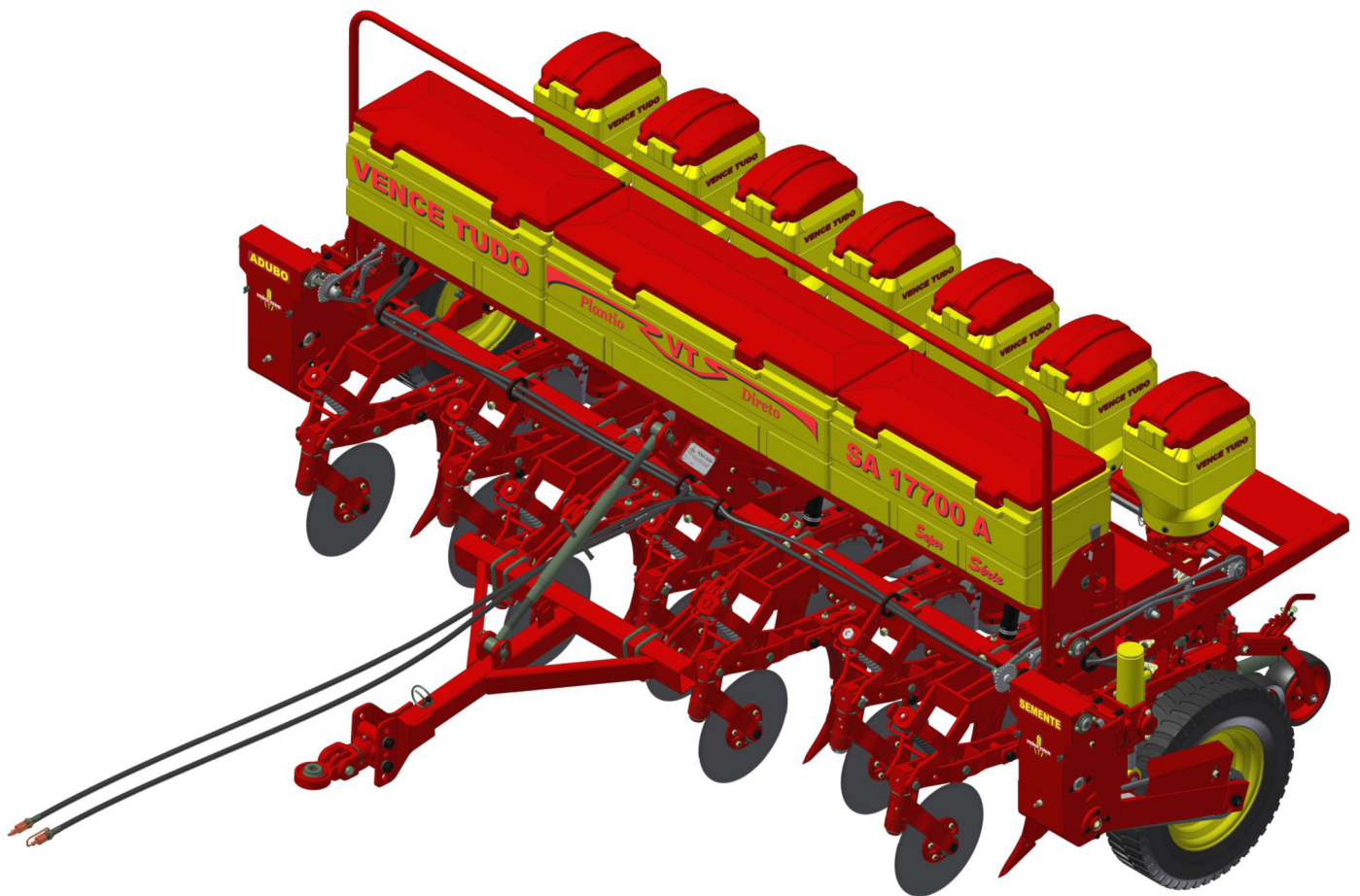




VENCE TUDO

FORTE ATÉ NO NOME



OPERATION MANUAL

SEEDER FERTILIZER TRAWL

SA ARRASTO Super Série

04/2015
Review 00

TECHNICAL DELIVERY CERTIFICATE NO. _____

Verify that the information below, is being realized by the re-sale of your preference, and also whether the technical support was effective:

1. Instructions and form of use of the equipment;
2. Form of maintenance, conservation, lubrication and rules for safe use;
3. Settings and proper use of its options;
4. Checking and tightening of points required and verification of settings;
5. Presentation of the operator's manual and parts catalog;
6. Delivery of the box of additional parts, in accordance with the operator's manual;
7. Verification of the correct completion of this certificate.

RETAILER: _____ TEL: (_____) _____
 CITY: _____ STATE: _____ ZIP: _____ - _____
 BILL OF SALE FOR CLIENT NO.: _____ DATE: ____/____/____
 TECHNICIAN OU MECH. RESPONSIBLE: _____
 MACHINE: _____
 MODEL: _____ SERIES: _____ MANUF.: ____/____/____
 OPTIONS: _____

CLIENT: _____
 ADDRESS: _____ TEL: _____
 CITY: _____ STATE: _____ CODE: _____

DELIVERY ASSESSMENT AND TECHNICAL SUPPORT	Great	Good	Satisfactory
The delivery of the equipment was made within the deadline			
The technical delivery was made in order to resolve all your queries			
The demonstration of the equipment was carried out satisfactorily			
The equipment was de0livered in perfect condition together with its accessories			
In the case of requests for parts or technical support it was processed efficiently			
The re-sale meets the request for parts or technical support <input type="checkbox"/>			

Suggestions:

N.B.: After the checking and execution of all seven (07) items above and the full completion of this document, sign it and send it to the Vence Tudo Customer Services Department, within the maximum period of one year.

The non-sending of this technical delivery certificate, shall prevent warranty analyses.

Signature of the Authorized Re-Seller

Signature of the Client

INTRODUCTION

The Agriculture Tools Industry **VENCE TUDO**, founded in the year of 1964 in Alfredo Brenner, Ibirubá District in Rio Grande do Sul, has been following a mission set out by its founder Nelson Lauxen, which is to seek tirelessly to develop agriculture, through the use of resistant agricultural tools, with easy handling, high quality and productivity gains.

The **VENCE TUDO** mission is: to seek to develop its products based on the needs of its users through partnerships with universities, research centers and its engineering team, continually improving its products within the most technologically advanced concepts.

The products, once developed by the company, are tested extensively by the farmers themselves in the most diverse regions. They are placed under various conditions of use, thus seeking to assess their functionality. Once the field tests are approved, the product goes on to be produced at scale within modern high-quality concepts.

The client's satisfaction with **VENCE TUDO** products is our main concern.

The purpose of this manual is to familiarize you with the operation of your equipment and with the little attention required for it to have a long life. And, as important as learning how to take care of it, and handling it properly, is understanding some aspects that may compromise the warranty, due to neglect, misuse, unauthorized adaptations and other aspects which have to adapt in some way. Consequently, we recommend a careful read of the Warranty Certificate.

The catalog of parts contains all the necessary information for replacing parts. The correct interpretation of this document, will provide you with the tools required to make the necessary replacements in accordance with the equipment models identified and described.

Should you have any query in relation to the working operation, contact **VENCE TUDO LTD.**, so that via the CUSTOMER TECHNICAL SUPPORT department, we can solve any existing issues, improving our customer services even further, and ensuring a strong relationship between **VENCE TUDO** and the FARMER.

May we take this opportunity to thank you for choosing a **VENCE TUDO** product, and may we assure you that we have the utmost interest in keeping you satisfied.

VENCE TUDO
Industry, Commerce, Import,
and Export Ltd.



TO THE VENCE TUDO CUSTOMER

*Farming friend, you are from congratulations when acquiring a product **VENCE TUDO**; the development of our products is based mainly on the user's satisfaction. Your satisfaction in the hour of picking the profits generated through our implements is ours also. Our thought is to assist with the largest seriousness and our trust partner, you farmer, because it is through your profitability that we are in no doubt of building a strong and lucrative agriculture.*

For a production inside of the considered concepts of the high agricultural technology this product was developed. The most modern equipment is used for the industrial manufacture, aiming at the development of a strong and resistant product, which it comes to take care of your needs, with high durability and long useful life.



WARRANTY TERMS N° _____

The warranty of VENCE TUDO products is assured to the acquirer for the period of one year since the acquisition date, against manufacture or material defect that may cause the operational danger of the product, except for components acquired from mediators, which have their own manufacturer's warranties.

CONDITIONS

- 1- The product has warranty on any registered fabrication defect, as long as all the parts and components have been supplied by VENCE TUDO Limited, and delivered by duly authorized companies or people;
- 2- The parts and/or components covered by the warranty will only be replaced or compensated if defects are verified by the Technical Assistance or by a person duly authorized by VENCE TUDO Limited. Parts which suffer slow wear and tear, because of operational conditions and factors relate to formation and characteristics of each soil are excluded. The presentation of the technical delivery certificate correctly filled up and the purchase bill are essential.
- 3- If the conditions of the Warranties Terms are satisfied, VENCE TUDO Limited assures the repair of the defect or component's replacement, for free. In case of canceling or expiration of the warranty terms, the technical assistance will be charged by the price of the service rendered and reposition of parts and components, if necessary.

WARRANTY CANCELLATION

The warranty loses its effectiveness in the following cases:

- Damages caused to the equipment by bad use, abuse, negligence or lack of appropriate maintainance, in disagreement with the manufacturer's instructions published in the corresponding operation manual;
- Damages caused by accidents or natural agents;
- Repairs, modifications or violation of parts and components performed by a non-authorized person.
- Amendments, erasures or exclusion of data in the Technical Delivery certificate, in the Warranty certificate, in the purchase bill or in the identification plaque.

IMPORTANT

If your product shows any problem during the warranty period, contact exclusively your retailer or the manufacturer. The same only should be repaired or dismantled in the presence of a person duly accredited by the manufacturer, as well as the use of original replacement parts, under penalty of warranty loss.

KEEP THE PURCHASE BILL IN A SAFE PLACE, IT IS THE PROOF OF THE WARRANTY TERMS.

CUSTOMER: _____
 ADDRESS: _____ CITY: _____ STATE: _____
 MODEL: _____ SERIES: _____ YEAR: _____
 DELIVERY DATE: ____/____/____
 RETAILER: _____ CITY: _____ STATE: _____

I declare faithfully and with incontestable effect that I received, on this date the PRODUCT model: _____ as it is above specified in perfect conservation conditions and the warranty model used was accepted by me.

CUSTOMER: _____
 RETAILER: _____

TECHNICAL DELIVERY CERTIFICATE NUMBER: _____

CUSTOMER: _____ CITY: _____
 ADDRESS: _____ STATE: _____
 MODEL: _____ SERIES: _____
 RETAILER: _____ CITY: _____
 Purchase bill number: _____ Sale's date: ____/____/____

REMIT THIS CERTIFICATE TO THE FACTORY SOON AFTER DELIVERY.





I declare having received on this date, the model described previously, according to the specifications above in perfect condition and that the warranty modality is accepted by me.

DATE: ____/____/____

CUSTOMER: _____

DELIVERY DATE: ____/____/____

VENCE TUDO

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IDENTIFICATION

When getting in contact with the *VENCE TUDO* Technical Assistance Service, please inform the following data: MODEL, manufacture YEAR and SERIAL NUMBER of the product. These data are located in the product's Identification Plate, fixed on the chassis, always on the left side.

The identification plate is a rectangular label with a double-line border and four corner fasteners. It contains the Vence Tudo logo on the left, which includes a stylized plant and the text "VENCE TUDO" and "Forte até no Nome". To the right of the logo, it reads "INDÚSTRIA DE IMPLEMENTOS AGRÍCOLAS" and "VENCE TUDO" in large bold letters, followed by "IMPORTAÇÃO E EXPORTAÇÃO LTDA.". Below this, it lists the address: "ROD. RS 223 - KM - 53 - IBIRUBÁ - RS - BRASIL", "CEP 98200-000 - FONE/FAX DDD 54 3324-8000", and "FONE/FAX DDI +55 54 3324-8000". There are three input fields: "MOD.:" followed by a wide box, "ANO:" followed by a narrow box, and "SÉRIE:" followed by a wide box. At the bottom right, it says "MADE IN BRAZIL".

INDÚSTRIA DE IMPLEMENTOS AGRÍCOLAS
VENCE TUDO
IMPORTAÇÃO E EXPORTAÇÃO LTDA.
ROD. RS 223 - KM - 53 - IBIRUBÁ - RS - BRASIL
CEP 98200-000 - FONE/FAX DDD 54 3324-8000
FONE/FAX DDI +55 54 3324-8000
MOD.:
ANO: SÉRIE:
MADE IN BRAZIL

When need to replace any parts, always use original VENCE TUDO parts. To make the identification of each part easier, see the PARTS CATALOGUE.

All the information in this Operation Manual is liable to alteration. Weight, dimensions and specifications are only approximate, and the illustrations do not reflect, necessarily, the equipment in its standart condition. To obtain exact information about any specific model, please contact your VENCE TUDO retailer.

The Agricultural Implements Industry VENCE TUDO LTDA. in constant improvement, reserves the right to at any time to introduce changes in their products to best to meet the needs and expectations of their customers; without the obligation of doing the same on the previously sold products.



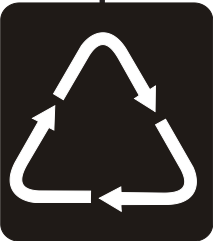
CARE WITH THE ENVIRONMENT

Mr. User !



Let us value nature.

The uncontrollable spilling of residues on the soil and in the water harms the life of all living beings of the planet.



To spill on the soil and in the water lubricating and combustible oils, agrichemical and plastic packings, etc, interferes directly with ecosystem balance from the superficial layer of the soil the underground sheets of water.

Do the appropriate handling of these residues, finding out how to recycle them or to reuse them.

Acting that way you will be contributing to the conservation and the balance of the ecosystem.

IMPORTANTE

The straw cutting is a fundamental factor for the efficiency in the planting and establishment of the crop. In no may use handling methods that are not recommended by the technical assistance.

Avoid burning: burning the straw is a crime against the ecosystem, because life on earth depends on it.

Use the straws chopper well regulated and if necessary change the razors.

Use the straws spreader to maintain the uniformity of distribution of the straw layer.

If necessary use straw crushers.

Avoid the use of disk grid in the straw rolling.

SECURITY NORMS

⚠ WARNING

The improper operation of this equipment can cause serious wounds or death. Before using it, be certified that the operator:

- It was instructed as for the safety and appropriate use;
- It read and he understood the manual of operation of the product;
- It removed the people closely to the operational area;
- It has knowledge and practice in the safe use of machines, their controls and the work place;

⚠ WARNING



- Stay moved away when the equipment is in operation;

⚠ WARNING



- The contact with dented sprockets and chains. In operation can cause serious accidents. Turn off the motor and make the intended procedures.

⚠ WARNING



- Avoid wounds. Lock the cylinder before working under the platform.

