
Tractor rears up when lifting the PPI tank.	Insufficient ballast at the front of the tractor.	Ballast the front of the tractor.
It can't spray.	Insufficient syrup in the PPI Tank.	Put syrup in the PPI Tank.
	Closed flow regulating valve.	Adjust the flow regulator valve.
	Clogged hoses, filters, and nozzles.	Disassemble and clean.
Lack of pressure in the spray system.	Electrical pump diaphragm rupture.	Check the electric pump.
	Problem with the electric pump valves.	Check the valve's internal parts.
Irregular flow.	Object obstructing hose, bent or curved hose.	Check the output hoses of the electric pump and the electronic flow monitoring system.
	Leaking problems.	Check if the spraying circuit has a leak and apply silicone.
	Pump problems.	Check if there is any object obstructing the flow of liquid to the pump.

▪ Maintenance

• Care

01 - Before each work session, check the condition of all hoses, pins, screws, bearings, disks, and sections.When necessary, retighten them.

02 - The speed of travel must be carefully controlled according to the terrain conditions.

03 - A The **SNVAP** is used in various applications, requiring knowledge and attention during handling.

04 - Only local conditions will determine the best way to operate **SNVAP**.

05 - When assembling or disassembling any part of the **SNVAP**, use proper methods and tools.

06 - Observe the lubrication intervals carefully, at the various **SNVAP** lubrication points.Respect the lubrication intervals.

07 - Always check parts for wear and tear. If replacement is required, always demand original Baldan parts.

08 - Keep the **SNVAP** tires always calibrated.

09 - Keep the **SNVAP's** discs sharp at all times.

IMPORTANT | **Proper and periodic maintenance is necessary to ensure the long life of the SNVAP.**

• General cleaning - Part I

01 - When storing the **SNVAP**, perform a full cleaning and wash it completely with water only. Check that the paint has not worn off, if so, apply a full coat, apply protective oil, and completely lubricate the **SNVAP**. Do not use burnt oil or other abrasive.

02 - Fully lubricate the **SNVAP**. Check all moving parts of the SNVAP, if they show wear or looseness, make the necessary adjustment or replace the parts, leaving the harrow ready for the next job.

▪ Maintenance

• General cleaning - Part II

03 - After all maintenance care, store the harrow in a covered and dry place, properly, supported

Avoid: - That the discs are directly in contact with the ground.
- Spring compression.
- That the hydraulic hoses are properly capped.

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

05 - Replace all stickers, especially warning stickers that are damaged or missing. Make everyone aware of their importance and the dangers of accidents when instructions are not followed.

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

07 - We recommend washing the **SNVAP** only with water at the beginning of the work.

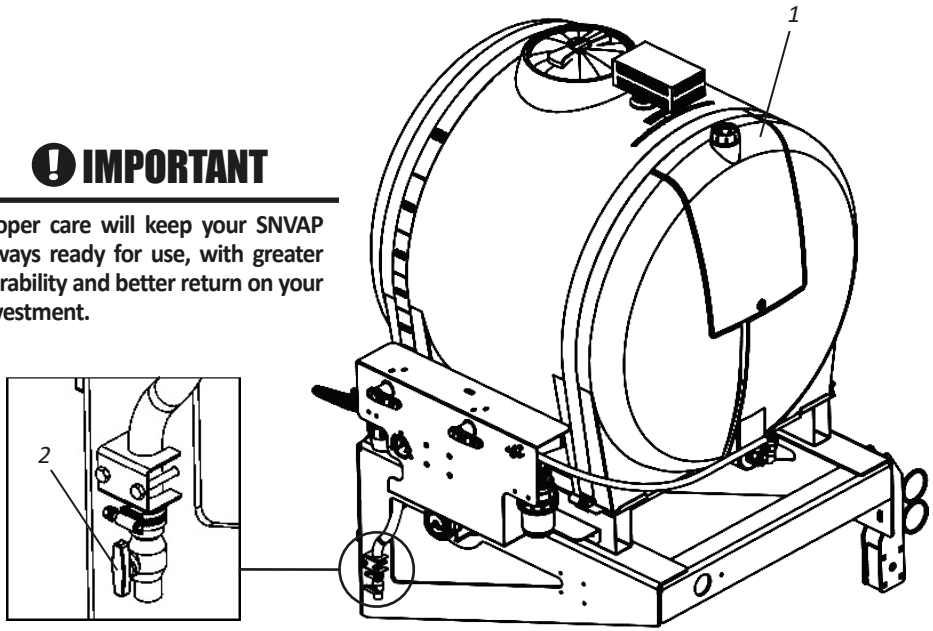
⚠ ATTENTION | **Do not use chemical or abrasive products to wash the SNVAP as this could damage the paintwork and adhesives.**

