



PNA 3000/5000

Agricultural Rear Blade



Presentation

e appreciate the preference and would like to congratulate you for the excellent choice you just made, since you have acquired a product manufactured with BALDAN



IMPLEMENTOS AGRÍCOLAS S/A technology.

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

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

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

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

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

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

Instruction





PNA 3000/5000

Agricultural Rear Blade

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

Insc. Est.: 441.016.953.110



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





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Baldan Warranty

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

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

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



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

O8 PNA



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.



Safety rules

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



not perform Do adjustments while PNA is running.

When performing any service on PNA, switch off the tractor first. Use appropriate tools.



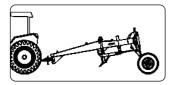
ATTENTION



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



Be careful when transporting the PNA. Transport it slowly



ATTENTION





When working with the PNA, do not exceed 5 to 7 Km/h or 3 to 4 MPH. avoiding riks of injury and accident.





Remove the ignition key before performing any type of maintenance in PNA.

Protect yourself against possible injuries or death caused by PNA unexpected start-up.

Do not start up the tractor if PNA 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 PNA, check for people or obstructions near the machine.



ATTENTION



Avoid heating parts near the fluid lines.

Heating may generate fragility in the mate-

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



ATTENTION



Keep the articulation area free while the PNA 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).



î\ ATTENTINN



Always stay from the active element of the PNA (blade), as it is sharp and can cause accidents

When servicing blades, wear safety gloves.

ATTENTION



Dispose residues inappropriately affects the environment and the ecology since you will be polluting rivers, canals or the soil.

Inform yourself about the proper way of recycling or disposing residues.

PROTECT THE ENVIRONMENT!



Safety rules

PPE Equipament

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

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





IMPORTANT

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

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











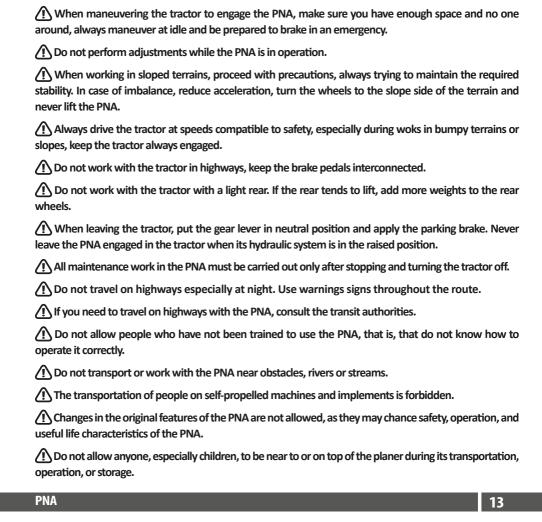






Warnings

are harmful to health.



Mhen operating with the PNA, do not let people stand near to or on the machine.

(!) Whe operating the tractor engine, properly sit in the operator's seat and be aware of the full knowledge of the correct and safe handling of both the tractor and the PNA. Always put the gear shift in neutral position, unplug the power take-off gear switch and place the hydraulic controls in neutral position.

(!) Do not start the engine in a closed environment or with no proper ventilation since the exhaust gases

When performing any maintenance service, use PPEs equipment.
① Do not wear loose clothing, as it may get caught in the PNA.



Warnings

!\ Please read all safety information contained in this manual and the PNA carefully.

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

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

Maintenance and especially inspection in risk areas of the PNA must be done by qualified or trained workers only, observing all safety guidelines. Before starting maintance, disconnect all PNA drive systems.

Periodically check all components of the PNA before use.

Before connecting or disconnecting hydrauli hoses, relieve system pressure by activating the control with the tractor off. Make sure that when relieving system pressure, no one is injured by the movement of the PNA.

Periodically check the condition of the hydraulic hoses. If there is evidence of oil leakage, replace the hoses immediately as the oil works under high pressure and can cause serious accidents.

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

① Check minimum tractor power recommended for the PNA. Only use tractors with power and ballast compatible with the load and terrain topography.

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

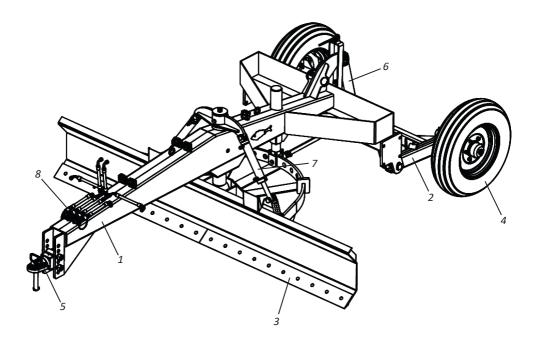
Read or explain all the procedures of this manual to the operator who cannot read.

In the case of doubts consult the After Sales. Phone: 0800-152577 / E-mail: posvenda@baldan.com.br



Components

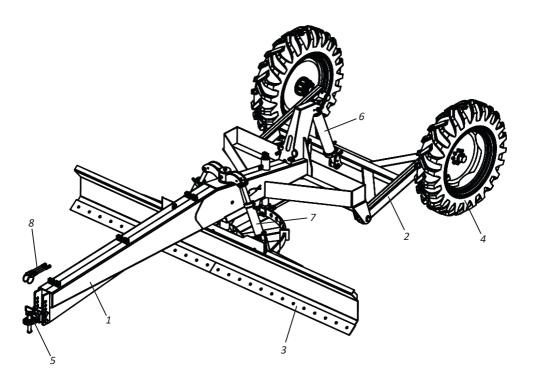
- PNA 3000 Agricultural Rear Blade
- 1. Frame
- 2. Wheel support
- 3. Blade
- 4. Tire
- 5. Hitch shackle
- 6. Lift cylinder
- 7. Articulation cylinder
- 8. Hydraulic hoses





Components

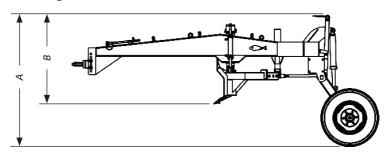
- PNA 5000 Agricultural Rear Blade
- 1. Frame
- 2. Wheel support
- 3. Blade
- 4. Tire
- 5. Hitch shackle
- 6. Lift cylinder
- 7. Articulation cylinder
- 8. Hydraulic hoses

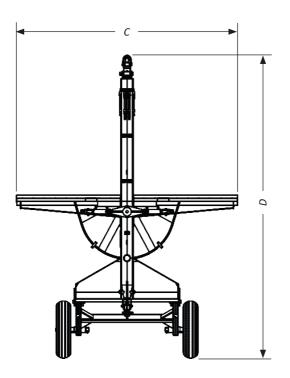


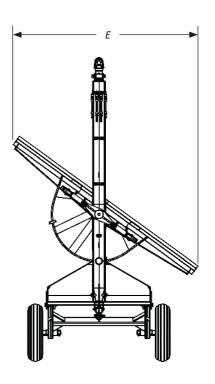


Dimensions

• PNA 3000 - Agricultural Rear Blade





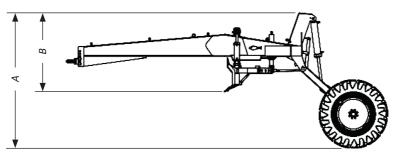


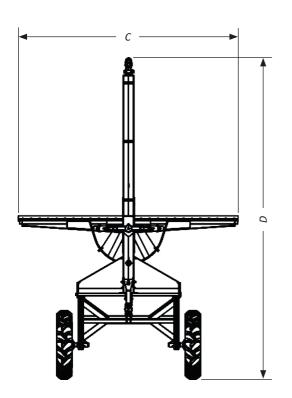
Model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
PNA 3000	1728	1199	3006	4414	2510

