PDCP

INSTRUCTIONS MANUAL

TATU
MARCHESAN

IDENTIFICATION

Dealer: _____

Owner: _____

Firm / Farm: _____

City: _____ State: _____

No. of the Certificate of Guarantee: _____

Serial / No.: _____

Date: ____ / ____ / ____ Invoice No.: _____

Product: _____

Notes: _____

Introduction

PDCP no Till Planter, is suitable for no till planting in any fields and direct drilling of wheat, oats, barley and grasses, simultaneously or independent, Row units with parallelogram system for more flexibility with excellent results on pasture renovation and planting of large seeds.

Row units with parallelogram system for more flexibility and to follow uneven ground.

The TRA gear box allows quick change of sprockets without the help of tools. A great range of sprocket combinations adjusts the quantity of fertilizer and large seeds for different crops.

Independent seed and fertilizer boxes in the rear and in the back of the planter. The location of the boxes benefits continuos and quick flow through the condutors.

Ratchets disconnect automatically the mechanism of fertilizer and seed distribution when maneuvering and transporting.

Scarifier spindle distant from coulter blade; fertilizer depth according to agronomical norms; unaligned seed rows and scarifier spindles distant from coulter blades help to prevent clogging when operating over high straw residues. Scarifier spindles are optional equipment for the fine seed rows.

This instruction manual includes the required information for the best performance of your planter. The planter operator should read the contents of this manual thoroughly and carefully before operating the equipment and should make sure to follow the safety guidelines.

In order to clear any other points, or in the event of any technical problem that may arise during your work, please contact your Dealer, that, in alliance with our own Technical Assistance Department, are able to assure the full operation of your TATU Planters.

TATU

MARCHESAN

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To the owner

The acquisition of any TATU product assures to the original purchaser the following rights:

• Warranty certificate;

• Instructions manual;

• Technical assistance by the dealer on equipment delivery .

The owner has the obligation of inspect the conditions of the product on delivery, as well as knowing the warranty terms.

Special attention should be given to safety recommendations, operation cares and maintenance of equipment.

Be sure to read and understand this instructions for adjusting and operating the equipment as reported in this manual. Check each item referred to obtain an efficient operation and maximum trouble free performance. Remember an equipment which is properly lubricated and adjusted saves your time, labor and fuel. This manual should be read by Operators and maintenance personal.

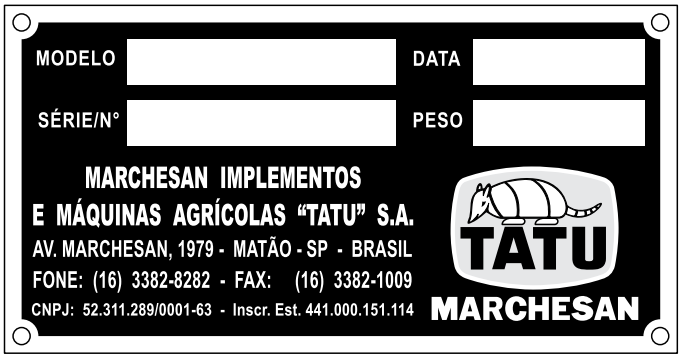
Important

- **Only people who own a full knowledge of the tractor and equipment, must operate them;**
- **Marchesan is not responsible for any damage caused by accident on transporting, incorrect utilization or inadequate storage;**
- **After the operating season, clean and inspect your equipment, preventive maintenance pays dividends.**
- **Your Dealer has original equipment parts, which assure proper fit and best performance.**

General information

Right and left hand side indication is made observing the planter from the rear.

To order any parts or request technical assistance services it is required to provide the data contained on the nameplate, which is located on the chassis of the planter.



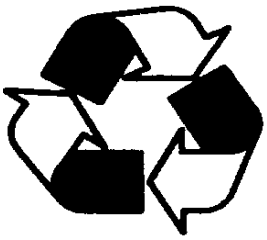
NOTE **The warranty shall not be applied to any equipment, or any part thereof which has been altered elsewhere than at the place of manufacture, or which the original purchaser thereof at retail, has used or allowed to be used parts, not made or supplied by Marchesan S/A.**

To the operator

Dear User!

Respect the ecology. Don't throw trash away. This gesture of goodwill helps to protect our environment.

Be careful with environment



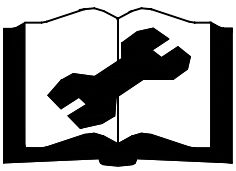
Don't spill combustible oil, batteries and filters. These trashes in contact with soil reach the sub – layer, which directly damage the environment. Look for information to delivery this contaminate elements, to who knows to re-cycle or re-use them.

Operation safety

- **In order to avoid accidents the safety aspects must be carefully kept.**
- **This symbol is a warning used for accident prevention.**
- **The instructions followed by this symbol concern the safety of the operator or third parties; therefore they must be read and carefully kept.**

The PDCM planter is easy to operate, but requires basic and indispensable handling cares.

- Keep in mind that **SAFETY** requires **CONSTANT ATTENTION, OBSERVATION AND PRUDENCE** during planting, transportation, maintenance and storage of the planter.



Read and understand the information about before realizing adjustments and maintenance.

To the operator

Never use your hands to check hydraulic leaks, escaping oil under pressure, may have sufficient pressure and may have sufficient force to penetrate the skin, maybe cause several injuries.

Never attempt to change the adjustments, clean or lubricate the equipment, when the same is turned on or in movement.

Be careful when moving in steep graders. Risk of overturn.

Be careful about the use of fertilizer or chemicals. These products in any contact with skin, can be cause any serious injury to the body.

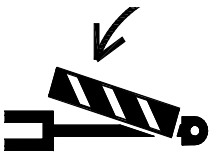
Keep the entrances and work places clean and safe from oil, grease. Risk of accidents.

Never transport the equipment on rough roads. When operating, avoid to make sharp turns, that may cause tire contact with the equipment.

The presence of any other people on the tractor or equipment is strictly forbidden.

Use extreme caution when circulating with the equipament under electrical power lines, any contact may result severe shocks, injuries or death.

For your protection and safety, always wear adequate clothes and shoes during operation of the equipament.



Always use the cylinder transport locks when transporting the equipment.

To the operator

- During work or transportation only the operator is allowed on the tractor.
- Do not allow children to play in proximity of or on the planter, no matter whether latter is in operation, being transported or in storage.
- Get to know intimately the terrain before planting begins. Stake out danger spots or obstacles.
- Adopt speeds compatible with the conditions of the terrain or roads passed through.
- Use equipments for your own protection.
- Wear adequate clothes and shoes. Avoid wearing clothes which are either too loose or too constricting and which might catch on rotating parts of the equipments.
- Never operate the equipment without its safety devices.
- Be careful when coupling the traction bar.
- Before lifting or lowering the planter, make sure there are no people or animals near or under the equipment.
- Never attempt change the adjustments, clean or lubricate with the equipament, in movement.
- Always switch off the engine and set the parking brakes before leaving the tractor seat.
- Only drive the equipment using tractors with the appropriate power.
- Carefully check the transport width on narrow locations.
- Be careful with transport width when passing through narrow spots.
- Each time you disconnect the planter on the field or in the shed make sure the equipment is on level and firm ground and resting on the parking stands, adequately supported.
- See general safety instructions on the counter cover of this manual.

When transporting the equipament by truck or trailer

Marchesan does not recommend the traffic of the equipment on highways, since serious safety risks concerns such practice, in addition to being prohibited by current Traffic Laws in force. To transporting the equipment for long distances use truck or trailer, however, the safety instructions should be followed carefully:

- Always use an adequate loading dock to load or unload the equipment, never use a ditch bank, because this practice is very dangerous and could be result in serious injuries or may causing death.
- Use a suitable Hoist when lifting the equipment to the truck or trailer.
- Make use of the planter's parking stands to support it correctly.
- The planter draw bar should be raised and locked in vertical position, or be removed and tied to the load.
- Latch down the deposit lids and other movable parts which may come loose and cause accidents.
- Use sufficient fastenings (cables, ropes, chains, cord, etc.) to immobilize the equipment during transportation.
- After 8 to 10 kilometers of transporting, please inspect the cargo conditions. Always Repeat this procedure for every 80 to 100 kilometers of transporting. Give more attention when transporting on rough roads, steep graders, and other adverse conditions.
- Be careful with transport height, specially when passing under electrical power lines and bridges. Risk of shock and serious injuries.
- Observe all the laws and regulations about the height and width limits of cargo. When transporting the equipament by truck or trailer. If necessary, use banners, lights and other devices to give the adequate warning for the drivers/operators of another vehicles.

Safety stickers

The safety stickers are a warning of some points that require more attention in the equipment. The safety stickers always should be kept in good conditions. If they are damaged or become illegible, should be replaced. Marchesan supplies this stickers upon indication of the respective part numbers.

0503031428

0503031566

0503031827

Adhesive label set

Model	Code
PDCP	05.03.06.1942

PDCP - No Till Planter for Cereal and Pasture

		Spacings (mm)	Useful Width (mm)	Box Capacity			Required Tractor (hp)	Width x Height x Lenght (mm)
				Fine Seeds each	Great Seeds each	Fertilizer each		
PDCP	13/13F 13/11F 13/9F 13/7F 13/6F	175 200 250 300 400	2200	130 L		223 L	75	3350 x 1620 x 3800
	13/6G 13/5G 13/4G 13/3G	400 450 500, 550, 600, 650, 700 900	2200		35 L	223 L	75	3350 x 1620 x 3800
	13/9F/3G	F 21, 23, 26 G 70	2200	130 L	35 L	223 L	75	3350 x 1620 x 3800
	17/17 F 17/15F 17/11F 17/9F 17/8F	175 200 250 300 400	2950	173 L		293 L	90	4020 x 1620 x 3800
	17/8G 17/7G 17/6G 17/5G 17/4G	400 450 500, 550 600, 650, 700 900	2950		35 L	293 L	90	4020 x 1620 x 3800
	17/12F/4G	F 21, 23 e 26 G 70	2950	173 L	35 L	293 L	90	4020 x 1620 x 3800

F = Fine Seeds.

G = Large Seeds.

Technical specifications

ARTICULATED DRAWBAR with extensor arm that makes hitching to the tractor and levelling easy. Movable fixation to adapt any spacing between rows.

MAINFRAME with two tubes 100 x 100 x 6,35 mm, diagonal arrangement, to fix the rows with high capacity of absorption and distribution of loads. One tube 80 x 80 x 4,75 mm and other with 120 x 80 x 4,75 mm.

HYDRAULIC CIRCUIT with double-action cylinders and flow divider valve. Use simple command.

DRIVING WHEELS follow uneven ground and ensure ininterrupted functioning of the dispensers. **- Tires** 6.50 x 16 make for better traction and less soil compaction.

AUTOMATIC RATCHETS for fertilizer and seed metering.

TRA (GEAR BOX) - FOR QUICK CHANGE OF SPROCKETS

- Fertilizer sprockets featuring 43 different sprocket combinations, providing a vast range of fertilizer metering for different crops without any need to modify chain length.

Distribution of granulated commercial fertilizer NPK*, in the spacing of 700 mm: **Until to 646 Kg/ha**

***** Auger of 2" - Average density 1,12 ton./m³ (Tons per cubic meter).

- Seed sprockets permitting 23 different rotations, providing a vast range of seed metering for different crops.

BOXES OF FERTILIZER metallic, each with capacity of 250 Kg. Fertilizer distribution through the **Augers of 2",** in triangular profile, with internal anti-adherent covering. Larger precision and uniformity in the whole planting.

BOXES OF FINE SEEDS metallic, each with capacity of 117 Kg. Distribution through Helical Chamfered **Rotors**.

PLATFORM OF SERVICE centralized, anti-skid, in the total width of the equipment to facilitate the provisioning, with **stirrup and handrails.**

16" PLAIN COULTER BLADES with oscillating and floating movements for closely following uneven ground and efficiently cutting the straw under different soil conditions.

FINE SEED ROW UNITS mounted on parallelogram provide adjustment of pressure against the soil. **- 16" x 15" unaligned double-discs** are mounted with two conical roller bearings on each hub, **- Scrapers** for adjustable discs.. **- Press Wheels** of cast iron, with adjustment of the pressure on the soil and adjustable scraper.

LARGE SEED ROW UNITS with polyethylene seed hoppers holding 35 liters. **Seed metering** with horizontal seed plates specifically drilled for different crops and grain sizes.**Depth controls** with flexible rubber bands act on the double discs and ensure uniform seed place ment.

PRESS WHEELS of cast iron **- Plastic seed box and seeds distributor** with horizontal blades for diferent cultures and grain sizes. **- Standard seed discs:** 01 for Sorghum. **- Optional seed discs:** Corn, Soybean, Bean, Deslinted Cotton, Rice, Sunflower, etc...

Row unit

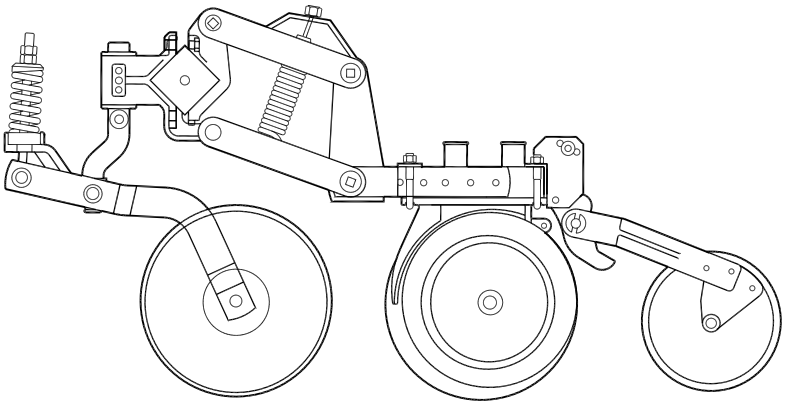
Oscillating and floating 16" Ø unaligned Coulter blades. Fine seed rows mounted on parallelogram, with unaligned 15" x 15" Ø double-discs, scrapers for adjustable discs and iron press wheel.

Big seed rows mounted on parallelograms, with unaligned 15" x 15" Ø doublediscs, scrapers for adjustable discs and depth control limiters and “V” shaped press wheels.

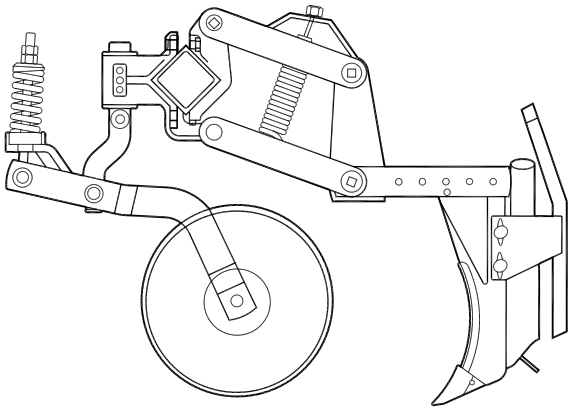
Unaligned fertilizer rows, with unaligned 15" x 15" Ø double-discs and separately supplied scarifier spindle.

Fertilizer placement: In the same alignment and under the seeds.

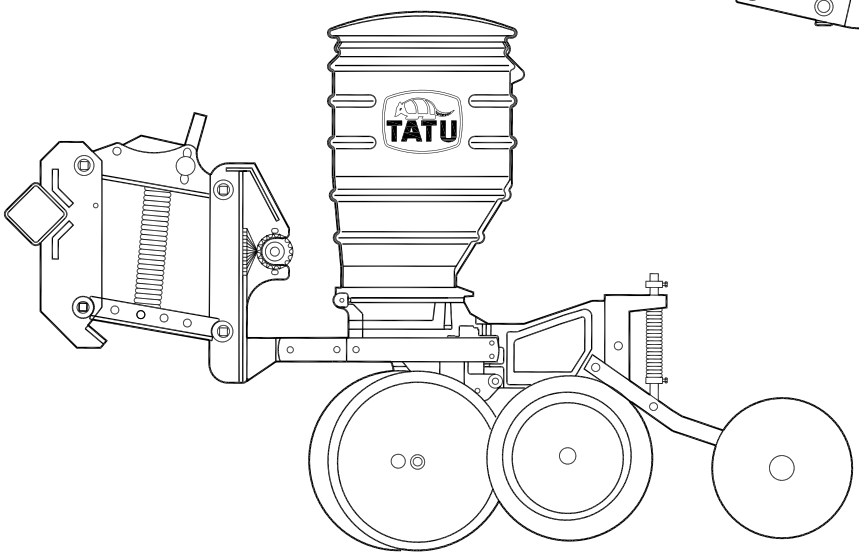
NOTE **Place the fertilizer separated (below) 40 to 6o millimeters from the seeds, in order to avoid emergence damages**



Fine Seeds Row



Large Seeds Row

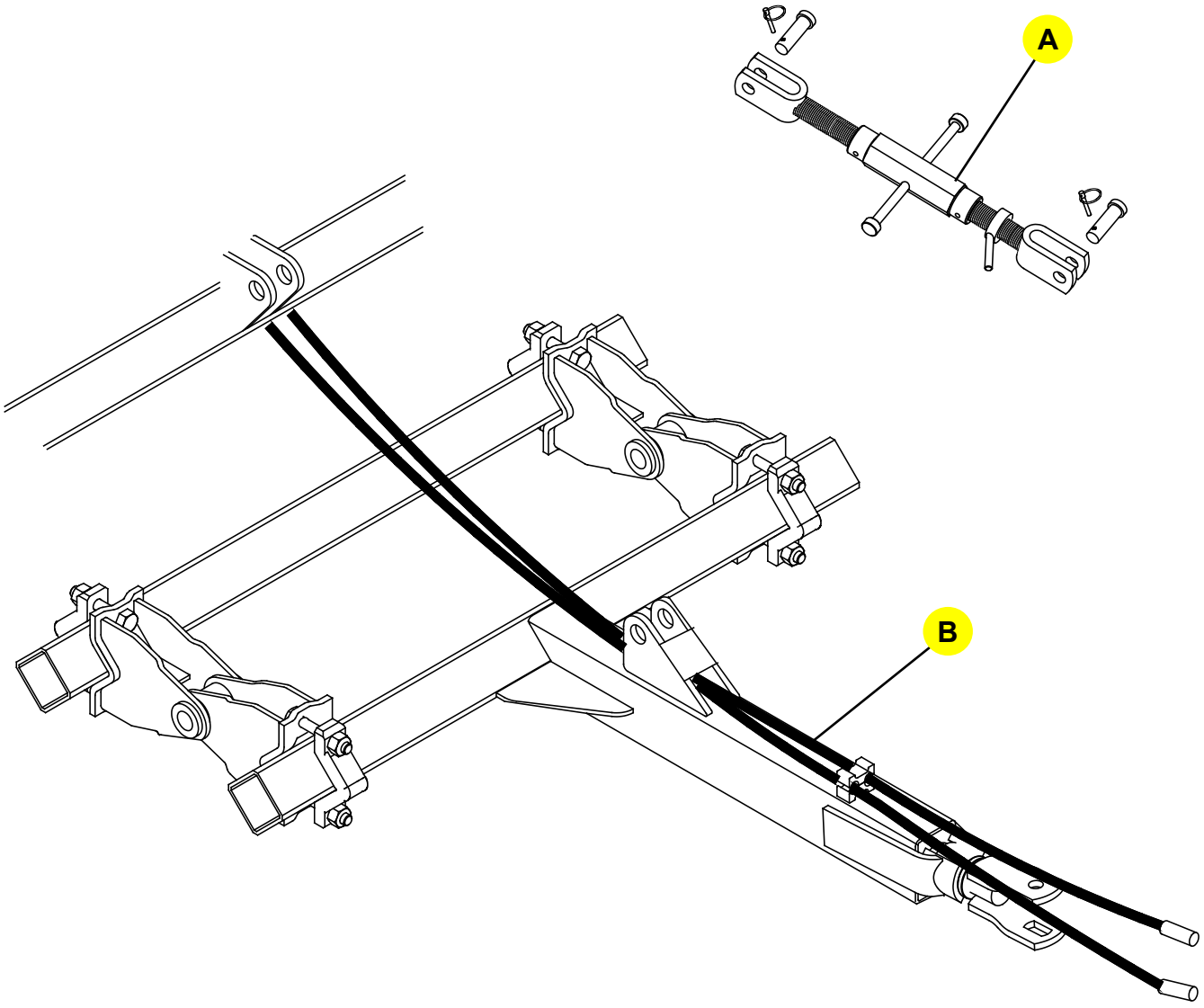


Assembly

PDCP planter already leaves the factory mounted, if necessary to dismount, make the assemble again according to the orientations to proceed:

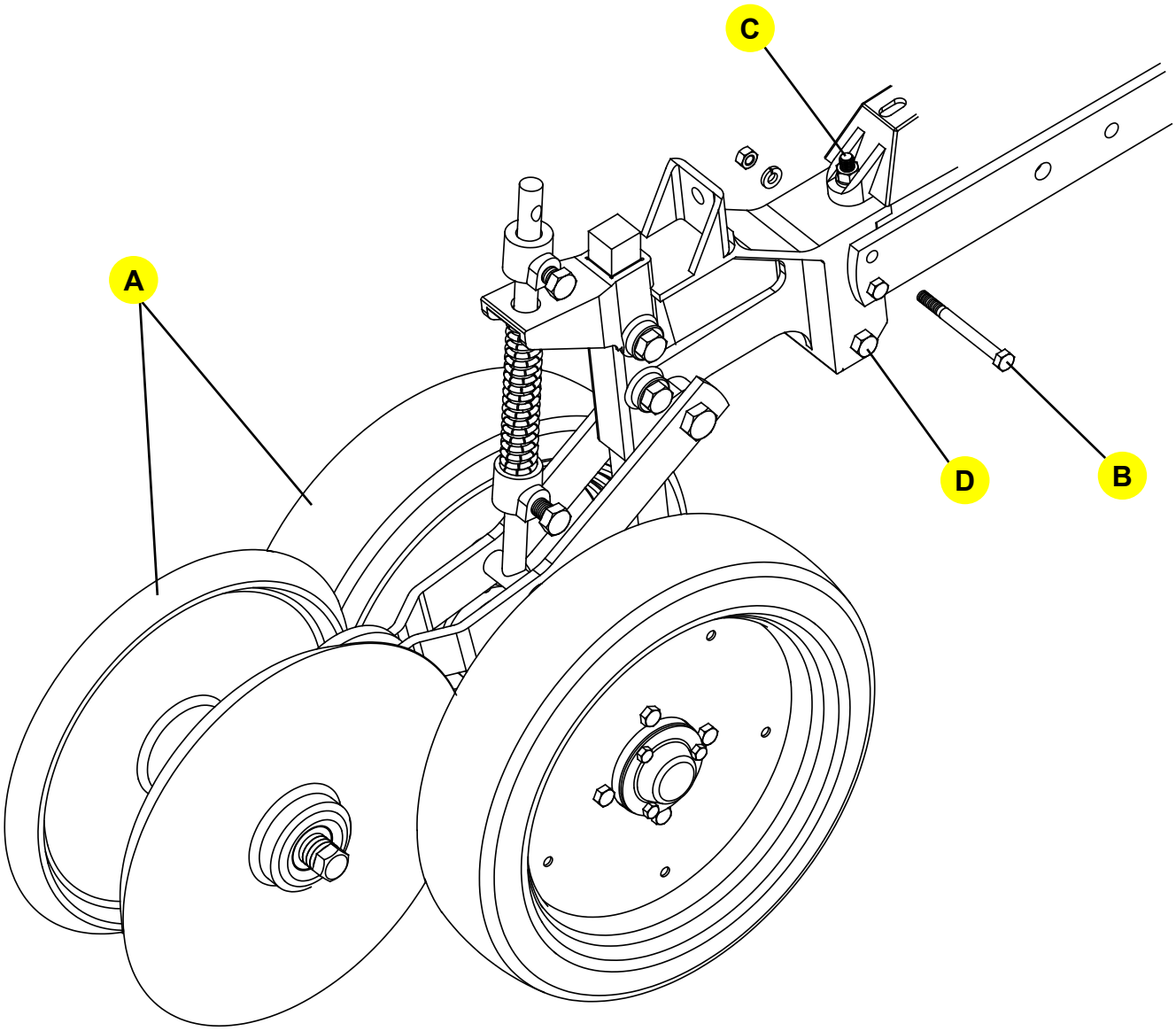
Drawbar assembly

- Fasten the stabilizer (A) in the drawbar and in the mainframe.
- Assembly the hoses (B).



Depth control gauge wheels and press wheels assembly

Install the sets of depth control and press wheels (A) in the back of row units using bolts (B, C and D), lock washers and nuts that are delivered in their fitting place.

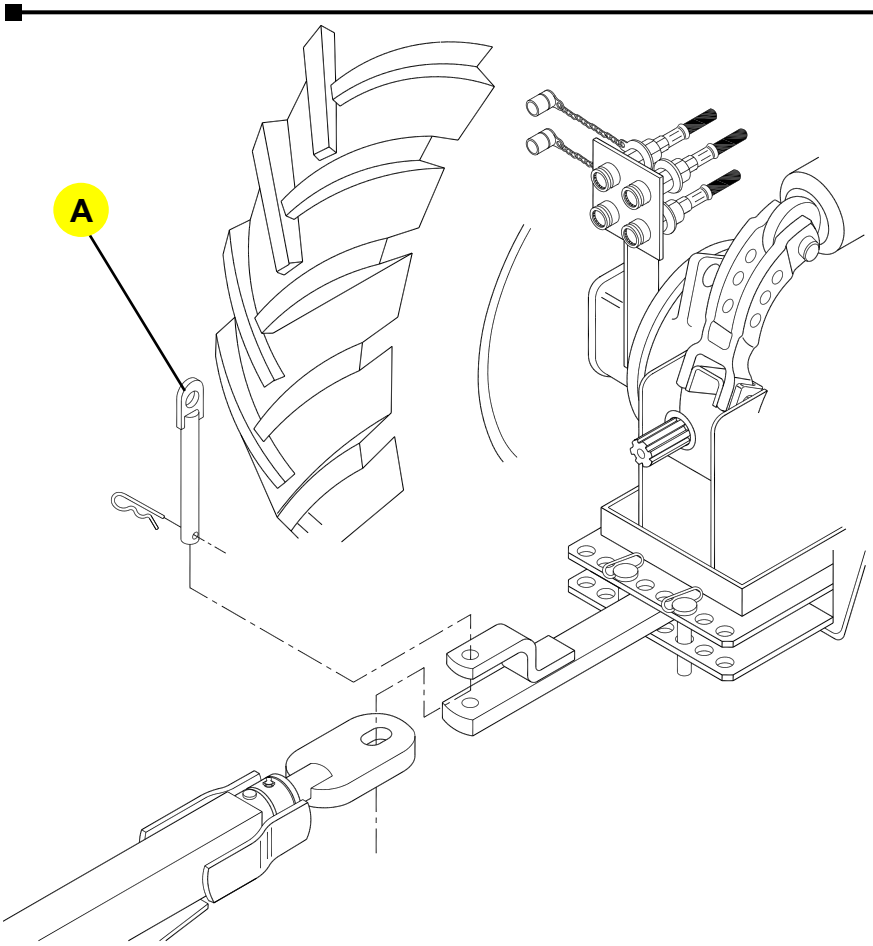


Preparing for work

Preparing the tractor

If necessary, add counterweights on the front and rear wheels of the tractor.

Hitching to the tractor



Hitch the planter drawbar to the tractor with pin (A) and lock.

If necessary use the planter stabilizer (B) to raise or lower the hitch.

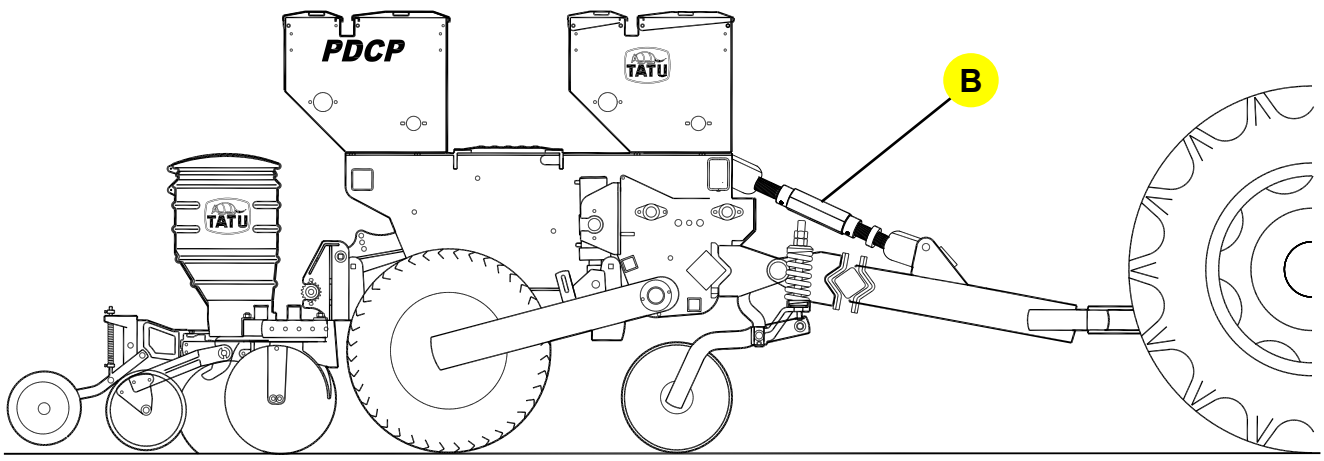
The tractor drawbar must be allways fixed in the center position.

We recommend to remove the movable end of the tractor drawbar.

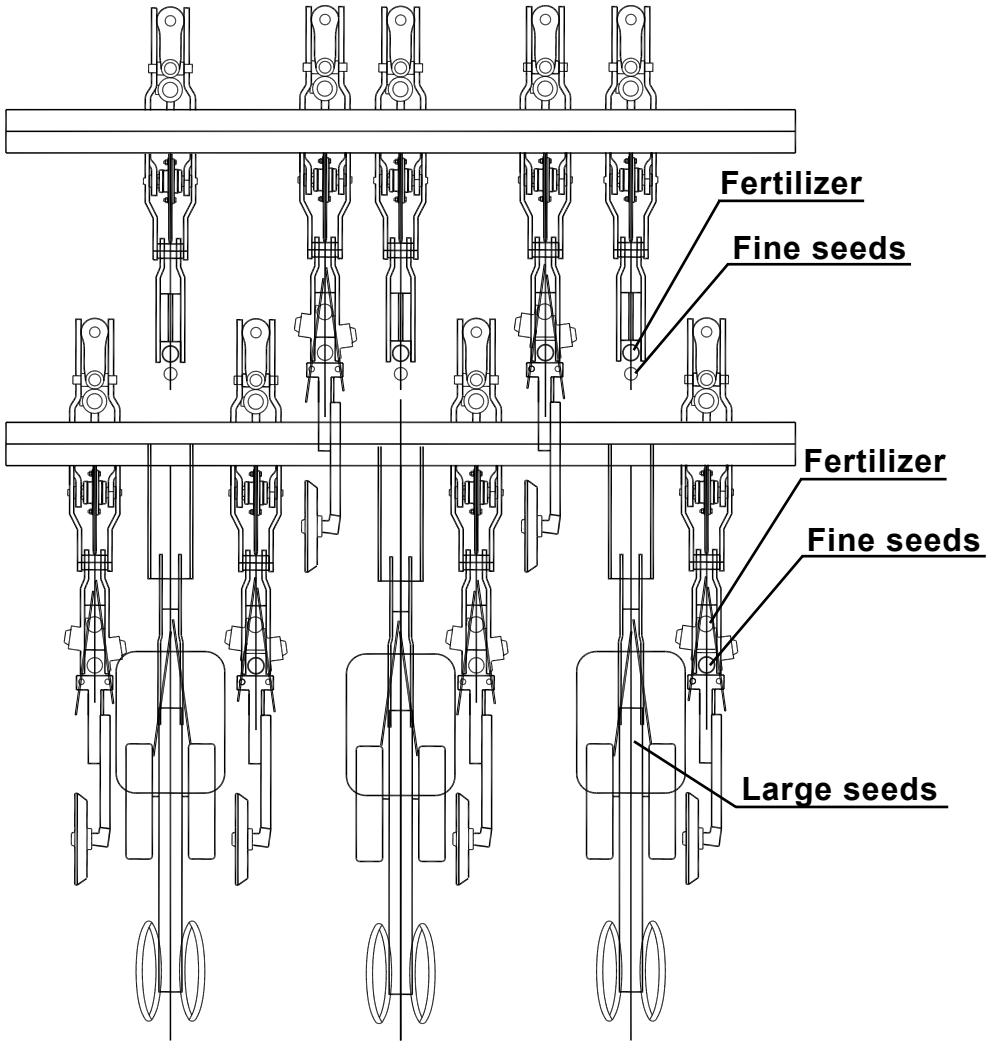
Clean and connect the hose couplers to the tractor hydraulic.

Leveling the planter

• Use the stabilizer (B) on a level ground for front to rear planter leveling.

