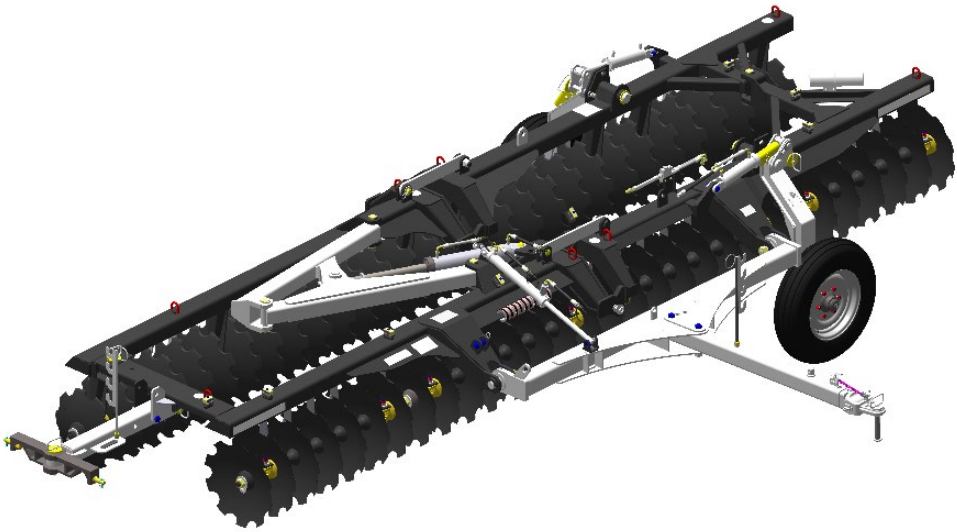
Instruction Manual



NVF-T

Drag Type Leveling Disc Harrow with Permanent Flotation Tube

BALDAN

Presentation

We appreciate your preference and congratulate you for the excellent choice you have just made, by purchasing a product manufactured with **BALDAN IMPLEMENTOS AGRÍCOLAS S/A** technology.

This manual provides guidance on the necessary processes, from purchase to operating, use, safety and maintenance procedures.

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

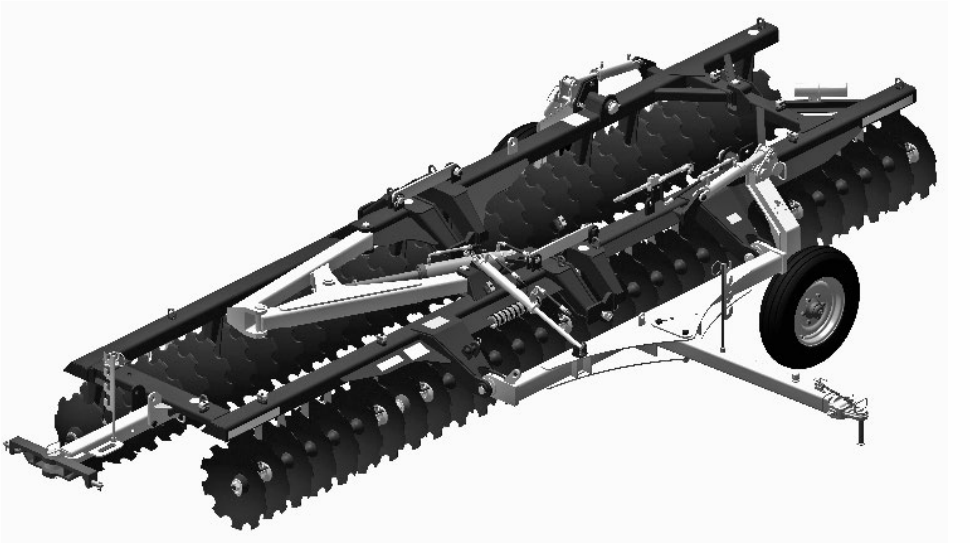
The distributor is responsible for its care and conservation for the time it remains in its possession, as well as its assembly, readjustment, lubrication and general inspection.

During the technical delivery, the distributor must advise the user customer on maintenance, safety, their obligations in case of technical assistance, strict compliance with the warranty period and reading the instruction manual.

Any request for technical assistance under warranty must be made with the distributor where the product was purchased.

We reiterate the need for careful reading of the warranty certificate and compliance with all elements of this manual, as this will increase the shelf-life of your implement.

Instruction Manual



NVF-T

Drag Type Leveling Disc Harrow with Permanent Flotation Tube

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

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

BALDAN

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▪ Baldan Warranty

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

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

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

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

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

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

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

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

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

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

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

▪ General Information

• To the owner

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

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

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

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

⚠ ATTENTION

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

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

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

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

▪ Safety rules

• To the operator

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

ATTENTION

Carefully read the instructions manual tolearn about the recommended safety practices.

ATTENTION

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

ATTENTION

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

ATTENTION

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

ATTENTION

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

ATTENTION

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

ATTENTION

Careful when handling NVF-T support since there is risk of accidents.

▪ Safety rules

⚠ ATTENTION

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

⚠ ATTENTION

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

⚠ ATTENTION

When searching for a possible leakage on the hoses, use a piece of cardboard or wood, never use your hands. Avoid fluid incision into the skin.

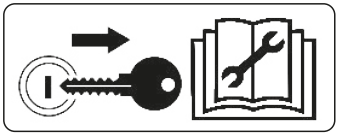
⚠ ATTENTION

When transporting the NVF-T, do not exceed the speed of 25 Km/h or 15 MPH in order to avoid risk of damage and accidents.

⚠ ATTENTION

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

⚠ ATTENTION



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

⚠ ATTENTION

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

▪ Safety rules

⚠ ATTENTION

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

⚠ ATTENTION

Before working on or transporting the NVF-T, check for people or obstructions near the machine.

⚠ ATTENTION

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

⚠ ATTENTION

Keep the articulation area free while the NVF-T is in operation.
In closed curves, prevent tractor wheels from touching the head.

⚠ ATTENTION

Never weld the wheel mounted with tire, the heat may cause air pressure increase and provoke the explosion of the tire.
When filling the tire, position yourself besides the tire, never in front of it. To inflate a tire, always use a containment device (inflation cage).

⚠ ATTENTION

Always stay away from the active elements of the NVF-T is in operation.
In closed curves, prevent tractor wheels from toutching the head.

⚠ ATTENTION

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

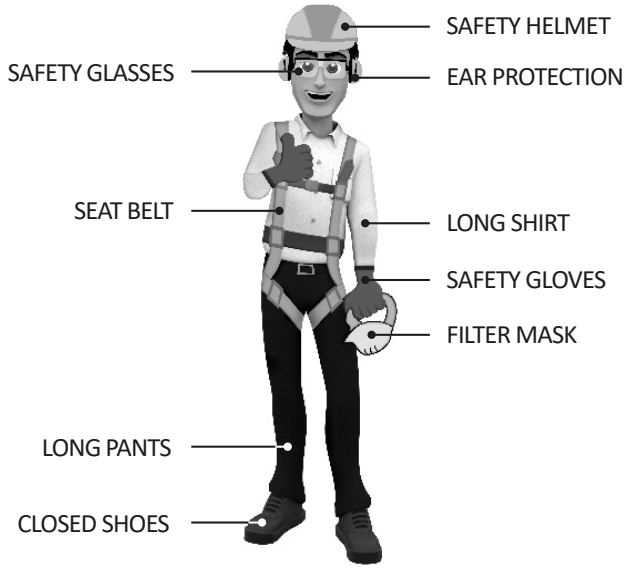
PROTECT THE ENVIRONMENT!

▪ Safety regulations

• PPE equipment

ATTENTION **DO NOT WORK WITH NVF-T WITHOUT FIRST PUTTING ON THE EPIS (SAFETY EQUIPMENT). IGNORING THIS WARNING COULD CAUSE DAMAGE TO YOUR HEALTH, SERIOUS ACCIDENTS OR DEATH.**

When carrying out certain procedures with **NVF-T**, wear the following PPE (Safety Equipment):



IMPORTANT

Safety practices must be carried out at all stages of working with the NVF-T, thus avoiding accidents such as the impact of objects, falls, noises, cuts and ergonomics, i.e. the person responsible for operating the NVF-T is subject to internal and external damage to their body.

NOTE **All PPE (safety equipment) must have a certificate of authenticity.**

▪ Warnings

⚠ When operating the NVF-T, do not allow people to be near or stand on stop of the machine.

⚠ When performing any maintenance service, use PPEs equipment.

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

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

⚠ Do not wear loose clothing, as they may get caught in the NVF-T.

⚠ When maneuvering the tractor to engage the NVF-T, make sure you have the necessary space and that there are no people nearby, always maneuver the machine at idle and be prepared to brake in an emergency.

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

⚠ When maneuvering the tractor to engage the NVF-T, make sure you have the necessary space and that there are no people nearby, always maneuver the machine at idle and be prepared to brake in an emergency.

⚠ Do not make adjustments with the NVF-T in operation.

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

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

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

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

⚠ When leaving the tractor, put the gear lever in neutral position and apply the parking brake. Never leave the NVF-T coupled to the tractor with the hydraulic system in the raised position.

⚠ All maintenance on the NVF-T must be carried while the vehicle is parked and with the tractor switched off.

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

⚠ If you need to travel with the NVF-T on highways, consult the transit agencies.

⚠ Do not allow untrained people to use the NVF-T, that is, people that do not know how to operate it correctly.

▪ Warnings

⚠ Do not transport or work with the NVF-T near obstacles, rivers or streams.

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

⚠ Changing the original characteristics of the NVF-T are not allowed, as they may chance safety, operation, and service life.

⚠ Read all safety information contained in this manual and in the NVF-T carefully.

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

⚠ Always check that the NVF-T is in perfect conditions of use. In case of any irregularity that way interfere with the operation of the NVF-T, ensure proper maintenance before any work or transportation.

⚠ The maintenance, especially the inspection in risk zones of the NVF-T, must be done only by trained or qualified worker, observing all the safety guidelines. Before starting maintenance, disconnect all drive system from the NVF-T.

⚠ Periodically check all components of the NVF-T before using it.

⚠ Due to the equipment used and work conditions on field or in maintenance areas, precautions are required. Baldan has no direct control over precautions, so it is the owner's responsibility to implement safety procedures while working with the NVF-T.

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

⚠ When transporting the NVF-T, travel at speeds compatible to the terrain and never exceed 25 km/h as it reduces maintenance and therefore, increases the NVF-T service life.

⚠ Alcoholic beverage or some medications may cause loss of reflexes and change the operator's physical conditions. For this reason, never operate the NVF-T under the influence any of these substances.

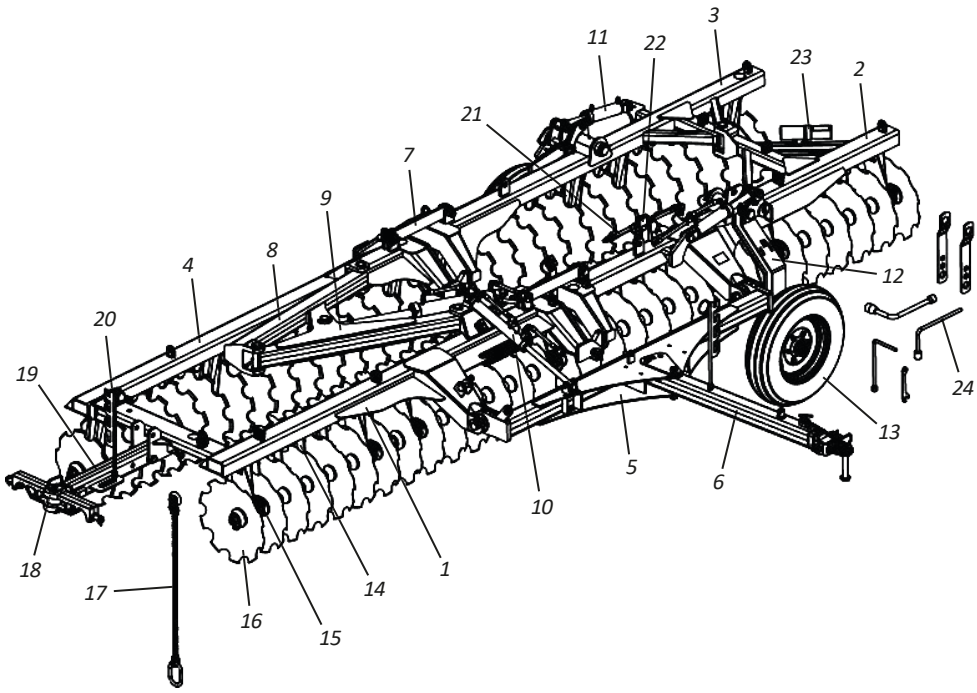
⚠ Read or explain all the procedures of this manual to the operator who cannot read.

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

▪ Components

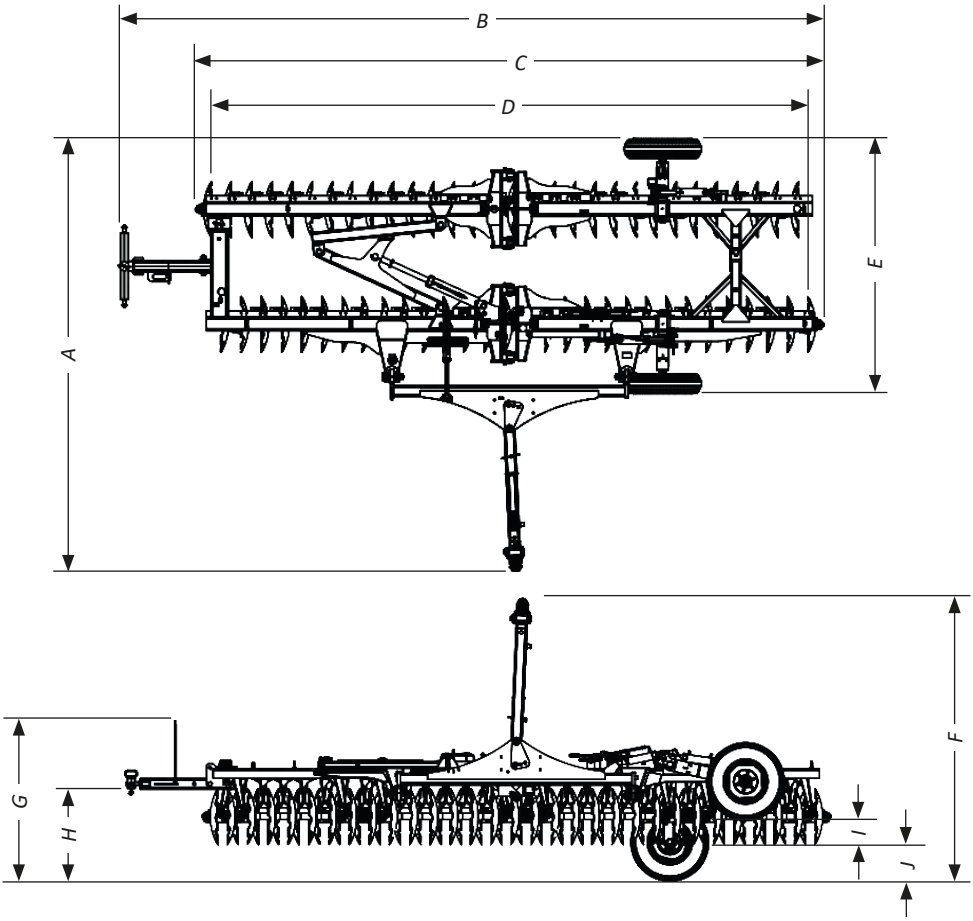
• NVF-T - Drag Type Levelling Disc Harrow with Permanent Flotation Tube

1. Right front side frame
2. Left front side frame
3. Left rear side frame
4. Right rear side frame
5. Crossbar
6. Coupling head
7. Tie rod
8. Opening rear bar
9. Opening front bar
10. Head lifting hydraulic cylinder
11. Tire lifting hydraulic cylinder
12. Wheel axle support
13. Tires
14. Scrapers
15. Bearing
16. Discs
17. Chain sling
18. 3rd point coupling
19. Transport head
20. Hose support
21. Hydraulic hoses
22. Oil distributor
23. Manual container
24. Wrenches



▪ Dimensions

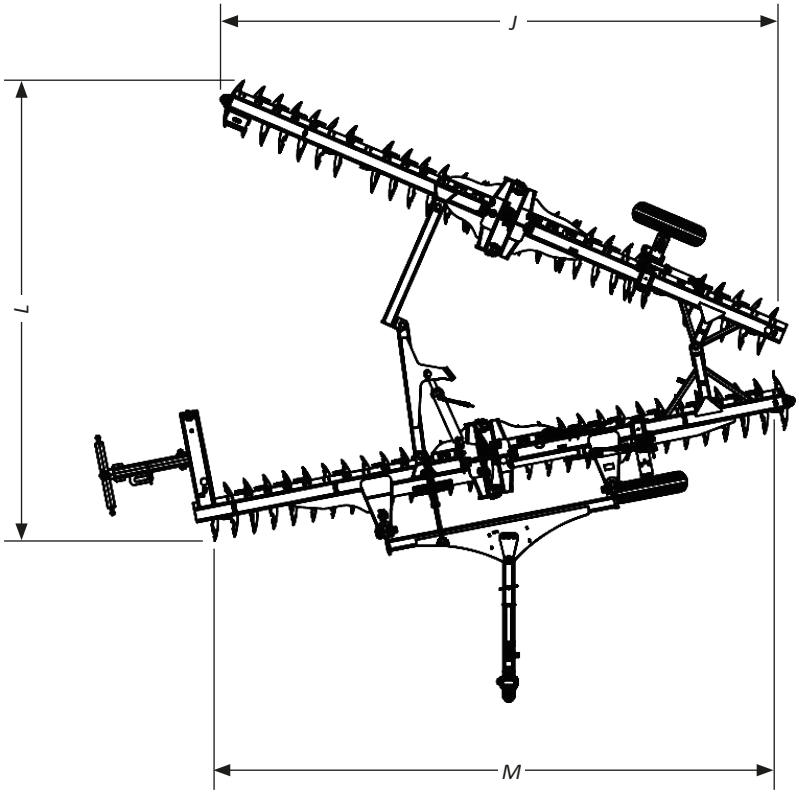
• NVF-T - Drag Type Levelling Disc Harrow with Permanent Flotation Tube - Part I



Model	Nr of Discs	Med. A (mm)	Med. B (mm)	Med. C (mm)	Med. D (mm)	Med. E (mm)	Med. F (mm)	Med. G (mm)	Med. H (mm)	Med. I (mm)	Med. J (mm)
NVF-T	48	4345	5900	5080	4780	2560	2830	1610	955	350	370
NVF-T	52	4345	6500	5490	5180	2560	2830	1610	955	350	370
NVF-T	56	4345	6750	5900	5600	2560	2830	1610	955	350	370
NVF-T	60	4345	7060	6308	6000	2560	2830	1610	955	350	370
NVF-T	64	4345	7410	6730	6410	2560	2830	1610	955	350	370
NVF-T	68	4345	7930	7110	6820	2560	2830	1610	955	350	370
NVF-T	72	4345	8350	7545	7225	2560	2830	1610	955	350	370

▪ Dimensions

• NVF-T - Drag Type Levelling Disc Harrow with Permanent Flotation Tube - Part II



Model	Nr of Discs	Med. J (mm)	Med. L (mm)	Med. M (mm)
NVF-T	48	3940	4080	4670
NVF-T	52	4410	4170	5080
NVF-T	56	4700	4450	5500
NVF-T	60	5578	4663	5683
NVF-T	64	5620	4600	6310
NVF-T	68	5700	5090	6710
NVF-T	72	6150	5170	7125

▪ Specifications

• NVF-T - Drag Type Levelling Disc Harrow with Permanent Flotation Tube

Model	Nr of Discs	Working Width (mm)	Disc Diameter (ø)	Approximate Weight (Kg)			Tractor Power (HP)	Tires
				20"	22"	24"		
NVF-T	48	4670	20" - 22" - 24"	2403	2466	2549	120 à 144	750x16
	52	5080	20" - 22" - 24"	2457	2525	2615	130 à 156	750x16
	56	5500	20" - 22" - 24"	2565	2638	2735	140 à 168	750x16
	60	5683	20" - 22" - 24"	2649	2727	2831	150 à 180	750x16
	64	6310	20" - 22" - 24"	2722	2805	2916	160 à 192	750x16
	68	6710	20" - 22" - 24"	2851	2940	3058	170 à 204	750x16
	72	7125	20" - 22" - 24"	2936	3030	3155	180 à 216	750x16

Axle Diameter (ø) ..... 1.1/4"
Disc Spacing ..... 200 mm
Working Depth ..... 50 - 150 mm

Baldan reserves the right to change and/or perfect the technical characteristics of its products, without previous notice, and without obligation to proceed in the same way with the products previously manufactured. Technical specifications are approximate and informed under normal work conditions.

INTENDED USE OF THE NVF-T

- The **NVF-T** was developed for leveling, herbicide incorporation, and clod breaking in an operational and agile way.
- The **NVF-T** must be driven and operated only by a properly instructed operator.

PROHIBITED USE OF THE NVF-T

- To avoid damages, severe accidents or death, do NOT transport people on other part of the **NVF-T.**
- Using the **NVF-T** to hitch, tow, or push other implements or acessories is not allowed.
- The **NVF-T** must NOT be used by an inexperienced operator who is not familiar with all driving, operating and command techniques.

▪ Assembly

The **NVF-T** is delivered disassembled. To assembly it, follow the instructions below:

⚠ The **NVF-T** must be assembled by the dealer, by trained, skilled, and qualified personnel for such work.

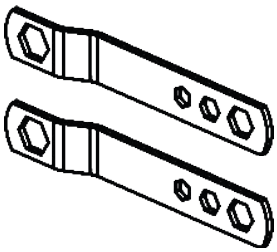
⚠ Before beginning the assembly of the **NVF-T**, look for a good place that facilitates the identification of the parts and their assembly.

⚠ Do not wear loose clothing, as they may get caught into the **NVF-T**.

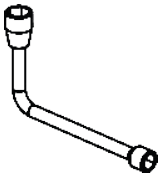
⚠ Use PPE (Safety Equipment).

• Wrench set

When assembling, disassembling, or maintaining the **NVF-T**, use the wrench set provided with the harrow. The Wrench set consists of:

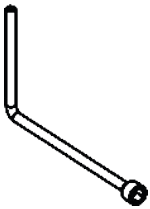


WRENCH FOR 1.1/4" - 1" - 3/4" AND 5/8" HEX NUT



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

L - WRENCH FOR 5/8" HEX NUT



L - WRENCH FOR 1/2" HEX NUT

WRENCH FOR 3/8" AND 1/2" HEX NUT

⚠ ATENTION | **If a wrench is lost or broken, replace it immediately. Always use original Baldan wrenches.**

▪ Assembly

• Assembly of disc section

When starting to assemble the **NVF-T**, always start with the disk sections. The **NVF-T** has disk sections (**conventional system**) and disk sections (**locking shaft system**). To assemble the sections, proceed according to the instructions below and on the following page.