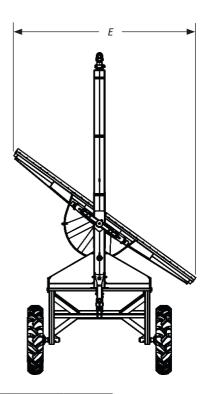


Dimensions

• PNA 5000 - Agricultural Rear Blade







Model	A	B	C	D	E
	(mm)	(mm)	(mm)	(mm)	(mm)
PNA 5000	2543	1446	4031	5837	2945



Specifications

• PNA - Agricultural Rear Blade

Model	Cutting Width (mm)	Blade Width (mm)	Lifting Hydraulic Cylinder (ø)	Hydraulic Cylinder for Angle Adjustment (ø)	Aproximate Weight w/ tires (Kg)	Aproximate Weight w/ Iron Wheel (Kg)	Tractor Power (HP)
PNA 3000	3000	3000	2.1/2"	2"	810	870	80 à 100
PNA 5000	4000	4000	4"	3.1/4"	1375	-	100 à 120

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 USING OF THE PNA

- The **PNA** was developed for road construction, rainwater runoff channels, landdfills and similar.
- The **PNA** should only be driven and operated by a properly instructed operator.

PROHIBITED USE OF THE PNA

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

Assembly

For easy loading and transportation, the **PNA** is sent disassembled from the factory. To assemble it, follow the instructions in the next pages:

The PNA must be assembled by the reseller, by people trained and qualified for this work.

1 Before starting the assembling the **PNA**, find an ideal place where you can easily identify parts and assemble them.

1 Do not wear loose clothing as it may get caught on the PNA.

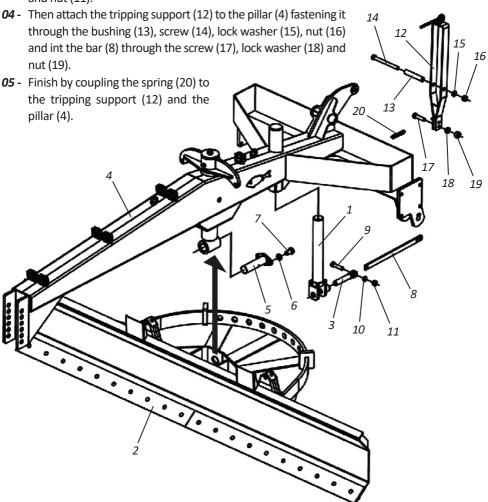


Assembly

• Assembly the blade (Blade rotation mechanical system)

To assemble the blade with a mechanical rotation system, proceed as follows:

- 01 Couple the rear support (1) on the blade (2), fastening it through the pin (3).
- **02** Then attach the blade (2) to the pillar (4), fastening it through the pin (5), locking it with the lock washers (6) and screws (7).
- 03 Then, attach the bar (8) to the pin (3) fastening it through the screw (9), lock washer (10) and nut (11).

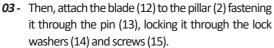




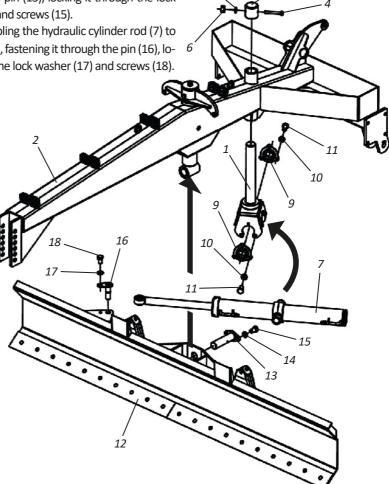
• Assembling the blade (Blade rotation hydraulic system)

To assemble the blade with a rotation hydraulic system, proceed as follows:

- 01 Couple the back support (1) to the pillar (2), fastening it through the bushing (3), screw (4), lock washer (5), and nut (6).
- 02 Then, attach the hydraulic cylinder (7) to the rear support (1) fastening it through the bearings (9), lock washers (10), and screws (11).



04 - Finish by coupling the hydraulic cylinder rod (7) to the blade (12), fastening it through the pin (16), locking it with the lock washer (17) and screws (18).



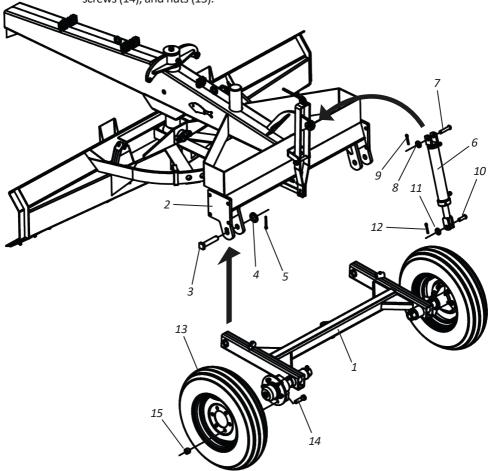


Assembly

• Assembling the wheel support (Blade rotation mechanical system)

To assemble the wheel support, proceed as follows:

- **01** Couple the wheel support (1) in the pillar (2) fastening it through the pin (3), washer (4) and cotter pin (5).
- **02** Then, couple the hydraulic cylinder base (6) to the pillar (2) fastening it through the pin (7), flat washer (8), cotter pin (9) and the rod in the wheel support (1) through the pin (10), flat washer (11), and cotter pin (12).
 - **03** Then, couple the tires (13) to the wheel support (1), fastening it through the screws (14), and nuts (15).



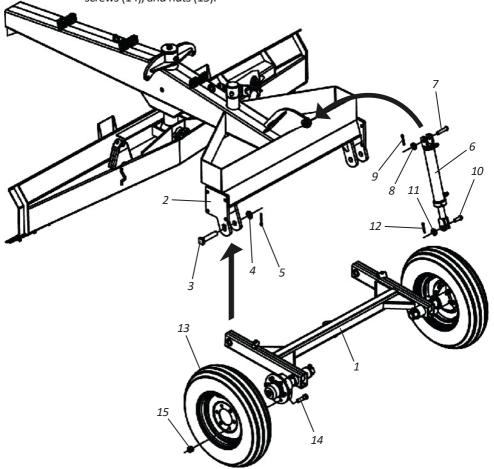


• Assembling the wheel support (Hydraulic blade rotation system)

To assemble the wheel support, proceed as follows:

- **01** Couple the wheel support (1) in the pillar (2) fastening it through the pin (3), washer (4) and cotter pin (5).
- **02** Then, couple the hydraulic cylinder base (6) to the pillar (2) fastening it through the pin (7), flat washer (8), cotter pin (9) and the rod in the wheel support (1) through the pin (10), flat washer (11), and cotter pin (12).

03 - Then, couple the tires (13) to the wheel support (1), fastening it through the screws (14), and nuts (15).