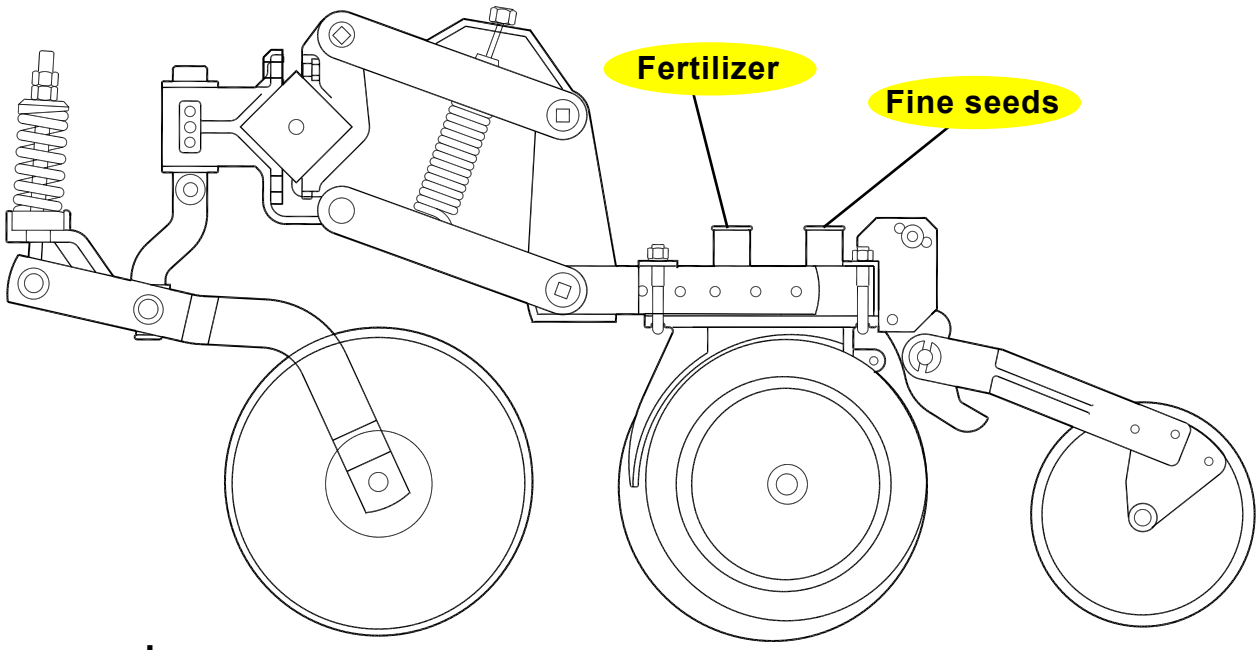


Lay-out of the rows

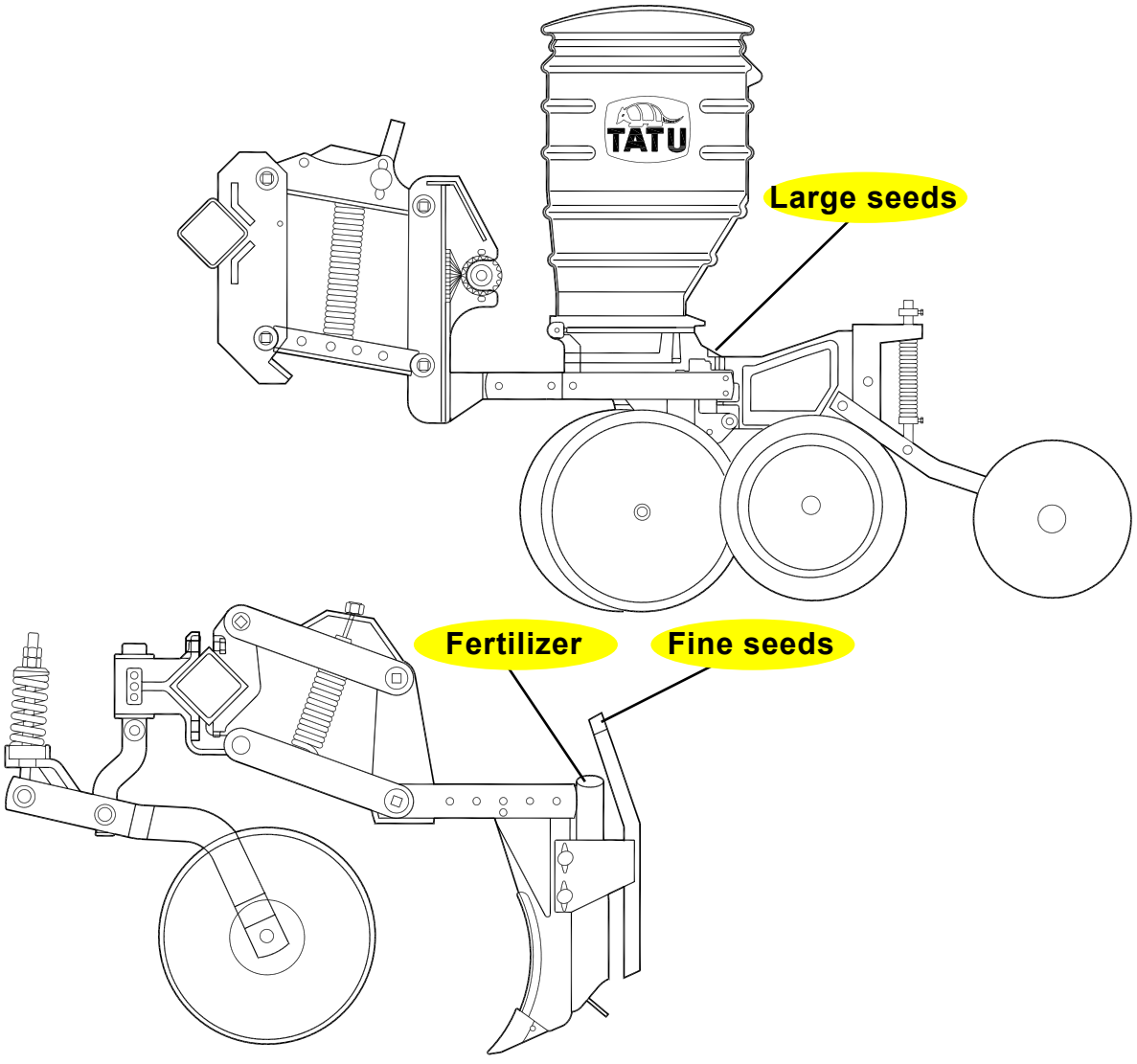


Configuration of the rows (Fine and large seeds)			
Mainframe of 13 rows		Mainframe of 17 rows	
Fine Seeds (Wheat and others)			
PDCP 13/6F	6 rows - spacing 400	PDCP 17/8F	8 rows - spacing 400
PDCP 13/7F	7 rows - spacing 300	PDCP 17/9F	9 rows - spacing 300
PDCP 13/9F	9 rows -spacing 250	PDCP 17/11F	11 rows - spacing 250
PDCP 13/11F	11 rows - spacing 200	PDCP 17/15F	15 rows - spacing 200
PDCP 13/13F	13 rows - spacing 175	PDCP 17/17F	17 rows - spacing 175
Large Seeds (Sorghum, Corn, others)			
PDCP 13/3G	3 rows - spacing 900	PDCP 17/4G	4 rows - spacing 900
PDCP 13/4G	4 rows - spacing 550 to 700	PDCP 17/5G	5 rows - spacing 600 to 700
PDCP 13/5G	5 rows - spacing 450 to 500	PDCP 17/6G	6 rows - spacing. 500 to 550
PDCP 13/6G	6 rows - spacing 400	PDCP 17/7G	7 rows - spacing 450
		PDCP 17/8G	8 rows - spacing 400
Configuration of the rows (Pasture renovation)			
PDCP 13/9F/3G	9 rows - spacing 21,23,26 3 rows - spacing 700	PDCP17/12F/4G	12 rows - spacing. 21,23,26 4 rows - spacing 700

Fine seed rows



Large seed rows



Fine seed

Type .....PDCP 13/6F

Fine seed rows..... 6 - with spacing of 400 mm

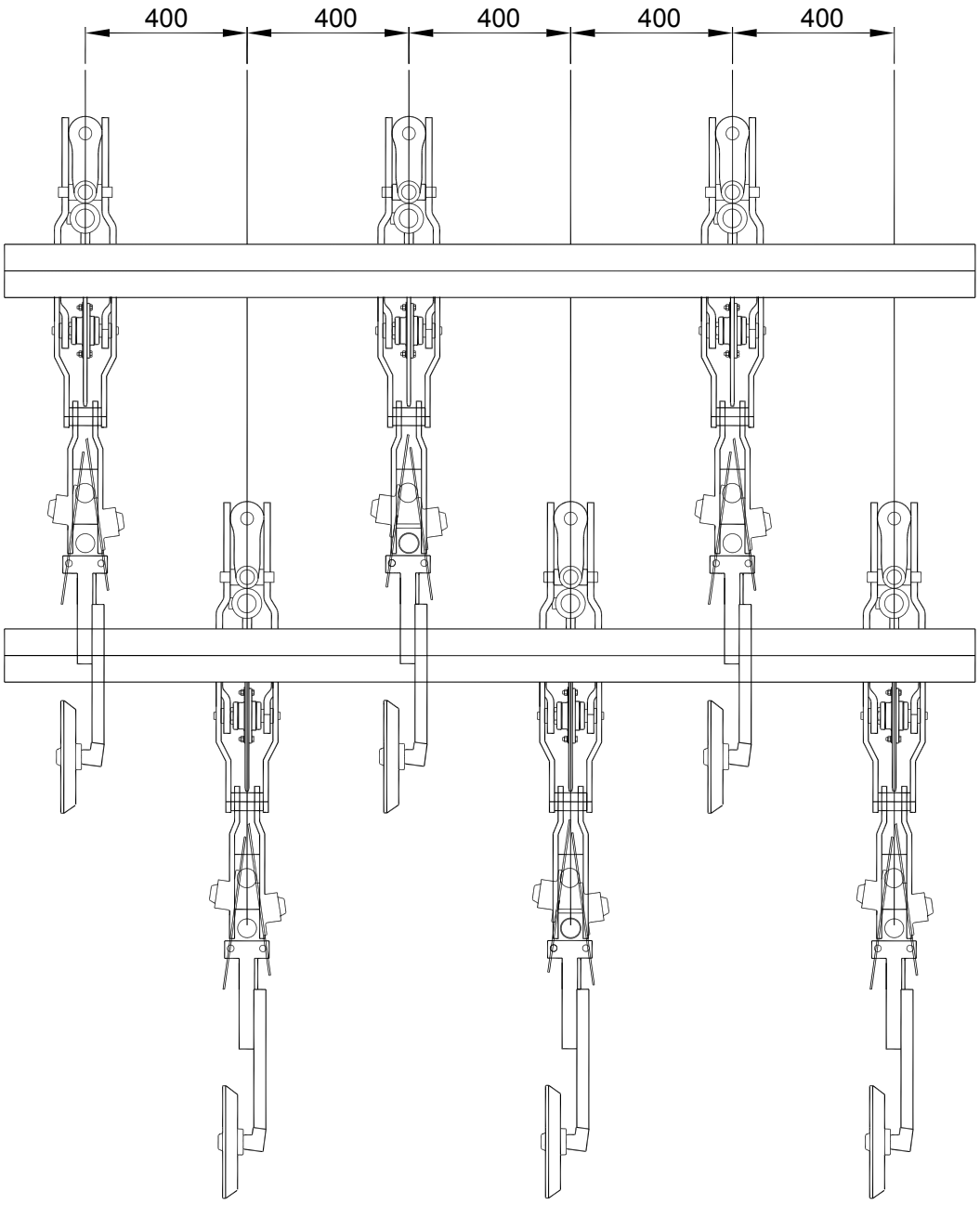
Useful width of the mainframe .....2200 mm

Fertilizer capacity ..... 223 Liters (250 Kg) - each box

Fine seeds capacity..... 130 Liters - each box

Tractor hp required.....75

Width x Height x Length ..... 3350 x 1620 x 3800 mm



Fine seed

Type .....PDCP 13/7F

Fine seed rows..... 7 - with spacing of 300 mm

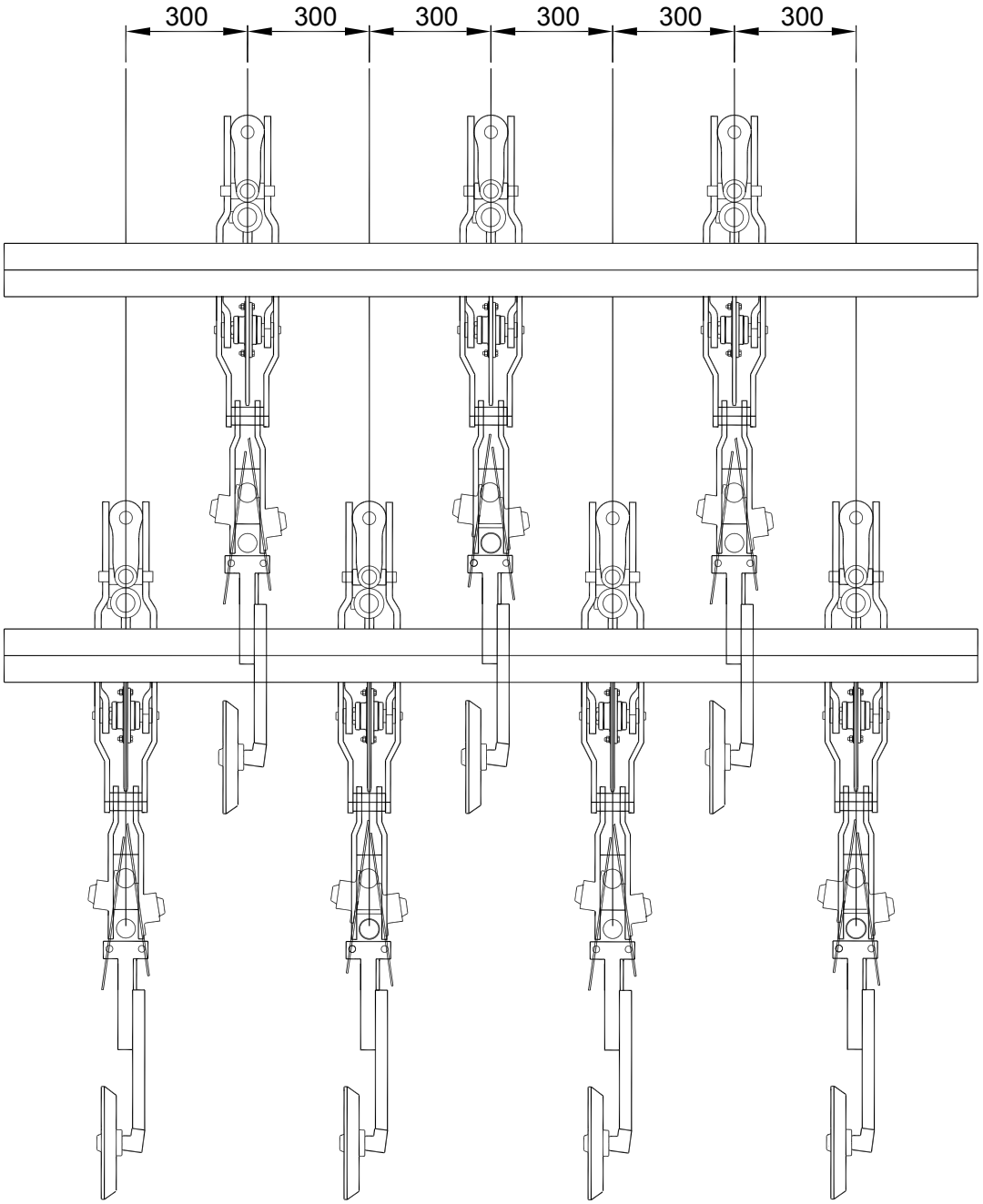
Useful width of the mainframe .....2200 mm

Fertilizer capacity ..... 223 Liters (250 Kg) - each box

Fine seeds capacity..... 130 Liters - each box

Tractor hp required..... 75

Width x Height x Length ..... 3350 x 1620 x 3800 mm



Fine seed

Type .....PDCP 13/9F

Fine seed rows..... 9 - with spacing of 250 mm

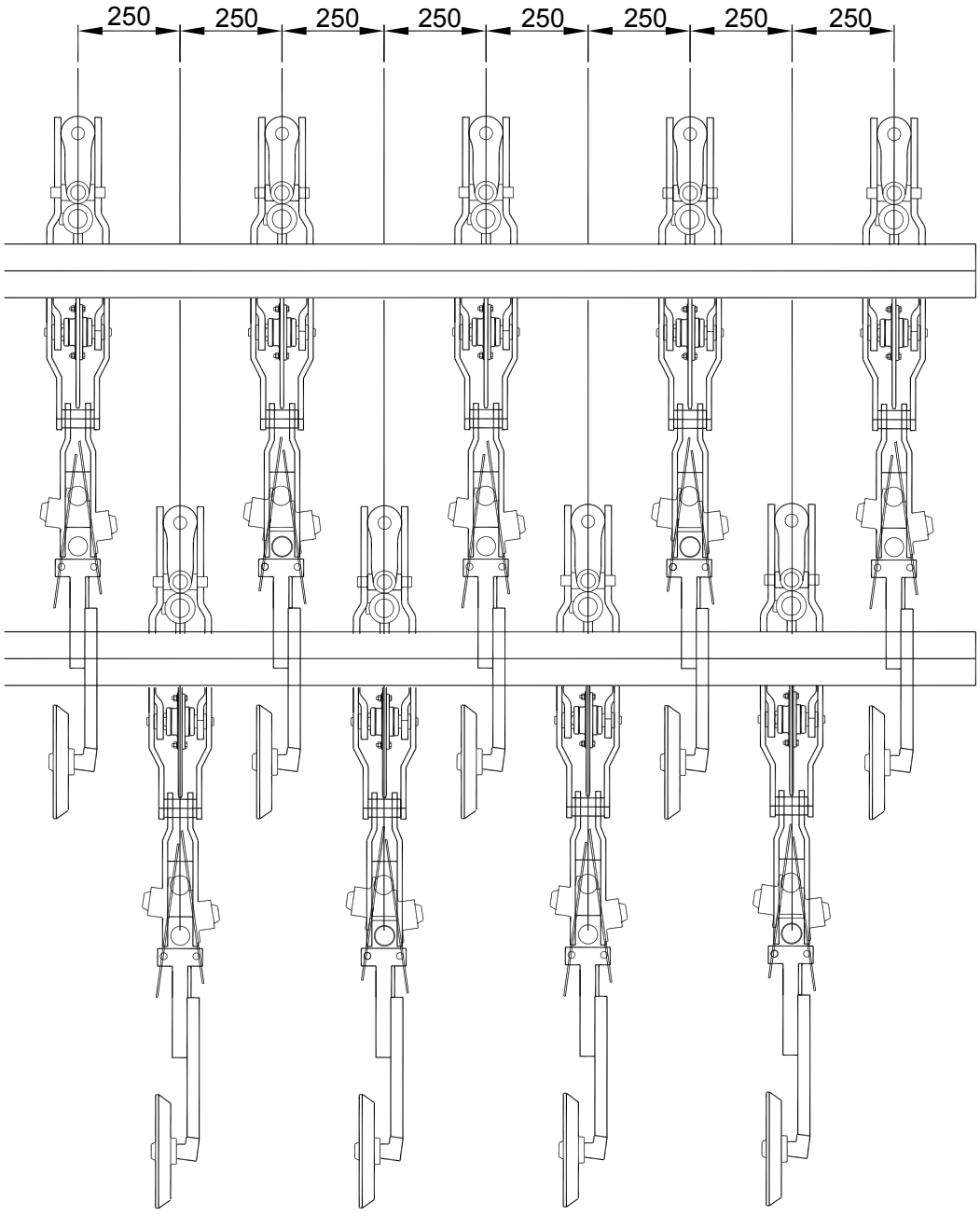
Useful width of the mainframe .....2200 mm

Fertilizer capacity ..... 223 Liters (250 Kg) - each box

Fine seeds capacity..... 130 Liters - each box

Tractor hp required..... 75

Width x Height x Length ..... 3350 x 1620 x 3800 mm



Fine seed

Type ..... PDCP 13/11F

Fine seed rows ..... 11 - with spacing of 200 mm

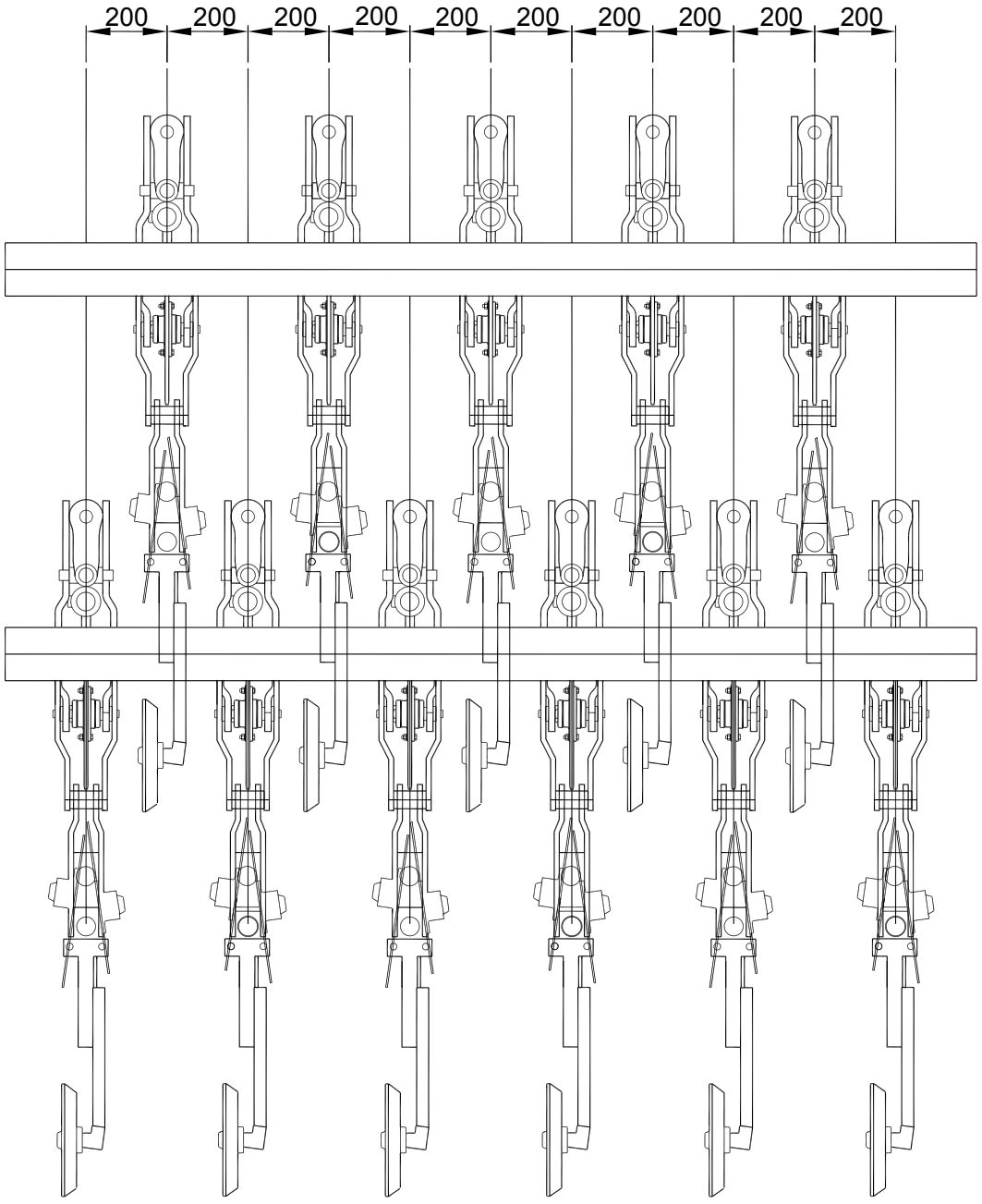
Useful width of the mainframe ..... 2200 mm

Fertilizer capacity ..... 223 Liters (250 Kg) - each box

Fine seeds capacity ..... 130 Liters - each box

Tractor hp required 75

Width x Height x Length ..... 3350 x 1620 x 3800 mm



Fine seed

Type .....PDCP 13/13F

Fine seed rows.....13 - with spacing of 175 mm

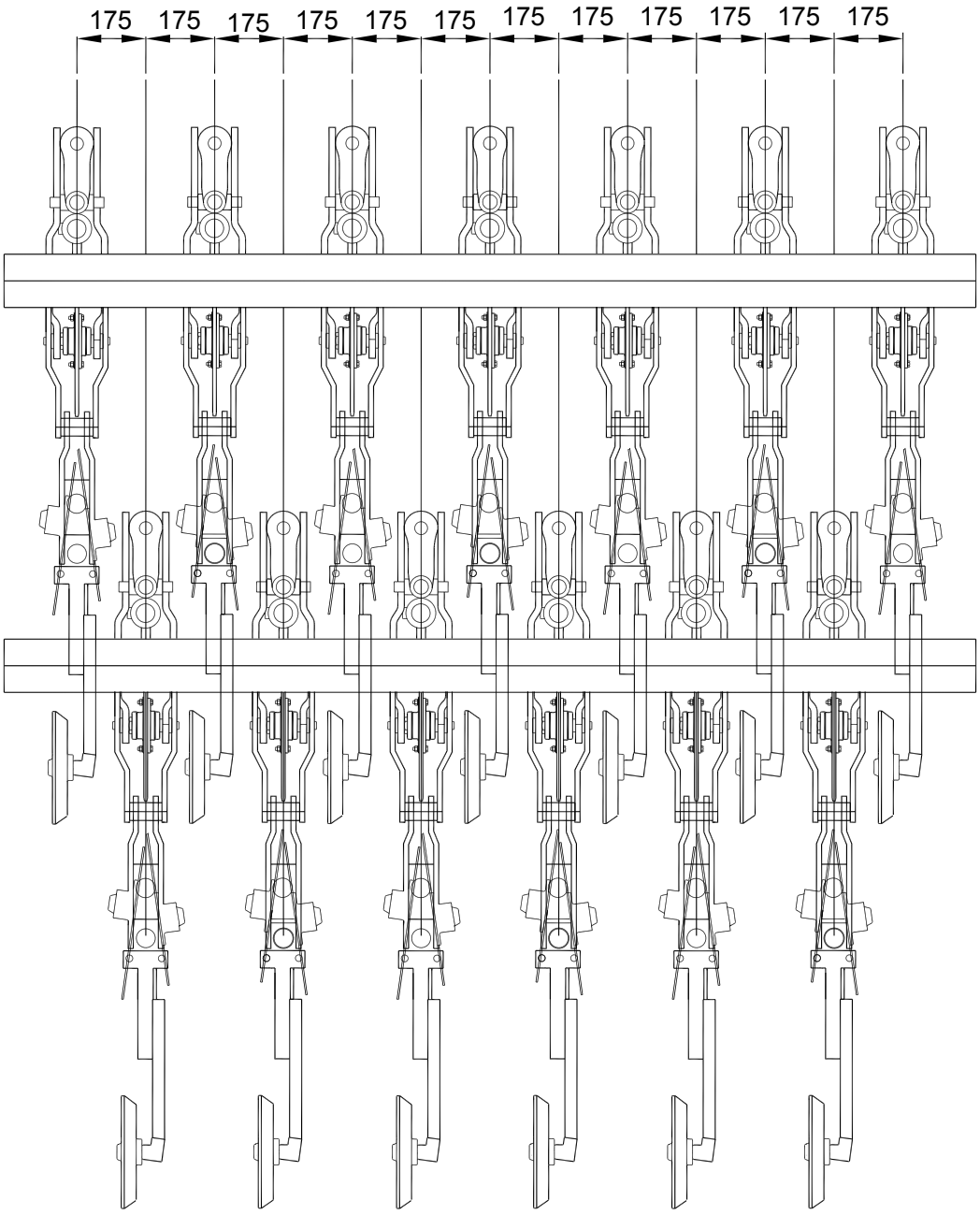
Useful width of the mainframe .....2200 mm

Fertilizer capacity ..... 223 Liters (250 Kg) - each box

Fine seeds capacity..... 130 Liters - each box

Tractor hp required..... 75

Width x Height x Length ..... 3350 x 1620 x 3800 mm



Fine seed

Type .....PDCP 17/8F

Fine seed rows..... 8 - with spacing of 400 mm

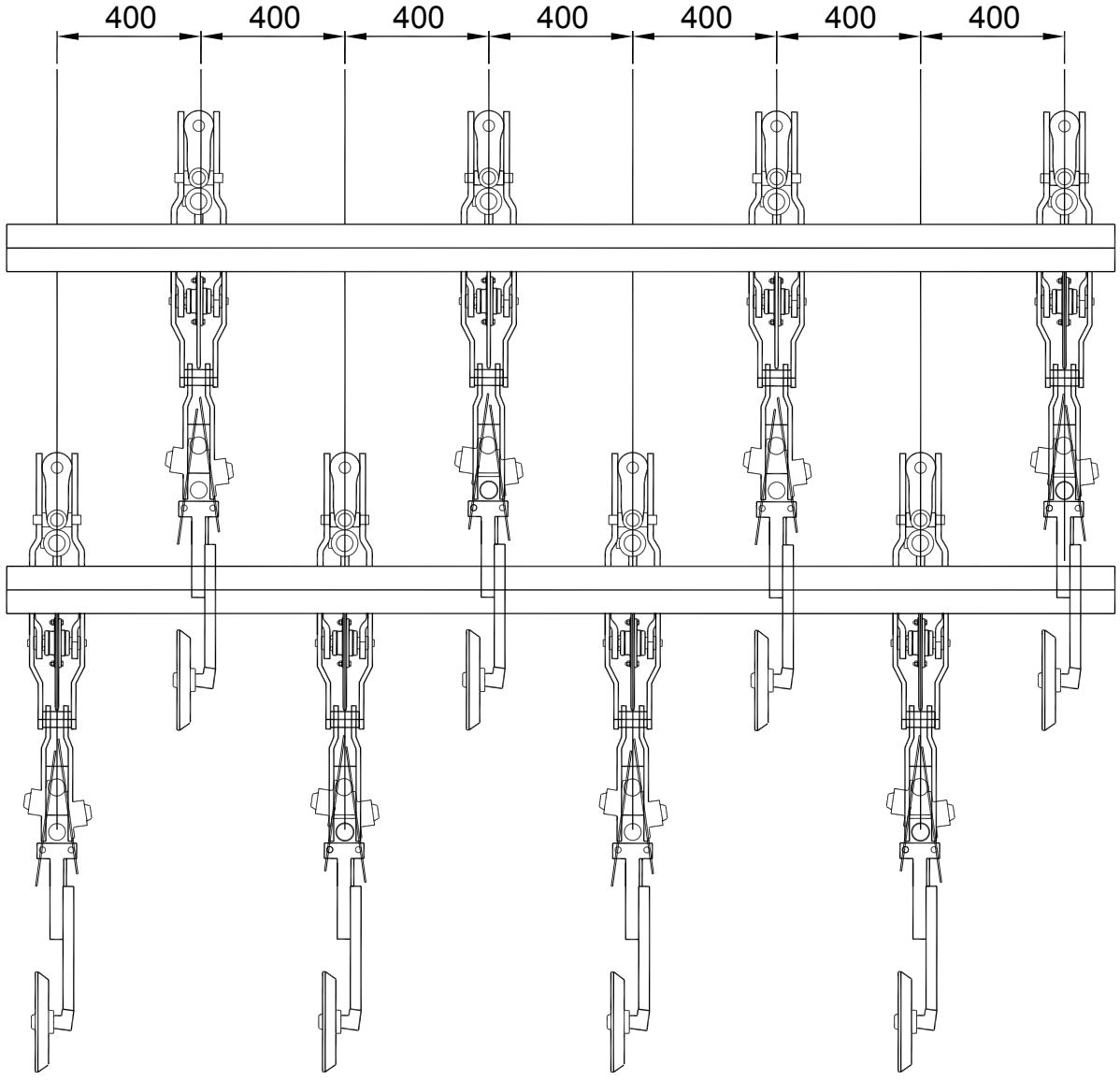
Useful width of the mainframe .....2950 mm

Fertilizer capacity ..... 293 Liters (328 Kg) each box

Fine seeds capacity..... 173 Liters - each box

Tractor hp required..... 90

Width x Height x Length ..... 4020 x 1620 x 3800 mm



Fine seed

Type .....PDCP 17/9F

Fine seed rows ..... 9 - com espaçam. de 300 mm

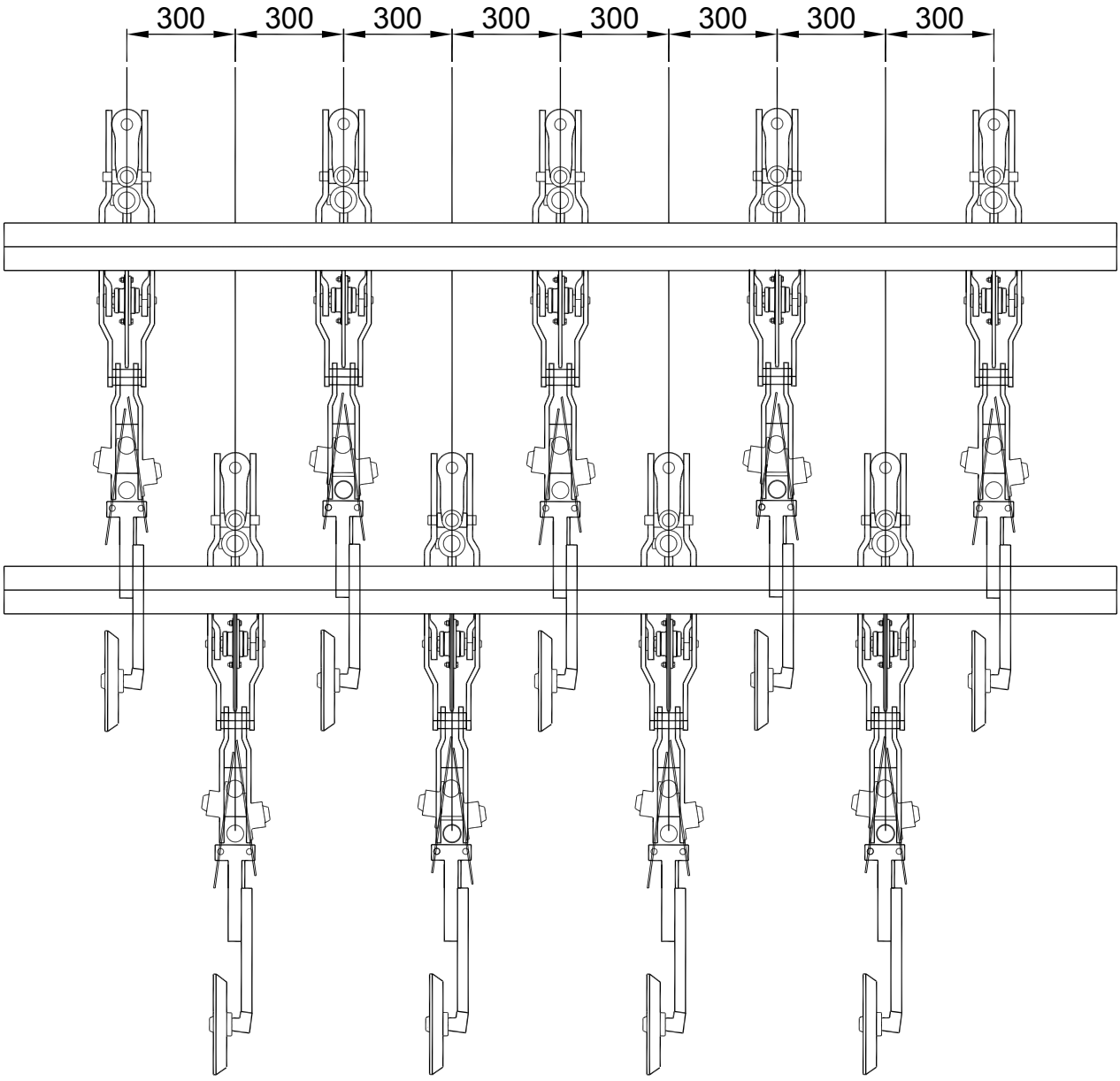
Useful width of the mainframe .....2950 mm

