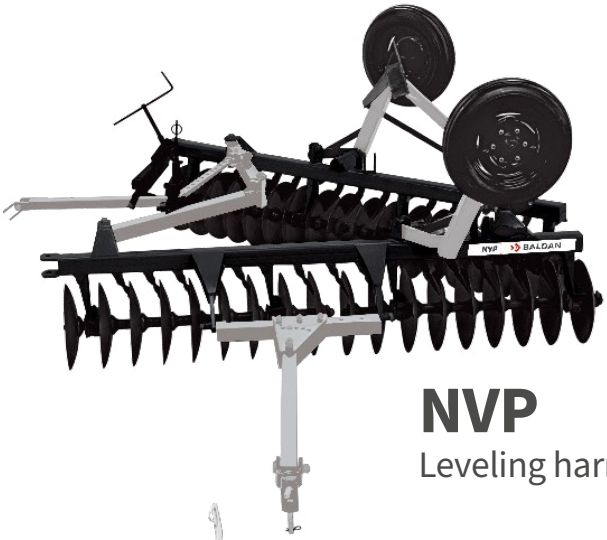
Instruction Manual



NVP

Leveling harrow with tires

NV

Leveling harrow

BALDAN

Presentation

We thank you for your preference and congratulate you on the excellent choice you have just made, as you have purchased a product manufactured with **BALDAN IMPLEMENTOS AGRÍCOLAS S/A** technology.

This manual will guide you through the procedures that are necessary from its acquisition to its procedures for use, safety and maintenance.

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

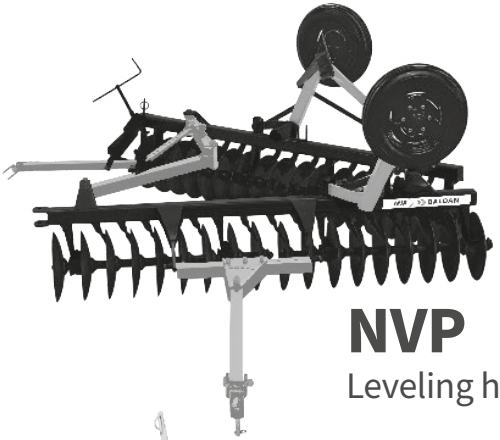
The retailer was responsible for the care and upkeep during the period it was in its possession, as well as for assembly, re-tightening, lubrication and general overhaul.

During technical delivery, the reseller must advise the user customer on maintenance, safety, their obligations in the event of technical assistance, strict observance of the warranty and reading of the instruction manual.

Any request for technical assistance under warranty should be made to the reseller from whom it was purchased.

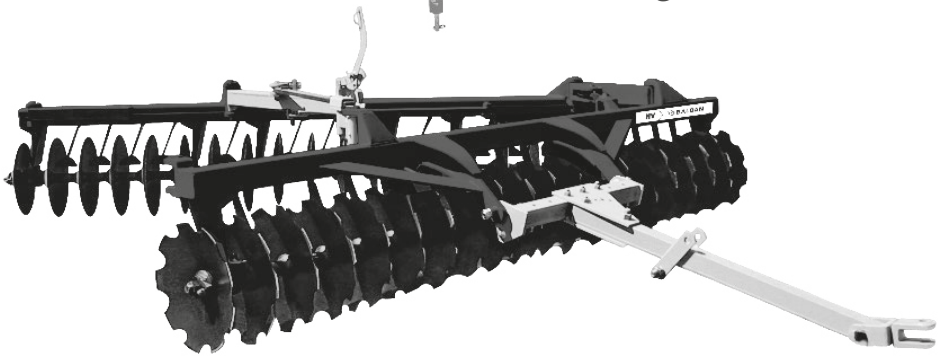
We reiterate the need for a careful reading of the warranty certificate and for compliance with all items in this manual, as doing so will increase the life of your implement.

Instruction Manual



NVP

Leveling harrow with tires



NV

Leveling harrow

BALDAN IMPLEMENTOS AGRÍCOLAS S/A.
CNPJ[Corporate Taxpayer Number]:
52.311.347/0009-06 Insc. Est: 441.016.953.110

Scan the QR Code on the nameplate of your equipment and access this instruction manual online.

BALDAN

Index

▪ Index

▪ Baldan Warranty

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

During this period, **BALDAN** undertakes to repair defects in material and/or manufacturing under its responsibility, with labor, freight and other expenses being the responsibility of the reseller.

During the warranty period, any defective parts must be requested and replaced by the local dealer, who will send the defective part to **BALDAN** for analysis.

When such procedure is not possible and the reseller's ability to resolve the problem has been exhausted, the reseller will request support from **BALDAN** Technical Assistance, using the specific form distributed to dealers.

After **BALDAN's** Technical Assistance has analyzed the replaced items and concluded that, they are not under warranty, then the reseller will be responsible for the costs related to the replacement; as well as the costs of material, travel including accommodation and meals, accessories, lubricants used, and other expenses arising from the call to Technical Assistance, and **BALDAN** is authorized to make the respective billing on behalf of the resale.

Any repairs made to the product that is within the warranty deadline by the reseller will only be authorized by **BALDAN** upon prior presentation of a budget describing the parts and labor to be executed.

This term does not apply to products that have been repaired or modified by officials who do not belong to the **BALDAN** dealer network, or to the application of non-genuine parts or components to the user's product.

This warranty shall become null and void when it is established that the defect or damage is the result of improper use of the product, failure to follow the instructions or the inexperience of the operator.

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

Manufacturing and/or material defects, the subject of this warranty term, will not, under any circumstances, constitute a reason for termination of the purchase and sale contract, or for compensation of any nature.

BALDAN reserves the right to change and/or improve the technical characteristics of its products, without prior notice, and without obligation to do so with previously manufactured products.

▪ General Information

• To the owner

A BALDAN IMPLEMENTOS AGRÍCOLAS S/A, shall not be held liable for any damage caused by an accident arising from the improper or incorrect use, transportation or storage of its improper or incorrect storage of your implement, whether due to the negligence and/or inexperience of any person.

Only people who have full knowledge of the tractor and implement should transport and operate them.

BALDAN shall not be held liable for any damage caused by unforeseeable situations or situations outside the normal use of the implement.

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

⚠ ATTENTION

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

The purpose of this Regulatory Standard is to establish the precepts to be observed in the organization and working environment, in order to make the planning and development of agricultural, livestock, forestry, logging and aquaculture activities compatible with occupational safety and health and the environment.

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

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

▪ Safety regulations

• To the operator

THIS SYMBOL INDICATES AN IMPORTANT SAFETY WARNING. IN THIS MANUAL, WHENEVER YOU COME ACROSS IT, READ THE FOLLOWING MESSAGE CAREFULLY AND BE AWARE OF THE POSSIBILITY OF PERSONAL INJURY.

ATTENTION

Read the instruction manual carefully for the recommended safety practices.

ATTENTION

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

ATTENTION

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

ATTENTION

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

ATTENTION

Do not operate the tractor if the front is without sufficient ballast for the rear equipment. If there is a tendency to lift, add weights or ballast to the front or to the front wheels.

ATTENTION

Before carrying out any maintenance on your equipment, make sure it is properly stopped. Avoid being run over.

▪ Safety regulations

⚠ ATTENTION

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

⚠ ATTENTION

Do not make adjustments while the NV/NVP is running. When carrying out any work on the NV/NVP, switch off the tractor first.
Use appropriate tools.

⚠ ATTENTION

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

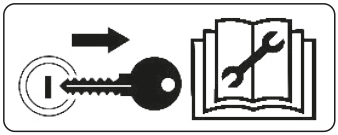
⚠ ATTENTION

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

⚠ ATTENTION

When working with the NV/NVP, do not exceed a speed of 12Km/h or 7 MPH, to avoid the risk of damage and accidents.

⚠ ATTENTION



Remove the ignition key before carrying out any maintenance on the NV/NVP. Protect yourself from possible injury or death caused by an unforeseen NV/NVP departure. If the NV/NVP is not properly hitch, do not start the tractor.

⚠ ATTENTION

Hydraulic oil under pressure can cause serious injury if it leaks.
Periodically check the condition of the hoses. If there is evidence of leaks, replace them immediately. Before connecting or disconnecting hydraulic hoses, relieve system pressure by activating the control with the tractor off.

▪ Safety regulations

⚠ ATTENTION

Always keep access and work areas clean of residue such as oil or grease, as they can cause accidents.

⚠ ATTENTION

Before starting work or transporting the NV/NVP, check whether there are any people or obstructions near it.

⚠ ATTENTION

Avoid heating parts near fluid lines.
Heating can lead to material brittleness, rupture, and leakage of pressurized fluid, which can cause burns and injuries.

⚠ ATTENTION

Keep the articulation area free while the NV/NVPis in operation.
On sharp bends, avoid the tractor wheels touching the header.

⚠ ATTENTION

Never weld the assembled wheel to the tire, as the heat can cause the air pressure to rise and the tire to explode.
When inflating the tire, stand next to the tire, never in front of it. When inflating the tire, always use a containment device (inflation cage).

⚠ ATTENTION

Always keep away from the NV/NVP's active elements (discs), as they are sharp and can cause accidents.
When carrying out any work on the discs, wear safety gloves on your hands.

⚠ ATTENTION

Disposing of waste improperly affects the environment and ecology, as it pollutes rivers, canals and the soil.
Find out the correct way to recycle or dispose of waste.

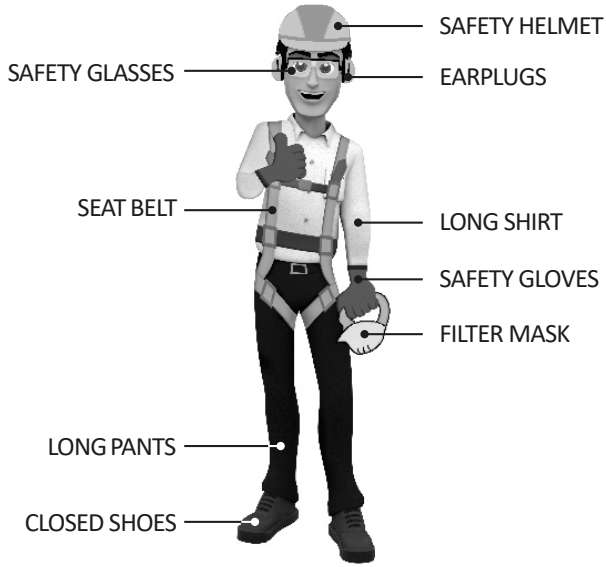
PROTECT THE ENVIRONMENT!

▪ Safety regulations

• PPE equipment

ATTENTION **DO NOT WORK WITH THE NV/NVP 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 the **NV/NVP**, wear the following PPE (Safety Equipment) below:



IMPORTANT

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

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

▪ Warnings

⚠ When operating with the NV/NVP, do not allow people to stand too close to or on it.

⚠ Never stand near the NV/NVP in operation; imminent risk of trampling and lacerations.

⚠ Wear PPE when carrying out any maintenance work.

⚠ Before connecting or disconnecting the hydraulic hoses, relieve the system pressure by operating the control with the tractor switched off.

⚠ Periodically check the condition of the hydraulic hoses. If there are signs of an oil leak, replace the hose immediately, as oil works under high pressure and can cause serious accidents.

⚠ Don't wear clothes that are too loose, as they may get tangled in the NV/NVP.

⚠ When starting the tractor engine, be properly seated in the operator's seat and aware of the complete knowledge of the correct and safe handling of both the tractor and the NV/NVP. Always put the gearshift lever in the neutral position, disconnect the PTO control gear and put the hydraulic controls in the neutral position.

⚠ Do not start the tractor engine in an enclosed space without adequate ventilation, as the exhaust gases are harmful to health.

⚠ When maneuvering the tractor to engage the NV/NVP make sure you have the necessary space and that no one is too close, always maneuver in low gear and be prepared to brake in an emergency.

⚠ Do not make adjustments with the NV/NVP in operation.

⚠ When working on slopes, proceed with caution and always try to maintain the necessary stability. In the event of an imbalance, reduce acceleration, turn the wheels to the side of the slope and never lift the NV/NVP.

⚠ Always drive the tractor at speeds that are compatible with safety, especially when working on rough terrain or slopes, always keep the tractor coupled.

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

⚠ Do not operate the tractor with a light rear end. If the rear has a tendency to lift, add more weight to the rear wheels.

⚠ When leaving the tractor, put the gearshift lever in neutral and apply the parking brake. Never let NV/NVP hooked to the tractor in the raised position of the hydraulic system.

⚠ Any maintenance on NV/NVP must be carried out with it stopped and the tractor switched off.

▪ Warnings

⚠ Do not drive on highways, especially at night. Use warning signs for the entirety of the route.

⚠ If you need to travel with the NV/NVP on the roads, check with the traffic authorities.

⚠ Do not allow the use of NV/NVP by people who have not been trained, i.e. who do not know how to operate it correctly.

⚠ Do not transport or work with NV/NVP near obstacles, rivers or streams.

⚠ People may not be Transportationd in self-propelled machines and implements.

⚠ Changes to the original characteristics of the NV/NVP are not allowed, as they may alter safety, operation and affect service life.

⚠ Carefully read all the safety information in this manual and on the NV/NVP.

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

⚠ Always check that the NV/NVP is in perfect working order. In the event of any irregularity that may interfere with the operation of the NV/NVP, have it serviced before any work or transportation is carried out.

⚠ Maintenance and, above all, inspection in risk zones of the NV/NVP should only be carried out by a trained or qualified worker, observing all safety guidelines. Before starting maintenance, disconnect all drive systems from the NV/NVP.

⚠ Periodically check all components of the NV/NVP before use.

⚠ Depending on the equipment used and the working conditions in the field or maintenance areas, precautions are necessary. Baldan has no direct control over precautions, so it is the owner's responsibility to put safety procedures into practice while working with the NV/NVP.

⚠ Check the minimum tractor power recommended for each model from NV/NVP. Only use a tractor with power and ballast compatible with the load and topography of the terrain.

⚠ During transportation of the NV/NVP ride at speeds compatible with the terrain and never higher than 25 Km/h, this reduces maintenance and consequently increases the service life of the NV/NVP.

⚠ Alcoholic beverages or certain medications can cause a loss of reflexes and alter the operator's physical condition. Therefore, never operate the NV/NVP while using these substances.

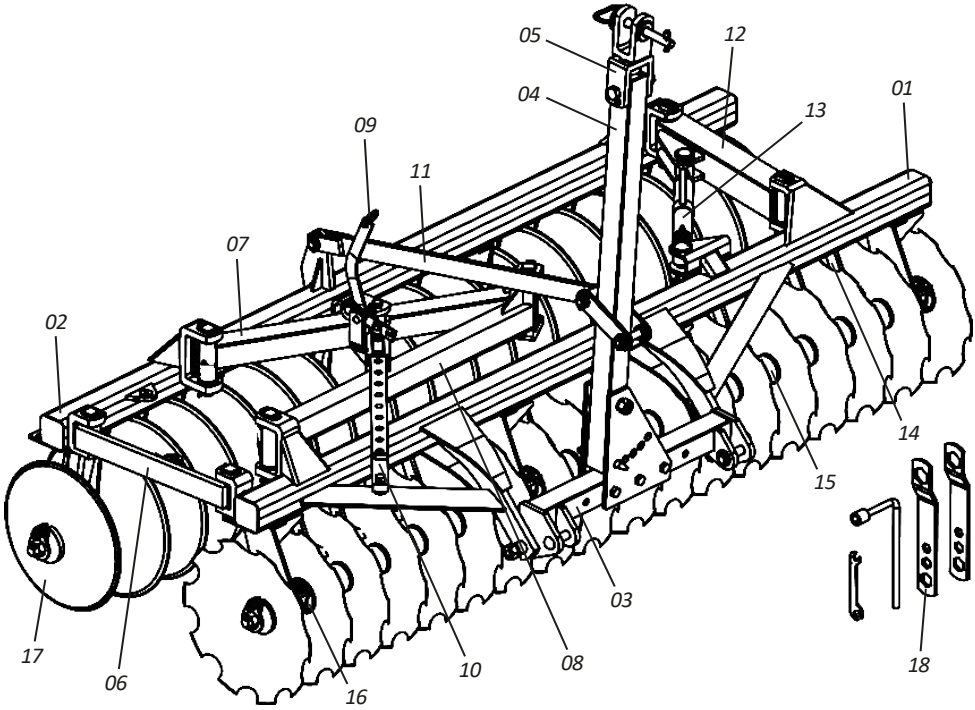
⚠ Read or explain all the procedures in this manual to the user who cannot read.

If in doubt, contact After Sales.
Telefone: 0800-152577 / E-mail: posvenda@baldan.com.br

▪ Components

• NV - Leveling harrow

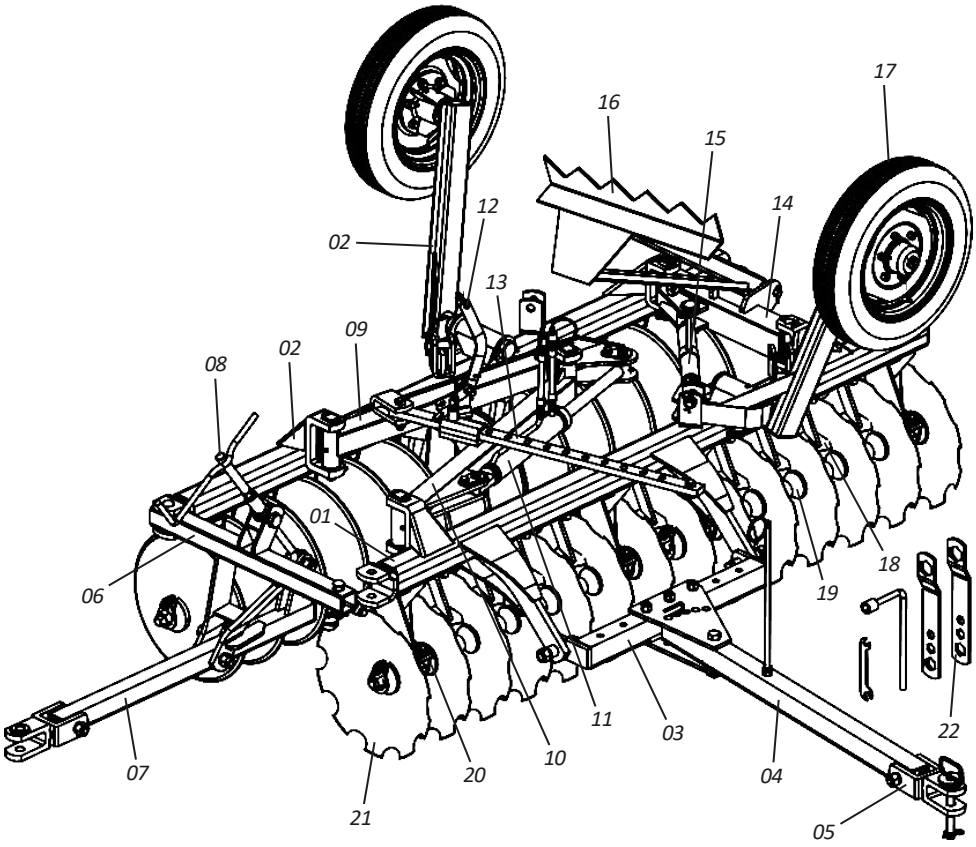
1. Front frame
2. Rear frame
3. Crossbar
4. Coupling header
5. Hitch shackle
6. Side lock
7. Rear stabilizer bar
8. Front stabilizer bar
9. Handle
10. Adjustment lock
11. Header support
12. Frame connection bar
13. Complete Regulator
14. Cleaner
15. Reel
16. Bearing
17. Discs
18. Keys