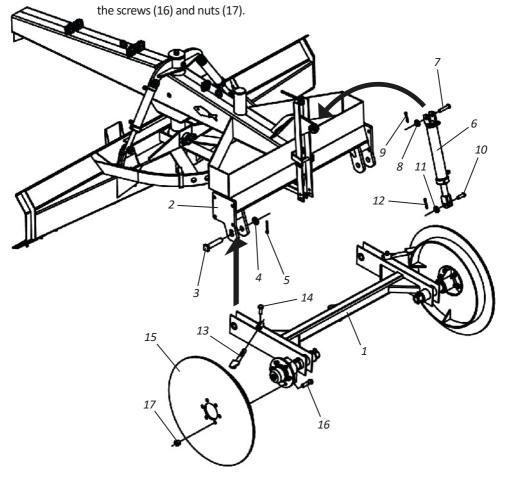


Assembly

• Assembling the iron wheel (Optional) - PNA 3000

To assemble the iron wheel (optional), proceed as follows:

- **01** Couple the wheel support (1) in the pillar (2) fastening it through the pin (3), washer (4), and cotter pin (5).
- **02** Then, couple the hydraulic cylinder base (6) to the pillar (2) fastening it through the pin (7), flat washer (8), cotter pin (9) and the rod in the wheel support (1) through the pin (10), flat washer (11), and cotter pin (12).
- 03 Then, couple the cleaners (13) to the wheel support (1), fastening it through the screws (14).
 04 Then, couple the iron wheels (15) to the wheel support (1) fastening it through

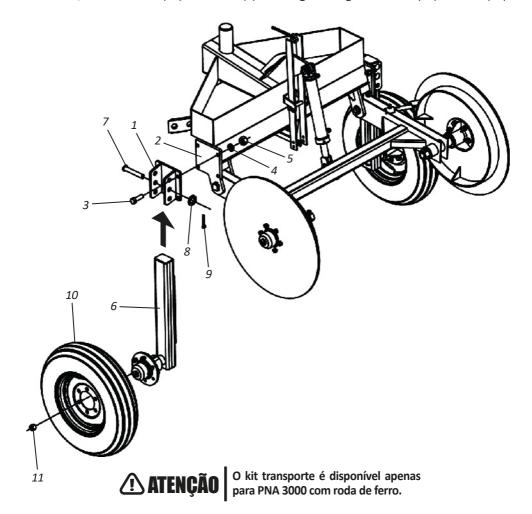




• Assembling the transportation kit (Optional) - PNA 3000 with an iron wheel

To assemble the transport kit (optional), proceed as follows:

- **01** Couple the wheelset support (1) on the pillar (2) fastening it through the screws (3), lock washers (4), and nuts (5).
- **02** Then, couple the rods (6) to the wheelset supports (1), fastening it through the pins (7), flat washers (8), and cotter pin (9).
- 03 Then, attach the tires (10) to the rods (6) fastening it through the screws (11) and nuts (12).



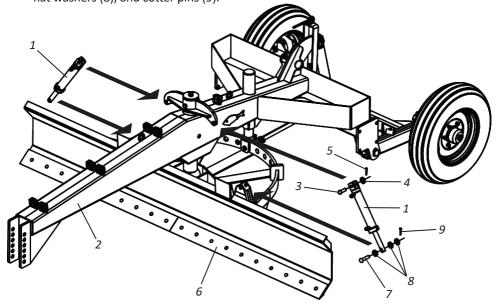


Assembly

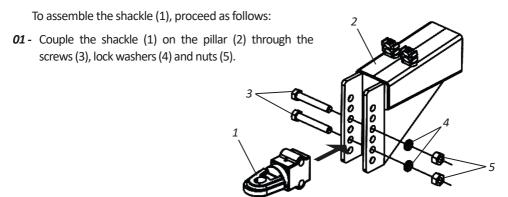
Assembling the hydraulic cylinders

To assemble the hydraulic, proceed as follows:

01 - Attach the base of the hydraulic cylinders (1) to the pillar (2) fastening it through the pins (3), flat washers (4), cotter pins (5), and the rod in the blade (6) through the pins (7), flat washers (8), and cotter pins (9).

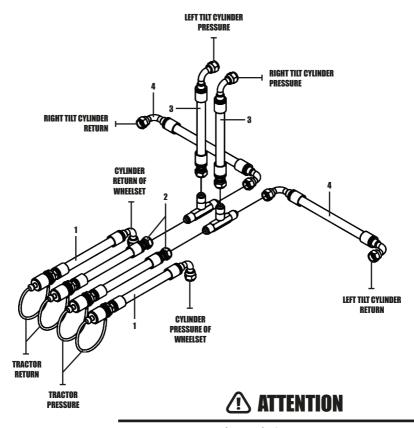


Assembling the shackle





 Assembling the hydraulic system for a tractor with double control without a rotating piston - PNA 3000



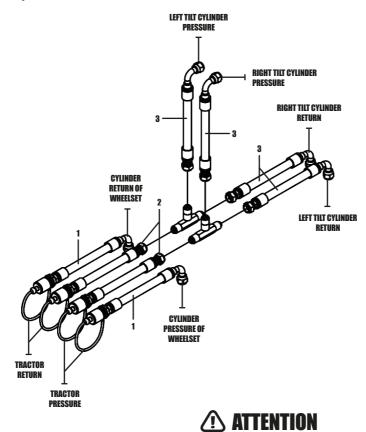
Check that the hoses (3 and 4) of the blade tilt cylinders are mounted inverted because the blade tilt cylinders act at the same time, i.e. when one cylinder opens the other closes and vice versa.

ltem	Product description	All
1	Hose Hydr. 3/8" x 6600 mm w/ 1TCG and 1TRF w/ male quick hitch	2
2	Hose Hydr. 3/8" x 4500 mm w/ 1TRG and 1TRF w/ male quick hitch	2
3	Hose Hydr. High Pressure 3/8" x 950 mm w/ 1TCG 90° and 1TRG (SAE 100 R2 AT-P.T 4.800 PSI)	2
4	Hose Hydr. High Pressure 3/8" x 750 mm w/ 2TCG 90° (SAE 100 R2 AT-P.T 4.800 PSI)	2



Assembly

 Assembling the hydraulic system for a tractor with double control without a rotation piston - PNA 5000

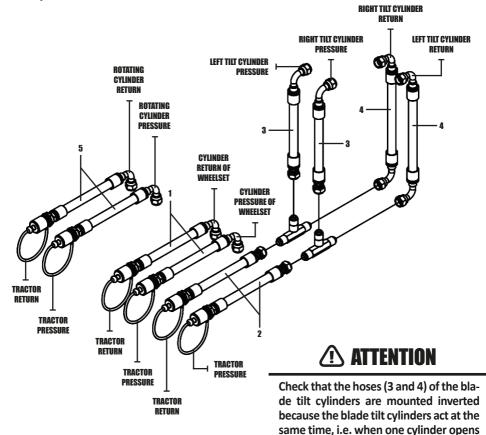


Check that the hoses (3) of the blade tilt cylinders are mounted inverted because the blade tilt cylinders act at the same time, i.e. when one cylinder opens the other closes and vice versa.

