



GALUCHO

OPERATOR'S HANDBOOK AND SPARE PART'S LIST

REAR MOUNTED GRADERS



MODELS ➡

PN1-1500
PN1-1800
PN1-2000
PN1-2500
PN1H-3000



INDEX

RECOMMENDATIONS TO THE OWNER

CONDITIONS OF GUARANTEE

INNOVATIONS

1- EXPLANATORY NOTE

2- CONSTITUTION

3- ATTACHMENT TO THE TRACTOR

4- WORK

5- TECHNICAL SPECIFICATIONS

6- ADJUSTMENTS

7- MAINTENANCE

8- REPLACING THE PARTS OF GREATEST WEAR

9- SECURITY REGULATIONS

10- ORDERING SPARE PARTS

SPARE PARTS LIST

RECOMMENDATIONS TO THE OWNER

The decision to opt for GALUCHO was a good one. The result of many years of experience, under the most difficult and diverse working circumstances, GALUCHO material gives complete satisfaction to its many thousands of users, both in Portugal and in over 40 countries, of different continents, where it is already at work. We are sure that, if used properly, and given the necessary care to maintenance, the machine you have just acquired will perform the efficient and economical job for which it was designed, and which a user has the right to expect from it. The present manual contains very important instructions concerning set-up, tuning, maintenance, etc., As well as diagrams and a parts list.

Begin by reading it, attentively, in order to familiarise yourself with the material. Then, keep it in secure and accessible place, for future consultation.

If you still have doubts, consult the distributor who supplied the machine, or else consult us, as it is in all of our interests that you be satisfied with, and obtain maximum yield from your purchase.

Recordings and technical data are indicated by name and subject to alterations without previous notification.

GALUCHO - Indústrias Metalomecânicas, S.A.

Av. Central, N.º 4

2705-737 S. João das Lampas - Sintra, Portugal

Telef.:21 960 85 00 Fax:21 960 85 99

www.galucho.pt

comercial@galucho.pt

CONDITIONS OF GUARANTEE

1- Our company guarantees all the agricultural equipment which is manufactured for a period of two years from the date of invoice.

1.1- This guarantee only includes the supply of replacement parts or components which are proved to be deficiently made or installed, and does not cover the payment of manual labour or displacement costs.

1.2- Any components considered by this company to be worn out, are excluded from the guarantee.

1.3- The guarantee given by this company will not include any parts not made by themselves, for examples tyres, which will remain the exclusive responsibility of their respective manufacturer, and this decision will be communicated to the claimant with all its consequences.

2- Reasons for immediate loss of guarantee:

2.1- Use of equipment in abnormal working conditions, or used with tractors of different powers than those indicated, in each different case, in our technical literature.

2.2- The substitution of pieces or accessories for others not made or recognised by this company.

2.3- Any repair or alteration done, during the period of guarantee, without our knowledge or authorisation.

3- All claims against the guarantee must be communicated to us by the respective retail agents, by means of a claim form. The pieces or accessories, which are the objects of complaint, must be sent for examination to our Technical Services and Quality Department.

If the reasons for the complaint are confirmed and accepted, new pieces will be supplied, or their value credited to the customer, if already sent.

4 - The powers indicated in our catalogues and other literature as necessary for certain equipment of our construction, may vary according to the different types and states of the earth, the experience of the operator, the state of the tractor, and the adherence of the latter to the terrain on which it is working.

5 - This company can only accept the return of equipment to the factory, within a maximum of 15 days after the sending of the invoice, providing it has not been used in a working situation, it is not a model already withdrawn from production, or if it is still part of our production range, there have been no alterations made to the model.

6 - In compliance with regulations determined in the Directiva Máquinas/CE (Machines Directive/CE), this company:

6.1 - Manufactures its machines respecting the relevant safety regulations, namely with respect to the protection of moving parts;

6.2 - Supplies a certificate of conformity, referring to the norms and regulations fulfilled;

6.3 - Supplies a user's manual and catalogue of parts for each machine.

NOTE: Every Galucho dealer is obliged to supply the eventual consumer with:

- The safety devices, fixed or detachable, relevant to each machine;

- The certificate of conformity and the user's manual with a catalogue of parts for each machine.

7 - We recommend the reading of our pamphlet: "General Conditions of Sale and Payment".

8 - For any necessary clarifications, please consult our Commercial Services.