▪ Components

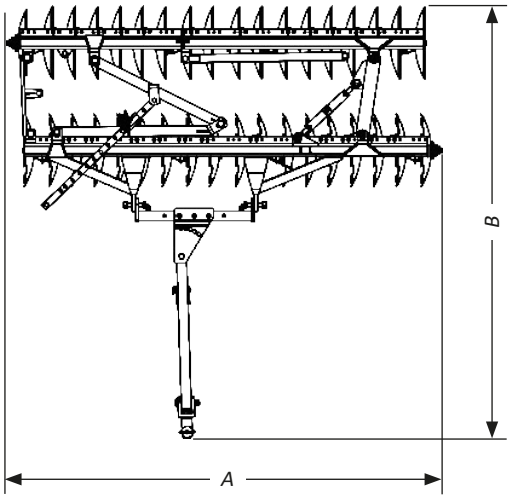
• NVP - Leveling harrow with tires

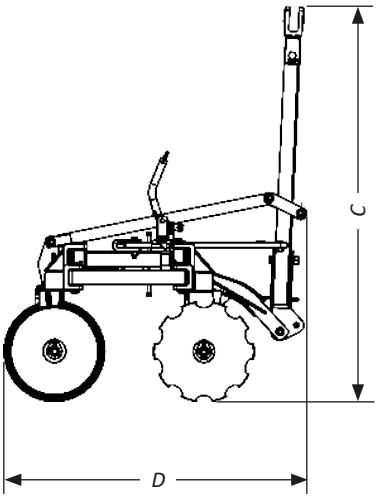
1. Front frame
2. Rear frame
3. Crossbar
4. Coupling header
5. Hitch shackle
6. Crossbar for transportation
7. Transport hitch
8. Locking handle for transportation
9. Rear stabilizer bar
10. Front stabilizer bar
11. Hydraulic opening cylinder
12. Handle
13. Adjustment lock
14. Frame connection bar
15. Complete regulator
16. Lift bar
17. Tires
18. Cleaner
19. Reel
20. Bearing
21. Discs
22. Keys



▪ Dimensions

• NV - Leveling harrow

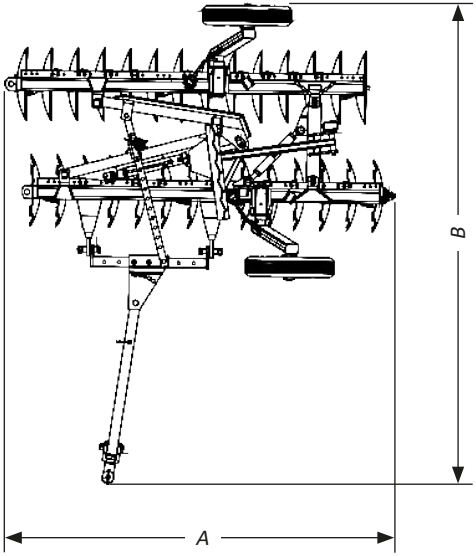


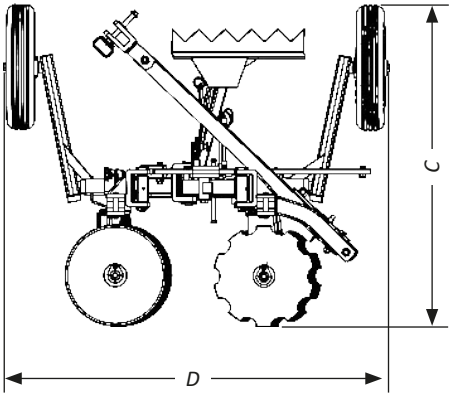


Model	Disc Spacing (mm)	Nr of discs	Measurement A (mm)	Measurement B (mm)	Measurement C (mm)	Measurement D (mm)
NV	175	28	2765	3269	2208	1690
		32	3103	3269	2208	1690
		36	3358	3269	2208	1690
		40	-	-	2208	1690
		42	-	-	2208	1690
		44	-	-	2208	1690
		48	-	-	2208	1690
		52	-	-	2208	1690
		56	-	-	2208	1690
NV	200	28	2968	3269	2208	1690
		32	-	-	2208	1690
		36	-	-	2208	1690
		40	-	-	2208	1690
		42	-	-	2208	1690
		44	-	-	2208	1690
		48	-	-	2208	1690
		52	-	-	2208	1690
		56	5851	3375	2208	1690

▪ Dimensions

• NVP - Leveling harrow with tires





Model	Disc Spacing (mm)	Nr of discs	Measurement A (mm)	Measurement B (mm)	Measurement C (mm)	Measurement D (mm)
NVP	175	28	-	-	1769	2135
		32	-	-	1769	2135
		36	-	-	1769	2135
		40	-	-	1769	2135
		42	-	-	1769	2135
		44	-	-	1769	2135
		48	-	-	1769	2135
		52	-	-	1769	2135
		56	-	-	1769	2135
NVP	200	28	3001	3700	1769	2135
		32	-	-	1769	2135
		36	-	-	1769	2135
		40	-	-	1769	2135
		42	-	-	1769	2135
		44	-	-	1769	2135
		48	-	-	1769	2135
		52	-	-	1769	2135
		56	5851	3735	1769	2135

▪ Specifications

• NV - Leveling harrow

Model	Discs Spacing (mm)	Nr of Discs	Work Width (mm)	Approximate weight (Kg)		Tractor Power (HP)
				20"	22"	
NV	175	28	2350	750	786	73 - 79
		32	2700	839	880	83 - 89
		36	3000	1027	1076	93 - 100
		40	3420	1105	1157	104 - 112
		42	3600	1167	1221	109 - 118
		44	3760	1220	1277	114 - 123
		48	4100	1330	1392	124 - 134
		52	4450	1417	1484	135 - 145
		56	4820	1504	1571	145 - 155
NV	200	28	2700	818	858	79 - 84
		32	3100	948	989	89 - 96
		36	3500	1112	1161	100 - 108
		40	3900	1192	1240	112 - 120
		42	4100	1263	1317	117 - 126
		44	4300	1281	1338	123 - 132
		48	4700	1413	1475	134 - 144
		52	5100	1528	1595	145 - 156
		56	5500	1582	1644	156 - 165

Shaft diameter (ø) ..... 1.1/4"
Work depth ..... 50-150 mm

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

INTENDED USE OF NV

- The **NV** is ideal for working in difficult terrain, as its greater weight per disc guarantees an excellent final finish before planting, and it is also used for incorporating herbicides.
- The **NV** should only be driven and operated by a properly trained operator.

UNAUTHORIZED USE OF NV

- To avoid damage, serious accidents or death, DO NOT transport people on any part of the **NV**.
- You may NOT use the **NV** to attach, tow or push other implements or accessories.
- The **NV** must NOT be used by an inexperienced operator who does not know all the driving, control and operating techniques.

▪ Specifications

• NVP - Leveling harrow with tires

Model	Disc Spacing (mm)	Nr of Discs	Working width (mm)	Approximate weight (Kg)		Tractor power (HP)
				20"	22"	
NVP	175	28	2350	984	1000	73 - 79
		32	2700	1084	1125	83 - 89
		36	3000	1243	1292	93 - 100
		40	3420	1368	1420	104 - 112
		42	3600	1409	1463	109 - 118
		44	3760	1440	1497	114 - 123
		48	4100	1520	1582	124 - 134
		52	4450	1684	1751	135 - 145
		56	4820	1750	1817	145 - 155
NVP	200	28	2700	1028	1064	79 - 84
		32	3100	1188	1229	89 - 96
		36	3500	1327	1376	100 - 108
		40	3900	1450	1498	112 - 120
		42	4100	1503	1557	117 - 126
		44	4300	1526	1583	123 - 132
		48	4700	1645	1708	134 - 144
		52	5100	1777	1844	145 - 156
		56	5500	1941	2008	156 - 165

Shaft diameter (ø) ..... 1.1/4"
Working depth ..... 50-150 mm

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

INTENDED USE OF NVP

- The **NVP** is ideal for working in difficult terrain, as its greater weight per disc guarantees an excellent final finish before planting, and it has transport tires for moving through narrow places and over long distances.
- The **NVP** should only be driven and operated by a properly trained operator.

UNAUTHORIZED USE OF NVP

- To avoid damage, serious accidents or death, DO NOT transport people on any part of the **NVP.**
- You may NOT use the **NVP** to attach, tow or push other implements or accessories
- The **NVP** must NOT be used by an inexperienced operator who does not know all the driving, control and operating techniques.

▪ Assembly

The **NV/NVP** leaves the factory disassembled. To assemble it, follow the instructions below:

⚠ The **NV/NVP** must be assembled by the retailer, using people who are trained, qualified and qualified for the job.

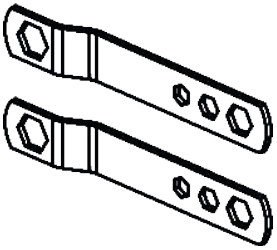
⚠ Before starting to assemble the **NV/NVP** look for an ideal location where it is easy to identify the parts and assemble them.

⚠ Do not wear baggy clothes, as they may get tangled in the **NV/NVP**.

⚠ Use PPE (safety equipment).

• Wrench Set

When assembling, disassembling or servicing the **NV/NVP**, use the set of keys supplied with the harrow. The wrench set consists of:



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

5/8" HEX NUT "L" WRENCH

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

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

▪ Assembly

• Assembling the disc section

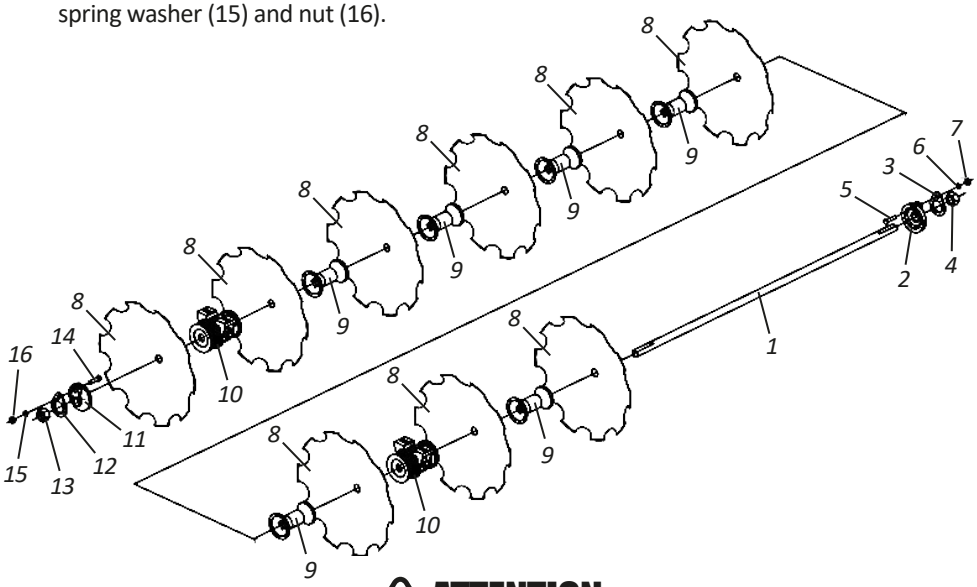
When starting to assemble the **NV/NVP,** always start with the disc assembly and proceed as follows:

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

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

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

04 - Once this is done, put on the disc assembly and tighten the nut (13) by means of impacts. When has almost reached maximum tightness, adjust the lock (12) with the convex washer (11), always tightening the nut until it matches the hole, fix it with, the screw (14), spring washer (15) and nut (16).



⚠ ATTENTION

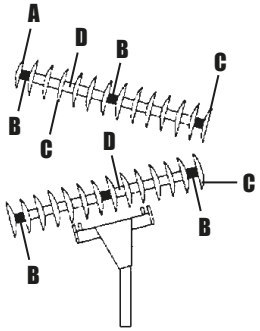
During the first week of using the NV/NVP, retighten all the bolts and nuts on the disc sections daily, then retighten them periodically.

IMPORTANT | **Check the right side of the separator spools and bearings according to the concavity of the discs.**

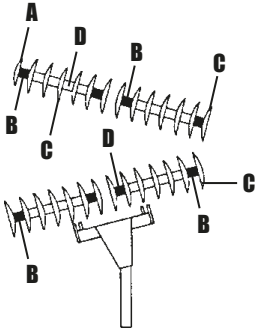
▪ Assembly

• Assembling the disc sections - Part I

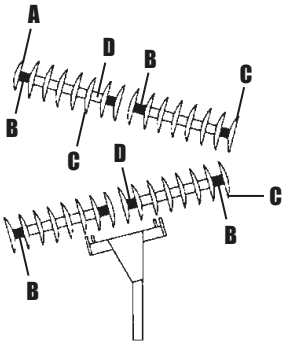
Check out the assembling of the **NV/NVP** disc sections below.



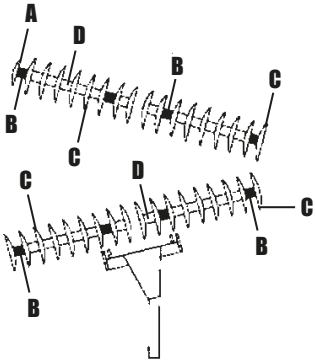
NV/NVP 28 DISCS
SPACING 175 MM



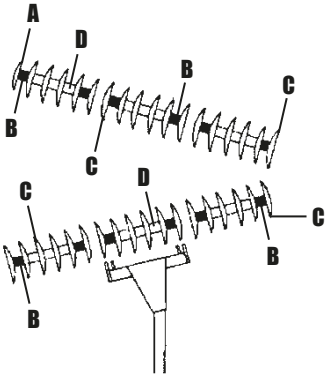
NV/NVP 28 DISCS
SPACING 200 MM



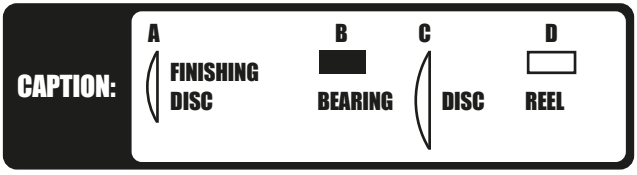
NV/NVP 32 DISCS
SPACING 175 E 200 MM



NV/NVP 36 DISCS
SPACING 175 MM



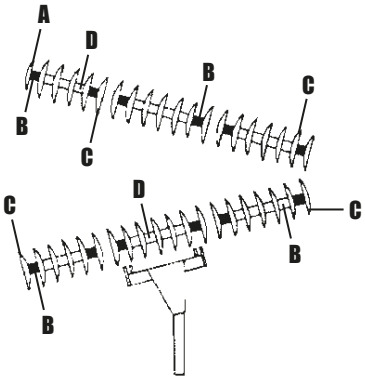
NV/NVP 36 DISCS
SPACING 200 MM



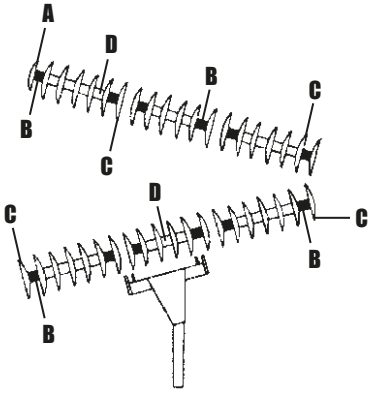
▪ Assembly

• Assembling the disc sections - Part II

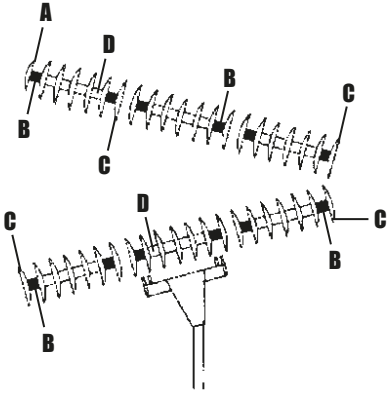
Check out the assembling of the **NV/NVP** disc sections below.



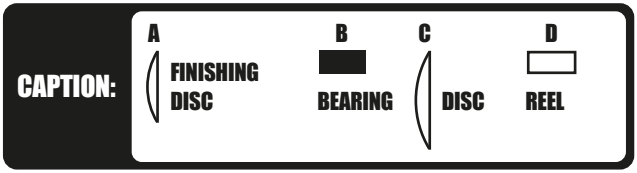
NV/NVP 40 DISCS
SPACING 175 MM



NV/NVP 40 DISCS
SPACING 200 MM



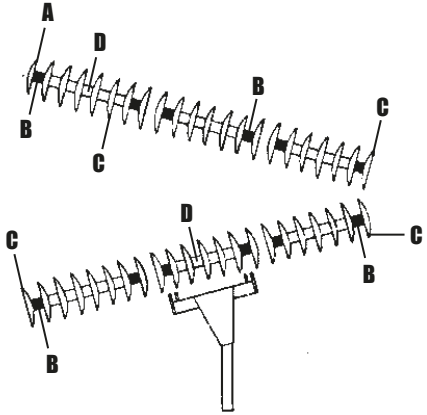
NV/NVP 42 DISCS
SPACING 175 AND 200 MM



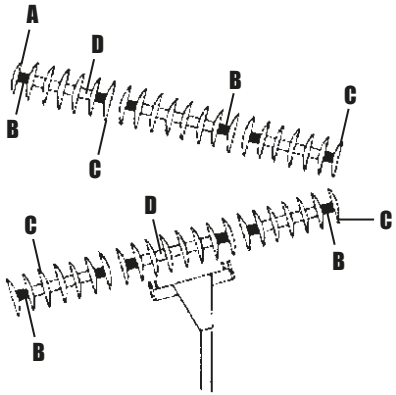
▪ Assembly

• Assembling the disc sections - Part III

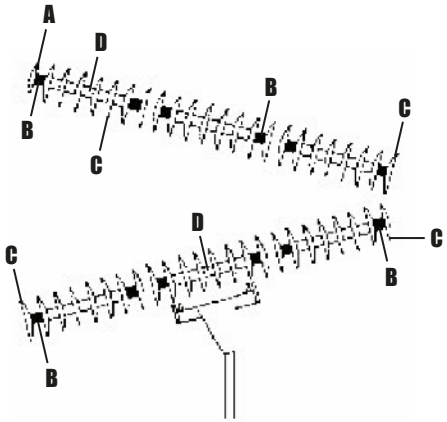
Check out the assembling of the **NV/NVP** disc sections below.