Item	Product description	All
1	Hose Hydr. 3/8" x 6600 mm w/ 1TCG and 1TRF w/ male quick hitch	2
2	Hose Hydr. 3/8" x 4500 mm c/ 1TRG and 1TRF w/ male quick hitch	2
3	Hose Hydr. High Pressure 3/8" x 950 mm w/ 1TCG 90° and 1TRG (SAE 100 R2 AT-P.T 4.800 PSI)	4



 Assembling the hydrauli system for a tractor with triple control with a rotating piston (Optional) - PNA 3000



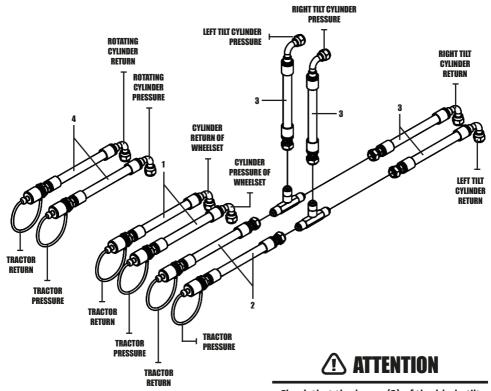
Item ₹ Product description 1 Hose Hydr. 3/8" x 6600 mm w/ 1TCG and 1TRF w/ male quick hitch 2 2 2 Hose Hydr. 3/8" x 4500 mm w/ 1TRG and 1TRF w/ male quick hitch Hose Hydr. High Pressure 3/8" x 950 mm w/ 1TCG 90° and 1TRG (SAE 100 R2 AT-P.T 4.800 PSI) 2 3 4 Hose Hydr. High Pressure 3/8" x 750 mm w/ 2TCG 90° (SAE 100 R2 AT-P.T 4.800 PSI) 2 Hose Hydr. 3/8" x 6000 mm c/ 1TCG and 1TRF w/ male quick hitch 2

the other closes and vice versa.



Assembly

 Assembling the hydraulic system for a tractor with triple control with a rotating piston (Optional) - PNA 5000

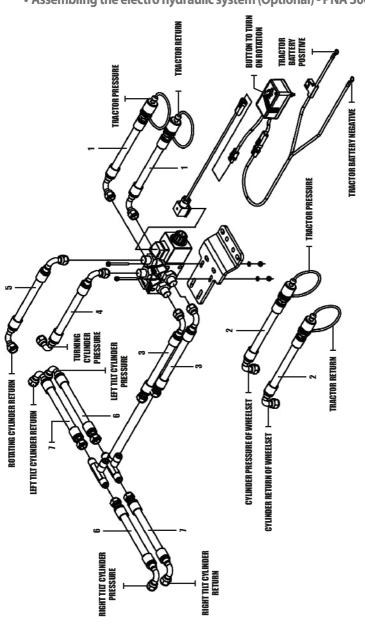


Check that the hoses (3) of the blade tilt cylinders are mounted inverted because the blade tilt cylinders act at the same time, i.e. when one cylinder opens the other closes and vice versa.

Item	Product description	All
1	Hose Hydr. 3/8" x 6600 mm w/ 1TCG and 1TRF w/ male quick hitch	2
2	Hose Hydr. 3/8" x 4500 mm w/ 1TRG and 1TRF w/ male quick hitch	2
3	Hose Hydr. High Pressure 3/8" x 950 mm w/ 1TCG 90° and 1TRG (SAE 100 R2 AT-P.T 4.800 PSI)	4
4	Hose Hydr. 3/8" x 6000 mm w/ 1TCG and 1TRF w/ male quick hitch	2



• Assembling the electro hydraulic system (Optional) - PNA 3000/5000 - Part I



ATTENTION After assembling the eletronic system, perform a general review on the PNA. Retighten all screws and nots, check all pins, cotter pins, and locks, review all hoses.

O NOTE

When using a diverter valve (1) supplied by BPN and REXROTH, connect the tractor pressure and return to inlets P1 and P2 indicated on the block (watch the side). When using a diverter valve (1) supplied by HYDAC, connect the tractor pressure and return to the inlets: A1 and A2 indicated on the block (watch the side).

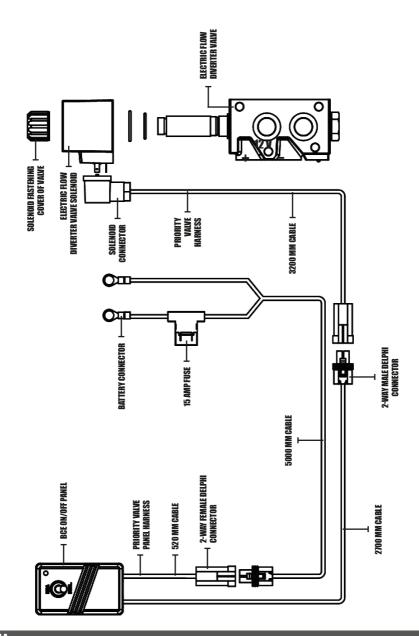


Assembly

• Assembling the electro hydraulic system (Optional) - PNA 3000/5000 - Part II

PNA 3000

Assembling the electronic system (Optional) - PNA 3000/5000

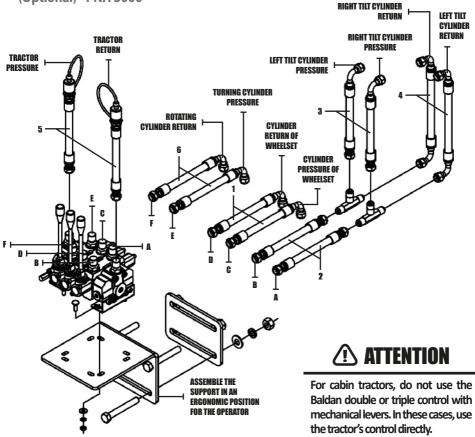


ATTENTION After assembling the electronic system, perform a general review on the PNA. Retighten all screws and nuts, check all pins, cotter pins, and locks, review all hoses.



Assembly

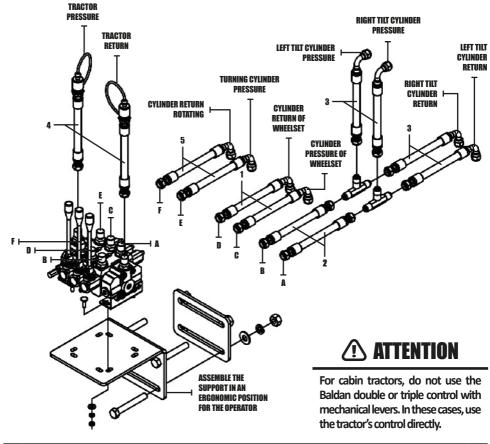
 Assembling the hydraulic system with Baldan triple control with a rotating piston (Optional) - PNA 3000



ltem	Product description	All
1	Hose Hydr. High Pressure 3/8" x 6500 mm w/ 1TCG and 1TRG (SAE 100 R2 AT-P.T 4.800 PSI)	2
2	Hose Hydr. High Pressure 3/8" x 4500 mm w/ 2TRG (SAE 100 R2 AT-P.T 4.800 PSI)	2
3	Hose Hydr. High Pressure 3/8" x 950 mm w/ 1TCG 90° and 1TRG (SAE 100 R2 AT-P.T 4.800 PSI)	2
4	Hose Hydr. High Pressure 3/8" x 750 mm w/ 2TCG 90° (SAE 100 R2 AT-P.T 4.800 PSI)	2
5	Hose Hydr. 3/8" x 1800 mm w/ 1TRG and 1TRF w/ male quick hitch	2
6	Hose Hydr. High Pressure 3/8" x 6200 mm w/ 1TCG and 1TRG (SAE 100 R2 AT-P.T 4.800 PSI)	2



 Assembling the hydraulic system with Baldan triple control with a rotating piston (Optional) - PNA 5000



Item	Product description	W
1	Hose Hydr. High Pressure 3/8" x 6500 mm w/ 1TCG and 1TRG (SAE 100 R2 AT-P.T 4.800 PSI)	2
2	Hose Hydr. High Pressure 3/8" x 4500 mm w/ 2TRG (SAE 100 R2 AT-P.T 4.800 PSI)	2
3	Hose Hydr. High Pressure 3/8" x 950 mm w/ 1TCG 90° and 1TRG (SAE 100 R2 AT-P.T 4.800 PSI)	4
4	Hose Hydr. 3/8" x 1800 mm w/ 1TRG and 1TRF w/ male quick hitch	2
5	Hose Hydr. High Pressure 3/8" x 6200 mm w/ 1TCG and 1TRG (SAE 100 R2 AT-P.T 4.800 PSI)	2



Hitch

Tractor hitch

To attach the **PNA** to the tractor drawbar, follow these instructions:

The **PNA** must be assembled by the reseller, by people who are trained and qualified and qualified for this job.