INNOVATIONS

GALUCHO-IND. METALOMECÂNICAS, S.A. continually attempts to perfect its products, reserving itself the right, at any time, to make alterations to the design and/or to the specifications of construction materials, and its respective components, without incurring, as a result, the obligation to apply these alterations to machines previously made and sold.

1- EXPLANATORY NOTE

Although every PN1 models are different in terms of dimensions, the instructions for assembly, adjustments, maintenance, etc., are all the same. The structural differences may be checked in the table of specifications.

2- CONSTITUTION

GALUCHO rear mounted graders are made up of the following principal parts:

- **HEADSTOCK** (Fig.1-A and 2-A) with several adjustments for three point linkage to the tractor;
- **BLADE** (Fig.1-B and 2-B) with variable width depending on the model, equipped with cutting blades (Fig.1-C and 2-C), side flaps (Fig.1-D and 2-D) and one "U" shaped spacer support or hydraulic cylinder (Fig.1-E and 2-E);
- **AXLE** for linking the headstock to the hydraulic cylinder;
- **ARM ROD or HYDRAULIC CYLINDER** (Fig.1-F or 2-F) to obtain the horizontal work angle adjustment, by manual or hydraulic regulation.

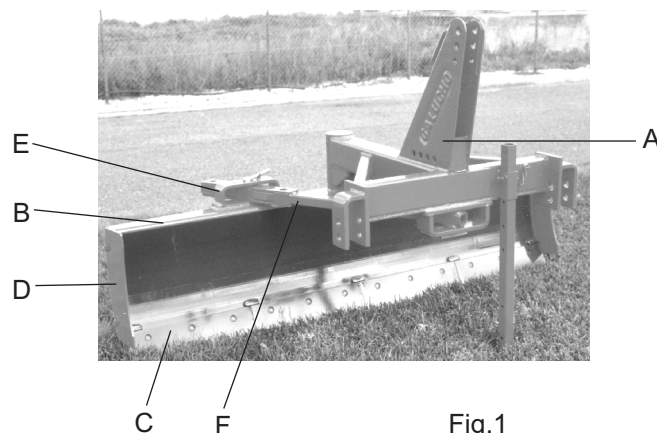


Fig.1

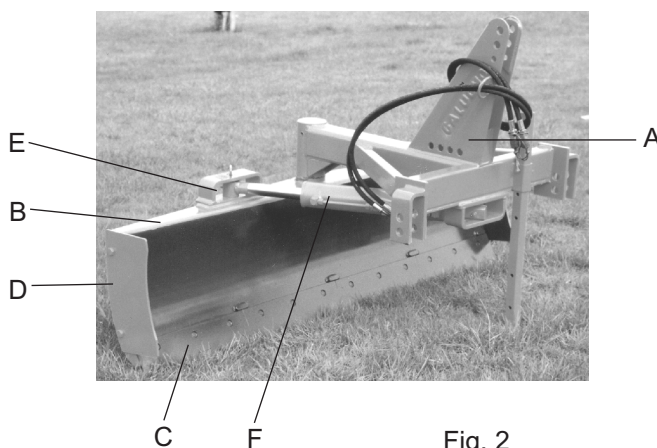


Fig. 2

Under titles of Figs. 1 and 2:

A- Headstock; **B-** Blade (set); **C-** Cutting blade; **D-** Side flaps; **E-** "U" shaped arm rod or hydraulic cylinder; **F-** Arm rod (Fig. 1) and Hydraulic cylinder (Fig. 2)

3- ATTACHMENT TO THE TRACTOR

The Rear Mounted Graders are delivered totally assembled. The attachment of the implement to the tractor is the same as with any other mounted implement, linking the three point hitch to the implement.

4- WORK

Due to the concept design and to the possibility of rotating it self 180° over the axle, the Rear Mounted Graders can execute transport jobs or earth movements (or even other farm products) in forwards or backwards steering sense. In each of these basic positions there is the possibility of fixing the blade in 8 different work horizontal angles, being 3 to the right and 4 to the left. To open position there is an adjustment set in continuous, +/- 30° interval (see Technical Specifications Table).

The blade's vertical angle as well as the lateral inclination of the whole set can change depending on the soil relief work conditions.