▪ Maintenance

• Washing the 600 liter tank - SNVAP with PPI tank (Optional)

After each use of the **SNVAP** with a PPI tank (optional), clean the 600 liter tank (1) for better conservation and durability. Depending on the product to be used, we recommend that this cleaning is also performed on every refill. To clean the 600 liter (1) tank, proceed as follows:

01 - Completely empty the product used in the 600 liter tank (1) by opening the valve (2).
02 - Then, with a clean water hose, wash inside the 600 liter tank (1) and run the pump toclean the pump, hoses and nozzles internally. Repeat this operation once more for complete elimination of residues of the product used.
03 - Then, completely drain the water from the 600 liter tank (1).



IMPORTANT

Proper care will keep your SNVAP always ready for use, with greater durability and better return on your investment.

ATTENTION

When emptying the 600 liter (1) tank, do not throw the chemical into rivers, lakes, or onto the ground. Proceed with the disposal according to the instructions on the packaging; if you have no information, contact the competent authority in your region. Improper waste disposal affects the environment and ecology.

▪ Maintenance

• Maintaining the harrow - Part I

To extend the life and appearance of **SNVAP** for longer, follow the instructions below:

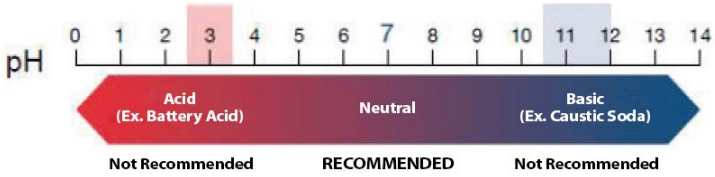
01 - Wash and clean all harrow components during and at the end of the working season.
02 - Use neutral products to clean the harrow, following the safety and handling guide lines provided by the manufacturer.
03 - Always carry out maintenance during the periods specified in this manual.

• Maintaining the harrow - Part II

The practices and care below, if adopted by the owner or operator, make a difference for the conservation of the **SNVAP**.

01 - Caution when performing high pressure washing; do not direct the water jet at connectors and electrical components. Isolate all electrical components;
02 - Only use water and MILD detergent (pH equal to 7);
03 - Apply the product, strictly following the manufacturer's instructions, on the wet surface and in the correct sequence, respecting the application and washing time;
04 - Stains and dirt not removed with the products must be removed with the aid of a sponge;
05 - Rinse the machine with clean water to remove all chemical residues;
06 - Do not use: - etergents with basic active ingredient (pH greater than 7), can damage/stain / the disc harrow painting.

- Detergents with acid active principle (pH less than 7) act as a paint remover/zinc plating (the protection of parts against oxidation).



07 - Let the machine dry in the shade, so that no water accumulates on its components.Drying too quickly can cause stains on the paint.
08 - After drying, lubricate all grease fittings according to the recommendations in the operator's manual.

▪ Maintenance

• Maintaining the harrow - Part II

09 - Spray the entire machine, especially galvanized parts, with protective oil, following the manufacturer's application guidelines. The protector also prevents the adherence of dirt in the machine, facilitating subsequent washing.

10 - Observe the curing time (absorption) 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.)**

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

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

▪ Lifting

• Warnings for lifting the PPI tank (Optional) - Part I

⚠ Carefully read all the information on pages 100 to 102 before starting the procedure for lifting the PPI tank (Optional) according to the instructions on pages 103 and 104.

⚠ Before lifting the PPI tank (Optional), look for a safe and easily accessible place that is clean and free of oil, grease, and that is not wet, as there is a risk of accidents.

⚠ To avoid serious injury or death when lifting the PPI tank (Optional), wear PPE (Personal Protective Equipment).

⚠ Do not drag hooks, chains or slings as they can cause damage which must be avoided.

⚠ When lifting the PPI tank (Optional), prevent it from getting tangled up anywhere. Do not subject the equipment to unnecessary effort.