• Assembly of disc section (conventional system)

To assemble the discs sections (**conventional system**), proceed as follows:

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

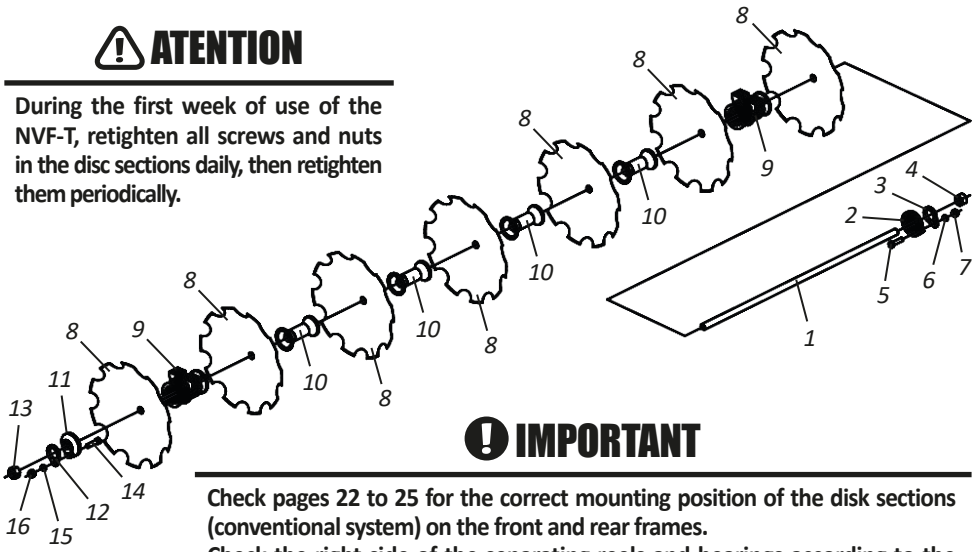
02 - Then, place in the shaft (1) the disc (8), bearing (9), another disc (8), separator reek (10) and so on.

03 - When the assembly is complete with all discs, bearings, separator reels, fit the convex thrust washer (11), lock (12), nut (13), tightening with a wrench until the whole assembly is secured.

04 - Then, fit the disc assembly and tighten the nut (13) with impacts. When maximum tightening is almost reached, adjust the lock (12) with the convex washer (11), always tightening the nut until it matches the bore hole, fasten it with the screw (14), lock washer (15) and nut (16).

⚠ ATENTION

During the first week of use of the NVF-T, retighten all screws and nuts in the disc sections daily, then retighten them periodically.



❗ IMPORTANT

Check pages 22 to 25 for the correct mounting position of the disk sections (conventional system) on the front and rear frames.
Check the right side of the separating reels and bearings according to the concavity of the discs.

▪ Assembly

• Assembly of disc section (locking shaft system)

To assemble the discs sections (**locking shaft system**), proceed as follows:

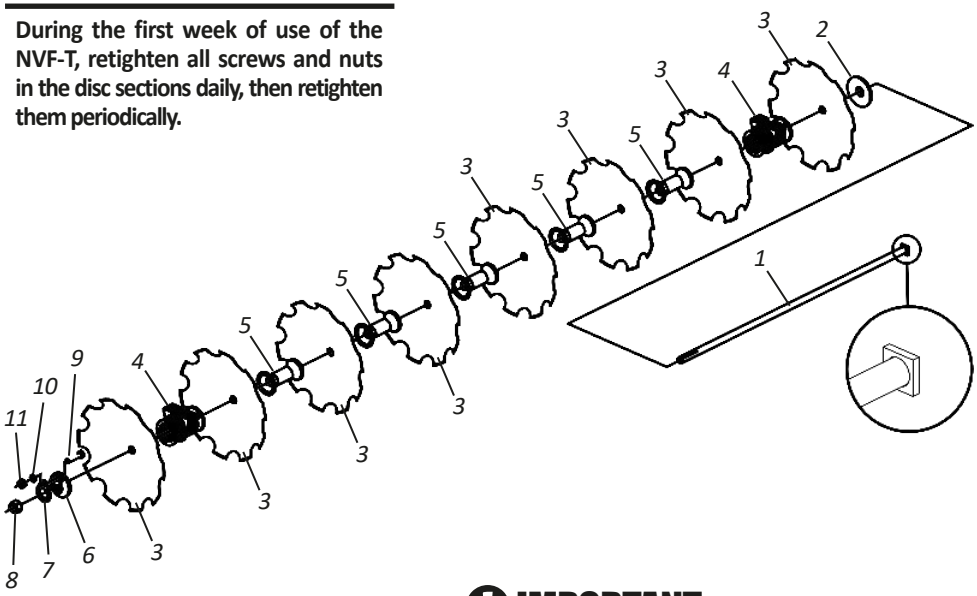
01 - Place on the shaft with lock (1) the concave thrust washer (2), disc (3), bearing (4), another disc (3), separator reek (5) and so on.

02 - When the assembly is complete with all discs, bearings, separator reels, fit the convex thrust washer (6), lock (7), nut (8), tightening with a wrench until the whole assembly is secured.

03 - Then, fit the disc assembly and tighten the nut (8) with impacts. When maximum tightening is almost reached, adjust the lock (7) with the convex washer (6), always tightening the nut until it matches the bore hole, fasten it with the screw (9), lock washer (10) and nut (11).

⚠ ATENTION

During the first week of use of the NVF-T, retighten all screws and nuts in the disc sections daily, then retighten them periodically.



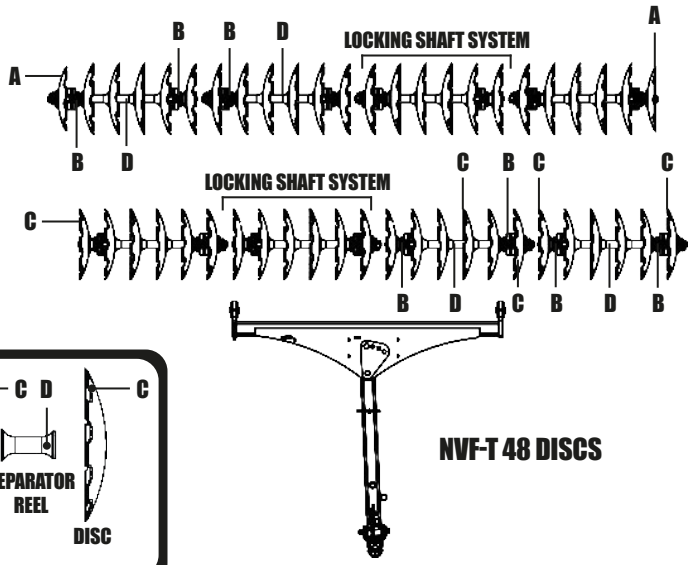
❗ IMPORTANT

Check pages 22 to 25 for the correct mounting position of the disk sections (conventional system) on the front and rear frames.
Check the right side of the separating reels and bearings according to the concavity of the discs.

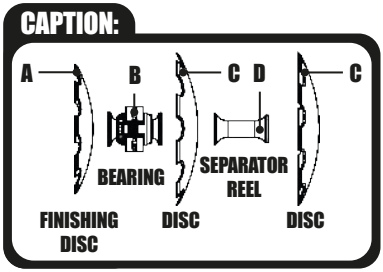
▪ Assembly

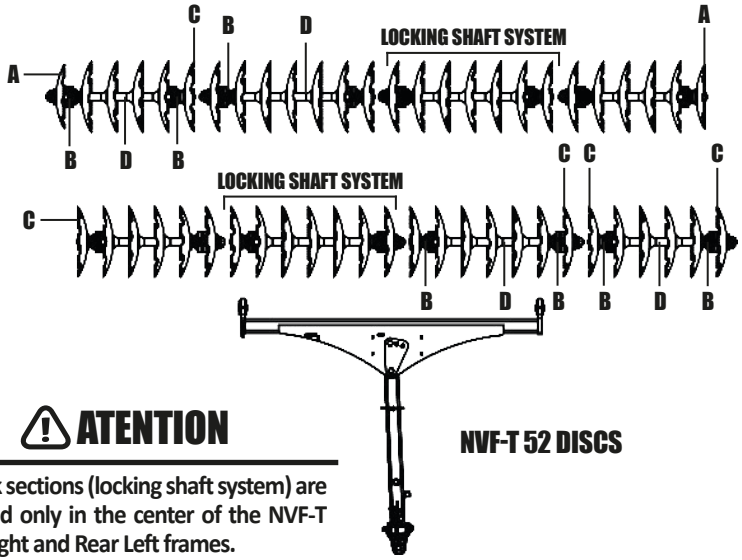
• Assembly of disc sections

Check below the assemblies of disc sections of the **NVF-T 48** and **52** discs.



NVF-T 48 DISCS





NVF-T 52 DISCS

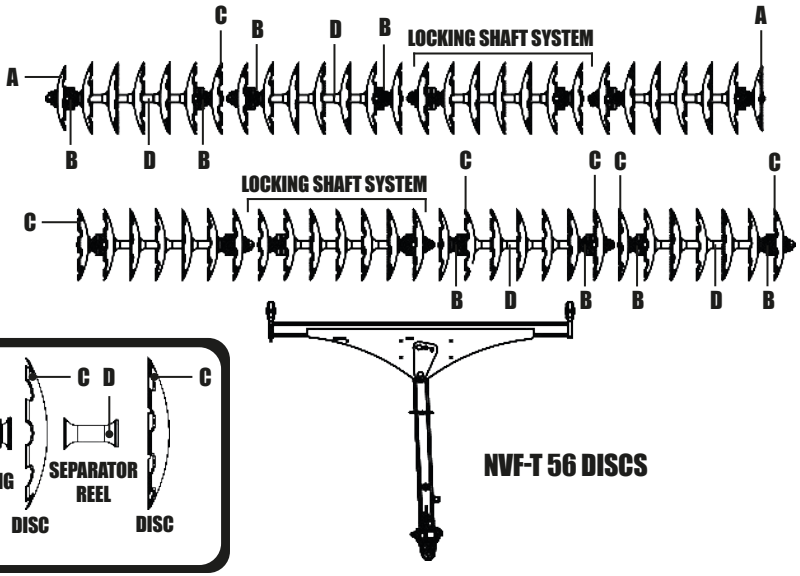
ATENTION

The disk sections (locking shaft system) are mounted only in the center of the NVF-T Front Right and Rear Left frames.

▪ Assembly

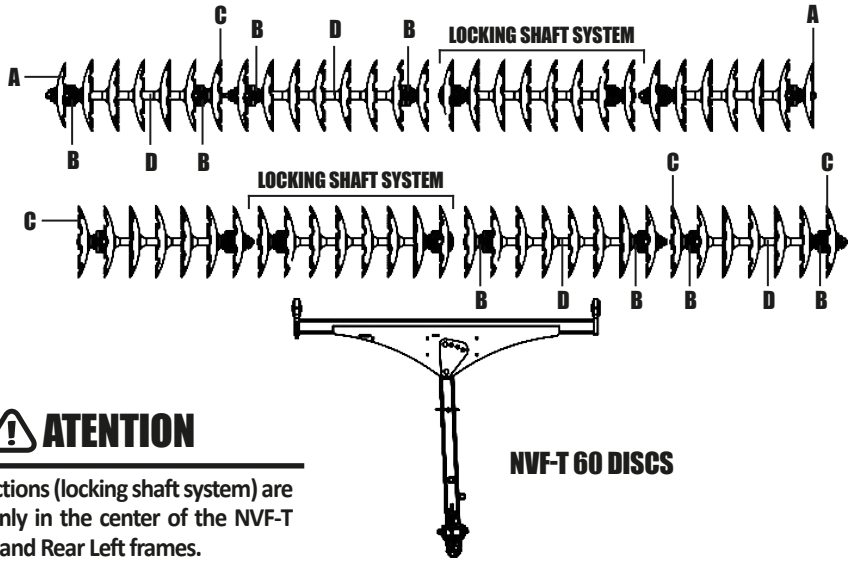
• Assembly of disc sections

Check below the assemblies of disc sections of the **NVF-T 56** and **60** discs.



CAPTION:

NVF-T 56 DISCS



NVF-T 60 DISCS

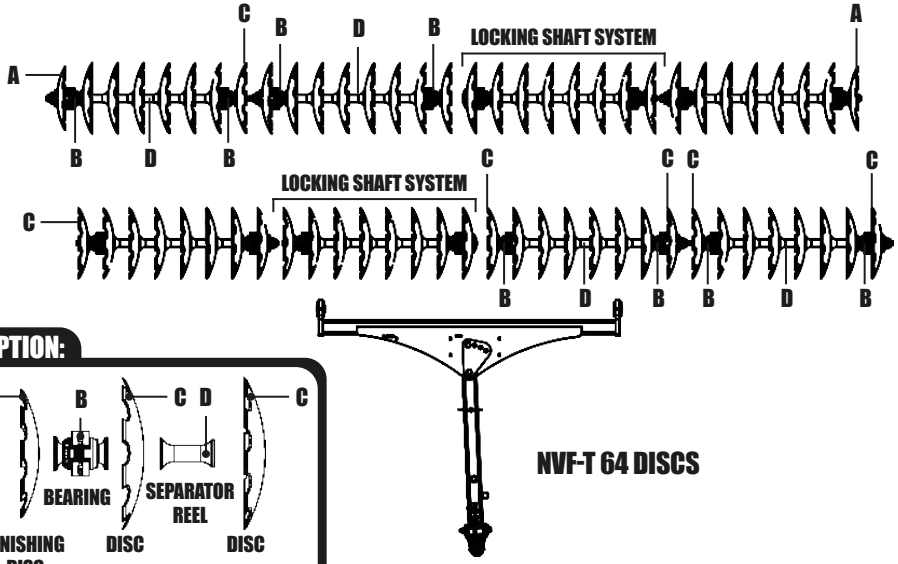
⚠ ATENTION

The disk sections (locking shaft system) are mounted only in the center of the NVF-T Front Right and Rear Left frames.

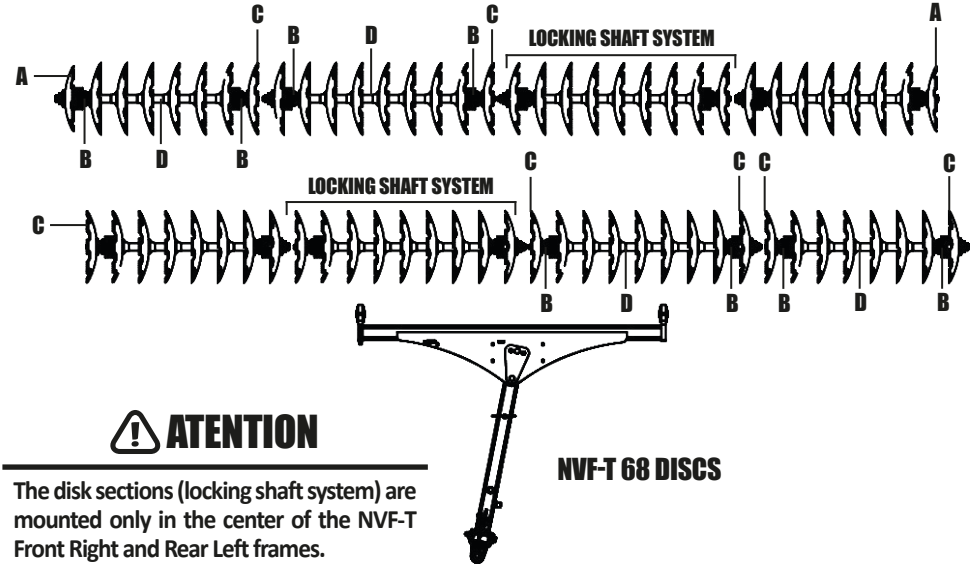
▪ Assembly

• Assembly of disc sections

Check below the assemblies of disc sections of the **NVF-T 64** and **68** discs.



NVF-T 64 DISCS



NVF-T 68 DISCS

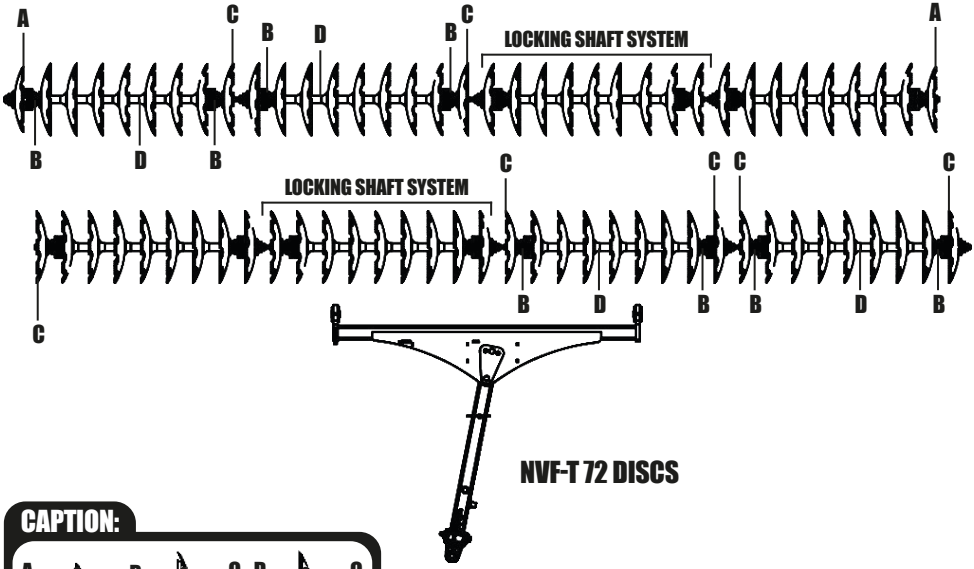
ATENTION

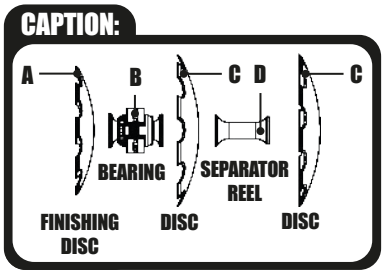
The disk sections (locking shaft system) are mounted only in the center of the NVF-T Front Right and Rear Left frames.

▪ Assembly

• Assembly of disc sections

Check below the assemblies of disc sections of the **NVF-T 72** discs.





ATENTION

The disk sections (locking shaft system) are mounted only in the center of the NVF-T Front Right and Rear Left frames.

▪ Assembly

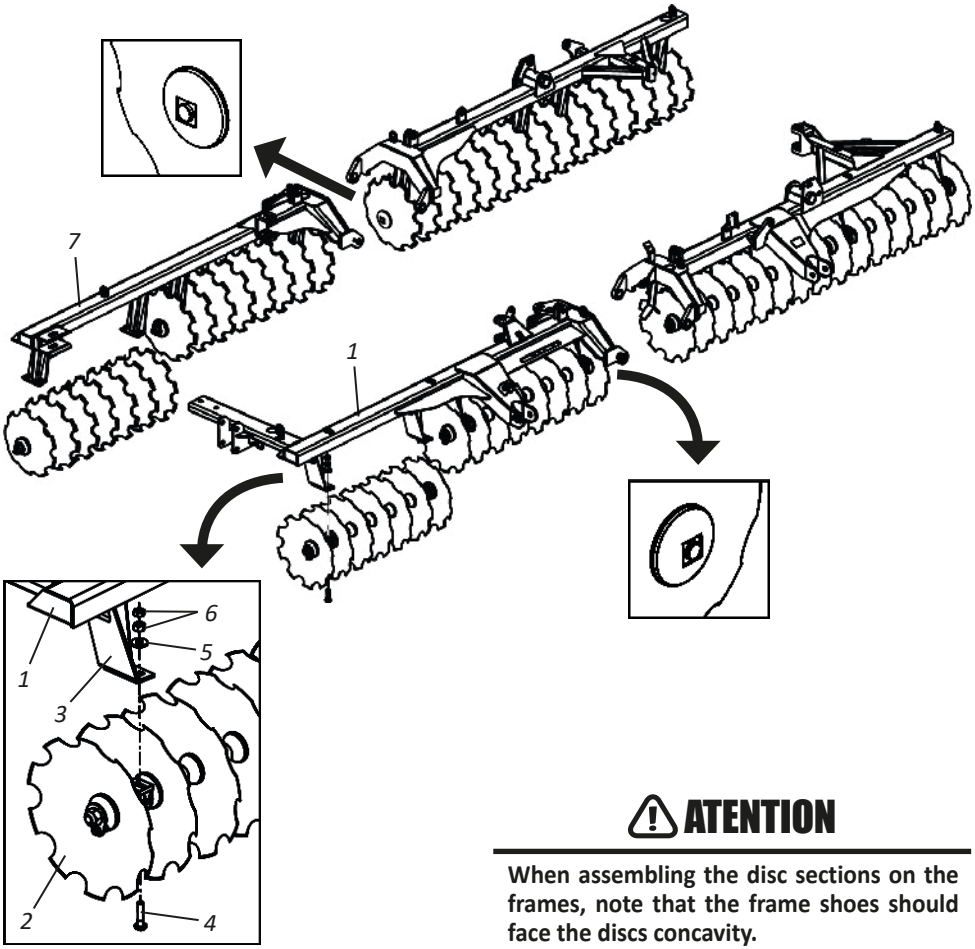
• Assembly of disc sections on frames

To assembly the disc sections to the frames, proceed as follows:

01 - Raise the right and left front frames (1), fit the disc sections (2) in line and match the footings bore (3) with the bearing bore and fasten them with screws (4), flat washers (5) ans nuts and locknuts (6).

02 - Then, raise the left and right rear frames (7), repeat the operation checking the concavity of discs from one section to the other, which should be in the opposite side.

03 - When finishing the assembly, check if the footings (3) are turned to the discs concavity.



⚠ ATENTION

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

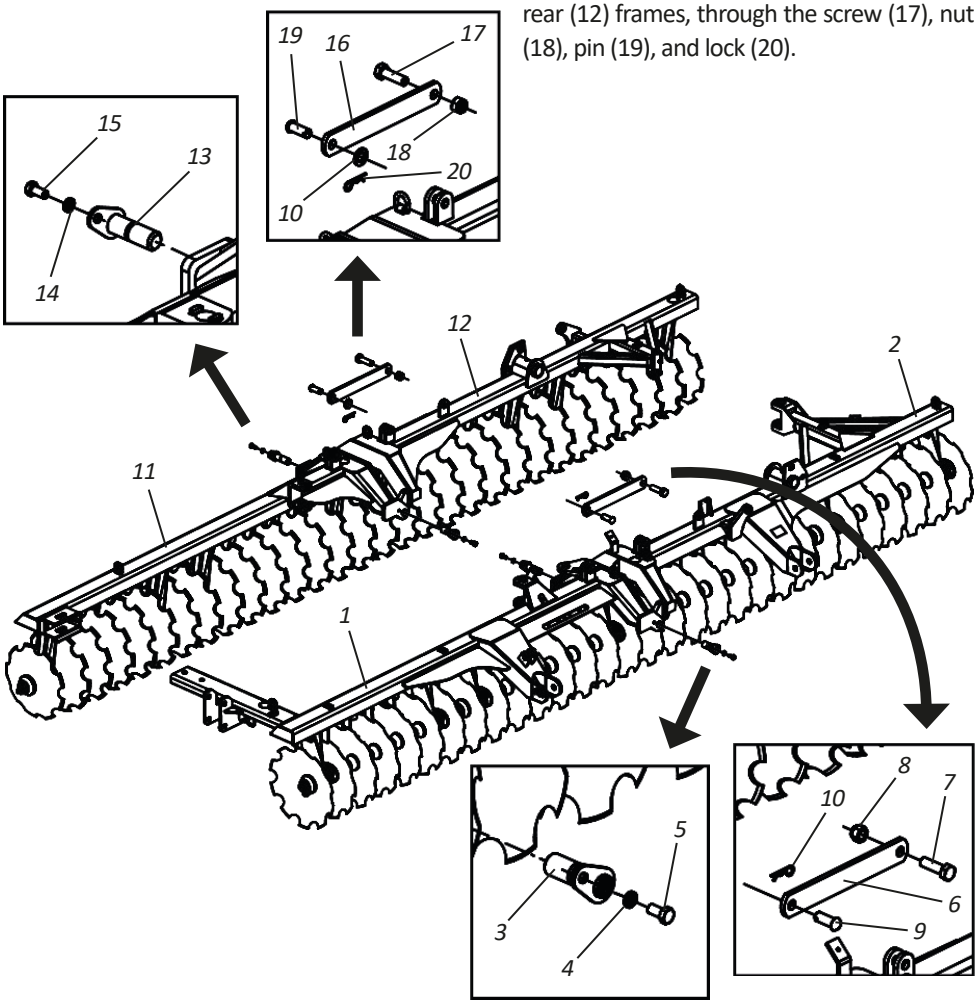
▪ Assembly

• Assembly of right and left frames

To couple the right and left frames, proceed as follows:

01 - Attach right front frame (1) to the left side frame (2), fastening through the pings (3), lock washers (4) and screws (5). Then fasten the bar (6) between the right front (1) and front left (2) frames through the screw (7), nut (8), pin (9) and lock (10).