The side flaps (Fig. 1-D and 2-D) allow intensifying the blade capacity when the machine is moving or transporting soil or other materials. The side flaps must be dismounted whenever we want to spread aside the soil and also when it is necessary to clean soil gutters. The operator has only to unscrew the two screws that support each one of the side flaps.

In work operations like soil moving or cleaning soil gutters, the Rear Mounted Graders must always work in an oblique angle regarding the forward steering sense.

5- TECHNICAL SPECIFICATIONS (APPROX.)

MODELS	WORKING WIDTH (m)	HORIZONTAL ANGLE		VERTICAL ANGLE	LATERAL ANGLE "TILT"	HEIGHT OF BLADE (m)	NUMBER OF BLADES (m)	WEIGHT (kg)
		MEC.	HID.					
PN1-1500	1,50	- 28° - 18°	- 30° a 30°	+/- 20°	+/- 20°	0,40	3	154
PN1-1800	1,80	- 8° 0°		+/- 20°	+/- 20°	0,50	4	280
PN1-2000	2,00	8° 16°		+/- 20°	+/- 20°	0,55	4	310
PN1-2500	2,50	23° 30°		+/- 20°	+/- 20°	0,55	5	360
PN1H-3000	3,00	- 30° a 30°		+/- 20°	+/- 20°	0,55	6	410

6- ADJUSTMENTS

6.1- HORIZONTAL ANGLE

When levelling ground the blade should be kept absolutely horizontal. This achieved by adjusting the 3.rd point assembly of the tractor so that the two lower hydraulic arms are exactly the same length and the cutting blades sit equally on both sides of the grader. The intermediate angles are obtained increasing or reducing the arm rod extension through the concerned adjustment holes.

6.2- VERTICAL ANGLE

The different height settings of the link pins and the third point assembly allow for a variety of vertical angles, independent from the adjustment that can be made by lengthening or shortening the actual 3.rd point assembly arm.

6.3- LATERAL ANGLE (Tilt dozer)

The work of clearing trenches, pricking on hard ground roads is made easier by the slight lateral inclination feature, by which the blade can be seen from the rear of the tractor, and which is achieved by raising or lowering the 3.rd point hydraulic assembly depending upon which side the inclination is required. As there are different fixing heights for the pins, the inclination can be varied by using unequal levels of holes to give the required slope of the blade.

6.4- TRANSPORT POSITION

In transport operation, to reduce the width and increase the safety drive, the blade must be adjusted in an oblique position regarding the tractor forward direction sense.

7- MAINTENANCE

Graders are machines which do not require any special kind of maintenance except the tightening up of the odd screw, a check which should be carried out periodically. When in use the rotating blade axle should be lubricated with grease. If the grader has depth control wheels, these should be lubricated daily with a cup of the same in each wheel.

If the grader goes for long periods without being used it should be washed, clean and kept in a place away from the sun and rain. This time should also be used to check the tightening of screws and nuts, checking the wear (or replacement) of the cutting blades. These cutting blades should be substituted before the state of wear reaches the base where they are fixed.

8- REPLACING THE PARTS OF GREATEST WEAR

The only parts which may need to be replaced through wear are the cutting blades and the screws and nuts which hold them in place. Any substitution is done by simply removing the 3 screws on each blade and putting them back again after changing blade.

9- SECURITY REGULATIONS

Working with tractors and agricultural machines requires that the operator knows what he is doing and that much care is taken. He must be conscious and cautious of the dangers which imprudence can cause, not just to the agricultural enterprises which they run. In an attempt to avoid accidents, therefore, we advise the following security rules:

1 - In attaching any implement to the tractor, use only the place which the respective manufacturer advised for the operation, verifying is carried out in order.

2 - Whenever, for reasons of repair, checks, set-up or otherwise, you need to get under the implement, never do so without the relevant props.

3 - In activating the hydraulic system of the tractor, first check that the implement, trailer, frontal load, or otherwise, in movement, can not reach anyone.

4 - Never authorise the transport of passengers on the implement, whether during work time or on the road, equally not behind ploughs, or grass cutters, as during their work, as stones, sticks etc. could fly up out of the machines.

5 - The implement should never be detached while in movement. If it has to be done, immobilise it well and stop the motor.

6 - Always use protective guards on transmissions linked to the power sockets of the tractor.