⚠ Never fasten the load on the end of the hook. Use large eyebolts or fasten with a suitable shackle.

⚠ Do not start the tractor engine indoors without adequate ventilation as exhaust fumes are harmful to health.

⚠ When driving the tractor to the SNVAP's hitch, make sure that you have space enough and that no one is too close, always carry out the maneuvers at idle speed and be prepared to brake in an emergency.

⚠ Do not make adjustments with the SNVAP running.

⚠ When working on slopes, be careful to always maintain the required stability. In the event of an imbalance starting, reduce the acceleration, turn the wheels to the side of the terrain slope and never raise the SNVAP.

⚠ Always drive the tractor at safety compatible speeds, especially when working on rough or sloping terrain, always keep the tractor hitched.

⚠ When driving the tractor on roads, keep the brake pedals interconnected.

⚠ Do not work with the tractor with a light rear end. If the rear tends to lift, add more weights to the rear wheels.

⚠ When leaving the tractor, shift to neutral and apply the parking brake. Never leave the SNVAP attached to the tractor in the raised position of the hydraulic system.

⚠ The SNVAP must always be stationary and the tractor must always be turned off before any servicing.

⚠ Do not drive on highways, especially at night. Use warning signs all the way.

⚠ Never try to force the attachment of a large ring on a smaller hook, use a hook with a suitable opening.

⚠ Never try to force the attachment of a large ring on a smaller hook, use a hook with a suitable opening.

▪ Lifting

• Warnings for lifting the PPI tank (Optional) - Part II

⚠ Raise the PPI tank (Optional) a few inches off the ground and check that ut is secure and that the angles and tensions on the sling legs are correct before moving.

⚠ Move the PPI tank (Optional) with care. Lower it gently to avoid jerking or bumping.

⚠ If necessary, move the hook only with your fingertips; never put your hand inside it, as your fingers may be pinched by the load.

⚠ For attachments with lifting eyebolts, ensure that the eyes are properly positioned. The hook ends should be positioned to the outside of the load.

⚠ Before lifting the PPI tank (Optional), make sure its weight is evenly distributed.

⚠ Never lift the PPI tank (Optional) using a strap that is used to tie the load. These materials are only sized for securing cargo and cannot support its weight. For lifting, only use GRADE 8 or 10 chains with a load capacity compatible with the weight of the PPI tank (Optional) to be lifted.

⚠ The fixtures must have the same load capacity as the chain; Do not repair broken chains with wires, screws, or welding. Replace any chain that shows any damage.

⚠ When lifting with multiple slings on a single hook, the lifting angle must not exceed 90°. The hook may be damaged and there is a risk of opening the hook lock.

⚠ Do not twist securing a chain link with a hook, always use a load ring.

⚠ Never move the PPI tank (Optional) with the chain twisted.

⚠ Make sure the responsible person is instructed on the correct lifting of the PPI tank (Optional). Read or explain all procedures to a person who cannot read.

⚠ Baldan is not responsible for any damage caused in unpredictable situations or beyond the normal lifting of the PPI tank (Optional).

⚠ Improperly lifting the PPI tank (Optional) can result in serious or fatal accidents and damage to the tank.

⚠ Alcoholic beverages or some medications can lead to loss of reflexes and alter the physical conditions of the person in charge and the people involved in lifting the PPI tank (Optional), so never lift it under the influence of these substances.

▪ Lifting

• Inspection of hooks with latches, chains and slings

01 - A thorough periodic examination should be made at least every 12 months or more often according to the standards and type of use of the hooks, chains, and slings.
02 - Regular inspection includes both operational checks and periodic maintenance.
03 - Inspections of hooks, chains and slings must be conducted by people who have knowledge of the design, use and maintenance of these materials.
04 - Before inspecting a chain, it should be thoroughly cleaned, removing the dirt and oil.All cleaning methods that do not damage the base material of the chain are acceptable.
05 - Chains and slings that have been overloaded must be discarded.Permanent stretching is not allowed.
06 - Chains that have cracks or cavities should be discarded.
07 - When a twisted chain is overloaded it develops permanent deformations.In this case, this chain should be replaced immediately.
08 - If the chain contains deformed links or deep corrosion, it should be replaced immediately.
09 - Damage or wear to hooks, chains, and slings must be reported to your superior,who, in this case, must arrange for them to be taken out of use for repair or replacement.
10 - Hooks, chains, and slings that remain unused for a period of time should be inspected before being used again.