Fertilizer capacity ..... 293 Liters (328 Kg) each box

Fine seeds capacity..... 173 Liters - each box

Tractor hp required 90

Width x Height x Length ..... 4020 x 1620 x 3800 mm



Fine seed

Type ..... PDCP 17/11F

Fine seed rows ..... 11 - with spacing of 250 mm

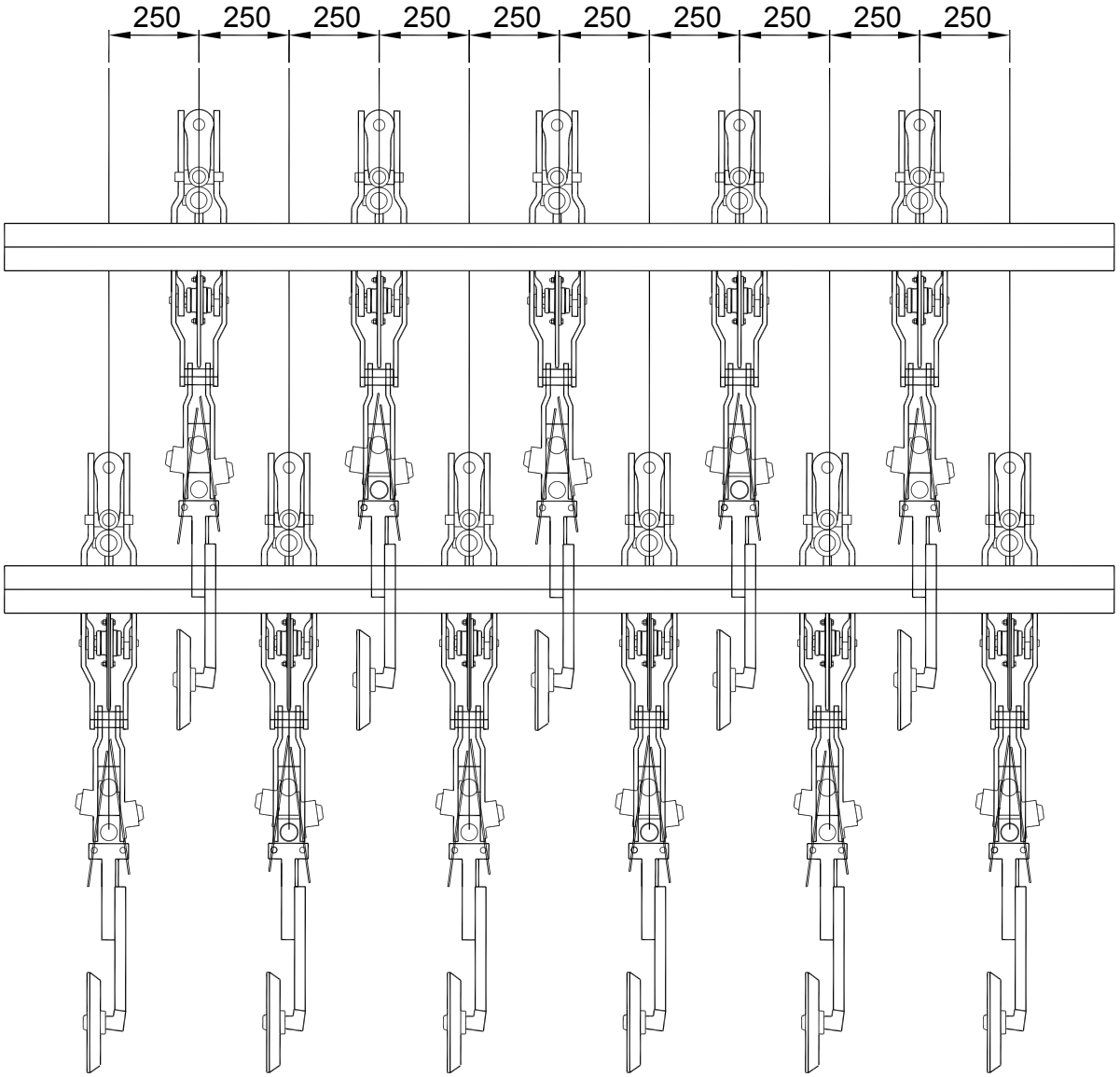
Useful width of the mainframe ..... 2950 mm

Fertilizer capacity ..... 293 Liters (328 Kg) each box

Fine seeds capacity ..... 173 Liters - each box

Tractor hp required 90

Width x Height x Length ..... 4020 x 1620 x 3800 mm



Fine seed

Type .....PDCP 17/15F

Fine seed rows.....15 - with spacing of 200 mm

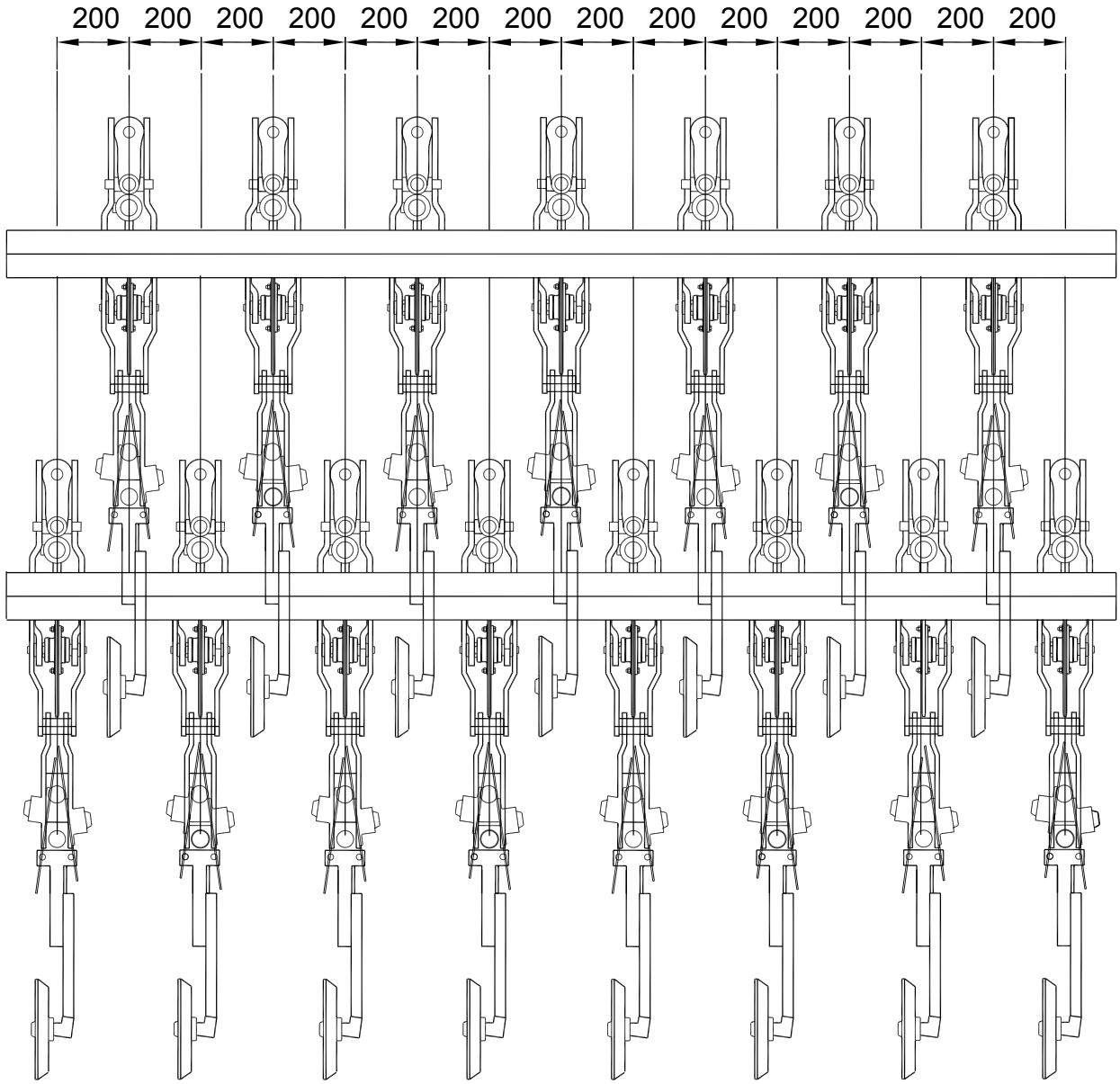
Useful width of the mainframe .....2950 mm

Fertilizer capacity ..... 293 Liters (328 Kg) each box

Fine seeds capacity..... 173 Liters - each box

ractor hp required..... 90

Width x Height x Length ..... 4020 x 1620 x 3800 mm



Fine seed

Type .....PDCP 17/17F

Fine seed rows.....17 - ith spacing of 175 mm

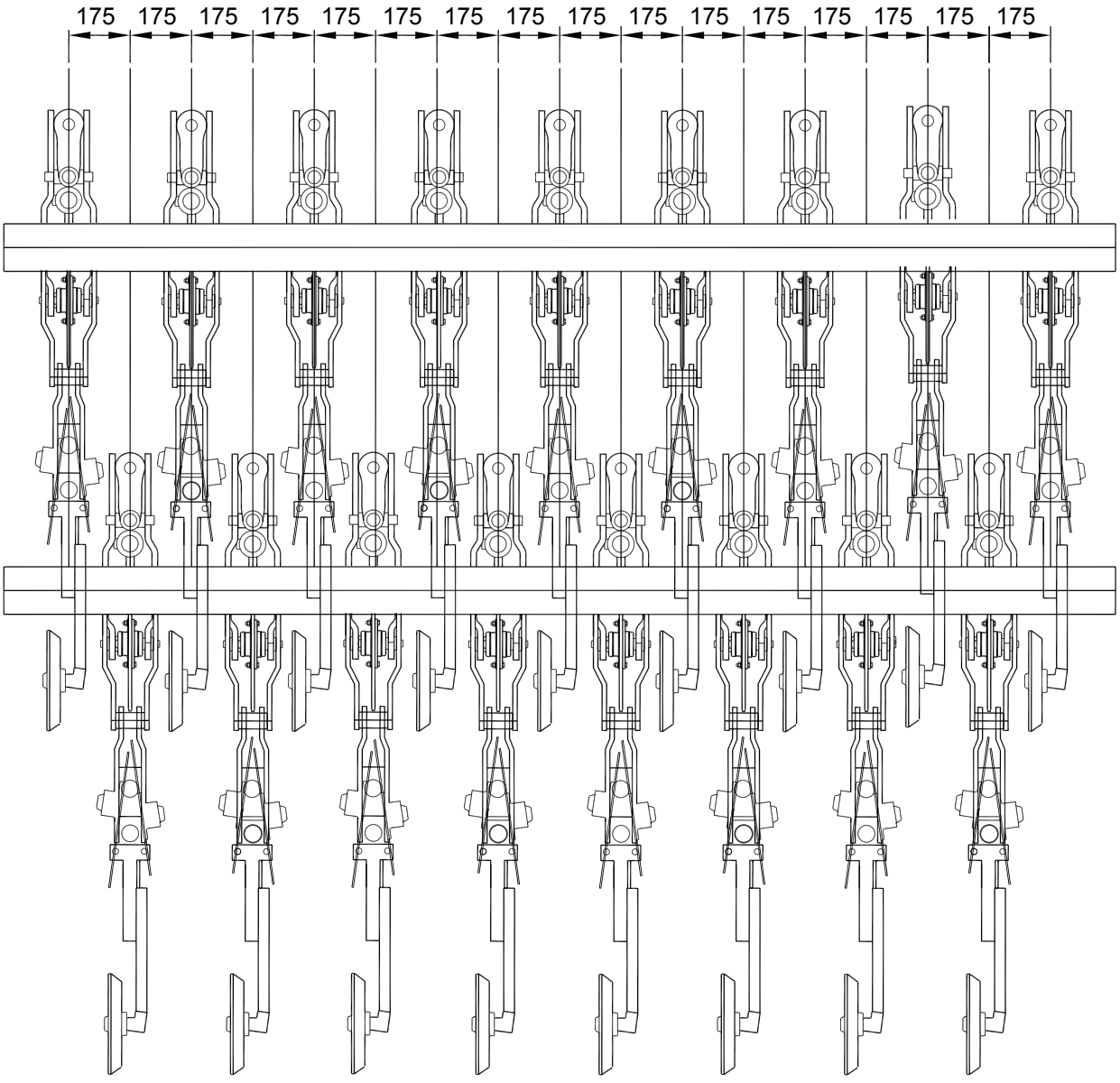
Useful width of the mainframe .....2950 mm

Fertilizer capacity ..... 293 Liters (328 Kg) each box

Fine seeds capacity..... 173 Liters - each box

ractor hp required..... 90

Width x Height x Length ..... 4020 x 1620 x 3800 mm



Large seed

Type ..... PDCP 13/3G

Rows of large seeds .....3 with spacing of 900 mm

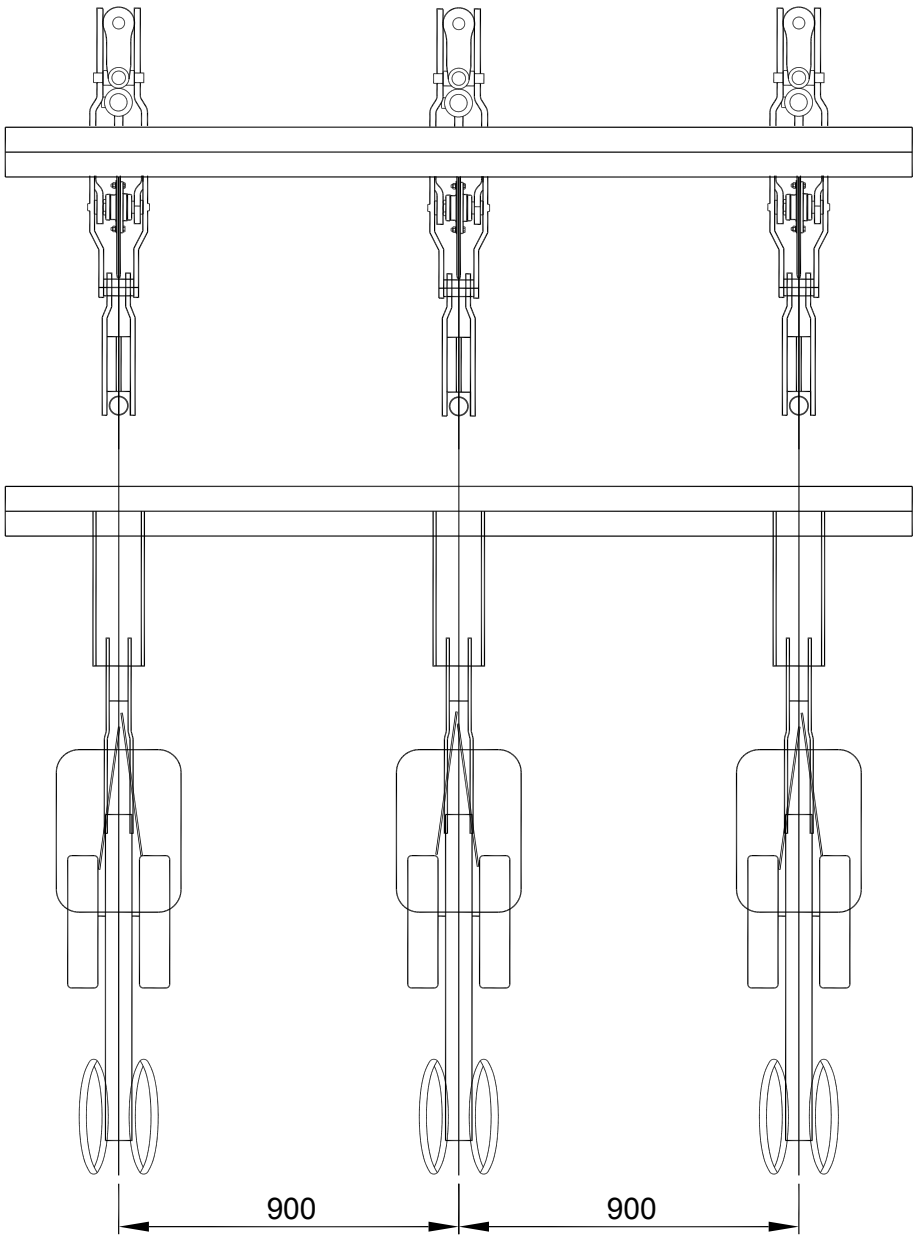
Useful width of the mainframe .....2200 mm

Fertilizer capacity ..... 223 Liters (250 Kg) - each box

Capacity of large seeds ..... 35 Liters - each box

Tractor hp required 75

Width x Height x Length .....3350 x 1620 x 3800 mm



Large seed

Type ..... PDCP 13/4G

Rows of large seeds ..... 4 - with spacing of 700 mm

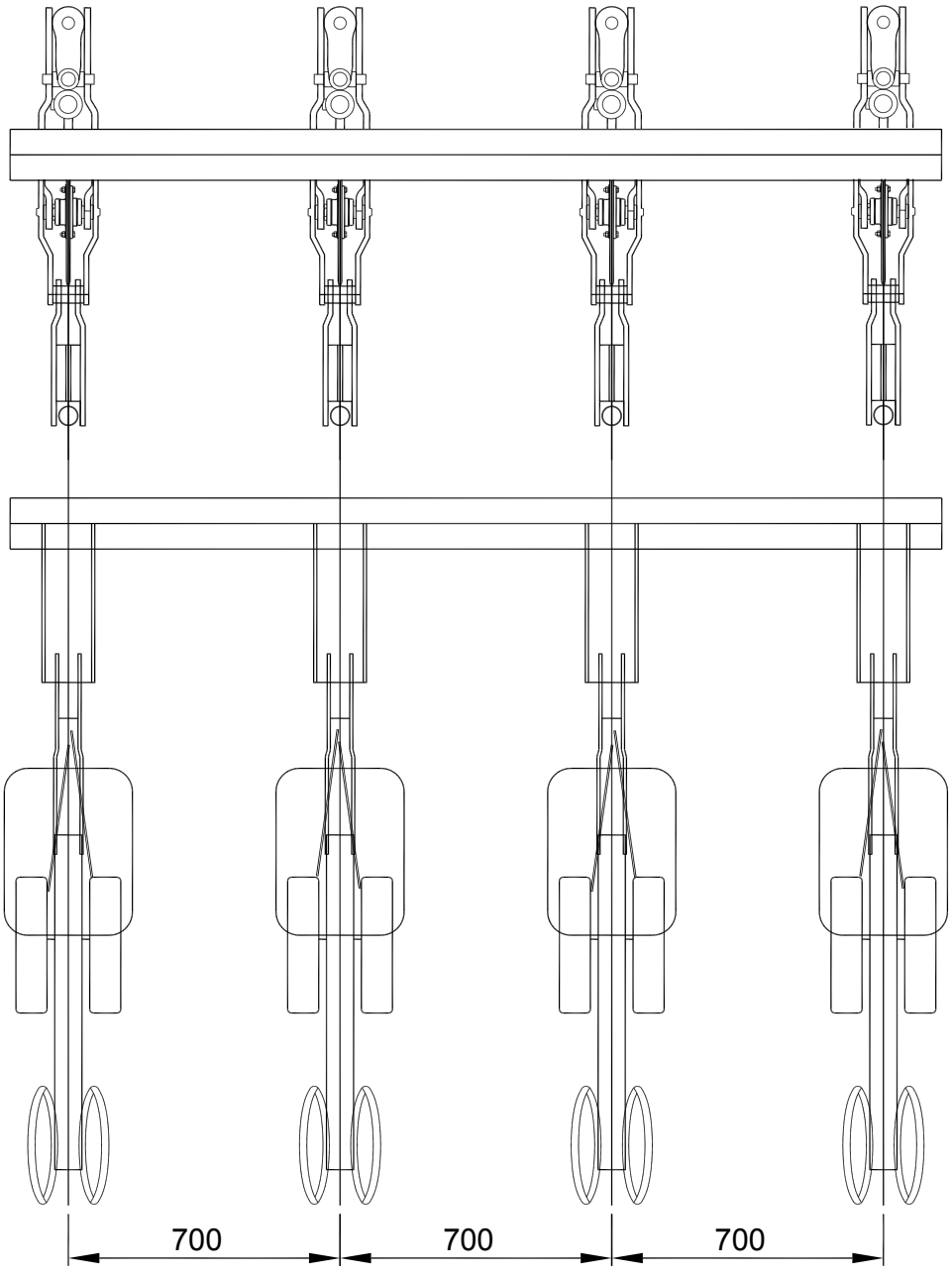
Useful width of the mainframe .....2200 mm

Fertilizer capacity ..... 223 Liters (250 Kg) - each box

Capacity of large seeds ..... 35 Liters - each box

Tractor hp required 75

Width x Height x Length .....3350 x 1620 x 3800 mm



Large seed

Type ..... PDCP 13/4G

Rows of large seeds ..... 4 - with spacing of 650 mm

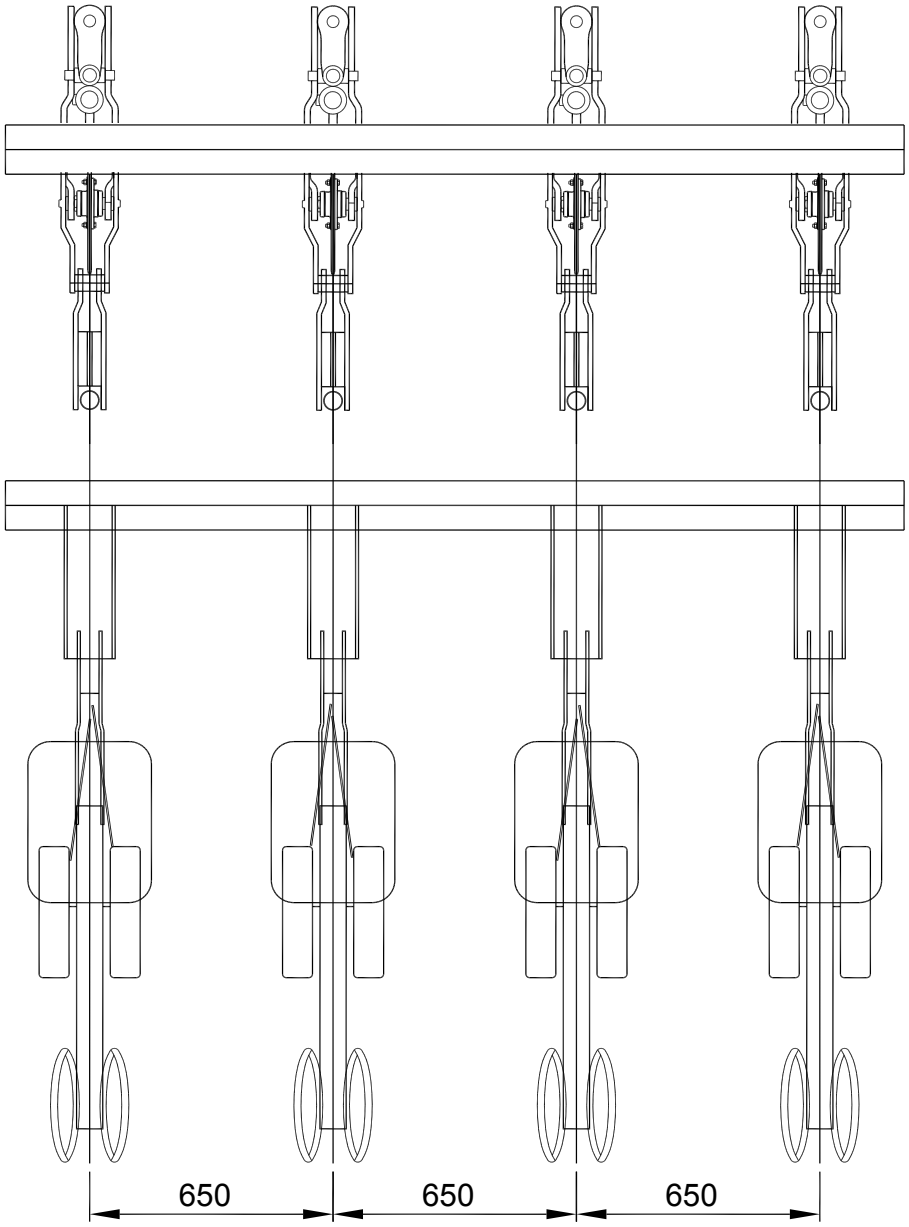
Useful width of the mainframe ..... 2200 mm

Fertilizer capacity ..... 223 Liters (250 Kg) - each box

Capacity of large seeds ..... 35 Liters - each box

Tractor hp required 75

Width x Height x Length ..... 3350 x 1620 x 3800 mm



Large seed

Type ..... PDCP 13/4G

Rows of large seeds ..... 4 - with spacing of 600 mm

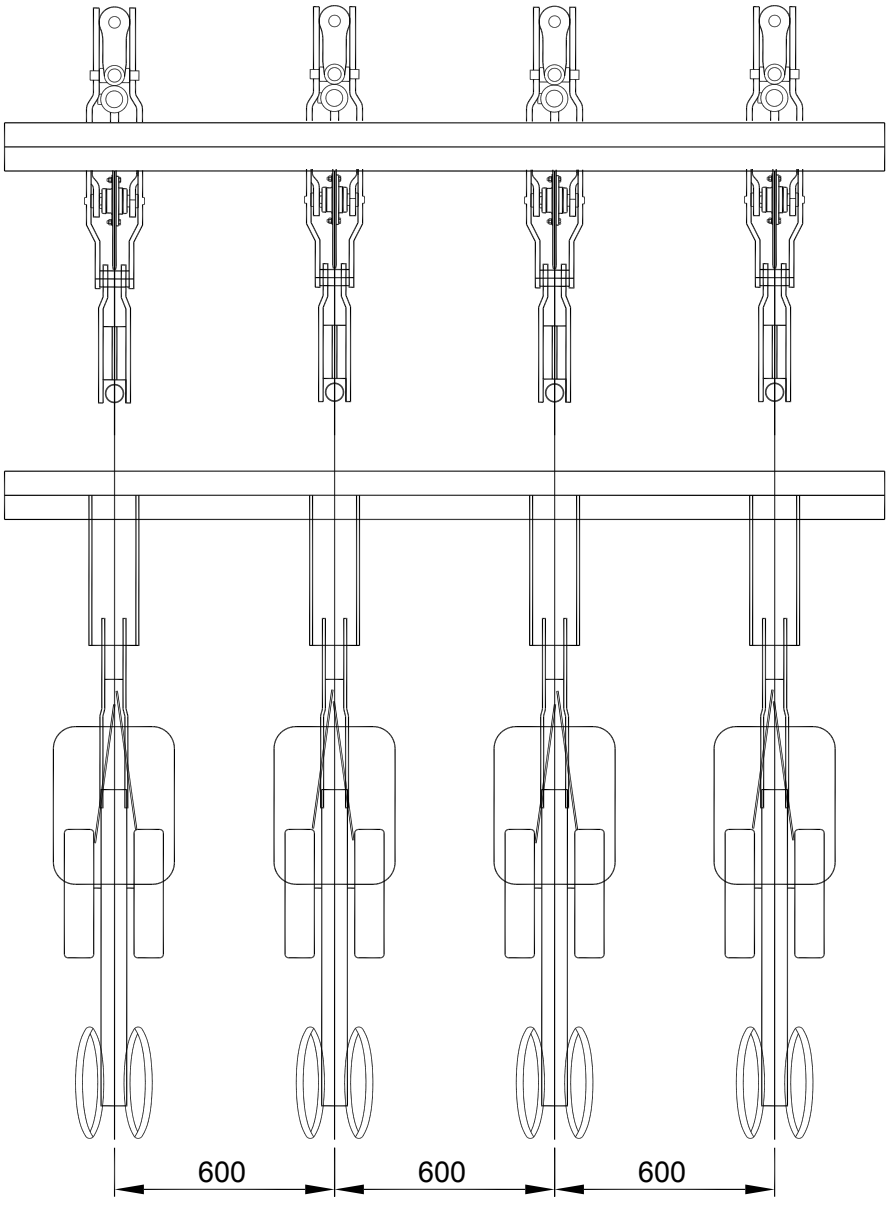
Useful width of the mainframe .....2200 mm

Fertilizer capacity ..... 223 Liters (250 Kg) - each box

Capacity of large seeds ..... 35 Liters - each box

Tractor hp required 75

Width x Height x Length .....3350 x 1620 x 3800 mm



Large seed

Type ..... PDCP 13/4G

Rows of large seeds ..... 4 - with spacing of 550 mm

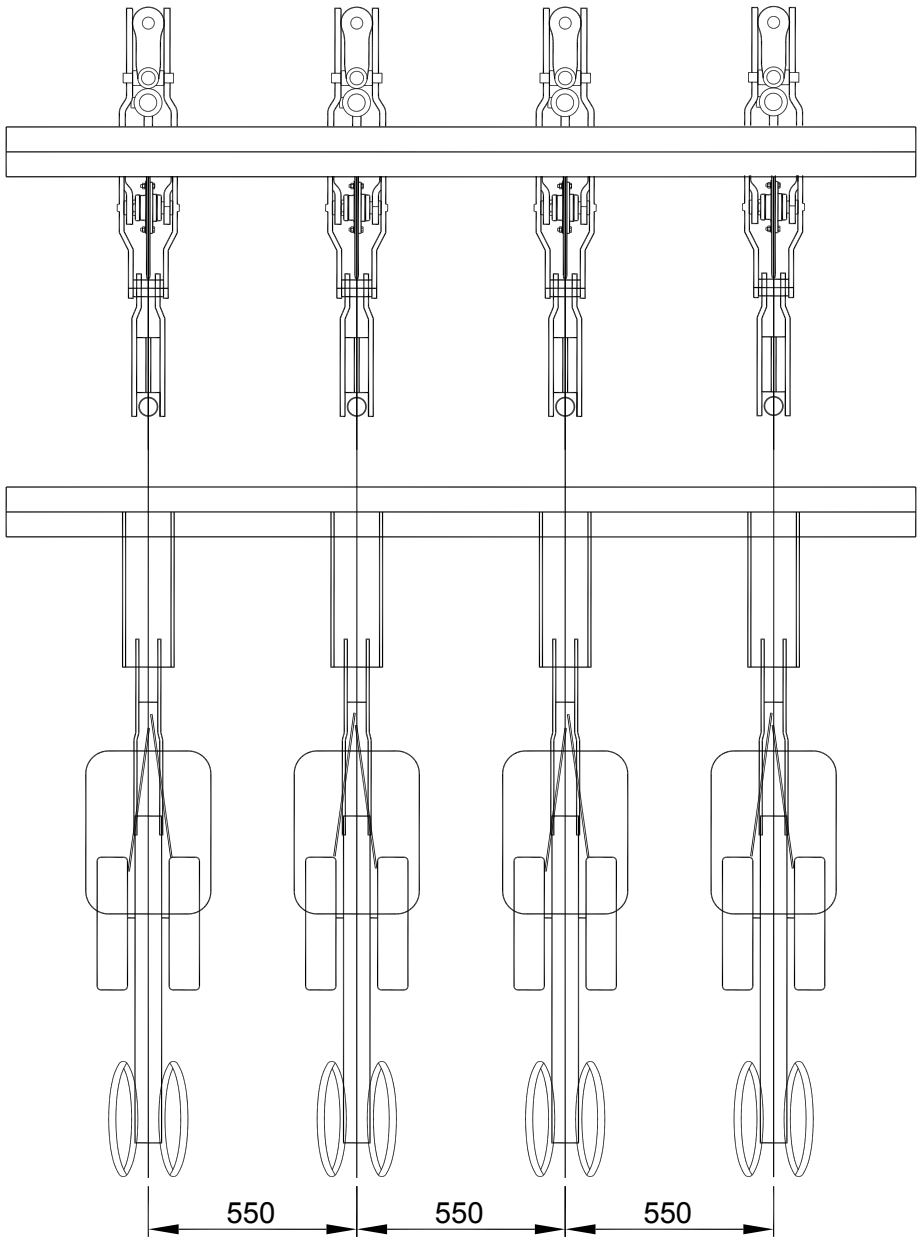
Useful width of the mainframe .....2200 mm

Fertilizer capacity ..... 223 Liters (250 Kg) - each box

Capacity of large seeds ..... 35 Liters - each box

Tractor hp required 75

Width x Height x Length ..... 3350 x 1620 x 3800 mm



Large seed

Type ..... PDCP 13/5G

Rows of large seeds ..... 5 - with spacing of 500 mm

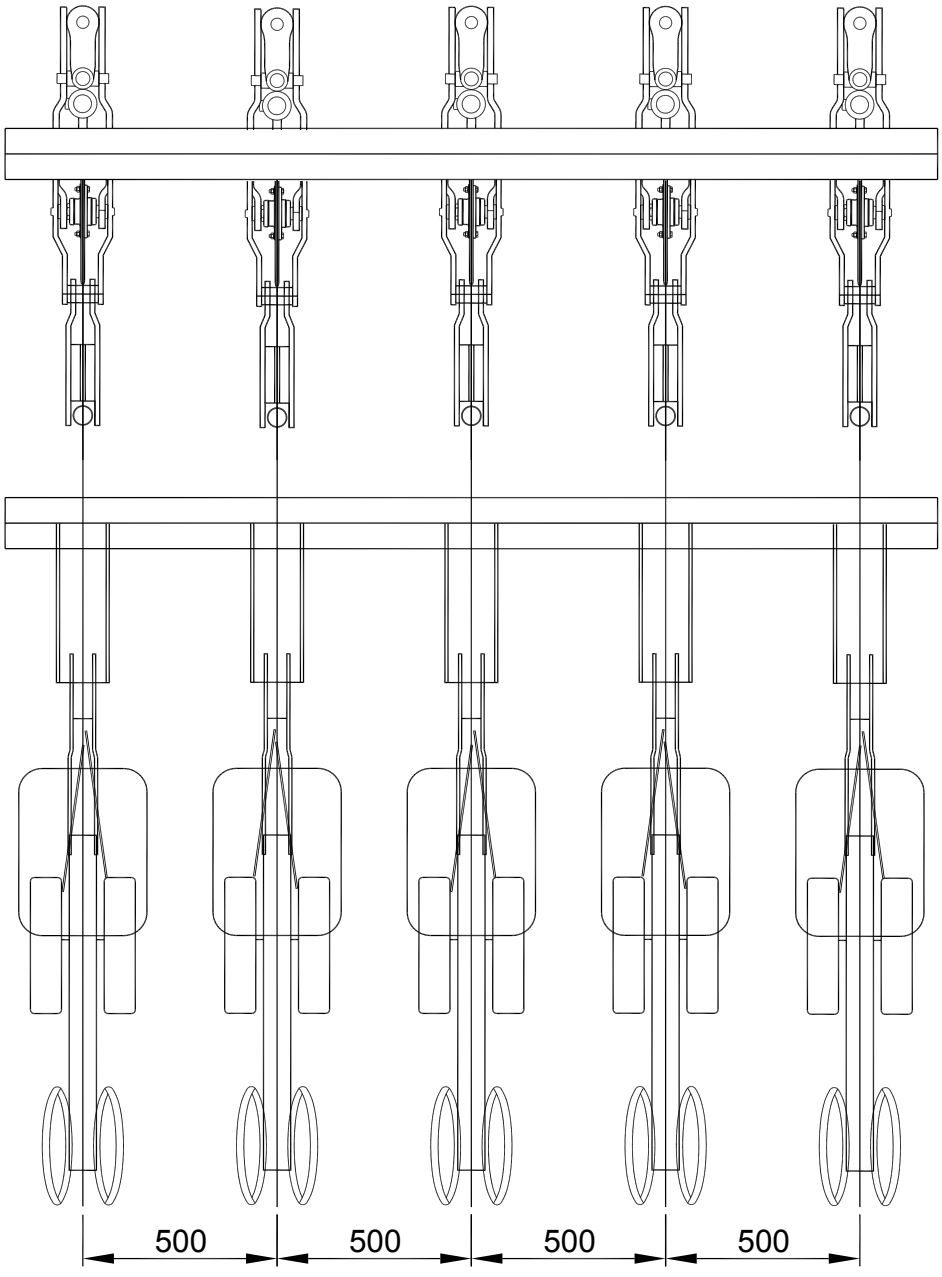
Useful width of the mainframe .....2200 mm