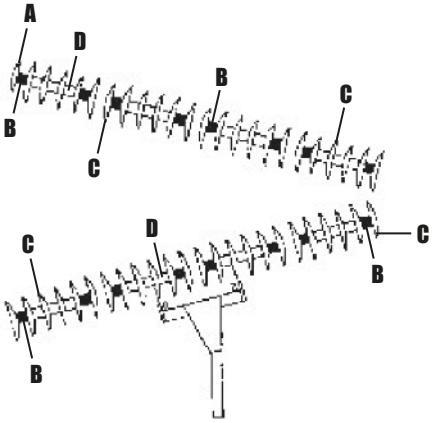
NV/NVP 44 DISCS
SPACING 175 MM



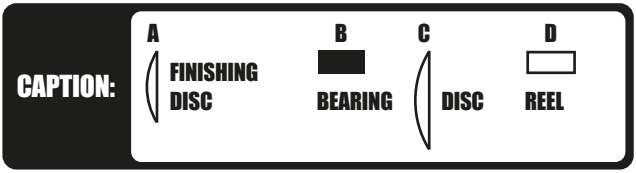
NV/NVP 44 DISCS
SPACING 200 MM



NV/NVP 48 DISCS
SPACING 175 MM



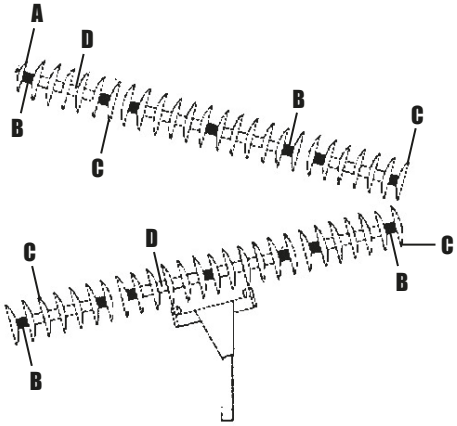
NV/NVP 48 DISCS
SPACING 200 MM



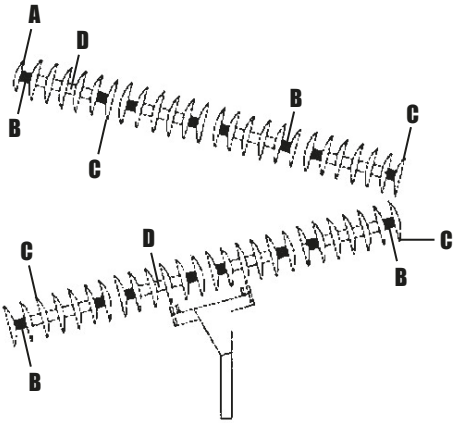
▪ Assembly

• Assembling the disc sections - Part IV

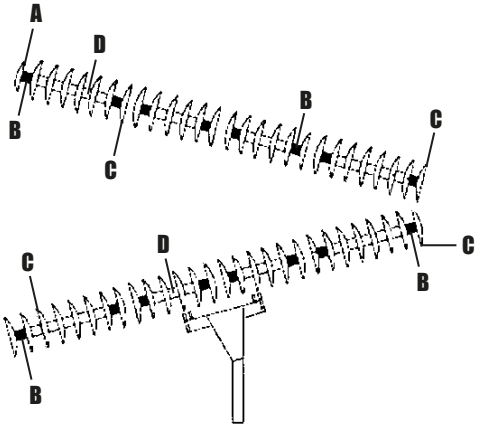
Check out the assembling of the **NV/NVP** disc sections below.



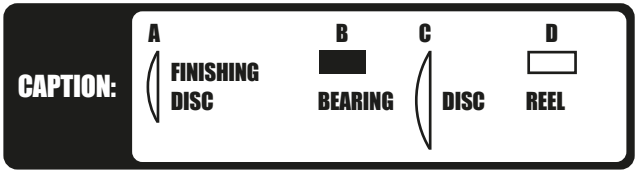
NV/NVP 52 DISCS
SPACING 175 MM



NV/NVP 52 DISCS
SPACING 200 MM



NV/NVP 56 DISCS
SPACING 175 AND 200 MM



▪ Assembly

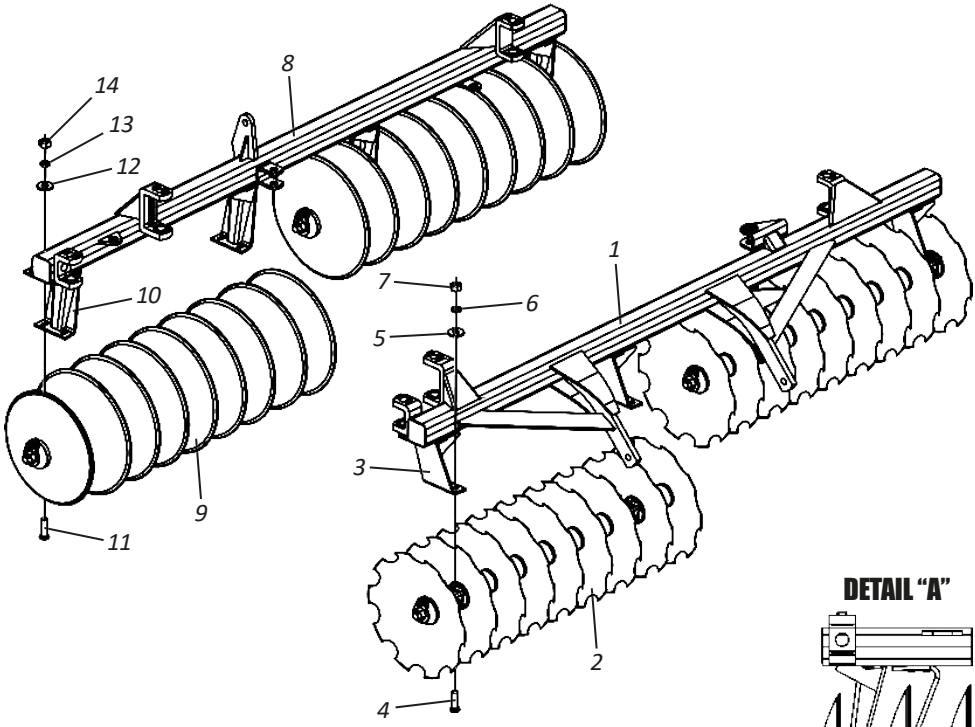
• Assembly of the discs sections on the frames

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

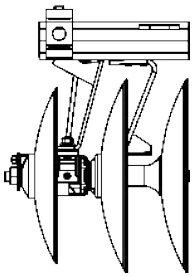
01 - Lift the front frame (1) and place the disc section (2) in line and match the holes in the shoes (3) with those in the bearings and fix them using the screws (4), flat washers (5), lock washers (6) and nuts (7).

02 - Then lift the rear frame (8) and place the disc section (9) in line and match the bore of the shoes (10) with those of the bearings and fix them using screws (11), flat washers (12), lock washers (13) and nuts (14).

03 - When assembly is complete, check that the shoes are facing the concavity of the discs.



DETAIL "A"



⚠ ATTETION **When mounting the disc sections on the frames, note that the frame shoes must face the concavity of the discs, as shown in detail "A".**

▪ Assembly

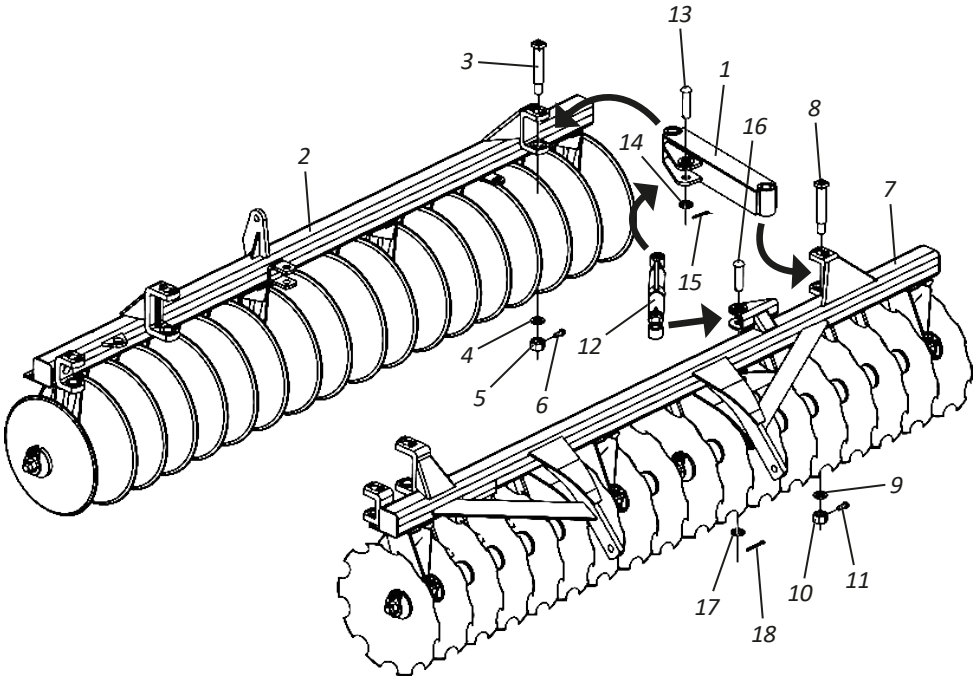
• Assembling the front and rear frames

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

01 - Attach the connecting bar (1) to the rear frame (2) using the pin (3), flat washer (4), nut (5) and screw (6).

02 - Then attach the coupling bar (1) to the front frame (7) by fastening them using the pin (8), flat washer (9), nut (10) and screw (11).

03 - Then attach the regulator (12) to the connecting bar (1), securing it with a pin (13), a flat washer (14) and a cotter pin (15), and to the front frame (7), securing it with a pin (16), a flat washer (17) and a cotter pin (18).

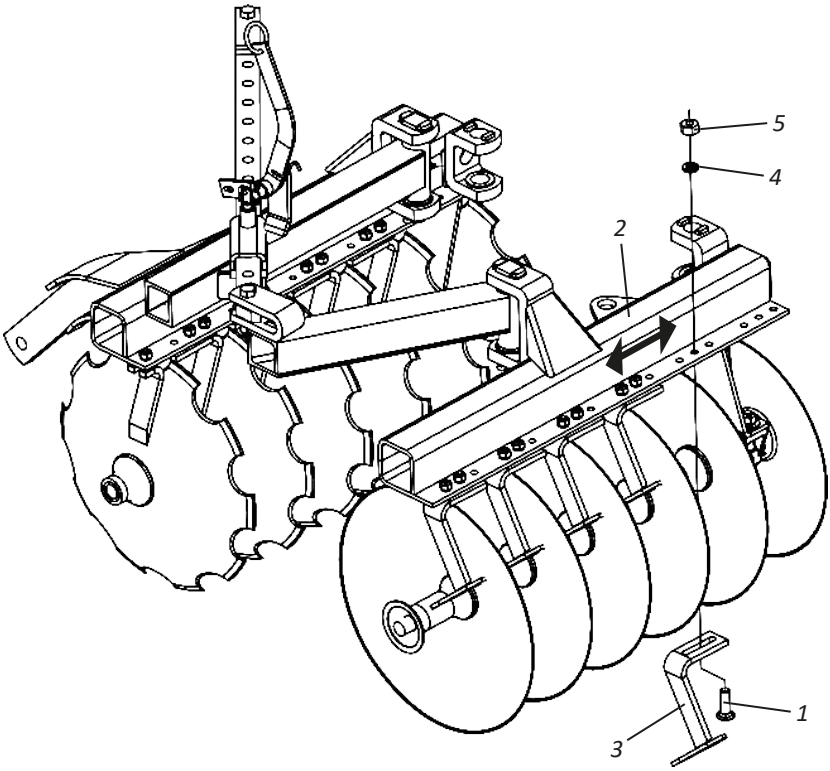


▪ Assembly

• Assembling the wipers

To assemble the wipers, proceed as follows:

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



NOTE

The wipers must not be mounted in the spaces where the shoes are located.

ATTENTION

The wipers (1) allow adjustment to bring them closer or further from the discs. When assembling the wipers (1), they should be 0.5 to 1.0 cm away from the discs.

▪ Assembly

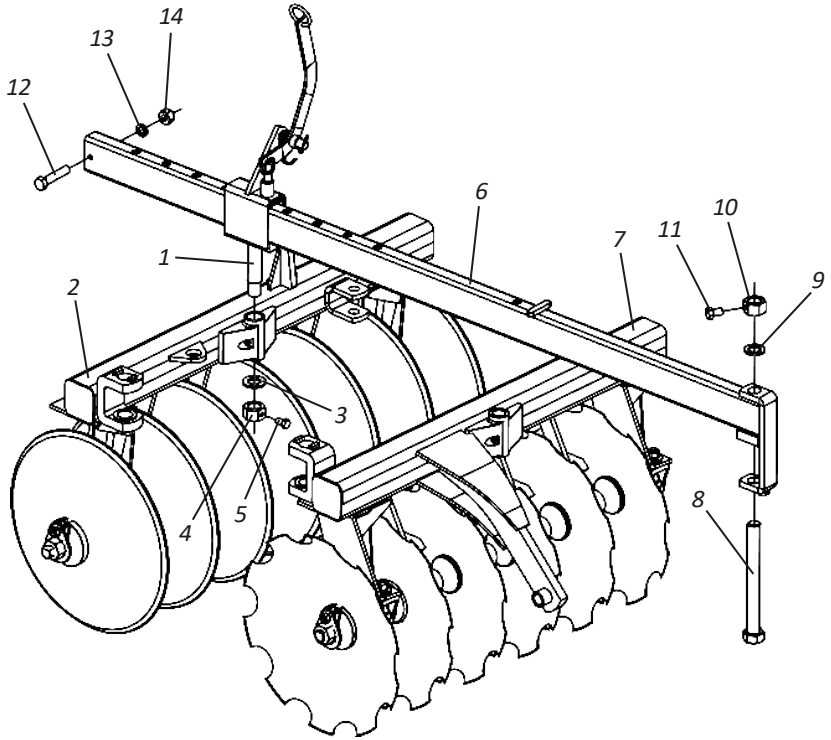
• Assembly of the mechanical opening system - NV/NVP 28 and 32 discs

To assemble the **NV/NVP** mechanical opening system, proceed as follows:

01 - Attach the locking handle (1) to the rear frame (2) using the flat washer (3), nut (4) and the screw (5).

02 - Then pass the adjustment lock (6) through the inside of the handle body of the lock(1), joining the front frame (7) and securing it with the screw (8), flat washer (9), nut (10) and screw (11).

03 - Then place the screw (12), washer (13) and nut (14) on the end of the adjustment lock (6), locking it in place.



▪ Assembly

• Mechanical opening system assembly - NV/NVP 36 to 56 discs

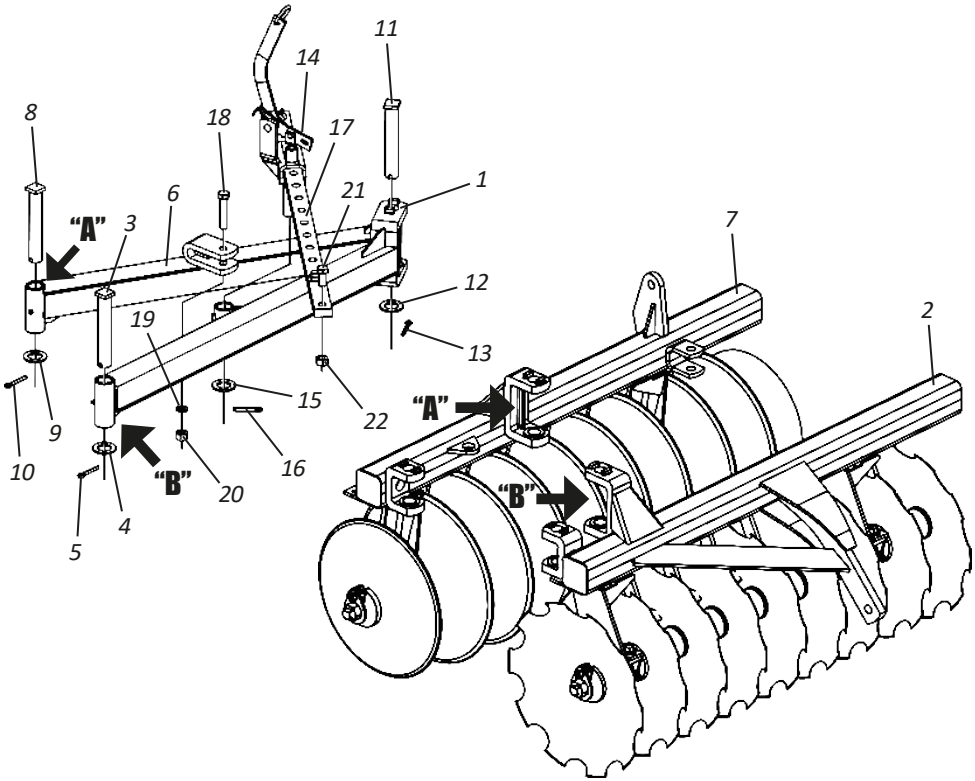
To assemble the **NV/NVP** mechanical opening system, proceed as follows:

01 - Attach the front stabilizer bar (1) to the front frame (2) using pin (3), flat washer (4) and cotter pin (5).

02 - Next, attach the rear stabilizer bar (6) to the rear frame (7) by fixing using the pin (8), flat washer (9) cotter pin (10) and join the front (1) and rear (6) stabilizer bars using the pin (11), flat washer (12) and cotter pin (13).

03 - Then attach the locking handle (14) to the front stabilizer bar (1) by securing with the flat washer (15) and cotter pin (16).

04 - Then attach the adjusting lock (17) to the rear stabilizer bar (6) by securing using the screw (18), lock washer (19) and nut (20). Place the screw (21) and the nut (22) on the end of the adjustment lock (17).



▪ Assembly

• Hydraulic opening system assembly - NV/NVP 28 to 56 discs

To assemble the **NV/NVP** hydraulic opening system, proceed as follows:

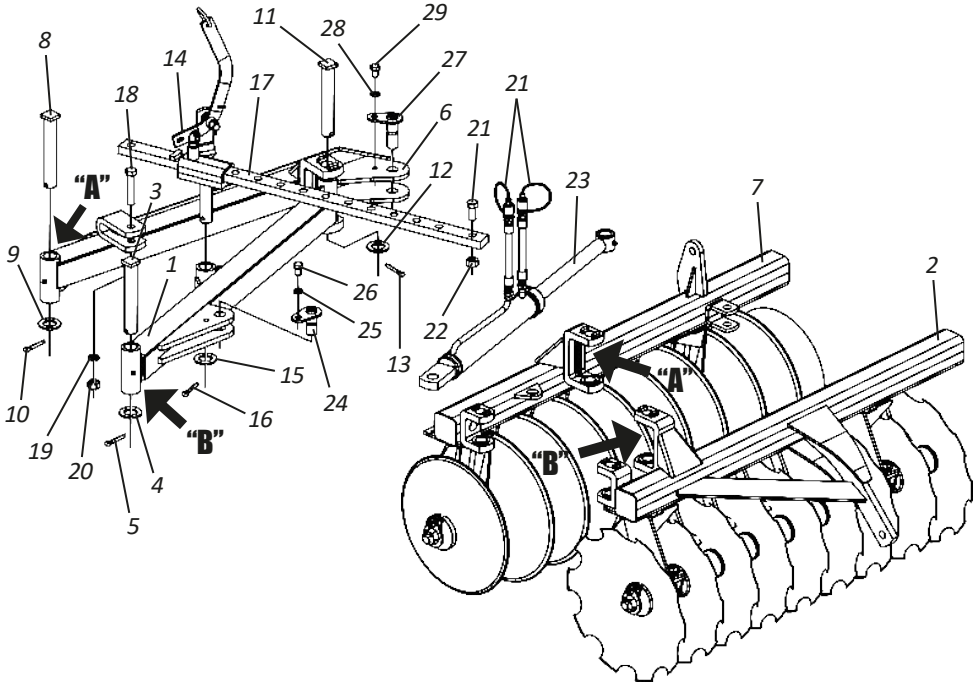
01 - Attach the front stabilizer bar (1) to the front frame (2) using pin (3), flat washer (4) and cotter pin (5).

02 - Next, attach the rear stabilizer bar (6) to the rear frame (7) by fixing using the pin (8),flat washer (9) cotter pin (10) and join the front (1) and rear (6) stabilizer bars using the pin (11), flat washer (12) and cotter pin (13).

03 - Then attach the locking handle (14) to the front stabilizer bar (1) by securing with the flat washer (15) and cotter pin (16).

04 - Then attach the adjusting lock (17) to the rear stabilizer bar (6) by securing using the screw (18), lock washer (19) and nut (20). Place the screw (21) and the nut (22) on the end of the adjustment lock (17).

05 - Then attach the hydraulic cylinder (23) to the front stabilizer bar (1) using pin (24), lock washer (25), screw (26) and pin (27), lock washer (28) and screw (29).