• Storage

01 - Proper storage should be arranged preferably at room temperature. Good storage preserves hooks, chains, and slings and makes them easier to find.
02 - Hooks, chains and slings stored for a long time must be protected against corrosion.
03 - Hooks, chains, and slings that remain unused for a period of time should be, inspected before being used again.

If you have any questions about inspection and storage of hooks, chains and slings, consult the manufacturer's manual.

▪ Lifting

• Assembling the lifting system of the PPI tank (Optional)

To assemble the lifting system, proceed as follows:

01 - Attach the rear support (1) to the tank support (2).

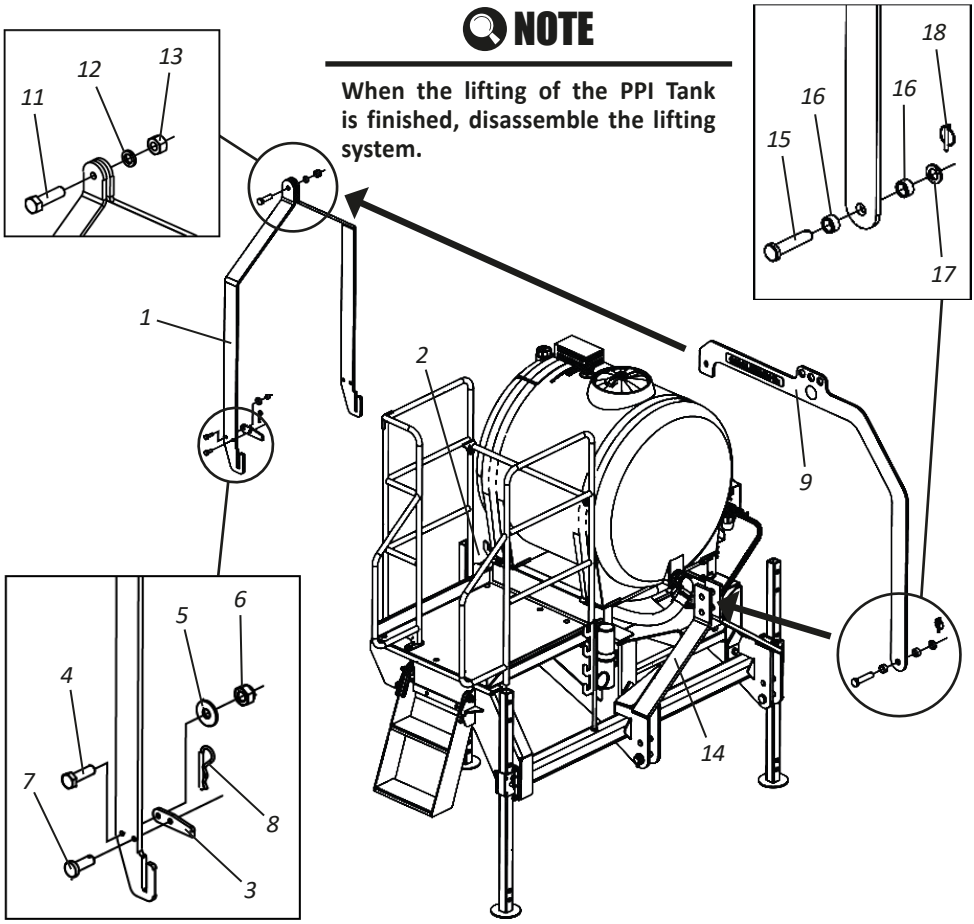
02 - Then secure the plate (3) on the rear support (1) using the screw (4), flat washer (5), nut (6), pin (7) and lock (8).

03 - Then, couple the front support (9) to the rear support (1) using the screw (11), lock washer (12), and nut (13).

04 - Finish by securing the front support (9) to the frame (14) using the pin (15), flatwasher (16), and lock (17).