Fertilizer capacity ..... 223 Liters (250 Kg) - each box

Capacity of large seeds ..... 35 Liters - each box

Tractor hp required 75

Width x Height x Length .....3350 x 1620 x 3800 mm



Large seed

Type ..... PDCP 13/5G

Rows of large seeds ..... 5 - with spacing of 450 mm

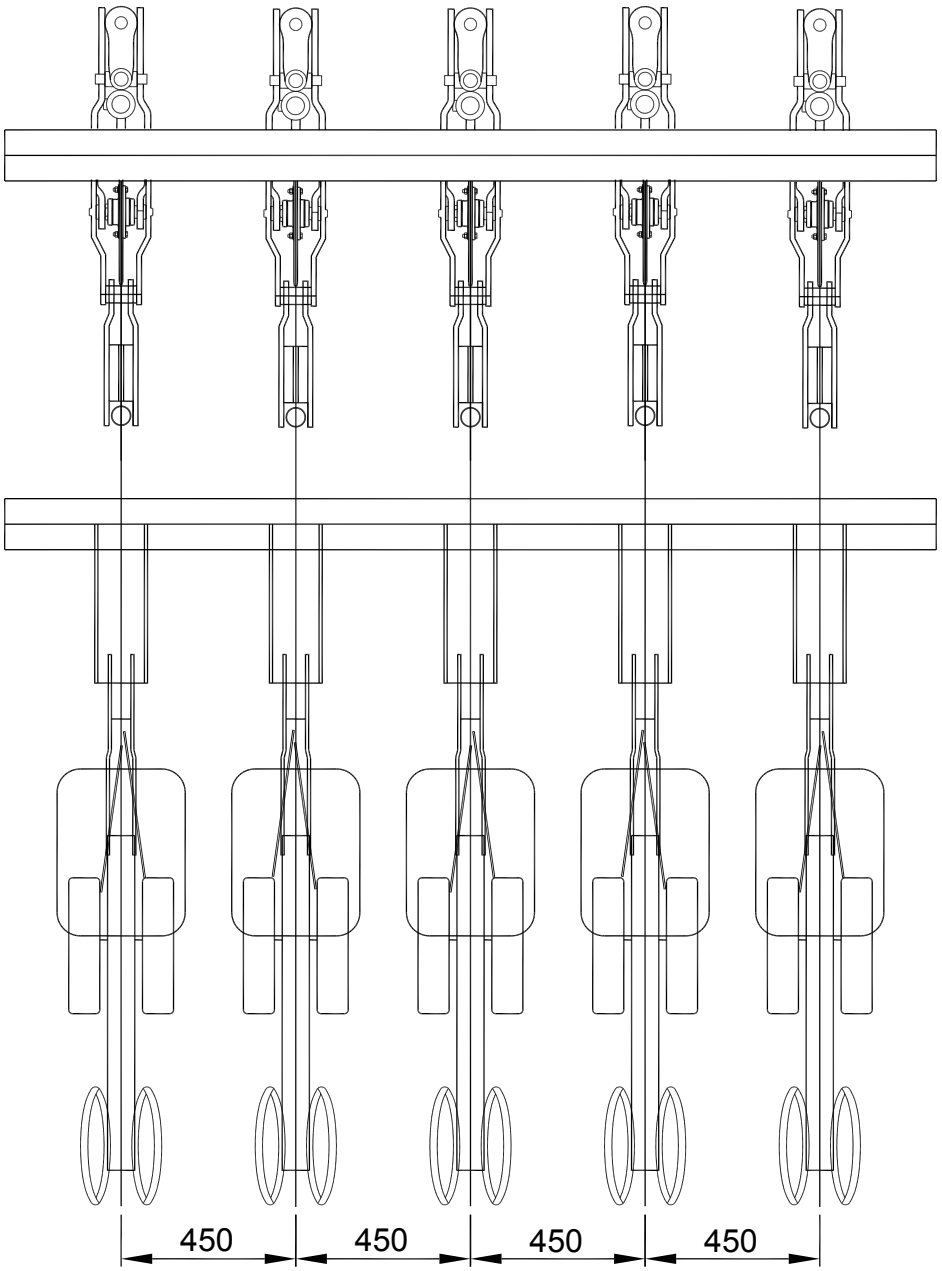
Useful width of the mainframe .....2200 mm

Fertilizer capacity ..... 223 Liters (250 Kg) - each box

Capacity of large seeds ..... 35 Liters - each box

Tractor hp required 75

Width x Height x Length .....3350 x 1620 x 3800 mm



Large seed

Type ..... PDCP 13/6G

Rows of large seeds ..... 6 - with spacing of 400 mm

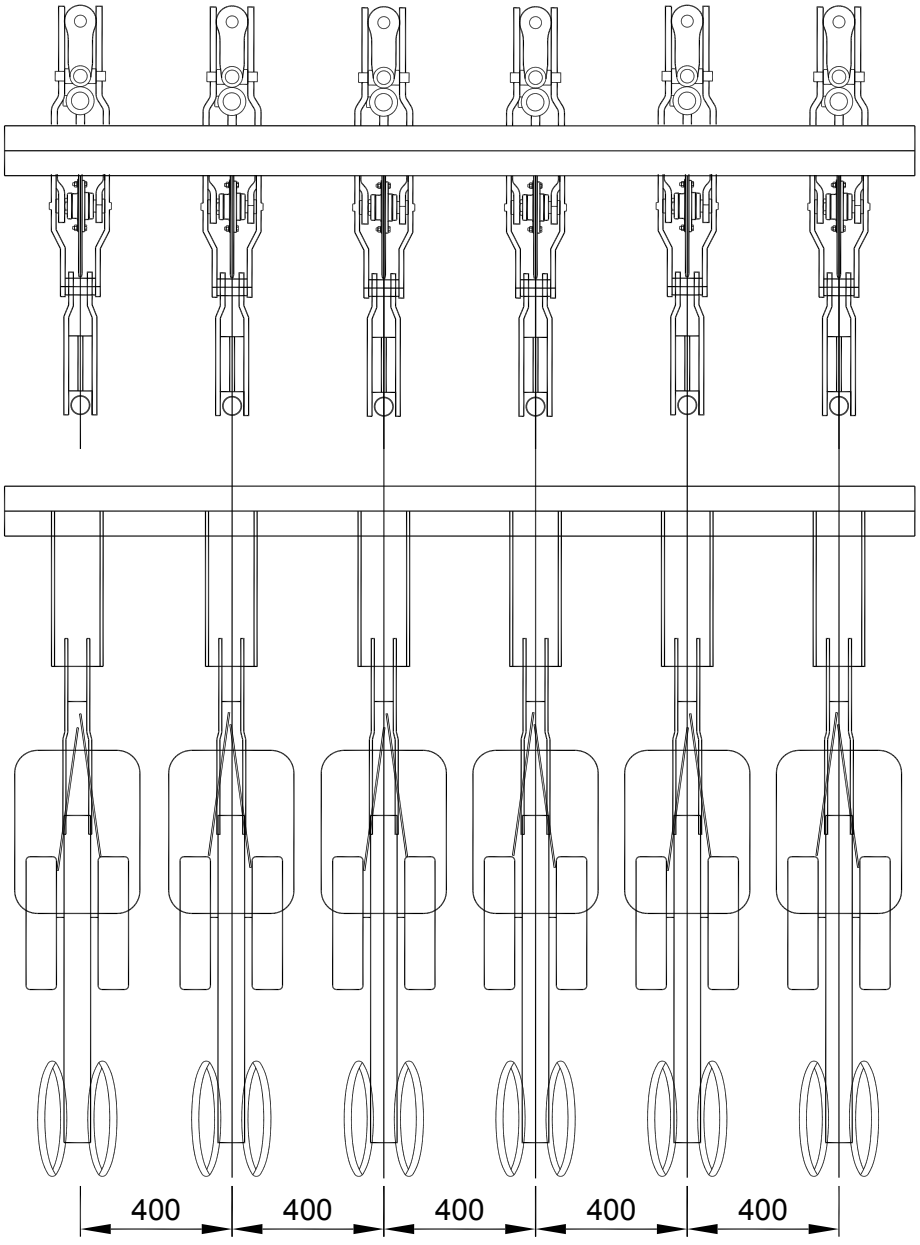
Useful width of the mainframe .....2200 mm

Fertilizer capacity ..... 223 Liters (250 Kg) - each box

Capacity of large seeds ..... 35 Liters - each box

Tractor hp required 75

Width x Height x Length .....3350 x 1620 x 3800 mm



Large seed

Type ..... PDCP 17/4G

Rows of large seeds ..... 4 - with spacing of 900 mm

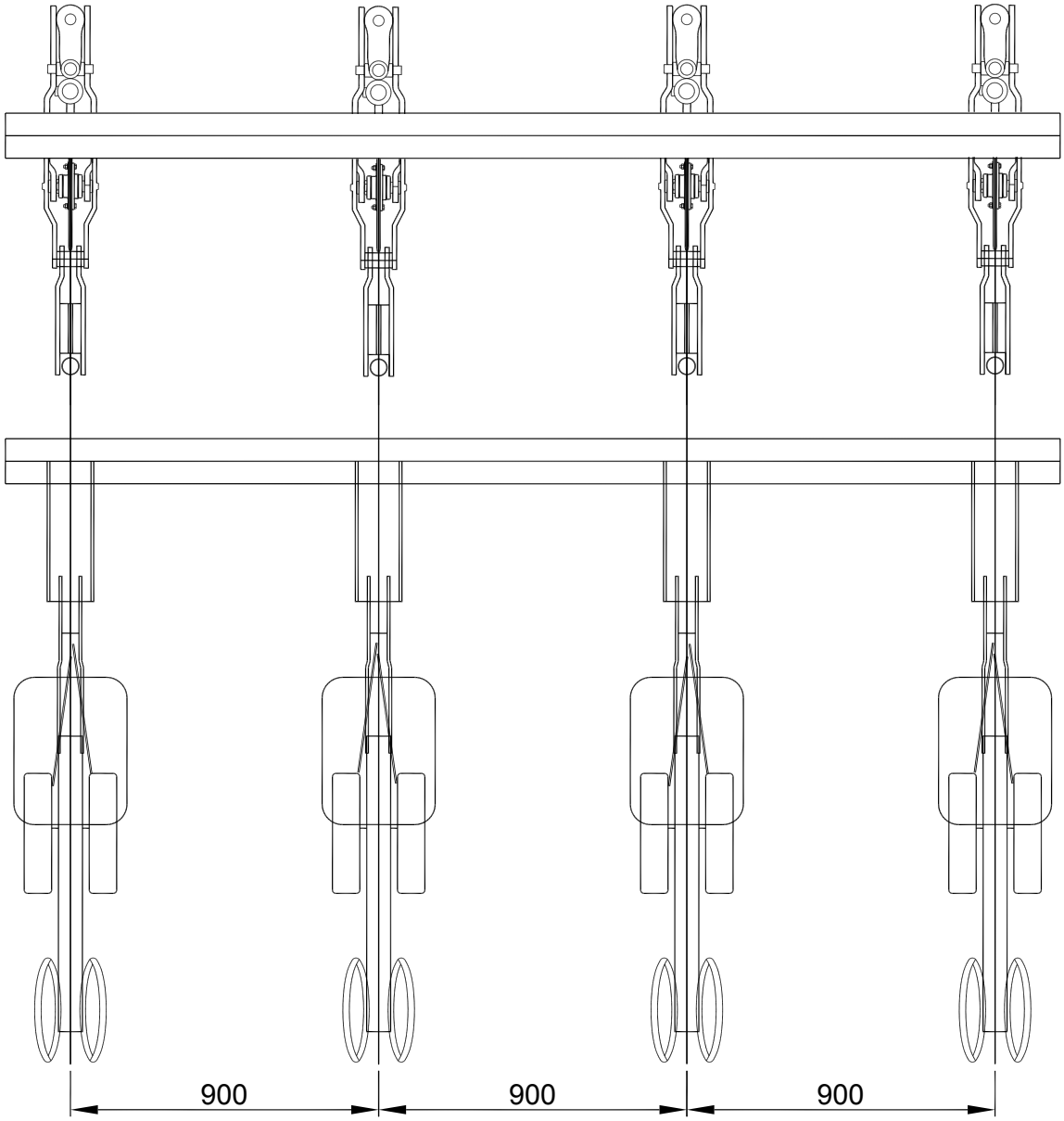
Useful width of the mainframe .....2950 mm

Fertilizer capacity ..... 293 Liters (328 Kg) each box

Capacity of large seeds ..... 35 Liters - each box

Tractor hp required 90

Width x Height x Length .....4020 x 1620 x 3800 mm



Large seed

Type ..... PDCP 17/5G

Rows of large seeds ..... 5 - with spacing of 700 mm

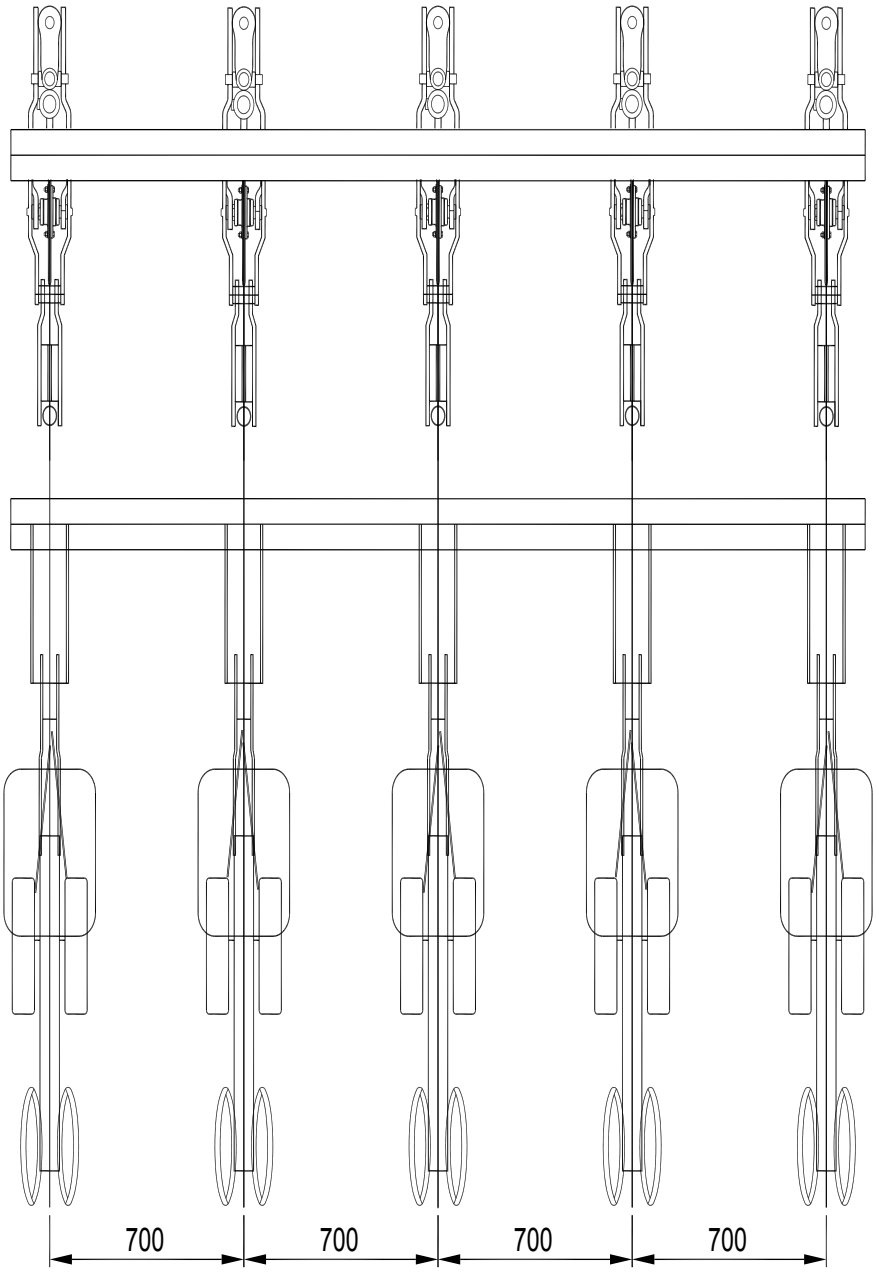
Useful width of the mainframe ..... 2950 mm

Fertilizer capacity ..... 293 Liters (328 Kg) each box

Capacity of large seeds ..... 35 Liters - each box

Tractor hp required 90

Width x Height x Length ..... 4020 x 1620 x 3800 mm



Large seed

Type ..... PDCP 17/5G

Rows of large seeds ..... 5 - with spacing of 650 mm

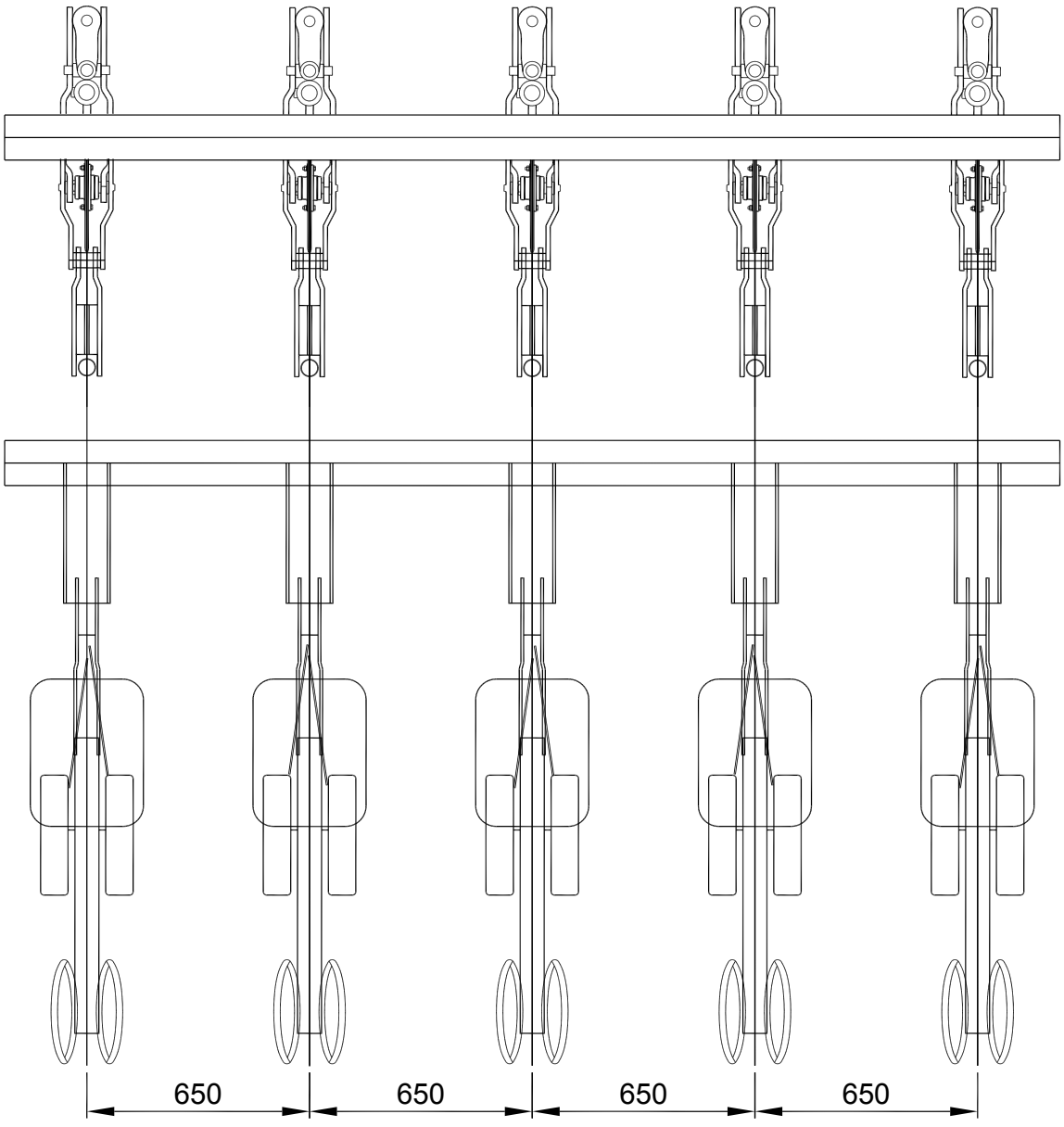
Useful width of the mainframe .....2950 mm

Fertilizer capacity ..... 293 Liters (328 Kg) each box

Capacity of large seeds ..... 35 Liters - each box

Tractor hp required 90

Width x Height x Length .....4020 x 1620 x 3800 mm



Large seed

Type ..... PDCP 17/5G

Rows of large seeds ..... 5 - with spacing of 600 mm

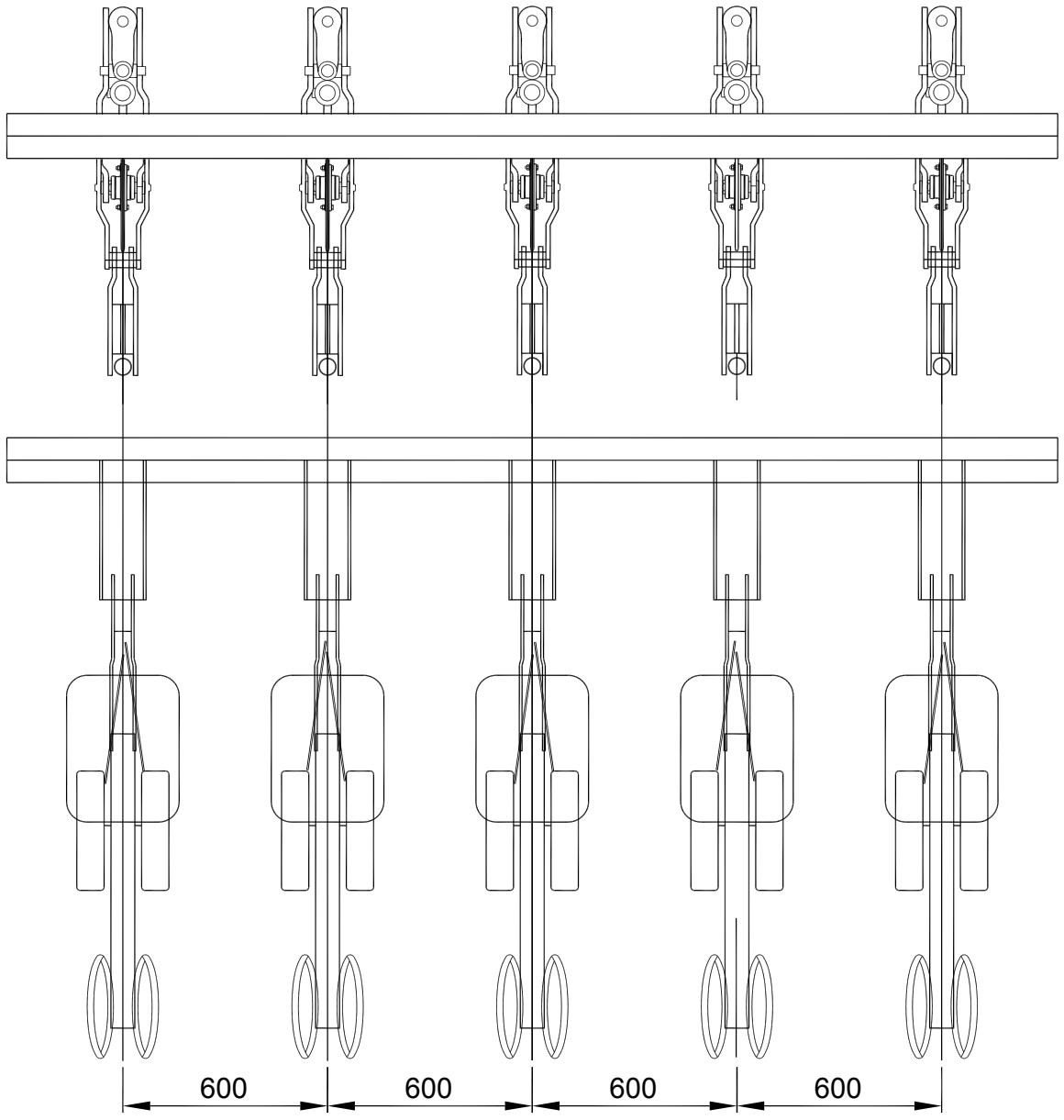
Useful width of the mainframe .....2950 mm

Fertilizer capacity ..... 293 Liters (328 Kg) each box

Capacity of large seeds ..... 35 Liters - each box

Tractor hp required 90

Width x Height x Length .....4020 x 1620 x 3800 mm



Large seed

Type ..... PDCP 17/6G

Rows of large seeds ..... 6 - with spacing of 550 mm

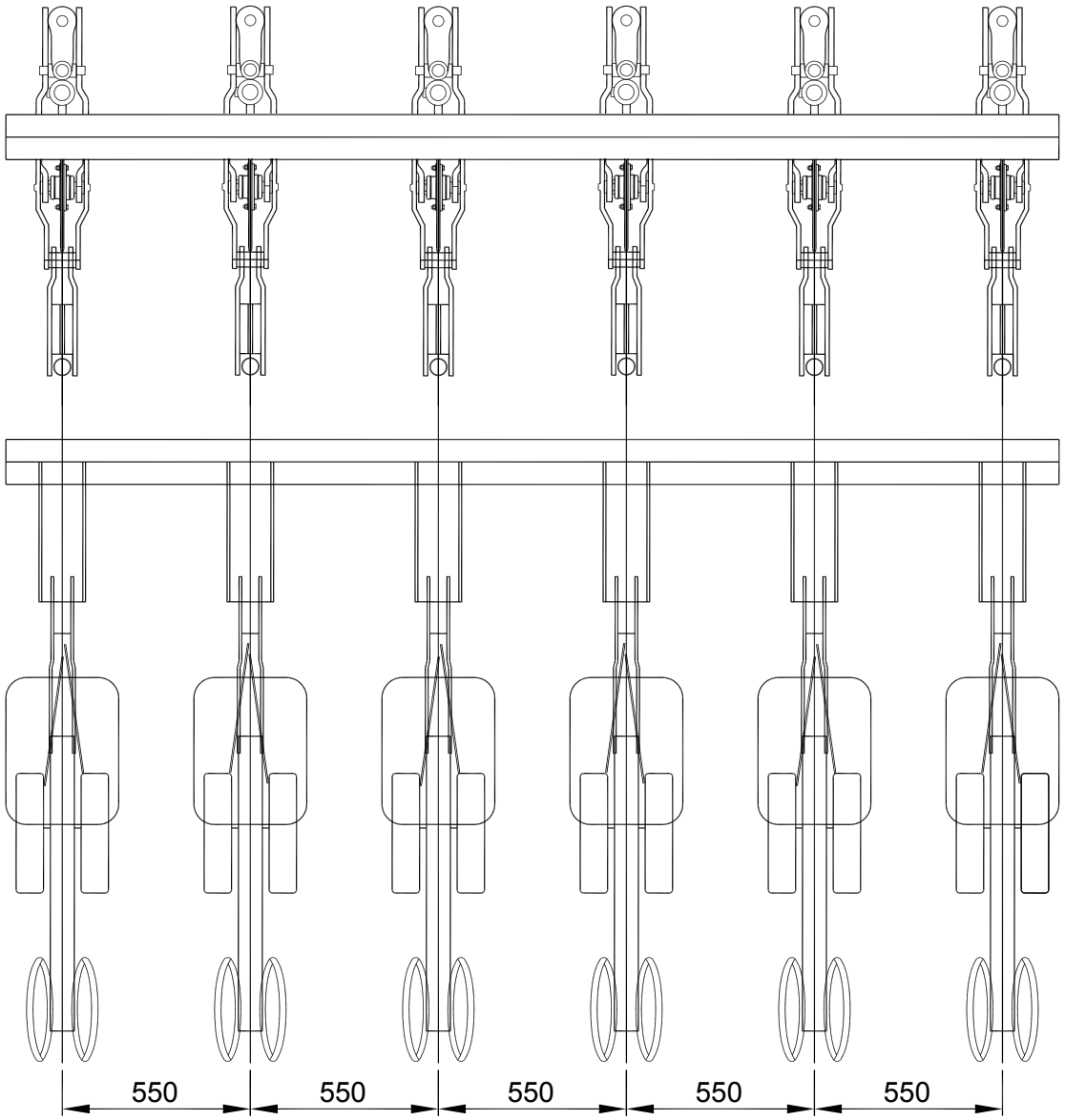
Useful width of the mainframe .....2950 mm

Fertilizer capacity ..... 293 Liters (328 Kg) each box

Capacity of large seeds ..... 35 Liters - each box

Tractor hp required 90

Width x Height x Length .....4020 x 1620 x 3800 mm



Large seed

Type ..... PDCP 17/6G

Rows of large seeds ..... 6 - with spacing of 500 mm

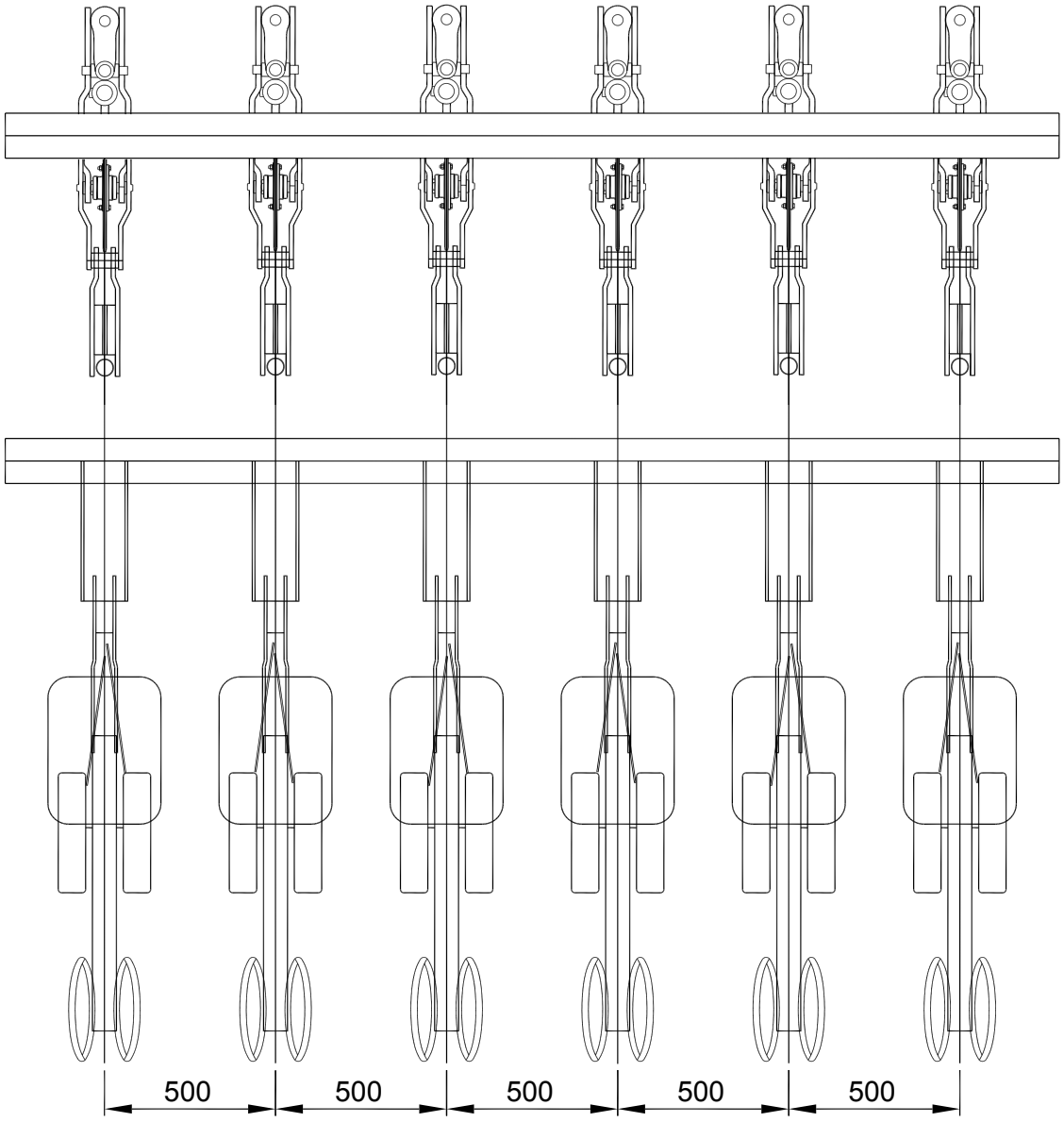
Useful width of the mainframe .....2950 mm

Fertilizer capacity ..... 293 Liters (328 Kg) each box

Capacity of large seeds ..... 35 Liters - each box

Tractor hp required 90

Width x Height x Length .....4020 x 1620 x 3800 mm



Large seed

Type ..... PDCP 17/7G

Rows of large seeds ..... 7 - with spacing of 450 mm

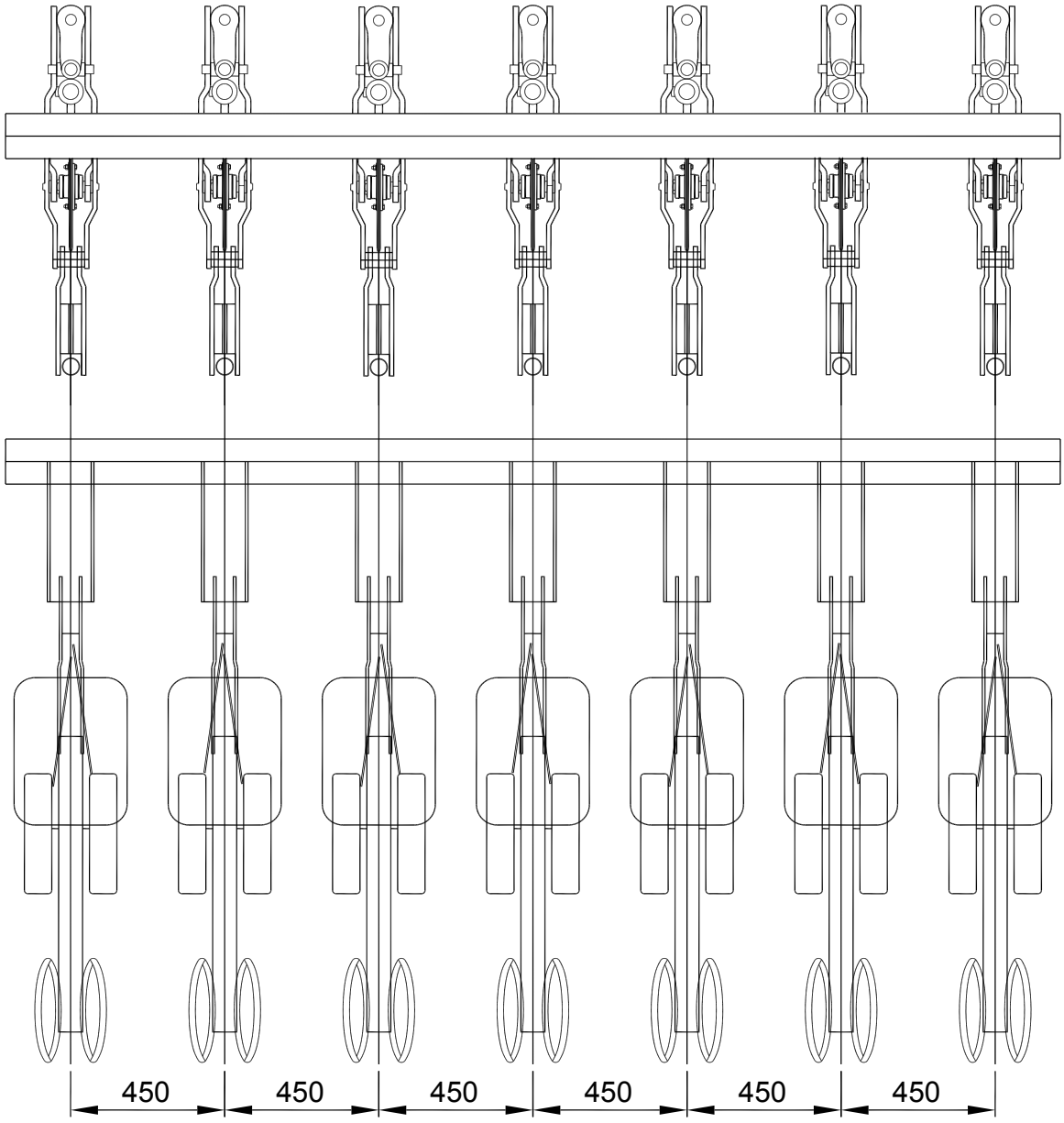
Useful width of the mainframe .....2950 mm