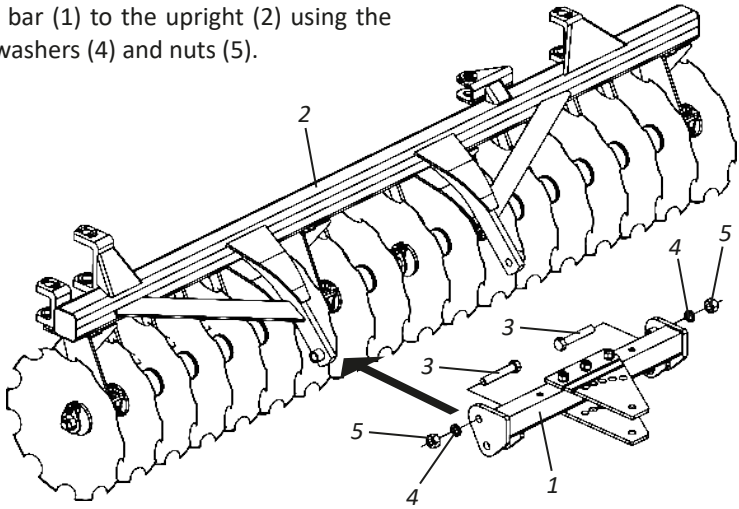


▪ Assembly

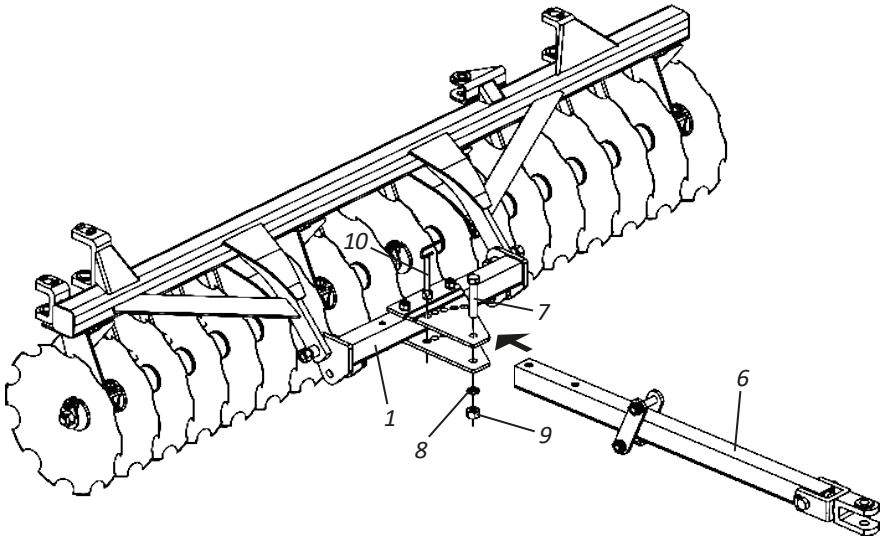
• Assembling the coupling head

To assemble the coupling header, proceed as follows:

01 - Attach the cross bar (1) to the upright (2) using the screws (3), lock washers (4) and nuts (5).



02 - Then fit the coupling header (6) between the crossbar plates (1), securing it using the screw (7), lock washer (8), nut (9) and pin with knob (10).

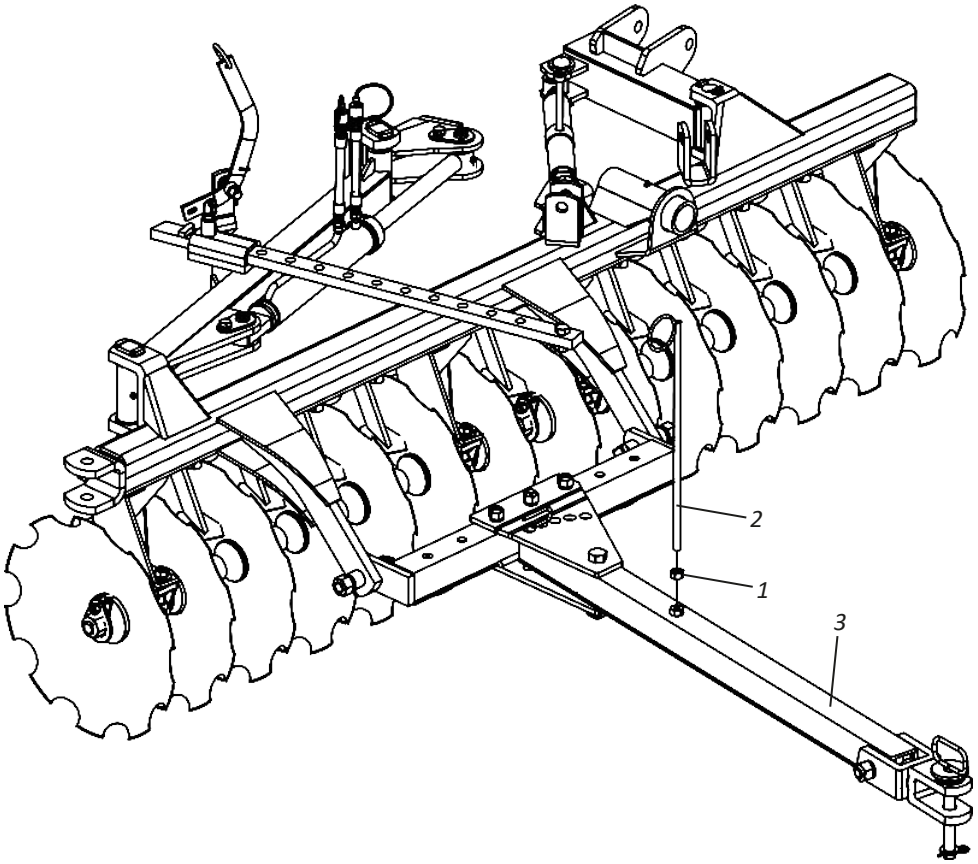


▪ Assembly

• Hose support a assembly - With hydraulic opening

When **NV/NVP** are purchased with a hydraulic opening, mount the hose bracket as follows:

01 **-** I screwed the nut (1) onto the hose bracket (2).
02 **-** I then screwed the hose bracket (2) onto the coupling header (3).
03 **-** Then I screwed the nut (1) on until it touched the lock nut on the coupling header (3).



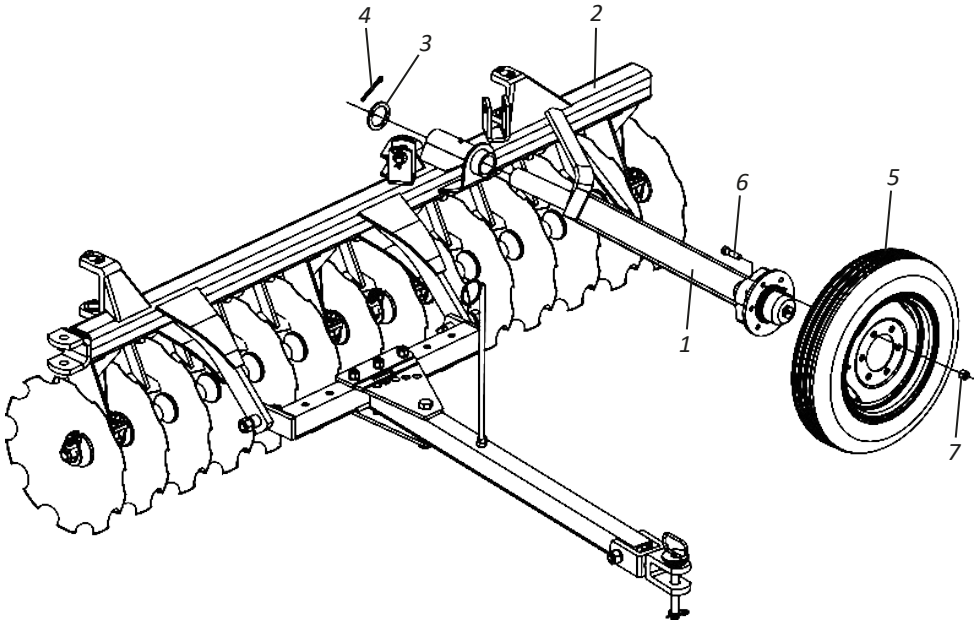
▪ Assembly

• Mounting the wheel axle bracket - NVP

To assemble the wheel axle bracket, proceed as follows:

01 - Attach the wheel axle bracket (1) to the front frame (2), securing it with flat washer (3) and cotter pin (4).

02 - Then attach the tire (5) to the wheel axle bracket (1) using screws (6) and nuts (7).



ATTENTION

Check page 58 for correct tire calibration.

NOTE

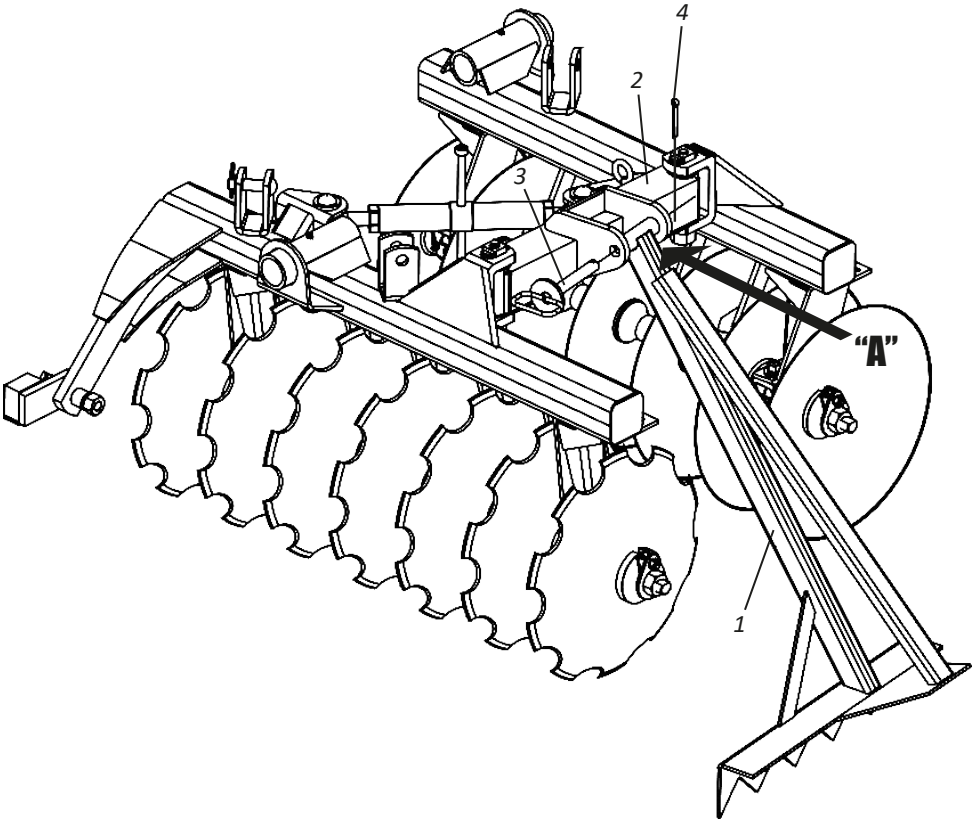
When assembly is complete on the front frame, repeat assembly on the rear frame.

▪ Assembly

• Assembling the tire lift bar - NVP

To assemble the tire lift bar, proceed as follows:

01 - Attach the tire lift bar (1) to the frame connection bar (2), securing it with the pin with knob (3) and cotter pin (4).



⚠ ATTENTION

When mounting the tire lift bar (1), check the correct mounting position so that it is not inverted. The "A" fixing bracket should be on the outside of the harrow.

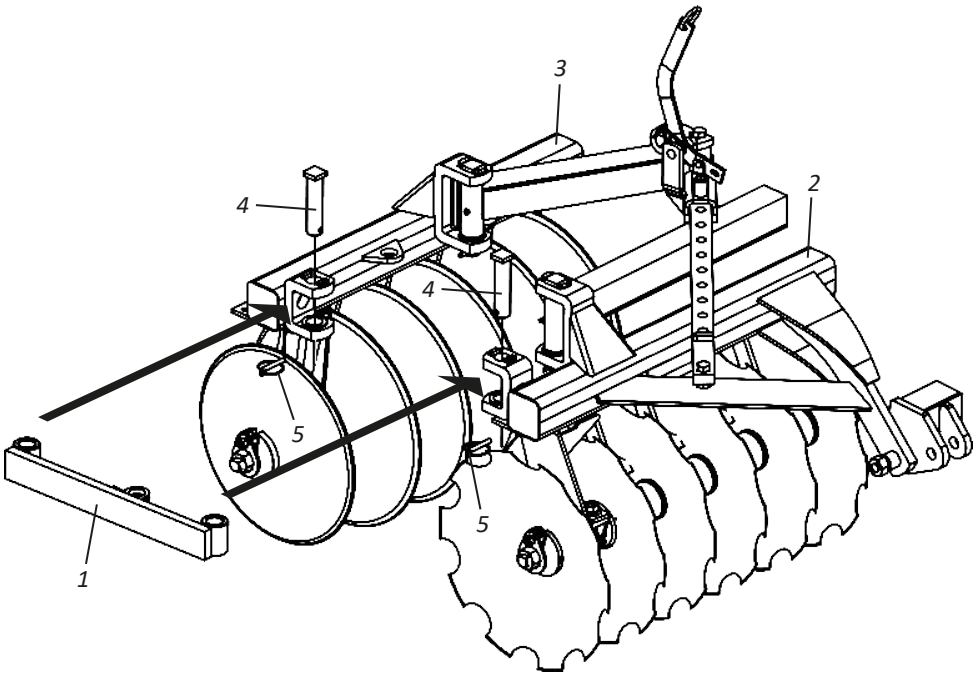
▪ Assembly

• Assembling the transport lock - NV

To assemble the transport lock, proceed as follows:

01 - Close the **NV** completely.

02 - Then attach the transport lock (1) to the front (2) and rear (3) frames by securing it using the pins (4) and ring locks (5).



ATTENTION **Before starting work with the NV, remove the transport header.**

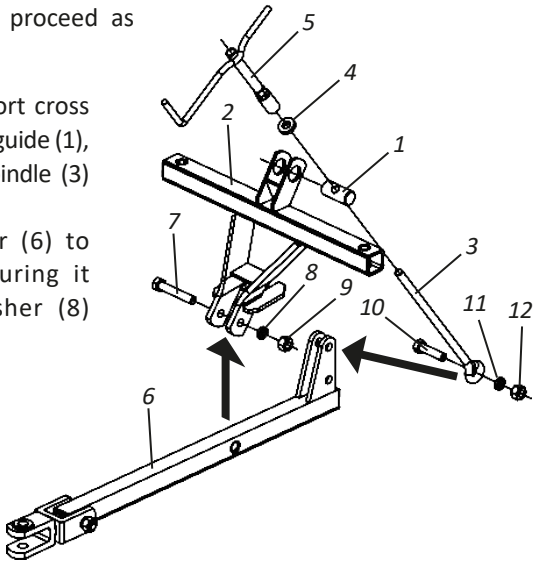
▪ Assembly

• Assembly of the transport header - NVP

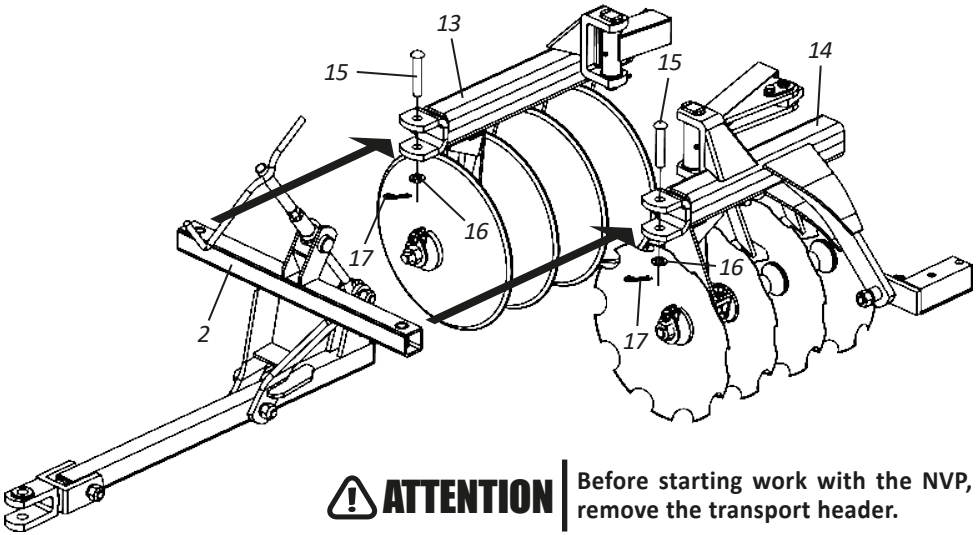
To assemble the transport header, proceed as follows:

01 - Attach the guide (1) to the transport cross bar(2), insert the spindle (3) into the guide (1), attach the flat washer (4) to the spindle (3) and the crank (5) to the spindle (3).

02 - Then attach the coupling header (6) to the transport crossbar (2), securing it with the screw (7), spring washer (8) and nut (9).



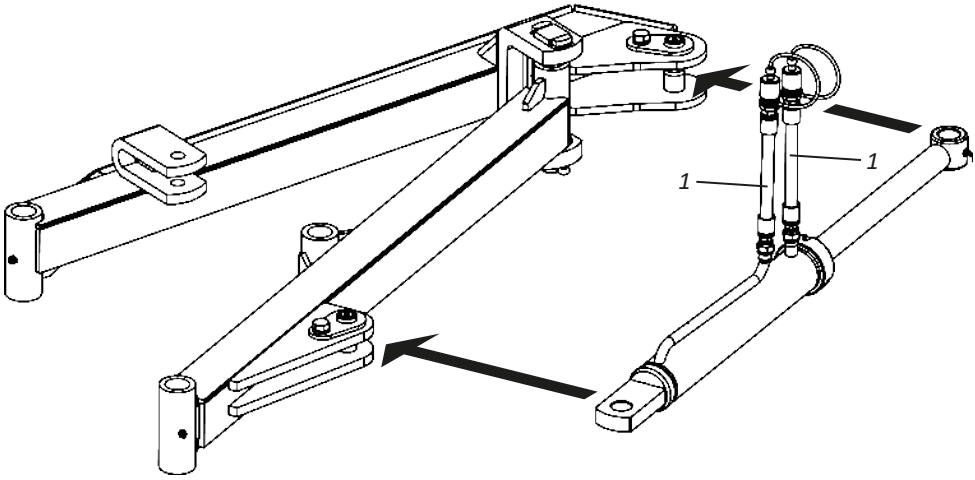
03 - Then attach the transport crossbar (2) to the rear (13) and front (14) frames, securing it with the pins (15), flat washers (16) and locks (17).