⚠ Before assembling the **PNA**, look for an ideal place for easy identification of parts and its assembly.

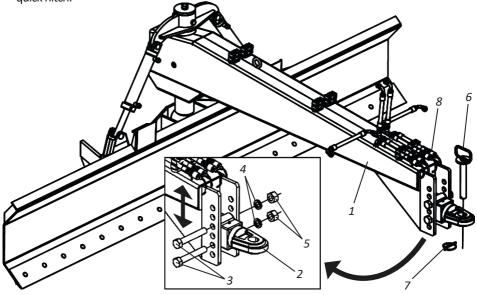
① Check that the tractor is equipped with weights or ballasts on the front or on the front wheels, this will give the tractor greater stability and traction on the ground.

Use PPE (Safety Equipment).

After following the instructions above, proceed as follows:

- **01** Level the **PNA** header (1) in to the tractor hitch through the shackle (2), loosening the screws (3), lock washers (4), and nuts (5).
- **02** Approach the tractor slowly to the **PNA** in reverse gear, paying attention to the application of the brakes. Finally, couple the **PNA** to the tractor by fastening it through the hitch pin (6) and lock (7).

03 - Após o engate da **PNA** to the tractor's drawbar, attach the hydraulic hoses (8) to the tractor's quick hitch.



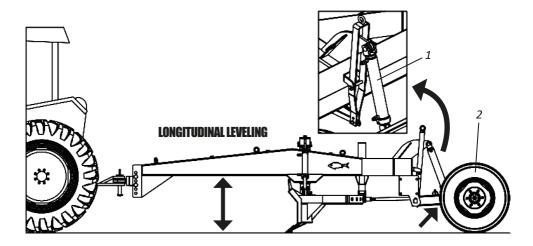


Leveling

PNA leveling

To level the PNA, proceed as follows:

- 01 The tractor must be in a flat location.
- **02** The level the **PNA** by observing it from the side, longitudinal leveling (length) in relation to the ground.
- **03** Otherwise, it must be leveled through the hydraulic cylinder (1), adjusting the wheelset (2) to a height that results in the best leveling of the **PNA**.





Read the tractor manual carefully and make sure that you can work with the drawbar. Baldan is not responsible for any misuse of PNA.

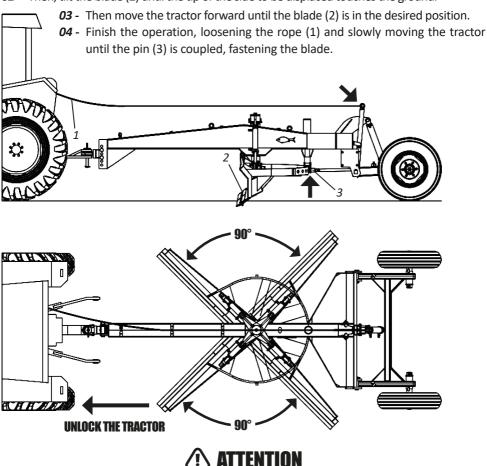


Adjustments

• Adjusting the horizontal angle of the blade without a rotating piston

The **PNA** blade has a horizontal cutting angle ranging from de 0 to 90°. To adjust the horizontal cutting angle, proceed as follows:

- 01 Pull the rope (1) unlocking the blade (2).
- 02 Then, tilt the blade (2) until the tip of the side to be displaced touches the ground.



The PNA was developed for work on firm soil, without stones and loose soil. We recommend on harder soils, scarifying the ground before using the blade. Do not use the PNA on cobbled and compacted roads, as it increases the wear of the knives and can damage the equipment structure.



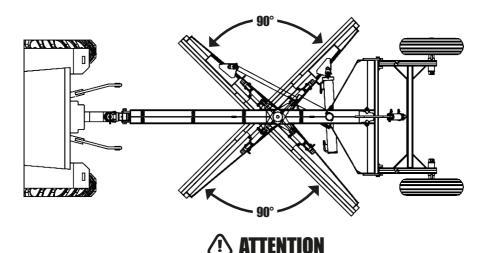
Adjustments

• Adjusting the horizontal angle of the blade with a rotating piston (Optional)

The **PNA** blade has a horizontal cutting angle ranging from 0 to 90°. To adjust the horizontal cutting angle, proceed as follows:

- 01 Operate the hydraulic cylinder (1) to raise the PNA until the blade (2) comes off the ground.
- 02 Then, activate the hydraulic (3) to move the blade (2) to the desired position.
- O3 Finish the operation by pushing the hydraulic cylinder (1) again to lower the PNA until the blade (2) touches the ground.

 REMOVE THE BLADE FROM THE SOIL



The PNA was developed for work on firm soil, without stones and loose soil. We recommend on harder soils, scarifying the ground before using the blade. Do not use the PNA on cobbled and compacted roads, as it increases the wear of the knives and can damage the equipment structure.

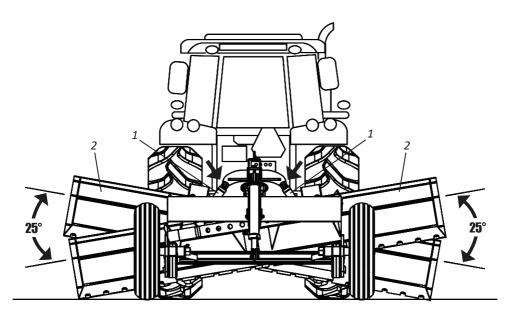


Adjustments

Adjusting the vertical angle of the blade

The **PNA** blade has a vertical cutting angle which, by actuating the hydraulic cylinders (1) ranges from 0 to 25°. To obtain these adjustments at the vertical cutting angle, proceed as follows:

01 - Operate the hydraulic cylinders (1) using the tractor's hydraulic control, making the blade (2) to rise or lower at a maximum angle of 25°.



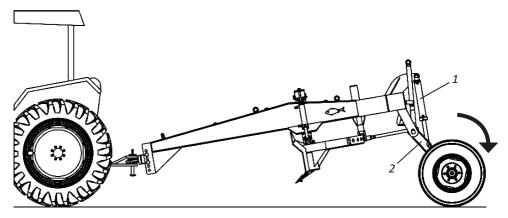


Transportation

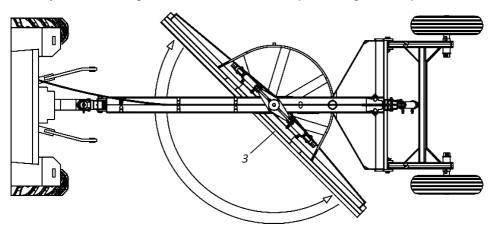
• Preparing the PNA 3000 without an iron wheel for transportation

To transport the PNA 3000 without an iron, proceed as follows:

01 - Operate the hydraulic cylinder (1) of the wheel axle (2) to lift the PNA 3000.