Fertilizer capacity ..... 293 Liters (328 Kg) each box

Capacity of large seeds ..... 35 Liters - each box

Tractor hp required 90

Width x Height x Length .....4020 x 1620 x 3800 mm



Large seed

Type ..... PDCP 17/8G

Rows of large seeds ..... 8 - with spacing of 400 mm

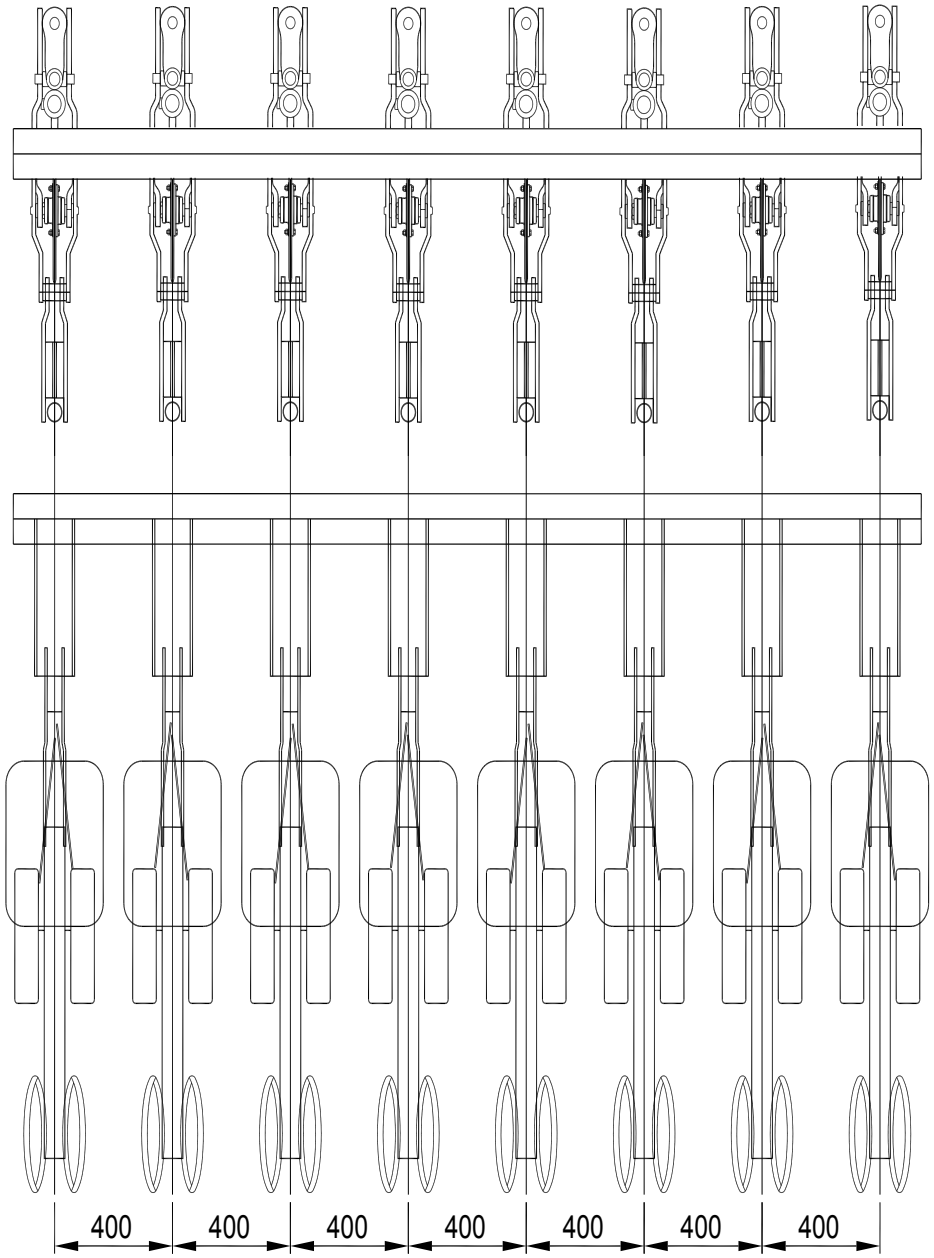
Useful width of the mainframe .....2950 mm

Fertilizer capacity ..... 293 Liters (328 Kg) each box

Capacity of large seeds ..... 35 Liters - each box

Tractor hp required 90

Width x Height x Length .....4020 x 1620 x 3800 mm



Pasture renovation

Type ..... PDCP 13/9F/3G

Fine seed rows ..... 9 - with spacing of 210, 230, 260 mm

Rows of large seeds ..... 3 - with spacing of 700 mm

Useful width of the mainframe ..... 2200 mm

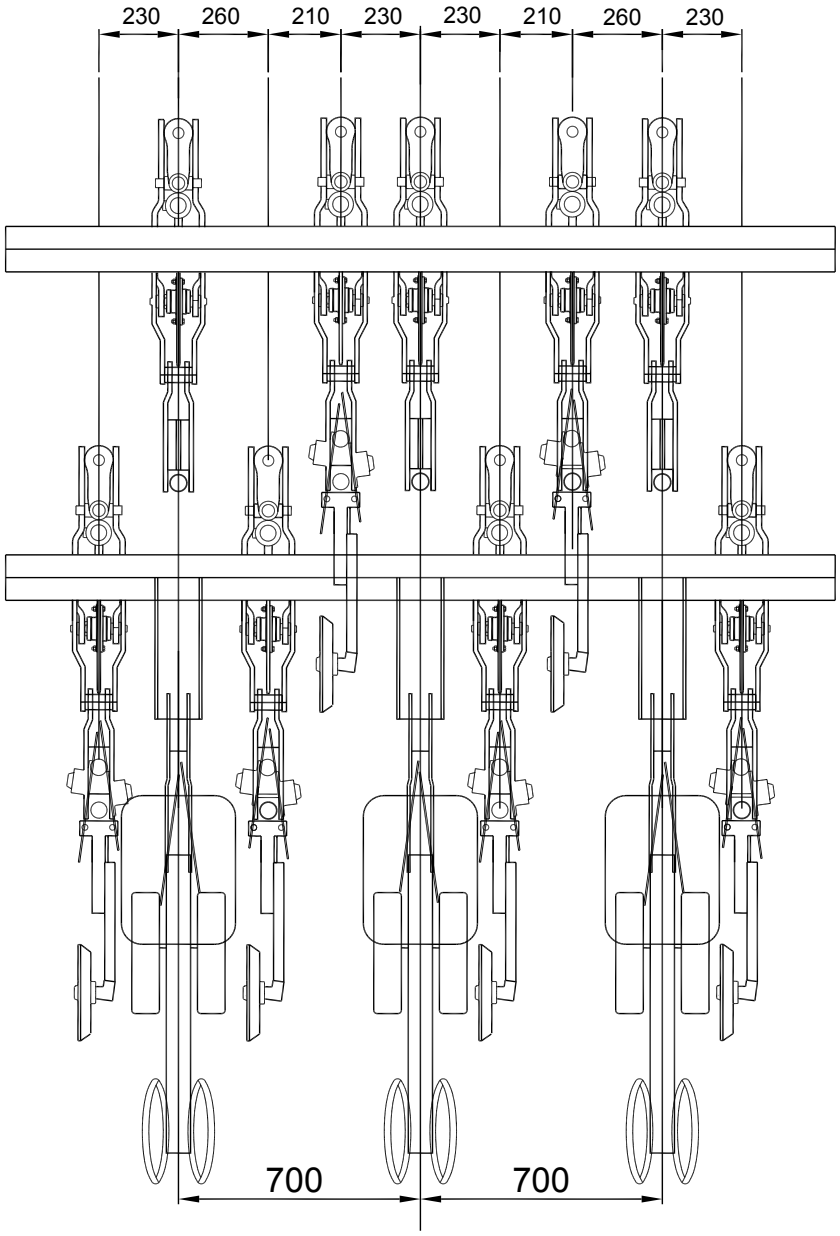
Fertilizer capacity ..... 223 Liters (250 Kg) each box

Fine seeds capacity ..... 130 Liters - each box

Capacity of large seeds ..... 35 Liters - each box

Tractor hp required 75

Width x Height x Length ..... 3350 x 1620 x 3800 mm



Pasture renovation

Type ..... PDCP 17/12F/4G

Fine seed rows ..... 12 - with spacing of 210, 230, 260 mm

Rows of large seeds ..... 4 - with spacing of 700 mm

Useful width of the mainframe .....2950 mm

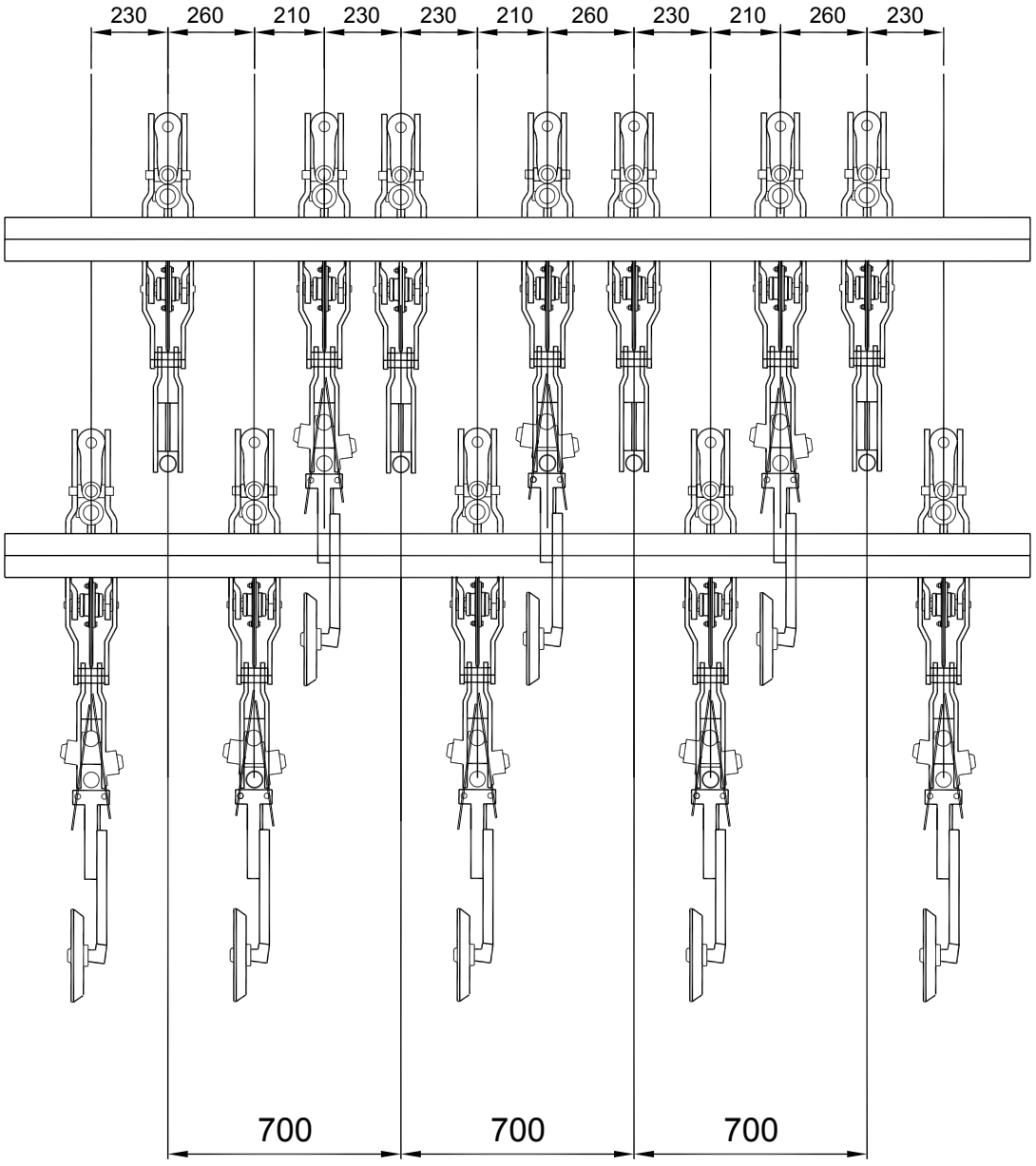
Fertilizer capacity ..... 293 Liters (328 Kg) each box

Fine seeds capacity.....173 Liters each box

Capacity of large seeds ..... 35 Liters each box

Tractor hp required 90

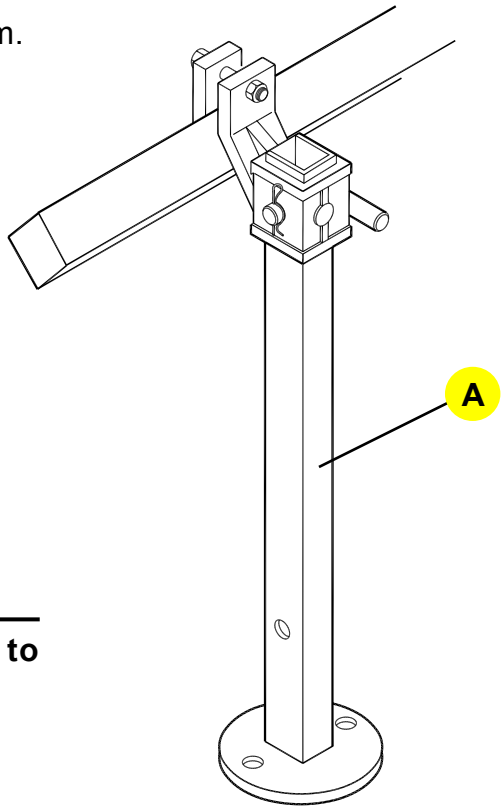
Width x Height x Length .....4020 x 1620 x 3800 cm



Procedures to change spacings

Change the spacings in clean place, plan and firm.

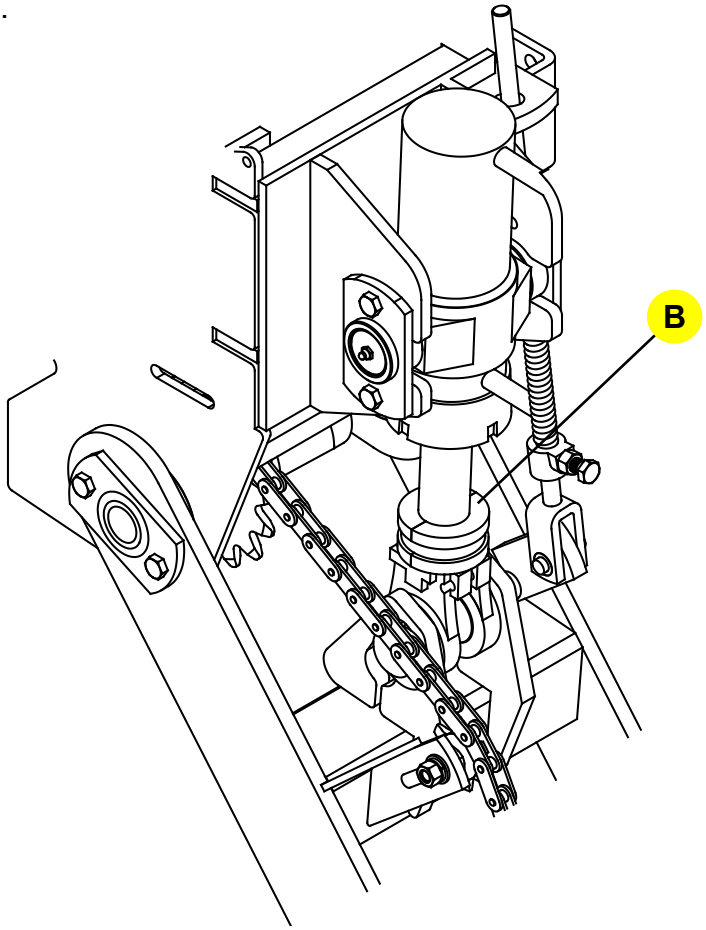
• Lower the parking stands (A).



ATTENTION

Verify if the planter is supported to avoid accidentes.

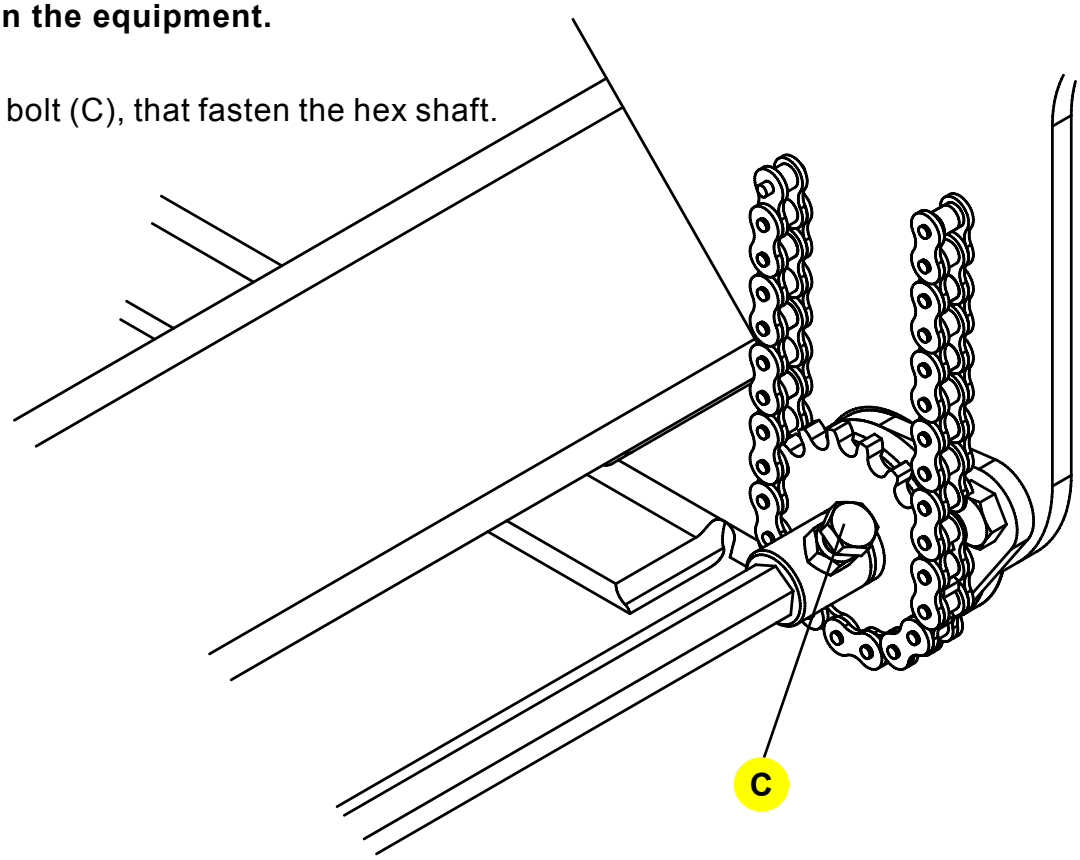
1) Lift the equipment and put the safety locks (B) in the cylinder rod, then you can deslocate the rows.



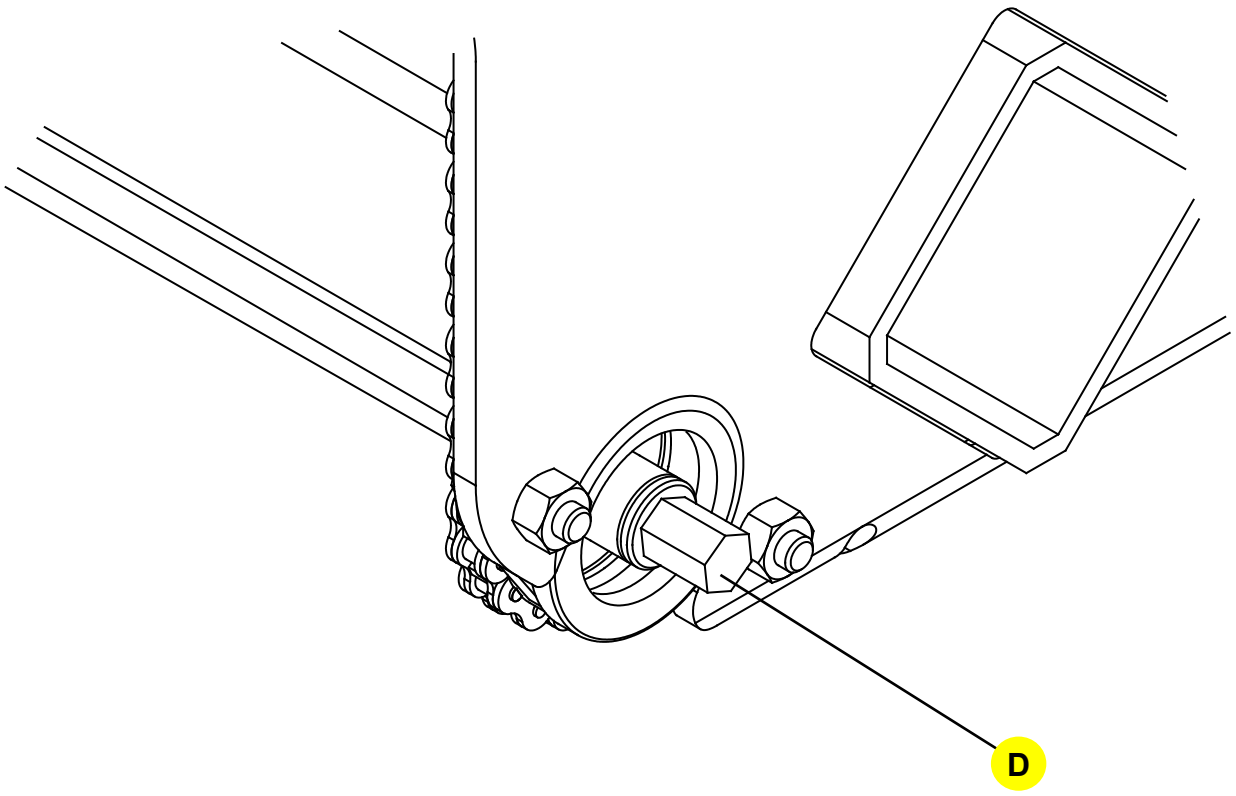
Procedures to change spacings

ATTENTION **The following instructions are necessary to remove or put any row in the equipment.**

2) Loose the bolt (C), that fasten the hex shaft.

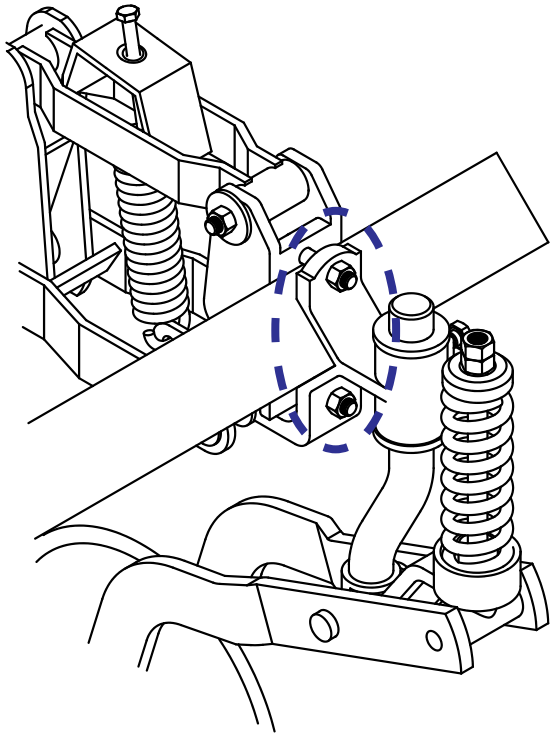


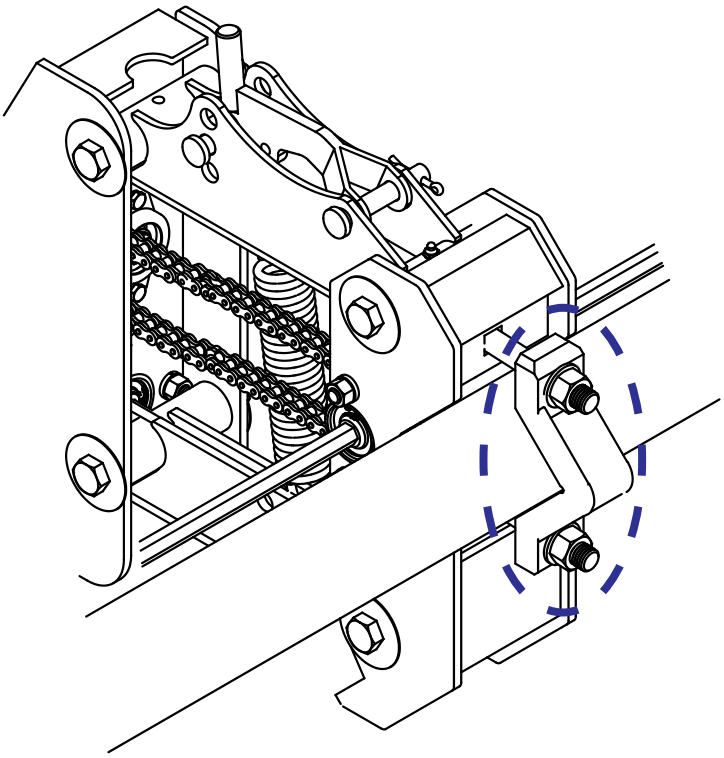
3) Totally remove the hex shaft (D).



Procedures to change spacings

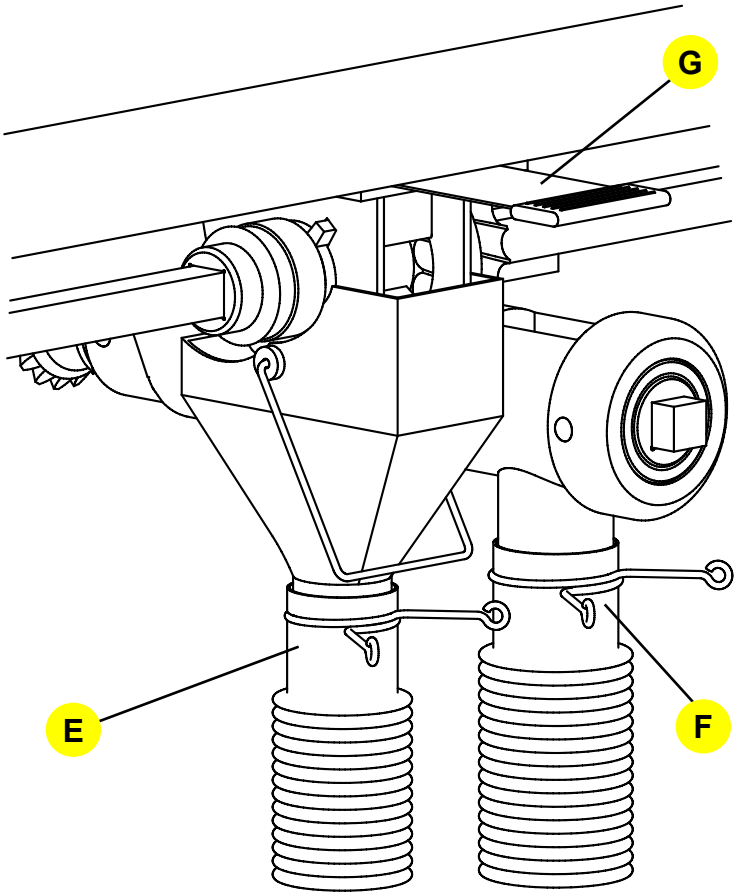
4º) Loose the nuts that fasten the rows to deslocate them in the mainframe.





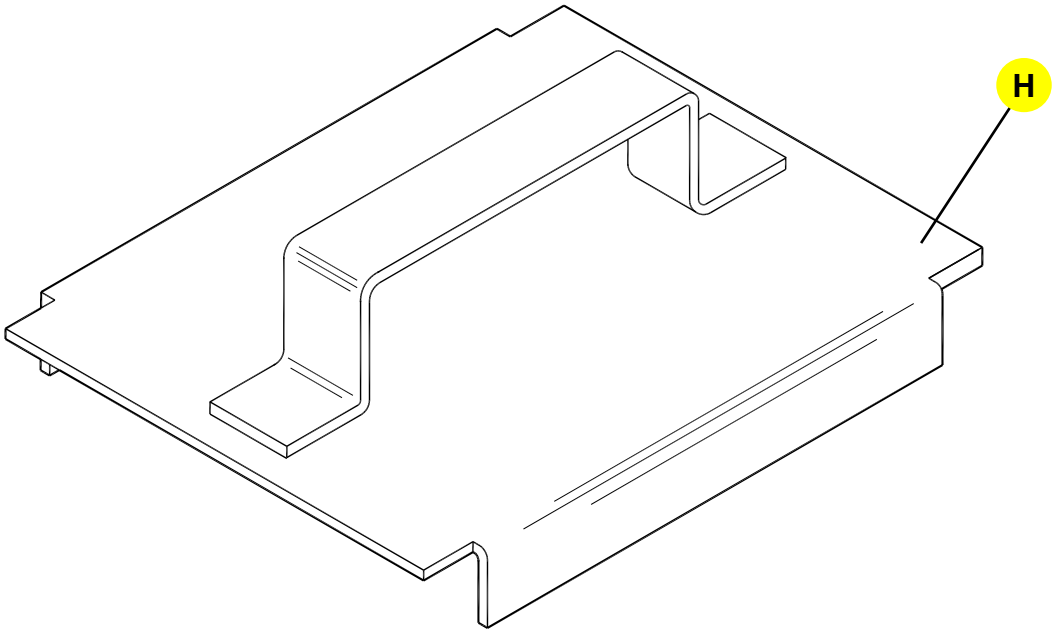
5º) Remove the seed conductors (E) and the fertilizer (F), together with the rows, loosen the fasteners that fasten the nozzle.

6º) Stop the exit of seeds with the switch (G), in the rows that be removed.



Procedures to change spacings

7º) To close the fertilizer metering, fit the cover (H), on the augers that won't be used.



IMPORTANT

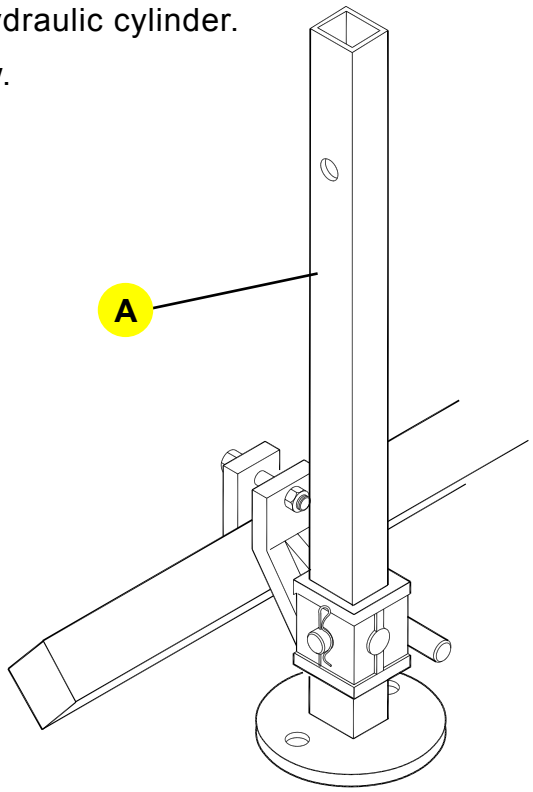
Fasten all the components paying special attention to the following points:

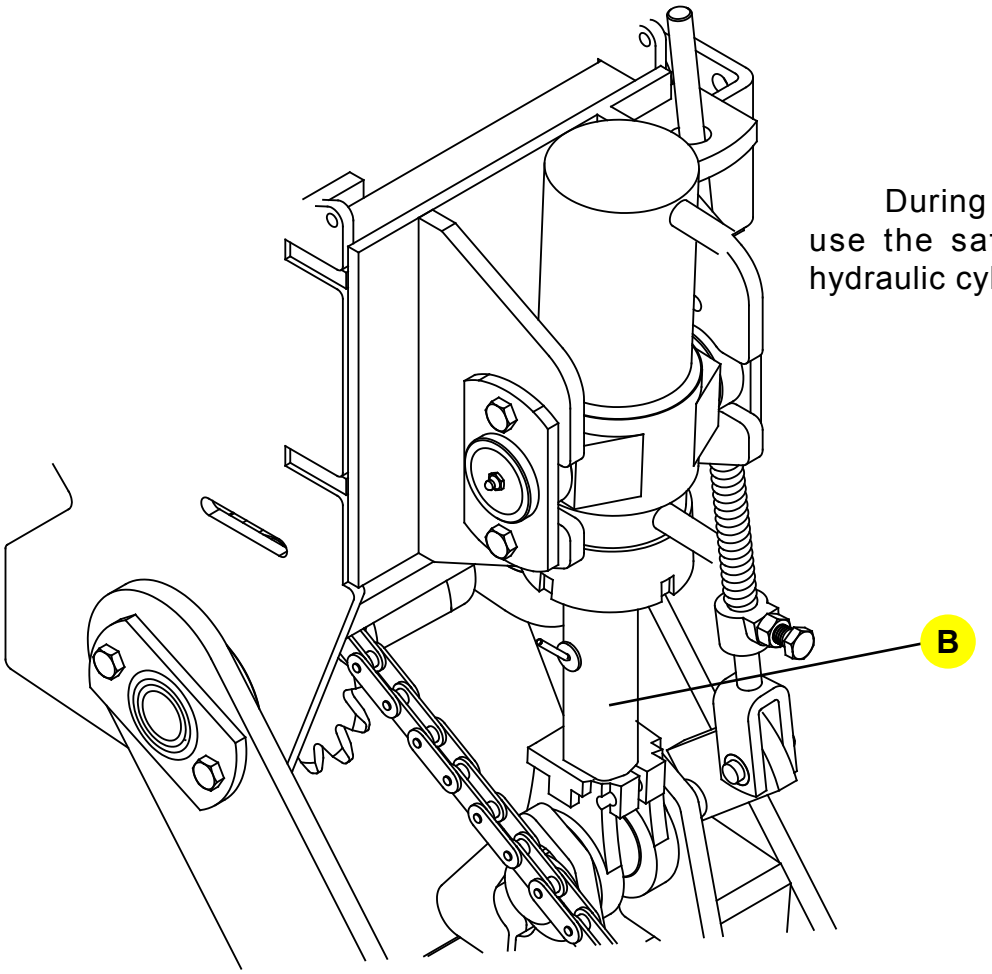
- **The tightening of the nuts that fasten the seed rows in the chassis should be made gradually, avoiding to tighten each nut totally at once.**
- **The same is valid between a row and another; that is to say, don't totally tighten at once a row, but gradually.**
- **Inserting these operations of tightening the nuts of a row and passing for other shoud be made by rotating the hexagonal bars, to maintain the correct alignment and to avoid braking.**
- **The adjustment of the set screws with bushings that fi x the hexagonal bars, will be made at last.**
- **Verify the correct alignment of the chains (carrying wheels to the clutches).**

Getting the planter ready for transportation

Raise the rows completely by functioning the hydraulic cylinder.

Lift the parking stands (A) as per drawing below.





During transportation always use the safety locks (B) on the hydraulic cylinder rods.