⚠ ATTENTION **Before starting work with the NVP, remove the transport header.**

▪ Assembly

• Hydraulic system assembly - With hydraulic opening



Item	Description of product	NV/NVP
1	Hydraulic Hose ø3/8” x 4500 mm with 1TRG and 1TRF with male quick coupler	2

▪ Transportation

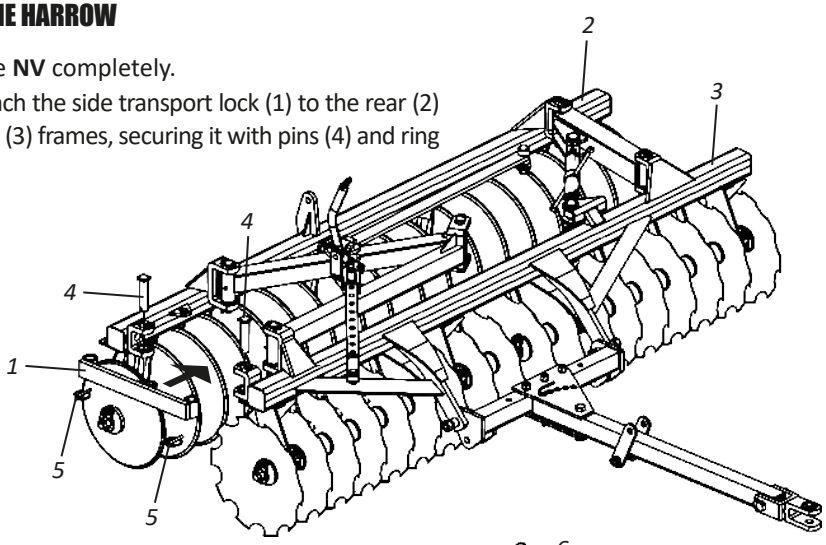
• NV transport procedure - Part I

The **NV** from **28** to **44** discs has a transportation system through the 3rd point. To transport the **NV**, proceed as follows:

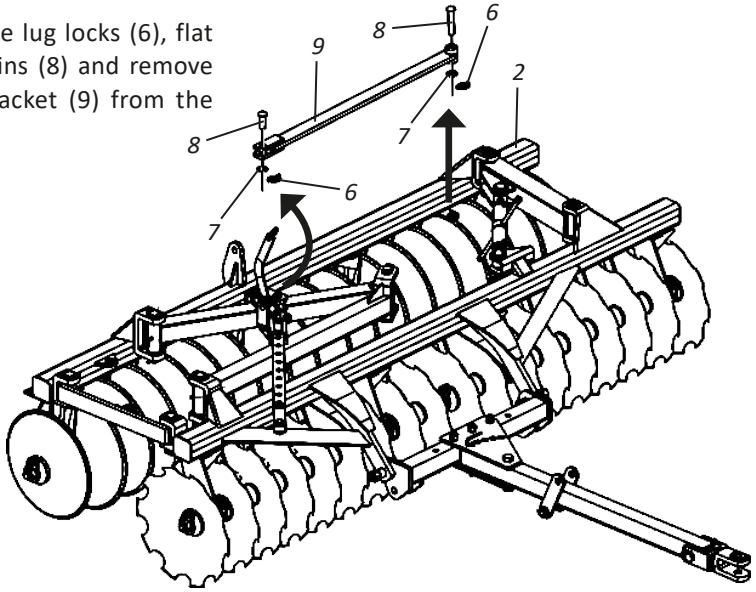
PREPARING THE HARROW

01 - Close the **NV** completely.

02 - Then attach the side transport lock (1) to the rear (2) and front (3) frames, securing it with pins (4) and ring locks (5).



03 - Then loosen the lug locks (6), flat washers (7), pins (8) and remove the header bracket (9) from the rear frame (2).

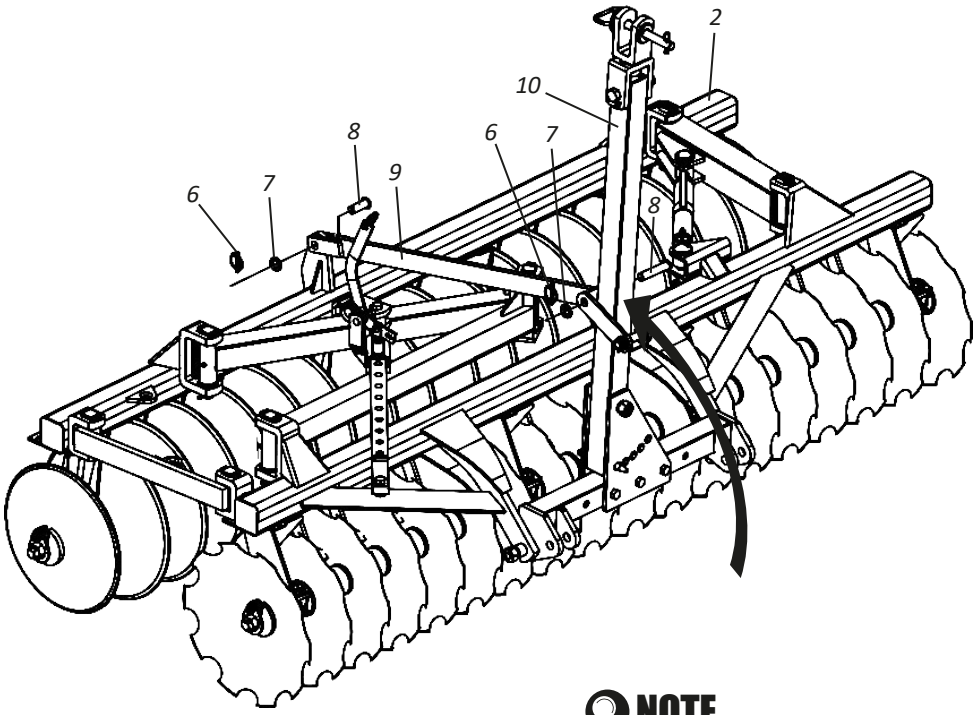


▪ Transportation

• NV transport procedure - Part II

04 - Then attach the header bracket (9) to the rear frame (2) using the pin (8), flat washer (7) and ring lock (6).

05 - Then articulate the coupling header (10) and attach the header bracket (9) by fixing it with a pin (8), flat washer (7) and ring lock (6).



NOTE

When the NV arrives at the work site, do the reverse process, loosen the pins (8), flat washers (7) and ring lock (6), disengage the coupling header (10) and attach the header bracket (9) to the rear frame (2), securing it.

ATTETTION

When transporting the NV, the lower hydraulic arms must remain adjusted. Position the tractor hydraulics until the NV is level.
Always keep the arms of the 3rd point open, locked and raised as much as possible.

▪ Transportation

- **NV transport procedure - Part III**

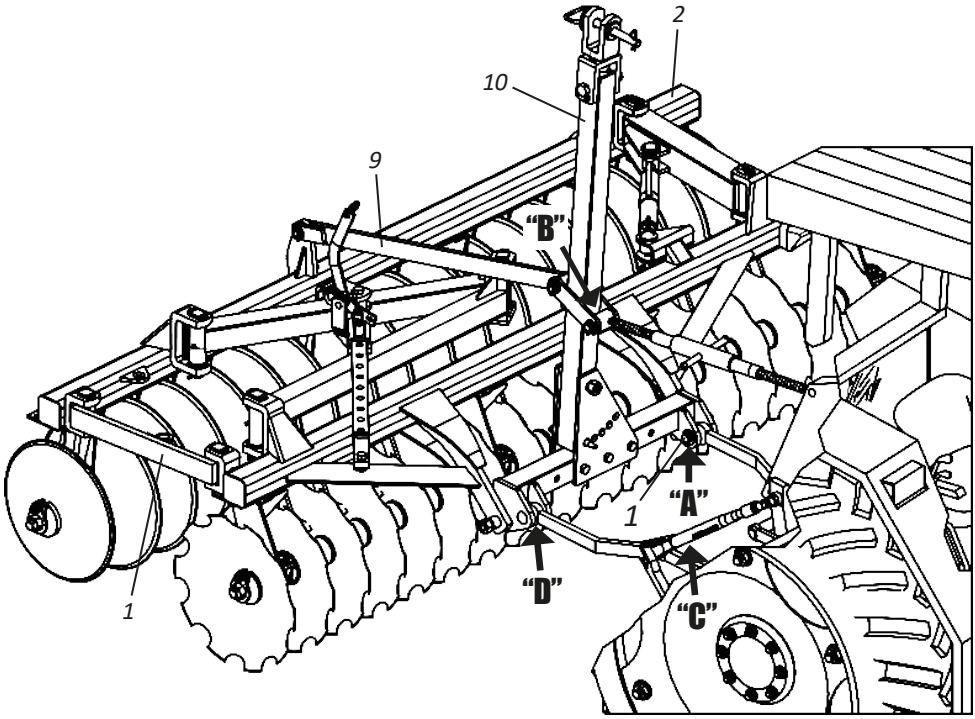
TRACTOR COUPLING

06 - Slowly approach the **NV** tractor in reverse, paying attention to the application of the brakes. Use the hydraulic position control lever when approaching the **NV**, leaving the lower left arm at the level of the **NV** linkage.

07 - Hook the lower left arm of the tractor onto the **NV** bracket **"A"** via the hooking pin (1).

08 - Attach the tractor's 3rd point to the **NV's "B"** bracket.

09 - Finally, with the help of the adjusting lever **"C"**, hook the lower right arm of the tractor onto the **NV** support **"D"**.



⚠ ATTENTION

When you arrive with the NV at the work site, do the reverse process, remove the header bracket (9) by attaching it to the rear frame (2), disengage the hitch header (10) and remove the side transport lock (1).

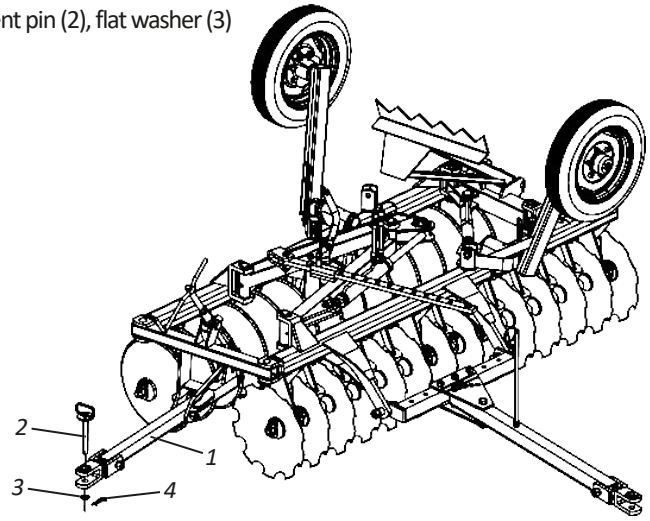
▪ Transportation

• NVP transportation procedure - Part I

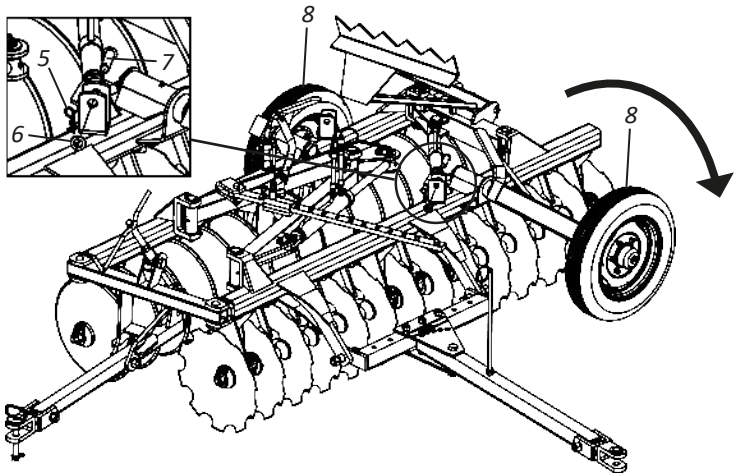
To transport the **NVP**, proceed as follows::

01 - Close the **NVP** completely.

02 - Then attach the transport header (1) to the tractor drawbar using the attachment pin (2), flat washer (3) and lock (4).



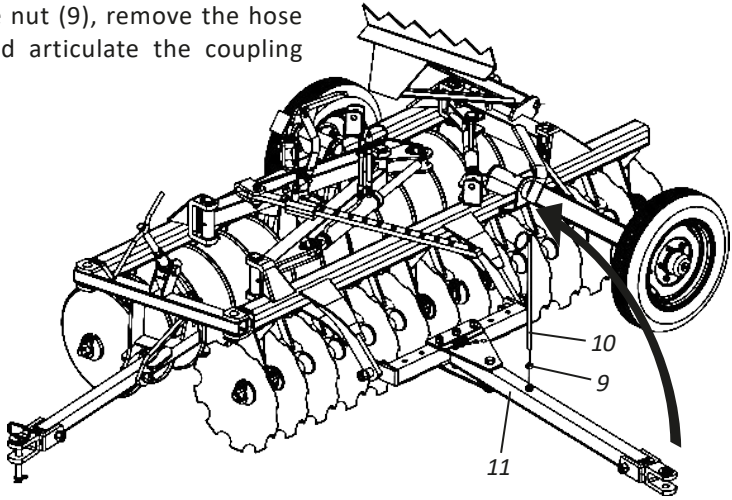
03 - Then loosen the locks (5), remove the flat washers (6), pins (7) and lower the tires (8) leaving them loose.



▪ Transportation

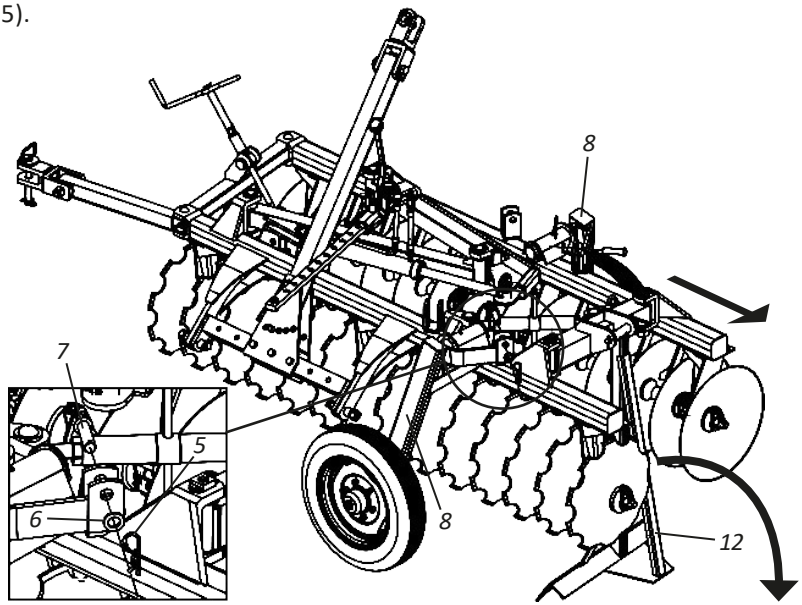
• NVP transportation procedure - Part II

04 - Then loosen the nut (9), remove the hose bracket (10) and articulate the coupling header (11).



05 - Then lower the lifting bar (12) and in reverse gear, move the tractor slowly until the **NVP** is suspended from the lifting bar (12).

06 - Then, with the tires (8) lowered, lock them using the pins (7), flat washer (6) and lock (5).

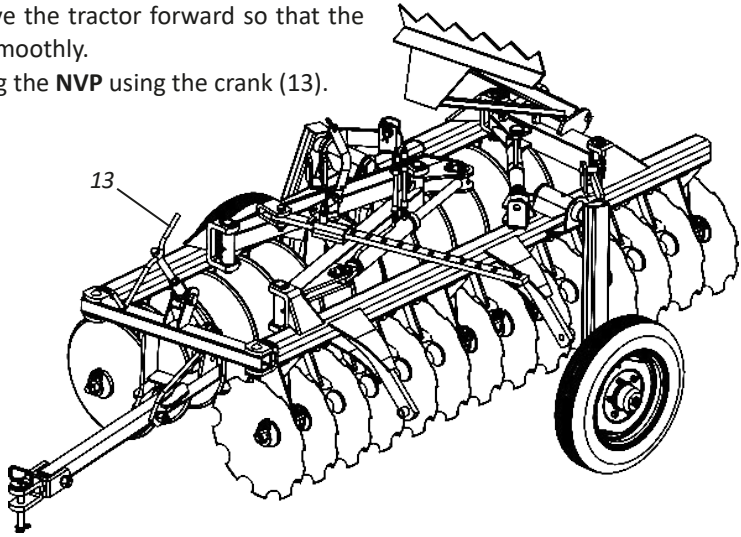


▪ Transportation

• NVP transportation procedure - Part III

07 - Then slowly drive the tractor forward so that the **NVP** descends smoothly.

08 - Finish by leveling the **NVP** using the crank (13).

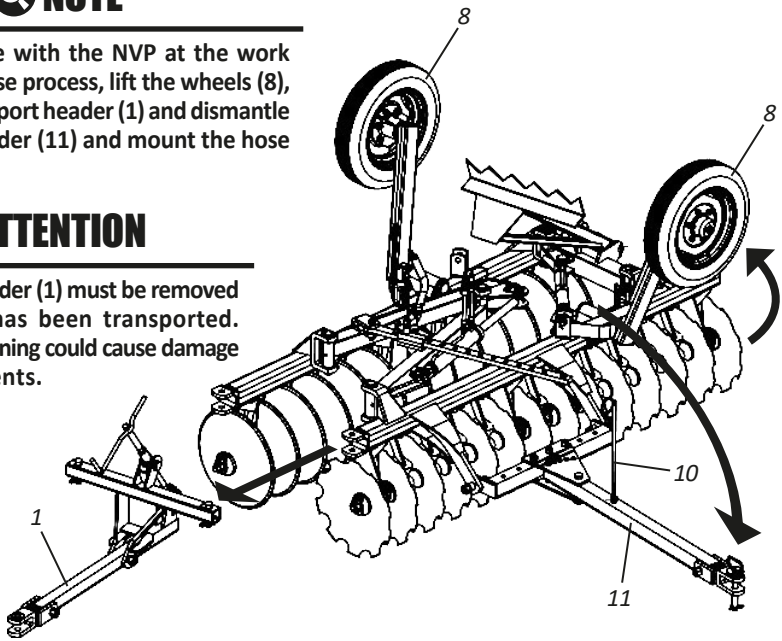


NOTE

When you arrive with the NVP at the work site, do the reverse process, lift the wheels (8), remove the transport header (1) and dismantle the coupling header (11) and mount the hose bracket (10).

ATTENTION

The transport header (1) must be removed after the NVP has been transported. Ignoring this warning could cause damage or serious accidents.

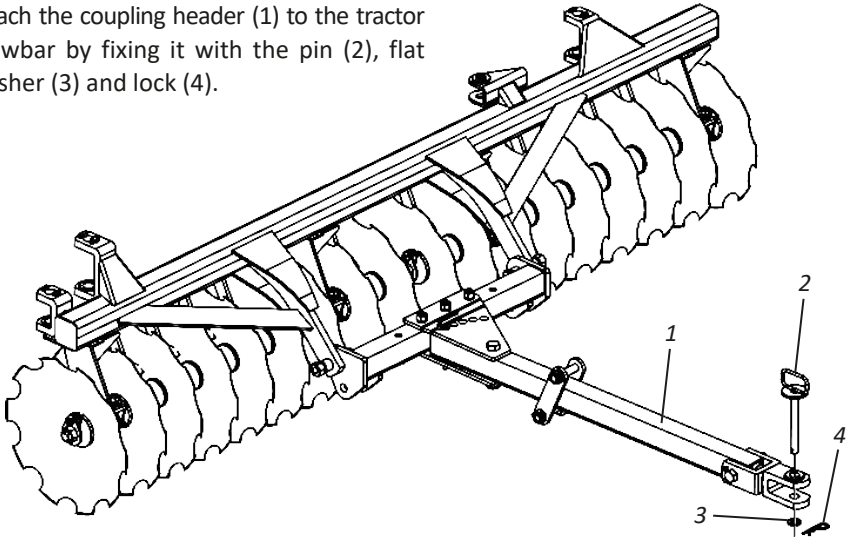


▪ Hitch

• Tractor hitch - NV/NVP

To attach the **NV/NVP** to the tractor, proceed as follows:

01 - Attach the coupling header (1) to the tractor drawbar by fixing it with the pin (2), flat washer (3) and lock (4).