02 - Then turn the blade (3) fully to one side, fastening it in the last hole of the horizontal adjustment, making it easier for the **PNA 3000** to pass through narrow places.



ATTENTION

Before transporting the PNA, make sure that the blade (3) is properly fastened.

• IMPORTANT

When making this adjustment, make sure that there are no people near the PNA.



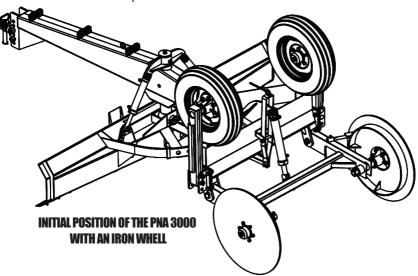
Do the same procedure as above to work with the PNA 5000.

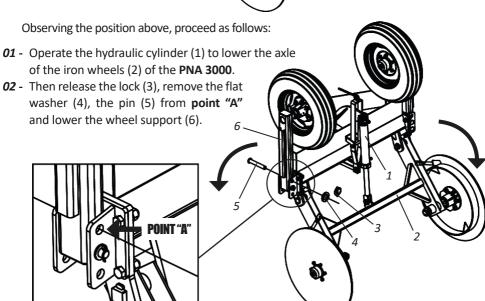


Transportation

• Preparing the PNA 3000 with an iron wheel for transportation (Optional) - Part I

Before start preparing the **PNA 3000 with an iron wheel** for transportation, make sure it is in the position below.

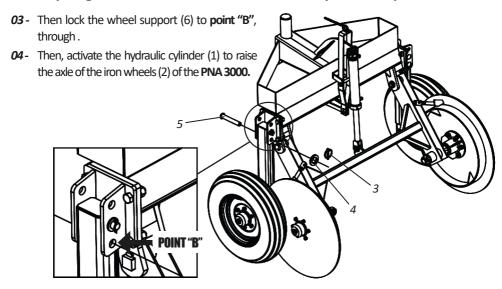




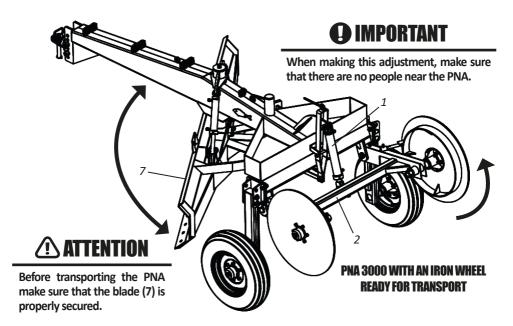


Transportation

• Preparing the PNA 3000 with an iron wheel for transportation (Optional) - Part II



05 - Finish by fully turning the blade (7) to one side, PNA 3000 to pass through narrow.



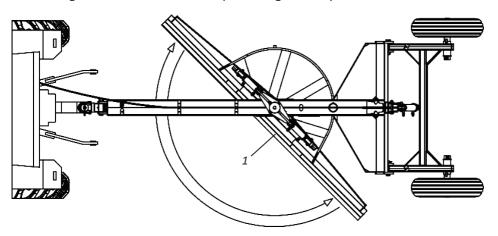


Work

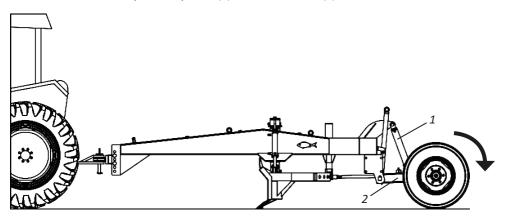
• Preparing the PNA 3000 whitout an iron wheel for work

Before starting work with the PNA 3000 without an iron wheel, proceed as follows:

01 - Turn the blade (1) fully to one side, fastening it in the last hole of the horizontal adjustment, making it easier for the PNA 3000 to pass through narrow places.



02 - Then activate the hydraulic cylinder (2) of the wheel axle (3) to lower the PNA 3000.



ATTENTION

Before working with the PNA, make sure that the blade (1) is properly fastened.

O IMPORTANT

When making this adjustment, make sure that there are no people near the PNA.

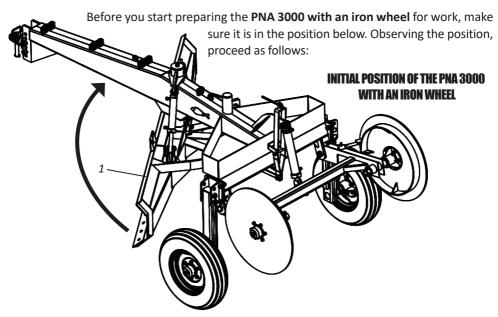
ONOTE

Do the same procedure as above to work with the PNA 5000.

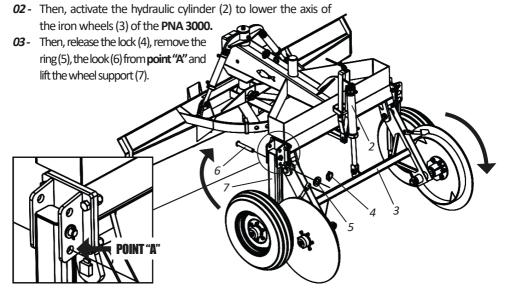


Work

• Preparing the PNA 3000 with an iron wheel for work (Optional) - Part I



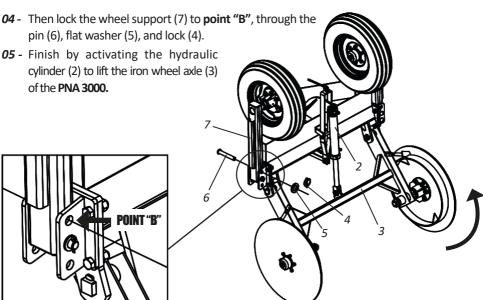
01 - Turn the blade (1) securing it in the central hole of the horizontal adjustment.

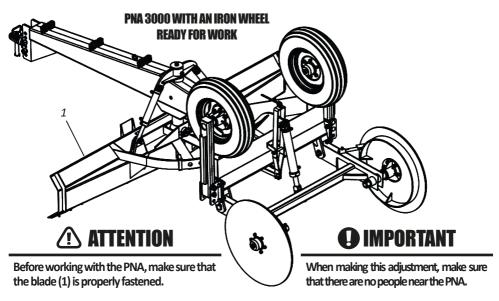




Work

• Preparing the PNA 3000 with an iron wheel for work (Optional) - Part II





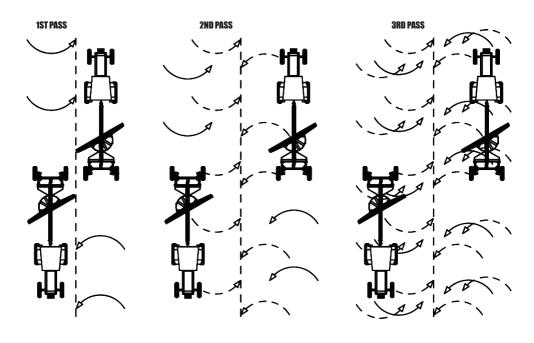


Operations

• Terrace building - Part I

When building a broad base terrace, the number of passes may vary according to the size of the terrace and the skill of the operator.