Planning planting operations - Correct stand

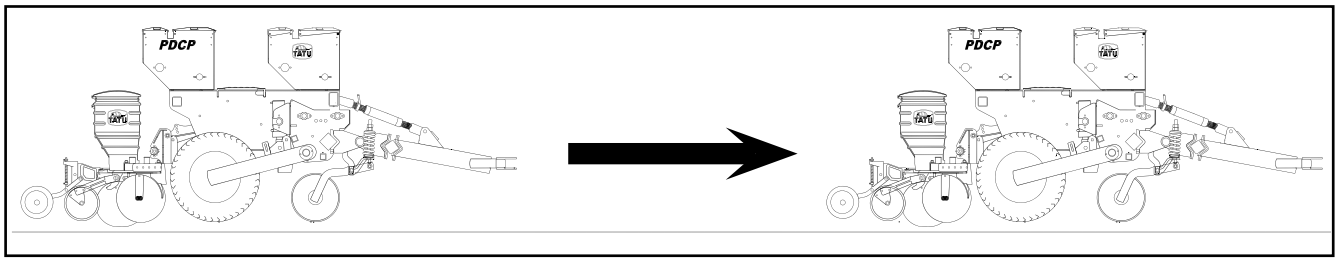
Always consider that the **plant population at the harvest time** is smaller than the number of seeds indeed distributed in the planting operation due to factors as: germination, physical purity, vigor (Supplied in the packing of the seeds), besides insects and diseases that can happen during the plant lives.

Also consider that during the planting operation occurs slippage or skidding of the planter carrying-wheels according to the local working conditions.

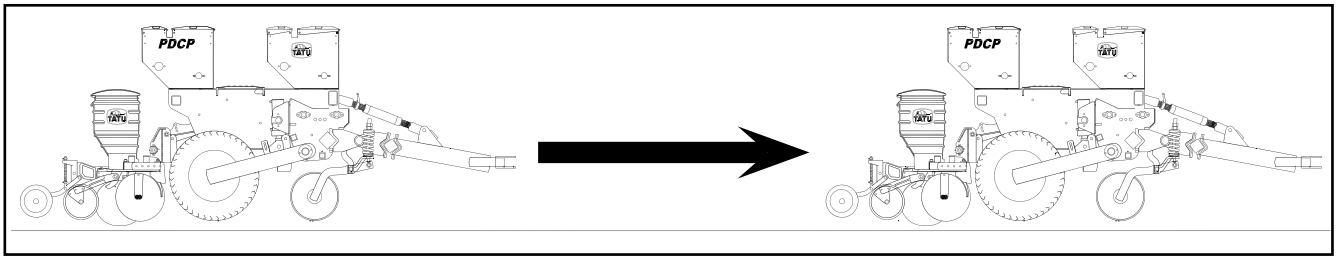
See the **slippage index calculation** for the planter in your field conditions:

This index is obtained by comparing the amount of planter carrying-wheel turns when hoppers are empty, with filled hoppers, by running the planter in the field.

With the planter empty and usually hitched to the tractor, mark a starting point in the ground and in the planter carrying-wheel. Move the machine until complete 10 (ten) turns of the carrying-wheels. Measure and write down the traveled distance.



Fill up the planter hoppers, repeat the previous procedure and write down the traveled distance.



Calculation:

$$\frac{\text{Filled Distance - (minus) Empty Distance}}{\text{Empty Distance}} \times 100$$

NOTE **The tires should have the same design, same inflation pressure and same down pressure adjustment on the springs of the wheels.**

To obtain a population of 50,000 plants per hectare, at the harvest time, with seeds containing:

Germination Index = 95%

Physical purity = 90 and

Slippage Index = 1.03 (3%)

the following calculation should be made to know how many seeds should be distributed in a hectare.

Seeds/ha at the planting time = $\frac{50{,}000}{0.95 \times 0.90}$ = 58,479.5 x 1.03 = **60,233.88**

To know the amount of seeds per meter, per 10 meters, etc..., calculate how many linear meters of rows exist in a hectare, in the desired spacing.

Example: $\frac{10{,}000}{0.85\ m}$ = 11,764.70 linear meters, like this $\frac{60{,}233.88}{11{,}764.7}$ = **5,1198**

Approximately **5.12** seeds per meter.

Procedure before planting

• Before start planting, make a general inspection in the planter, tightening all the bolts and nuts. Also, verify the conditions of all the pins and cotter pins, to avoid future damages. Repeat this operation after the first day of work.

NOTE

- **It is recommended to fill up the planter in the working area.**
- **Don't transit with loading excess.**

• Check the tires inflation. Maintain the same pressure for both **(75 psi)**.

• Verify the presence of any strange object inside the hoppers, that can damage the metering mechanisms.

• Lubricate all the grease fittings appropriately.

Ideal travel speed

The planter operates with larger efficiency in the range of 5 to 7 Km/h.

NOTE

Planting corn, operate in the range of 5 to 5,5 km/h. It is necessary to maintain the constant speed during all planting operation.

Use of powdered graphite

The powdered graphite should be mixed to the seeds to facilitate the metering and increase the service life of the distribution mechanism.

QUANTITY OF GRAPHITE PER KILOGRAM OF SEED

Type of seed-metering system:	Seeds treated with insecticide		
	Small and round	Large and round	Flat
Horizontal seed plates	04 grams	02 grams	04 grams

• The graphite should not be admixed before the treatment of the seeds.

• The graphite should not be admixed to the insecticide for the treatment of the seeds.

• For seeds without treatment use only one half of the quantities of graphite mentioned in the table above.

List of planter standard seed plates

For corn ..... 28 holes..... Ø 12 mm..... 4,5 mm

For corn ..... 8 holes ..... Ø 9 mm..... 4,5 mm

For soybean..... 90 holes..... Ø 9 mm..... 5,5 mm

For soybean.....100 holes.....Ø 7 mm ..... 5,5 mm

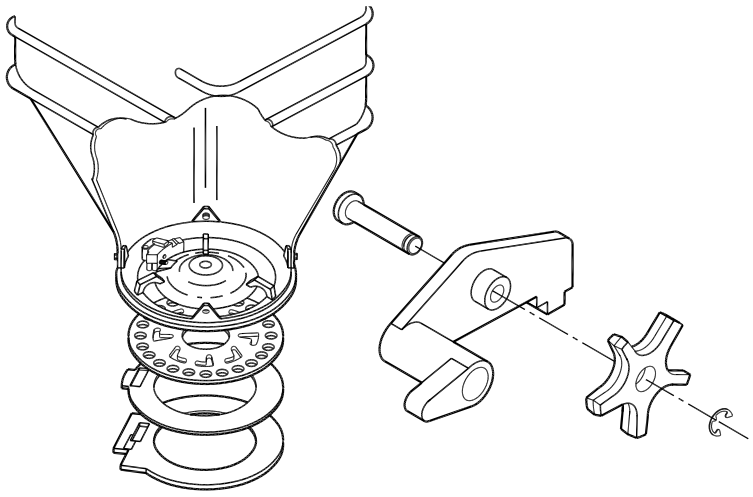
ATTENTION **The number of discs provided with each planter is the same as the number of row units.**

For a list of optional seed discs see page 68.

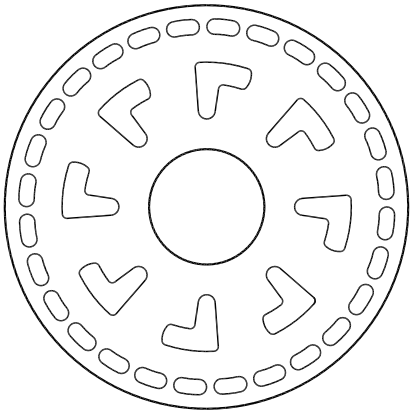
NOTE

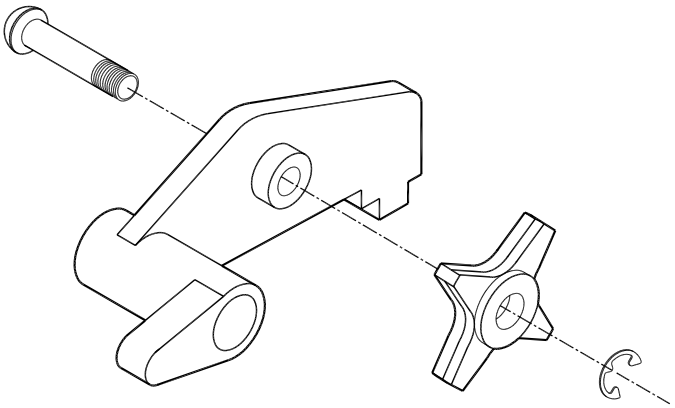
The housing of the disc with seat is 8.5 mm. The thickness of the seat should always complete 8.5 mm, however:

- **If using a 4.5 mm thickness disc, the seat should be 4.0 mm.**
- **For a 5.5 mm thickness disc, use a 3.0 mm seat.**
- **For an 8.5 mm thickness disc, do not use seat.**

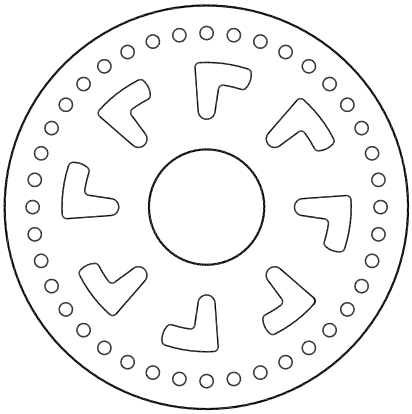


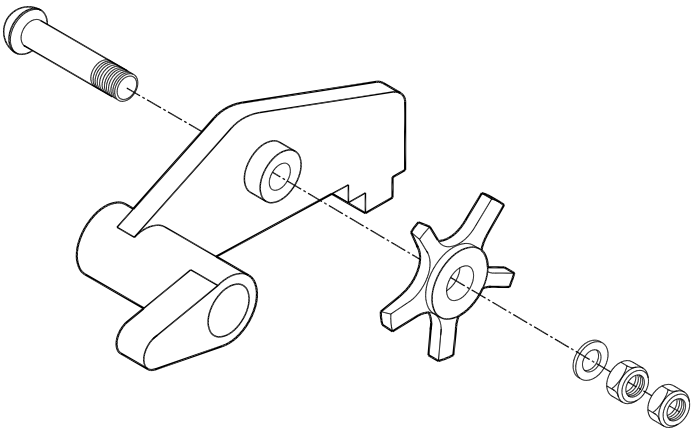
- Special attention should also be paid to the supports with the seed toothed rollers, as well as the proper operation of all seed ejectors.
- Support with 5-tooth roller is factory assembled and can be used with all disks with a row of holes or slots, ex.: For corn – holes; for soybeans, cot ton – slots; beans, etc...
- The corn disc with slotted holes uses a 4-tooth roller , provided as spare.



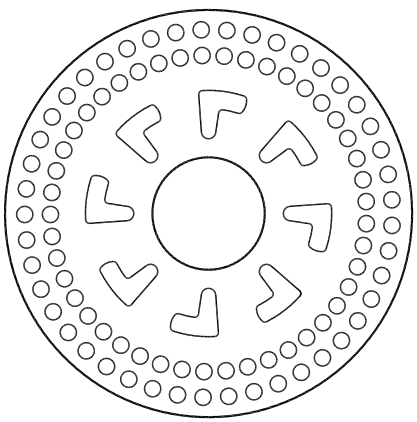


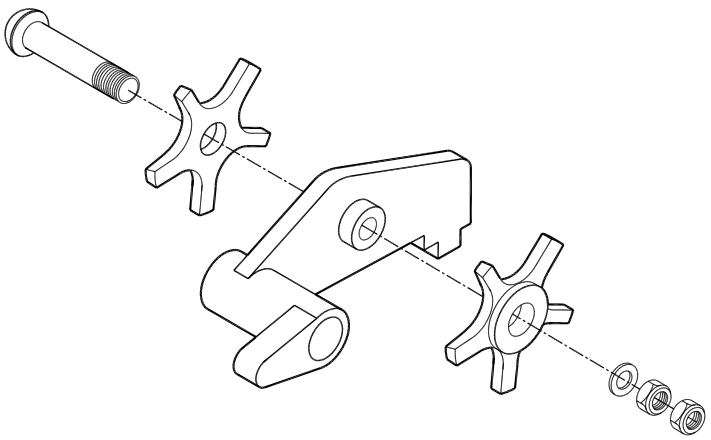
- For sorghum planting, special rollers are required to fit to the holes and carry out their function.





- For soybean discs with double row of holes, you must use the support with double roller.





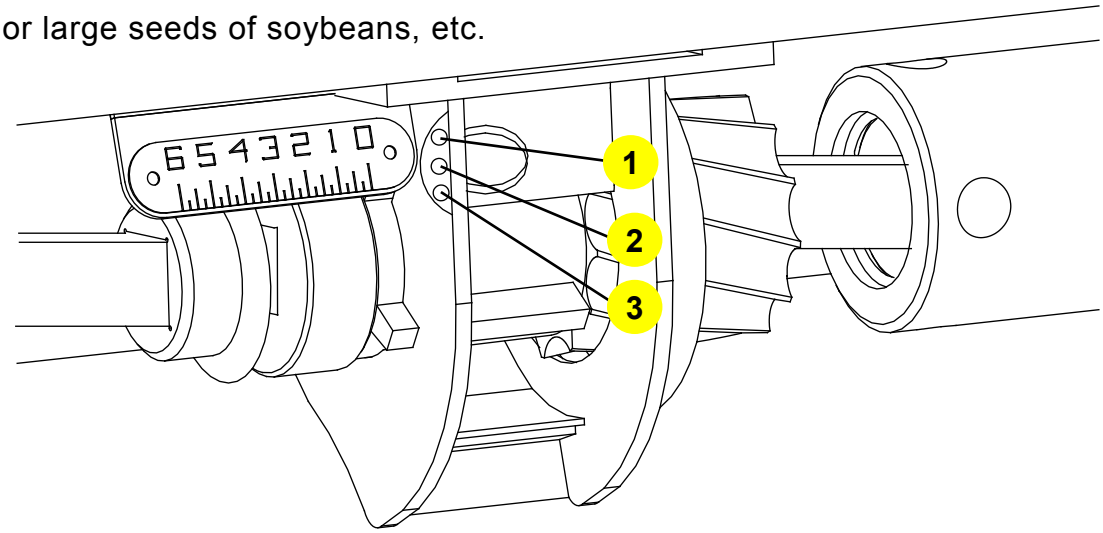
Distribution of fine seeds

The fluted feed cup has 03 (three) adjustment positions, used for different grain sizes, being:

Point 1 - For small seeds of wheat, rice, oats and similar.

Point 2 - For medium large seeds of soybeans, rice, peas, etc.

Point 3 - For large seeds of soybeans, etc.



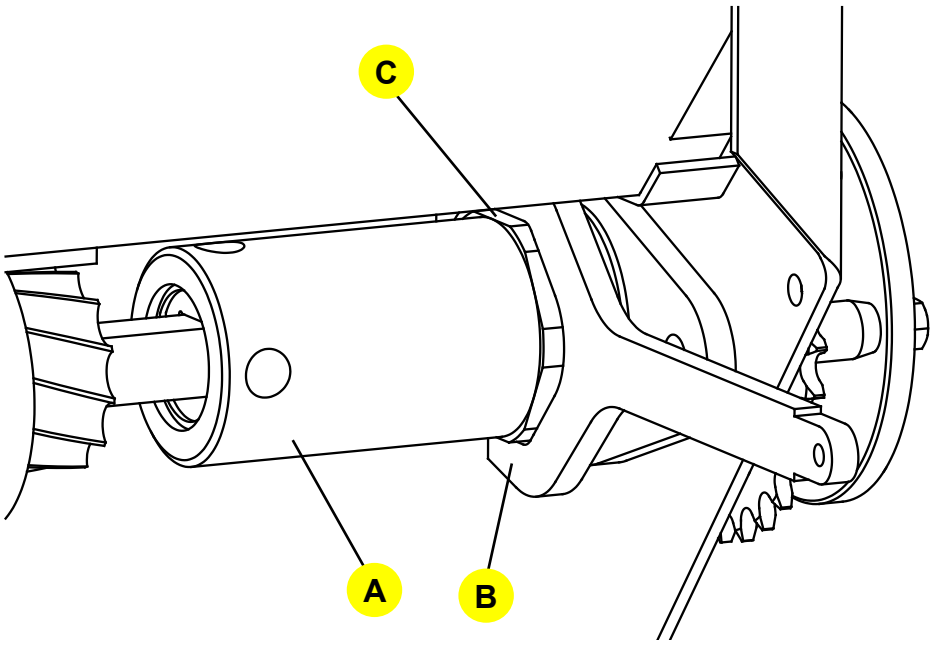
ATTENTION

Non observance of above instructions may entail:

- **Damgeg seeds;**
- **Alteration of distributed quantities.**

Seed quantities are selected by adjusting, with a wrench (B), the bushing (A) which activates the opening of the rotors in accordance with the adjusted scale graduation.

This adjustment is achieved by loosening the lock nut (C) using the wrench (B).



Seed distribution table (Wheat)

Opening of rotors = Point 1 **page 53.**

Scale	Grams per row of 50 meters	QUANTITIES IN KG PER HECTARE FOR THE DIFFERENT SPACINGS BETWEEN ROWS			
		175 mm	**200 mm**	**220 mm**	**250 mm**
0,5	**25**	28	25	23	20
1,0	**54**	62	54	49	43
1,5	**84**	96	84	76	67
2,0	**117**	134	117	106	94
2,5	**152**	174	152	138	122
3,0	**185**	211	185	168	148
3,5	**226**	258	226	205	180
4,0	**277**	317	277	251	222
4,5	**296**	338	296	269	237
5,0	**336**	384	336	305	269
5,5	**361**	413	361	328	289
6,0	**377**	431	377	342	302

Hectare **= 10.000 m²** Average speed adopted **= 07 Km/h.**

Note: See on page 60 how to carry out practical test for seed fall

Seed distribution table (Rice)

Opening of rotors = Point 1 **page 53.**

Scale	Grams per row of 50 meters	QUANTITIES IN KG PER HECTARE FOR THE DIFFERENT SPACINGS BETWEEN ROWS							
		175 mm	**200 mm**	**220 mm**	**250 mm**	**316 mm**	**350 mm**	**400 mm**	**450 mm**
0,5	**13**	15	13	11	10	8	7	6	5
1,0	**28**	32	28	25	22	18	16	14	12
1,5	**43**	49	43	39	34	27	25	22	19
2,0	**60**	68	60	55	48	38	34	30	27
2,5	**78**	89	78	71	62	49	45	39	35
3,0	**99**	113	94	90	79	63	57	50	44
3,5	**116**	132	116	105	93	73	66	58	52
4,0	**134**	153	134	122	107	85	77	67	60
4,5	**158**	180	158	144	126	100	90	79	70
5,0	**172**	196	172	156	137	109	98	86	76
5,5	**190**	217	190	173	152	120	109	95	84
6,0	**207**	236	207	188	166	131	118	104	92

Hectare **= 10.000 m²** Average speed adopted **= 07 Km/h.**

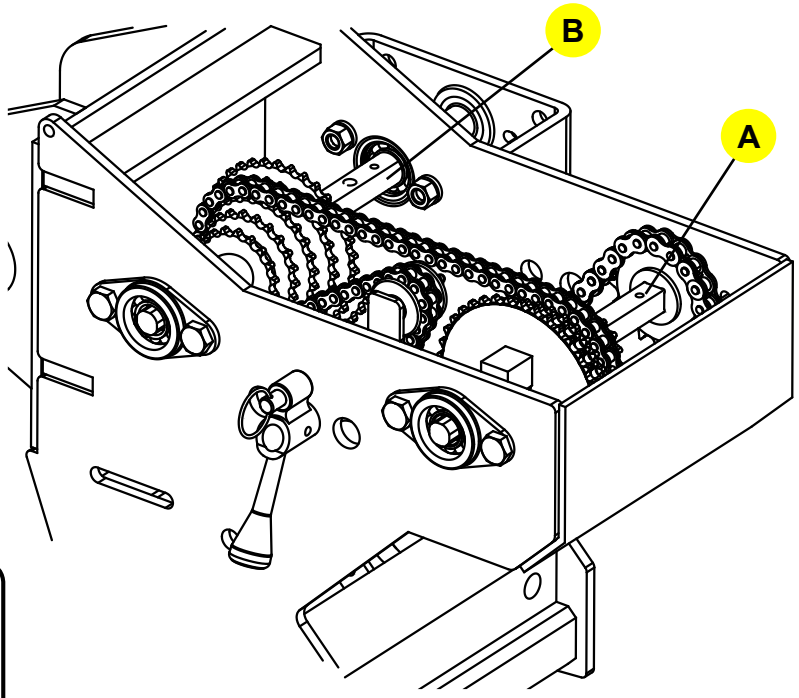
Number of Seeds on each 100 grams = **550 Seeds** (Medium Size).

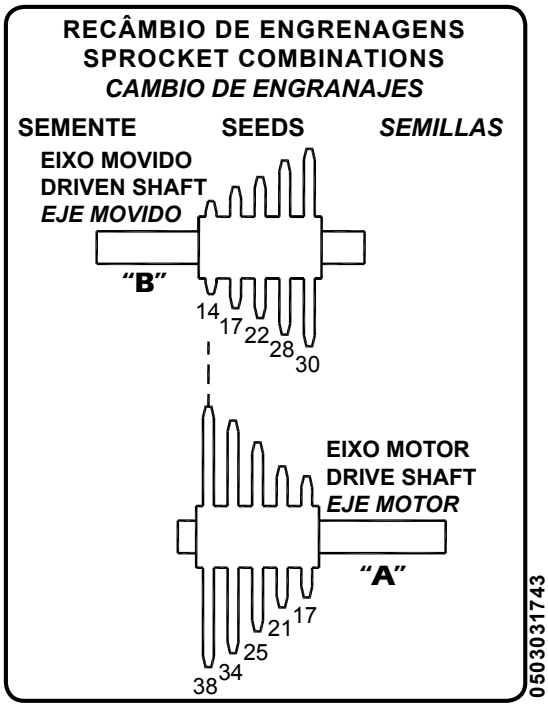
Note: See on page 60 how to carry out practical test for seed fall

Distribution of large seeds - Calibrating

The amount of seed plate holes or slots, the size of the holes or slots, as well as the seed plate thickness vary according to the grain size and the desired plant population.

Adjust the seed rate per linear meter through the sprocket combinations of the Drive Shaft {A} (17, 21, 25, 34, and 38 teeth) and Driven Shaft {B} (14, 17, 22, 28 and 30 teeth).





Procedures for the sprockets handling

- Move the lever to alleviate the chain tightener and lock with the pin in the hole.
- Move the lever to alleviate the chain tightener and lock with the pin in the hole.
- Loosen the lever liberating the lock pin.

IMPORTANT

Find on the following pages the different seed rates for several crops, according to the sprocket combinations.

The correct seed plate matching to the used seeds is very important.

Never mix seeds of different sizes.

The seed and fertilizer distribution tables of this manual, should be used as a reference to start the planter calibration. Factors as slippage index of the planter carrying-wheels (skidding), working speed, tires inflation and field conditions can introduce values a little different from those indicated in the tables. Therefore, it is always indispensable to make the practical distribution tests as indicated on the page 60 of this manual.

TABELA DE DISTRIBUIÇÃO DE SEMENTES
TABLE FOR DISTRIBUTION OF SEEDS
TABLA DE DISTRIBUCIÓN DE SEMILLAS

Número de Furos / Rasgos **Number of Holes / Slots** *Número de Agujeros*		24	28	34	34	34	38	38	40	40	40	64	90	100
Qtde. Sementes por Furo/Rasgo **Quantity of Seeds per Hole/Slot** *Cantidad de semillas por Agujero*		1	1	1	2	5	2	3	1	2	3	1	1	1
Engrenagens/**Sprockets**/*Engranajes*		Sementes em 10 Metros* **Seeds in 10 Meters*** *Semillas en 10 Metros**	Sementes em 1 Metro* **Seeds in 1 Meter*** *Semillas en 1 Metro**											
Eixo Motor **Drive Shaft** *Eje Motor*	Eixo Movido **Driven Shaft** *Eje Movido*													
17	**30**	19,4	22,7	2,8	5,5	13,8	6,2	9,2	3,2	6,5	9,7	5,2	7,3	8,1
17	**28**	20,8	24,3	2,9	5,9	14,7	6,6	9,9	3,5	6,9	10,4	5,6	7,8	8,7
21	**30**	24,0	28,0	3,4	6,8	17,0	7,6	11,4	4,0	8,0	12,0	6,4	9,0	10,0
21	**28**	25,7	30,0	3,6	7,3	18,2	8,1	12,2	4,3	8,6	12,9	6,9	9,6	10,7
17	**22**	26,5	30,9	3,8	7,5	18,8	8,4	12,6	4,4	8,8	13,3	7,1	9,9	11,0
25	**30**	28,6	33,3	4,0	8,1	20,2	9,1	13,6	4,8	9,5	14,3	7,6	10,7	11,9
25	**28**	30,6	35,7	4,3	8,7	21,7	9,7	14,5	5,1	10,2	15,3	8,2	11,5	12,8
21	**22**	32,7	38,2	4,6	9,3	23,2	10,4	15,5	5,5	10,9	16,4	8,7	12,3	13,6
17	**17**	34,3	40,0	4,9	9,7	24,3	10,9	16,3	5,7	11,4	17,1	9,1	12,9	14,3
34	**30**	38,9	45,3	5,5	11,0	27,5	12,3	18,5	6,5	13,0	19,4	10,4	14,6	16,2
25	**22**	39,0	45,5	5,5	11,0	27,6	12,3	18,5	6,5	13,0	19,5	10,4	14,6	16,2
34	**28**	41,6	48,6	5,9	11,8	29,5	13,2	19,8	6,9	13,9	20,8	11,1	15,6	17,4
21	**17**	42,4	49,4	6,0	12,0	30,0	13,4	20,1	7,1	14,1	21,2	11,3	15,9	17,7
38	**30**	43,4	50,7	6,2	12,3	30,8	13,8	20,6	7,2	14,5	21,7	11,6	16,3	18,1
38	**28**	46,5	54,3	6,6	13,2	33,0	14,7	22,1	7,8	15,5	23,3	12,4	17,5	19,4
25	**17**	50,4	58,8	7,1	14,3	35,7	16,0	24,0	8,4	16,8	25,2	13,4	18,9	21,0
21	**14**	51,4	60,0	7,3	14,6	36,4	16,3	24,4	8,6	17,1	25,7	13,7	19,3	21,4
34	**22**	53,0	61,8	7,5	15,0	37,5	16,8	25,2	8,8	17,7	26,5	14,1	19,9	22,1
38	**22**	59,2	69,1	8,4	16,8	42,0	18,8	28,1	9,9	19,7	29,6	15,8	22,2	24,7
25	**14**	61,2	71,4	8,7	17,4	43,4	19,4	29,1	10,2	20,4	30,6	16,3	23,0	25,5
34	**17**	68,6	80,0	9,7	19,4	48,6	21,7	32,6	11,4	22,9	34,3	18,3	25,7	28,6
38	**17**	76,7	89,4	10,9	21,7	54,3	24,3	36,4	12,8	25,6	38,3	20,4	28,7	31,9
34	**14**	83,3	97,2	11,8	23,6	59,0	26,4	39,6	13,9	27,8	41,6	22,2	31,2	34,7
38	**14**	93,1	108,6	13,2	26,4	65,9	29,5	44,2	15,5	31,0	46,5	24,8	34,9	38,8

* Metro Linear / **Linear Meter** / *Metro Lineal*

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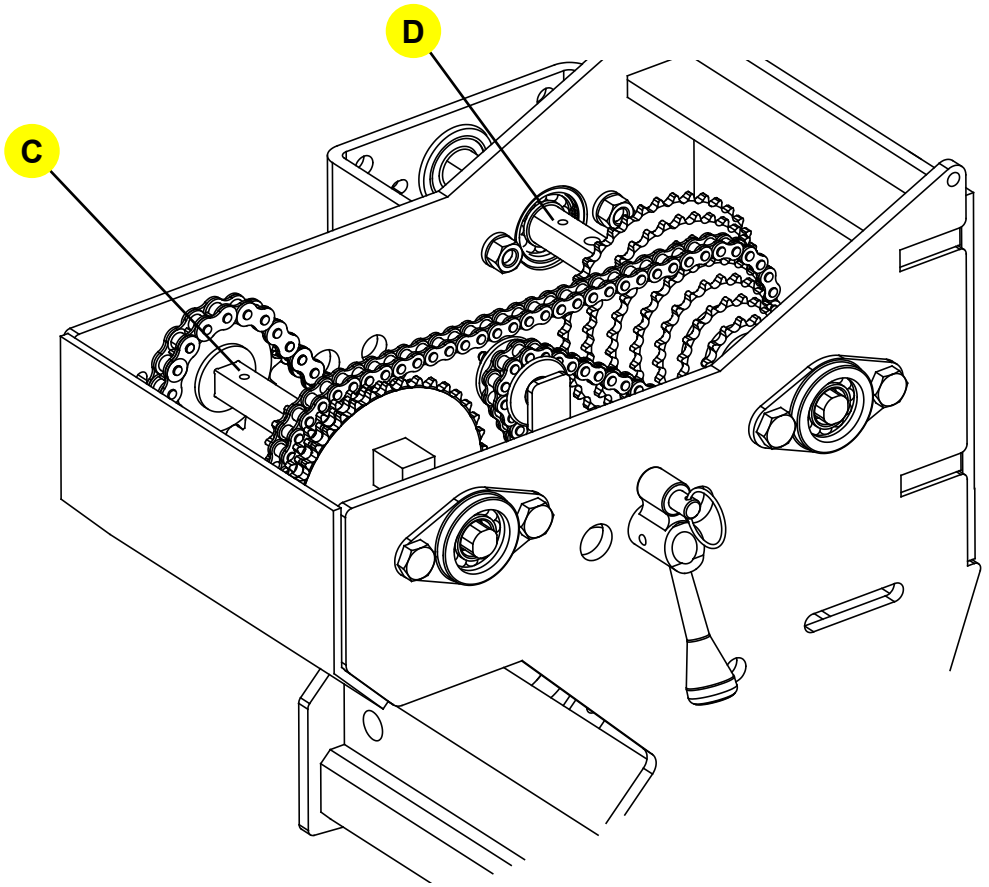
Fertilizer distribution

Fertilizer is distributed through the steel auger dispensers and the different quantities are adjusted by means of the sprocket combinations of the drive shaft (C) and the driven shaft (D).



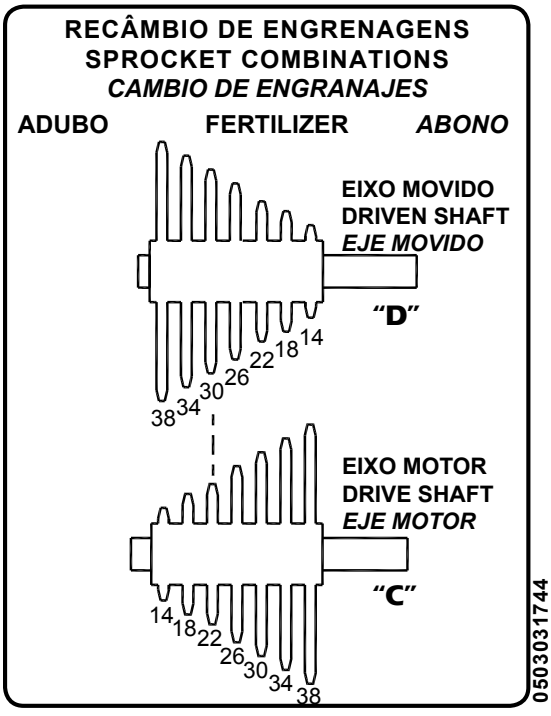
Procedure for the sprocket handling

• Move the lever to release the chain tightener and lock with the pin in the hole.

• Shift the sprocket cone on the shaft, aligning the chosen sprocket with the chain.

• Release the lever removing the lock pin.

• Fertilizer rates for various spacings are shown in tables on page 59; they vary according to the pitch of the auger dispensers and the number of sprocket teeth used.

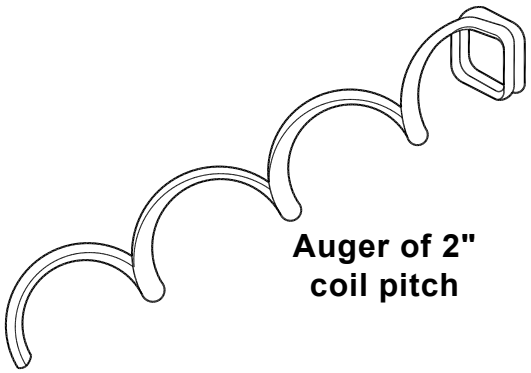


ATTENTION

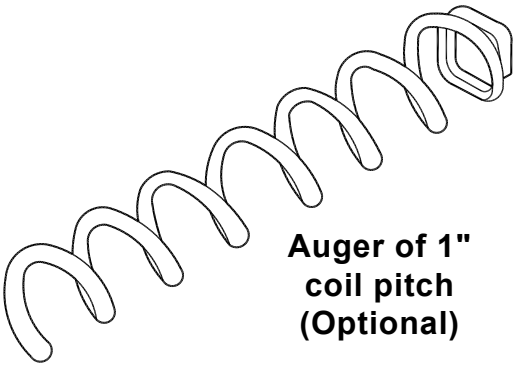
Table (A) page 59 indicates quantities resulting from use of auger 2" coil pitch (Standard). This auger transports approximately 35 grams of commercial granulated fertilizer, per turn.

Table (B) page 59 indicates quantities resulting from use of auger 1" coil pitch (Optional). This auger transports approximately 17 grams of commercial granulated fertilizer, per turn.

The seed and fertilizer distribution tables should be used as a point of reference for starting adjustment of the planter. Slippage, working speed, tire pressure and field conditions may determine values slightly different from those indicated on the tables.



Auger of 2" coil pitch



Auger of 1" coil pitch (Optional)

Fuse pins of the transmission

To protect the fertilizer and seed system, the equipment possesses fuse pins (A). Always necessary substitute for one that is ORIGINAL.