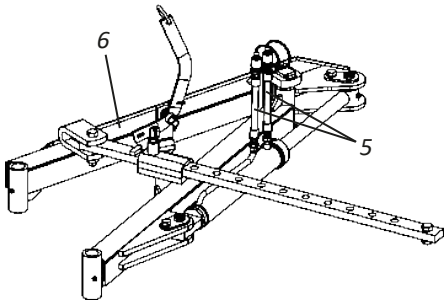


IMPORTANT

Before connecting or disconnecting the hydraulic hoses, switch off the engine and relieve the pressure in the hydraulic system by fully actuating the control levers. When relieving pressure from the system, make sure that no one is near the areawhere the equipment is moving.

NOTE

Before attaching the NV/NVP, check that the tractor is equipped with a set of weights or ballasts on the front or rear wheels, as this will provide greater stability and traction on the ground. When engaging the NV/NVP, look for a safe and easily accessible place. Always use low gear with low acceleration.



HYDRAULIC OPENING SYSTEM

ATTENTION

If NV/NVP has hydraulic opening, after attaching the harrow, connect the hydraulic hoses (5) of the opening system (6) to the tractor.

▪ Adjustments

• Adjusting the depth of cut - Part I

The cutting depth of the **NV/NVP** is determined by the following points:

1 - OPENING AND CLOSING THE DISC SECTIONS

The opening and closing of the **NV/NVP** varies according to the type of soil.

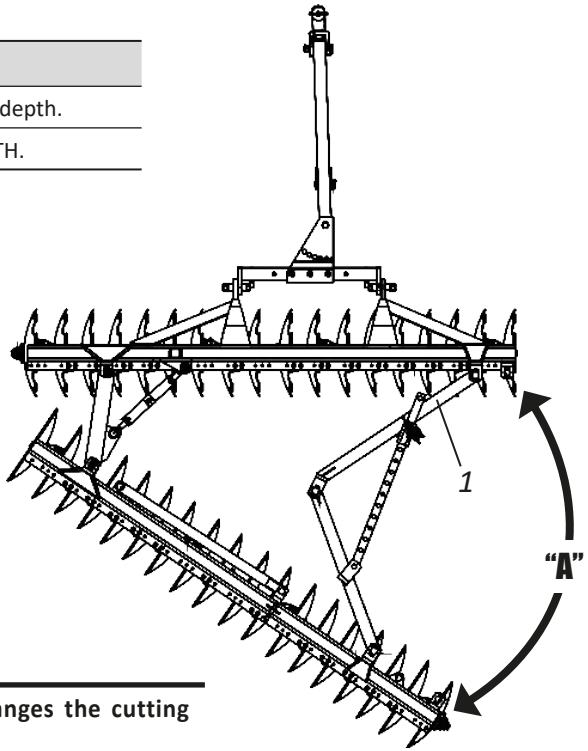
TERRAIN THAT IS MORE DIFFICULT TO PENETRATE:	You should **INCREASE** the opening of the harrow.
LIGHT AND LOOSE TERRAIN:	The opening of the harrow must be **DECREASED**.

To increase or decrease the harrow opening, proceed as follows:

NV/NVP (WITH MECHANICAL OPENING)

01 - To OPEN or CLOSE the **NV/NVP** (with mechanical opening) press the lever on the adjustment lock (1) and move the harrow forwards or backwards to the desired opening point.

OPENING "A"	
INCREASING ITSELF	**GREATER** depth.
DECREASING ITSELF	**LESS** DEPTH.



NOTE

Opening the NV/NVP only changes the cutting angle of the rear frame.

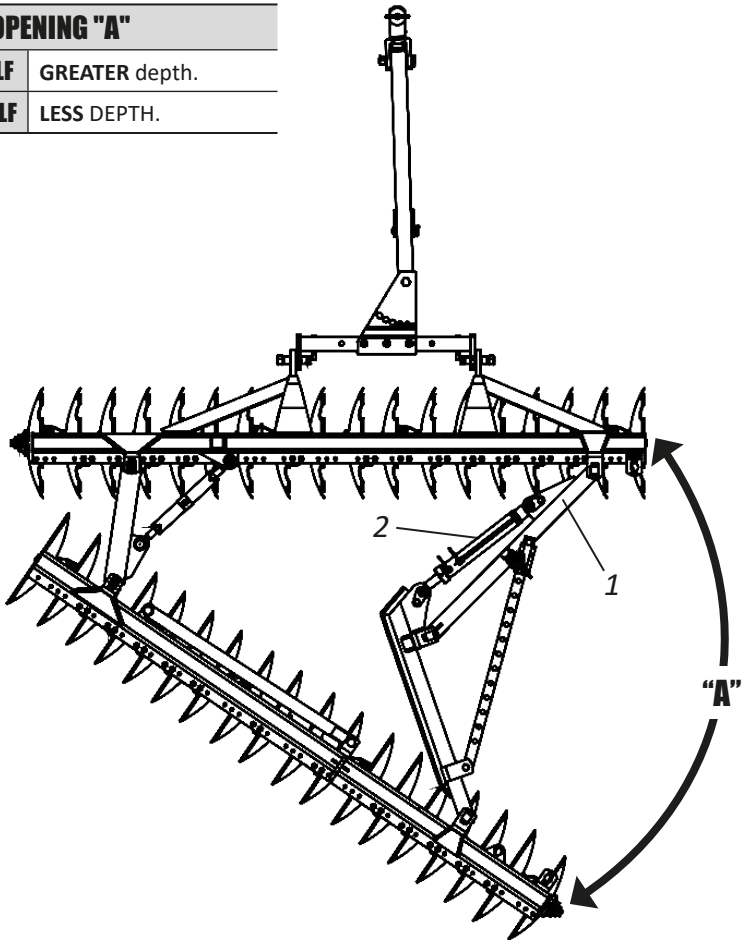
▪ Adjustments

• Adjusting the depth of cut - Part II

NV/NVP (WITH HYDRAULIC OPENING)

01 - To OPEN or CLOSE the **NV/NVP** (with hydraulic opening) operate the hydraulic opening assembly (1) via the hydraulic cylinder (2) to open or close the harrow.

OPENING "A"	
INCREASING ITSELF	**GREATER** depth.
DECREASING ITSELF	**LESS** DEPTH.



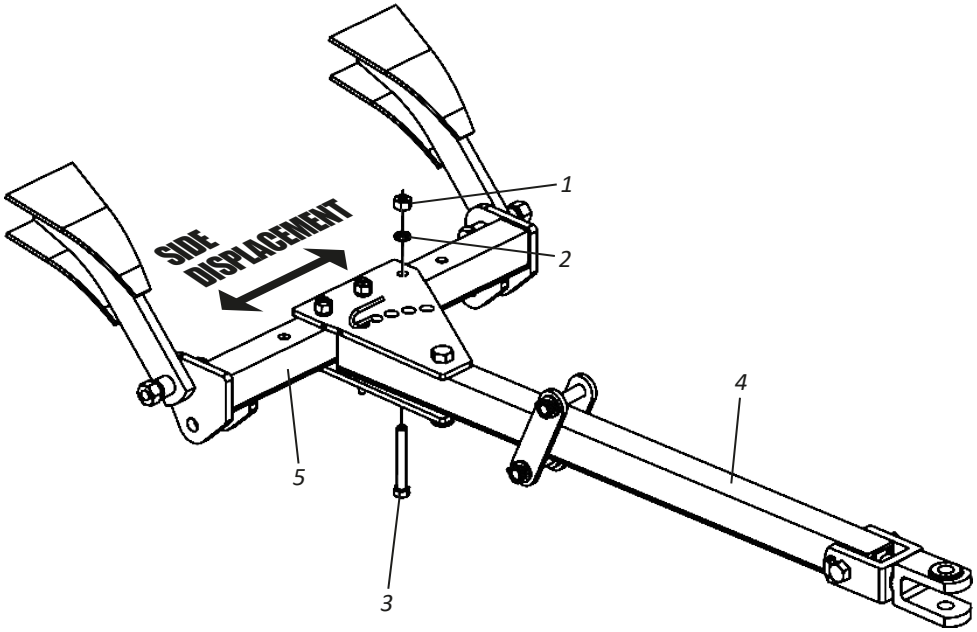
NOTE **Opening the NV/NVP only changes the cutting angle of the rear frame.**

▪ Adjustments

• Harrow travel adjustment - Part I

The **NV/NVP** should be moved when the harrow is not finishing perfectly, i.e. leaving a tractor track. To ensure that the **NV/NVP** works centrally with the tractor's driveline, proceed as follows:

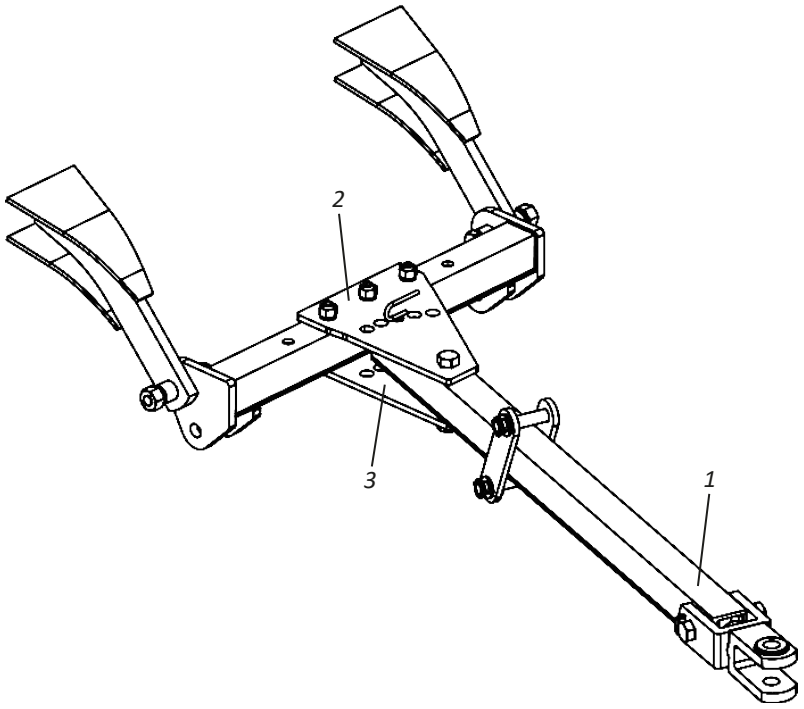
01 - Loosen the nuts (1), lock washers (2) and remove the screws (3).
02 - Then move the coupling header (4) on the cross bar (5), making the optimum adjustment.
03 - Finish by reattaching the screws (3), lock washers (2) and nuts (1).



▪ Adjustments

• Harrow travel adjustment - Part II

Under normal working conditions, the coupling header (1) must remain in the central hole of the upper (2) and lower (3) plates. By changing the coupling header (1) to the other holes, small lateral displacements of the **NV/NVP** are obtained, changing the angle of attack of the front section.



NOTE

We suggest starting the harrowing with a medium opening in the disc sections and the holes in the header plates. Then adjust as necessary.
The harrowed ground is always on the operator's left (the closed side of the NV/NVP).
Try to guide the tractor to achieve a satisfactory finish between NV/NVP passes. Prevent the formation of beds or areas that are not harrowed.
The NV/NVP coupling header and the tractor drawbar must be as aligned as possible with the working direction.

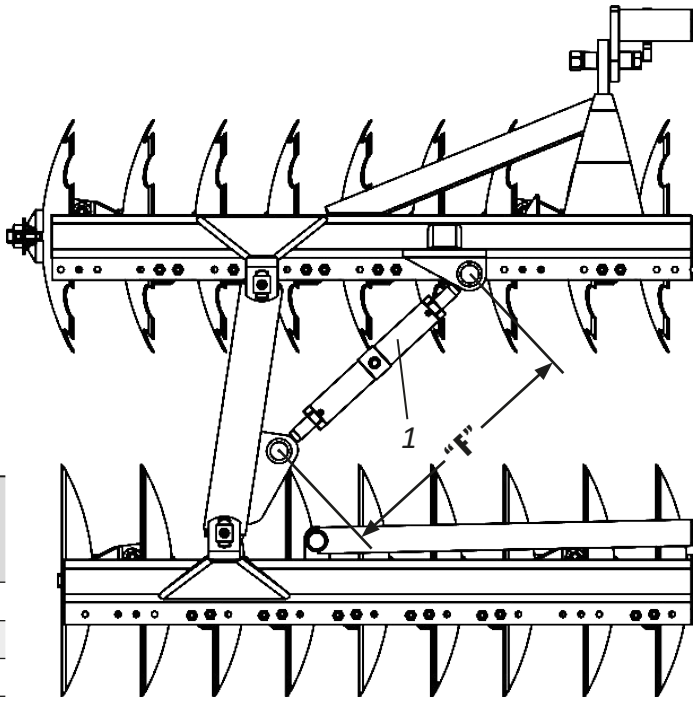
▪ Adjustments

• Disc crossing regulator

With the disc crossing regulator (1), the rear disc section can be displaced by twice the spacing of the front discs without the need for tools, very easily, quickly and on site, as the adjustment is precise and fine-tuned.

Used to eliminate possible furrows in the soil during harrowing, without changing the performance of the **NV/NVP** or harming its technical characteristics.

Increasing the stroke of the crossover adjuster (1) and the rear disc section moves it to the left and decreasing the stroke moves the rear disc section to the right of the harrow.



Working position	"F"
Minimum	450 mm
Normal	610 mm
Maximum	680 mm

NOTE

Before starting operations with the NV/NVP, carry out a complete overhaul by retightening all the bolts, nuts, shafts and especially the disc sections.

▪ Operations

• Recommendations for operation - Part I

Preparing the **NV/NVP** and the tractor will save you time and give you better results in the field. You may find the following suggestions useful.

HARROW STRUCTURE

After the first day working with the **NV/NVP**, retighten all the bolts, nuts and check the condition of the pins and locks on the harrow frame. Then retighten all the bolts and nuts on the harrow structure every 24 hours.

DISC SECTIONS

Pay special attention to the **NV/NVP** disc sections. During the first week of using the **NV/NVP**, retighten all the bolts and nuts on the disc sections daily, then retighten them periodically.

GENERAL RECOMMENDATIONS

01 - Adjust the tractor according to the contents of the instruction manual, always using the front and rear weights to stabilize the equipment.
02 - Always couple to the tractor at low speed and with great care.
03 - When using the **NV/NVP** it is important to check the coupling and leveling system transversal to make sure that the discs have the same penetration depth in the soil.
04 - After hooking up, the next adjustments will be made directly in the field, analyzing the terrain in terms of its texture, humidity and the types of operations to be carried out with the **NV/NVP.**
05 - On the tractor, choose a gear that allows you to maintain a certain reserve of power, guaranteeing yourself against unforeseen stresses.
06 - Mind the working and transport speeds specified on page 10. No we advise exceeding the speeds to maintain the efficiency of the service and avoid possible damage to the **NV/NVP.**
07 - On the **NVP**, do not disconnect any hoses without first relieving the pressure in the circuit. To do this, press the control levers a few times with the engine switched off.
08 - Remove any sticks or other objects that might get stuck in the discs.
09 - In compacted soils where it is difficult for the discs to penetrate, the depth can

▪ Operations

• Recommendations for operation - Part II

be minimal, making the work unsatisfactory. In these cases, it is recommended to apply other, more suitable products instead.

10 - During work or transportation, the tractor drawbar must remain secured.

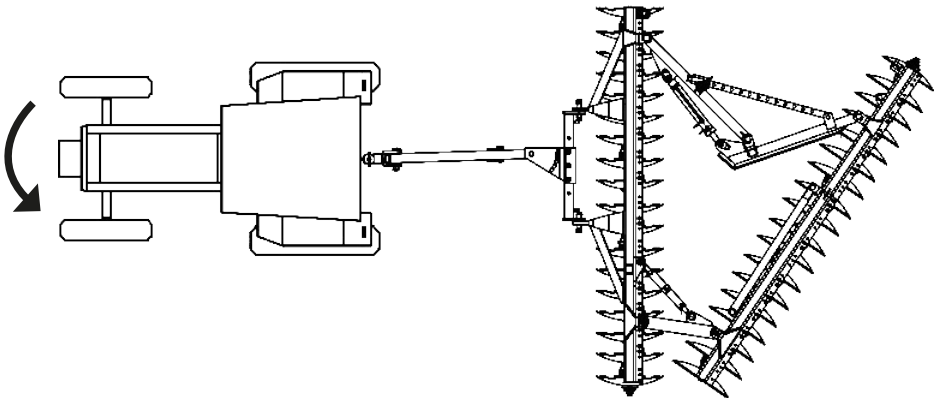
11 - When carrying out any maintenance on the **NV**, lower it to the ground and switch off the engine.

12 - The **NV/NVP** has several settings, but only local conditions can determine the best setting.

If in doubt, never operate or handle the NV/NVP, consult After Sales.
Telephone: 0800-152577 / E-mail: posvenda@baldan.com.br

• Direction of maneuvers

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



⚠ ATTENTION | **With the disc sections on the ground, it is necessary to maneuver to the left (closed side of the NV/NVP) to avoid overloading.**

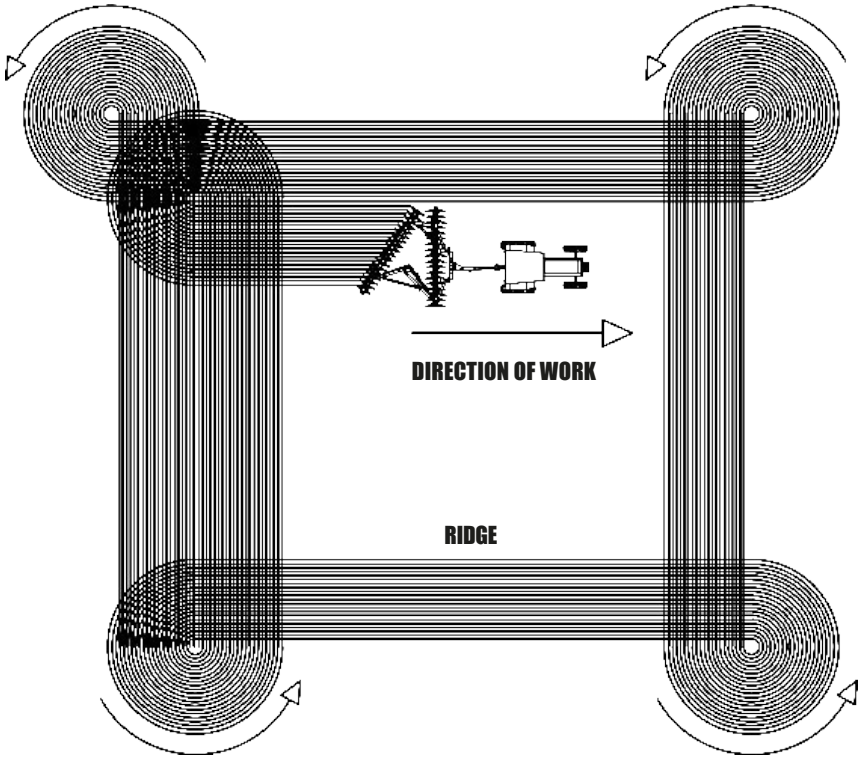
▪ Operations

• How to start harrowing

When starting harrowing, you should always follow the terraces or contour cordon, starting the operation so that the terrace is always on the tractor driver's left.