02 - Then, attach the right rear frame (11) to the left rear frame (12) securing through pins (13), lock washers (14) and screws (15). Then, fasten the bar (16) between the right rear (11) and left rear (12) frames, through the screw (17), nut (18), pin (19), and lock (20).



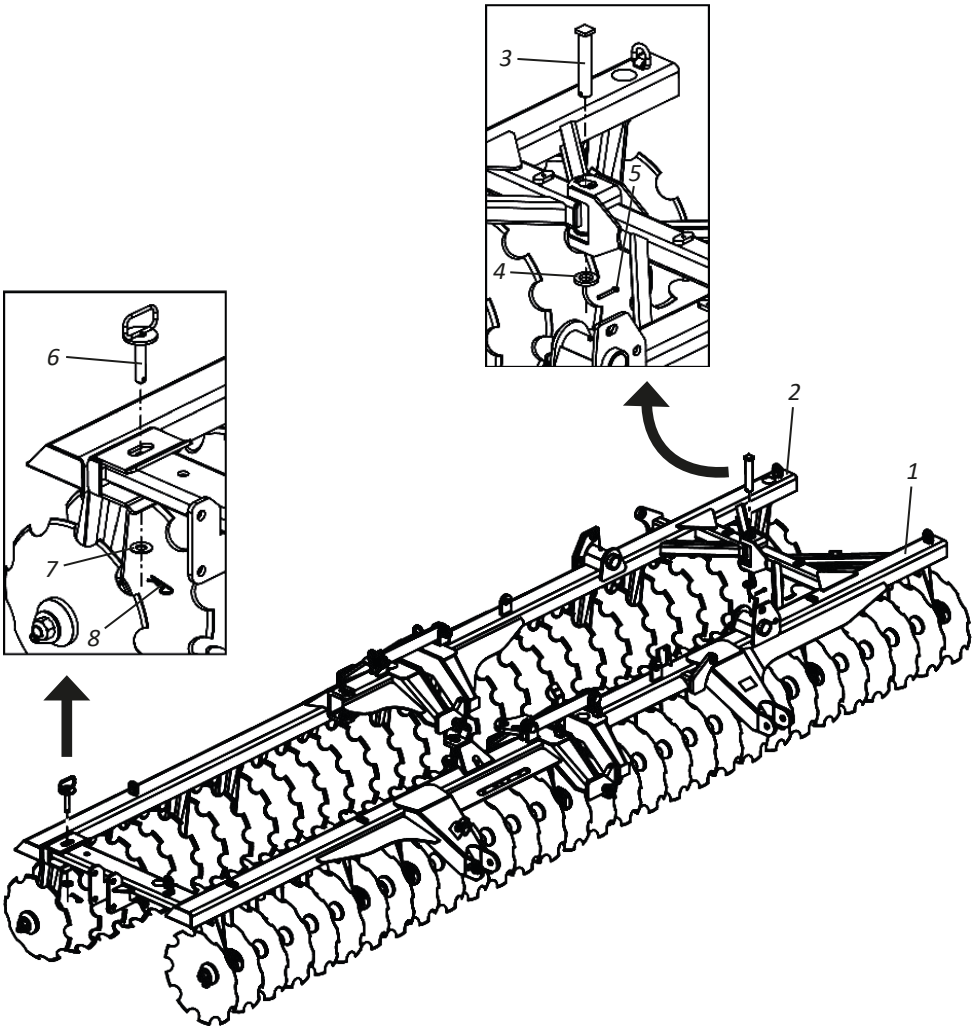
▪ Assembly

• Assembly of the front and rear frames

To couple the front and rear frames, proceed as follows:

01 - Couple the front frame (1) to the rear frame (2), fastening through the pin (3), flat washer (4) and cotter pin (5).

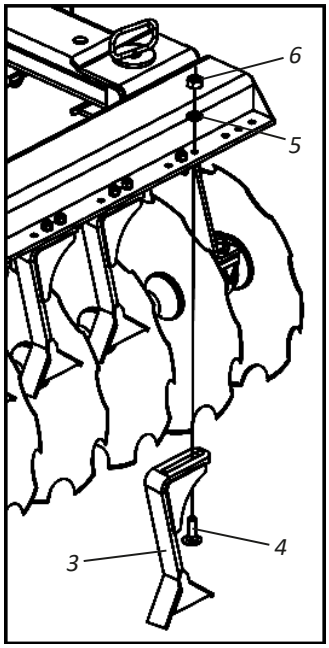
02 - Then, fasten the pin (6), flat washer (7), and lock (8).



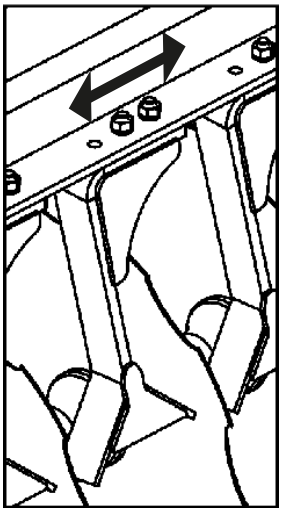
▪ Assembly

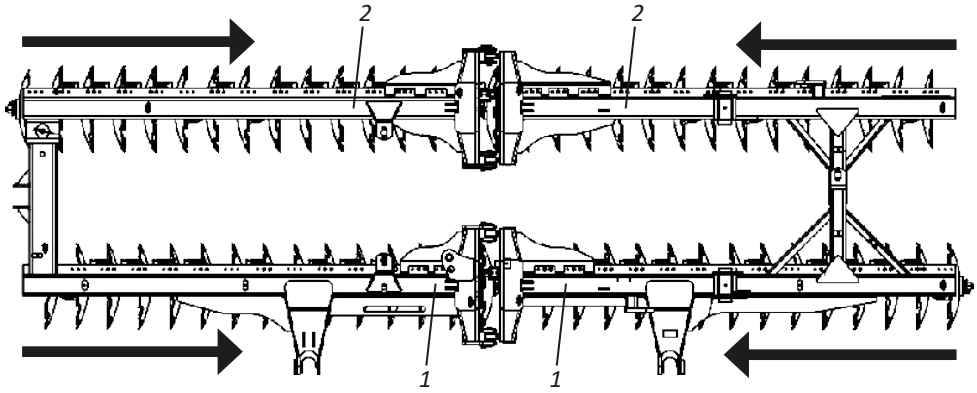
• Assembly of the scrapers - Part I

To assemble the scrapers, proceed as follows:



01 - From the tip to the center of the front (1) and rear (2) frames, secure the wipers (3) using screws (4), pressure washers (5) and nuts (6).





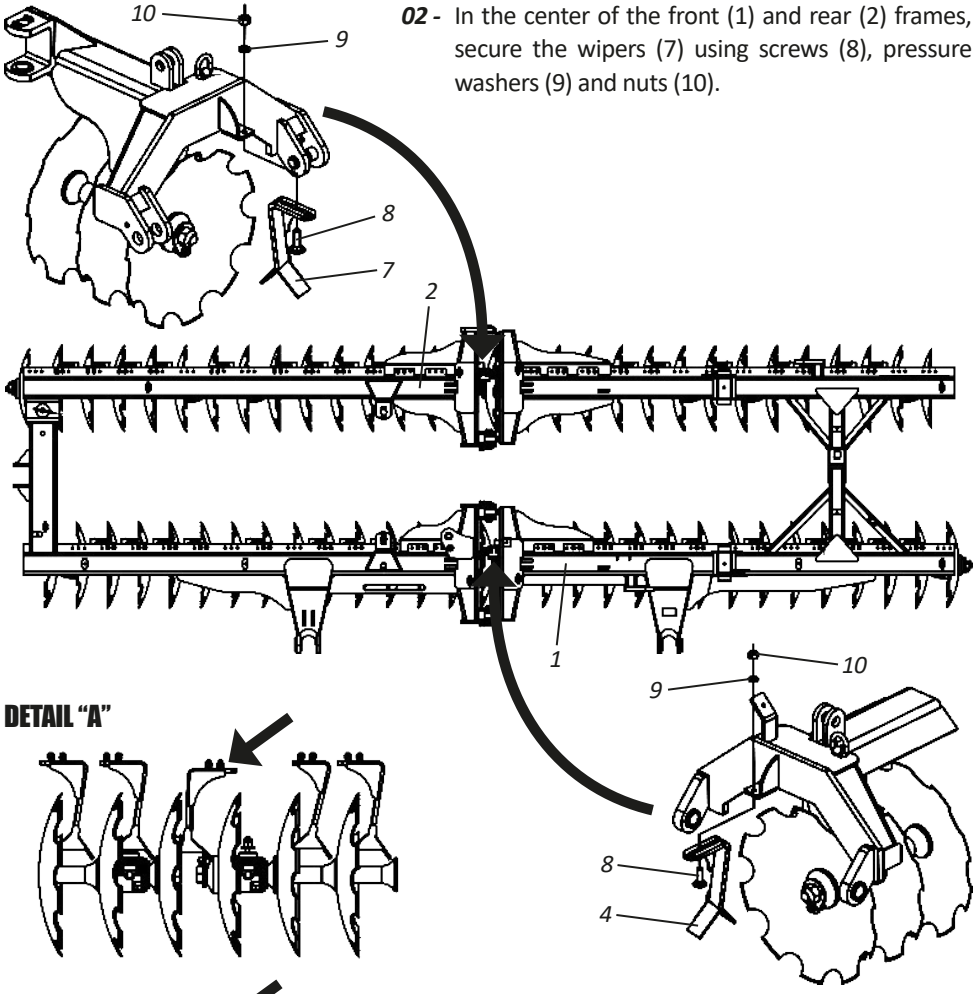
ATENTION

The scrapers (1) can be adjusted to approach or distance them from the discs. When assembling the cleaners (1), they should be 0,5 to 1,0 cm away from the discs.

▪ Assembly

• Assembly of the scrapers - Part II

02 - In the center of the front (1) and rear (2) frames, secure the wipers (7) using screws (8), pressure washers (9) and nuts (10).



DETAIL "A"

⚠ ATTENTION

The assembly of the wipers (7) in the center of the front (2) and rear (2) frames must be in the opposite direction to the rest of the wipers, as per detail "A".

▪ Assembly

• Assembly of the opening system

To assemble the opening system, proceed as follows:

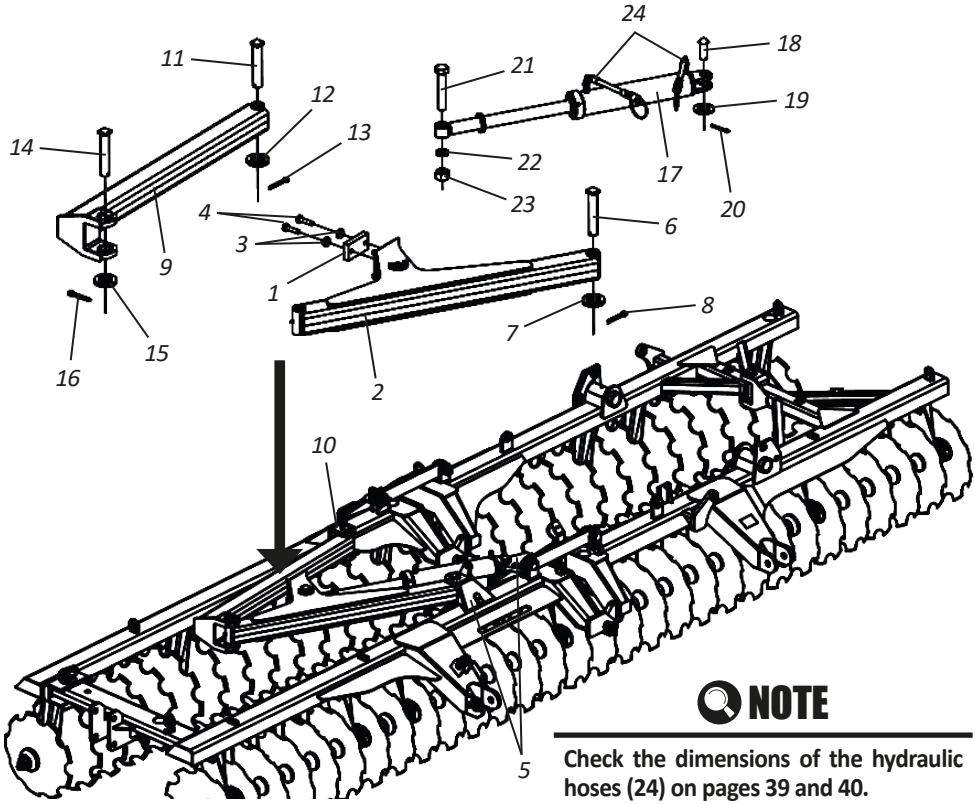
01 - Fasten the frame (1) in the front bar (2) through the plain washers (3) and screws (4).

02 - Then couple the front bar (2) in the right front side frame (5), fastening it with the pin (6), flat washer (7) and cotter pin (6).

03 - The attach the rear opening bar (9) to the right rear side frame (10) securing them through the pin (11), flat washer (12) cotter pin (13) and couple to the front bar (2) fastening through the screw (14), flat washer (15) and cotter pin (16).

04 - Then couple the base of the hydraulic cylinder (17) to the right front side frame (5), fastening through the pin (18), flat washer (19), cotter pin (20), and front bar rod (2od in) fastening through the pin (21), lock washer (22) and nut (23).

05 - Finish by attaching the hydraulic hoses (24) to the hydraulic cylinder (17).



NOTE

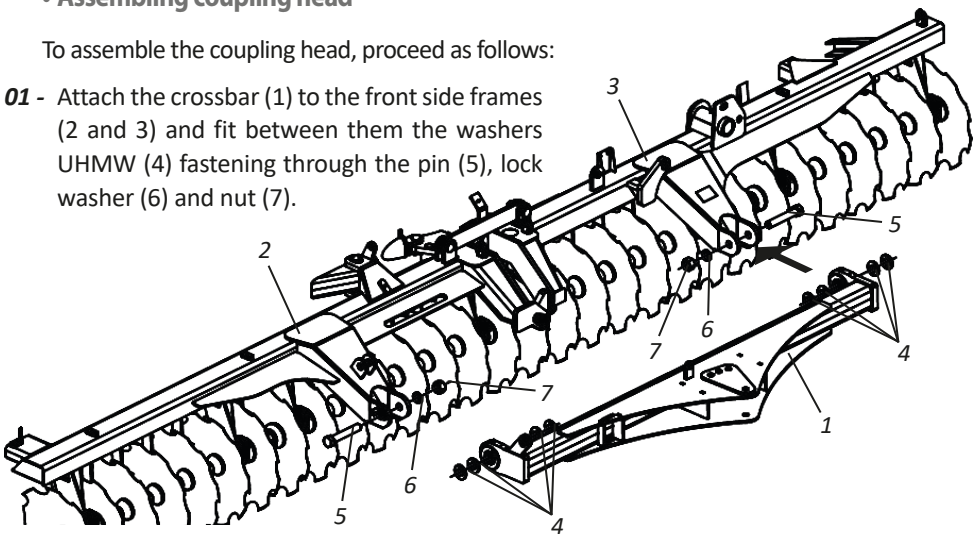
Check the dimensions of the hydraulic hoses (24) on pages 39 and 40.

▪ Assembly

• Assembling coupling head

To assemble the coupling head, proceed as follows:

01 - Attach the crossbar (1) to the front side frames (2 and 3) and fit between them the washers UHMW (4) fastening through the pin (5), lock washer (6) and nut (7).

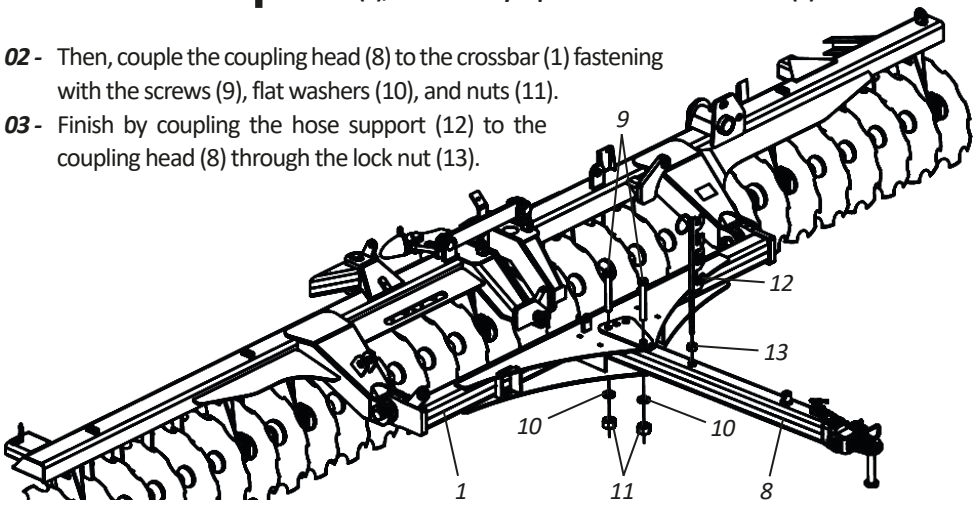


ATTENTION **When assembling the crossbar (1) on the front side frames (2 and 3), always fit it between both UHMW washers (4), as they prevent friction between the front side frames (2 and 3) and the crossbar (1).**

IMPORTANT **When checking friction between the front side frames (2 and 3) and the crossbar (1), immediately replace the UHMW washers (4).**

02 - Then, couple the coupling head (8) to the crossbar (1) fastening with the screws (9), flat washers (10), and nuts (11).

03 - Finish by coupling the hose support (12) to the coupling head (8) through the lock nut (13).



▪ Assembly

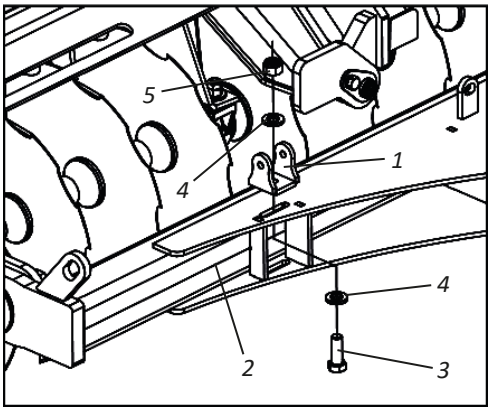
• Assembly of the head hydraulic cylinder (optional) - Part I

To assemble the head hydraulic cylinder (optional), proceed as follows:

01 - Fasten the coupling bracket (1) to the crossbar (2) through the screw (3), plain washers (4) and nut (5).

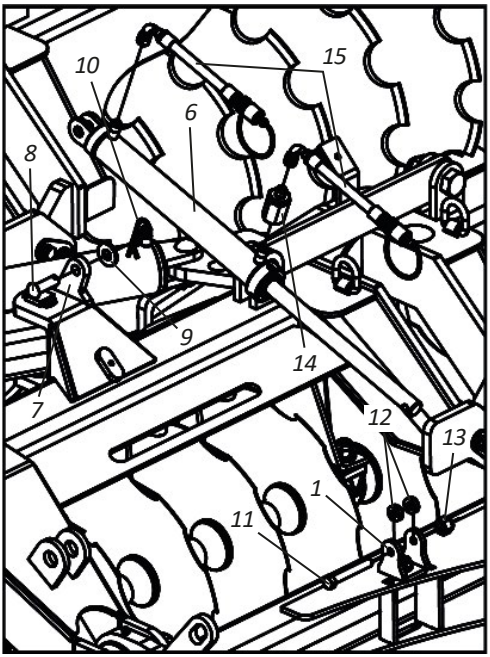
02 - Then attach the base of the hydraulic cylinder (6) to the right front side frame (7) fastening through the pin (8), flat washer (9), lock (10) and hitch support rod (1) through the screw (11), thrust washers (12) and nut (13).

03 - Finish by attaching the nipple (14) and the hydraulic hoses (15).



ATTENTION

There is a safety valve inside the nipple (14). Check the following page for important safety valve recommendations.
When assembling the hydraulic cylinder (6) on the coupling support (1), always fit it between both thrust washers (12), as they prevent friction between the hydraulic cylinder rod (6) and the coupling support (1).



IMPORTANT

When checking friction between the hydraulic cylinder rod (6) and the coupling support (1), immediately replace the thrust washers (12).

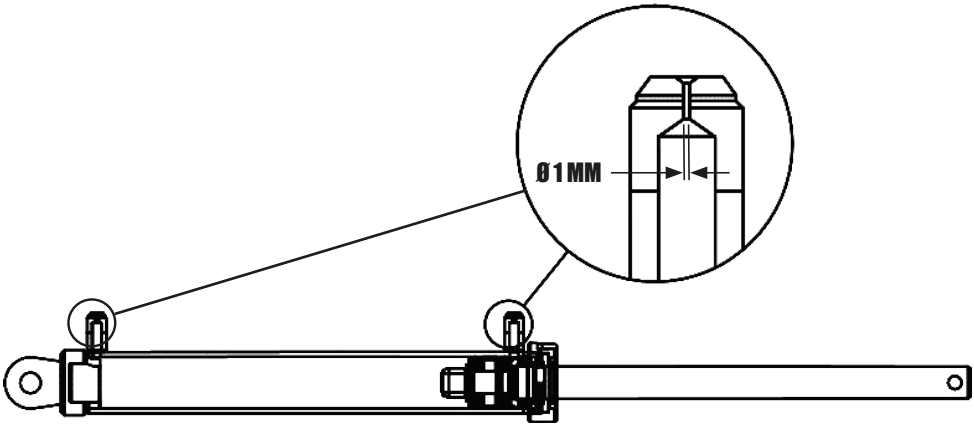
NOTE

Check the hydraulic hose dimensions (15) on pages 39 and 40.

▪ Assembly

• Assembly of the head hydraulic cylinder (optional) - Part II

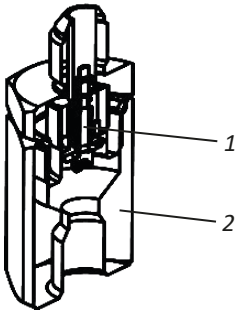
The hydraulic cylinder of the coupling head has nipples with a hole for flow reduction in the diameter of **1 MM** in order to reduce the activation speed of the coupling head.