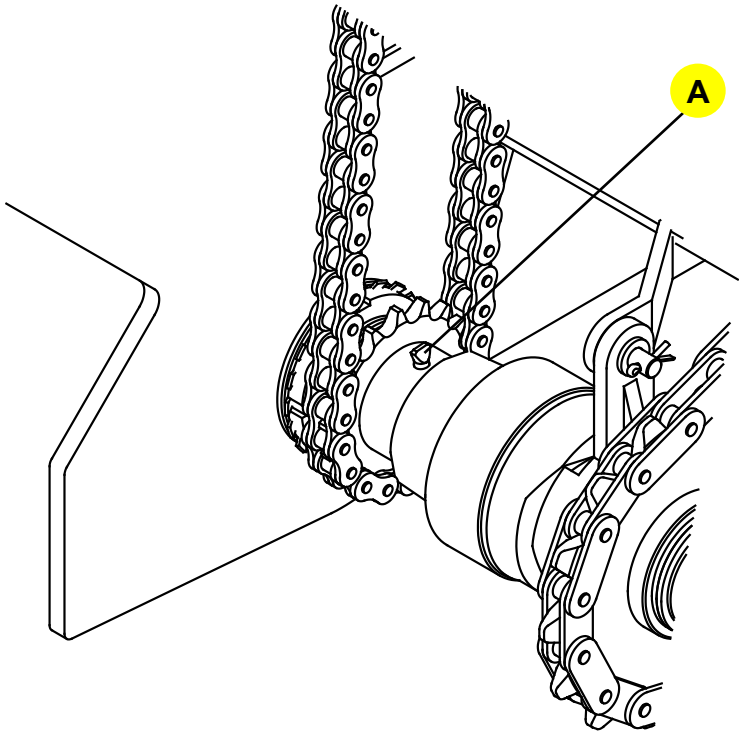


TABELA DE DISTRIBUIÇÃO DE ADUBO COMERCIAL GRANULADO - Quantidade em kg/ha (Quilogramas por Hectare) - Condutoras Helicoidais Passo de 2" (50,8 mm STANDARD
TABLA DE DISTRIBUCIÓN DE ABONO COMERCIAL GRANULADO - Cantidad en kg/ha (Kilogramos por Hectárea) - Conductores Helicoidales Paso de 2" (50,8 mm) STANDARD
DISTRIBUTION TABLE OF GRANULATED COMMERCIAL FERTILIZER - Amount in kg/ha (Kilograms per Hectare) - Augers of 2" (50,8 mm) coil pitch - STANDARD

ESPAÇAMENTOS ENTRE LINHAS (mm) / ESPACIOS ENTRE LINEAS (mm) / SPACINGS BETWEEN ROWS (mm)	ENGRENAGENS / ENGRANAJES / SPROCKETS																																										
	Eixo Motor (C) / Eje Motor (C) / Drive Shaft (C)	14	14	14	18	18	14	22	18	14	22	26	18	22	26	14	30	18	22	26	30	34	22	38	34	30	26	22	38	18	34	30	26	38	34	22	30	38	26	34	38	30	34	38
	Eixo Movido (D) / Eje Movido (D) / Driven Shaft (D)	38	34	30	38	34	26	38	30	22	34	38	26	30	34	18	38	22	26	30	34	38	22	34	30	26	22	18	30	14	26	22	18	26	22	14	18	22	14	18	18	14	14	14
	Gramas em 50 m por Linha / Gramos en 50 m por Linea / Grams in 50 m per Row	***307***	***343***	***389***	***395***	***441***	***449***	***483***	***500***	***530***	***539***	***570***	***577***	***611***	***637***	***648***	***658***	***682***	***705***	***722***	***735***	***746***	***834***	***932***	***945***	***962***	***985***	***1019***	***1056***	***1072***	***1090***	***1137***	***1204***	***1218***	***1288***	***1310***	***1389***	***1440***	***1548***	***1575***	***1760***	***1786***	***2024***	***2263***
175		351	392	445	451	504	513	552	572	606	616	652	660	699	728	741	752	779	806	826	841	852	953	1065	1080	1099	1126	1164	1207	1225	1246	1299	1376	1392	1472	1497	1588	1645	1769	1799	2011	2041	2314	2586
200		307	343	389	395	441	449	483	500	530	539	570	577	611	637	648	658	682	705	722	735	746	834	932	945	962	985	1019	1056	1072	1090	1137	1204	1218	1288	1310	1389	1440	1548	1575	1760	1786	2024	2263
250		246	275	311	316	353	359	386	400	424	431	456	462	489	510	519	526	546	564	578	588	597	667	745	756	769	788	815	845	857	872	909	963	975	1031	1048	1111	1152	1238	1260	1408	1429	1619	1810
300		205	229	259	263	294	299	322	333	354	360	380	385	408	425	432	439	455	470	482	490	497	556	621	630	641	657	679	704	714	727	758	803	812	859	873	926	960	1032	1050	1173	1191	1350	1508
350		175	196	222	226	252	256	276	286	303	308	326	330	349	364	370	376	390	403	413	420	426	476	532	540	550	563	582	603	612	623	650	688	696	736	749	794	823	885	900	1006	1021	1157	1293
400		154	172	194	197	221	224	241	250	265	270	285	289	306	319	324	329	341	353	361	368	373	417	466	472	481	493	509	528	536	545	568	602	609	644	655	695	720	774	787	880	893	1012	1131
450		136	153	173	175	196	199	214	222	236	240	253	256	272	283	288	292	303	313	321	327	331	370	414	420	427	438	453	469	476	484	505	535	541	573	582	617	640	688	700	782	794	900	1006
500		123	137	156	158	177	180	193	200	212	216	228	231	245	255	259	263	273	282	289	294	298	333	373	378	385	394	408	422	429	436	455	482	487	515	524	556	576	619	630	704	714	810	905
550		112	125	141	144	160	163	175	182	193	196	207	210	222	232	236	239	248	256	263	267	271	303	339	344	350	358	370	384	390	396	413	438	443	468	476	505	524	563	573	640	650	736	823
600		102	114	130	132	147	150	161	167	177	180	190	192	204	212	216	219	227	235	241	245	249	278	311	315	321	328	340	352	357	363	379	401	406	429	437	463	480	516	525	587	595	675	754
650		94	106	120	121	136	138	148	154	163	166	175	178	188	196	199	202	210	217	222	226	229	256	287	291	296	303	313	325	330	335	350	370	375	396	403	427	443	476	484	541	550	623	696
700		88	98	111	113	126	128	138	143	152	154	163	165	175	182	185	188	195	202	206	210	213	238	266	270	275	281	291	302	306	311	325	344	348	368	374	397	411	442	450	503	510	578	646
750		82	92	104	105	118	120	129	133	141	144	152	154	163	170	173	175	182	188	193	196	199	222	248	252	256	263	272	282	286	291	303	321	325	344	349	370	384	413	420	469	476	540	603
800		77	86	97	99	110	112	121	125	133	135	143	144	153	159	162	165	171	176	181	184	186	208	233	236	240	246	255	264	268	273	284	301	305	322	327	347	360	387	394	440	447	506	566
850		72	81	92	93	104	106	114	118	125	127	134	136	144	150	153	155	160	166	170	173	175	196	219	222	226	232	240	248	252	256	267	283	287	303	308	327	339	364	370	414	420	476	532
900		68	76	86	88	98	100	107	111	118	120	127	128	136	142	144	146	152	157	161	163	166	185	207	210	214	219	226	235	238	242	253	268	271	286	291	309	320	344	350	391	397	450	503
950		65	72	82	83	93	94	102	105	112	114	120	121	129	134	136	139	144	148	152	155	157	175	196	199	202	207	214	222	226	229	239	253	256	271	276	292	303	326	331	370	376	426	476

NOTA: RECOMENDAMOS EFETUAR UM TESTE PRÁTICO NA DISTRIBUIÇÃO DE ADUBO AO LONGO DE 50 m LINEARES E COMPARAR COM A 2ª LINHA DESTA TABELA **(GRAMAS EM 50 metros).**
O TESTE DEVE SER FEITO NO LOCAL DE PLANTIO E EM VELOCIDADE NORMAL DE TRABALHO. HECTARE = 10.000 m² VELOCIDADE MÉDIA UTILIZADA - 06 Km/h

NOTA: RECOMENDAMOS EFECTUAR UN TEST PRÁCTICO EN LA DISTRIBUCIÓN DE FERTILIZANTE A LO LARGO DE 50 m LINEALES Y COMPARAR CON LA 2ª LINEA DE ESTA TABLA **(GRAMOS EN 50 metros).**
EL TEST DEBE SER REALIZADO EN EL LOCAL DE SIEMBRA Y EN VELOCIDAD DE TRABAJO. HECTÁREA = 10.000 m² VELOCIDAD MEDIA UTILIZADA - 06 Km/h

NOTE: WE RECOMMEND TO MAKE A PRACTICAL TEST OF FERTILIZER DISTRIBUTION ALONG 50 LINEAR METERS AND COMPARE WITH THE 2nd LINE OF THIS TABLE **(GRAMS IN 50 meters).**
THE TEST SHOULD BE MADE IN THE OWN FIELD WHERE THE PLANTATION WILL TAKE PLACE AND IN NORMAL WORKING SPEED. HECTARE = 10.000 m² AVERAGE SPEED - 06 Km/h

PDCP

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TABELA DE DISTRIBUIÇÃO DE ADUBO COMERCIAL GRANULADO - Quantidade em kg/ha (Quilogramas por Hectare) - Condutoras Helicoidais Passo de 1" (25,4 mm) OPCIONAL
TABLA DE DISTRIBUCIÓN DE ABONO COMERCIAL GRANULADO - Cantidad en kg/ha (Kilogramos por Hectárea) - Conductores Helicoidales Paso de 1" (25,4 mm) OPCIONAL
DISTRIBUTION TABLE OF GRANULATED COMMERCIAL FERTILIZER - Amount in kg/ha (Kilograms per Hectare) - Augers of 1" (25,48 mm) coil pitch - OPTIONAL

ESPAÇAMENTOS ENTRE LINHAS (mm) / ESPACIOS ENTRE LINEAS (mm) / SPACINGS BETWEEN ROWS (mm)	ENGRENAGENS / ENGRANAJES / SPROCKETS																																										
	Eixo Motor (C) / Eje Motor (C) / Drive Shaft (C)	14	14	14	18	18	14	22	18	14	22	26	18	22	26	14	30	18	22	26	30	34	22	38	34	30	26	22	38	18	34	30	26	38	34	22	30	38	26	34	38	30	34	38
	Eixo Movido (D) / Eje Movido (D) / Driven Shaft (D)	38	34	30	38	34	26	38	30	22	34	38	26	30	34	18	38	22	26	30	34	38	22	34	30	26	22	18	30	14	26	22	18	26	22	14	18	22	14	18	18	14	14	14
	Gramas em 50 m por Linha / Gramos en 50 m por Linea / Grams in 50 m per Row	***149***	***167***	***189***	***192***	***214***	***218***	***234***	***243***	***258***	***262***	***277***	***280***	***297***	***310***	***315***	***320***	***331***	***343***	***351***	***357***	***362***	***405***	***453***	***459***	***467***	***478***	***495***	***513***	***521***	***529***	***552***	***585***	***592***	***626***	***636***	***675***	***699***	***752***	***765***	***855***	***868***	***983***	***1099***
175		170	191	216	219	245	249	268	278	294	299	317	320	339	354	360	365	379	392	401	408	414	463	517	524	534	547	566	586	595	605	631	668	676	715	727	771	799	859	874	977	992	1124	1256
200		149	167	189	192	214	218	234	243	258	262	277	280	297	310	315	320	331	343	351	357	362	405	453	459	467	478	495	513	521	529	552	585	592	626	636	675	699	752	765	855	868	983	1099
250		119	133	151	153	171	174	188	194	206	210	222	224	238	248	252	256	265	274	281	286	290	324	362	367	374	383	396	410	416	424	442	468	473	501	509	540	559	602	612	684	694	787	879
300		99	111	126	128	143	145	156	162	172	175	185	187	198	206	210	213	221	228	234	238	242	270	302	306	311	319	330	342	347	353	368	390	394	417	424	450	466	501	510	570	578	656	733
350		85	95	108	110	122	125	134	139	147	150	158	160	170	177	180	183	189	196	201	204	207	231	259	262	267	273	283	293	297	303	315	334	338	358	364	386	400	430	437	488	496	562	628
400		75	83	94	96	107	109	117	121	129	131	139	140	148	155	157	160	166	171	175	179	181	202	226	229	234	239	247	256	260	265	276	292	296	313	318	337	350	376	382	427	434	492	549
450		66	74	84	85	95	97	104	108	115	116	123	125	132	138	140	142	147	152	156	159	161	180	201	204	208	213	220	228	231	235	245	260	263	278	283	300	311	334	340	380	386	437	488
500		60	67	76	77	86	87	94	97	103	105	111	112	119	124	126	128	133	137	140	143	145	162	181	184	187	191	198	205	208	212	221	234	237	250	254	270	280	301	306	342	347	393	440
550		54	61	69	70	78	79	85	88	94	95	101	102	108	113	115	116	120	125	128	130	132	147	165	167	170	174	180	186	189	193	201	213	215	228	231	245	254	273	278	311	315	358	400
600		50	56	63	64	71	73	78	81	86	87	92	93	99	103	105	107	110	114	117	119	121	135	151	153	156	159	165	171	174	176	184	195	197	209	212	225	233	251	255	285	289	328	366
650		46	51	58	59	66	67	72	75	79	81	85	86	91	95	97	98	102	105	108	110	111	125	139	141	144	147	152	158	160	163	170	180	182	193	196	208	215	231	235	263	267	303	338
700		43	48	54	55	61	62	67	69	74	75	79	80	85	88	90	91	95	98	100	102	104	116	129	131	133	137	141	147	149	151	158	167	169	179	182	193	200	215	219	244	248	281	314
750		40	44	50	51	57	58	63	65	69	70	74	75	79	83	84	85	88	91	94	95	97	108	121	122	125	128	132	137	139	141	147	156	158	167	170	180	186	201	204	228	231	262	293
800		37	42	47	48	54	55	59	61	64	65	69	70	74	77	79	80	83	86	88	89	91	101	113	115	117	120	124	128	130	132	138	146	148	156	159	169	175	188	191	214	217	246	275
850		35	39	44	45	50	51	55	57	61	62	65	66	70	73	74	75	78	81	83	84	85	95	106	108	110	113	116	121	122	125	130	138	139	147	150	159	165	177	180	201	204	231	259
900		33	37	42	43	48	48	52	54	57	58	62	62	66	69	70	71	74	76	78	79	81	90	101	102	104	106	110	114	116	118	123	130	131	139	141	150	155	167	170	190	193	219	244
950		31	35	40	40	45	46	49	51	54	55	58	59	63	65	66	67	70	72	74	75	76	85	95	97	98	101	104	108	110	111	116	123	125	132	134	142	147	158	161	180	183	207	231

NOTA: RECOMENDAMOS EFETUAR UM TESTE PRÁTICO NA DISTRIBUIÇÃO DE ADUBO AO LONGO DE 50 m LINEARES E COMPARAR COM A 2ª LINHA DESTA TABELA **(GRAMAS EM 50 metros).**
O TESTE DEVE SER FEITO NO LOCAL DE PLANTIO E EM VELOCIDADE NORMAL DE TRABALHO. HECTARE = 10.000 m² VELOCIDADE MÉDIA UTILIZADA - 06 Km/h

NOTA: RECOMENDAMOS EFECTUAR UN TEST PRÁCTICO EN LA DISTRIBUCIÓN DE FERTILIZANTE A LO LARGO DE 50 m LINEALES Y COMPARAR CON LA 2ª LINEA DE ESTA TABLA **(GRAMOS EN 50 metros).**
EL TEST DEBE SER REALIZADO EN EL LOCAL DE SIEMBRA Y EN VELOCIDAD DE TRABAJO. HECTÁREA = 10.000 m² VELOCIDAD MEDIA UTILIZADA - 06 Km/h

NOTE: WE RECOMMEND TO MAKE A PRACTICAL TEST OF FERTILIZER DISTRIBUTION ALONG 50 LINEAR METERS AND COMPARE WITH THE 2nd LINE OF THIS TABLE **(GRAMS IN 50 meters).**
THE TEST SHOULD BE MADE IN THE OWN FIELD WHERE THE PLANTATION WILL TAKE PLACE AND IN NORMAL WORKING SPEED. HECTARE = 10.000 m² AVERAGE SPEED - 06 Km/h

PDCP

0503031797 - Revisão 1 - 11/07

Important

The data figuring on the previous tables (seeds and fertilizer) may vary for different reasons. Special attention should therefore be paid to the following section:

Practical test for seed and fertilizer metering

The most appropriate place for checking seed and fertilizer rates is on the field where planting will take place. Procede as follows:

- Use whenever possible the tractor and operator that will be doing the actual planting;
- The correct tire pressure is important and should be **75 PSI** for both tires.
- Stake out the test distance; to take as an example the fertilizer table, this distance is 50 linear meters.
- The planter hoppers should be at least half full. Before entering the marked out area drive a few meters to completely fill the distributors.
- Place collection bags at the fertilizer and seed exit points (use preferably plastic bags). Block the seed dispenser exits with tow.
- Drive the tractor in the demarcated area at the same speed as will be adopted for planting the entire area.

  Recommended speeds:

  5 to 5.5 km/h for planting corn and sunflower;

  6 to 6.5 km/h for planting beans/sorghum/acid delinted cotton seeds

  7 Km/h for planting soybeans.
- Now just weigh the fertilizer contained in the bags and compare the result with the weights figuring on the 2nd line of the tables on the previous page (grams per row of 50 meters). Remove the tow from the seed dispensers and count the seeds.
- Make the comparison with the table and if necessary repeat the test with modified adjustments.
- After achieving the desired values and while still in the field, drive the tractor at the same speed, but drop the fertilizer and seeds onto the ground for better verification of the uniformity of distribution.
- The check re distribution of soybeans can be done in **number of seeds per linear meter**, using adjustments as enumerated above.

ATTENTION

- **The variation of work speed affects uniformity of seed distribution.**
- **Whenever a different seed lot is used os a change of the fertilizer manufacturer occurs, it becomes necessary to make new checks.**
- **It is important that after the first day of planting all the adjustments are rechecked.**
- **Never modify the adjustments when your planter is in motion.**

Auxiliary calculation for fertilizer distribution

For distribution of different quantities of fertilizer using spacings and areas different from those presented in the tables, we suggest a quick calculation in which the figures used can be substituted by other data of your choice by just employing the formula below which contains the following elements:

a = Area to be fertilized (m²).

b = Spacing between rows (m).

c = Quantity of fertilizer to be distributed in the given area (Kg).

d = Distribution test distance (m).

x = How many grams will be dropped in "d" ?

Formula: $x = \frac{b \times c}{a} \times d$

Example:

A = 10.000 m²

B = 0,90 m

C = 250 kg

D = 50 m

X = ?

$$\mathbf{X} = \frac{0{,}90 \times 250 \times 50}{10.000}$$

X = 1.125 kg ou

X = 1.125 grams per row of 50 m.

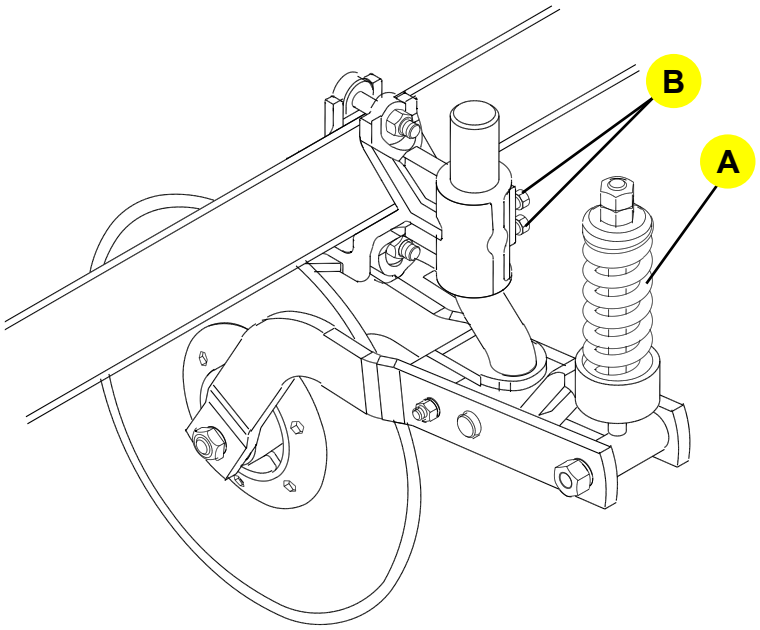
In continuation, adjust the machine for distribution of the quantity calculated or which matches it closest in the pre-determined test area.

Oscillating coulter blades (No-till seeding)

The coulter blades are designed for lateral oscillation, to follow uneven ground.

During work **do not do any tight turns** which may damage the row components.

The vertical oscillation (also called flotation) of the blades is provided by the springs (A) which must preserve the factory adjusted pressure and allow the necessary articulation to follow the contours of the ground and surmount obstacles.



The adjustment of the blade height in relation to the ground (use bolts B) exists for increasing or diminishing the blade cutting depth

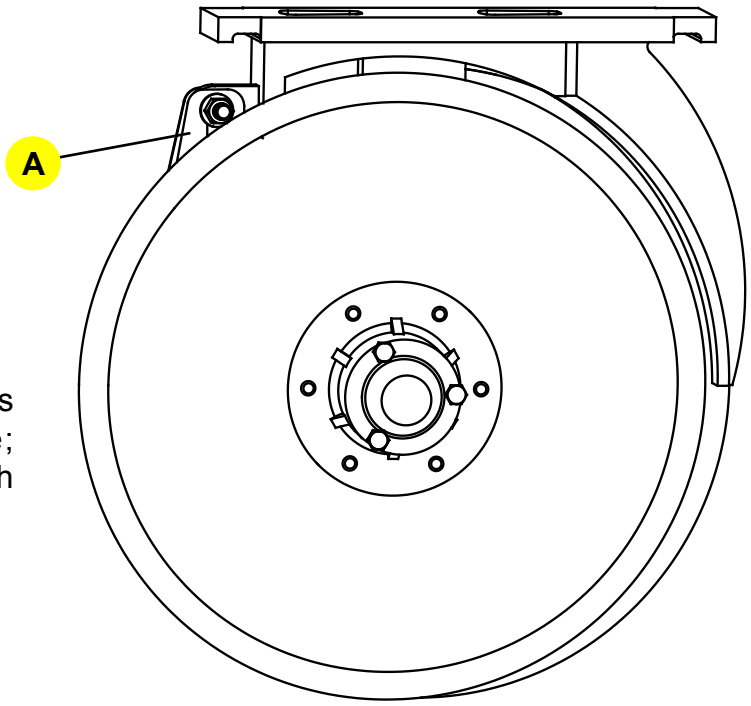
Avoid excessive soil penetration of the coulter blades.

Under ideal conditions of depth penetration the blade flange must not touch the ground.

Opening of furrows and positioning of fertilizer in soil

• Fertilizing in the same line and below the seed.

• The opening of the furrow for fertilizer placement can be done through unaligned double-discs or scarifier spindle.

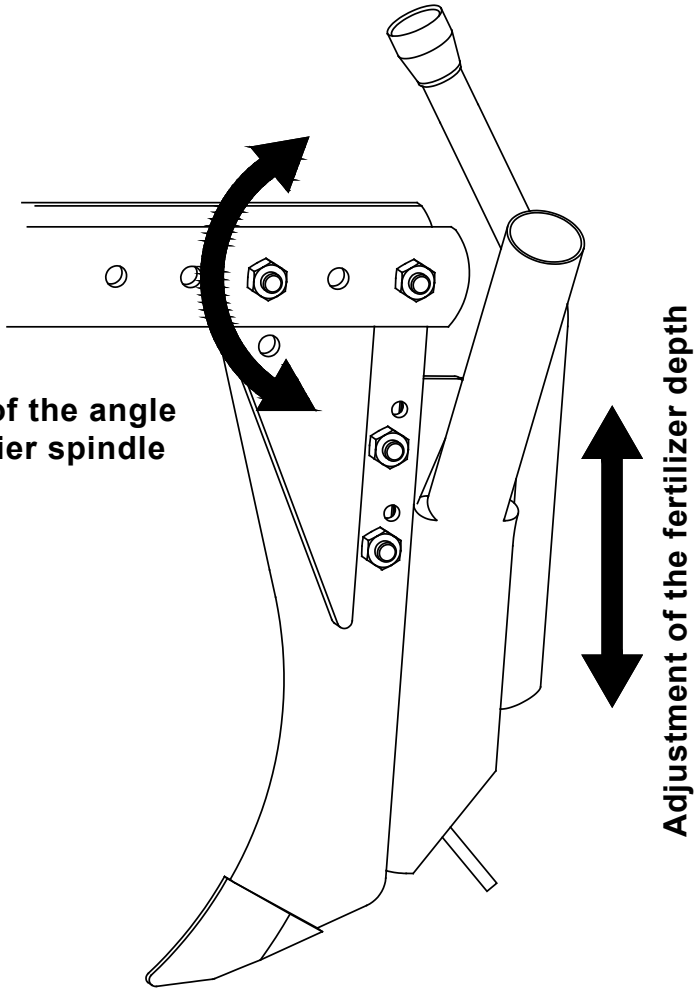


Unaligned Double-Discs:

These discs feature internal scrapers (A) that are flexible and adjustable; they serve for removing the soil which accumulates between the discs.

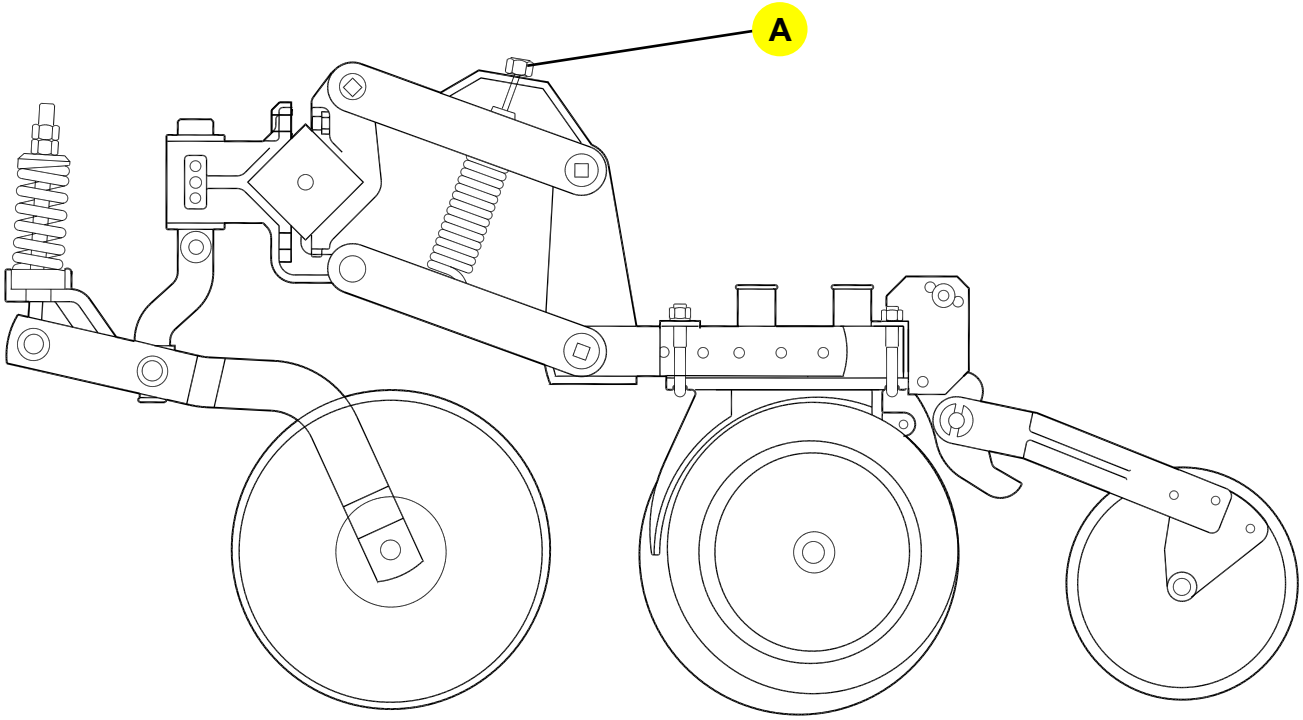
Scarifier spindle

When fertilizing with scarifier spindles note that it has two work positions, in accordance with the soil and desired depth.



Depth of fertilizer

The bolt (A) of the spring of the parallelogram adjusts the depth, according to it changes the pressure of the work of the spring.



Opening the seed furrows

The furrows for seeds are open through unaligned double-discs; that also possess flexible and adjustable scrapers (A) in order to remove the soil accumulated in their internal parts.

The seed row units possess adjustments to control the working down pressure on the ground.

Holes of the superior parallelogram arm:

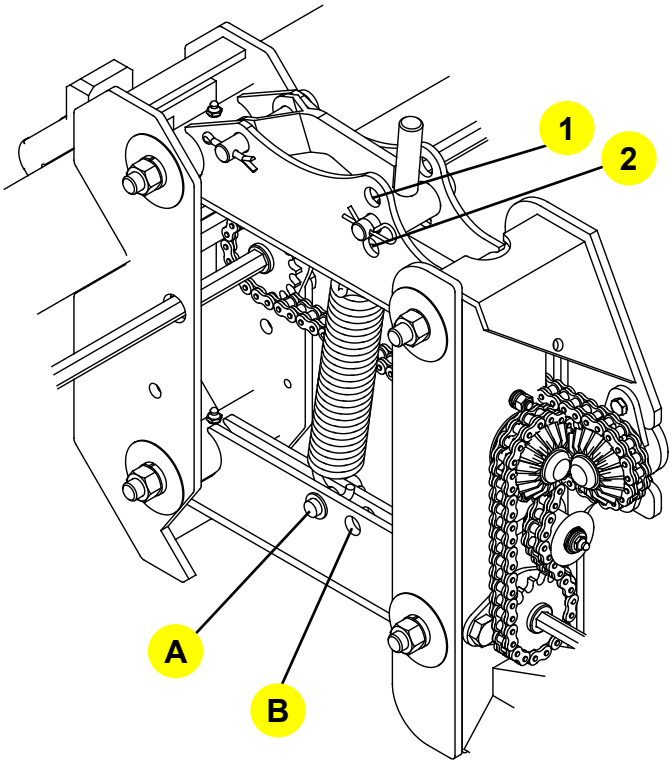
"1" - Bigger down pressure;

"2" - Smaller down pressure.

- Holes of the inferior parallelogram arm:

"A" - Bigger down pressure;

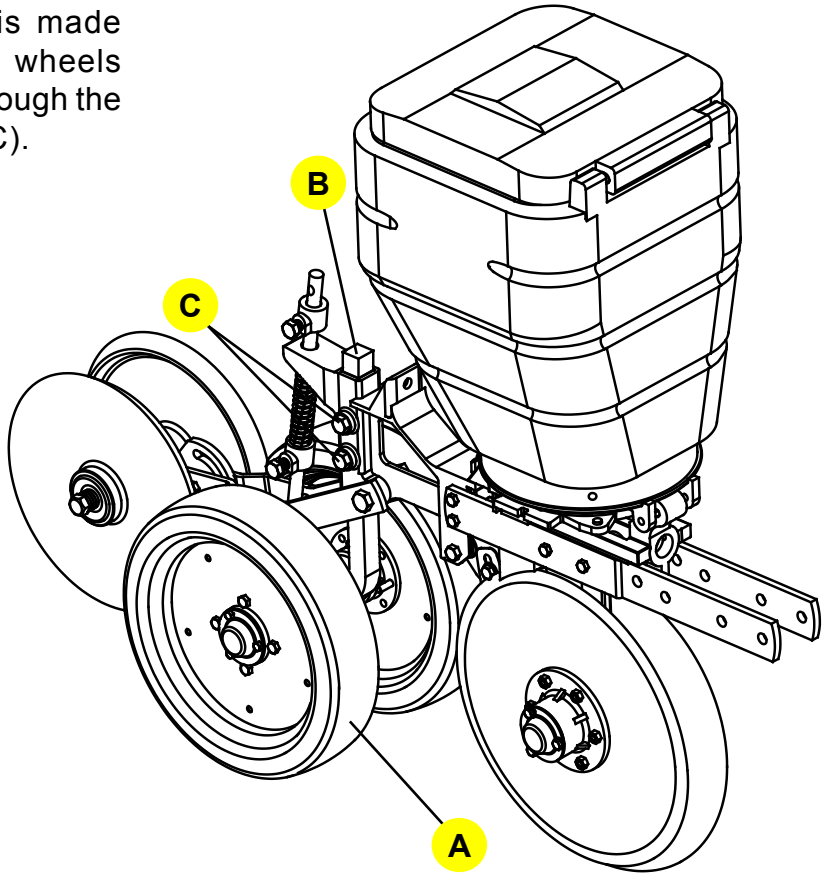
"B" - Smaller down pressure.



Establish the same adjustment in all the row units.

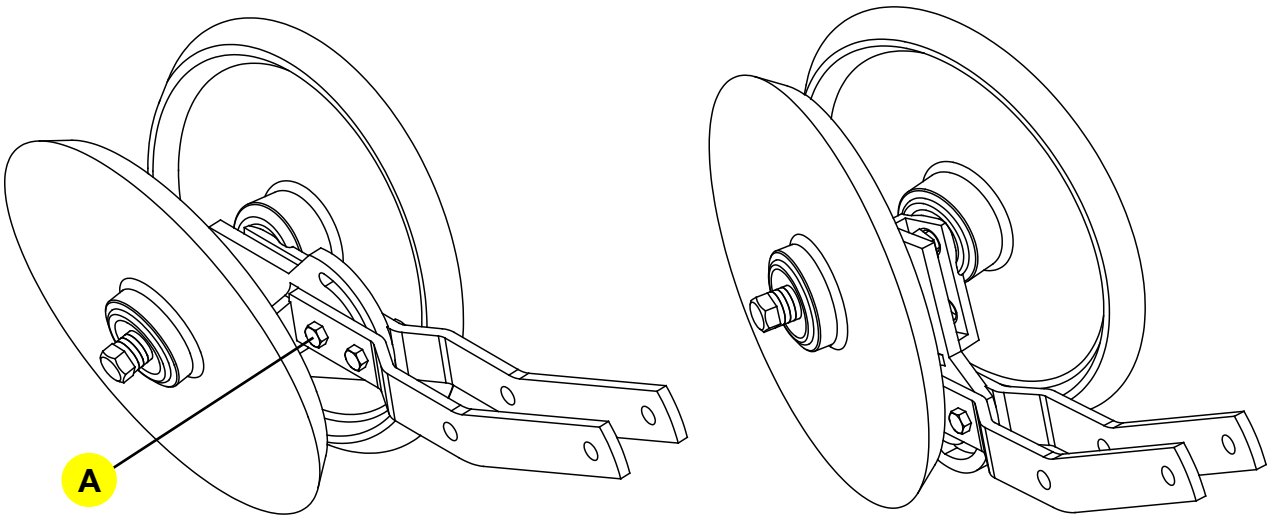
Depth of the great seeds

The seed depth control is made individually through the gauge wheels (A), that possess adjustments through the handler (B), through the bolts (C).



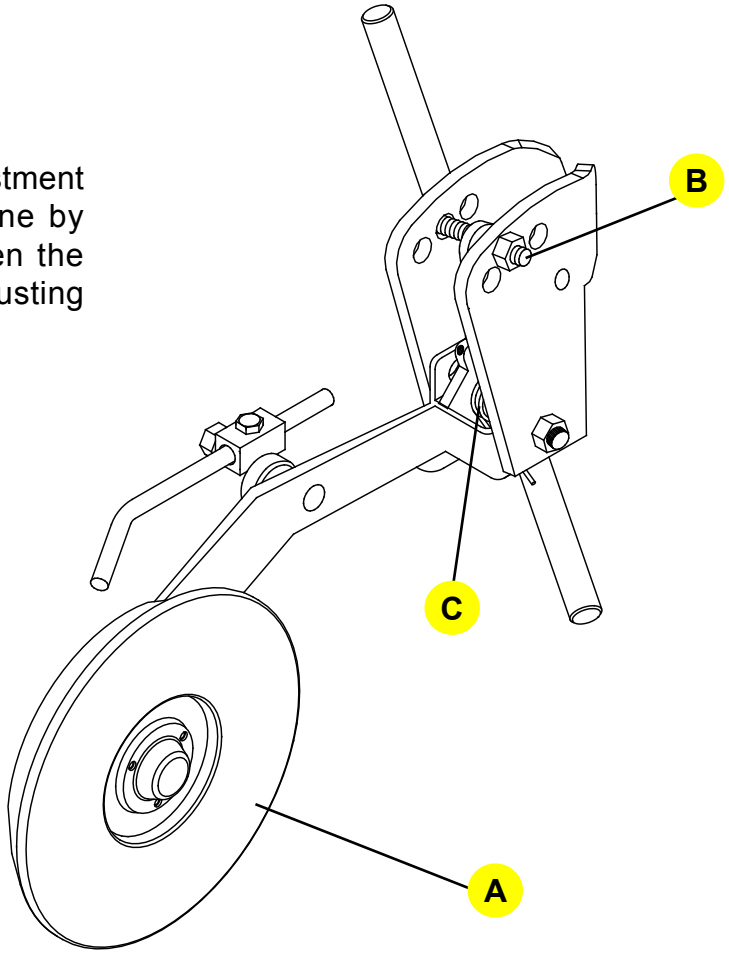
Adjusting the press wheels

The press wheels in "V" shape firm the soil around the seed and are able to work in two positions according to the soil type and conditions of the straw. For this, remove the bolts (A) and rotate them completely. Each producer should judge the best position for his property, depending of the soil type, with straw, topography and installed culture.