NOTE

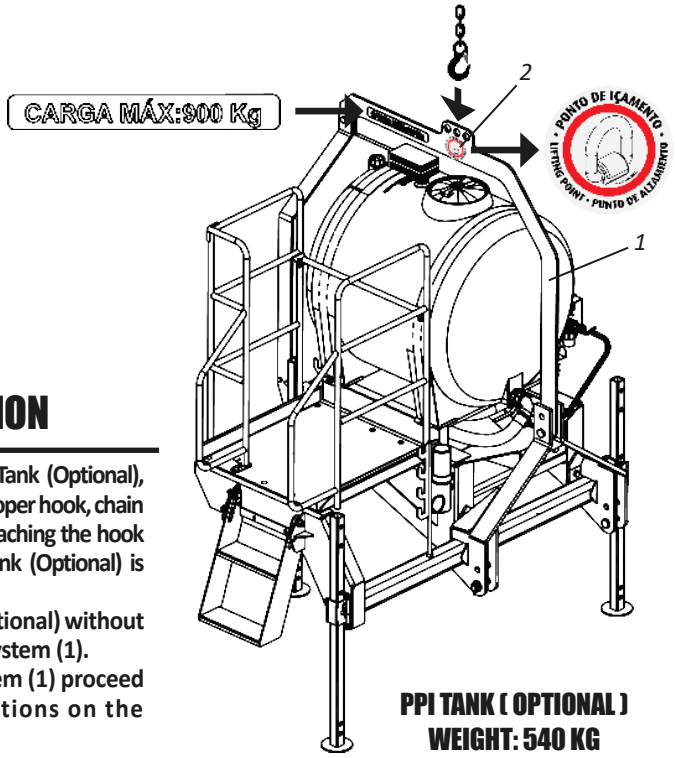
When the lifting of the PPI Tank is finished, disassemble the lifting system.



▪ Lifting

• Lifting the PPI tank (Optional)

The PPI tank (Optional) has 3 lifting points located on the lifting support (1) identified by the sticker (2) attached below these points. When loading, unloading, coupling to the tractor or servicing the PPI tank (Optional), if you need to lift it, it is essential to use the lifting support (1) to avoid damage to the PPI tank (Optional), serious accidents, or even the death.



PPI TANK (OPTIONAL)
WEIGHT: 540 KG

⚠ ATTENTION

Before starting lifting the PPI Tank (Optional), check its WEIGHT to use the proper hook, chain and sling. Make sure when attaching the hook that the weight of the PPI Tank (Optional) is evenly distributed.
DO NOT lift the PPI Tank (Optional) without first assembling the lifting system (1).
To assemble the lifting system (1) proceed according to the instructions on the previous page.

❗ IMPORTANT

Use standard hooks and chains ie that meet safety standards. The hooks and chains used for lifting the PPI Tank (Optional) must be GRADE 8 or 10 with a load capacity compatible with the weight of the PPI Tank (Optional) to be lifted.

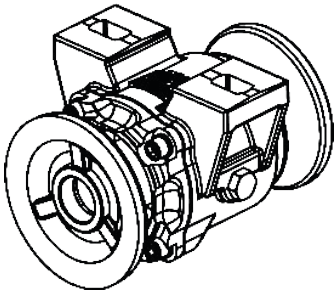
NOTE

Before starting lifting the PPI Tank (Optional), make sure there are no people near, on top of or under the PPI Tank (Optional). NEVER stand over or under the PPI Tank (Optional) while it is hanging. Ignoring these warnings could cause serious injury or death.

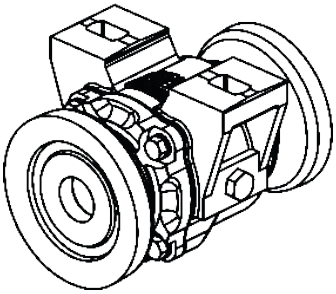
▪ Optional

• Optional accessories - Part I

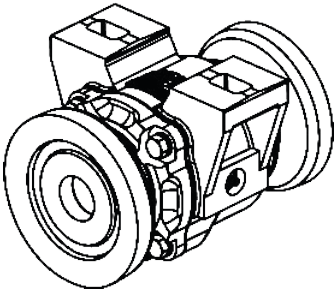
The **SNVAP** has options that can be purchased according to the need for work.