⚠ WARNING



- Avoid falls. Maintain the clean access platforms. Be used from the supports when arising in the platform.



THIS INDICATING SYMBOL SHOWS SAFETY SITUATIONS IN THIS OPERATING MANUAL. NOTE AND READ THE MESSAGE CAREFULLY TO AVOID PERSONAL ACCIDENTS OCCURRING.

- **Only people with thorough knowledge of the tractor seeder unit must operate it and make repairs in components and units with maximum safety;**
- **Always observe the recommendation about the use of chemical products in doses recommended by the manufacturer and agronomist in charge. The excess and misuse of chemical substances may affect people, animals and the environment;**
- **Maintain arms and legs away from cutting disks and furrowers, as they can cause serious injury;**
- **Remember that: a careful and responsible operator is the best safety against accidents;**
- **During the transportation operations and the operation of the tractor seeder unit, only the tractor operator is allowed to remain;**
- **Do not allow children to play nearby, or on the equipment, during the maintenance, transportation, operation and storage;**
- **Wear suitable clothes and footwear, before and during any type of operation. Avoid wearing bulky clothes which may get caught up in moving parts of the seeder;**
- **Know all about the land where you will work with the seeder. If necessary delimit the place at possible hazardous points which place at risk the operator's life and his/her work safety;**
- **Use appropriate speeds during the planting, transportation and maneuvers with the seeder. High speeds may cause damage to the units and place at risk the life of people and animals;**
- **Take the utmost care in coupling the tractor to the seeder. Do not allow anyone to remain between the seeder and the tractor;**
- **Never work without safety and protection devices;**



- **When suspending or lowering the seeder ensure that there are no people or animals nearby;**
- **Ao suspender ou baixar a semeadora certifique-se de que não hajam pessoas nem animais próximos;**
- **Never try to alter the adjustments, clean, lubricate or remove any material from the seeder when in movement;**
- **Always maintain the access platform to the seeder clean and free of oil and grease;**
- **Always disconnect the engine before leaving the tractor seat and ensure that the parking brake was applied;**
- **Always draw the seeder at the appropriate speed and power;**
- **Move with care and attention in narrow places;**
- **Do not travel on highways or paved roads, mainly during the night. In the case of long journeys use warning signals and escorts;**
- **Whenever uncoupling the planter do it in a flat and firm place, ensuring that it is supported and firm before executing the uncoupling;**
- **Ensure that there is nobody near the seeder, or tools left inside its tanks before operating it;**
- **Maintain the protection in the due places;**
- **Before any operation, read the OPERATING MANUAL, and follow the warnings attached to the machines;**
- **After repairs ensure that the parts are working correctly;**
- **Do not transport the seeder loaded. Do the loading in the field.**

TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS												
Models	S.A 9400 A						S.A 11500 A					
# Lines	Soybean/Maize			Wheat/Rice			Soybean/Maize			Wheat/Rice		
	4	3	2	9	7		5	4	3	11	9	
Spacing in cm	40	55					40	47.5	70			
	42.5	60	80	17			42.5	50	75	17		
	45	65	85	19			45	55	80	19		
	47.5	70	90		22.5		60	60	85		22.5	
	50	75					90		90			
Approximate Seed Capacity	Total			Total			Total			Total		
	96Kg / 124l.	24Kg / 31l.		144Kg / 187l.	16Kg / 21l.		120Kg / 155l.	24Kg / 31l.		214Kg / 227l.	19Kg / 20l.	
Approximate Fodder Seed Capacity	-			Total			-			Total Cap		
	-			19Kg / 28l.	by Line		-			23Kg / 34l.	Line Cap	2Kg / 3l.
Approximate Fertilizer Capacity	Total			by Line			Total			by Line		
	275Kg / 250l.			75Kg / 67l.			344Kg / 313l.			69Kg / 63l.		
Approximate Weight (kg)	1.048	884	698	826	650		1.440	1.320	1.200	1.010	830	
Approximate Tractor Power (hp)	45 to 55						50 to 65					
Tires	2 - Militar 6.50 -- 16"											

NOTE:

- The dimensions, weights and capacities as well as any other information shown in this manual are subject to any modification without prior notice.

TECHNICAL SPECIFICATIONS

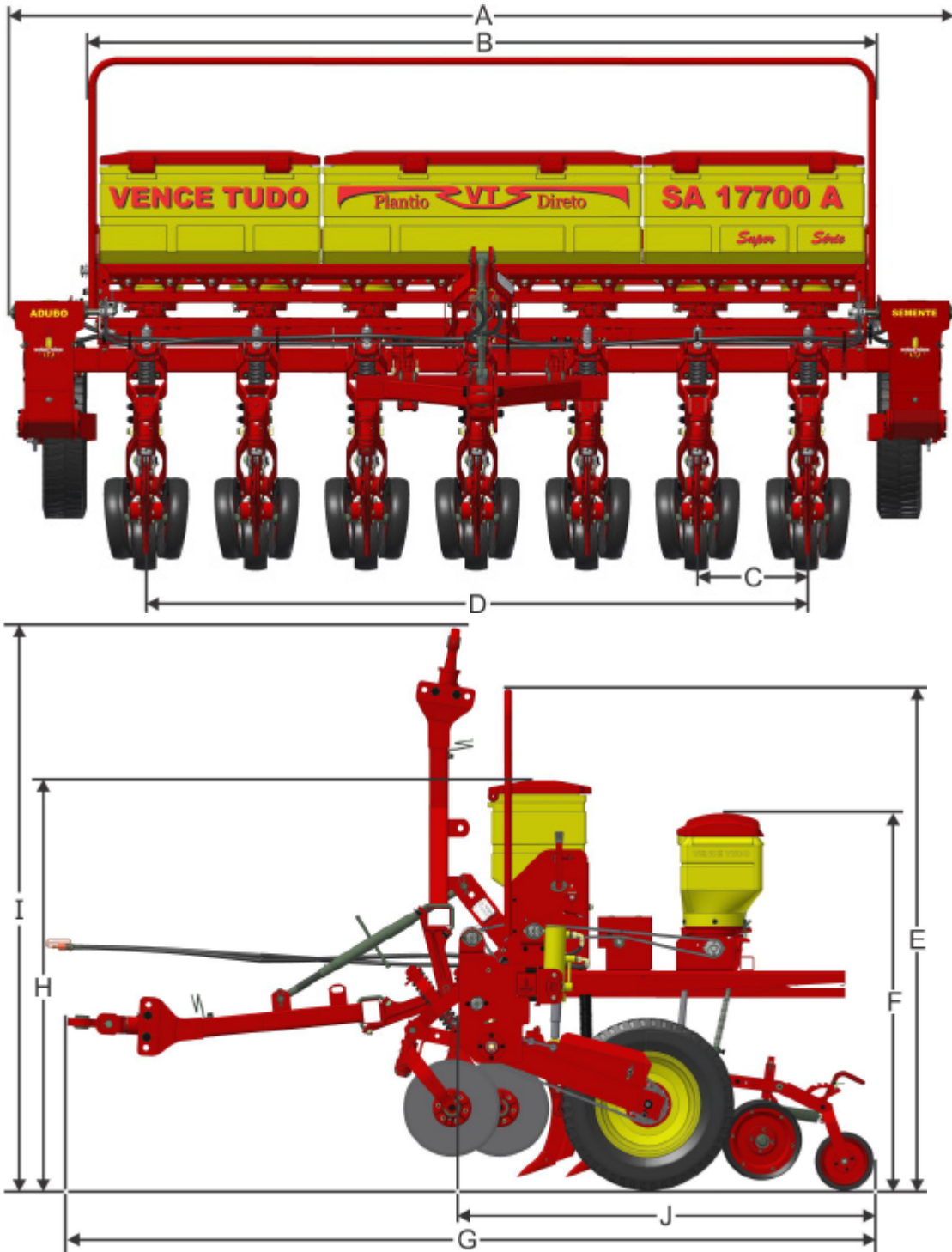
TECHNICAL SPECIFICATIONS												
Models	S.A 14600 A						S.A 17700 A					
	Soybean/Maize			Wheat/Rice			Soybean/Maize			Wheat/Rice		
# Lines	6	5	4	3	6	5	4	3	7	6	5	4
Spacing in cm			60		40	45	75		40	45	75	
		42.5	50	85	42.5	50	80		42.5	50	70	80
		45	55	90	45	55	85		45	55	85	17
		47.5	80		47.5		90		47.5		90	
Approximate Seed Capacity	Total			by Line	Total	by Line			Total	by Line		
	144Kg /186l.			24Kg / 31l.	220Kg / 285l.	16Kg / 20l.			168Kg / 217l.	24Kg / 31l.		
Approximate Fodder Seed Capacity	-			-			-			-		
	Total			by Line	Total	by Line			Total	by Line		
Approximate Fertilizer Capacity	435Kg / 396l.			72Kg / 66l.			515Kg / 468l.			74Kg / 67l.		
	1.634	1.503	1.371	1.340	1.109	1.172	1.760	1.640	1.520	1.400	2.250	
Approximate Tractor Power (hp)	60 to 75											
Tires	2 - Militar 6.50 -- 16"											

NOTE:

- The dimensions, weights and capacities as well as any other information shown in this manual are subject to any modification without prior notice.



Basic Dimensions



SUMMER:

MODELS	A	B	C	D	E	F	G	H	I	J
SA 9400 A	2460	1823	400/900	1200/1500	1960	1320	3545	1650	2140	1615
SA 11500 A	2820	2293	400/900	1600/1860	1960	1320	3545	1650	2140	1615
SA 14600 A	3370	2740	400/900	1850/2375	1960	1320	3545	1650	2140	1615
SA 17700 A	3850	3220	400/900	2250/2820	1960	1320	3545	1650	2140	1615

WINTER:

MODELS	A	B	C	D	E	F	G	H	I	J
SA 9400 A	2460	1823	170/190	1360/1520	1960	1450	3190	1650	2140	1615
SA 11500 A	2820	2293	170/190	1700/1900	1960	1450	3190	1650	2140	1615
SA 14600 A	3370	2740	170/190	2210/2470	1960	1450	3190	1650	2140	1615
SA 17700 A	3850	3220	170/190	2720/2850	1960	1450	3190	1650	2140	1615

Dimensions in mm.



General Features

COUPLING: Drawn by tractor drawbar.

HEAD: Articulated, with adjustment for height of coupling in tractor drawbar. It allows positioning for transportation and/or storage.

CHASSIS: Monobloc type.

WHEELS: It is composed of wheels, with independent course. Formed of flanged rims, fastened by screws; special tires model 5.60/15".

RAISING SYSTEM: Activated by two hydraulic cylinders with compensation of volume, by differential of area. Coupled to the hydraulic system of the tractor through a hydraulic command.

FERTILIZER TANK: Modulated, made of medium density anticorrosive structural polyethylene.

SEED TANKS: Individual, assembled in each planting line, made of medium density polyethylene.

FERTILIZER DOSER MECHANISM: Mechanical doser of the transporting rotor type, with self-cleaning millimetric adjustment activated by worm thread.

SEED DOSER MECHANISM: Horizontal mechanical doser constituted of metallic plate and pierced horizontal disks. Mechanical doser through grooved rotor with continuous flow system for fine seeds.

TRANSMISSION RATIO: Executed through combination of basic transmission cogwheels.

STRAW CUTTING MECHANISM: Vertical cutting disk, with side oscillation, with pressure through helical spring pre-stressed by threaded element (P.P).

FERTILIZER DEPOSITING AND CONDUCTING MECHANISM: Blade type furrower with replaceable tip and safety fuse, with adjustment for different depths. Its work pressure is obtained through the action of helical springs.

SEED DEPOSITION: The seed deposition system is composed of two dephased disks assembled in "V" with different diameter and curve conductor. Its working pressure is obtained through helical springs.

DEPOSITION OF SEEDS / MANURE (WHEAT): The deposition system of seeds/manure (wheat) is composed of two dephased disks assembled in "V", curve conductors for deposition of seeds and manure. Its working pressure is obtained through the action of helical springs.

LIMITING / COMPACTING MECHANISM: Independent limiting wheels of depth in "V" and 3rd compacting wheel with flexible rubber coating.

COVERING MECHANISM: It is composed of two 12" concave disks in "V", which are responsible for the covering of the furrow where the seeds are deposited aiding in their emergence. The working pressure is obtained through increasing the pressure in the helical spring.



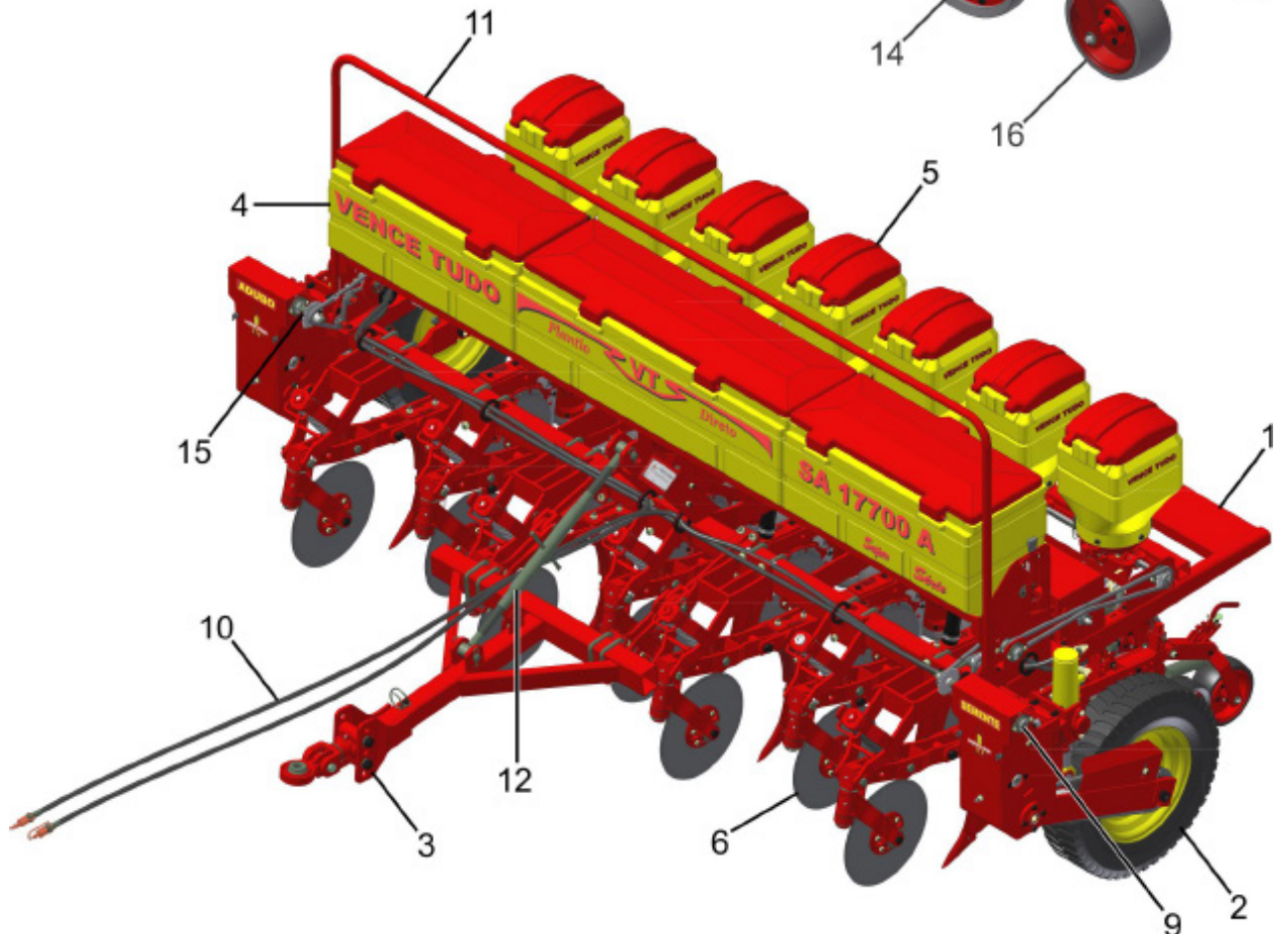
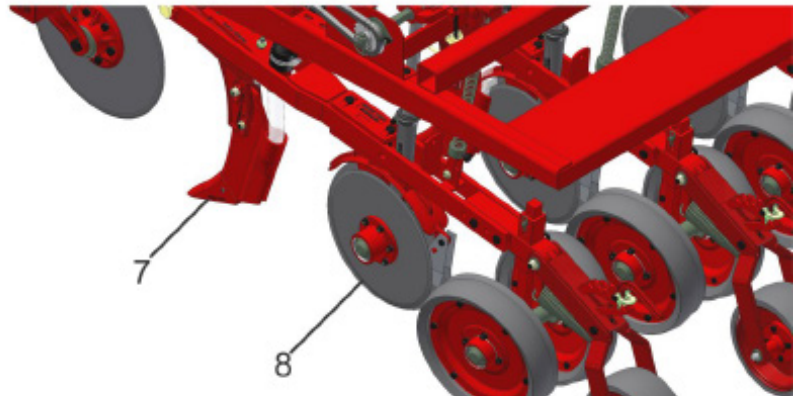
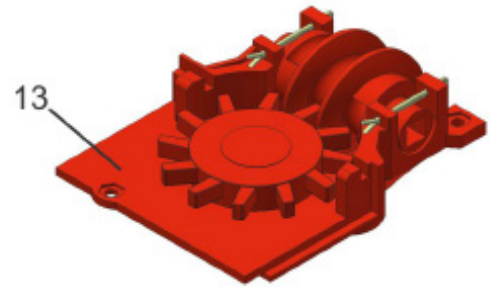
GENERAL INFORMATION