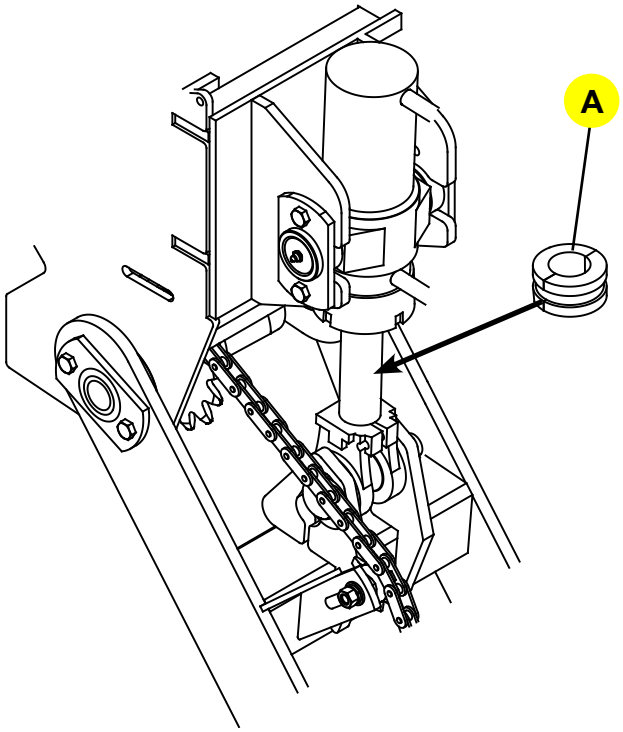
NOTE **During adjustment of the press wheels it is important to consider the type of soil, type os seed and depth planting, for not affecting the plants emergence.**

The iron press wheel (A) permits adjustment of pressure against the soil which is done by switching the position of the bolt between the existing holes on the support (B), or by adjusting the pressure spring (C).



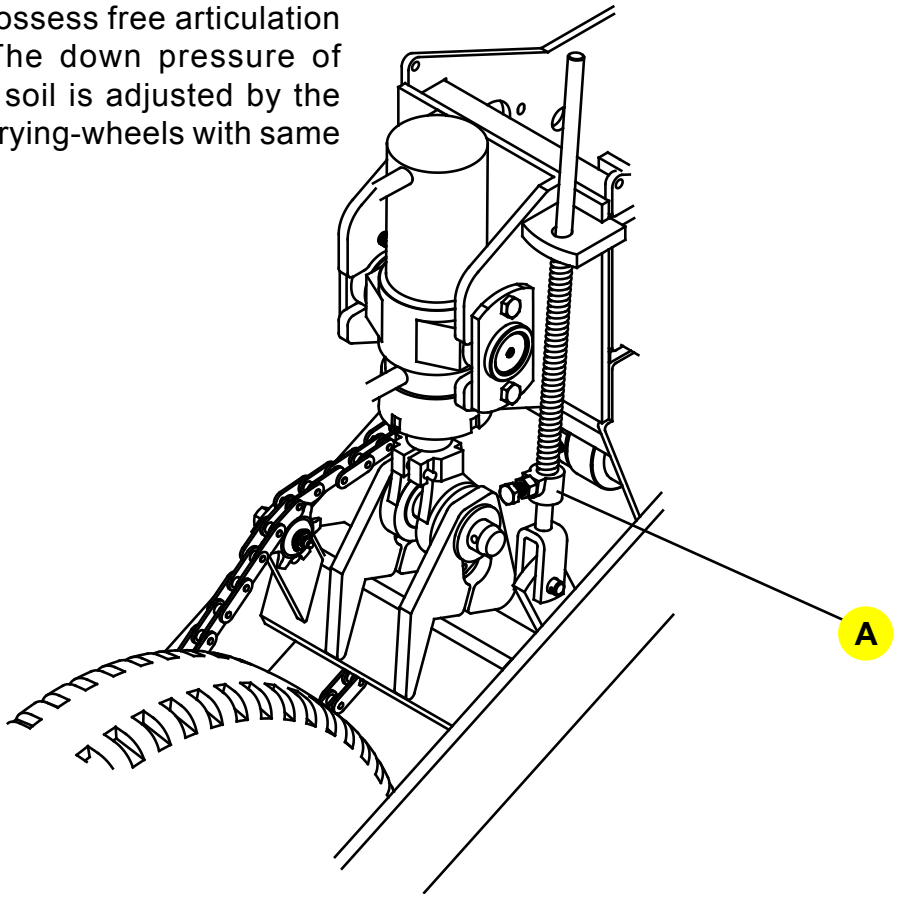
Auxiliary depth control

In light and loose (sandy) soils it may become necessary to use the rod stop (A) to help depth control.



Adjusting the carrying-wheel springs

The carrying-wheels possess free articulation to accompany the land. The down pressure of the carrying-wheels on the soil is adjusted by the bushings (C). Set all the carrying-wheels with same down pressure adjustment.



NOTE

- **Always apply the same inflation in both tires.**
- **Never work with tires of different design or widths.**

Operations - Important points

• Tighten nuts and bolts after the first day of planting. Check conditions of the pins and cotter pins.

• Strictly comply with the lubrication intervals.

• Correct tire pressure is important; both tires should show the same pressure **(75 PSI)** to maintain uniformity of planting.

- When filling the planter check whether the planter is correctly coupled to the tractor. Look out also for any alien object inside the hopper which may damage the metering devices.

- Always use seeds and fertilizer free of sludges.

- Inspect the seed metering devices twice a day and if necessary clean them of any residue of chemical products.

- Veryfy correct functioning of the fertilizer distribution system at least twice a day.

- Maintain the machine levelled.

- Verify periodically the adjustments made when planting started.

- Pay special attention to the position of the fertilizer in relation to the seeds.

-Check carefully the seed depth and the compaction pressure.

- It is important to maintain a constant speed during the whole planting operation.

- The tractor draw bar must remain locked in center.

- Never make maneuvers or use reverse gear with the row units touching the ground.

- Before proceding with any verifications at the machine lower it to the ground and turn off the tractor engine.

- As formerly mentioned, the planters can be adjusted in several different ways; however, only local conditions can show which is the adjustment best suited.

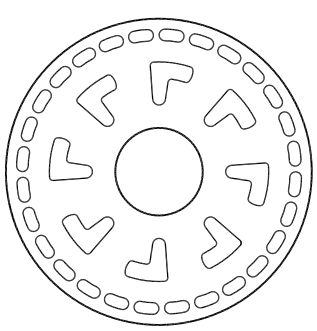
- For adjustment and verification of the cutting parts of the machine it is necessary to disconnect the ratchets to avoid waste of seeds and fertilizer.

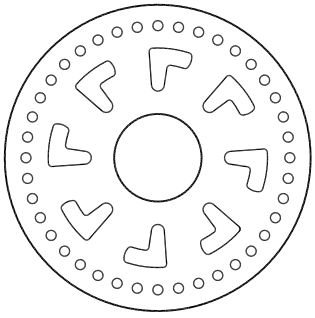
Optional

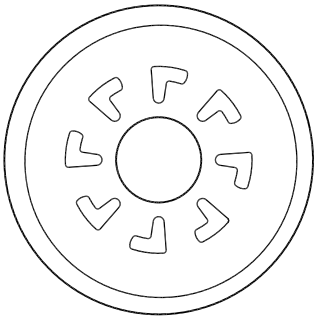
Seed plates

Optionally MARCHESAN supplies perforated, slotted cell or blind seed plates, for several crops, according to list below:

For CORN	24-Cell	Ø 11 mm	4.5 mm	- 0502020351
For CORN	24-Cell	Ø 9.5 mm	4.5 mm	- 0502020366
For SOYBEAN / BEANS	40-Cell	9 x 14 mm	5.5 mm	- 0502020407
For SOYBEAN	94 Cell	Ø 8,0 mm	5.5 mm	- 0503031933
For SOYBEAN	40-Cell	9 x 14 mm	8.5 mm	- 0502020329
For SOYBEAN	34-Cell	10 x 16 mm	8.5 mm	- 0502020328
For BEANS	34-Cell	10 x 16.5 mm	5.5 mm	- 0502020333
For BEANS	38-Cell	9 x 19.5 mm	5.5 mm	- 0502020408
For BEANS / DELINTED COTTON	40-Cell	7 x 12 mm	4.5 mm	- 0502020419
For BEANS / DELINTED COTTON	64-Cell	6 x 11 mm	4.5 mm	- 0502020585
For SORGHUM	40-Cell	Ø 6 mm	5.5 mm	- 0503032007
For RICE	40-Cell	7 x 17 mm	5.5 mm	- 0502020346
For SUNFLOWER	28-Cell	4.5 x 12 mm	3.0 mm	- 0503032008
For SUNFLOWER	28-Cell	6 x 13 mm	4.5 mm	- 0502020554
BLIND		Ø 190 mm	8.5 mm	- 0502020340
BLIND		Ø 190 mm	5.5 mm	- 0503031678
BLIND		Ø 190 mm	4.5 mm	- 0503031677







Lubrication

In order to reduce the wear and tear caused by the friction of the moving equipment parts, correct lubrication as explained below is necessary:

• Be sure to use a quality lubricant of proven efficiency and purity, avoiding the use of products contaminated by water, soil, etc.

• Use a grease of medium consistency.

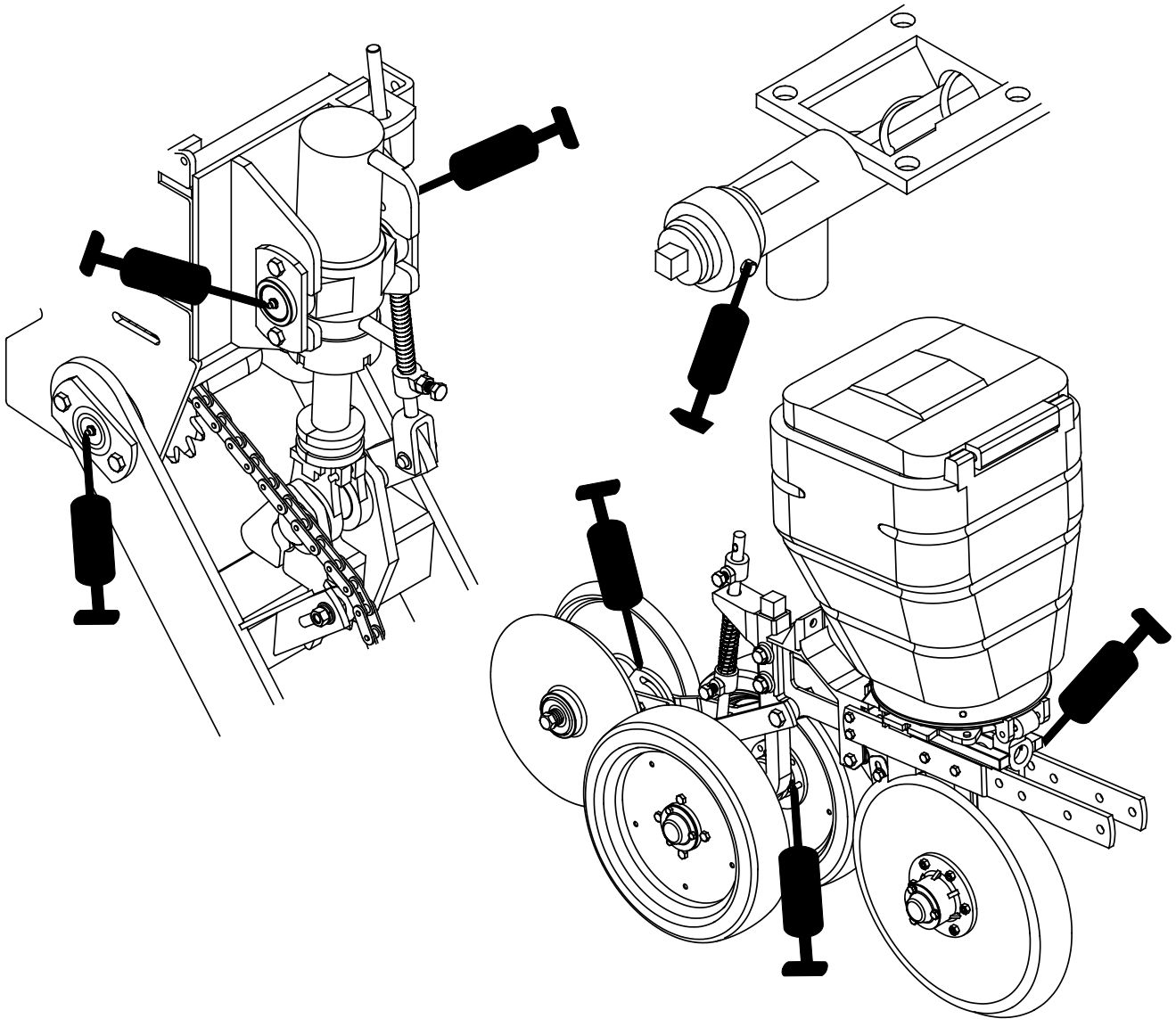
• Remove the crown of old grease around the articulations.

• Clean the grease fittings with a cloth before introducing new lubricant, replacing defective fittings.

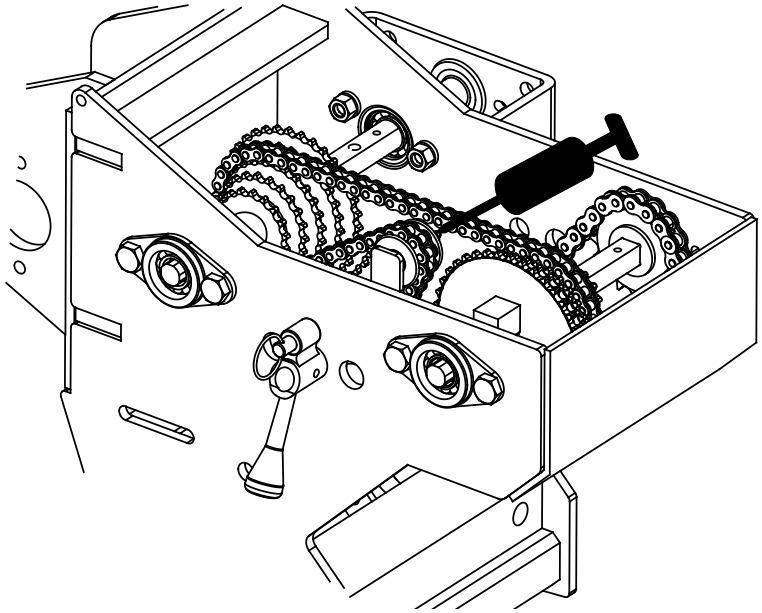
• Introduce a sufficient quantity of new grease.

IMPORTANT **Comply strictly with the lubrication intervals for the various grease fittings.**

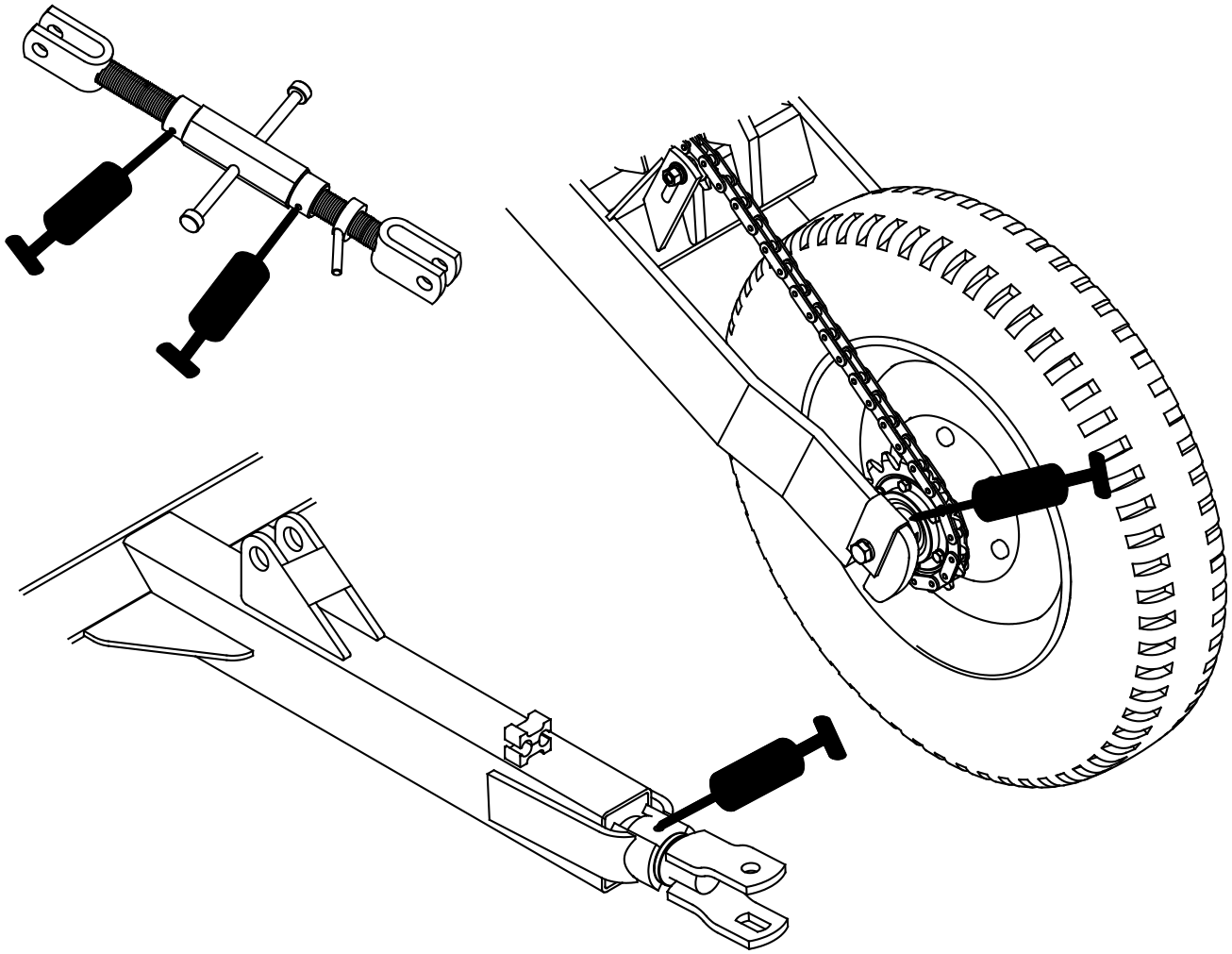
Lubricate every 10 hours of service



Lubricate every 10 hours of service



Lubricate every 50 hours of service



Cleaning of the fertilizer and seed deposits

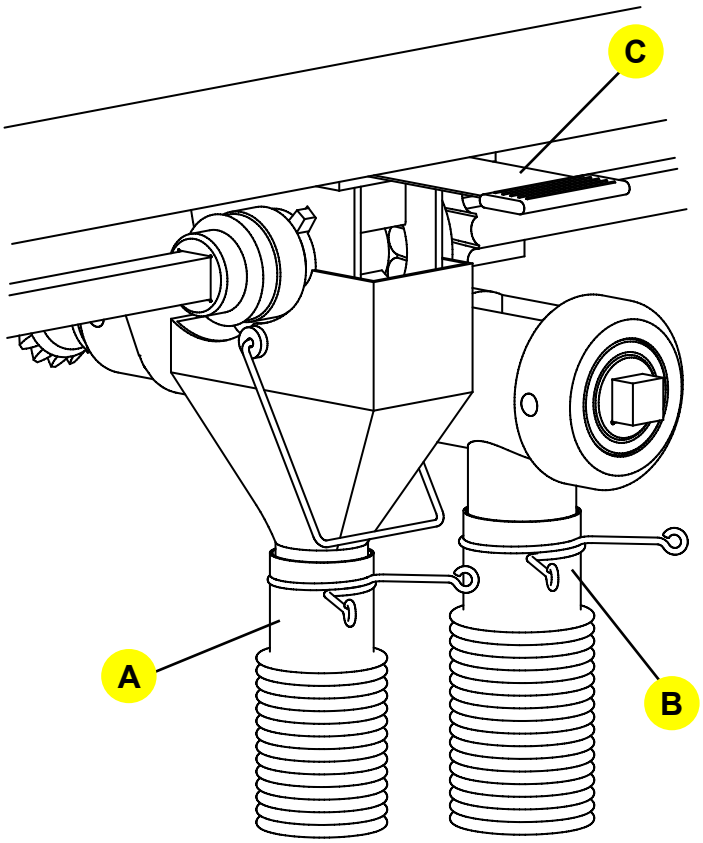
• Remove the seed (A) and fertilizer (B) dispensers completely. Wash them with water and neutral soap. Wash the whole machine only with water.

• Remove totally the seed switch (C), leaving the exit holes unobstructed.

• Wash the whole machine, mainly the fertilizer and seed deposits. Using a key of 19 mm (3/4"), rotate the shafts of the fertilizer deposit and play a water jet again.

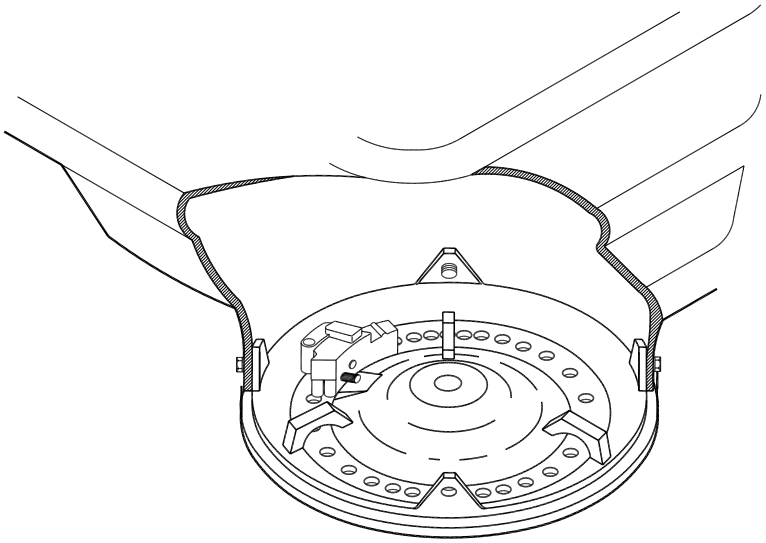
• Remove all the transmission chains of the machine (seed and fertilizer), in the end of the cultive, cleaned and stored in a container with oil, until the next cultive.

• When preparing the machine to restart the cultive before put the chains, using a key of 19 mm (3/4"), rotate the deposit shafts of fertilizer and seed and verify if they aren't locked.



Cleaning the deposits of great seeds

It is necessary to make a general cleaning in each seed metering daily. For this it is enough to remove the seed plate and observe the cutoff mechanism operation. By doing so, the best planting stand will be assured.



NOTE **When using graphite powder with treated / inoculated seeds, it is necessary to clean the seed cutoff mechanisms inside twice a day.**

Maintenance of fertilizer metering

For correct fertilizer metering maintenance or any type of repairs to its internal part procede as follows:

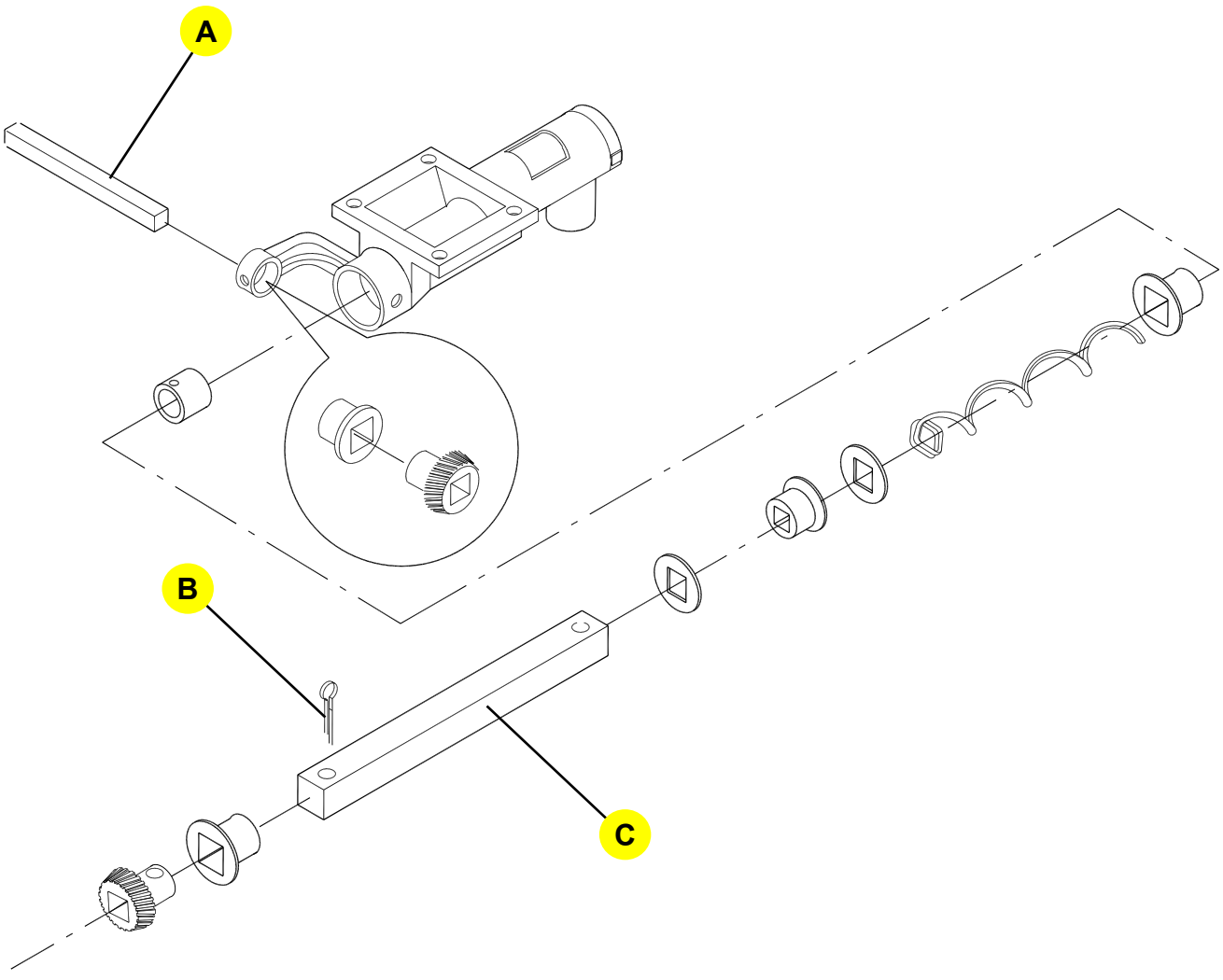
• Remove completely the transversal square shafts of the fertilizer deposit.

• Remove the bolts that fasten the metering to the bottom of the fertilizer hopper.

• Remove the spring pins (B) and loosen the bolt which leaves the square shaft totally free; disassemble it completely and replace the respective parts.

IMPORTANT

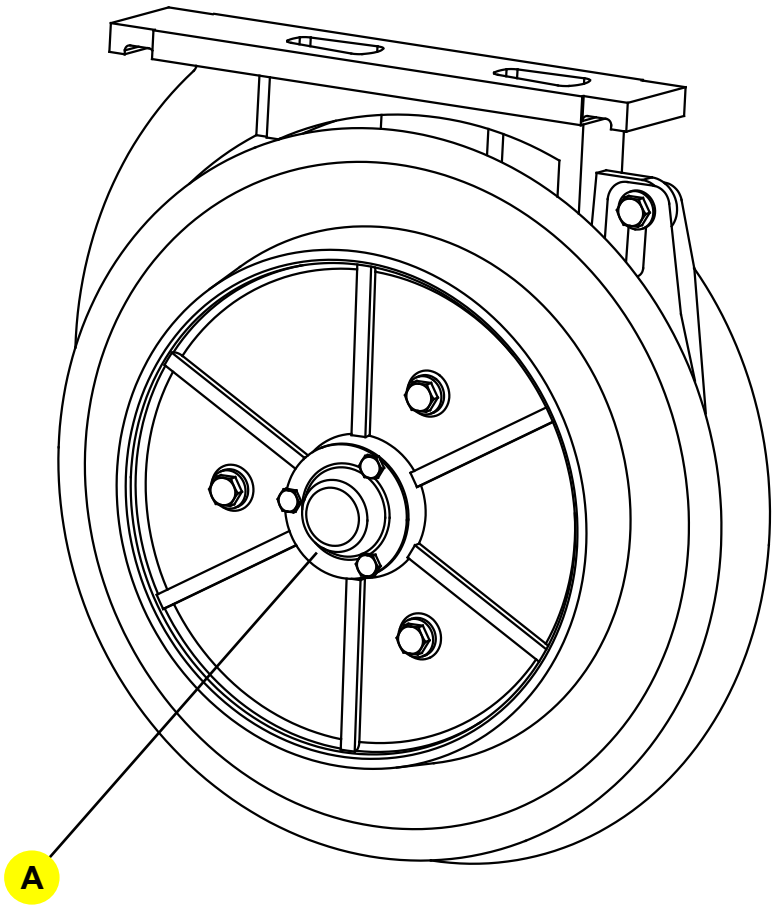
- **Do not forget to lubricate daily the dispensers as cautioned under item "lubrication", thus avoiding future problems.**
- **Use exclusively TATU original spare parts.**



Maintenance of the unaligned double-discs

Periodically it is necessary to make the maintenance in the unaligned double-discs of the planter, following the instructions below:

- Period for maintenance: Approximately each 500 planted hectares.
- Remove the protective hubcap (A), after loosening the mounting bolts.
- Wash the hub with diesel or kerosene for remove the old grease.
- Check for the looseness in the bearing, if necessary adjust them through the slotted nut.
- Install the hubcaps again, tightening the bolts.



How to change tires

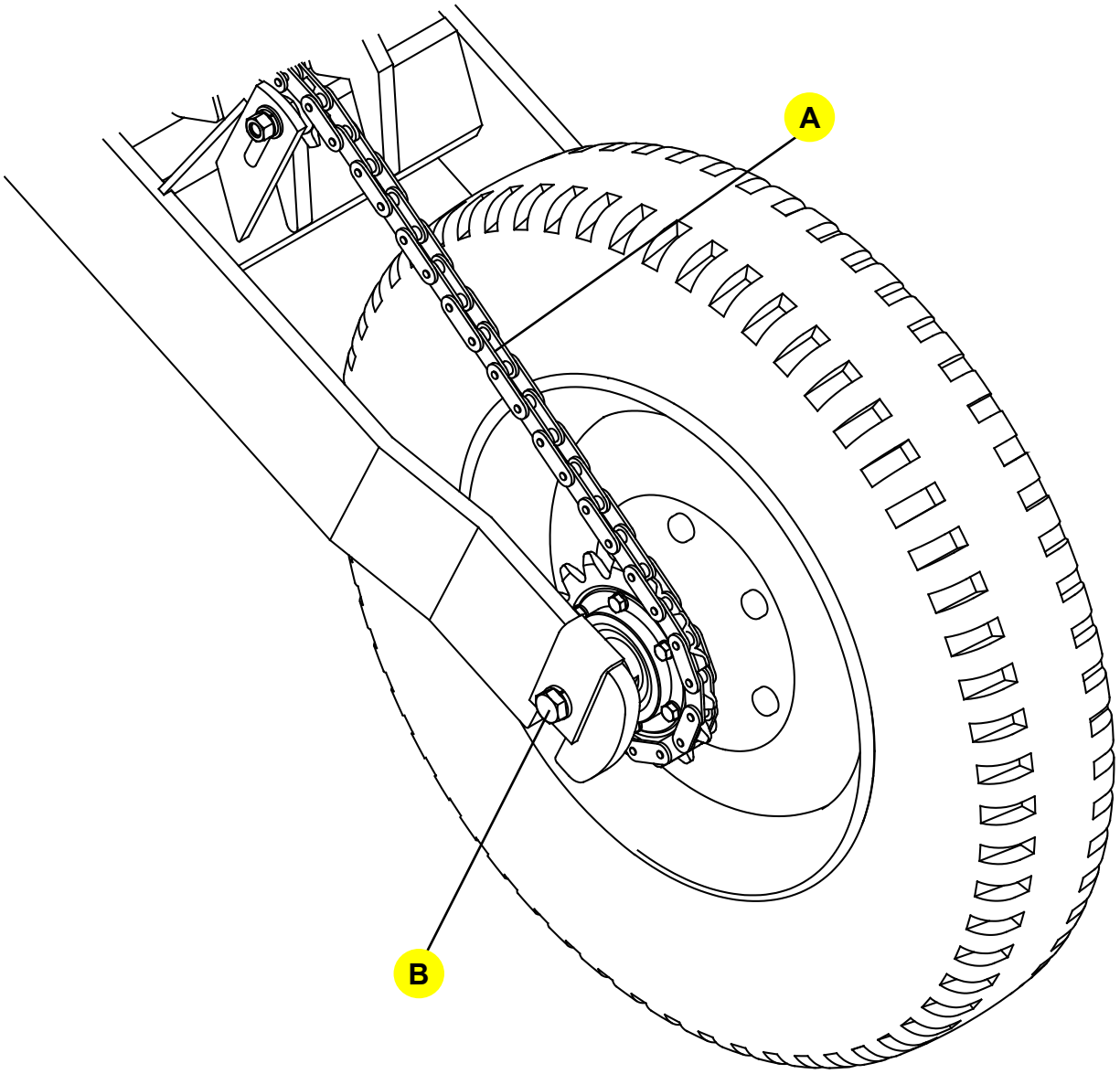
If the planter tires have to be repaired proceed as follows:

• Support the machine with the front parking stands;

• With the aid of a hydraulic jack lift the back of the machine and remove the tire.

• It is not necessary to detach the whole transmission driving assembly; just remove the chain (A), the castel nut (B) and the lock.

NOTE **Above measures should take place on firm and level ground. Make sure that the machine is properly supported. Avoid any accidents.**



Planter maintenance

- Wash the machine with water only;
- Remove the transmission chains (seed and fertilizer), keeping them bathed in oil until the next planting season;
- Wash the fertilizer augers in order to remove residues;
- Check all rotating parts of the planter for wear. If necessary, replace these parts and get the machine ready for the next planting season;
- Touch up the paint, especially at the hoppers;
- Spray the whole machine with protecting oil; never use used engine lubricant oil.
- Clean and lubricate all the grease fittings;
- After repairing and servicing the planter, park it in a clean, covered and dry place;
- Remove the extensor arm and articulate the draw-bar upwards, locking it;
- Maintain the planter properly supported and preferably avoid the contact of the cutting parts and tires with the soil.

NOTE **Use only TATU original spare parts.**

Important

ATTENTION

Marchesan S/A reserves the rights at anytime to make improvements in the design, material or specifications of the machinery equipment or parts without thereby becoming liable to make similar changes in machinery, equipment or parts previously sold.

The drawings are simply illustrations.

Some drawings in this manual are presented without safety devices in order to allow detailed instructions. Never operate the equipment without such safety devices.

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