To build a broad base terrace, the blade should be tilted with the forward edge of the blade lowered down. With this, the blade will open the channel by dragging the loose earth to the crest of the terrace.



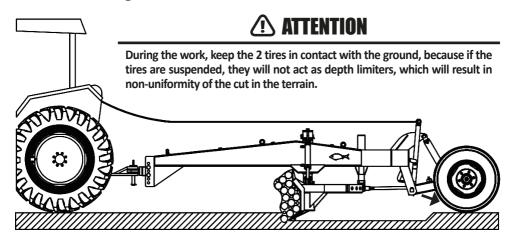
O IMPORTANT

As the PNA wheel enters the terrace channel, adjust the cutting depth of the blade, as non-adjustment will make cutting stability and terrace leveling difficult, causing unevenness along the terrace.



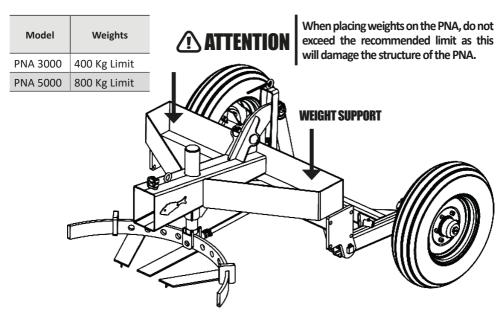
Operations

• Terrace building - Part II



Terrain leveling

To prevent slipping during work, the **PNA** has a support to place weights. The weight limit to be placed on the **PNA**, varies according to the model as shown in the table below:

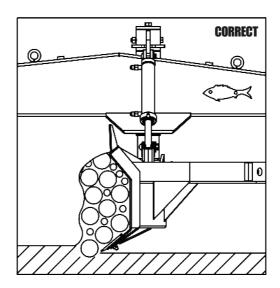


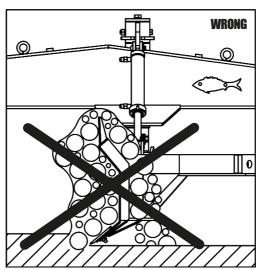


Operations

Cutting depth

The cutting depth of the **PNA** blade depends on the power of the tractor used. When traveling with the **PNA**, do not let the volume of dragged earth to overflow the blade as shown in the figures bellow.







Maintenance

Recommendations for operation

Preparing the **PNA** and the tractor will save you time as well as provide better field work results. The following suggestions may be helpful to you.

GENERAL RECOMMENDATIONS

- **01** Before you start work, do a full review on the **PNA**. In this review, lubricate all points, retighten the nuts and screws, check the locking of the pins and cotter pins.
- 02 Check that the PNA operator is trained and qualified for the work.
- **03** Adjust the tractor according to the contents of the instruction manual, always using the front and rear weights to stabilize the equipment.
- 04 Always couple the tractor at idle and very carefully.
- **05** Respect the working speed specified on page 10. We do not recommend exceeding the maximum speed to avoid possible damage to the **PNA**.
- 06 The PNA has several settings, but only local conditions can determine the best setting.
- **07** During work do not let people, children, or animals stay within the radius of rotation of the **PNA** blade.
- 08 When performing any maintenance on the PNA, the engine must be turned off.



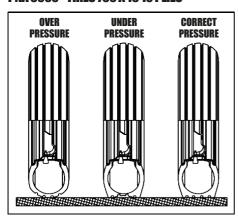
Maintenance

The **PNA** has been developed to provide you with maximum yield under terrain conditions. Experience has shown that periodic maintenance of certain parts of the **PNA** is the best way to help you have no problems, so we suggest checking.

Tire pressure

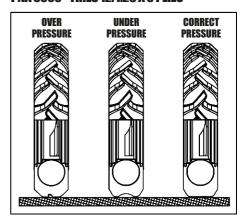
Tires should always be properly calibrated to prevent premature wear due to over or under pressure.

PNA 3000 - TIRES 750 X 16 10 PLIES



USE 60 LBS/POL²

PNA 5000 - TIRES 12.4.28 X 6 PLIES



USE 18 LBS/POL² WITH 3/4 WATER
USE 22 LBS/POL² WITHOUT 3/4 WATER

ATTENTION

Never weld the wheel with a mounted tire, as heat can increase air pressure and cause the tire to explode.

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

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

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



When calibrating the tires, do not exceed

WHOIL

Tractor tire pressure should be as recommended by the manufacturer.

the recommended calibration.



Maintenance

The **PNA** has been developed to provide you with maximum yield under terrain conditions. Experience has shown that periodic maintenance of certain parts of the **PNA** is the best way to help you have no problems, so we suggest checking.



Constantly check nuts and screws, and retighten them if necessary. General retightening of equipment should be done every 10 working hours.

Lubrification

Lubrification is essential for good performance and a longer service life of the **PNA**, contributing to maintenance cost savings.

Before starting the operation, carefully lubricate all grease fittings, always observing the greasing intervals on the following page. Make sure of the quality of the lubrificant, its efficiency and purity, avoiding the use of products contaminated by waterm soil and other agents.

• Grease table and equivalents

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

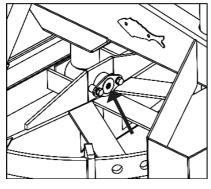


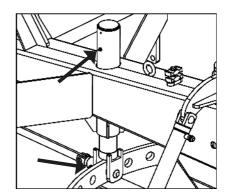
For manufacturers and or equivalent brands not listed in the table, see the manufaturer's technical manual.

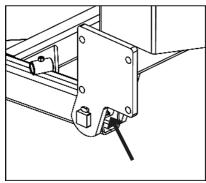


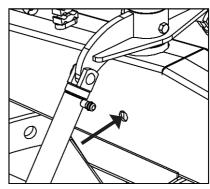
Maintenance

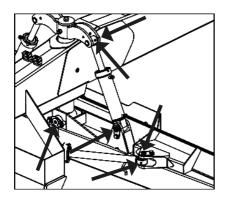
• Lubricate every 10 hours of work

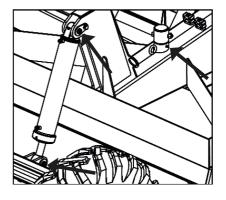












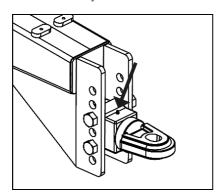


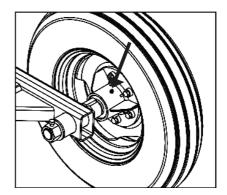
When lubricating the PNA, do not exceed the amount of new grease. Insert a sufficient amount.