7 - Use counterweights on the front or on the front wheels, as, with implements mounted, the steering of the tractor will be very light and it will have a tendency to uplift. Double check the maintenance during a job, manoeuvres or on the road. It could also be necessary to mount a rear weight to the tractor when operating with a frontal load and the load being carried is particularly heavy.

8 - Do not forget that the dangers increase with the incline of the terrain on which it is working or being moved. Exercise maximum caution, paying attention to accentuated inclinations, especially lateral ones, which should be avoided.

9- When you work with trailers, you should never forget to:

- Check your brakes;
- Attach the emergency brake device to the tractor;
- Plug in the electric installations;

Also remember that:

- The trailer must always brake before the tractor;
- All load, especially high load, must be well fastened down;
- The two pins to fix down the box must be in the right places, depending on the side which you need to balance;
- The balancing must be light, and without jolts;
- You may only transport persons when legally authorised to do so, when they are seated, and with all the coverings closed.

10 - Whenever in transit on a public highway remember that:

- On leaving an agricultural property, or a private road, you never have priority of entry into a public road. All other road users, coming from the left or right, have priority over you;
- You must respect the highway code and all signs and light signals;
- The stabiliser switch for the two brake pedals must be on;
- The stabilisers or the chains must be tight so that there can be no lateral oscillation of the mounted implements, which must only be lifted to the height necessary to avoid contact with the ground (about 0,30 cm) or, if the tractor has a hydraulic blockage, until this switches on;
- Speed of travel must be reduced whenever the state or the relief of the road requires it;

If you take this advice which we give here, we hope that you will neither have, or cause any accidents. This is what GALUCHO wishes for, and expects from their clients.

10- ORDERING SPARE PARTS

We advise you, as farmers, that replacing worn out parts at the right moment will avoid abnormal mobilization of the machine (with the consequent loss of money and time), and will cheapen the units of work produced, and prolong its useful, economical life-span.

It is always better to use genuine GALUCHO parts, because:

- They are perfectly interchangeable;
- They guarantee correct adaptation and functioning.

While they could, in some cases, be a little more expensive in terms of initial cost, they always end up more economical than any other.

To simplify and speed up the supply of spare parts, it is recommended, in the consumer's own interests, that this procedure is followed:

1- Indicate the model, series, and number written on the identification plate, which each machine has

2- Outline the quantities, codes, and designation of the parts, as indicated by the catalogue of parts.

3- To avoid errors, written confirmation of orders eventually transmitted by telephone is indispensable.

4- To facilitate the completion of orders, all demands must be made separate from other correspondence, and indicate the destination and the transport to be used. In case the client has no current account with our company, he should enclose with his order, the amount that corresponds to the cost of his demand.

If the demand omits a preference, in terms of means of transport, we will use that which we feel to be most advantageous.