- 1-** *When receiving your seeder it is extremely important to check the conditions of the product, mainly regarding the use of original components;*
- 2-** *The right and left side identification is considered taking into account looking at the machine from back to front;*
- 3-** *Upon removing any planting unit to place another, care must be taken to separate the parts removed with their respective components or parts. This is so they are not used in other machines or equipment belonging to you;*
- 4-** *Due to the design of the seeder being with internal wheels the minimum spacing in the wheels is 450mm for all the models;*
- 5-** *In this manual soybean cultivation is used, identifying the operations for summer cultivation, as maize, sorghum, etc.;*
- 6-** *The arrangement of the planting lines varies in accordance with the seeder models. Ensure that the assembly or maintenance of the correct model is being executed.*

IDENTIFICATION OF COMPONENTS

SUMMER VERSION:

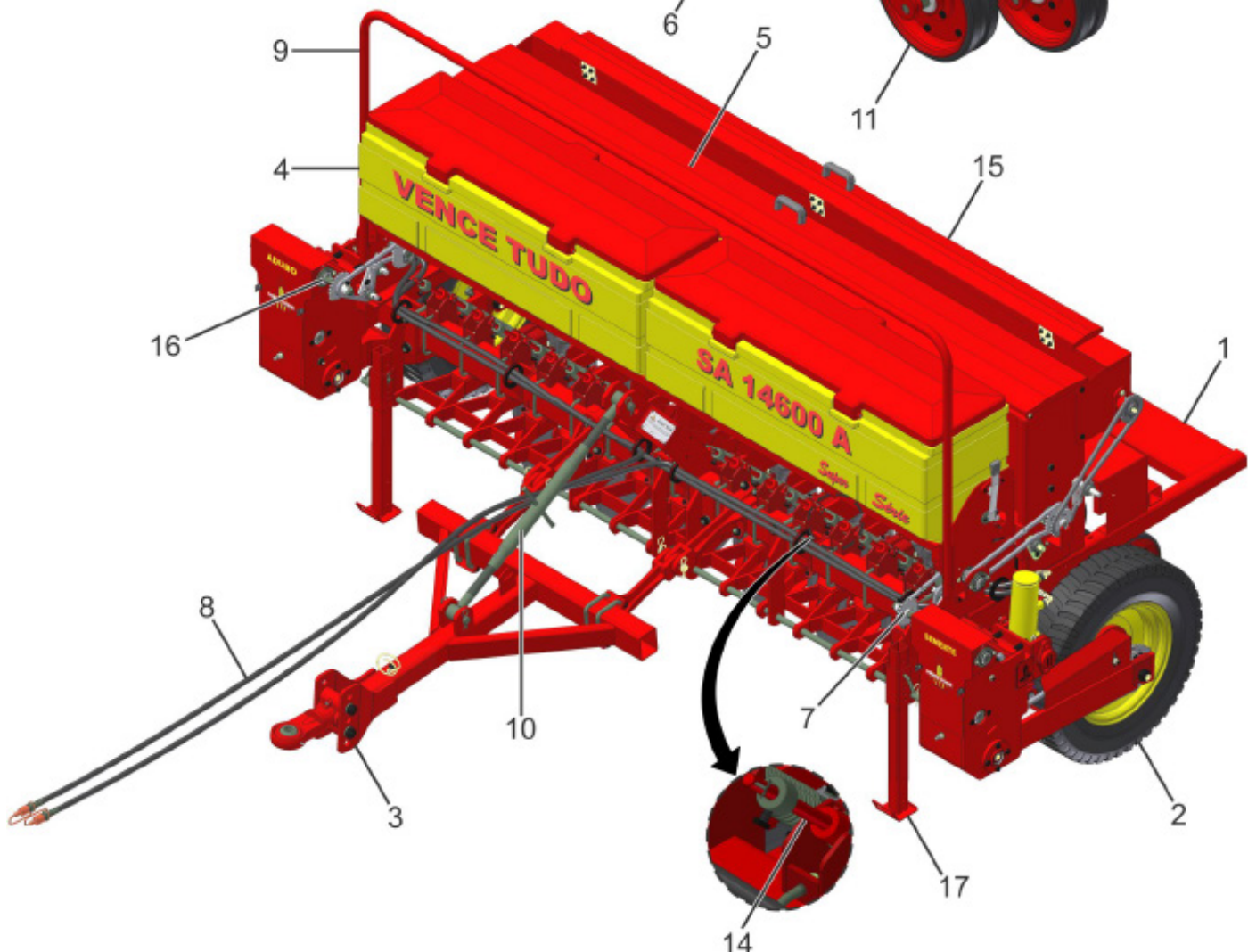
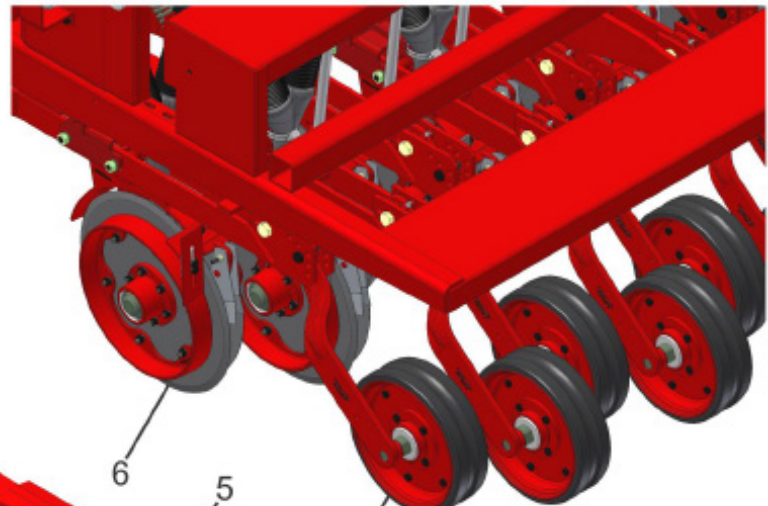
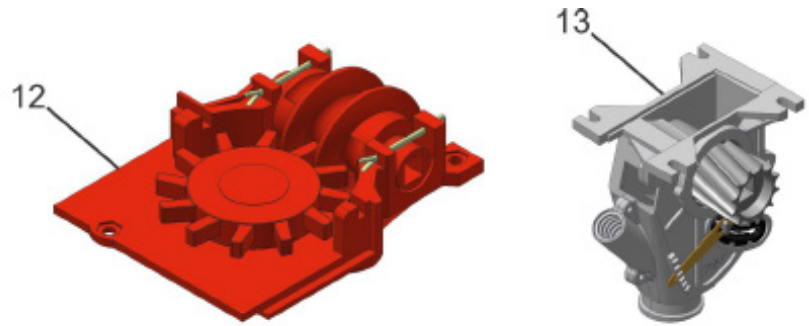
- 01- CHASSIS
- 02- WHEELS
- 03- HEAD
- 04- FERTILIZER TANK
- 05- SEED TANK
- 06- STRAW CUTTING SYSTEM
- 07- FERTILIZER DEPOSITION
- 08- SEED DEPOSITION
- 09- TRANSMISSION RATIO (SEED)
- 10- HYDRAULIC SYSTEM
- 11- HANDRAIL
- 12- THIRD POINT ARM
- 13- FERTILIZER DOSER
- 14- LIMITING SYSTEM
- 15- TRANSMISSION RATIO (MANURE)
- 16- COMPACTING SYSTEM



IDENTIFICATION OF COMPONENTS

WINTER VERSION:

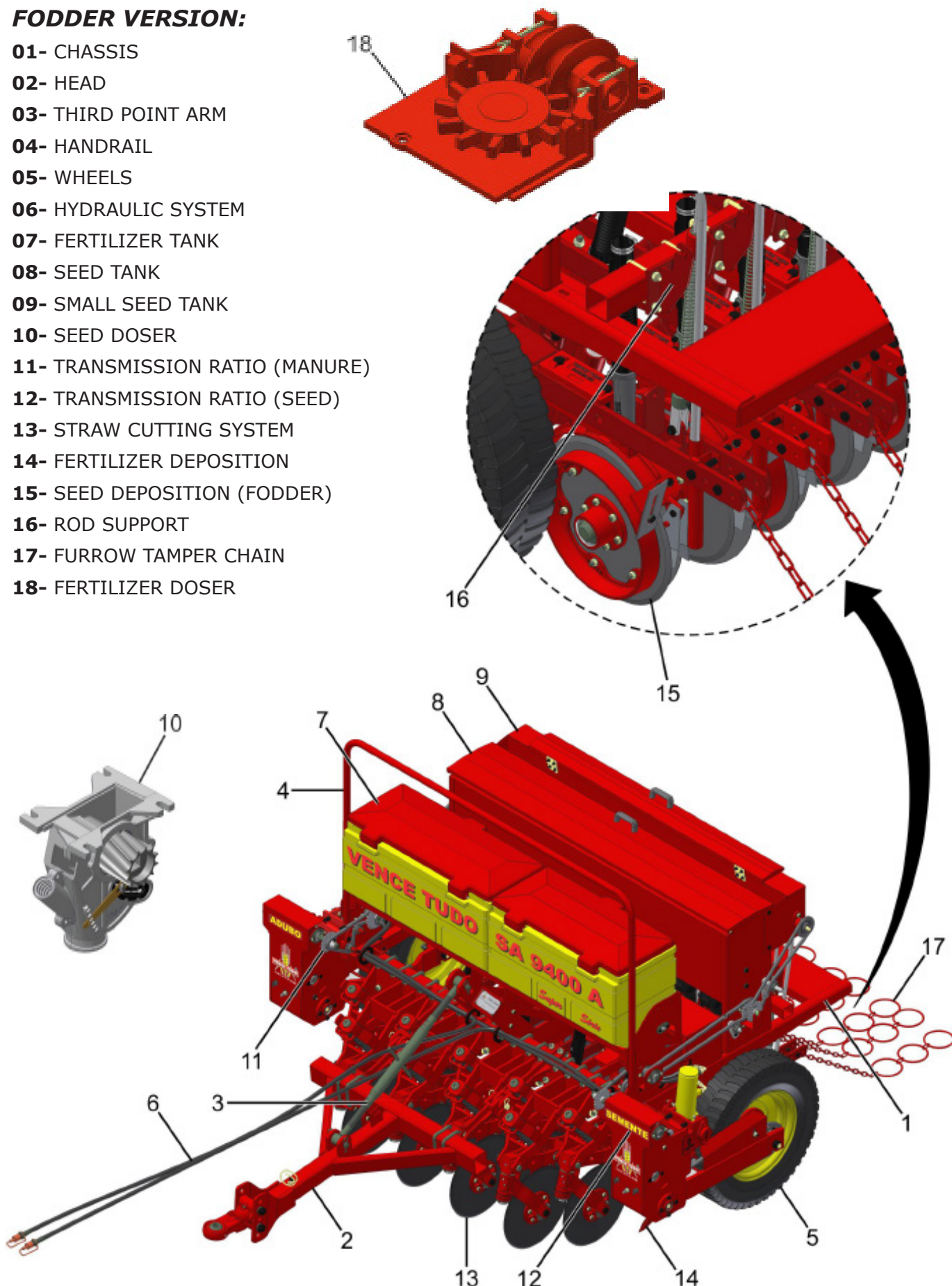
- 01- CHASSIS
- 02- WHEELS
- 03- HEAD
- 04- FERTILIZER TANK
- 05- SEED TANK
- 06- SEED AND FERTILIZER DEPOSITION
- 07- TRANSMISSION RATIO (SEED)
- 08- HYDRAULIC SYSTEM
- 09- HANDRAIL
- 10- THIRD POINT ARM
- 11- COMPACTING SYSTEM
- 12- FERTILIZER DOSER
- 13- SEED DOSER
- 14- HELICAL SPRING RODS
- 15- SMALL SEED TANK (OPTIONAL)
- 16- TRANSMISSION RATIO (MANURE)



IDENTIFICATION OF COMPONENTS

FODDER VERSION:

- 01- CHASSIS
- 02- HEAD
- 03- THIRD POINT ARM
- 04- HANDRAIL
- 05- WHEELS
- 06- HYDRAULIC SYSTEM
- 07- FERTILIZER TANK
- 08- SEED TANK
- 09- SMALL SEED TANK
- 10- SEED DOSER
- 11- TRANSMISSION RATIO (MANURE)
- 12- TRANSMISSION RATIO (SEED)
- 13- STRAW CUTTING SYSTEM
- 14- FERTILIZER DEPOSITION
- 15- SEED DEPOSITION (FODDER)
- 16- ROD SUPPORT
- 17- FURROW TAMPER CHAIN
- 18- FERTILIZER DOSER



PREPARATION

SEEDER HEAD AND SUPPORT

To suspend the head, remove locking pins "R" (A) (fig. 01) from the pins (B) of the third point arm (C). Remove the pins (B) and remove the third point arm (C).