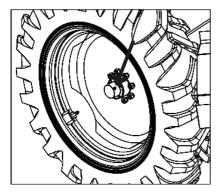


Maintenance

• Lubricate every 24 hours of work









Maintenance

• Operational maintenance - Part I

PROBLEMS	PROBABLE CAUSES	SOLUTIONS	
	Pressure of plugs uneven.	Adjust and change if necessary.	
	Hydraulic driver clogged or bent.	Unclog or change driver.	
Blade does not articulate	Insufficient hydraulic control pressure.	Adjust the control via the relief valve using a pressure gauge. Normal pressure 180 Kgf/cm².	
and/or does not lift the structure.	Inverted hoses.	Inspect and assemble hoses correctly.	
	Defective hydraulic cylinder.	Replace repair or replace cylinder.	
	Tractor with poor hydraulic system.	Check by changing equipment to another suitable tractor.	
	Oil level too low.	Fill to level.	
Structure goes down without triggering the control.	Hydraulic cylinder with damaged repairs.	Replace repairs.	
The blade's hydraulic cylinders are not activating at the same time.	Hoses are not reverse mounted.	Loosen hoses and reverse mount.	
Damage tires.	Work area with stones, stumps or crop stubbles that causes cuts to the tires.	Eliminate elements that damage the tires before using the PNA.	
	Tires are not under the proper pressure causing deformation.	Maintain proper tire pressure.	
Ctrongo noise en urbeele	Loose wheels or wheel hub.	Retighten wheel nuts and adjust wheel hub bearings.	
Strange noise on wheels.	Bearings breakage.	Identify the occurence and replace the damaged parts.	
Quick coupling does not fit.	Couplings of different types.	Exchange them for males and females of the same type.	
Look in quiel:	Insufficient tightening.	Retighten carefully without excess.	
Leak in quick couplers.	Damaged repairs.	Replace repairs.	



Maintenance

• Operational maintenance - Part II

PROBLEMS	PROBABLE CAUSES	SOLUTIONS	
	Thread sealing material is missing.	Use thread sealant and retighten carefully.	
Leak in hydraulic hoses.	Insufficient tightening.	Retighten carefully.	
	Damaged repairs.	Replace terminals.	
	Coupling of different brands.	Use couplings of the same brand.	
Quick couplings do not couple.	Mixing needle couplings with ball couplings.	Always use couplings of the same type.	
	System pressure.	Relieve pressure to couple.	



Maintenance

- Cares
- **01** Before each work, check the condition of all pins and screws. Where necessary, retighten or replace them.
- **02** Movement speed should be carefully controlled according to the terrain's conditions.
- 03 The PNA is used in several applications, requiring knowledge and attention in its handling.
- 04 Only local conditions can determine the best way to operate the PNA.
- **05** When assembling or disassembling parts of the **PNA**, use appropriate methods and tools.
- **06** Retighten the nuts daily during the first week of use. Then periodically retighten them.
- 07 Turn off the tractor completely before any maintenance on the PNA.
- 08 Carefully observe the lubrification intervals in the various lubrification points of the DCF-CO. Respect the lubrification intervals.
- 09 After all maintenance work, store the PNA in a safe and proper location.
- **10** Always check if the parts have wears. If there is a need for replacement, always demand Baldan original parts.



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



Maintenance

- General cleaning
- 01 When storing the PNA, perform a general cleaning and wash it thoroughly with water only. Make sure the paint has not worn out, if this has happened, apply a general coat and protective oil and fully lubrificate the PNA. Do not use burned oil or other abrasive.
- 02 Completely lubrificate the PNA. Check all moving parts of the PNA, for wear and tear or gaps, make the required adjustments or parts replacements, leaving the machine ready for the next work.
- 03 Replace all damaged or missing stickers, especially warnings. Make everryone aware of their importance and the dangers of accidents when instructions are not followed.
- **04** After all maintenance precautions, store your **PNA** in a plain surface, at a covered and dry location, away from animals and children.
- **05** We recommend washing the **PNA** with water only on the beginning of works.



ATTENTION Do not use abrasives or chemical products to wash the PNA, as it may damage its painting and adhesives.

Planer Preservation - Part I

To extend the useful life and appearance of the PNA, follow the instructions bellow:

- 01 Wash and clean all PNA components during and at the end of the work season.
- 02 Use neutral products to clean the PNA following the safety and handling guidelines provided by the manufacturer.
- **03** Always carry out maintenance during the periods indicated in this manual.
 - Planer Preservation Part II

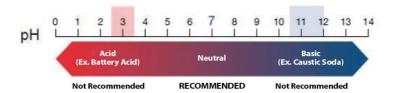
The practices and care below make a difference for the conservation of the PNA if adopted by the owner or operator.

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



Maintenance

- 04 Stains and dirt not removed with the products should be removed with the aid of a sponge.
- **05** Rinse the machine with clean water to remove any chemical residues.
- 06 Do not use: Detergents with a basic active ingredient (pH less than 7), can damage/stain the rear blade paint.
 - Detergents with acid active ingredients (lower than 7 pH), act as zinc stripper/ remover (parts protection against oxidation).



- 07 Allow the machine to dry in the shade so that it does not accumulate water in its components. Very fast drying can cause stains on your paint.
- 08 After drying, lubrificate all chains and greases according to the recommendations in the operator's manual.
- 09 Spray the whole machine, especially zinc parts, with protective oil, following the manufacturer's application instructions. The protective also prevents dirt from adhering to the machine, facilitating subsequent washings.
- 10 Observe curing (absorption) time and application intervals as recommended by the manufacturer.

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

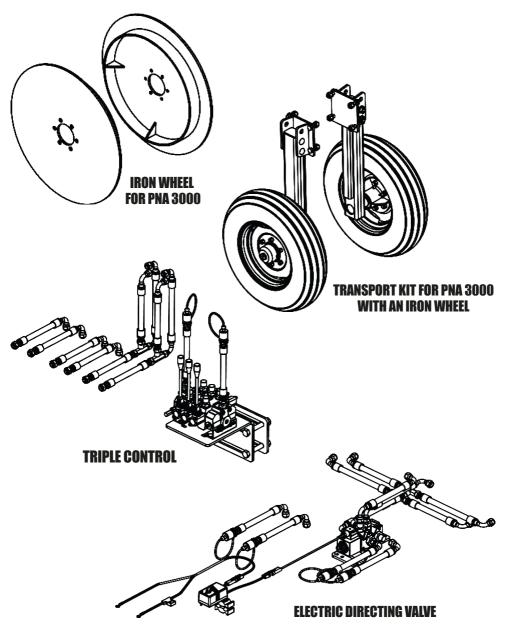
We recommend the following protective oils: - Bardahl: Agro protective 200 or 300 - ITWChemical: Zoxol DW - Series 4000

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



Optional

PNA has options that can be purchased according to the need of work.





Identification

• Identification plate

In order to consult the parts catalog or ask Baldan for service, always indicate the model (1), serial number (2) and manufacturing date (3), which is on the nameplate of your **PNA**.





The drawings in this Instruction Manual are merely illustrative.



In case of doubts, never operate or handle your equipment without referring to Post-Sales.

Telephone: 0800-152577

e-mail: posvenda@baldan.com.br

PUBLICATIONS

Code: 60550104698 | CPT: PNA01522A





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



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Implement:	Serial Number:		
Date:	_ Tax Number:		
Dealer:			
Telephone:	_ CEP:		
City:	State:		
Owner:			
Telephone:			
Address:	Number:		
City:	State:		
E-mail:			
Sale date:			
Signature / Dealer Stamp			

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

1.74.05.0059-5

AC MATÃO ECT/DR/SP

RESPONSE CARD

NO STAMPING IS REQUIRED

THE STAMP WILL BE PAID BY:



BALDAN IMPLEMENTOS AGRÍCOLAS S/A.

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



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+55 16 3221 6500 baldan.com.br