NOTE **Before starting operations with the NV/NVP, check it thoroughly, retightening all bolts, nuts, hose terminals, shafts and especially the disc sections.**

• Harrow from the outside in

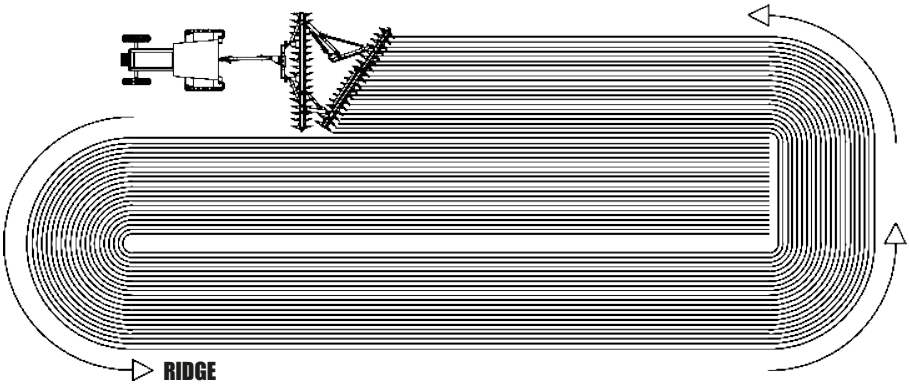


IMPORTANT **Try to drive the tractor in such a way as to achieve good performance between NV/NVP passes. Avoid forming beds or strips without harrowing.**

▪ Operations

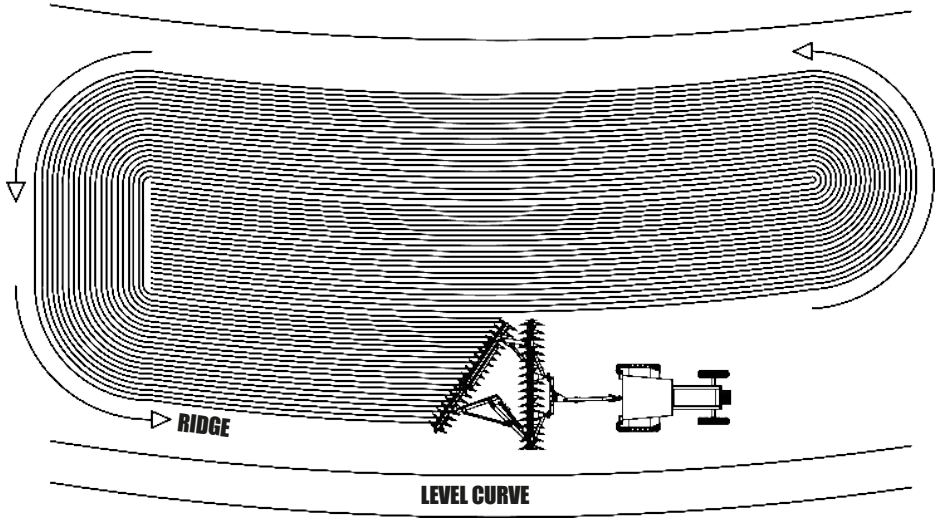
• Harrow from the inside out

In this sense, greater perfection is achieved. When you're walking a lot on the headlands, you might want to start another block.



• Plots with contour lines

On soil with a contour, it is usual to start two fields at a time, taking care to start the work with the contour on the tractor driver's left. When you reach the middle of the contour line, you may want to start another field to reduce fuel costs.



▪ Calculations

• Approximate hourly output - Part I

To calculate **NV's** approximate hourly output, use the following formula:

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

WHERE:

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

Example: How many Ha will an **NV 42 disc** with **175 mm** spacing produce in an hour's work at an average speed of 7 km/h ?

A = ?
L = 3,60 m
V = 7.000 m/h
F = 0,90
X = 10.000 m² (Calculated in hectare)

$$A = \frac{3,60 \times 7.000 \times 0,90}{10.000} = 2,26 \text{ Ha/h}$$

Model	Disc spacing (mm)	Nr of discs	Working width (mm)	Average Speed (m/h)	Output Factor	Approximate Output in Hectare Hours
NV	175	28	2350	7.000	0,90	1,48
		32	2700	7.000	0,90	1,70
		36	3000	7.000	0,90	1,89
		40	3420	7.000	0,90	2,15
		42	3600	7.000	0,90	2,26
		44	3760	7.000	0,90	2,36
		48	4100	7.000	0,90	2,58
		52	4450	7.000	0,90	2,80
		56	4820	7.000	0,90	3,03
NV	200	28	2700	7.000	0,90	1,70
		32	3100	7.000	0,90	1,95
		36	3500	7.000	0,90	2,20
		40	3900	7.000	0,90	2,45
		42	4100	7.000	0,90	2,58
		44	4300	7.000	0,90	2,70
		48	4700	7.000	0,90	2,96
		52	5100	7.000	0,90	3,21
		56	5500	7.000	0,90	3,46

▪ Calculations

• Approximate hourly output - Part II

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

Example: What time "X" will it take for a 42-disc **NV** harrow with **175 mm** spacing to produce 35 hectares at an average speed of 7km/h?

$$X = \frac{35\ Ha}{2{,}26\ Ha/h} = 15\ \text{hours approximately to work 35 hectares.}$$

ATTENTION

The NV's hourly output can vary due to factors that alter the pace of work, such as (soil moisture and hardness, slope of the land, inadequate settings and working speed).

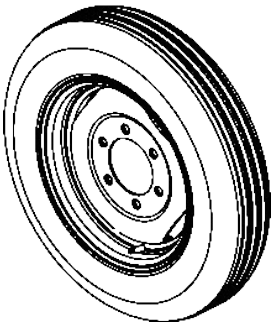
▪ Maintenance

The **NV/NVP** has been developed to give you maximum performance in terrain conditions. Experience has shown that periodic maintenance of certain parts of the **NV/NVP** is the best way to help you avoid problems, so we suggest checking.

• Tire pressure

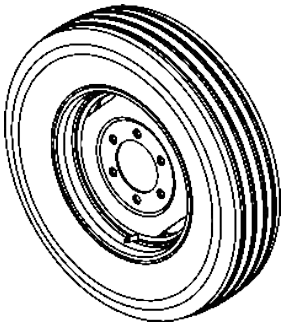
Tires must always be properly inflated to avoid premature wear due to over or underinflation.

STANDARD:
NVP 28 AND 32 DISCS



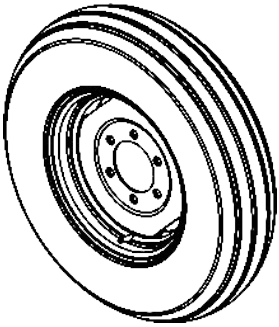
TIRES 600 X 16 6 PLY
USE: 44 LBS/POL²

STANDARD:
NVP 36 TO 56 DISCS



TIRES 650 X 16 8 PLY
USE: 54 LBS/POL²

OPTIONAL:
NVP 28 TO 56 DISCS



TIRES 750 X 16 10 PLY
USE: 60 LBS/POL²

⚠ ATTENTION

Never weld the assembled wheel to the tire, as the heat can cause the air pressure to rise and the tire to explode.

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

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

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

❗ IMPORTANT

When inflating your tires, do not exceed the recommended inflation.

NOTE

The tractor tires should be inflated according to the amanufacturer's recommendations.

▪ Maintenance

The **NV/NVP** has been developed to give you maximum performance in terrain conditions. Experience has shown that periodic maintenance of certain parts of the **NV/NVP** is the best way to help you avoid problems, so we suggest checking.

⚠ ATTENTION **Constantly check nuts and screws, and retighten them if necessary. Maintenance of the general re-tightening of the disc harrow must be carried out every 8 hours of work.**

• Lubrication

Lubrication is essential for good performance and greater durability of the **NV/NVP**'s moving parts, helping to save on maintenance costs.

Before starting the operation, carefully lubricate all the grease fittings, always observing the lubrication guidelines on the following page. Ensure the quality of the lubricant in terms of its efficiency and purity, and avoid using products contaminated by water, dirt and other agents.

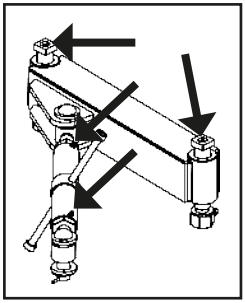
• Table of greases and equivalents

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

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

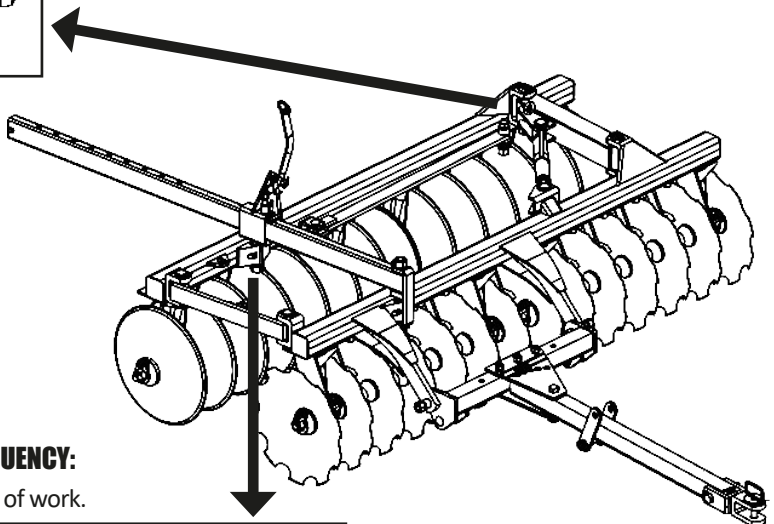
▪ Maintenance

• NV 28 and 32 disc lubrication



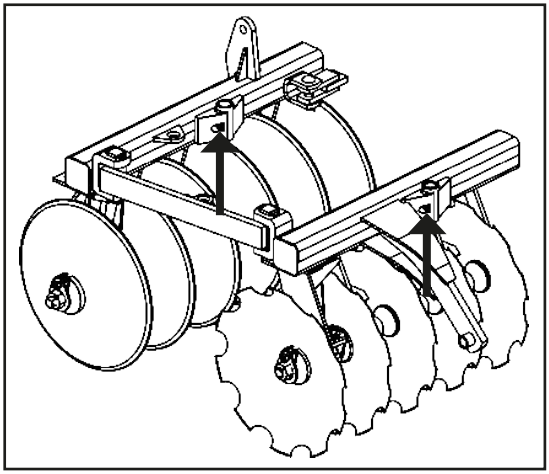
LUBRICATION FREQUENCY:

- Every 24 hours of work.



LUBRICATION FREQUENCY:

- Every 24 hours of work.

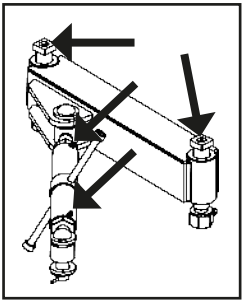


⚠ ATTENTION

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

▪ Maintenance

• NV 36 to 56 disc lubrication

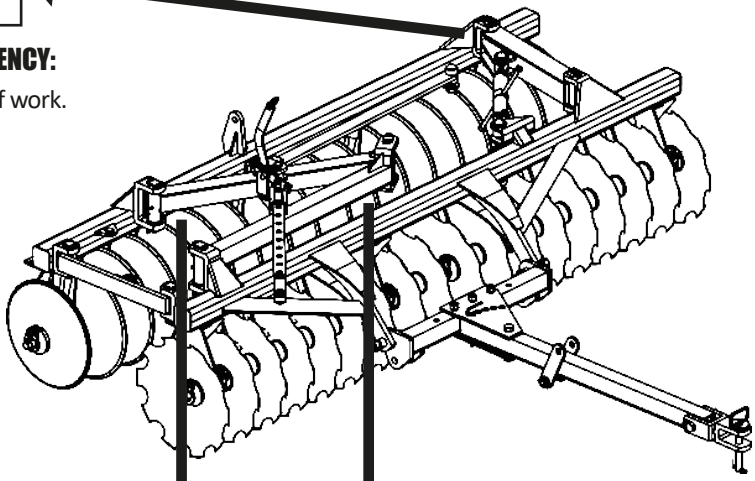


ATTENTION

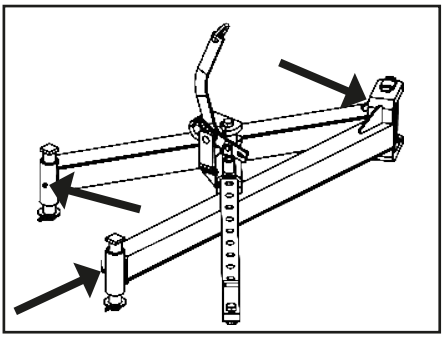
When lubricating the NV, do not exceed the amount of new grease. Insert a sufficient amount.

LUBRICATION FREQUENCY:

- Every 24 hours of work.



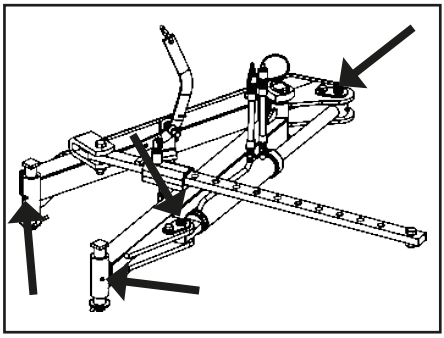
MECHANICAL OPENING



LUBRICATION FREQUENCY:

- Every 24 hours of work.

HYDRAULIC OPENING

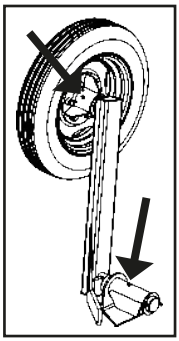


LUBRICATION FREQUENCY:

- Every 24 hours of work.

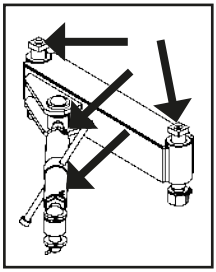
▪ Maintenance

• NVP 28 and 32 disc lubrication



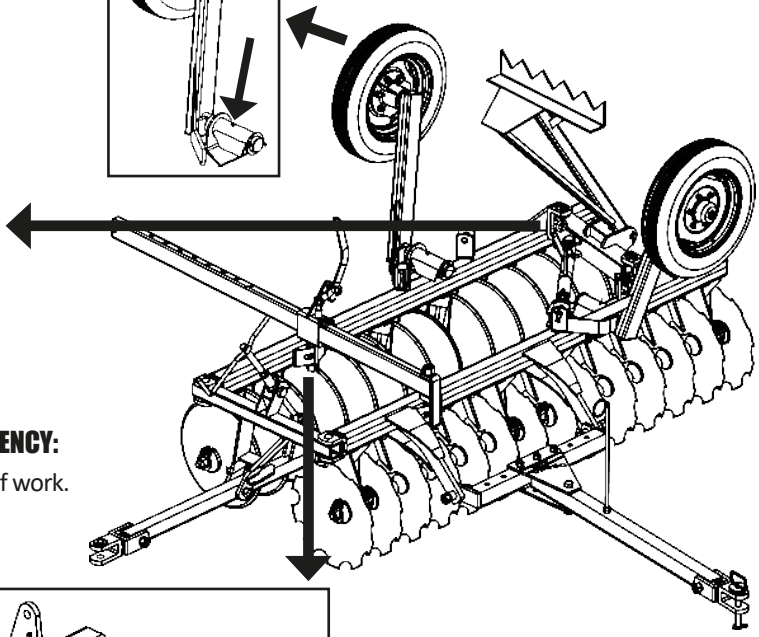
LUBRICATION FREQUENCY:

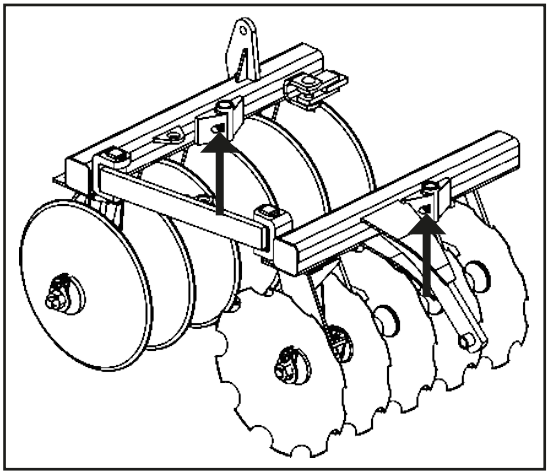
- **Bushing:** Every 24 hours of work.
- **Tires:** Every 60 working hours.



LUBRICATION FREQUENCY:

- Every 24 hours of work.





⚠ ATTENTION

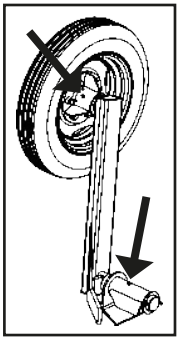
When lubricating the NVP, do not exceed the amount of new grease. Insert a sufficient amount.

▪ Maintenance

• NVP 36 and 56 disc lubrication

⚠ ATTENTION

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



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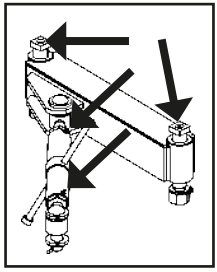
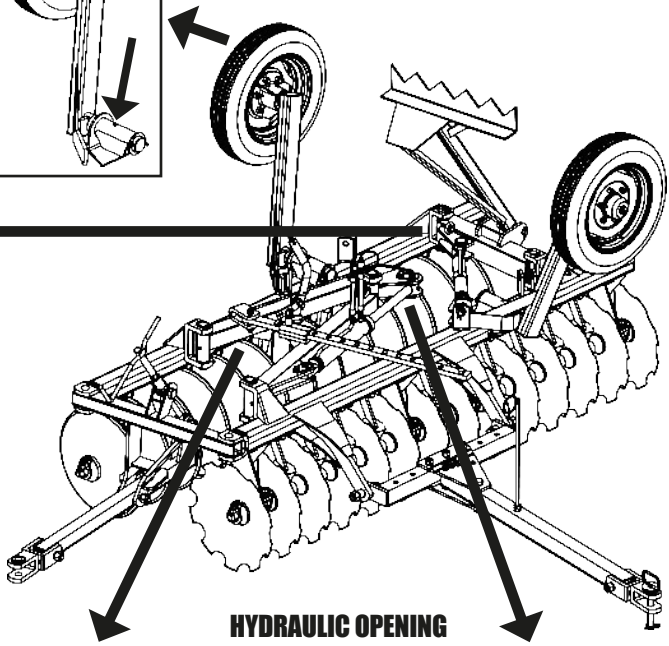
- **Bushing:** Every 24 hours of work.
- **Tires:** Every 60 working hours.

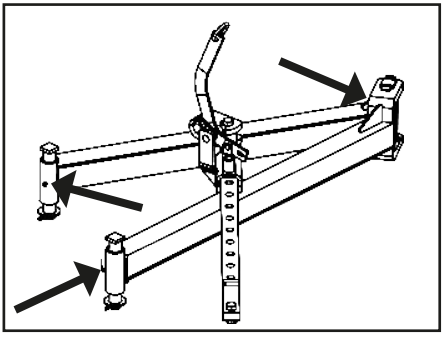


LUBRICATION FREQUENCY:

- Every 24 hours of work.



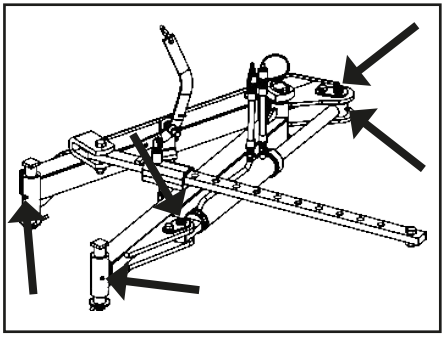
MECHANICAL OPENING



LUBRICATION FREQUENCY:

- Every 24 hours of work.