Suspend the head and insert the pins (B) (fig. 02) in the holes (D) and (E), locking them with locking pins "R" (A).

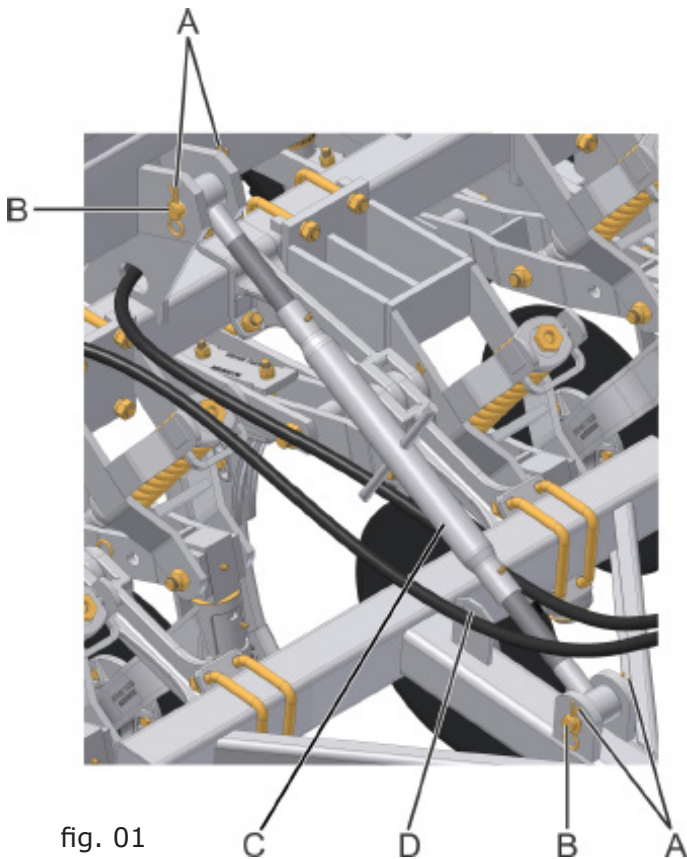


fig. 01

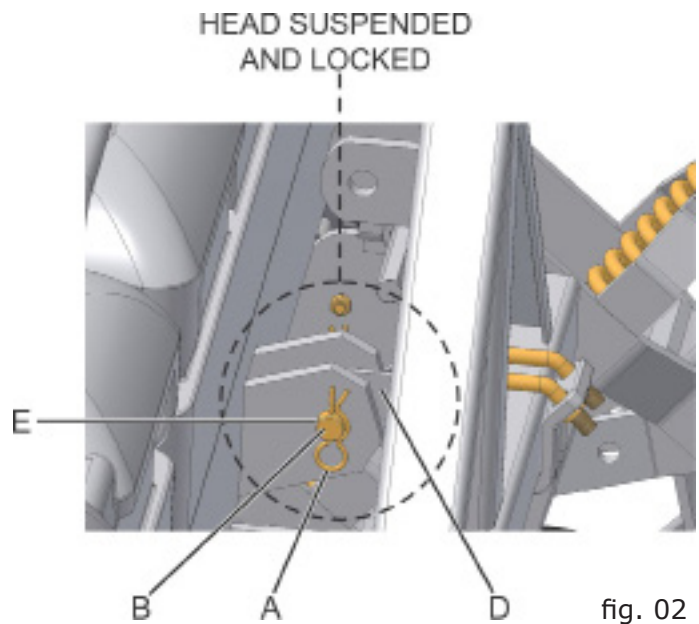


fig. 02

Winter Version

Support stand in the sustaining position (A) (fig. 03). It shall be used to support the seeder in a flat and firm place.

For the seeder to be in the transporting or working position, suspend the support stand to the hole indicated (B).

Note: The support stand only comes with the machines assembled with the winter version.

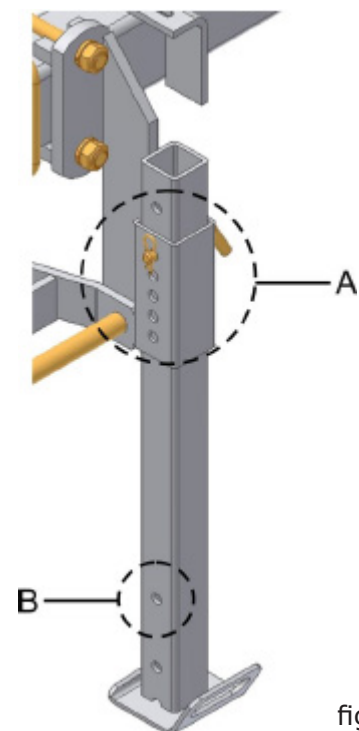


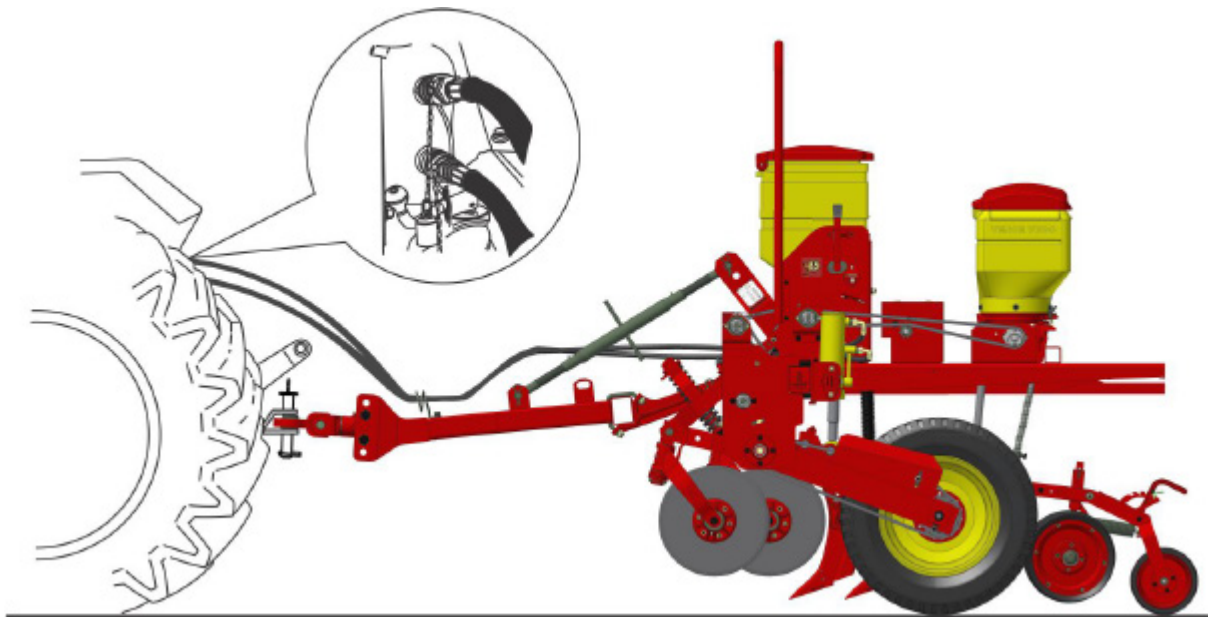
fig. 03

TRACTOR

It is advisable to use ballast in sufficient quantity to execute the planting work with greater efficiency. This quantity shall be related to the weight of the machine and slope of the land.

Coupling of Seeder - Tractor

- When coupling or uncoupling the seeder and tractor, do it in a flat and firm place;
- Execute the movement with the tractor idling in direction of the seeder and always be ready to stop the tractor (brake);
- Fasten the head of the seeder to the tractor drawbar;
- Connect the hoses in the hydraulic control;
- Place the seeder in the planting position executing the leveling.



PLANTING OPERATION

Read and follow correctly the instructions contained in the **operating manual**;

Before starting the operation, clean the seeder completely, revising that all the mechanisms are moving freely and retightening all the fastening components.

Regarding the **planting furrow lines**, ensure that all the fuse bolts are in conditions of use. Check that the **internal cleaners** of the double disks are in perfect condition and adjusted correctly. Note also the **tips of the furrower blades**, and if there is excessive wear, replace them.

Check also the state of the **springs**, replacing them if they are broken and lack pressure. Do not try to repair a weakened spring, as it may cause a serious accident. During the period of not using the seeder, leave the springs without pressure.

Loose or broken **bolts, nuts, pins** may loosen another part of high cost, which will probably twist or break, damaging other components of the equipment. For these reasons replace and retighten them whenever necessary.

Maintain the **chains** aligned and always at the appropriate stress for the work, which corresponds to an oscillation equal to the chain width. Never add a new link to a worn chain. Never use a new chain in worn gears.

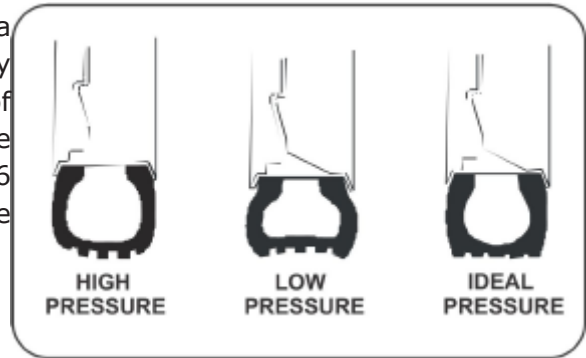
Check the alignment of the **gears** maintaining them free of impurities before, during and after planting. Execute lubrication to avoid working dry.

Before executing the planting, lubricate all the **oilers** cleaning them with a cloth to avoid the dirt blocking the channel. If they have a defect, replace them.

Before starting the operation of working with the seeder, execute a **general retightening** in all the components, nuts and bolts. Check the placing of pins, cotter pins and pins "R", to avoid possible losses during the operation. After the first working hours repeat the **retightening** operation again.

TIRE PRESSURE

Using ideal pressure for the work allows a perfect contact with the soil, maintaining a flexibility essential for the long durability of the tires. The use of low or high pressure may cause serious and irreversible damage to the tires. For tires 6.50/16 the pressure of 46 lbs/in² is advisable for assembly with water, as per the manufacturer for the soil conditions.



LUBRICATION

Ensure that the seeder is duly lubricated, as its yield, preservation and productivity depend directly upon this procedure.

UNITS FOR PLANTING

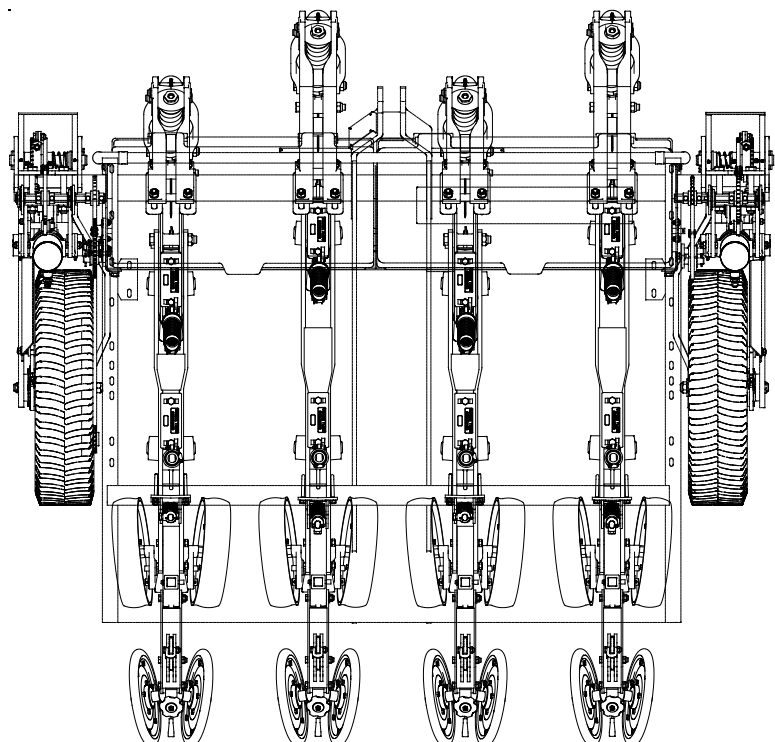
The units are composed of supports to which the plastic tanks are fastened with the horizontal seed distributing mechanism and unit engine system. The unit is fastened in the planting line.

For planting with 90cm spacing, it shall be isolated through non-use of the seed distributing units with tanks of the intermediary lines (tanks not used), removing the line distributing disks.

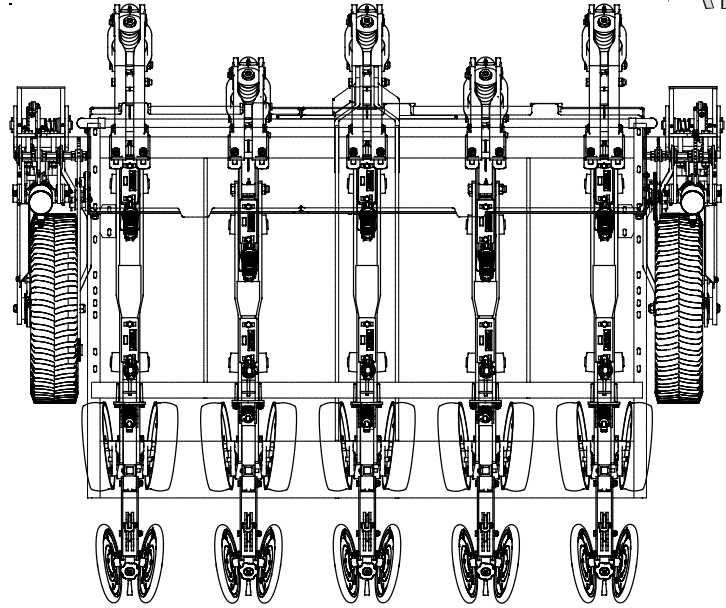
SPACING BETWEEN PLANTING LINES

The **SA ARRASTO** seeders leave the factory with minimum spacing as per the number of lines requested, it being possible to opt for other spacing as per the seeder model, including or excluding lines, in accordance with the cultivation requiring greater or less distance between lines.