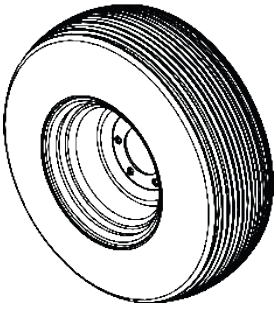
AXIAL BEARING- WITHOUT GUARD



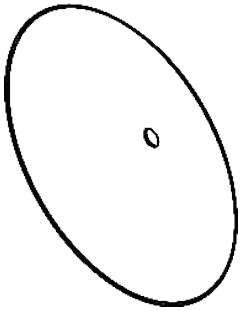
OIL BEARING - WITHOUT GUARD



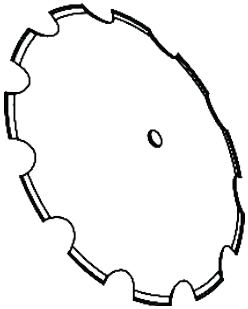
GREASE BEARING - WITHOUT GUARD



TIRE 11 X 15 - BL 10 CANVAS



FLAT DISC - 20" AND 22"

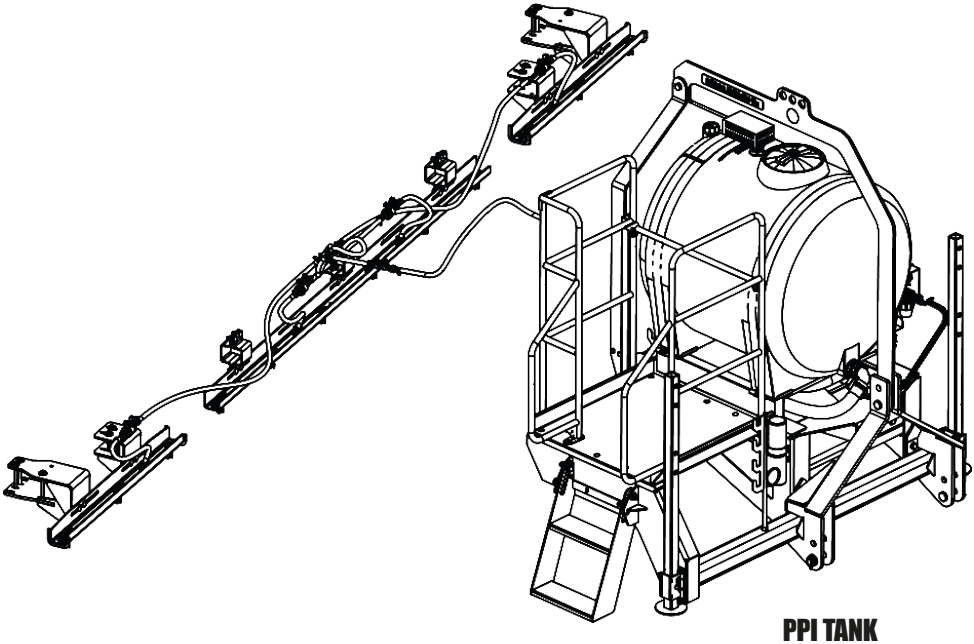


CUT OUT DISC - 20" AND 22"

▪ Optional

• Optional accessories - Part II

The **SNVAP** has options that can be purchased according to the need for work.

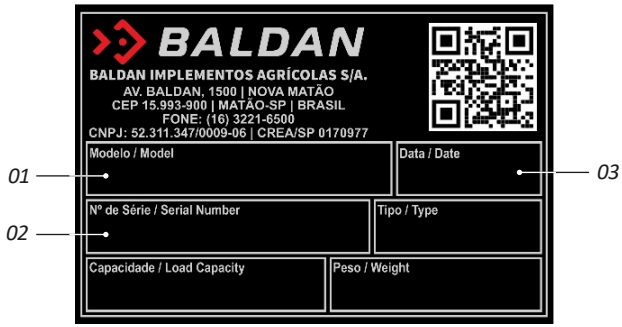


PPI TANK

▪ Identification

• Nameplate

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



⚠ ATTENTION

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

CONTACT

If in doubt, never operate or handle your equipment without contacting Post Sales.
Telephone: 0800-152577
e-mail: posvenda@baldan.com.br

PUBLICATIONS

Code : 60550100471 | CPT: SNVA11622A

PEÇAS ORIGINAIS BALDAN
ORIGINAL PARTS • PIEZAS ORIGINALES

▪ Identification

• Product Identification

Correctly identify the information below to always have information on the life of your equipment.