HYDRAULIC OPENING



LUBRICATION FREQUENCY:

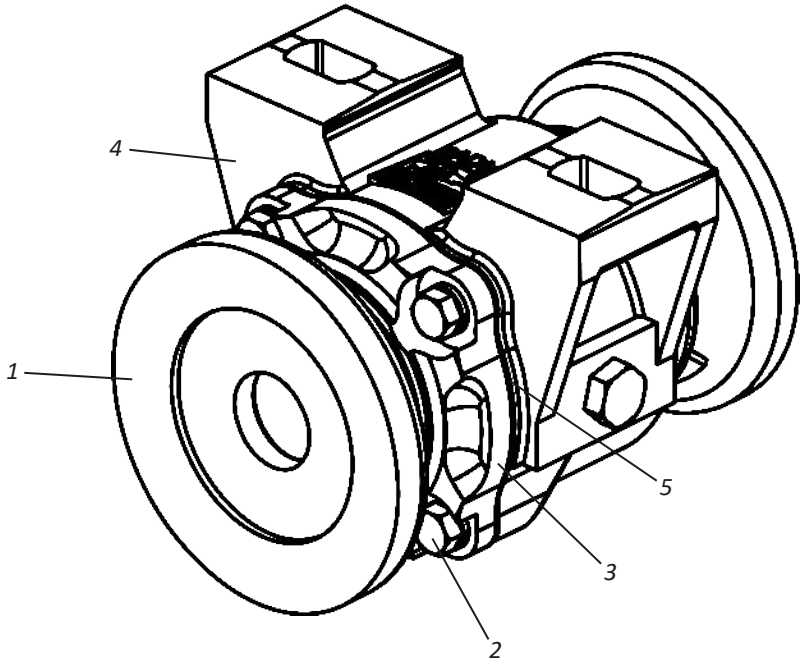
- Every 24 hours of work.

▪ Maintenance

• Disc section bearing adjustment

When the bearings in the disc sections show slack, proceed as follows in order to adjust them:

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



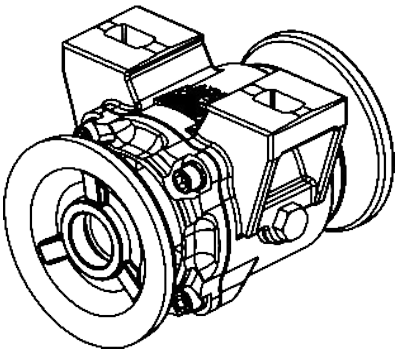
⚠ ATTENTION

Do not assemble the bearing without the gaskets (5).

▪ Maintenance

• Axial bearing

During the first few days of operation of the **NV/NVP**, check the oil level in the bearings daily, then every 120 hours.



NOTE

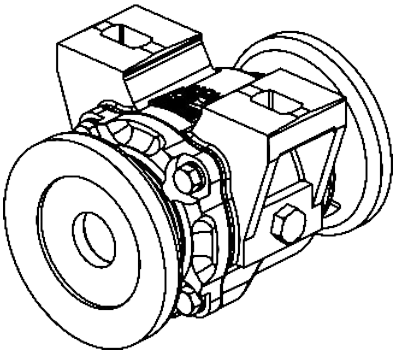
The ideal oil level is when it reaches the hole in the plug.
To check the bearing oil level, look for a flat place.

ATTENTION

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

• Oil bearing

During the first few days of operation of the **NV/NVP**, check the oil level in the bearings daily, then every 120 hours.



NOTE

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

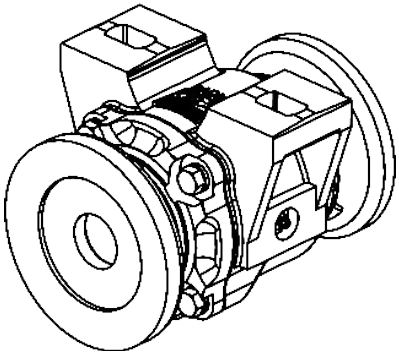
ATTENTION

Change the oil every 1200 working hours using 0.090 liters.
Use transmission oil: 90 API GL4, MIL-L-2105; SAEJ306, May/81: SAE 80W,90 and 140.

▪ Maintenance

• Grease bearing

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



NOTE

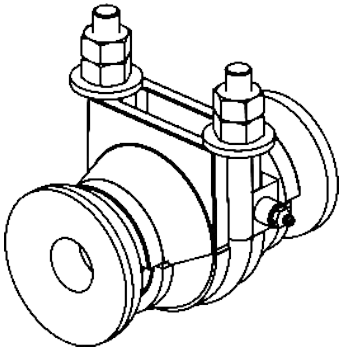
Before lubricating the bearing, clean the grease nipple with a clean, lint-free cloth. Replace any damaged grease fittings.

ATTENTION

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

• Friction bearing

Friction bearings should be lubricated daily using the grease specified below.



NOTE

Before lubricating the bearing, clean the grease nipple with a clean, lint-free cloth. Replace any damaged grease fittings.

ATTENTION

The amount of grease in each bearing is 80 grams.
Only use grease: EP (Specification DIN51825 KP00K Consistency NLGI 2/3).

▪ Maintenance

• Periodic Maintenance

Parts description	Number of grease fittings									Oil change	Lubricate with grease	Retighten	Replace	Check	Maintenance interval
	NV/NVP 28	NV/NVP 32	NV/NVP 36	NV/NVP 40	NV/NVP 42	NV/NVP 44	NV/NVP 48	NV/NVP 52	NV/NVP 56						
	Spacing 175 and 200 mm	Spacing 175 and 200 mm	Spacing 175 and 200 mm	Spacing 175 and 200 mm	Spacing 175 and 200 mm	Spacing 175 and 200 mm	Spacing 175 and 200 mm	Spacing 175 and 200 mm	Spacing 175 and 200 mm						
Friction bearings	6	8	8	12	12	12	12	12	14		X				daily
Grease bearings	6	8	8	12	12	12	12	12	14		X				12 hours
Stabilizer bar bushings **(NV/NVP with mechanical opening)**	1	1	1	1	1	1	1	1	1		X				24 hours
Opening cylinder base **(NV/NVP with hydraulic opening)**	1	1	1	1	1	1	1	1	1		X				
Opening cylinder rod **(NV/NVP with hydraulic opening)**	1	1	1	1	1	1	1	1	1		X				
Hydraulic system	-	-	-	-	-	-	-	-	-					X	40 hours
Axle bolts and nuts	-	-	-	-	-	-	-	-	-			X			50 hours
Bolts and nuts	-	-	-	-	-	-	-	-	-			X			100 hours
Oil bearings	6	8	8	12	12	12	12	12	14					X	120 hours
Oil bearings	6	8	8	12	12	12	12	12	14	X					1200 hours
Retainers/Bearings	-	-	-	-	-	-	-	-	-				X		1500 hours
Discs	-	-	-	-	-	-	-	-	-				X		When necessary

▪ Maintenance

• Operational maintenance

PROBLEMS	PROBABLE CAUSES	SOLUTIONS
The tires are damaged.	Work area with stones, stumps or crop residues with stems that cause the tires to crunch.	Eliminate the elements that cause damage to the tires before the **NVP** is used.
	The tires are not inflated properly, causing deformation.	Maintain proper pressure in the **NVP's** tires.
Strange noise in the wheels.	Loose wheels or hubcaps.	Retighten the wheel nuts and adjust the **NVP** wheel hub bearings.
	Bearings break.	Identify the incident and replace the damaged parts.
Quick coupling does not adapt.	Different types of couplings.	Replace them with males and females of the same type.
Leaking hydraulic hoses	Sealing material on the screw thread is missing.	Use thread sealant tap and retighten carefully.
	Insufficient tightening.	Retighten carefully.
	Damaged repairs.	Replace terminals.
Leaking quick couplings.	Insufficient tightening.	Retighten carefully without excess.
	Damaged repairs.	Replace repairs.
Quick couplings do not engage.	Different brand couplings.	Use quick couplings of the same brand.
	A mixture of needle-type and ball-type couplings.	Always use the same type of quick coupler.
	Pressure in the system.	Relieve pressure to couple.

▪ Maintenance

• Care

01 - Before each job, check the condition of all hoses, pins, bolts, bearings, discs and sections. When necessary, retighten them.
02 - Travel speed must be carefully controlled according to terrain conditions.
03 - **NV/NVP** is used in a variety of applications, requiring knowledge and attention when handling it.
04 - Only local conditions can determine the best way to operate the **NV/NVP.**
05 - When assembling or disassembling any part of the **NV/NVP**, use appropriate methods and tools.
06 - Carefully observe the lubrication intervals at the various **NV/NVP** lubrication points. Respect the lubrication intervals.
07 - Always check if the parts are worn. If a replacement is needed, always demand original Baldan parts.
08 - Keep the **NVP** 's tires inflated at all times.
09 - Always keep the **NV/NVP** discs sharp.

IMPORTANT | **Proper and regular maintenance is necessary to ensure the long life of the NV/NVP.**

• General cleaning - Part I

01 - When storing the **NV/NVP**, do a general clean and rinse it completely with water only. Check that the paint has not worn off, if it has, give a general coat, apply the protective oil and fully lubricate the **NV/NVP**. Do not use burnt oil or any other type of abrasive.
02 - Fully lubricate the **NV/NVP.** Check all the moving parts of the **NV/NVP**, if they show any wear or looseness, make the necessary adjustment or replace the parts, leaving the harrow ready for the next job.
03 - After all maintenance work, store the harrowing in a covered, dry place properly supported.

Avoid: - Discs coming into direct contact with the ground.
- The compression of the springs.
- Hydraulic hoses must be properly capped.

▪ Maintenance

• General cleaning - Part II

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

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

06 - After all maintenance work, store your **NV/NVP** on a flat surface in a covered, dryplace, away from animals and children.

07 - We recommend rinsing the **NV/NVP** only with water when starting work.

⚠ ATTENTION | **Do not use chemicals or abrasives to wash the NV/NVP, as this could damage its paintwork and adhesives.**

• Harrow conservation - Part I

To prolong the life and appearance of the **NV/NVP** for longer, follow the instructions below:

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

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

03 - Always carry out maintenance at the times indicated in this manual.

• Harrow conservation - Part II

The following practices and precautions, if adopted by the owner or operator, make a difference to the conservation of **NV/NVP**.

01 - Take care when pressure washing; do not direct the water jet directly at connectors and electrical components. Isolate all electrical components;

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

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

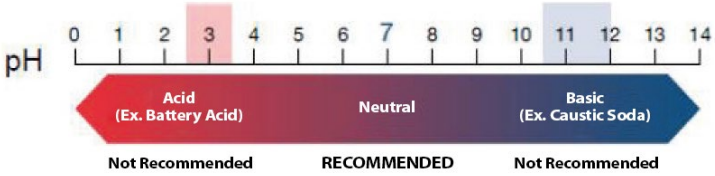
04 - Stains and dirt that cannot be removed with the products should be removed with a sponge.

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

▪ Maintenance

• Harrow conservation - Part III

06 - Do not use: - Detergents with a basic active ingredient (pH greater than 7) may damage/ stain the harrow paintwork.
- Detergents with an acidic active ingredient (pH less than 7) act as a paint stripper (the protection of parts against oxidation).



07 - Let the machine dry in the shade so that no water accumulates in its components. Drying too quickly can cause stains on your paintwork.

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

09 - Spray the entire machine, especially galvanized parts, with protective oil, following the manufacturer's application guidelines. The protectant also prevents dirt from sticking to the machine, making it easier to wash later.

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

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

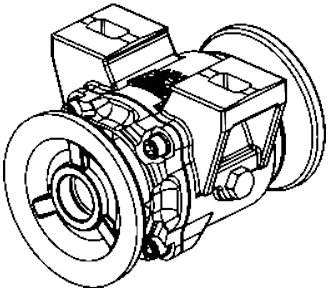
IMPORTANT | **We recommend the following protective oils:**
- Bardahl: Agro protetivo 200 or 300
- ITWChemical: Zoxol DW - Series 4000

NOTE | **Failure to comply with the above maintenance measures may result in the loss of warranty on painted or galvanized components that may show oxidation (rust).**

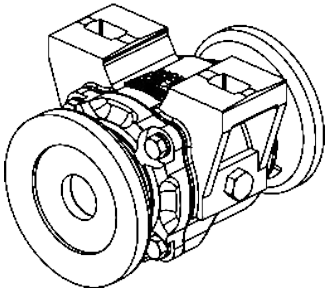
▪ Optional

• Optional Accessories - Part I

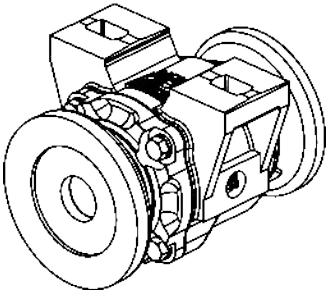
NV/NVP has options that can be purchased according to your work requirements.



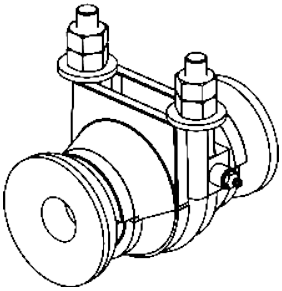
AXIAL BEARING WITHOUT GUARD 175 MM SPACING



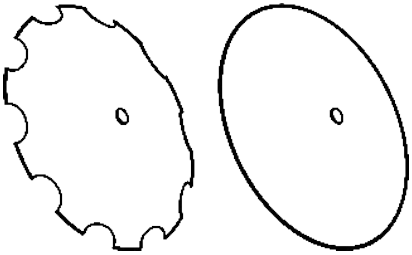
OIL BEARINGS WITH AND WITHOUT PROTECTION 175 AND 200 MM SPACING



GREASE BEARING WITHOUT PROTECTION 175 AND 200 MM SPACING



FRICTION BEARING 175 MM SPACING

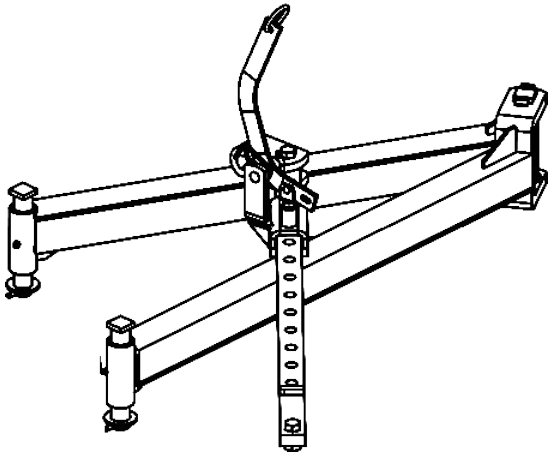


CUT AND SMOOTH DISCS 20" AND 22"

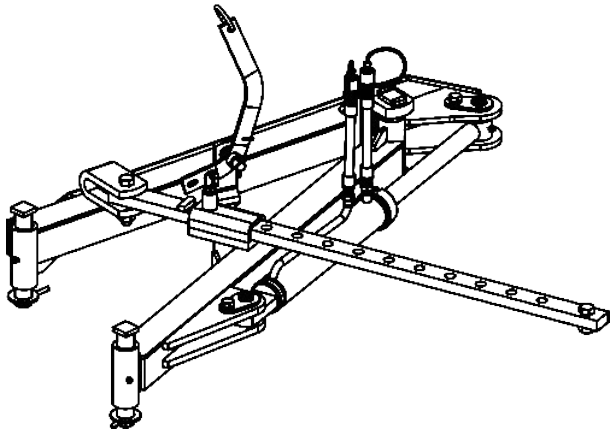
▪ Optional

• Optional Accessories - Part II

NV/NVP has options that can be purchased according to your work requirements.



MECHANICAL OPENING



HYDRAULIC OPENING

▪ Identification

• Identification plate

To consult the parts catalog or request technical assistance from Baldan, always indicate the model (01), serial number (02) and date of manufacture (03) on the nameplate of your **NV/NVP.**

⚠ ATTENTION

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

CONTACT

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

PUBLICATIONS

Code: 60550201413 | CPT: NVP08323A

PEÇAS ORIGINAIS BALDAN
ORIGINAL PARTS · PIEZAS ORIGINALES

▪ Identification

• Product identification

Identify the data below correctly so that you always have information about the life of your equipment.

Owner: _____

Resale: _____

Farm: _____

City: _____

State: _____

Warranty certificate no.: _____

Implement: _____

Serial no. : _____

Date of purchase: _____

Invoice: _____

▪ Notes

▪ Notes

Warranty Certificate

BALDAN IMPLEMENTOS AGRÍCOLAS S/A guarantees the normal operation of the implement to the dealer for a period of 6 (six) months from the date of delivery on the resale invoice to the first end consumer. During this period, BALDAN undertakes to repair defects in material and/or manufacturing under its responsibility, with labor, freight and other expenses being the responsibility of the reseller.

During the warranty period, any defective parts must be requested and replaced by the local dealer, who will send the defective part to **BALDAN** for analysis.

When this procedure is not possible and the dealer's ability to resolve the issue has been exhausted, the dealer will request support from **BALDAN Technical Assistance**, using the specific form distributed to dealers. Once Baldan Technical Assistance has analyzed the replaced items and concluded that they are not under warranty, the dealer will be responsible for the costs related to the replacement, as well as the costs of materials, travel including accommodation and meals, accessories, lubricant used and other expenses arising from the call to Technical Assistance, and Baldan is authorized to invoice the dealer. Any repairs made to the product that is within the warranty deadline by the reseller will only be authorized by **BALDAN** upon prior presentation of a budget describing the parts and labor to be executed.

This term does not apply to products that have been repaired or modified by officials who do not belong to the **BALDAN** dealer network, or to the application of non-genuine parts or components to the user's product. This warranty shall become null and void when it is established that the defect or damage is the result of improper use of the product, failure to follow the instructions or the inexperience of the operator.

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

BALDAN reserves the right to change and/or improve the technical characteristics of its products, without prior notice, and without obligation to do so with previously manufactured products.

▪ Inspection and delivery certificate

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

DELIVERY SERVICE: The user has been informed of the warranty terms in force and has been instructed in the use and maintenance of the product.

I confirm that I have been informed of the warranty terms in force and instructed on the correct use and maintenance of the implement.

Implement: _____ Serial No: _____

Date: _____ Tax No: _____

Resale : _____

Phone: _____ Zip Code: _____

City: _____ State: _____

Owner: _____

Phone: _____

Address: _____ Number: _____

City: _____ State: _____

E-mail: _____

Date of sale: _____

Reseller's signature / stamp _____

1st copy - Owner

▪ Inspection and delivery certificate

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I confirm that I have been informed of the warranty terms in force and instructed on the correct use and maintenance of the implement.

Implement: _____ Serial No: _____

Date: _____ Tax No: _____

Resale : _____

Phone: _____ Zip Code: _____

City: _____ State: _____

Owner: _____

Phone: _____

Address: _____ Number: _____

City: _____ State: _____

E-mail: _____

Date of sale: _____

Reseller's signature / stamp _____

2nd copy - Resale

▪ Inspection and delivery certificate

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DELIVERY SERVICE: The user has been informed of the warranty terms in force and has been instructed in the use and maintenance of the product.

I confirm that I have been informed of the warranty terms in force and instructed on the correct use and maintenance of the implement.

Implement: _____ Serial No: _____

Date: _____ Tax No: _____

Resale : _____

Phone: _____ Zip Code: _____

City: _____ State: _____

Owner: _____

Phone: _____

Address: _____ Number: _____

City: _____ State: _____

E-mail: _____

Date of sale: _____

Reseller's signature / stamp _____

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

1.74.05.0059-5

AC MATÃO
ECT/DR/SP

REPLY CARD

NO NEED TO SEAL

THE STAMP WILL BE PAID BY:

BALDAN IMPLEMENTOS AGRÍCOLAS S/A.

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

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