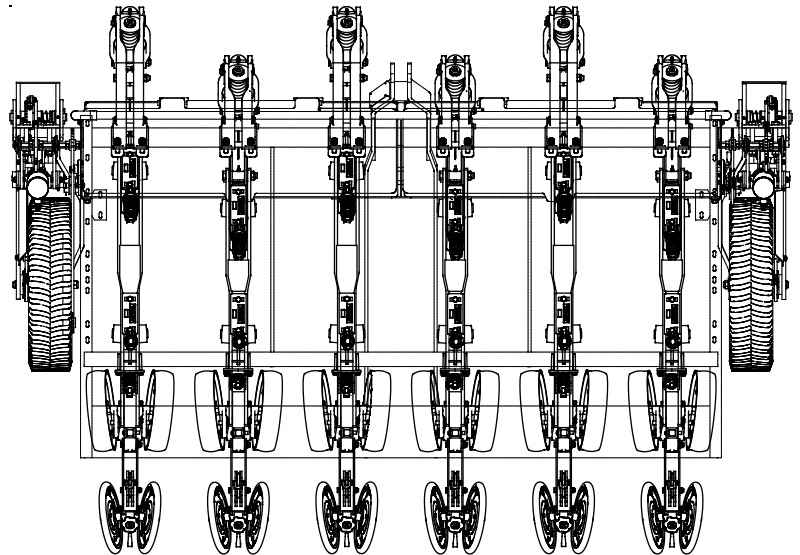
SA ARRASTO			
Model	9400		
# Lines	4	3	2
Spacing in (cm)	40	-	-
	42.5	-	-
	45	-	-
	47.5	-	-
	50	-	-
	-	55	-
	-	60	-
	-	65	-
	-	70	-
	-	75	-
	-	-	80
	-	-	85
	-	-	90



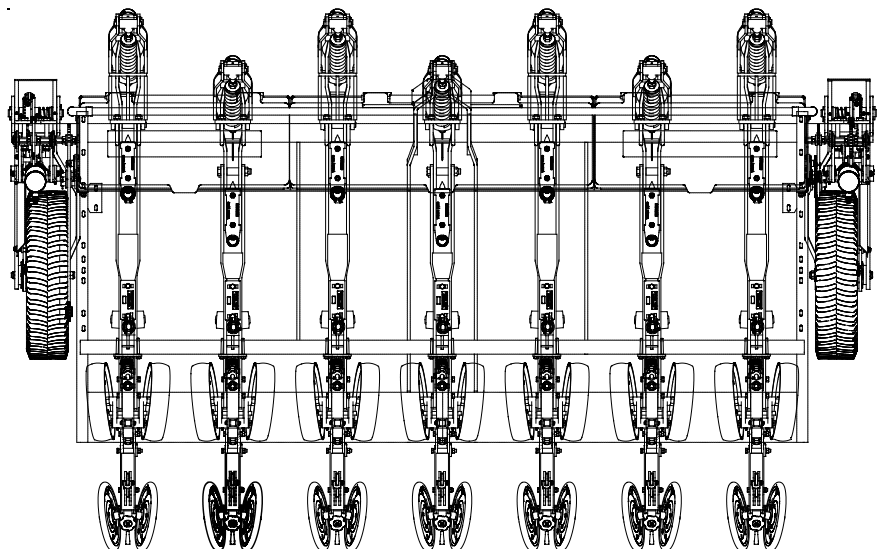
SA ARRASTO			
Model	11500		
# Lines	5	4	3
Spacing in (cm)	40	-	-
	42.5	-	-
	45	-	-
	-	47.5	-
	-	50	-
	-	55	-
	-	60	-
	-	-	70
	-	-	75
	-	-	80
	-	-	85
	-	-	90



SA ARRASTO				
Model	14600			
# Lines	6	5	4	3
Spacing in (cm)	42.5	-	-	-
	45	45	-	-
	47.5	-	-	-
	-	50	-	-
	-	55	-	-
	-	-	60	-
	-	-	65	-
	-	-	70	-
	-	-	75	-
	-	-	80	-
	-	-	-	85
	-	-	-	90



SA ARRASTO				
Model	17700			
# Lines	7	6	5	4
Spacing in (cm)	40	-	-	-
	42.5	-	-	-
	45	-	-	-
	47.5	-	-	-
	-	45	-	-
	-	50	-	-
	-	55	-	-
	-	-	70	-
	-	-	-	75
	-	-	-	80
	-	-	-	85
	-	-	-	90



ALTERATION OF PLANTING SPACING - SUMMER VERSION

Procedures for Altering Spacing:

- 1- Alter the spacing in a flat, firm and clean place;
- 2- Suspend the seeder through the hydraulic control of the tractor;
- 3- Remove the spacing bars (A) (fig. 04), loosening the screws, bushings and washers;
- 4- Loosen the two clamps fastening the furrow line unit (B) (fig. 05), leaving it free related to the chassis structure. Move to the intended spacing;
- 5- Loosen the articulator of the rods (C) (fig. 06), through the anchor nuts of the clamps (D). Align the rods with the furrow line. Fasten the articulator of the rods and furrow line unit;
- 6- Assemble the spacing bars (A) (fig. 04) as per the option required.
- 7- Loosen the anchor nuts of the seed tanks (E) (fig. 06), and align them related to the furrow lines.

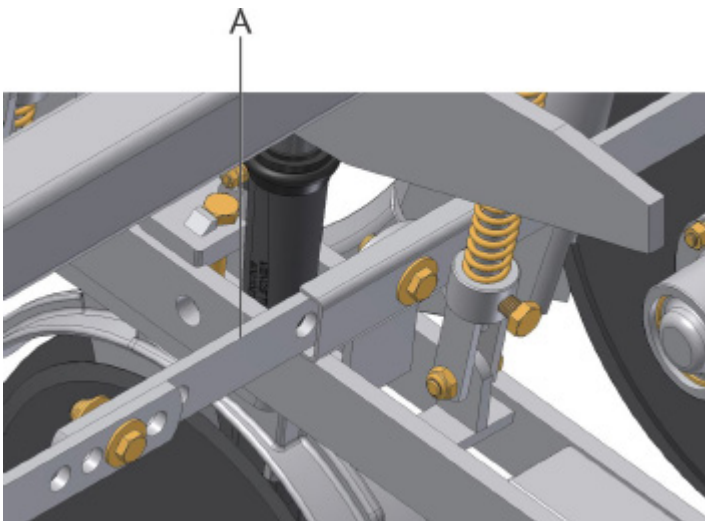


fig. 04

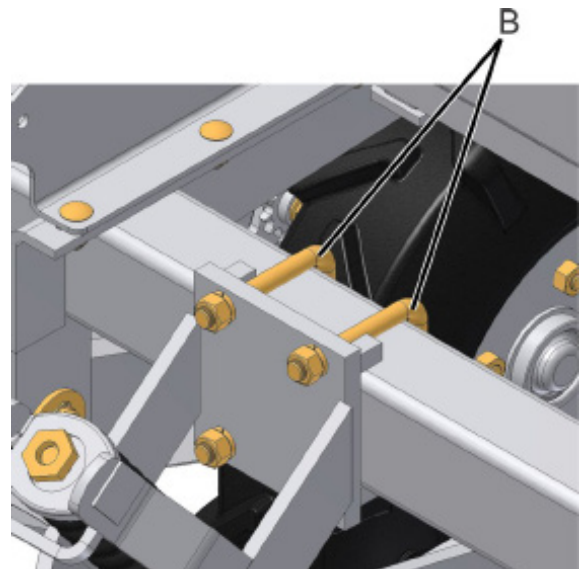


fig. 05

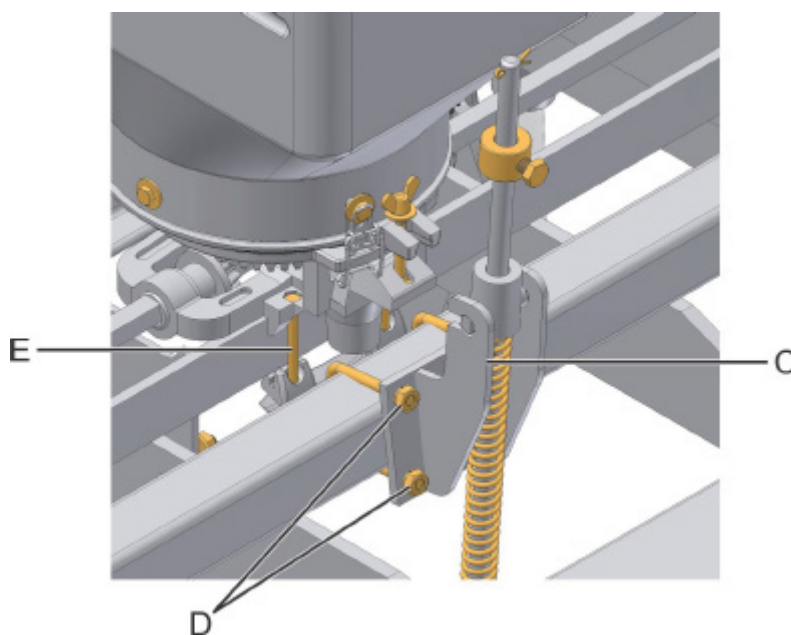


fig. 06

ASSEMBLY OF PLANTING LINES - WINTER Procedures for Assembly:

- 1- Alter the spacing in a flat, firm and clean place;
- 2- Suspend the seeder through the hydraulic control of the tractor;
- 3- Wedge the seeder using rests supported under the chassis;
- 4- Insert the fastening shaft (A) (fig.07) of the lines joining them to each other, and the central line (B) shall have a support (C) for fastening the shaft, always being careful that the **lines nearest the wheels are the long lines**, regardless of the model or number of lines which compose the seeder.
- 5- After assembling the lines in the supports, lock the fastening shaft (A) using fasteners "R" (D) (fig.08) at the ends.

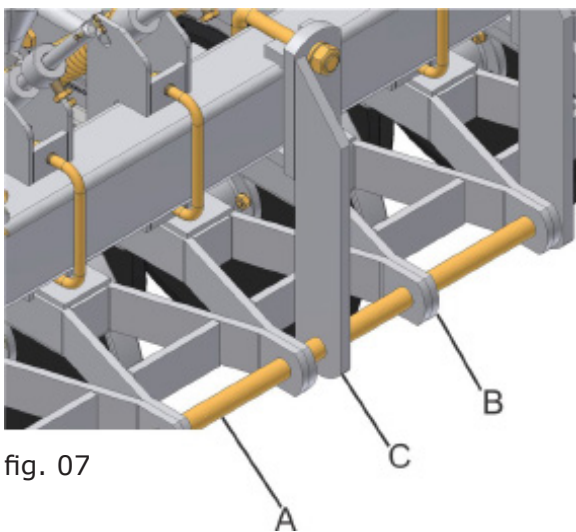


fig. 07

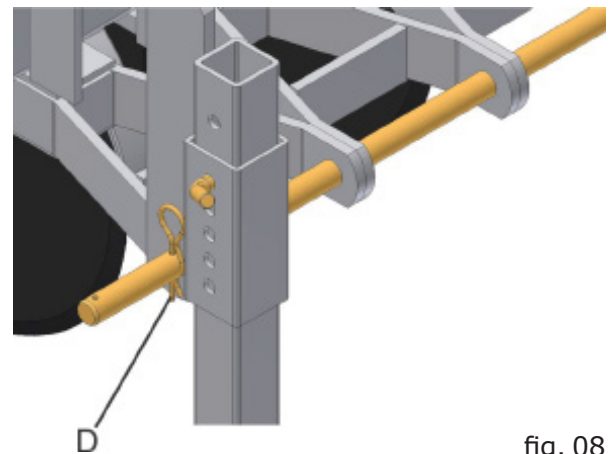


fig. 08

ASSEMBLY OF PLANTING LINES WITH TWO SECTIONS Procedures for Assembly:

The procedure for assembling the models in which the wheat line unit is formed by two sections is similar to the previous one, with certain particularities.

- 1- Fasten the two central plates (E) (fig. 09), in the center of the chassis;
- 2- Insert the fastening shaft of the lines (A) (fig. 07), noting the position of the intermediary support (C) (fig. 07);
- 3- Conduct the first line unit under the chassis;
- 4- Place the central line (F) (fig. 09), aligning the intermediary support (C) (fig. 07), in the line unit;
- 5- Assemble the second unit in the same way as the first one;
- 6- After assembling the lines in the supports, lock the fastening shaft (A) (fig. 07), using fasteners "R" (D) (fig. 08) at the ends.

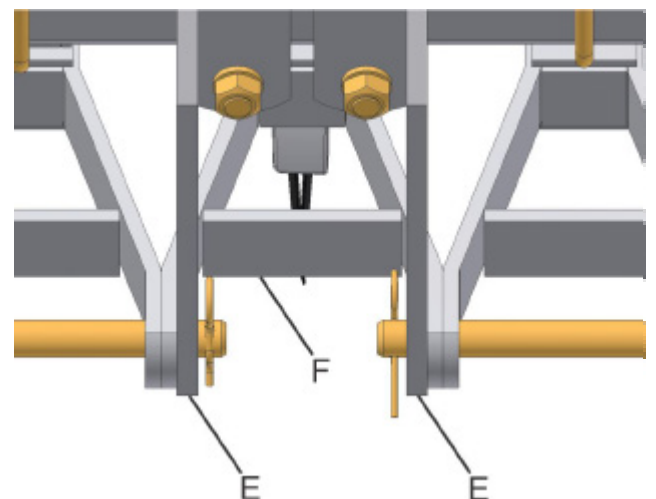


fig. 09

IMPORTANT

Ensure that the central line of the unit (F) (fig. 09) is centralized in the chassis, by means of metric calibration (tape measure).

The assembled lines next to the wheels and the end of the chassis shall always be long lines for all the seeder models for wheat.

After checking the units, fasten the parts and attach the shaft in the supports by means of fasteners "R".

For model SA 14600 (14 lines and two fastening shafts), the central line of the chassis shall be long and the central supports of each line shall be fastened in the third line on both sides, with the first line being the nearest to the wheels.

ASSEMBLY OF ARTICULATING SUPPORTS OF LINES

Procedures for Assembly:

- 1-** Assemble the articulating supports of the lines (A) (fig. 10), in the rear pipe of the chassis (B), leaving them slightly tightened;
- 2-** With the seeder still suspended on the rests, place the rods (C) with the springs (D) in the hole of the articulator (E) and then fasten the rods in the furrow line through nuts and bolts;
- 3-** Align the rods and supports so that they are positioned in the horizontal and a vertical direction related to the furrow line, and then tighten the nuts of the clamps of the articulating supports;
- 4-** Remove the rests and lower the seeder to the soil. Execute the end retightening of all the components and fasten the bushings (F) and place the cotter pins in the upper hole of the rods;
- 5-** Place the fertilizer and seed hoses in their respective dosers fastening them by means of clamps and straight afterwards in their conductors in the furrow lines.