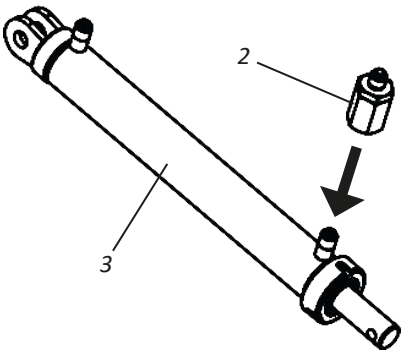
⚠ ATTENTION **Do NOT increase the diameter of the nipples. Ignoring this warning may cause severe accidents and even death.**

• Assembly of the safety valve - Part I

The **NVF-T** has a factory-fitted safety valve (1) mounted inside the nipple (2). This nipple is coupled to the front of the hydraulic cylinder (3) of the coupling head and is intended to prevent the coupling head from dropping if the hydraulic hose breaks or if tractor acceleration is high.



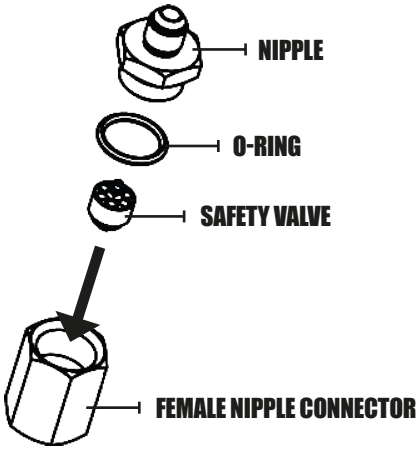
INTERNAL VIEW OF THE NIPPLE



▪ Assembly

• Assembly of the safety valve - Part II

Check below the correct mounting position of the safety valve in the niple.



⚠ ATTENTION

NEVER remove the safety valve (1) from the nipple (2). Ignoring this warning may cause damage, serious accidents or even death. Baldan is not liable for accidents cause by the removal of the safety valve (1) from the nipple (2) or even for the non-installation of the niple (2) with the safety valve (1) in the hydraulic cylinder (3).

❗ IMPORTANT

Before starting work with the NVF-T, make sure that the safety valve (1) is mounted on the nipple (2), and that it is mounted on the front of the hydraulic cylinder of the coupling head. If the safety valve (1) is not mounted on the nipple (2) and the nipple (2) is not mounted on the front of the hydraulic cylinder of the coupling head, make sure to assemble them. DO NOT work the NVF-T without the safety valve (1) and without the niple (2).

🔍 NOTE

For good practice, safety, and system preservation, we recommend that you slowly drive the tractor lever to prevent the hydraulic cylinder from opening at high speeds and locking. By locking the hydraulic cylinder, turn the lever again and drive it slowly so that the coupling head articulation process is complete.

▪ Assembly

• Assembly of the wheel axle support - Part I

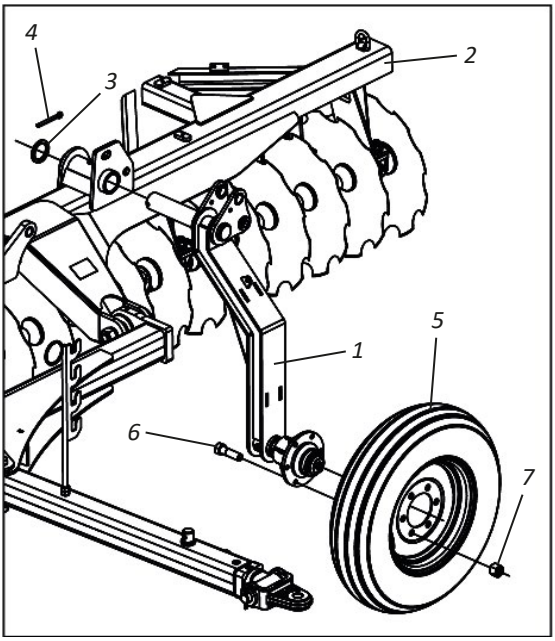
In order to assemble the wheel axle support (1), proceed as follows:

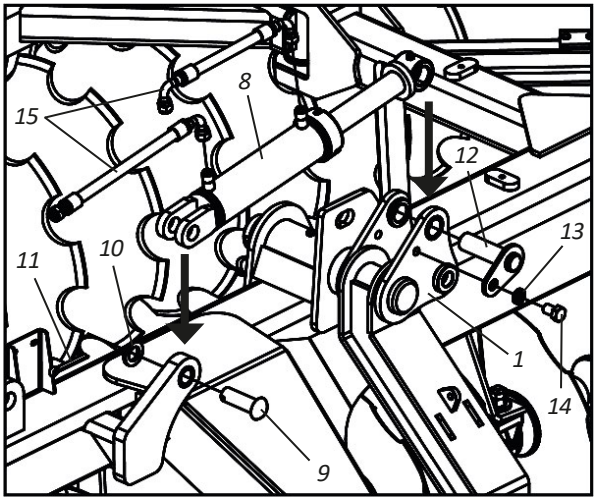
01 - Couple the wheel support (1) to the left front frame (2) fastening with the flat washer (3) and cotter pin (4).

02 - Then, couple the tire (5) fastening through the screws (6) and nut (7).

03 - Then couple the base of the hydraulic cylinder (8) to the left front frame (2), fastening through the pin (9), flat washer (10), cotter pin (11), and wheel axle support rod (1) through the pin (12), lock washer (13), and screw (14).

04 - Then, attach the hydraulic hoses (15).





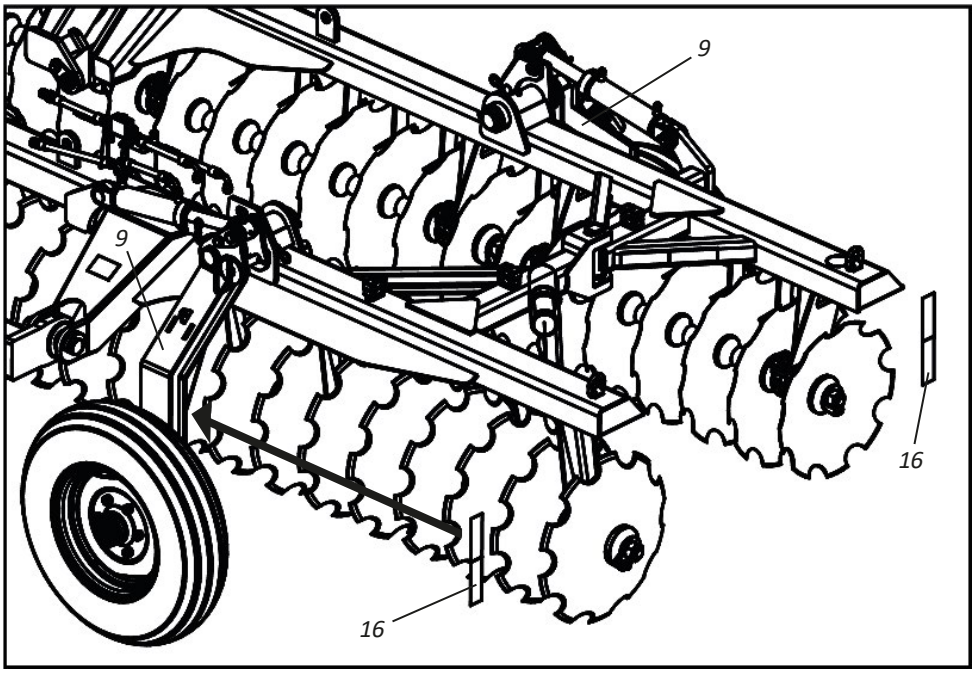
⚠ ATTENTION

Check the correct tire calibration on page 71.

▪ Assembly

• Assembly of the wheel axle support - Part II

05 - Finish by attaching the signaling stickers (16) on the side of the wheel axle supports (9).



IMPORTANT | **To attach the signaling stickers (16) correctly, lower the wheel axle supports (9) as shown above.**

ATTENTION | **DO NOT work or transport the NVF-T, specially on highways, without attaching the signaling stickers (16) onto the wheel axle supports (9).**

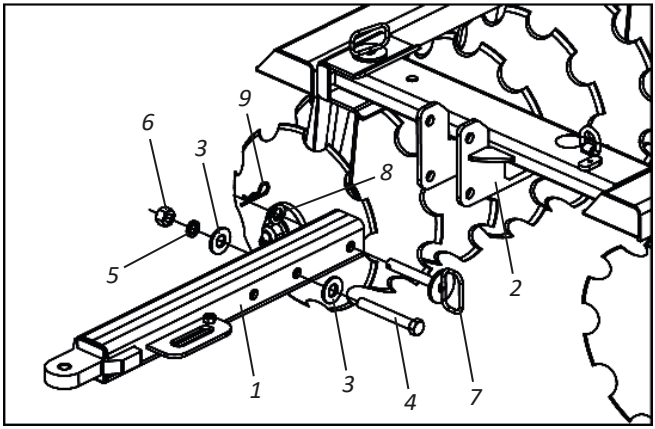
NOTE | **The signaling stickers (16) are in the plastic package inside the packaging box accompanying the NVF-T.**

▪ Assembly

• Assembly of the head for transport

To assemble the head for transport, proceed as follows:

01 - Couple the transport head (1) to the right front side frame (2) and between the head and the frame, fit the UHMW washers (3) by fastening them through the screw (4), washer (5), nut (6), and also fasten the pin (7), flat washer (8), and lock (9).



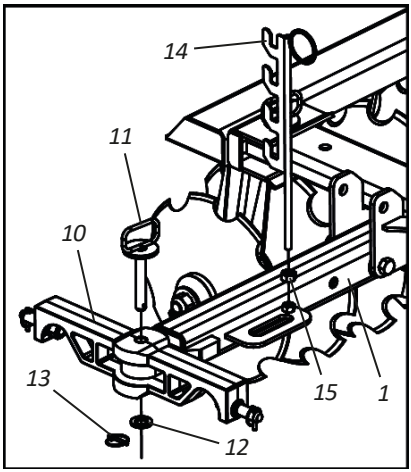
⚠ ATTENTION **When mounting the transport head (1) on the right front frame (2), always place the UHMW washers (3) between them, as they prevent friction between the right front frame (2) and the transport head (1).**

❗ IMPORTANT

When checking friction between the right front frame (2) and the transport head (1), immediately replace the UHMW washers (3).

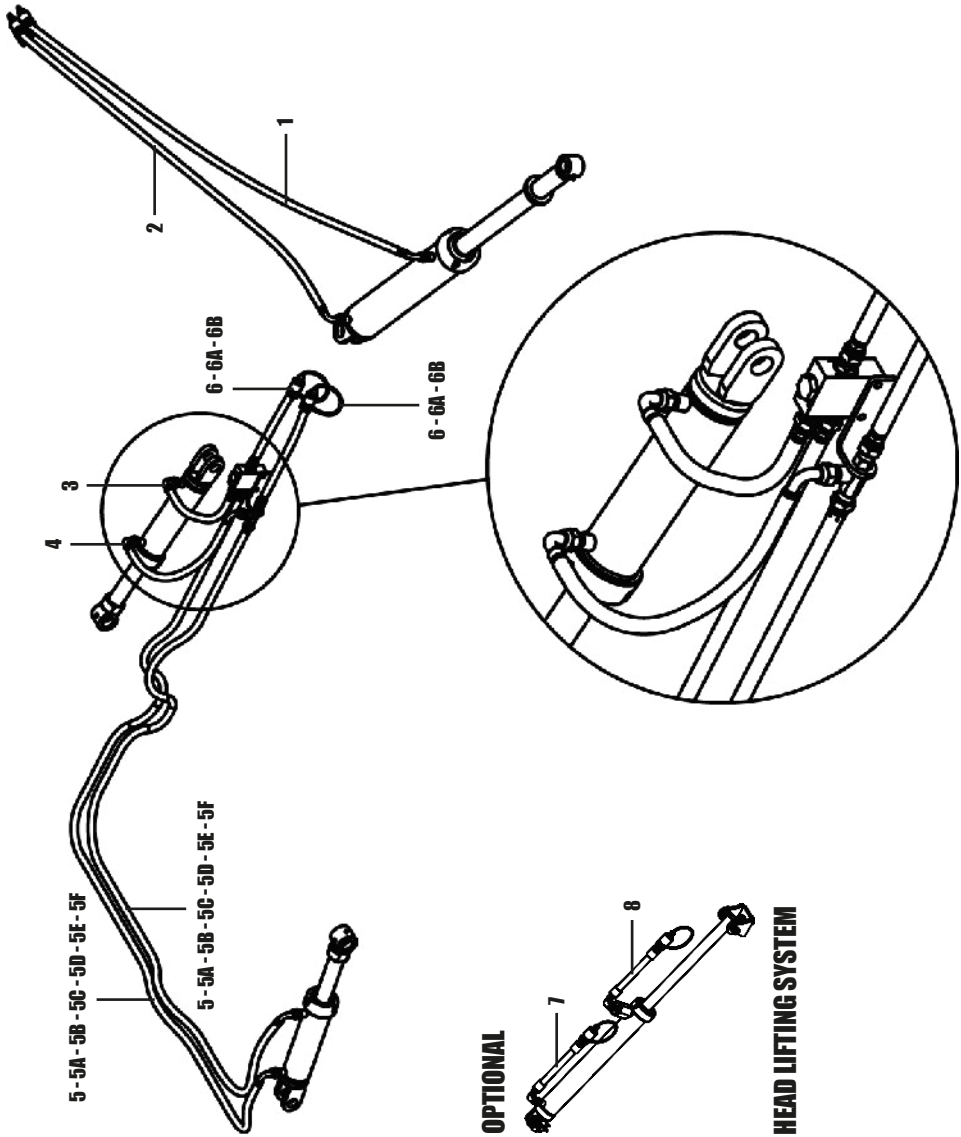
02 - Then, couple the 3rd point coupling (10) to transport head (1) fastening through the pin (11), flat washer (12), and ring lock (13).

03 - Finish by coupling the hose support (14) to the transport head (1) through the lock nut (15).



▪ Assembly

• Assembly of the hydraulic system - Part I



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▪ Assembly

• Assembly of the hydraulic system - Part II

Item	Product description	All	NVF-T 48 Discs	NVF-T 52 Discs	NVF-T 56 Discs	NVF-T 60 Discs	NVF-T 64 Discs	NVF-T 68 Discs	NVF-T 72 Discs
1	Mang. Hydr. High Pressure 3/8" x 4500 mm w/ 1TCG 90° and 1TRF w/ quick coupling male	1							
2	Mang. Hydr. High Pressure 3/8" x 4300 mm w/ 1TCG and 1TRF w/ quick coupling male	1							
3	Mang. Hydr. High Pressure 3/8" x 300 mm w/ 1TCG and 1TRG (SAE 100 R2 AT-P.T 4.800 PSI)	1							
4	Mang. Hydr. High Pressure 3/8" x 450 mm w/ 2TCG 90° (SAE 100 R2 AT-P.T 4.800 PSI)	1							
5	Mang. Hydr. High Pressure 3/8" x 1900 mm w/ 1TCG and 1TRG (SAE 100 R2 AT-P.T 4.800 PSI)		2						
5A	Mang. Hydr. High Pressure 3/8" x 2100 mm w/ 1TCG and 1TRG (SAE 100 R2 AT-P.T 4.800 PSI)			2					
5B	Mang. Hydr. High Pressure 3/8" x 2700 mm w/ 1TCG 90° and 1TRG (SAE 100 R2 AT-P.T 4.800 PSI)				2				
5C	Mang. Hydr. High Pressure 3/8" x 3000 mm w/ 1TCG and 1TRG (SAE 100 R2 AT-P.T 4.800 PSI)					2			
5D	Mang. Hydr. High Pressure 3/8" x 3400 mm w/ 1TCG and 1TRG (2TA6)						2		
5E	Mang. Hydr. High Pressure 3/8" x 3800 mm w/ 1TCG and 1TRG (SAE 100 R2 AT-P.T 4.800 PSI)							2	
5F	Mang. Hydr. High Pressure 3/8" x 4200 mm w/ 1TCG and 1TRG (SAE 100 R2 AT-P.T 4.800 PSI)								2
6	Mang. Hydr. High Pressure 3/8" x 6000 mm w/ 1TRG and 1TRF w/ quick coupling male		2	2					
6A	Mang. Hydr. High Pressure 3/8" x 6400 mm w/ 1TRG and 1TRF w/ quick coupling male				2	2	2		
6B	Mang. Hydr. High Pressure 3/8" x 6800 mm w/ 1TRG and 1TRF w/ quick coupling male							2	2
7	Mang. Hydr. High Pressure 3/8" x 5300 mm w/ 1TCG and 1TRF w/ quick coupling male	1							
8	Mang. Hydr. High Pressure 3/8" x 4800 mm w/ 1TCG and 1TRF w/ quick coupling male	1							

▪ Hitch

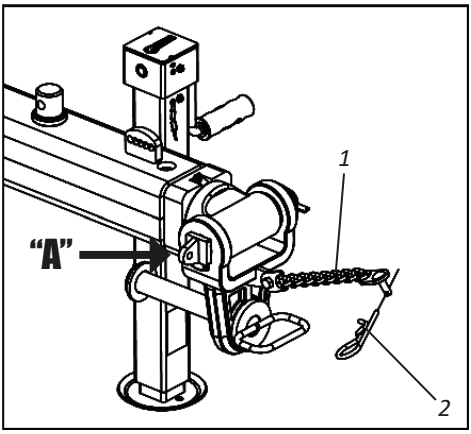
• Tractor coupling (NVF-T w/ head adjuster) - Part I

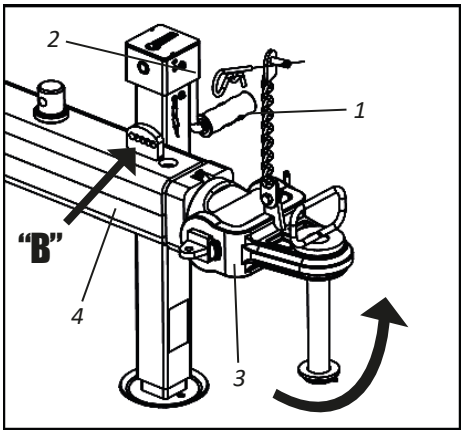
When the **NVF-T** is purchased with a head adjuster, proceed as follows to attach it to the tractor:

01 - Slowly approach the tractor to the **NVF-T** in reverse gear, paying attention to the application of the brakes. Then, turn the tractor engine off, relieve control pressure by pushing the lever a few times and check that the couplings are clean, if not so, clean them.

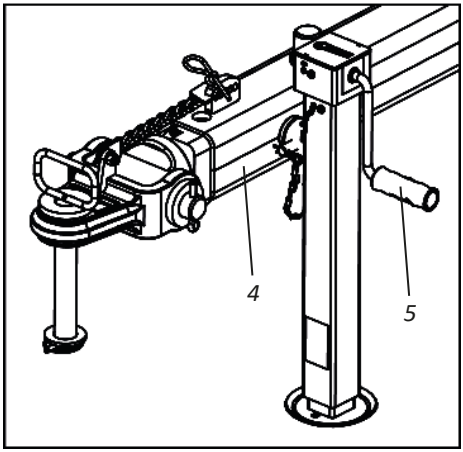
02 - Then release the chain (1) from point **"A"** through the lock (2).

03 - Then, articulate the shackle (3) and fasten the chain (1) through the look (2) at one of the **"B"** points so as to keep the shackle (3) parallel to the head (4).





04 - Then, level the coupling head (4) with the tractor's coupling using the adjuster (5).

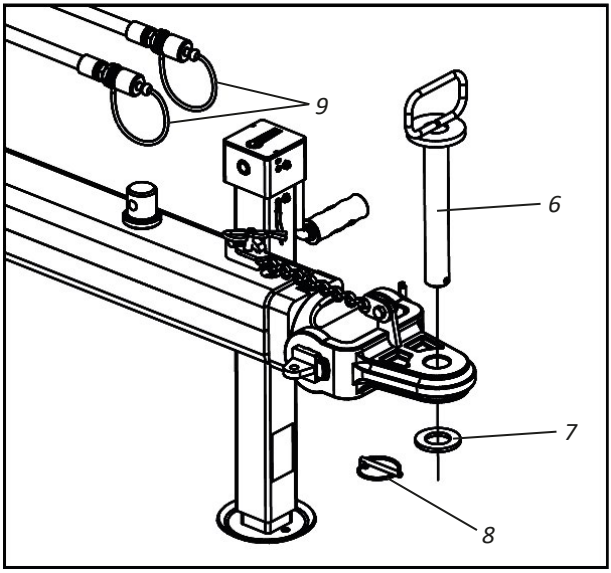


▪ Hitch

• Tractor coupling (NVF-T w/ head adjuster) - Part II

05 - Then couple the **NVF-T** to the tractor by attaching it using the coupling pin (6), flat washer (7) and ring lock (8).

06 - Finish by attaching the hydraulic hoses (9) to the tractor quick coupling.



ATTENTION Before connecting or disconnecting hydraulic hoses, relief the system pressure by activating the command with the tractor power switched off. Make sure that by relieving system pressure, no one is close to the moving area of the equipment.

IMPORTANT Before hitching the NVF-T, check that the tractor is equipped with a set of weights or ballasts in its front part or front or rear wheels, this will provide greater stability and ground traction.

NOTE When coupling the NVF-T, look for a safe and easy access location. Always use low gear with low acceleration.

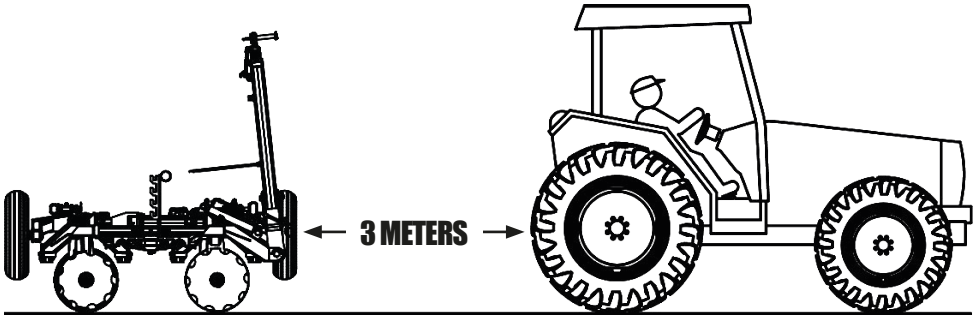
▪ Hitch

• Tractor coupling (NVF-T w/ head adjuster "Optional") - Part I

When the **NVF-T** is purchased with a head hydraulic cylinder, proceed as follows to attach it to the tractor:

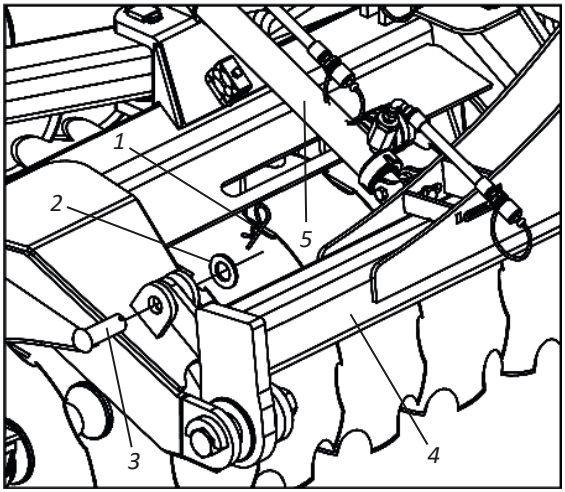
01 - Slowly approach the tractor to the **NVF-T** in reverse gear, paying attention to the application of the brakes. Then, turn the tractor engine off, relieve control pressure by pushing the lever a few times and check that the couplings are clean, if not so, clean them.