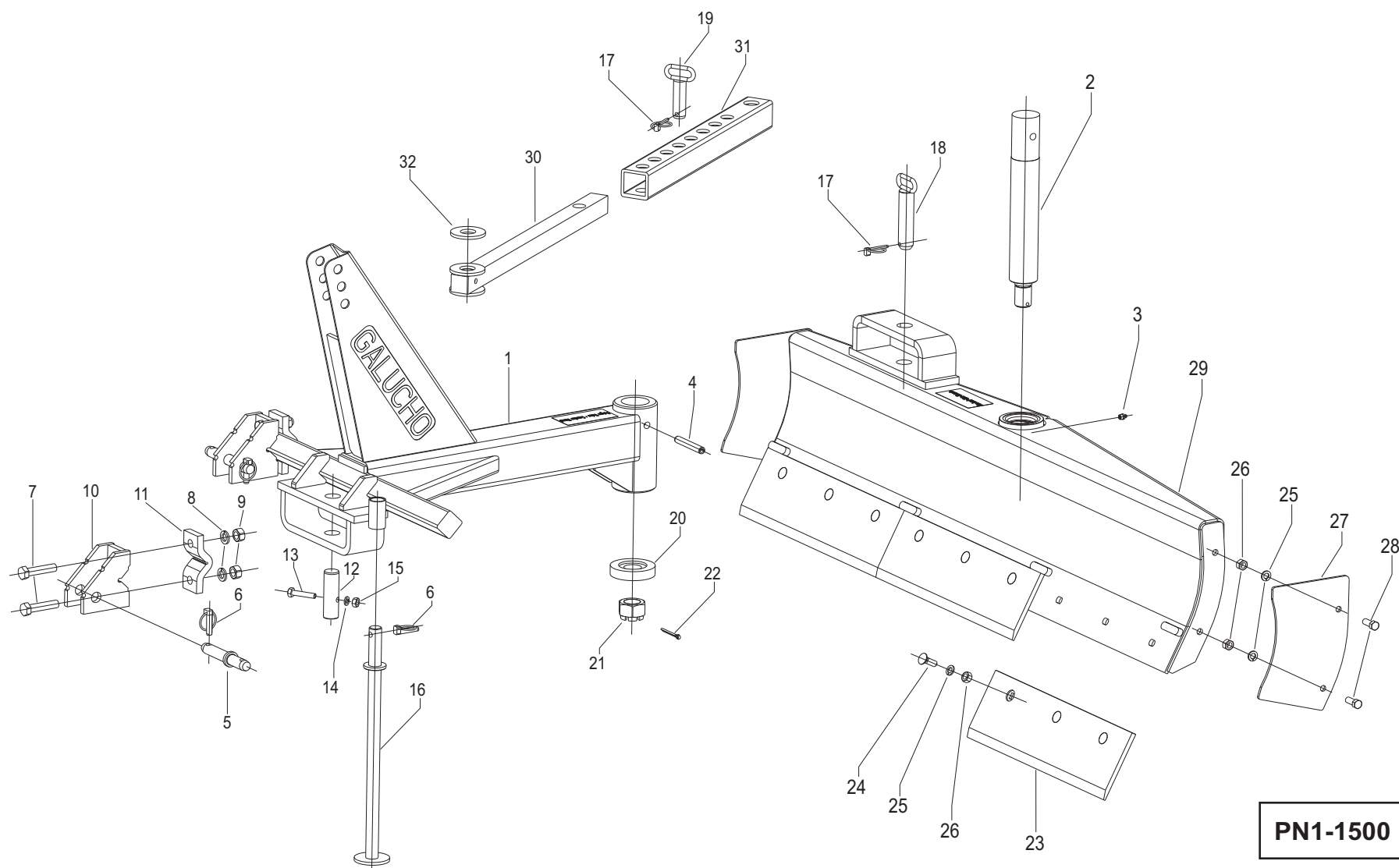
5- The parts can be picked up from our warehouses, in S. João das Lampas, or placed by us in the railway or any other station, in Sintra or Lisbon.

6- The return of parts or equipment whose parts have stopped being made, or which are still part of our production line but have been altered, will not be accepted.

The identification plates GALUCHO indicate the following specifications, which will be useful when ordering spare parts.

GALUCHO - INDÚSTRIAS METALOMECÂNICAS, S. A.			
<small>(Fundada por JOSÉ FRANCISCO JUSTINO)</small>			
FÁBRICA DE ALFAIAS AGRÍCOLAS REBOQUES, CARROCARIAS E BASCULANTES PARA CAMIÕES			
APARTADO 4003 - EC S. JOÃO DAS LAMPAS 2706-851 S. JOÃO DAS LAMPAS - PORTUGAL TELEF. (351) 219808500* - FAX (351) 219808585		Ano Fabr.	
		Peso (Kg)	
Mod.	1	Série	2
		Nº	3