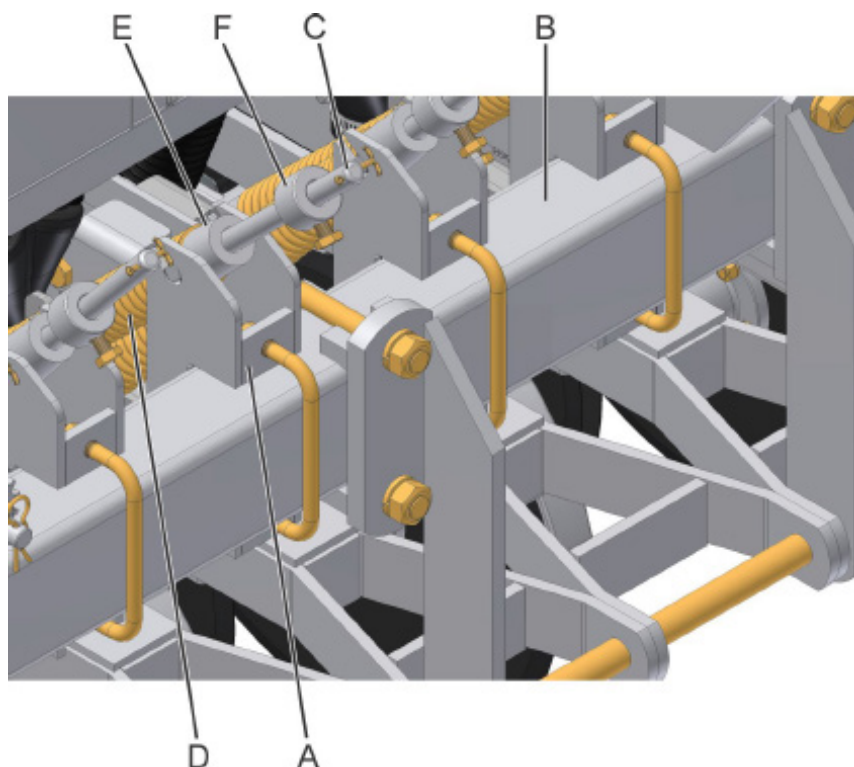


fig. 10



Do not allow during the operations that children or people without relevant knowledge be near the work.

Ensure that all the components were removed from the forward unit before suspending the seeder.

Check that the seeder is well wedged and disconnect the tractor engine. This is essential for your safety.

SEED DISTRIBUTION SYSTEM

The adjustment of the quantity of seeds per hectare is executed through the interchange of the drive (A) (fig. 11), and driven cogwheels (B).

To execute the changes of the cogwheels it is necessary to loosen the tightener (C).

To obtain the quantity of seeds required, choose the appropriate distributing disk and execute the combination of the cogwheels in accordance with the table attached to the side of the machine.

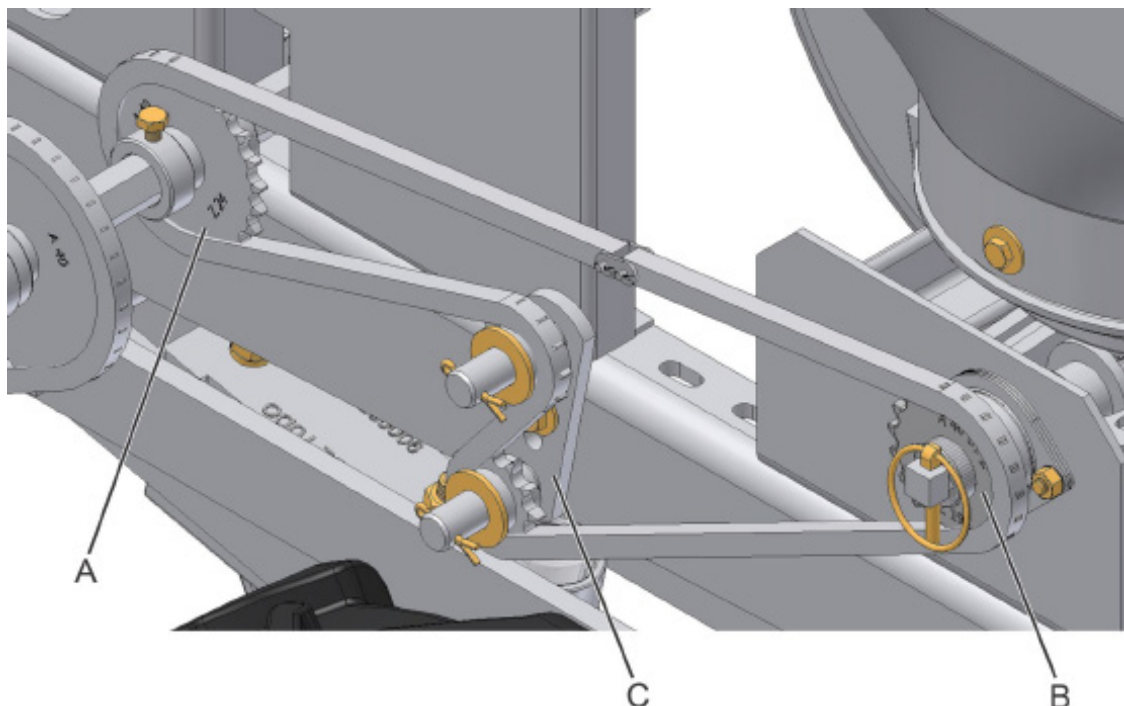


fig. 11

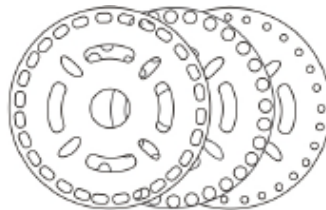
Seed Doser Disks

If there is already the disk unit, choose the seeds to be planted so that they can be so that they can be distributed by means of these disks which come with the accessories box or in the seeder itself. However, if the cultivar to be distributed does not adapt to any of the units which come with the seeder, it is necessary to acquire optional disks, to do which it suffices to contact a **VENCE TUDO** reseller.

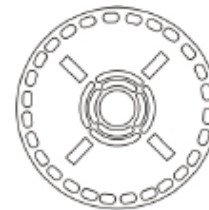
MODELS OF SEED DOSER DISKS AVAILABLE FOR SUPPLY (REPRESENTATIVE FIGURES):



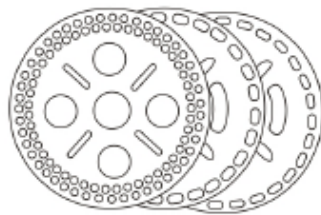
SOYBEAN



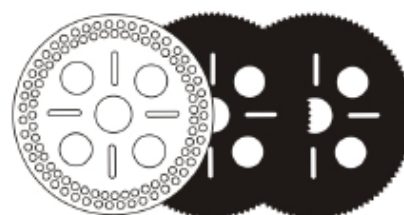
CORN



SUNFLOWER



BEANS



SORGHUM

CULTURA	COLOR DISC	HOLES NUMBER	HOLE	HOLE TYPE
SOYBEAN GRAIN BY GRAIN	GREY	90	8 mm	Round double row
SOYBEAN GRAIN BY GRAIN	GREY	90	9 mm	Round double row
CORN	RED	28	10x14,5 mm	Oblong
CORN	GREEN	28	9x13,5 mm	Oblong
CORN	GREY	28	8,5x11,5 mm	Oblong
CORN	BLUE	28	12 mm	Oblong
BEANS**	GREY	28	12 mm	Round

* For soybean cultivation, with the grain by grain disk model the seed shall always have a uniform size and format so that two seeds do not occupy the same hole in the disk.

** For bean cultivation, the **same** disks are used as for maize, besides the option for bean (disk 62 holes grain by grain).

OPTIONAL SEES DOSER DISK MODELS:

CULTURA	COLOR DISC	HOLES NUMBER	HOLE	HOLE TYPE
SOYBEAN GRAIN BY GRAIN	GREY	90	7 mm	Round double row
BEAN GRAIN BY GRAIN	LIGHT GREY	72	7x12 mm	Round double row
SORGHUN	RED	86	5,5 mm	Round double row
SORGHUN	GREEN	86	4,5 mm	Round double row
SUNFLOWER	DARK GREEN	28	5,5x11 mm	Oblong
SUNFLOWER	TURQUOIS BLUE	28	5x13 mm	Oblong
SUNFLOWER	LIGHT TURQUOIS BLUE	28	7,5x11,5 mm	Oblong
SUNFLOWER	PURPLE	28	5,9x11 mm	Oblong
SUNFLOWER	LILAC	28	5x11,5 mm	Oblong

IMPORTANT

1- Choose a batch or variety of the cultivation which will be planted that has the best uniformity and quality of the seeds;

2- The choice of the seed distributing disk shall be related to the shape and size of the seeds which will be distributed;

3- It shall be taken into consideration that the seeds will receive treatment with: insecticides, fungicides, inoculants, etc., and that in the application of these products water is added, whereby the seeds may increase in size due to the pellicle formed by these treatments as well as by the absorption of water by the seed;

4- After observing all the previous items plus the technical recommendation for the cultivation, the seed to be distributed shall have a certain space in the alveolus or hole of the disk. This space shall be included in the external diameter of the seed;

5- It is of paramount importance to use graphite powder with the seeds, as it acts as a type of lubricant of the doser disks, reducing the friction between the parts which compose the distributing mechanism, besides aiding in the fall of the seeds maintaining the seed conductor smooth. The use of graphite powder does not damage the seeds or interfere in the germination, as it is an inert and non-phytotoxic product. **Use 100 grams of graphite powder for each 100 Kg of seed.**

The correction of the germinative power of the seed and the sliding percentage establish a suitable stand for the planting.

The correct adjustment of the seeder is the essential factor for the cultivation yield, as the number of plants per linear meter establishes the final stand of the cultivation. Use the seed adjustment table as reference.

Seed Distribution Disks

Proceed with the correct choice of the disk and make the replacements required, as well as cleaning them frequently.

To check or replace the disks, loosen the wing nut (A) (fig. 12), move the bolt of the support base (C), rotate and suspend the tank (B), turn opposite the tank and release the plate (D) (fig. 13) through the fasteners (E). After assembling the correct disk, rotate it by hand to ensure that it is rotating freely.

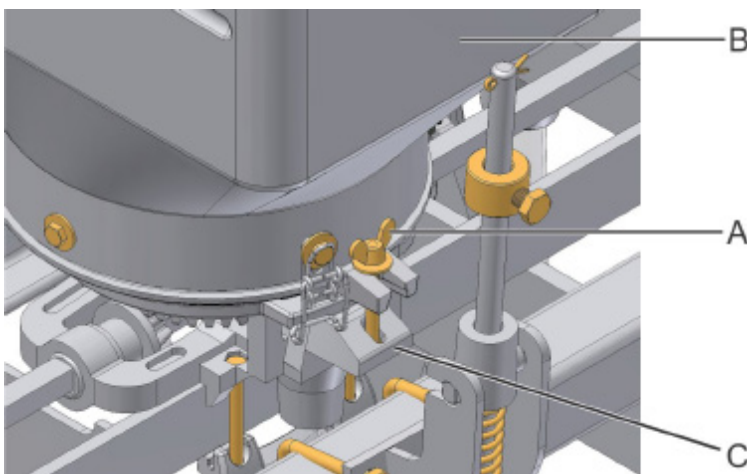


fig. 12

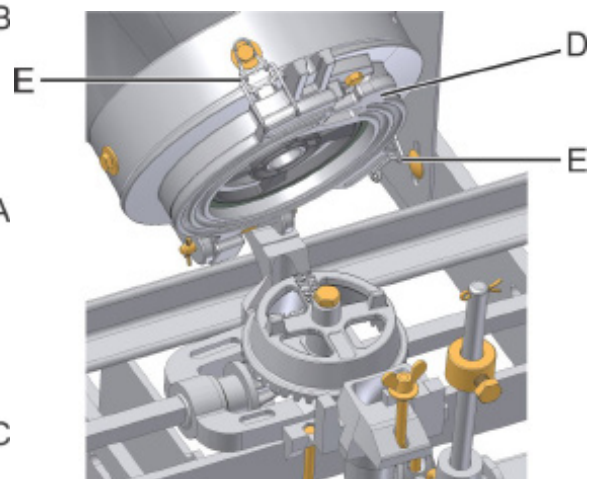


fig. 13

IMPORTANT

The space where the disk is housed in the plate is **8.5mm**. The disk and ring to be used must add up to 8.5mm. If the disk is 8.5mm, it is not necessary to use the ring. Check the table at the side.

Disc Thickness	Ring
8,5mm	-
5,5mm	3,0mm
4,5mm	4,0mm
3,0mm	5,5mm

Assembly of Seed boxes and Change of Rollers

- 1- Loosen the setscrew of the seed box, removing it;
- 2- Remove the fastening pin of the roller articulator (A) (fig. 14);
- 3- Remove the articulator, and change the roller model if necessary (B);
- 4- Note the roller model (C) to be used. It shall be compatible with the piercing of the disk to be used, with single or double row.

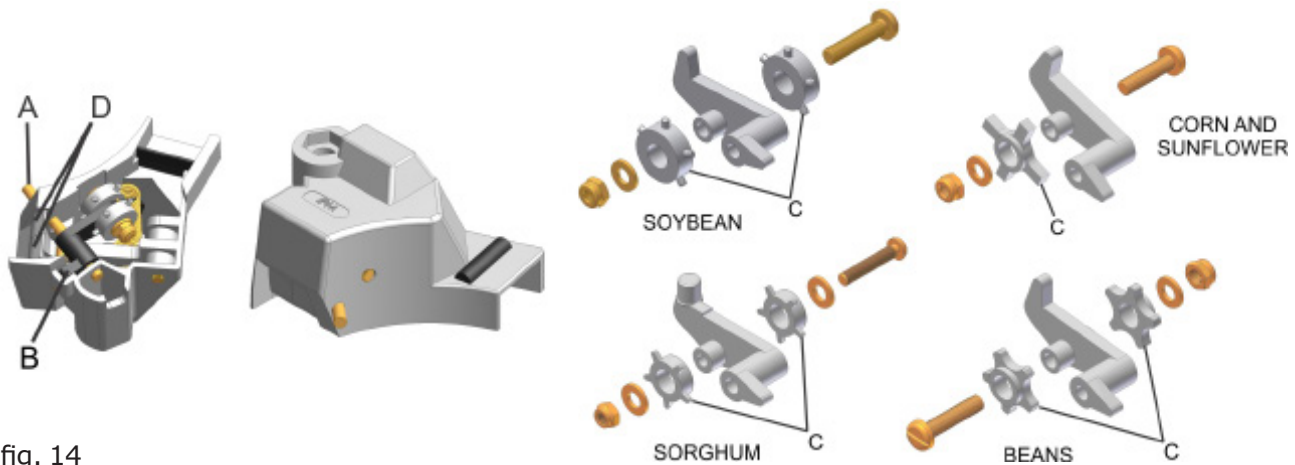


fig. 14

IMPORTANT

The working position of the roller shall be in the center of the hole of the distributing disk, as if used outside the working position, it will cause wear of the disks and problems in the seed distribution.

Note after the assembly of the seed box, if the scraping triggers (D) (fig. 14) are free.

Proceed with the internal cleaning of the seed box at least once a day for untreated seeds and twice a day when using treated seeds.