02 - The tractor must be at a distance of 3 meters from the **NVF-T** to avoid accidents when disarticulating the coupling head.



⚠ ATTENTION **Make sure there are no people within 3 meters area between the NVF-T and the tractor due to the risk of serious accidents or death when disarticulating the shaft.**

03 - Then, release the lock (1), flat washer (2) and remove the pin (3) to unlock the coupling head (4).



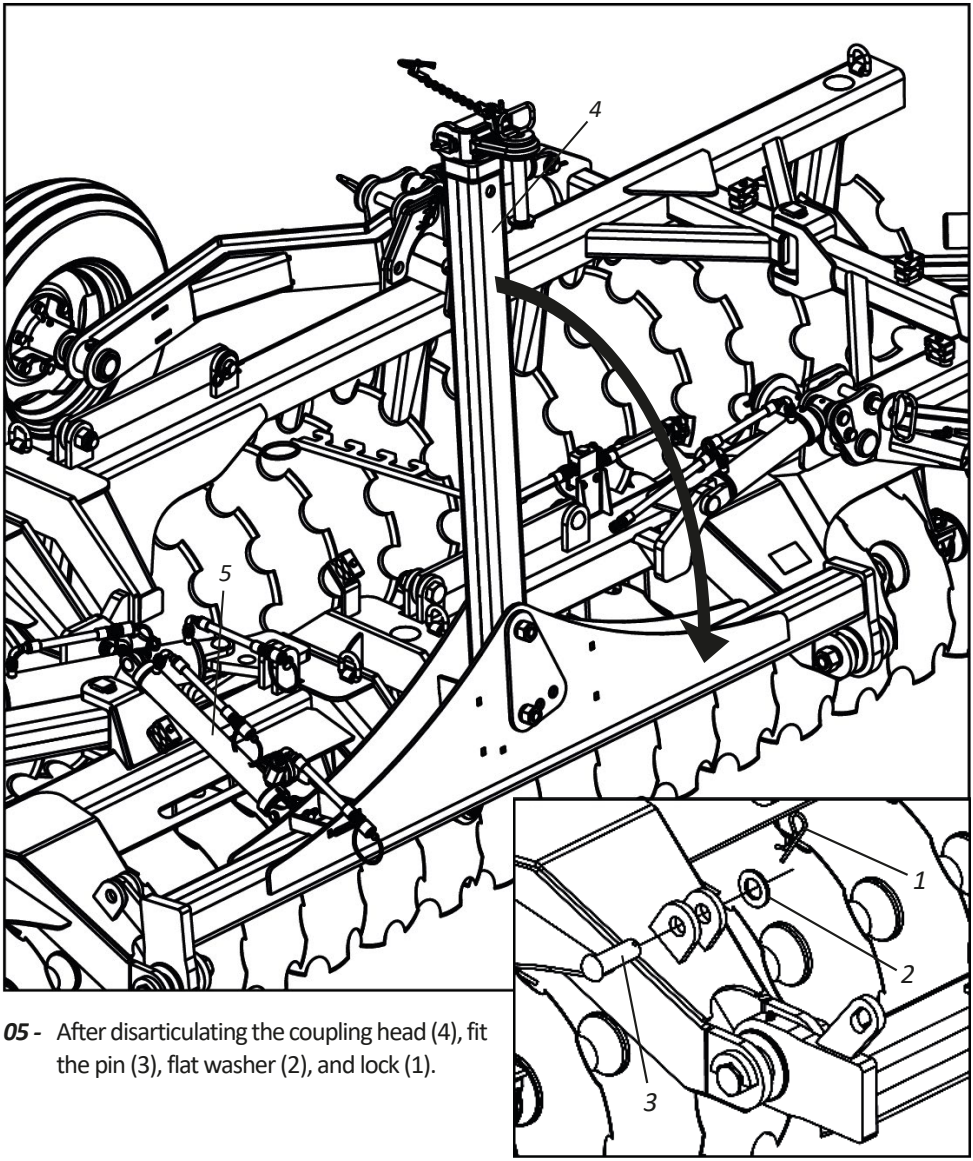
⚠ ATTENTION

DO NOT activate the hydraulic cylinder (5) without first unlocking the coupling head (4). Ignoring this warning may cause severe accidents and damage to the NVF-T.

▪ Hitch

• Tractor coupling (NVF-T with head adjuster "Optional") - Part II

04 - Then, activate the hydraulic cylinder (5) and disarticulate the coupling head (4).



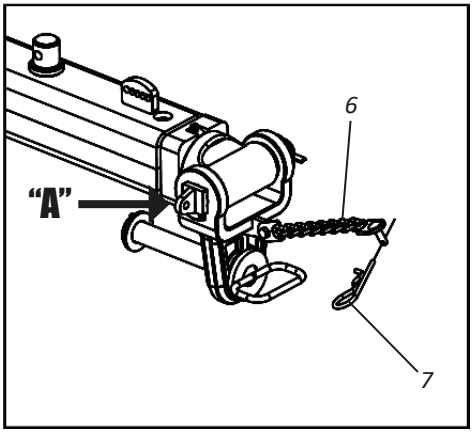
05 - After disarticulating the coupling head (4), fit the pin (3), flat washer (2), and lock (1).

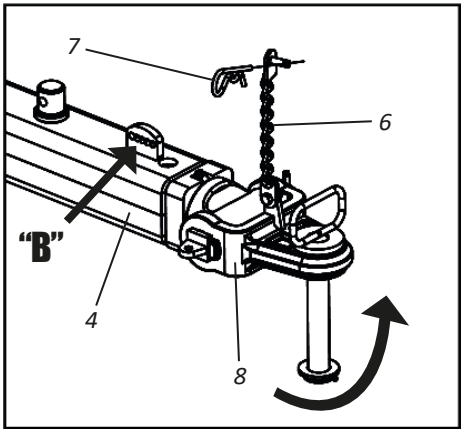
▪ Hitch

• Tractor coupling (NVF-T with head hydraulic cylinder "Optional") - Part III

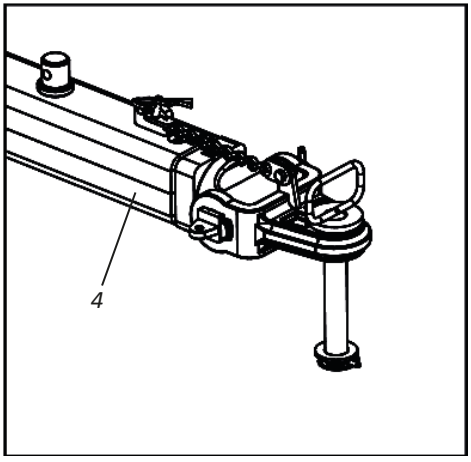
06 - Then release the chain (6) from point **"A"** through the lock (7).

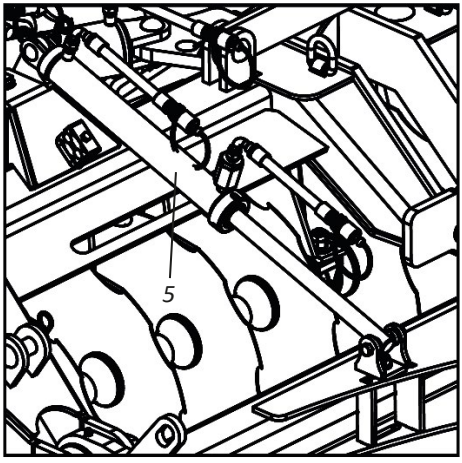
07 - Then articulate the shackle (8) and fasten then chain (6) through the lock (7) in one of the **"B"** points to keep the shackle (8) parallel to the head (4).





08 - Then, level the coupling head (4) with the tractor's coupling through the hydraulic cylinder (5).





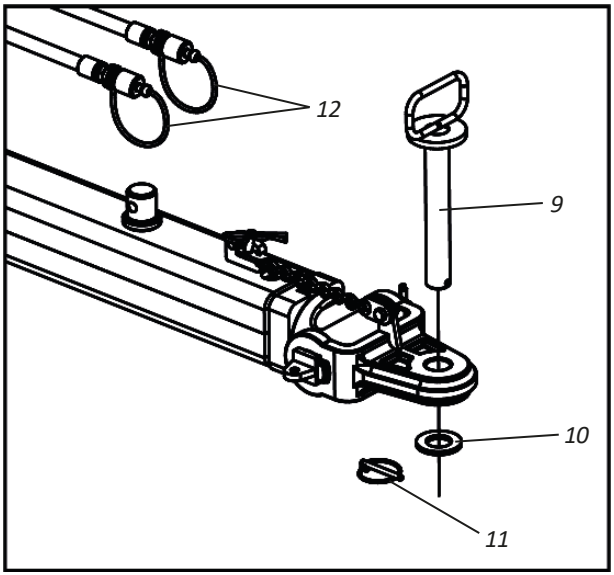
⚠ ATTENTION **When leveling the coupling head (4), we recommend that the tractor lever is slowly operated so that the hydraulic cylinder (5) slowly moves the coupling head (4), preventing accidents.**

▪ Hitch

• Tractor coupling (NVF-T with head hydraulic cylinder "Optional") - Part IV

09 - Then couple the **NVF-T** to the tractor by attaching it using the coupling pin (9), flat washer (10) and ring lock (11).

10 - Finish by coupling the hydraulic hoses (12) to the tractor quick coupling.



⚠ ATTENTION | **Before connecting or disconnecting hydraulic hoses, relief the system pressure by activating the command with the tractor power switched off. Make cure that by relieving system pressure, no one is close to the moving area of the equipment.**

IMPORTANT | **Before hitching the NVF-T, check that the tractor is equipped with a set of weights or ballasts in its front part or front or rear wheels, this will provide greater stability and ground traction.**

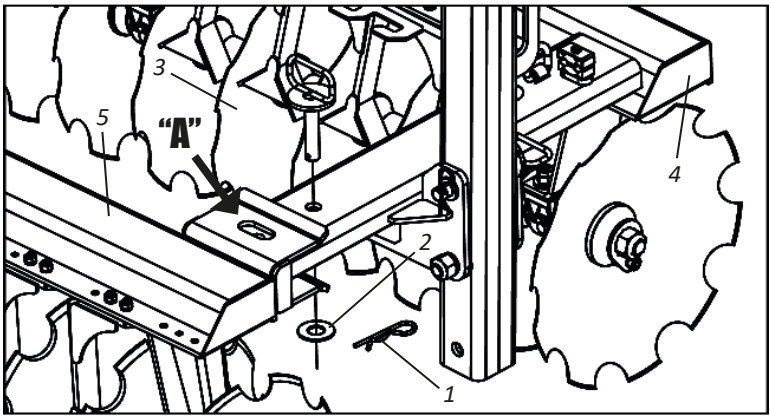
NOTE | **When coupling the NVF-T, look for a safe and easy access location. Always use low gear with low acceleration.**

▪ Transport

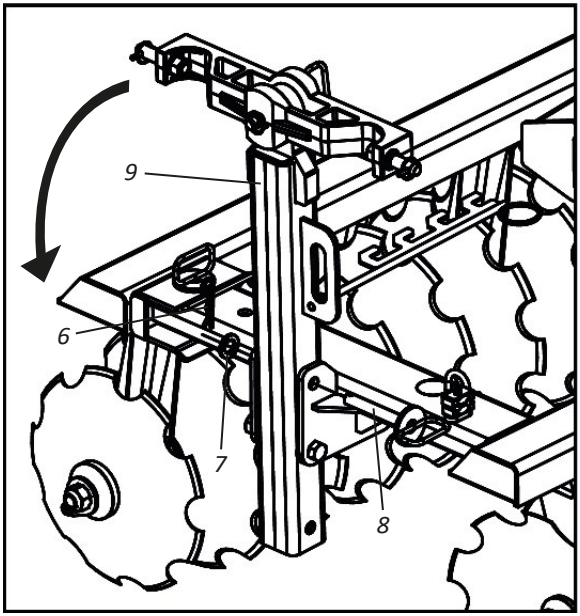
• Preparation for transport - Part I

To put the **NVF-T** in the transport position, proceed as follows:

01 - Release the lock (1), flat washer (2), remove the pin (3), close the **NVF-T** completely and lock the frames (4 and 5) in the **"A"** point through the pin (3), flat washer (2) and lock (1).



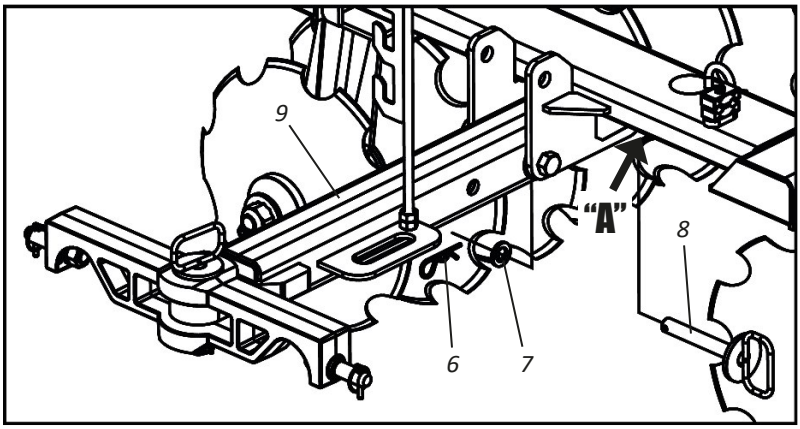
02 - Then, release the lock (6), flat washer (7), remove the pin (8), and lower the transport head (9).



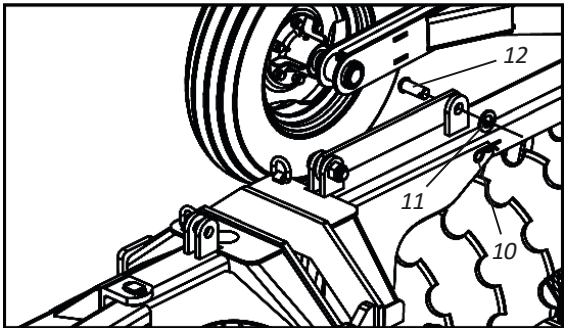
▪ Transport

• Preparation for transport - Part II

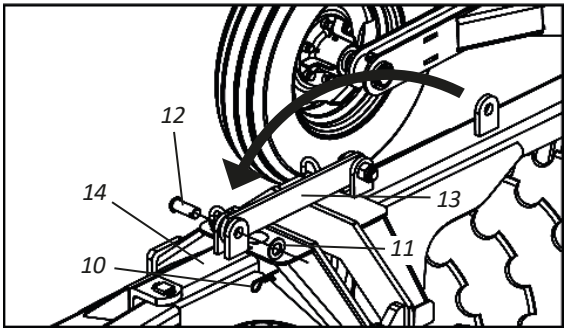
03 - Then, lock the transport head (9) in point **"A"** through the pin (8), flat washer (7) and lock (6).



04 - Then, release the lock (10), flat washer (11) and remove the pin (12).



05 - Then, articulate the bar (13) by locking it in the frame (14) through the same pin (12), flat washer (11) and lock (10).



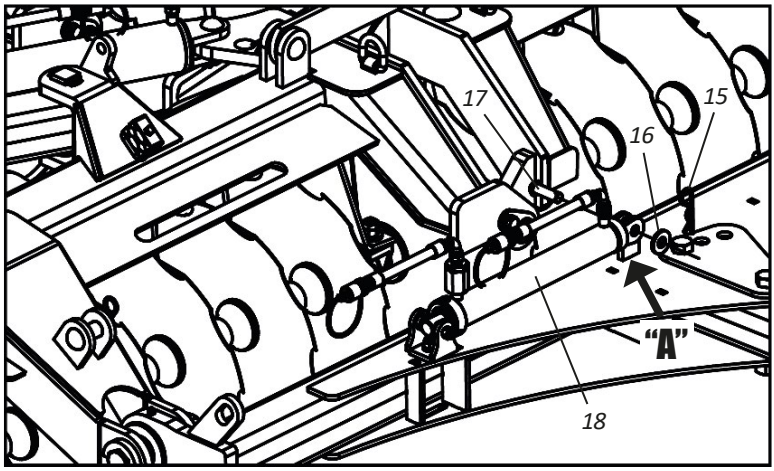
⚠ ATTENTION

DO NOT transport the NVF-T if the front and rear frames are not locked.

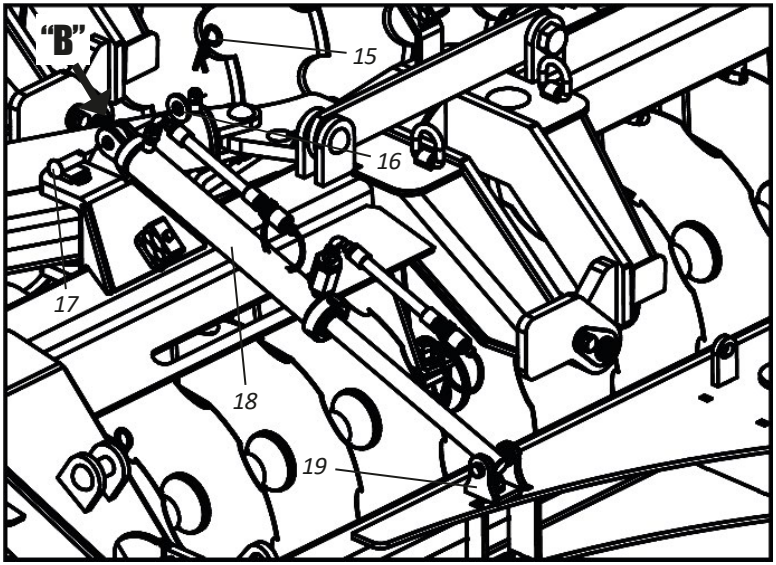
▪ Transport

• Preparation for transport - Part III

06 - Then loosen the lock (15), flat washer (16), remove the pin (17), uncouple the hydraulic cylinder (18) from point **"A"** and activate to open it.

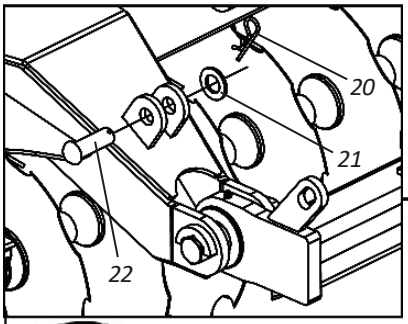


07 - Then, through the coupling support (19) spin the hydraulic cylinder (18) to couple it to point **"B"** fastening through pin (17), flat washer (16), and lock (15).



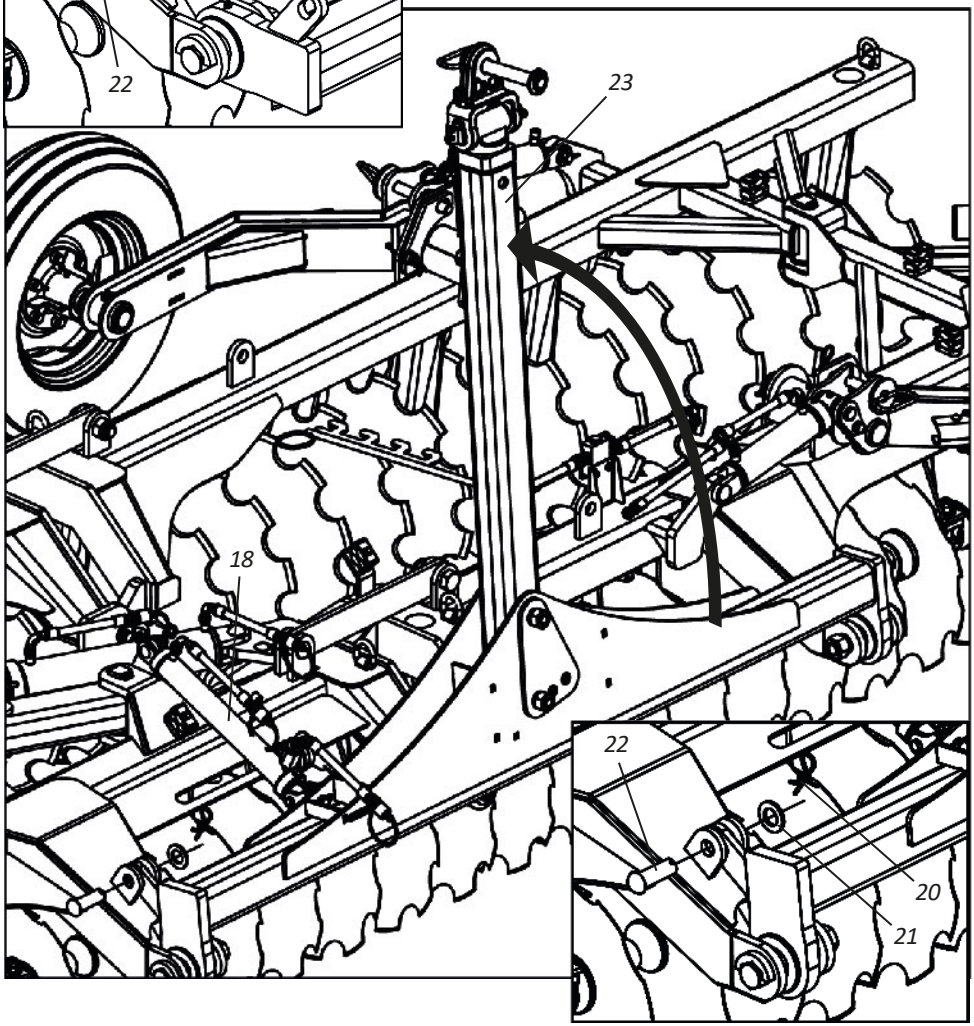
▪ Transport

• Preparation for transport - Part IV



08 - Then, release the lock (20), flat washer (19) and remove the pin (22).

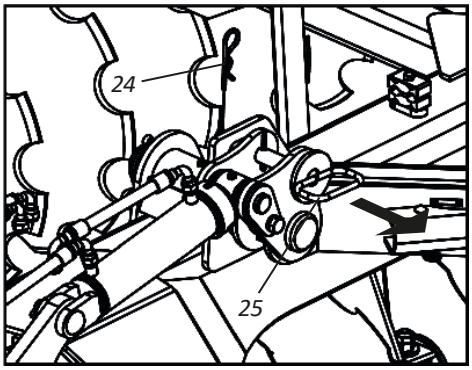
09 - Then, activate the hydraulic cylinder (18), articulate the coupling head (23) and lock it fitting the pin (22), flat washer (21), and lock (20).