1- MODEL 2- SERIE 3- NUMBER



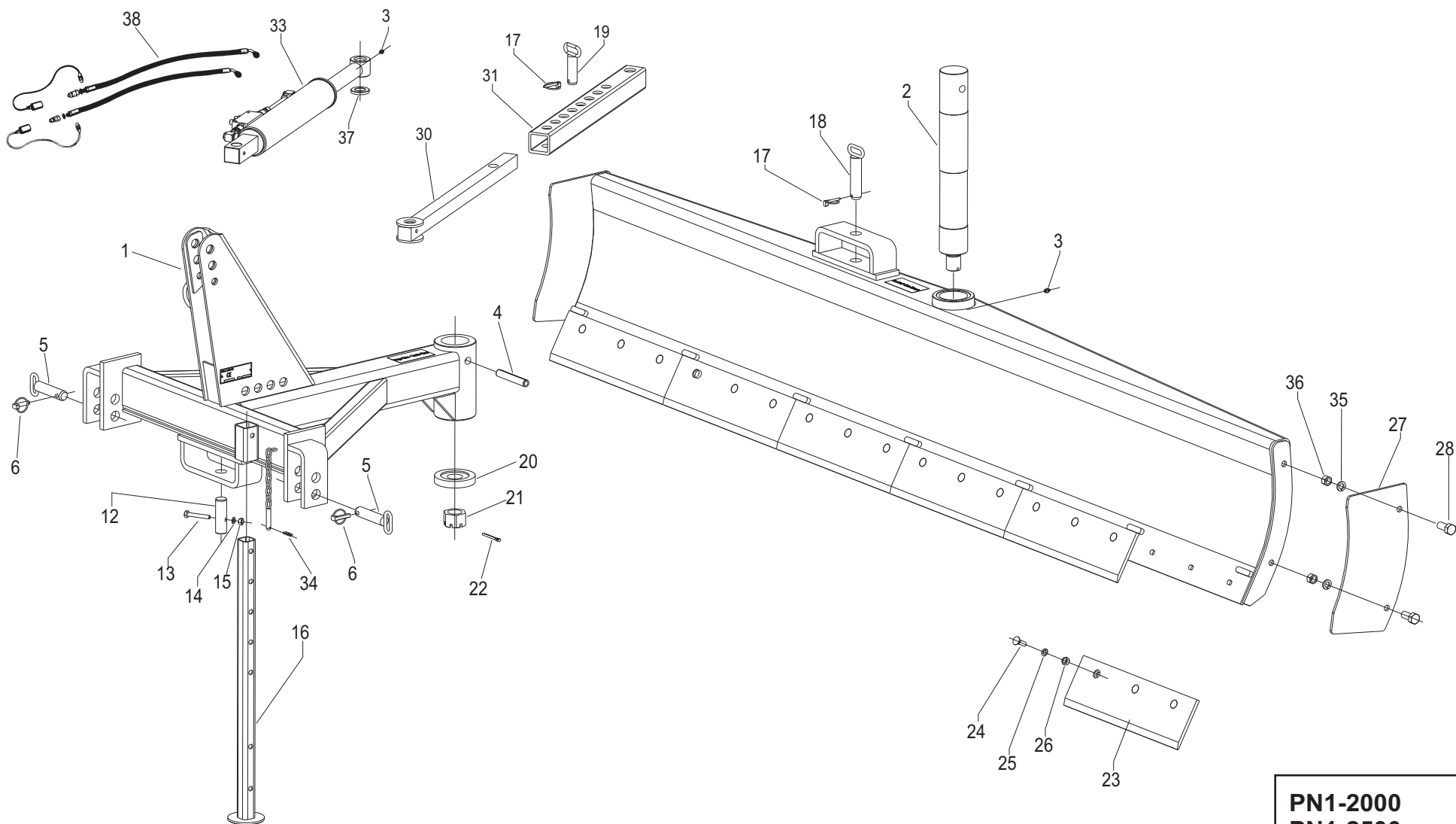
PN1-1500

Desen. <i>Amocho</i>	Verif. <i>Frey</i>	Alter. <i>Amocho</i>
Data <u>14 / 03 / 01</u>	Data <u>07 / 02 / 03</u>	Data <u>07 / 02 / 03</u>

Designa. REAR MOUNTED GRADERS

Serie	PN1
Cod.	29521CP01

GALUCHO
INDÚSTRIAS METALOMECÂNICAS, S.A.
S. JOÃO DAS LAMPAS - PORTUGAL



PN1-2000
PN1-2500
PN1H-3000

Desen. *Enrique*

Verif. *Fray*

Alter. *Enrique*

Designa. REAR MOUNTED GRADERS

Série **PN1**

Data 14 / 03 / 01

Data 07 / 02 / 03

Data 07 / 02 / 03

Cod. **29521CP03**

GALUCHO
 INDÚSTRIAS METALOMECÂNICAS, S.A.
 S. JOÃO DAS LAMPAS - PORTUGAL

NOTES

NOTES

GALUCHO - INDÚSTRIAS METALOMECÂNICAS, S. A.
(Fundada por JOSÉ FRANCISCO JUSTINO)

AV. CENTRAL, N.º4
2705-737 S. JOÃO DAS LAMPAS - SINTRA, PORTUGAL
TELEF.:(351) 21 960 85 00
FAX: (351) 21 960 85 99

www.galucho.pt
comercial@galucho.pt