Seed Distribution Adjustment

SEED TRANSMISSION	TABLE FOR HELPING IN THE PREVIOUS ADJUSTMENTS FOR SEED DISTRIBUTION											
	SM Super Série Fertilizer Seeder											
	SPROCKETS ARRANGEMENT		CORN (28F)			SOYBEAN (90F)			BEAN (62F)			
DRIVE SPROCKETS (A)	DRIVEN SPROCKETS (B)	SEEDS/ LINEAL METER			SEEDS/ LINEAL METER			SEEDS/ LINEAL METER				
		DRIVE Z-14 (C)	DRIVE Z-24 (C)	DRIVE Z-24 (C)	DRIVE Z-14 (C)	DRIVE Z-24 (C)	DRIVE Z-24 (C)	DRIVE Z-14 (C)	DRIVE Z-24 (C)	DRIVE Z-24 (C)	DRIVE Z-24 (C)	DRIVE Z-24 (C)
Z24	Z15	3.8	6.6	11.6	12.4	21.5	37.6	8.6	14.8	25.9		
Z24	Z17	3.4	5.9	10.3	11.0	18.8	32.9	7.6	13.0	22.8		
Z24	Z19	3.0	5.3	9.3	9.8	16.9	29.6	6.7	11.6	20.3		
Z24	Z21	2.8	4.8	8.4	8.9	15.3	26.8	6.1	10.5	18.4		
Z24	Z23	2.5	4.4	7.7	8.1	14.0	24.5	5.6	9.6	16.8		
Z20	Z15	3.3	5.5	9.6	10.4	17.8	31.2	7.1	12.3	21.5		
Z20	Z17	2.9	4.9	8.6	9.2	15.7	27.5	6.3	10.8	18.9		
Z20	Z19	2.5	4.4	7.7	8.0	14.0	24.5	5.5	9.8	17.2		
Z20	Z21	2.3	4.0	7.0	7.4	12.7	22.2	5.1	8.8	15.4		
Z20	Z23	2.1	3.6	6.3	6.8	11.7	20.5	4.6	8.1	14.2		
Z18	Z15	2.9	5.0	8.8	9.4	16.0	28.0	6.5	11.0	19.3		
Z18	Z17	2.6	4.4	7.7	8.3	14.2	24.9	5.7	9.8	17.2		
Z18	Z19	2.3	4.0	7.0	7.4	12.7	22.2	5.1	8.7	15.2		
Z18	Z21	2.0	3.6	6.3	6.7	11.5	20.1	4.6	7.9	13.8		
Z18	Z23	1.9	3.3	5.8	6.1	10.5	18.4	4.2	7.2	12.6		
Z16	Z15	2.6	4.4	7.7	8.3	14.3	25.0	5.7	9.8	17.2		
Z16	Z17	2.3	3.9	6.8	7.3	12.6	22.0	5.1	8.7	15.2		
Z16	Z19	2.0	3.5	6.1	6.6	11.3	19.8	4.5	7.8	13.7		
Z16	Z21	1.8	3.2	5.6	5.6	10.2	17.9	4.1	7.0	12.3		
Z16	Z23	1.7	2.9	5.0	5.4	9.3	16.3	3.7	6.4	11.2		
Z14	Z15	2.3	3.9	6.8	7.3	12.5	21.9	5.0	8.6	15.1		
Z14	Z17	2.0	3.4	6.0	6.4	11.0	19.3	4.4	7.6	13.3		
Z14	Z19	1.8	3.1	5.4	5.6	9.8	17.2	4.0	6.8	11.9		
Z14	Z21	1.6	2.8	4.9	5.2	8.9	15.6	3.6	6.2	10.9		
Z14	Z23	1.4	2.5	4.4	4.7	8.1	14.2	3.2	5.6	9.8		



CALCULATION FOR ESTABLISHING THE POPULATION OR # PLANTS / HA

EXAMPLE

Number of Plants by Lineal Meter	N
Final Population by Hectare (Estimated)	50.000 Plants
Row Spacing	0,80 m (80 cm)
1 Hectare	10.000 m
Germinal Power of the Seed (GP)	96%
Approximate Percentage of Slippage	5%
Wheel Perimeter	2,03 m

$$1 \text{ ha} = 10.000 \text{ m}^2 \quad \text{50.000 plants}$$

$$*16,24 \text{ m}^2 \quad \text{N}$$

*16,24 m ² = Spacing x wheel perimeter x # turns of wheel
*16,24 m ² = 0,80m x 2,03m x 10

$$N = \frac{16,24 \text{ m}^2 \times 50.000}{10.000 \text{ m}}$$

$$N = 81,2 \text{ m} \quad N = \frac{81,2 \text{ m}}{20,3 \text{ m}} = 4 \text{ plants / linear meter}$$

**20,3 = 10 turns of wheel x Perimeter 2,03m
--

IMPORTANT

If it is necessary to establish the quantity of kilos of seeds per hectare, use the same method for calculating the quantity of fertilizer.

CORRECTION OF GERMINATIVE POWER (PERCENTAGE)

$$N = 4 \text{ plants / linear meter} \quad 96\%$$

$$N \quad 100\%$$

N = 4,16

CORRECTION OF SLIDING (PERCENTAGE)

N = 4,37

4.37 is the number of plants / linear meter which shall be used in the adjustment of the seeder.

SEED DISTRIBUTION SYSTEM - WHEAT

The wheat seeds are distributed by a grooved rotor, assembled in a distribution box, which is activated by a square shaft, with the possibility of sliding on this shaft, establishing a greater or smaller quantity of seeds to be distributed.

Each distribution box has independent adjustment through a tongue, allowing adjustment as per the seed size, with the hole nearest the rotor allowing the adjustment of smaller seeds (wheat and fodder) and the furthest one for larger seeds (rice, oats and barley). The tongue also allows the release of adjustment holes so that the distribution box can be cleaned.

The adjustment procedure is executed by moving the shaft (A) (fig. 15) increasing or reducing the work opening of the rotors (B) in the distribution box, through the handwheel (C) (fig. 16). After obtaining the seed flow required, fasten the regulating handwheel through the anchor nut (D).

Note the position of the indicator (E) (fig. 15) on the millimetric scale (F) to obtain the approximate adjustment through the indicating tables as per the cultivation to be established.

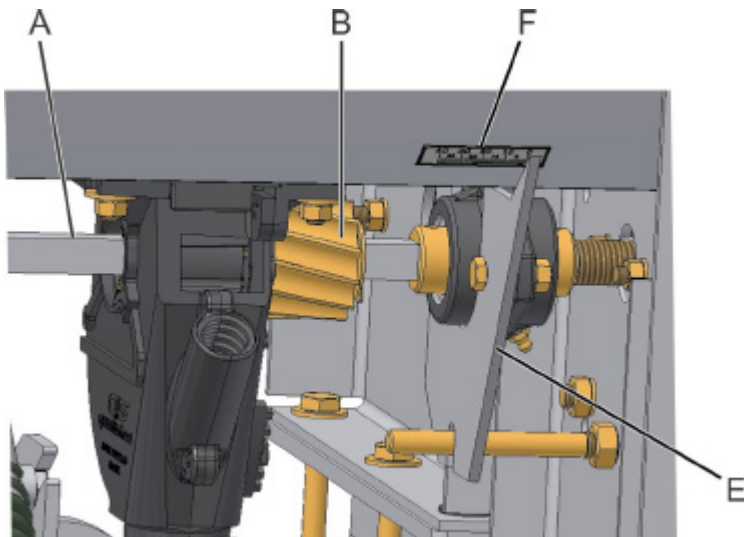


fig. 15

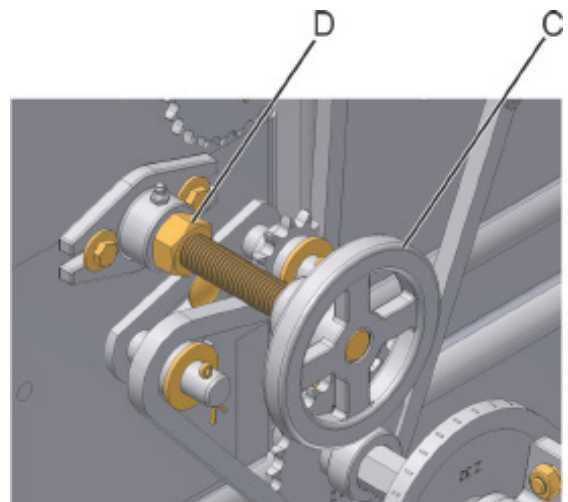


fig. 16

IMPORTANT

Ensure that the moving support is not forced by the rotor unit so that the opening adjustment is not altered.

Do not execute the adjustment with the seed tank full.

Check the distribution by the movement of the rotors through the drive wheel (fig. 17), noting the efficiency of the unit.

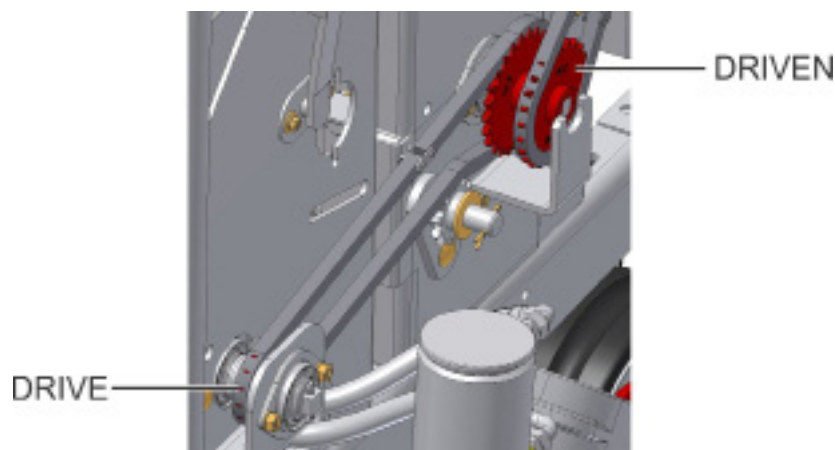


fig. 17



CALCULATION TO THE QUANTITY IN KG/HA OF SEEDS

EXEMPLE

Mount of seeds by hectare	130 Kg
Row spacing (m)	0,17m (17cm)
Drive wheel perimeter	1,81 m
Number of turns of drive wheel	10
1 Hectare	10.000 m
Germinative power of seed (G.P.)	93%
Grams by line in 10 turns of wheel	5%

$$130 \text{ Kg/ha} \frac{10.000 \text{ m}^2}{3,45 \text{ m}^2} \times \text{X} = \text{X}$$

<p>*3,45 m² = Spacing x wheel perimeter x # turns of wheel *3,45 m² = 0,17m x 2,03m x 10</p>

$$X = \frac{130 \text{ Kg/ha} \times 3,45 \text{ m}^2}{10.000 \text{ m}^2}$$

$$X = 0,0448 \text{ Kg/ha}$$

$$X = 0.0448 \text{ Kg} \times 1000\text{g} = 44.85 \text{ grams per line in 10 turns of drive wheel.}$$

CORRECTION OF GERMINATIVE POWER (PERCENTAGE)

$$44,85 \text{ grams} \frac{93\%}{100\%} \times \text{X} = \text{X}$$

IMPORTANT

Correct the germinative power of the seeds so that the end cultivation stand is not impaired.

If seeds are broken by the rotors, change the position of the tongue of the distribution box of the grooved rotors.

During the planting, the depth of the seeds and fertilizers and the compacting shall be checked at least three times a day or when changes of planting areas occur as well as changes of dead covering (haystacks).

Seed Mover - Wheat

In order to move the wheat seeds, and favor the movement up to the rotor, maintain the stirrers (A) (fig. 18) in the assembly position as near as possible to the rotor opening window (B), maintain them in the assembly position at 90° as per assembly in (fig. 18).

The transmission of the shaft (C) (fig. 18) is executed by cogwheels (D) and (E) (fig. 19), driven by the transmission shaft (F).

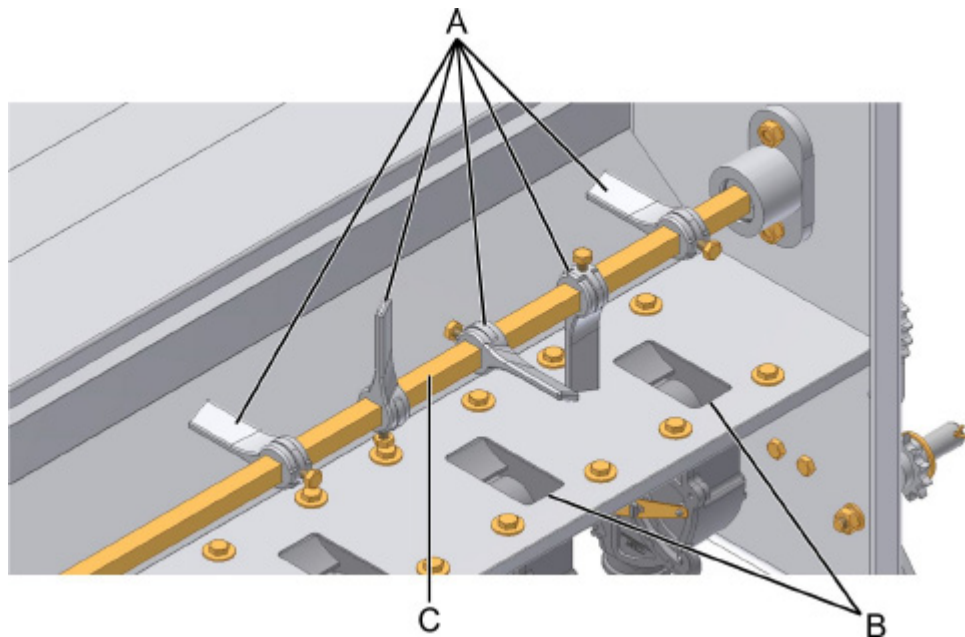


fig. 18

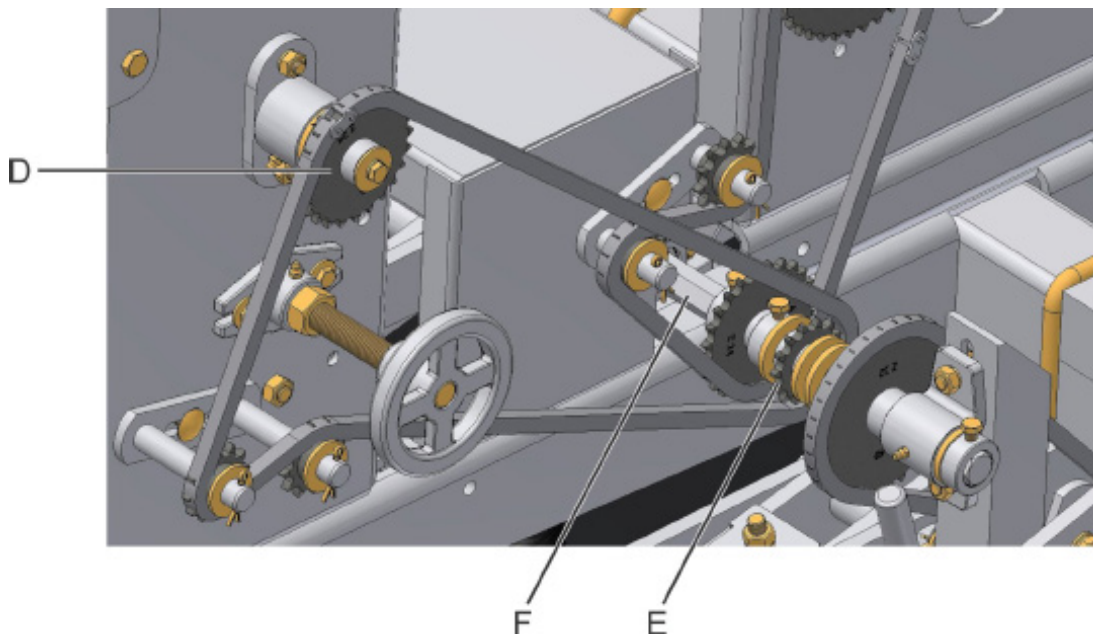


fig. 19



AVOID ACCIDENTS. DO NOT PLACE YOUR HANDS INSIDE THE TANK WHEN IT IS FUNCTIONING.