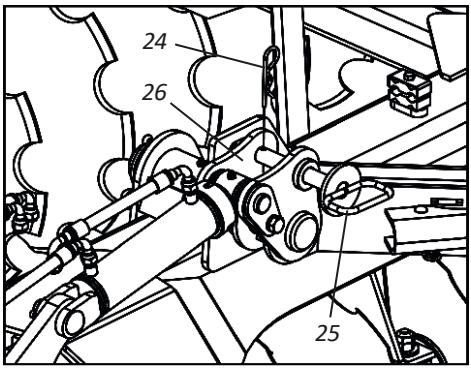


▪ Transport

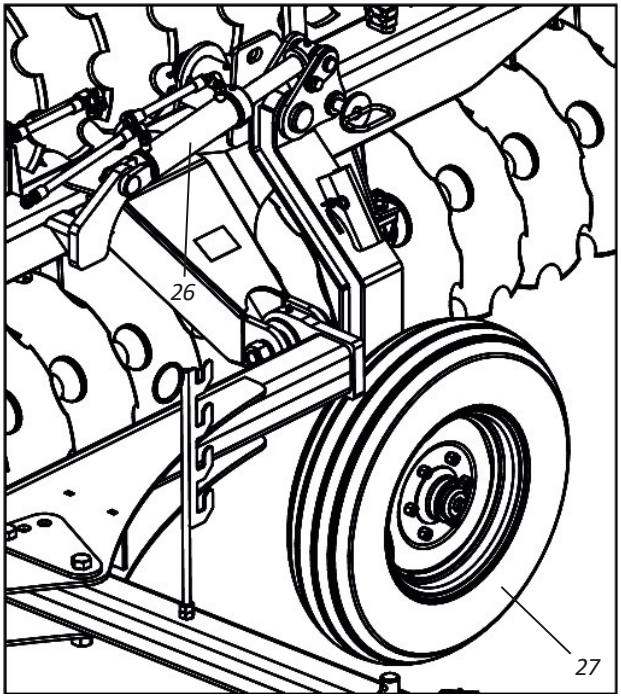
• Preparation for transport - Part V

10 - Then remove the lock (24), pull the pin (25) until the hole is inside the support (26), fit the lock (24) by locking the pin (25).





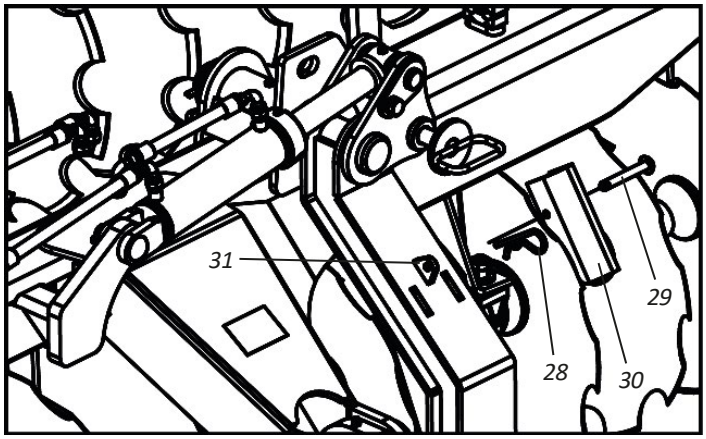
11 - Then, activate the hydraulic cylinder (26) to lower the tire (27) to the ground.



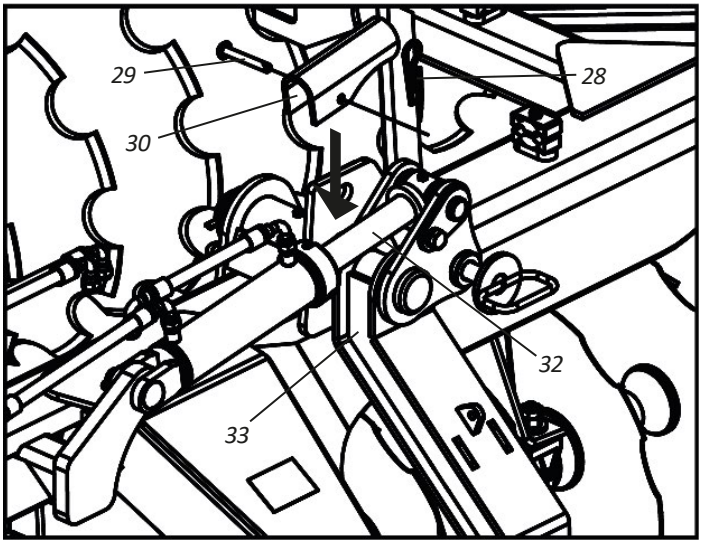
▪ Transport

• Preparation for transport - Part VI

12 - Then, release the lock (28), pin (29) and remove the lock (30) from the wheel axle support (31).



13 - Then, couple the lock (30) to the hydraulic cylinder rod (32), fastening with the pin (29), and lock (28).



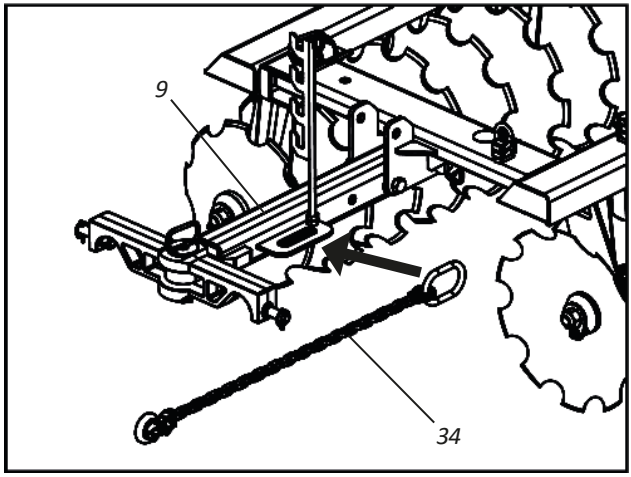
⚠ ATTENTION

DO NOT transport the NVF-T without fitting the lock (30) in the hydraulic cylinder (32) of the wheel axle holder (33). Ignoring this warning may cause damage to the hydraulic cylinder (32) during transport.

▪ Transport

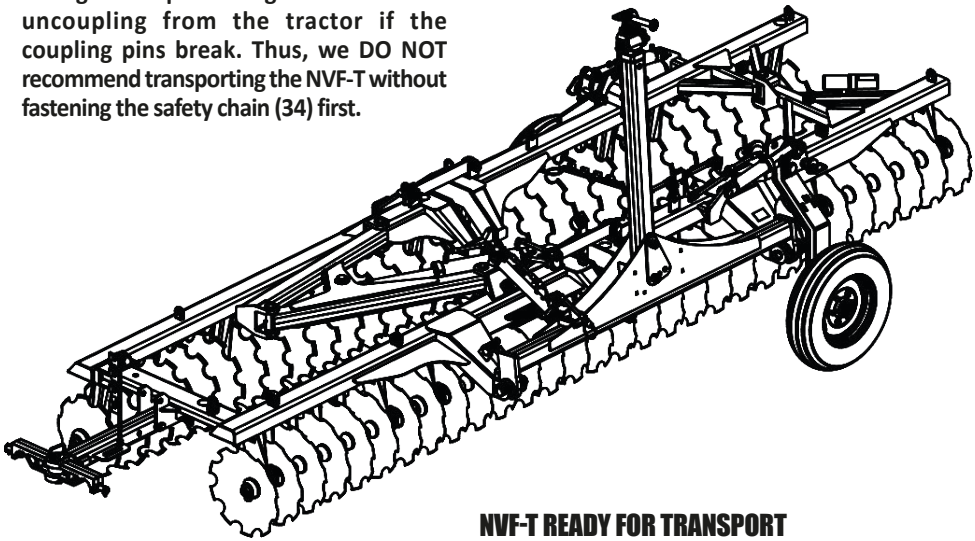
• Preparation for transport - Part VII

14 - Finish by attaching the safety chain (34) in the transport head (9) and in the tractor.



⚠ ATTENTION

The safety chain (34) provides greater safety during works preventing the NVF-T from uncoupling from the tractor if the coupling pins break. Thus, we DO NOT recommend transporting the NVF-T without fastening the safety chain (34) first.



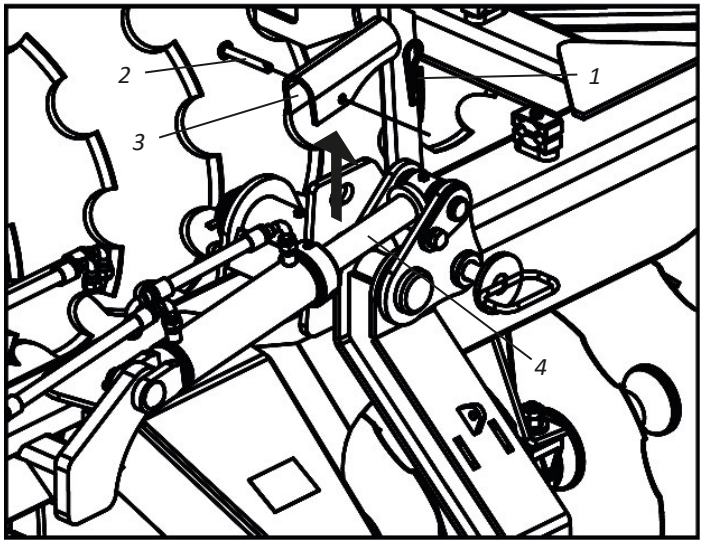
NVF-T READY FOR TRANSPORT

▪ Work

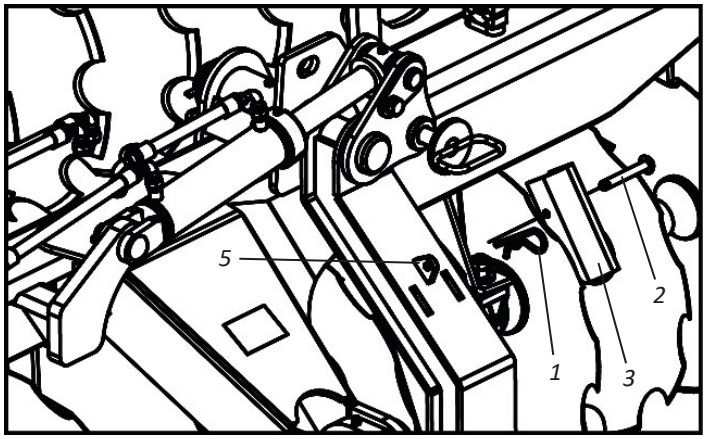
• Preparation for work - Part I

To put the **NVF-T** in the work position, proceed as follows:

01 - Release the lock (1), pin (2), and remove the lock (3) from the hydraulic cylinder rod.



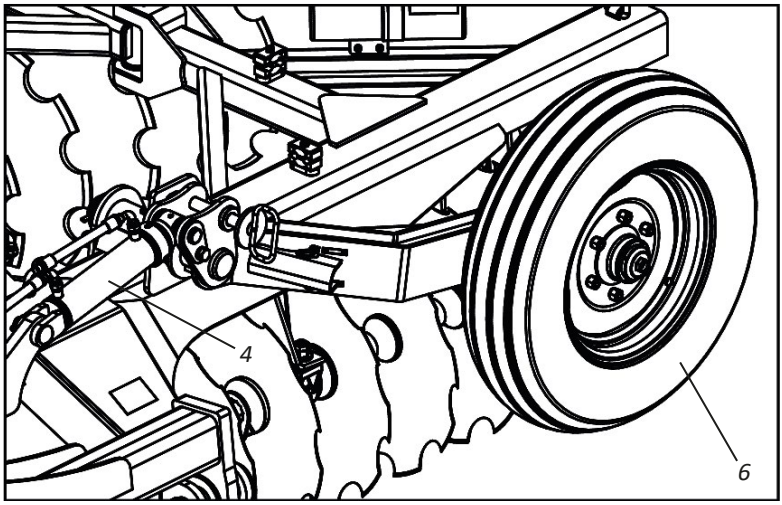
02 - Then, fasten the lock (3) to the wheel axle support (5), through the pin (2), and lock (1).



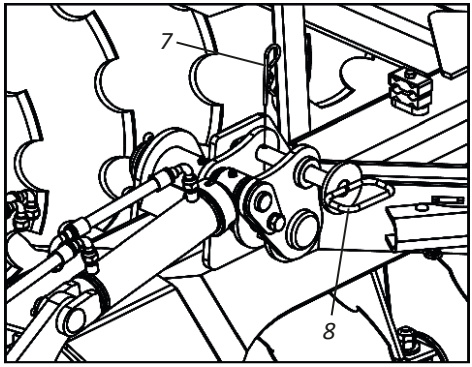
▪ Work

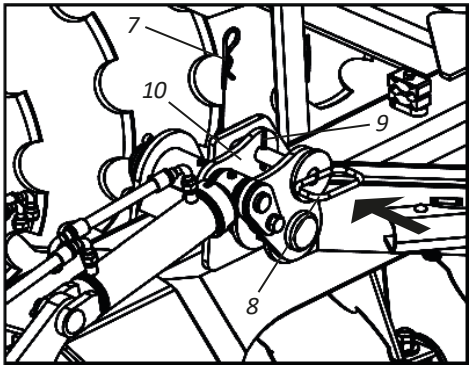
• Preparation for work - Part II

03 - Then, activate the hydraulic cylinder (4) to raise the tire (6).



04 - Then, remove the lock (7), push the pin (8) until the cotter pin (9) touches the inside of the support (10) and replace the lock (7) by locking the pin (8).

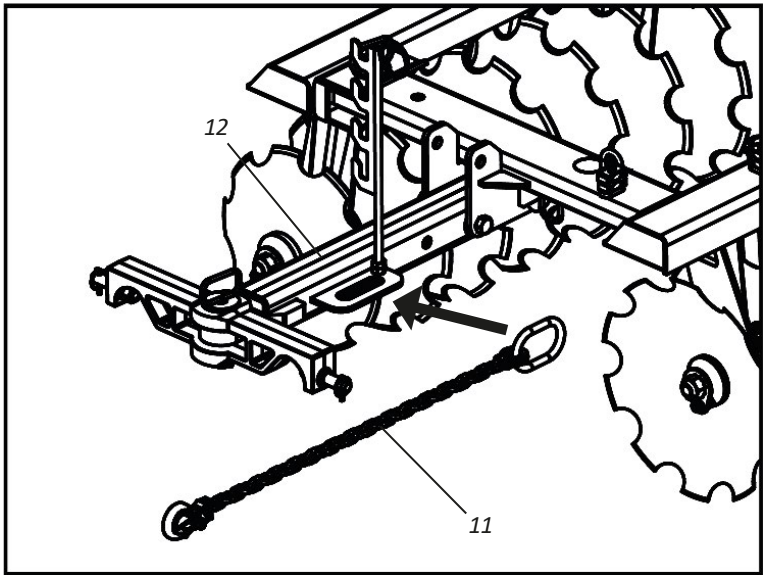




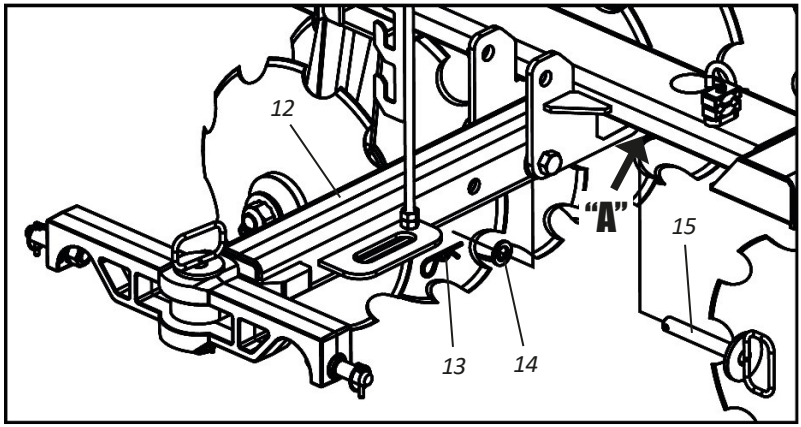
▪ Work

• Preparation for work - Part III

05 - then release the safety chain (11) from the tractor and the transport head (12) and uncouple the tractor.



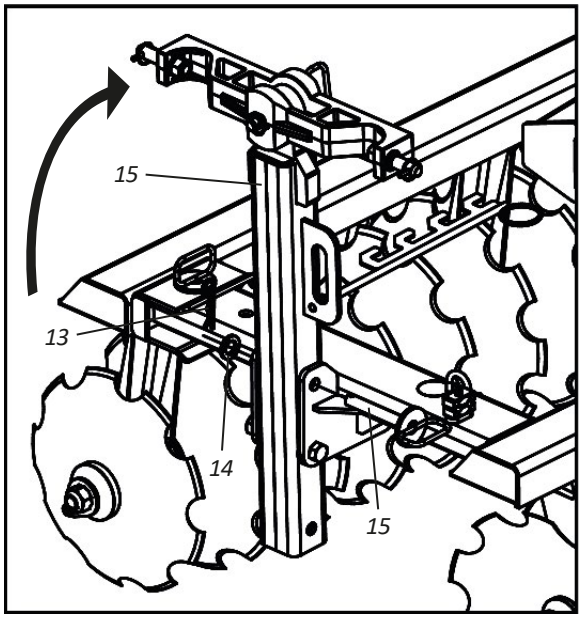
06 - Then unlock the transport head (12) of point **"A"** through the lock (13), flat washer (14), remove the pin (15).



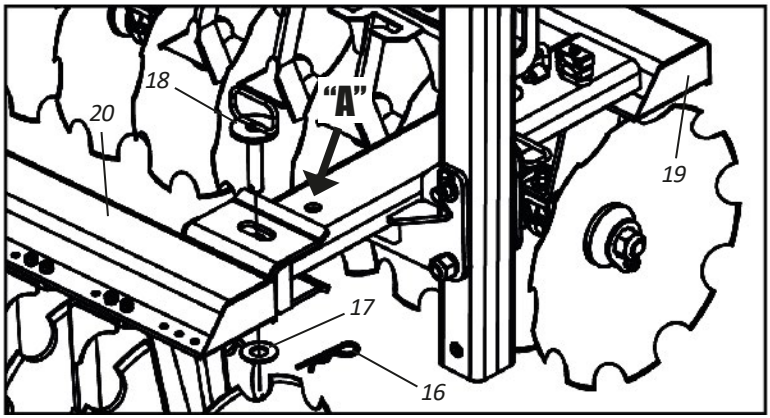
▪ Work

• Preparation for work - Part IV

07 - Then raise the transport head (12) fastening through the pin (15), flat washer (14), and lock (13).



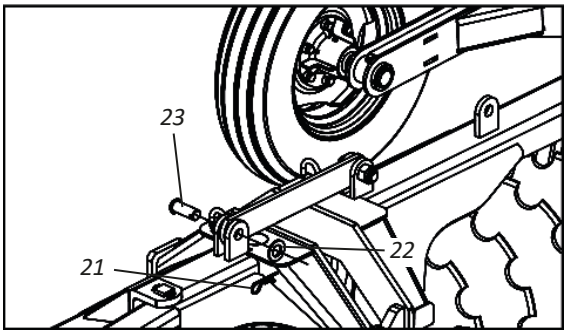
08 - Then loose the lock (16), flat washer (17), remove the pin (18) to unlock the frames (19 and 20), open the **NVF-T** and fasten the pin (18), flat washer (19), and lock (20) on point **"A"**.



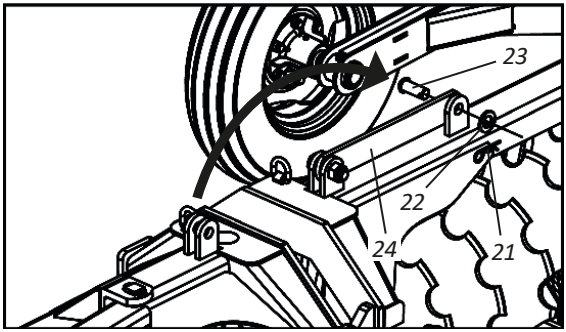
▪ Work

• Preparation for work - Part V

09 - Then, release the lock (21), flat washer (22) and remove the pin (23).



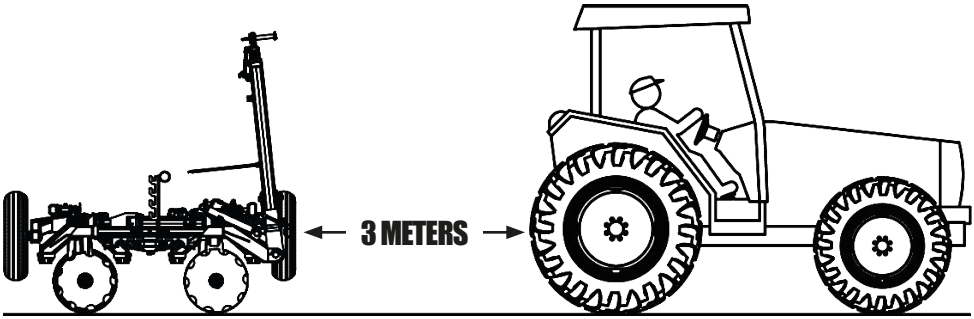
10- Then, articulate the bar (24), unlocking the frames and fastening it through the pin (23), flat washer (22), and lock (21).



⚠ ATTENTION

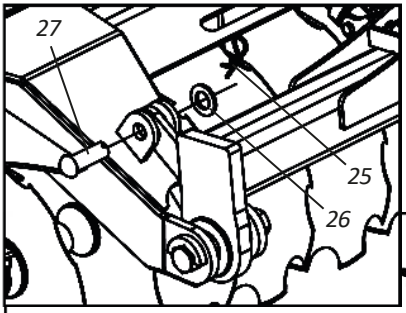
DO NOT work with the NVF-T if the front and rear frames are not unlocked.

11 - Then, slowly approach the tractor to the **NVF-T** in reverse gear, paying attention to the application of the brakes at a distance of 3 meters from the **NVF-T**. Then, turn off the tractor engine, relieve the pressure of the control by pushing the lever a few times and check that the couplings are clean if not so, clean them.



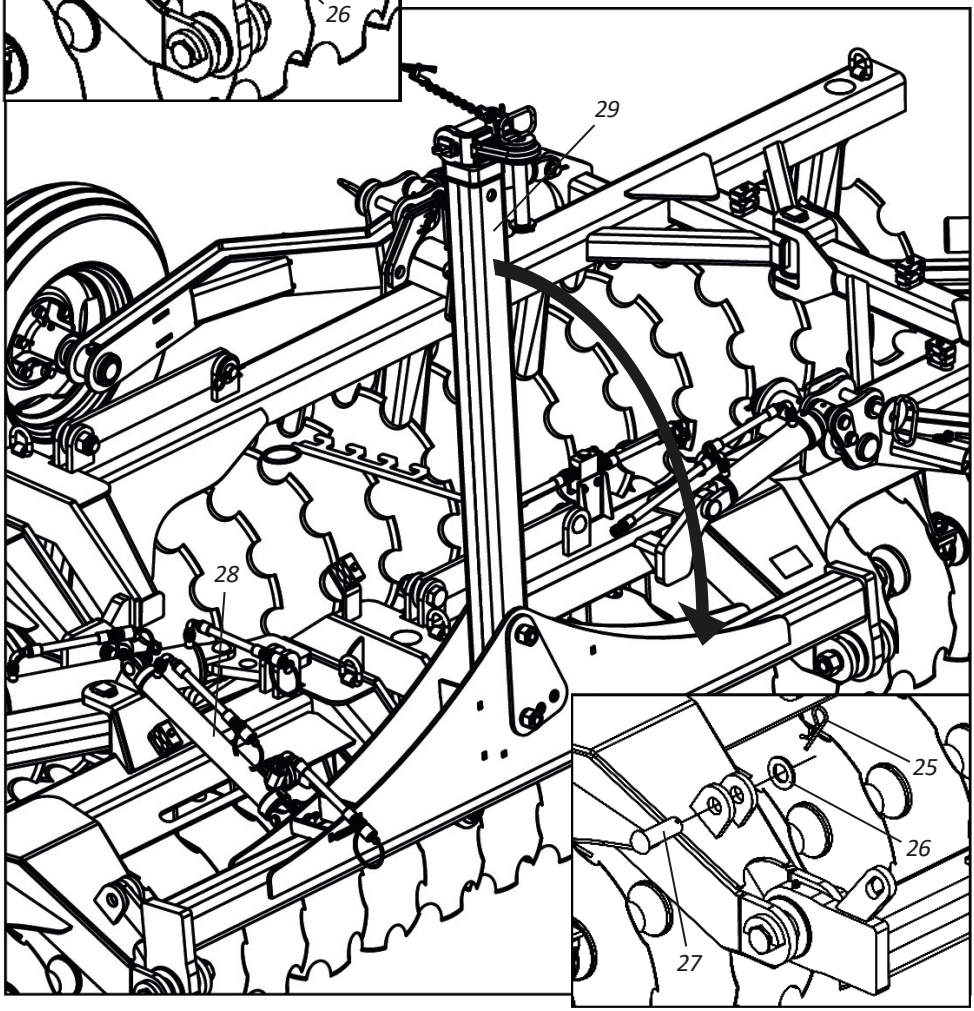
▪ Work

• Preparation for work - Part VI



12 - Then, unlock the coupling head (29) releasing the lock (25), flat washer (26), removing the pin (27).