Owner: _____

Reseller:_____

Farm: _____

City: _____

State: _____

Warranty Cert. No.:_____

Implement: _____

Serial No.: _____

Data of purchase: _____

Invoice: _____

▪ Notes

Warranty Certificate

BALDAN IMPLEMENTOS AGRÍCOLAS S/A guarantees the normal operation of the implement to the dealer for a period of six (6) months from the date of delivery on the resale invoice to the first end consumer. During this period, **BALDAN** agrees to remedy defects in materials and/or workmanship under its responsibility, the dealer being responsible for labor, freight and other expenses.

During the warranty period, the request and replacement of any defective parts must be made to the regional dealer, who will send the defective part for analysis at **BALDAN**.

When such procedure is not possible and the dealer has exhausted its resolution capacity, it will request support from **BALDAN Technical Assistance**, through a specific form distributed to dealers. After reviewing the replaced items by Baldan Technical Assistance, and if it is concluded that it is not covered by the warranty, then the dealer's will be responsible for replacement costs; as well as material expenses, travel including accommodation and meals, accessories, used lubricant and other expenses arising from the call for Technical Assistance, and Baldan is authorized to bill on behalf of the dealer. Any repair made to the product by the dealer within the warranty period will only be authorized by **BALDAN** upon prior quotation describing parts and labor to be used.

This statement excludes products that undergo repairs or modifications to workshops 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 shall be rendered void when it is found that the defect or damage is the result of improper use of the product, failure to follow instructions or operator inexperience.

It is agreed that this warranty does not cover tires, deposits of polyethylene, cardans, hydraulic components, etc., which are equipment guaranteed by their manufacturers. Manufacturing and/or material defects, described under this warranty terms, will not constitute, under any circumstances, a reason for termination of the purchase and sale contract or compensation of any nature.

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.

▪ Inspection and delivery certificate

SERVICE BEFORE DELIVERY: This implement was carefully prepared by the sales organization, inspected in all its parts according to the manufacturer's prescriptions.

DELIVERY SERVICE: The user has been informed of the current warranty terms and instructed on the use and maintenance precautions.

I confirm that I was informed about the terms of existing warranty and instructed on the use and proper maintenance of the implement.

Implement: _____ Serial number: _____

Date: _____ Invoice No.: _____

Reseller:_____

Phone:_____ Zip code:_____

City: _____ State: _____

Owner: _____

Phone:_____

Address: _____ Number: _____

City: _____ State: _____

E-mail: _____

Date of Sale: _____

Signature / Stamp of Reseller _____

1st counterpart Owner

▪ Inspection and delivery certificate

SERVICE BEFORE DELIVERY: This implement was carefully prepared by the sales organization, inspected in all its parts according to the manufacturer's prescriptions.

DELIVERY SERVICE: The user has been informed of the current warranty terms and instructed on the use and maintenance precautions.

I confirm that I was informed about the terms of existing warranty and instructed on the use and proper maintenance of the implement.

Implement: _____ Serial number: _____

Date: _____ Invoice No.: _____

Reseller:_____

Phone:_____ Zip code:_____

City: _____ State: _____

Owner: _____

Phone:_____

Address: _____ Number: _____

City: _____ State: _____

E-mail: _____

Date of Sale: _____

Signature / Stamp of Reseller _____

2nd counterpart Reseller

▪ Inspection and delivery certificate

SERVICE BEFORE DELIVERY: This implement was carefully prepared by the sales organization, inspected in all its parts according to the manufacturer's prescriptions.

DELIVERY SERVICE: The user has been informed of the current warranty terms and instructed on the use and maintenance precautions.

I confirm that I was informed about the terms of existing warranty and instructed on the use and proper maintenance of the implement.

Implement: _____ Serial Number: _____

Date: _____ Invoice No.: _____

Reseller: _____

Phone: _____ Zip Code: _____

City: _____ State: _____

Owner: _____

Phone: _____

Address: _____ Number: _____

City: _____ State: _____

E-mail: _____

Date of Sale: _____

Signature / Stamp of Reseller _____

3rd counterpart Manufacturer (Please send completed within 15 days)

1.74.05.0059-5

AC MATÃO
ECT/DR/SP

RESPONSE CARD

NO STAMP REQUIRED

STAMP WILL BE PAID BY:

BALDAN IMPLEMENTOS AGRÍCOLAS S/A.

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

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