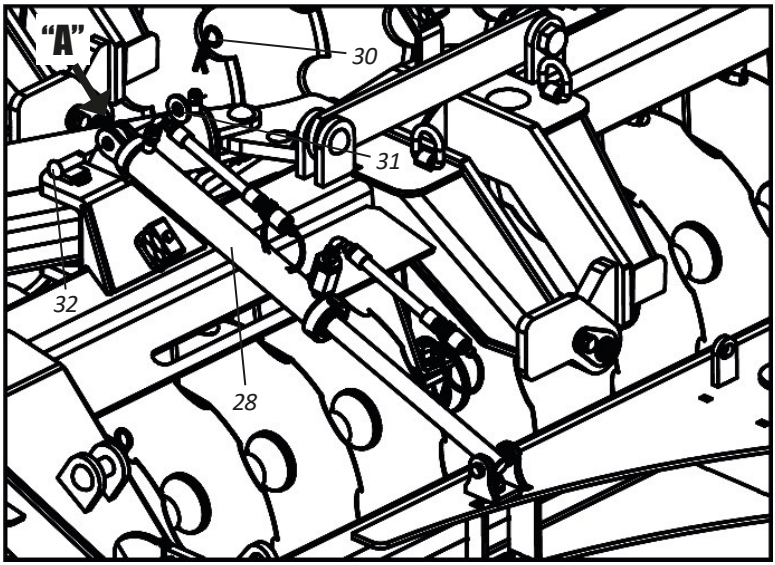
13 - Then, activate the hydraulic cylinder (28) to lower the coupling head (29) and fit the pin (27), flat washer (26), and lock (25).



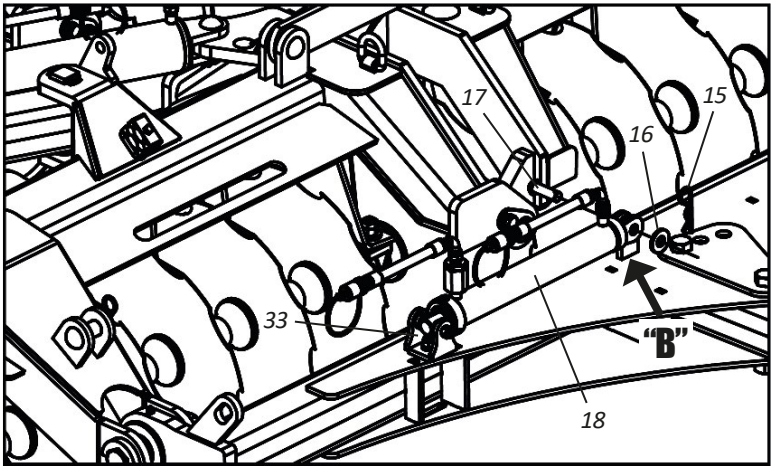
▪ Work

• Preparation for work - Part VII

14 - Then, release the lock (30), flat washer (31), remove the pin (32), uncouple the hydraulic cylinder (28) from point **"A"** and activate to close it.



15 - Then, through the coupling support (33) spin the hydraulic cylinder (28) to couple it to point **"B"** fastening through pin (32), flat washer (33), and lock (34).

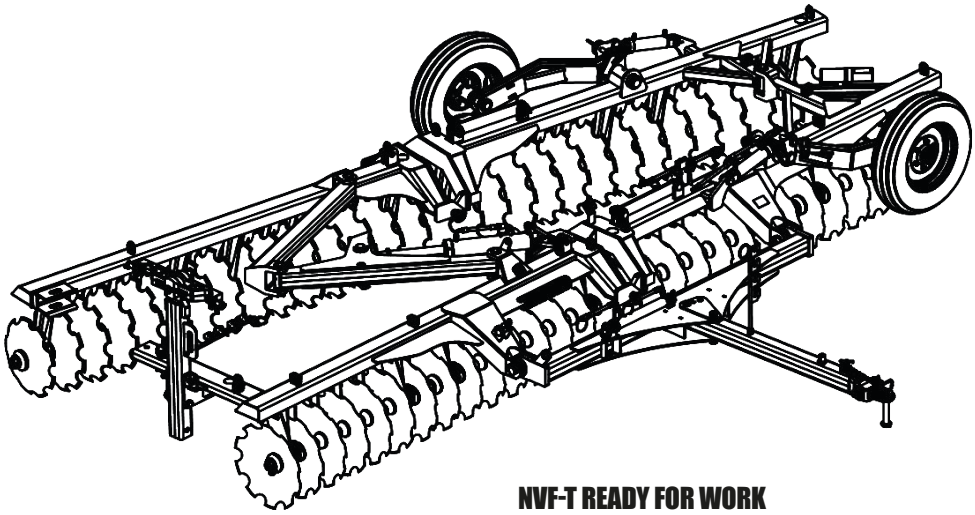


▪ Work

• Preparation for work - Part VIII

⚠ ATTENTION

DO NOT work with the NVF-T if the base of the hydraulic cylinder (28) is not attached to point "B" of the coupling head. Ignoring this warning may cause damage to the hydraulic cylinder (28) during transport.



NVF-T READY FOR WORK

▪ Adjustments

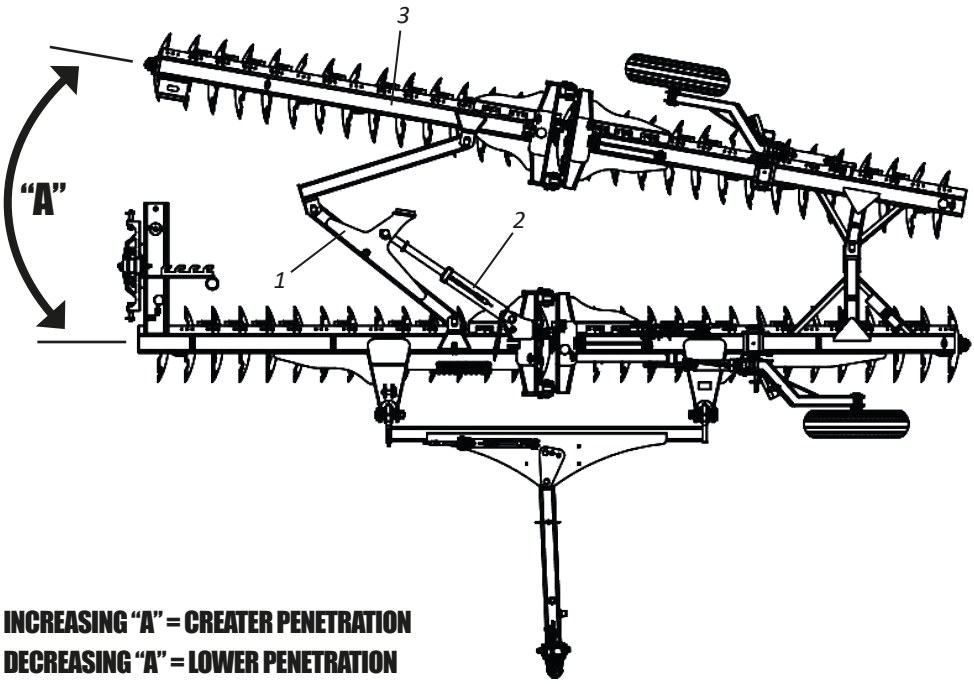
• Cutting depth adjustment - Part I

Cutting depth is adjusted by the opening and closing the **NVF-T** which varies according to soil type.

- In terrains of greater penetration difficulty, the **"A"** opening of the **NVF-T** is increased.
- In light and loose terrains, the **"A"** opening of the **NVF-T** is decreased.

To increase or decrease the **NVF-T** opening, proceed as follows:

01 - Activate the opening assembly (1) through the hydraulic cylinder (2) to open or close the rear frame (3).



INCREASING "A" = CREATER PENETRATION
DECREASING "A" = LOWER PENETRATION

NOTE | **The opening of the NVF-T only changes the cutting angle of the rear frame.**

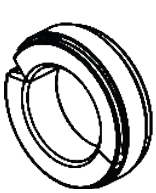
▪ Adjustments

• Cutting depth adjustment - Part II

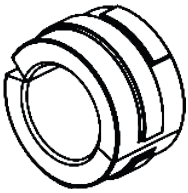
The **NVF-T** has 10 limiting rings, which are:

- Five **25 mm** limiting rings.
- Five **50 mm** limiting rings.

These different combined sizes offer various opening and closing adjustments for the harrow.



LIMITING RING 25 MM

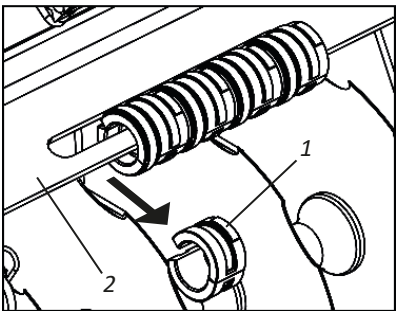


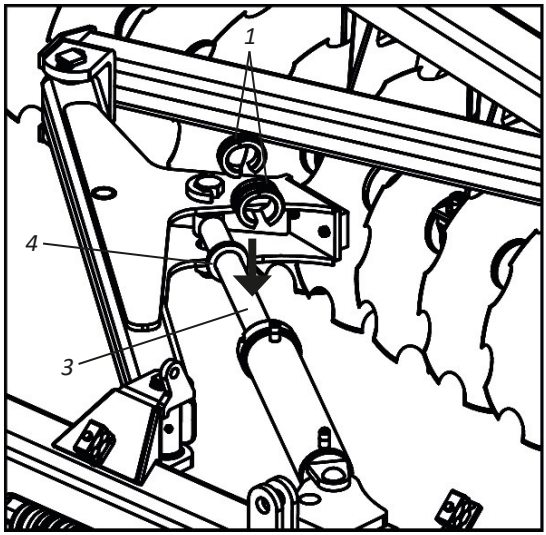
LIMITING RING 50 MM

To maintain the opening adjustment while working, attach the limiting rings to the rod of the hydraulic cylinder by doing the following:

01 - Remove the limiting rings (1) from the support (2) of the right front frame.

02 - Then fasten the limiting rings (1) on the rod (3) of the hydraulic cylinder.





NOTE

The application area of the limiting rings (1) on the rod (3) is up to the washer (4).

ATTENTION

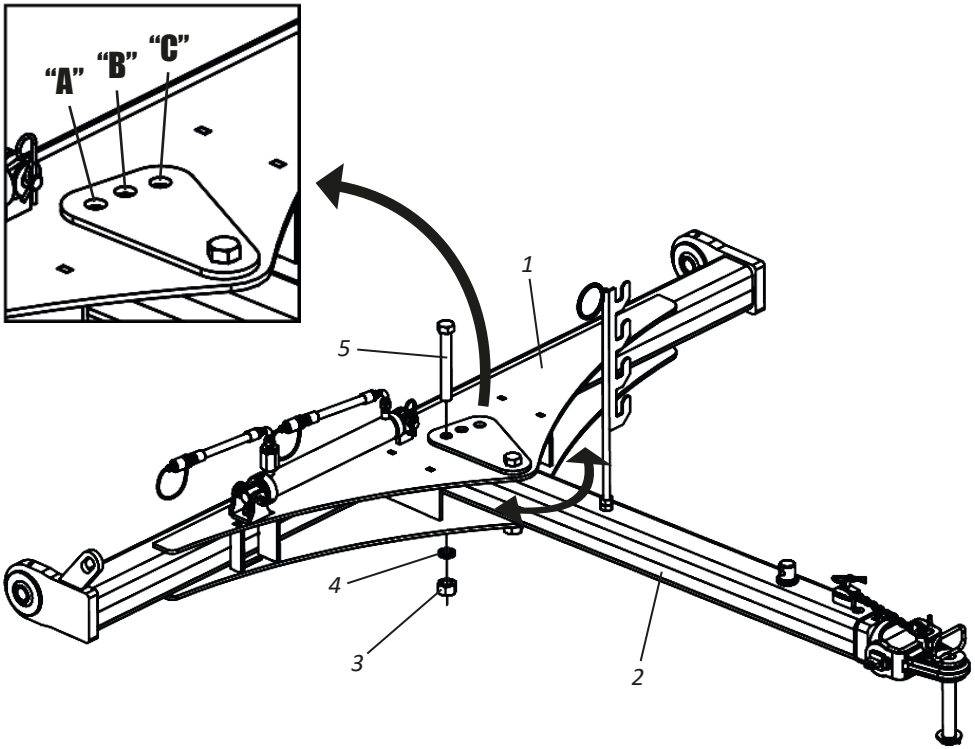
After coupling the limiting rings (1), the NVF-T will maintain the opening adjustment during the work, because the limiting rings (1) are limiting the stroke of the rod (3) of the hydraulic cylinder.

▪ Adjustments

• Adjusting the drawbar angle

The crossbar (1) has 3 adjustment points (**“A”, “B”** and **“C”**). These adjustments ensure a greater or lesser penetration angle of the discs. To adjust the coupling head (2), proceed as follows:

01 - Release the nut (3), lock washer (4), and remove the screw (5).
02 - Then, spin the coupling head (1) to the desired adjustment and fasten again with the screw (5), lock washer (4), and nut (3).



IMPORTANT **The NVF-T head and the tractor drawbar must be as close to the working direction as possible.**

▪ Operations

• Operating recommendations - Part I

The preparation **NVF-T** and tractor will allow that you save time and have a better result in works on the field. The following suggestions may be useful for you.

HARROW STRUCTURE

After the first day of work with the **NVF-T,** retighten all screws, nuts and check the conditions of pins and locks of the harrow structure. Then perform a general retightening on all screws and nuts in the harrow structure every 24 hours of work.

DISCS SECTIONS

Pay particular attention to the **NVF-T** disc sections. During the first week of using the **NVF-T**, retighten all screw and nuts on the disc sections daily, then retighten them periodically.

GENERAL RECOMMENDATION

01 - Adjust the tractor according to the content of the instruction manual, always using front and rear weights to stabilize the equipment.
02 - Always couple to the tractor in low gear and very carefully.
03 - When using the **NVF-T** it is important to check the coupling system and cross leveling to be sure that the discs will have the same soil penetration depth.
04 - After hitching, the next adjustments will be made directly in the field of work, analyzing the terrain for its texture, humidity, and types of operations to be performed with the **NVF-T**.
05 - In the tractor, choose a gear that allows you to maintain some power reserve, guaranteeing against unforeseen efforts.
06 - Observe the working and transport speeds specified on page 10. We do not recommend exceeding the speeds to maintain service efficiency and avoid possible damage to the **NVF-T**.
07 - When executing maneuvers in heads, first activate the hydraulic cylinders gradually, lifting the disc sections.
08 - Do not decouple any hose without first relieving the circuit pressure by turning the control levers a couple of times with the engine off.
09 - Remove pieces of wood or any other object that may be attached to the discs.

▪ Operations

• Recommendations for operation - Part II

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

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

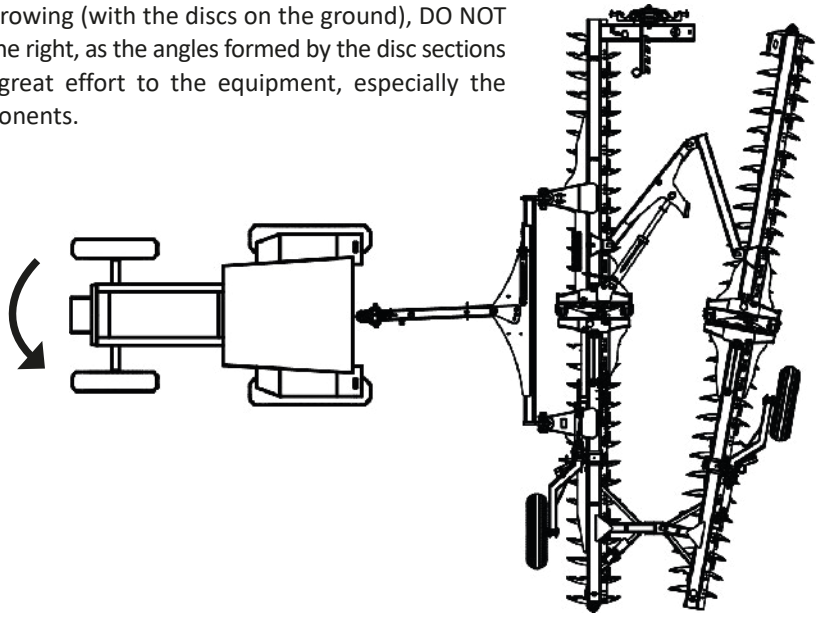
12 - When performing any maintenance on the **NVF-T**, you should lower it to the ground and turn off the engine.

13 - The **NVF-T** has several adjustments, but only local conditions can determine the best adjustment.

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

• Direction of maneuvers

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



⚠ ATTENTION | **With the disc sections in the ground, maneuvers to the left must be made (closed side of the NVF-T) avoiding overloads.**

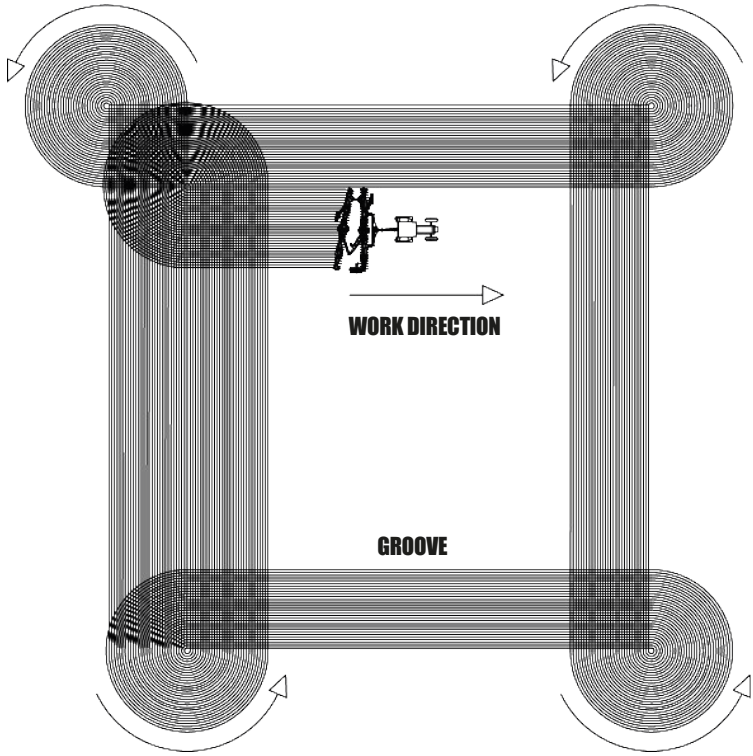
▪ Operations

• How to start harrowing

To start harrowing, always follow terraces or contour line, so that the terrace is always on the left side of the tractor

NOTE **Before starting operations with the NVF-T, thoroughly inspect it by tightening all bots, nuts, hose terminals, shafts, and especially disc sections.**

• Harrow from the outside in

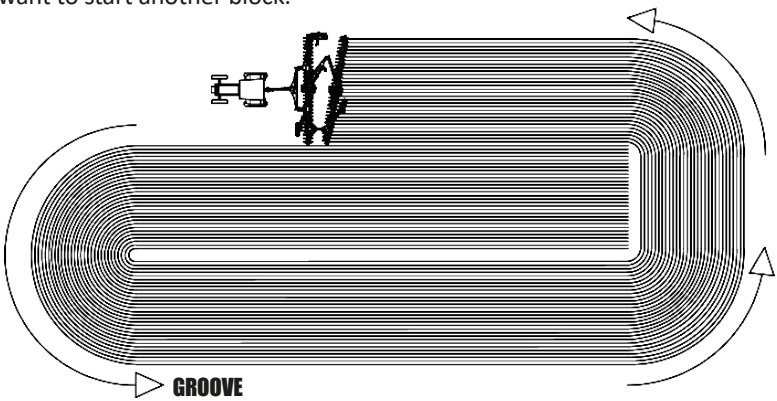


IMPORTANT **Try to drive the tractor so that it performs well between the NVF-T passes. Avoid forming tracks or grooves without harrowing.**

▪ Operations

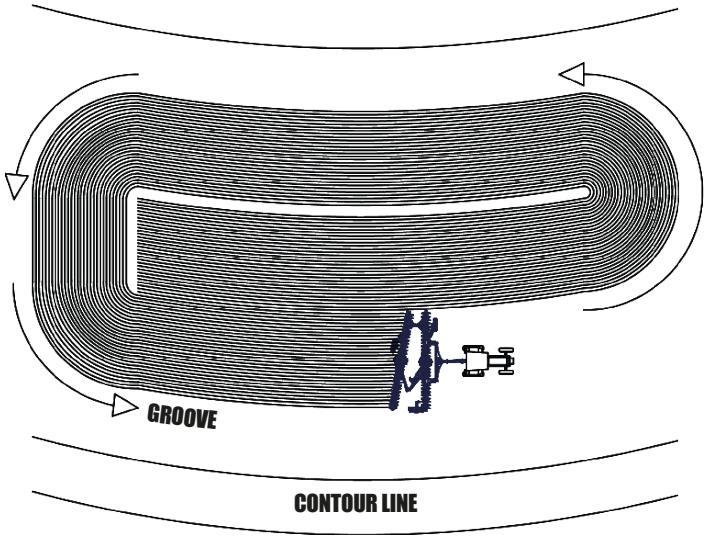
• Harrow from the inside out

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



• Blocks with contour lines

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



▪ Calculation

• Approximate hourly production - Part I

To calculate the estimated hourly production of the **NVF-T**, use the following formula:

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

WHERE:

A = Area to be worked
L = Working width of the harrow (in meters)
V = Average speed of the tractor (in meters/hour)
F = Production factor: 0,90
X = Value of the hectare: 10.000 m² (value varies by region)

Example: How much Ha will a **NVF-T 60 discs**, produce in an hour of work at an average speed of 7 km/h?

A = ?
L = 5,68 m
V = 7.000 m/h
F = 0,90
X = 10.000 m² (Calculated in hectare)

$$A = \frac{5{,}68 \times 7.000 \times 0{,}90}{10.000} = 3{,}57 \text{ Ha/h}$$

Model	Nr of Discs	Working Width (mm)	Average Speed (m/h)	Production Factor	Approximate Production in Hectare Hour
NVF-T	48	4670	7.000	0,90	2,94
	52	5080	7.000	0,90	3,20
	56	5500	7.000	0,90	3,46
	60	5683	7.000	0,90	3,57
	64	6310	7.000	0,90	3,97
	68	6710	7.000	0,90	4,22
	72	7125	7.000	0,90	4,48

▪ Calculation

• Hourly production - Part II

The formula for calculating approximate production refers to the calculation of areas to be worked with the **NVF-T**. To know the time required to work in an area of known value, just divide this area value by the hourly production of the **NVF-T**.

Example: What will be the "X" time spent for a **NVF-T 60 discs** harrow to produce 35 hectares, at an averade speed of 7km/h?

$$X = \frac{35\ Ha}{3{,}57\ Ha/h} = 9{,}80 \text{ hours approximately to work 35 hectares.}$$

ATTENTION

The hourly production of the NVF-T can vary by factors that alter work rhythm as soil moisture and hardness, slope, inadequate adjustments, and work speed.

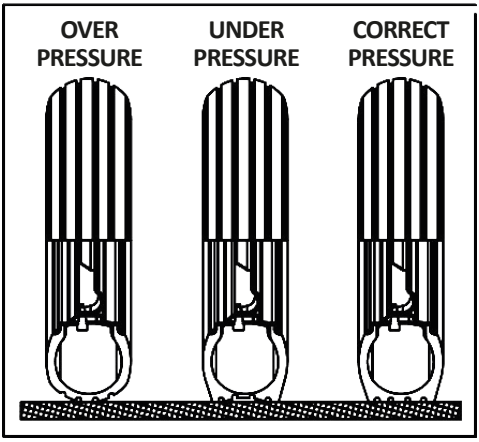
▪ Maintenance

The **NVF-T** has been developed to provide you with maximum yield on land conditions. Experience has shown that periodic maintenance of certain parts of the **NVF-T** is the best way to help you avoid problems, so we suggest a check.

• Tires pressure

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

TIRES 750 X 16 10 CANVAS



USE 60 LBS/POL²

⚠ ATTENTION

Never weld the wheel mounted with tire, the heat may cause air pressure increase and provoke the explosion of the tire.
When filling the tire, position yourself besides the tire, never in front of it.
To fill the tire, always use containment device (armor cage).
Assemble the tires with proper equipment. The service should only be performed by people qualified for the work.

❗ IMPORTANT

When calibrating tires, do not exceed the recommended calibration

🔍 NOTE

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

▪ Maintenance

The **NVF-T** has been developed to provide you with the maximum yield on land conditions. Experience has shown that periodic maintenance of certain parts of the **NVF-T** is the best way to help you avoid problems, so we suggest a check.

⚠ ATTENTION | **Check nuts and bolts, retighten them if necessary. General harrow retention maintenance should be done every 8 hours of work.**

• Lubrication

Lubrication is indispensable for a good performance and greater durability of the **NVF-T**, moving parts, contributing to the maintenance cost savings.

Before starting the operation, carefully lubrificate all grease cups, always observing the lubrification intervals in the following pages. Make sure of the lubrificant quality regarding its efficiency and purity, avoiding products contaminated by water, dust and other agents.

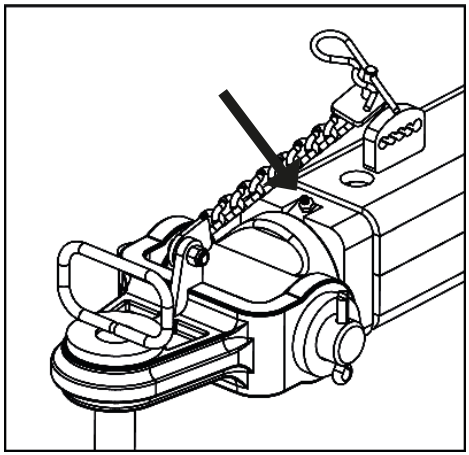
• Table of greases and equivalents

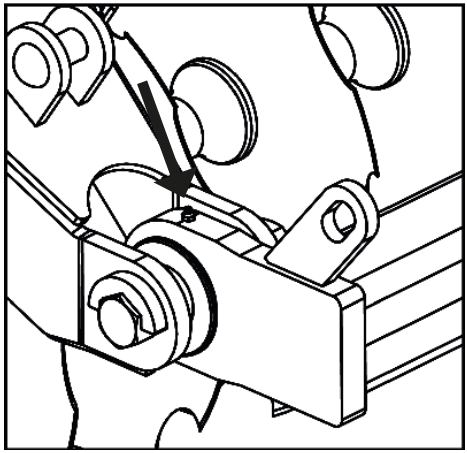
Manufacturer	Types of grease recommended
Petrobrás	Lubrax GMA-2
Atlantic	Litholine MP 2
Ipiranga	Ipiflex 2
Castrol	LM 2
Mobil	Grease MP
Texaco	Marfak 2
Shell	Alvania EP 2
Esso	Multi H
Bardahl	Maxlub APG-2EP
Valvoline	Palladium MP-2
Petronas	Tutela Jota MP 2 EP
	Tutela Alfa 2K
	Tutela KP 2K

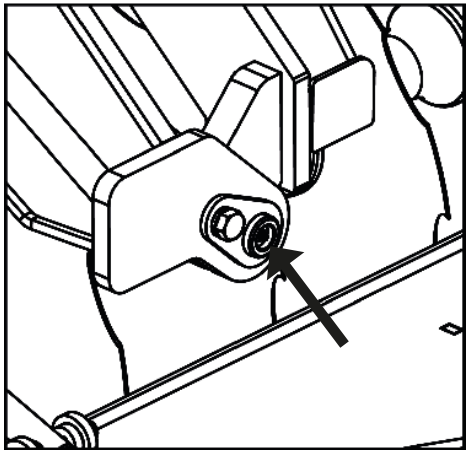
⚠ ATTENTION | **If there are equivalent manufacturers and/or brands that are not listed in the table, consult the manufacturer's technical manual.**

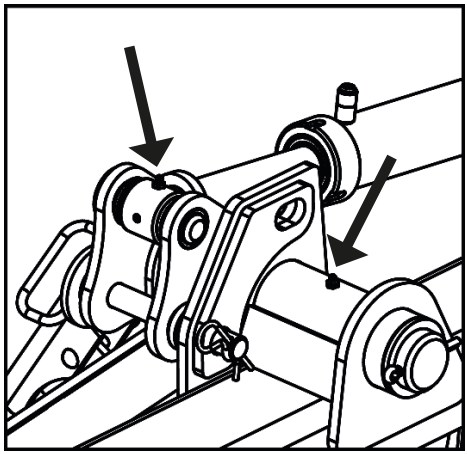
▪ Maintenance

- Lubrication every 24 hours of work





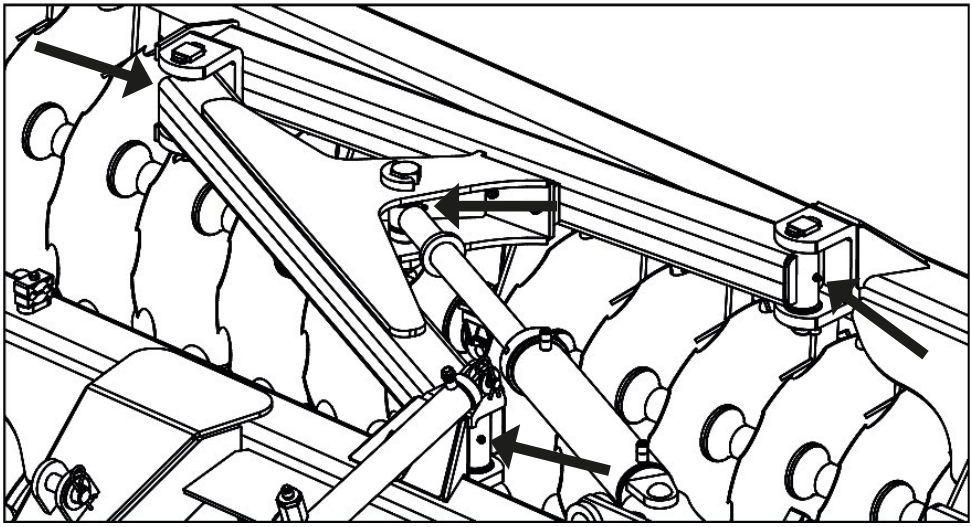


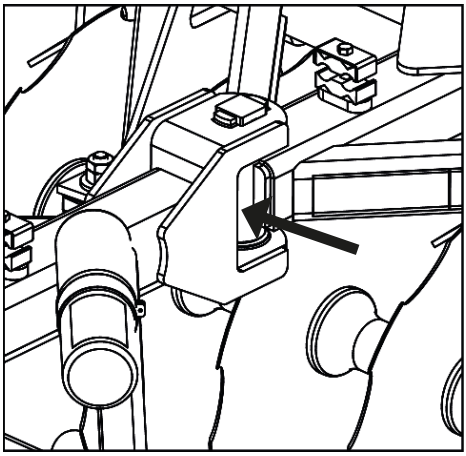


⚠ ATTENTION | When lubrificating the NVF-T, do not exceed the amount of new grease. Introduce an adequate amount.

▪ Maintenance

- Lubrication every 24 hours of work

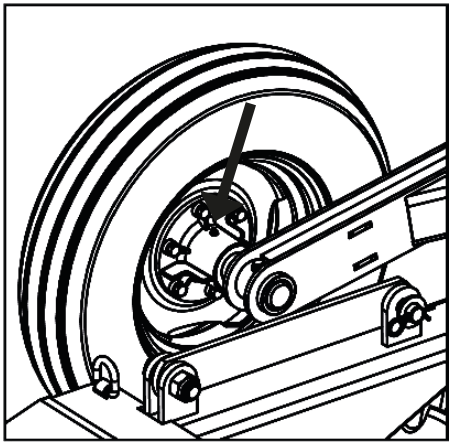




ATTENTION When lubrificating the NVF-T, do not exceed the amount of new grease. Introduce an adequate amount.

▪ Maintenance

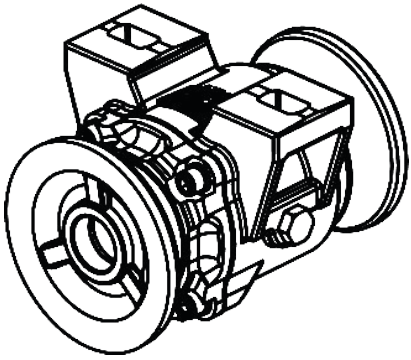
• **Lubrication every 60 hours of work**



ATTENTION | **When lubrificating the NVF-T, do not exceed the amount of new grease. Introduce an adequate amount.**

• **Axial bearing (Standard)**

On the first days of work with the **NVF-T**, check the oil level of the bearings daily, then check every 120 hours of work.



NOTE

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

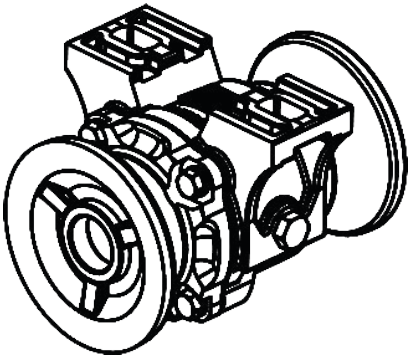
ATTENTION

Replace the oil every 1200 hours of work using 0,160 liters.
Use transmission oil: 90 API GL4, MIL-L-2105; SAEJ306, may/81: SAE 80W,90 and 140.

▪ Maintenance

• Oil bearing (Optional)

On the first days of work with the **NVF-T**, check the oil level of the bearings daily, then check every 120 hours of work.



NOTE

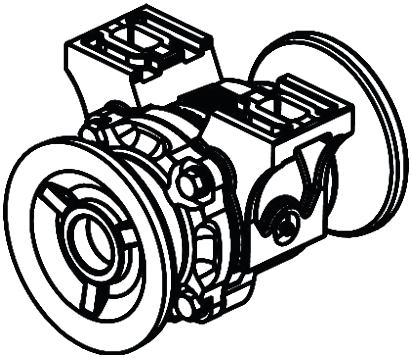
The ideal oil level is when it reaches the plug hole.
To check bearing oil level, search for a flat surface.

ATTENTION

Replace the oil every 1200 hours of work using 0.160 liters.
Use transmission oil: 90 API GL4, MIL-L-2105; SAEJ306, may/81: SAE 80W,90 and 140.

• Grease bearing (Optional)

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



NOTE

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

ATTENTION

The amount of grease in each bearing is 120 grams.
Only use the following grease: EP (Specification DIN51825 KP00K Consistency NLGI 2/3).

▪ Maintenance

• Operational maintenance

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

▪ Maintenance

• Cares

01 - Before each work, check the condition of all hoses, pins, screws, bearings, discs and sections. Where necessary, retighten them.
02 - Travel speed should be carefully controlled according to the terrain's conditions.
03 - The **NVF-T** is used in several applications, requiring knowledge and attention during handling.
04 - Only local conditions can determine the best operation method of the **NVF-T**.
05 - When assembling or disassembling any part of the **NVF-T**, employ proper methods and tools.
06 - Carefully observe the lubrification intervals at the various lubrification points of the **NVF-T**. Respect the lubrification intervals.
07 - Always check if the parts have wears. If there is a need for replacement, always demand Baldan original parts.
08 - Keep the **NVF-T** tires calibrated.
09 - Keep the **NVF-T** discs sharp.

IMPORTANT | **Proper and periodic maintenance is necessary to ensure a long service life for the NVF-T.**

• General cleaning - Part I

01 - When storing the **NVF-T**, perform a general cleaning and thoroughly wash only with water. Make sure the paint has not worn out, if so, apply a general coat and protective oil and fully lubrificate the **NVF-T**. Do not use burnt oil or other abrasives.
02 - Thoroughly lubricate the **NVF-T**. Check all moving parts of the **NVF-T**, if they have wears or gaps, make the required adjustment or replace the parts, leaving the machine ready for the next work.
03 - After all maintenance precautions, store the harrow in a covered and dried location, properly supported.

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

▪ Maintenance

• General cleaning - Part II

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

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

06 - After all maintenance precautions, store your **NVF-T** in a plain surface, covered and dried location, away from animals and children.

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

⚠ ATTENTION | **Do not use chemicals or abrasives to wash the NVF-T, this way damage its paint and stickers.**

• Conservation of the harrow - Part I

To extend the service life and appearance of the **NVF-T,** follow the instructions below:

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

02 - Use neutral products to clean the harrow following the safety and handling guidelines provided by the manufacturer.

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

• Conservation of the harrow - Part II

The practices and precautions below if adopted by the owner or operator make the difference for the conservation of the **NVF-T.**

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

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

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

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

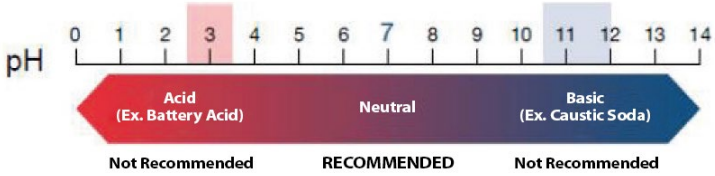
05 - Rinse the machine with clean water to remove any chemical residues.

▪ Maintenance

• Conservacion of the harrow - Part III

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

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



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

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

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

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

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

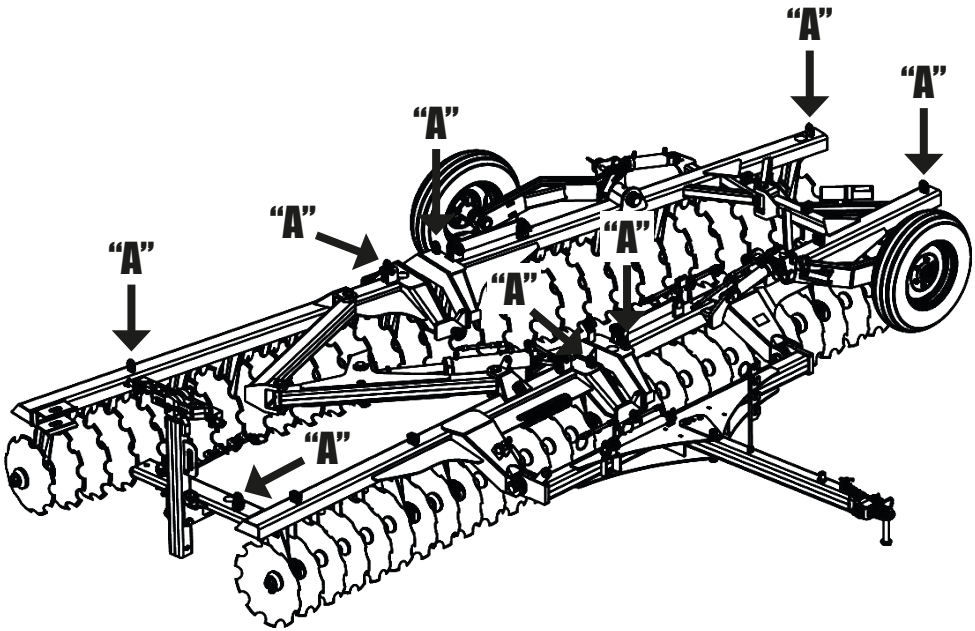
IMPORTANT | **We recommend the following protective oils:**
- Bardahl: Agro protective 200 or 300
- ITWChemical: Zoxol DW - Series 4000

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

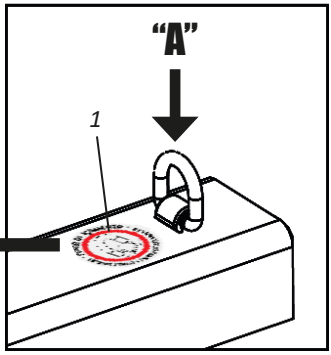
▪ Lifting

• Lifting points

The **NVF-T** has 8 "A" lift points located in the upright and identified through the adhesive (1) attached to these points. When assembling, loading, unloading or maintaining the **NVF-T**, if you need to lift it with a winch, it is essential to engage the chains in the 8 "A" lifting points.



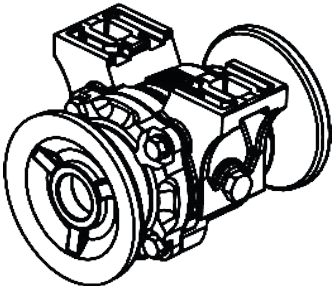
MAXIMUM LOAD: 1000 KG



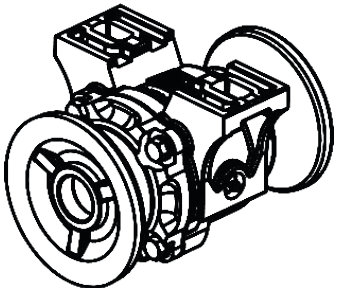
▪ Optional

• Optional Accessories

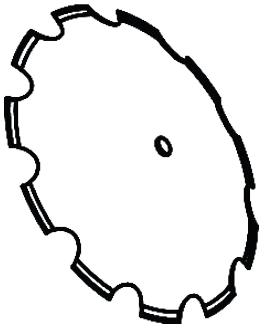
The **NVF-T** has optional accessories that can be acquired according to the work needs.



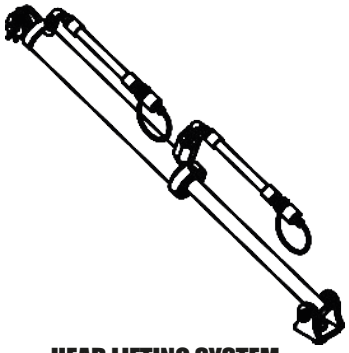
OIL BEARING WITHOUT GUARD



CREASE BEARING WITHOUT GUARD



CUT DISC
20", 22", 24"



HEAD LIFTING SYSTEM

▪ Identification

• Identification plate

To check the parts catalog or to request technical assistance from Baldan, always indicate the model (01), serial number (02) and date of manufacture (03), which is on the **NVF-T**'s nameplate.

⚠ ATTENTION

The drawings in this Instruction Manual are merely illustrative.

CONTACT

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

PUBLICATIONS

Code: 60550108596 | CPT: NVFT07120A

PEÇAS ORIGINAIS BALDAN
ORIGINAL PARTS • PIEZAS ORIGINALES

▪ Identification

• Product Identification

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

Owner: _____

Dealer: _____

Property: _____

City: _____

State: _____

Certificate of Warranty no.: _____

Implement: _____

Serial No: _____

Purchase Date: _____

Invoice: _____

▪ Notes

Certificate of Warranty

BALDAN IMPLEMENTOS AGRÍCOLAS S/A ensures the dealer normal performance of the implement for a period of six (6) months as of the delivery date on the retail invoice to the first final consumer. During this period, **BALDAN** undertakes to repair defects in material and/or of manufacture of its liability, including labor, freight and other expenses of the dealer's liability.

In the warranty period, request and replacement of eventual defective parts shall be made to the dealer of the area, who will submit the faulty piece for **BALDAN** analysis. When this procedure is not possible and the resolving capacity of the dealer is exhausted, the dealer will request the support of **BALDAN Technical Assistance** through a specific form distributed to dealers. After analyzing the replaced items by Baldan Technical Assistance, and concluding that it is not a warranty, then the dealer will be responsible for the costs related to the replacement; as well as material expenses, travel including accommodation and meals, accessories, lubricant used and other expenses arising from the call out to Technical Assistance, and Baldan company is authorized to carry the respective invoice in the name of the resale. Any repair carried in the product within the dealer warranty deadline will only be authorized by **BALDAN** upon previous budget presentation describing parts and work to be performed.

The product is excluded from this term if it is repaired or modified by representatives not belonging to the **BALDAN** dealer network, as well as the application of non-genuine parts or components to the user's product. This warranty is void where it is found that the defect or damage is caused by improper use of the product, failure to follow instructions or inexperience of the operator.

It is agreed that this warranty does not cover tires, polyethylene tanks, cardan, hydraulic components, etc., which are equipment guaranteed by their manufacturers. Manufacturing and/or material defects, object of this warranty term, will not constitute, under any circumstances, grounds for termination of a purchase agreement, or for indemnification of any nature.

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

▪ Inspection and Delivery Certificate

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

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

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

Implement: _____ Serial Number: _____

Date: _____ Tax Number: _____

Dealer: _____

Telephone: _____ CEP: _____

City: _____ State: _____

Owner: _____

Telephone: _____

Address: _____ Number: _____

City: _____ State: _____

E-mail: _____

Sale date: _____

Signature / Dealer Stamp _____

1st copy - Owner

▪ Inspection and Delivery Certificate

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

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

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

Implement: _____ Serial Number: _____

Date: _____ Tax Number: _____

Dealer: _____

Telephone: _____ CEP: _____

City: _____ State: _____

Owner: _____

Telephone: _____

Address: _____ Number: _____

City: _____ State: _____

E-mail: _____

Sale date: _____

Signature / Dealer Stamp _____

2nd copy - Dealer

▪ Inspection and Delivery Certificate

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

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

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

Implement: _____ Serial Number: _____

Date: _____ Tax Number: _____

Dealer: _____

Telephone: _____ CEP: _____

City: _____ State: _____

Owner: _____

Telephone: _____

Address: _____ Number: _____

City: _____ State: _____

E-mail: _____

Sale date: _____

Signature / Dealer Stamp _____

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

1.74.05.0059-5

AC MATÃO
ECT/DR/SP

RESPONSE CARD

NO STAMPING IS REQUIRED

THE STAMP WILL BE PAID BY:

BALDAN IMPLEMENTOS AGRÍCOLAS S/A.

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

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baldan.com.br