SEED DISTRIBUTION SYSTEM - SMALL ONES (OPTIONAL)

The distribution of small seeds is executed by a grooved rotor (A) (fig. 20), assemble din a Small Seed Doser Unit (E) (fig. 20/21), which is driven by a square shaft (B) (fig. 21), with the possibility of sliding on this shaft, establishing a greater or smaller quantity of seeds to be distributed.

The adjustment procedure is executed by the movement of the shaft (B) increasing or reducing the work opening of the rotors in the Doser Unit (E), through the handwheel (C) (fig. 21). To start the adjustment loosen the nut (D) (fig. 21), and after the seed dosage chosen, lock the system tightening the nut (D).

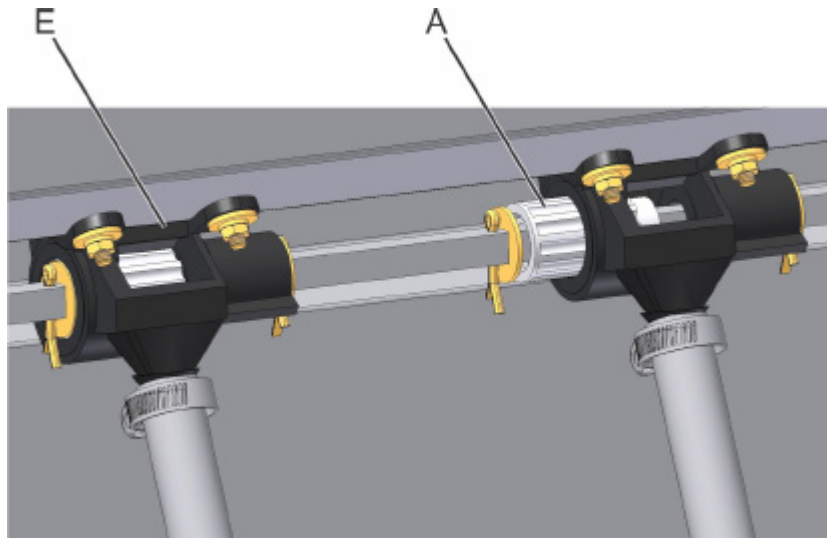


fig. 20

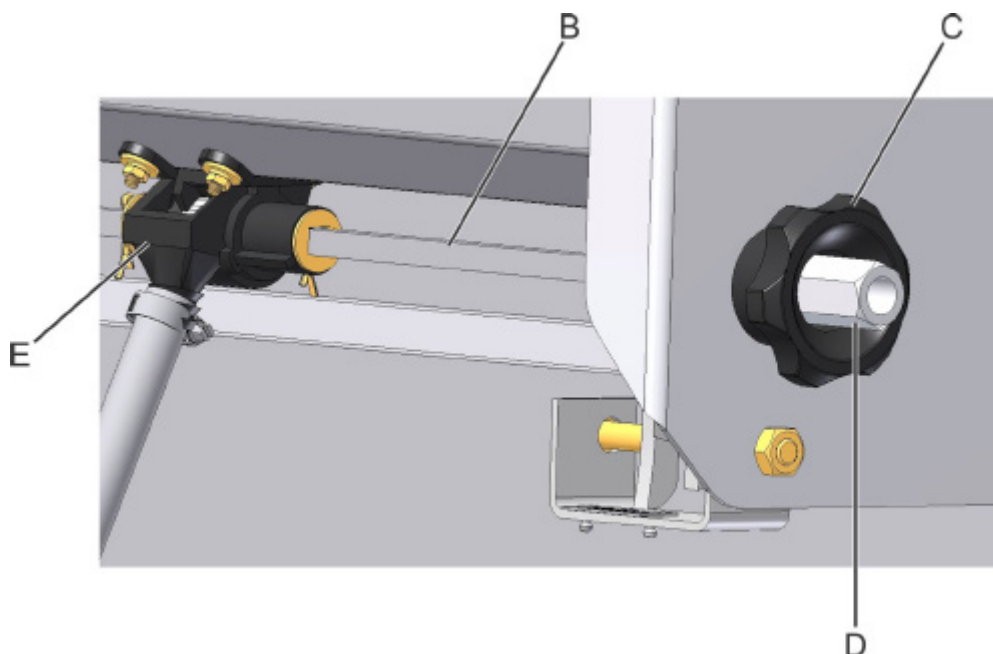


fig. 21

IMPORTANT

Ensure that the moving support is not forced by the rotor unit so that the opening adjustment is not altered.

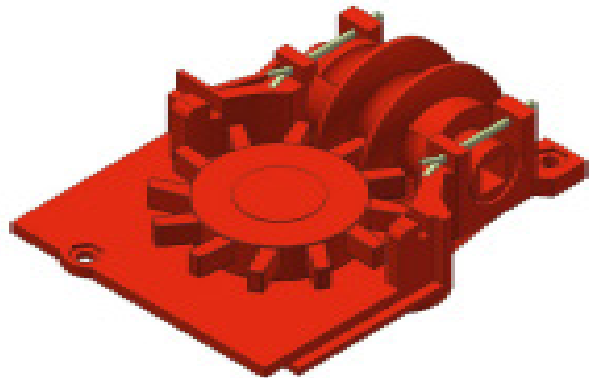
Do not make the adjustment with the seed tanks full.

Check the distribution by the movement of the rotors through the drive wheel, noting the efficiency of the unit.

FERTILIZER DISTRIBUTION SYSTEM – SELF-CLEANING

The adjustment of the quantity of fertilizer in Kg/ha is executed through the regulating levers (A) (fig. 22) and the interchange of the drive cogwheels (B) and driven cogwheels (C), the fertilizer being moved through the rotor (G) (fig. 23).

To obtain the quantity of fertilizer required, move the regulating levers in the suitable position as per the specification of the table, as well as the correct check of the number of teeth of the drive and driven cogwheels.



Check that the flow obtained is really the one required, making any alterations required. If necessary alter the transmission ratio through changing the additional cogwheels which come with the machine.

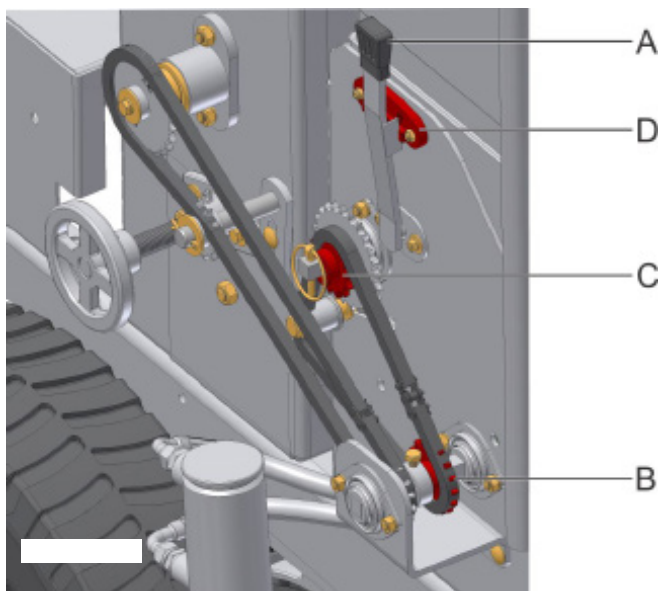


fig. 22

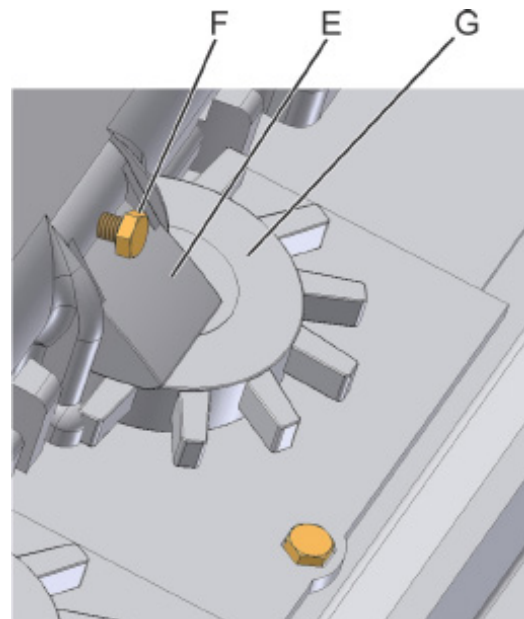


fig. 23

Calibration of Fertilizer Regulators

- 1- Check at first if the regulators (E) (fig. 23) are free, and if they are not, release them, loosening the setscrews (F);
- 2- Position the regulating lever (A) (fig. 22) in the neutral position of the scale (D);
- 3- Press the regulator (E) with one hand and with the other fasten it by means of the screw (F), so that all the regulators have the same height related to the rotor;
- 4- Execute this operation in all the lines which are equipped with worm drives;
- 5- Position the lever in position zero of the scale (D);
- 6- After calibrating the regulators, move the regulating lever to the position with the flow required and which is expressed in the adjustment tables;
- 7- Check that the flow obtained is really the one required, by proceeding with a new calibration. If necessary, alter the transmission ratio through changing the transmission cogwheels.



Table for Fertilizer Adjustment

FERTILIZER TRANSMISSION	TABLE FOR HELPING IN THE PREVIOUS ADJUSTMENTS OF THE FERTILIZER Kg / Ha x ROW SPACING												
	FERTILIZER SEEDER SM - SA ARRASTO Super Série												
	TIRE 6.50x16 (PERIMETER 2,340m)												
	ROW SPACING (cm)												
Kg/Ha	17	40	42,5	45	50	55	60	65	70	75	80	85	90
	TxM=N°	TxM=N°	TxM=N°	TxM=N°	TxM=N°	TxM=N°	TxM=N°	TxM=N°	TxM=N°	TxM=N°	TxM=N°	TxM=N°	TxM=N°
50	-	-	-	14x23=0	14x23=0	14x23=0	14x21=0	14x21=1	14x21=1	14x17=0	16x21=1	14x15=0	16x19=1
75	14x21=0	14x21=0	16x23=0	14x19=0	14x17=0	14x21=2	14x19=2	16x15=0	16x21=3	16x15=1	20x15=0	18x15=1	24x19=1
100	14x17=0	16x21=1	16x17=0	14x19=2	16x17=1	20x19=1	20x15=0	16x15=2	24x21=2	24x17=1	20x15=2	24x15=1	18x17=5
125	14x17=4	16x17=1	16x21=1	14x21=4	20x17=1	24x21=2	24x17=1	20x15=2	24x21=4	18x15=4	20x17=5	24x19=5	20x17=6
150	24x23=3	20x23=3	18x15=1	24x19=1	24x17=1	20x15=2	20x17=4	24x15=2	24x19=5	20x17=6	24x17=5	20x15=6	24x17=6
175	24x21=4	14x17=5	24x17=1	24x21=3	24x19=3	24x19=4	24x19=5	20x15=5	24x15=4	24x23=9	20x15=7	24x17=7	16x23=4
200	16x15=7	18x17=5	24x15=1	18x17=5	20x17=5	24x15=3	24x17=5	24x23=9	20x15=7	24x17=7	24x19=9	18x19=2	20x17=1
225	24x17=5	18x17=5	14x17=8	16x15=6	20x17=6	24x15=4	24x17=6	24x19=8	24x19=9	24x15=7	24x21=1	18x17=2	24x21=2
250	20x15=7	20x17=5	24x19=5	20x15=5	20x17=7	24x15=5	24x17=7	24x17=8	20x15=8	14x15=3	24x19=1	24x15=0	24x19=2
275	24x15=6	24x15=3	18x21=10	24x15=4	24x15=5	24x15=6	24x17=8	24x21=1	20x21=3	24x21=2	24x17=1	24x21=3	24x15=1
300	24x15=7	24x17=5	20x15=6	24x17=6	24x15=6	18x17=1	20x17=1	20x21=3	20x17=2	24x19=2	20x15=2	24x19=3	20x15=3
325	18x23=9	16x19=1	24x23=0	14x15=1	24x23=1	24x21=1	24x19=1	20x17=2	24x19=2	18x15=3	24x21=4	18x15=4	20x17=5
350	20x23=10	18x17=0	14x17=2	18x15=0	18x21=3	18x19=3	20x17=2	24x19=2	18x15=3	18x17=5	24x19=4	18x17=6	24x19=5
375	14x23=0	14x19=3	18x15=0	16x17=2	24x17=0	14x19=5	24x19=2	18x15=3	20x19=5	14x17=8	20x15=4	24x17=4	18x15=6
400	14x23=1	18x15=0	18x19=2	24x21=1	24x19=1	24x17=1	20x15=2	20x19=5	14x17=8	18x15=5	24x17=4	18x15=6	24x15=4
425	14x23=2	18x19=2	20x17=1	16x17=3	24x15=0	14x15=5	24x17=2	18x15=4	18x15=5	24x17=4	18x15=6	24x15=4	24x19=7
450	14x23=3	24x21=1	16x15=2	24x21=2	24x19=2	24x15=1	20x15=3	20x17=5	24x19=5	20x15=5	24x15=4	24x19=7	24x15=5
475	16x21=0	20x19=2	24x19=1	20x19=3	20x21=5	16x19=7	24x19=4	16x19=9	20x15=5	24x23=8	20x15=6	24x15=5	24x19=8
500	16x21=1	24x19=1	24x15=0	24x19=2	24x15=1	20x15=3	18x15=5	24x15=3	24x17=5	20x15=6	24x15=5	24x19=8	24x15=6
525	16x19=0	20x17=2	24x19=2	16x17=5	20x19=5	24x15=2	24x19=5	18x15=6	20x17=7	24x17=6	24x21=9	24x15=6	24x17=8
550	14x19=3	24x17=1	14x15=5	24x15=1	18x15=4	20x15=4	20x17=6	24x15=4	24x23=9	20x15=7	24x17=7	24x19=9	24x15=7
575	14x19=4	14x17=6	18x15=3	24x21=4	24x15=2	24x15=5	16x17=9	20x15=6	24x15=5	24x19=8	24x15=6	20x15=9	24x17=9
600	18x21=2	18x17=4	14x17=7	18x15=4	20x15=4	20x17=6	18x17=8	24x19=7	24x21=9	24x15=6	20x17=8	24x17=9	24x15=8

LEGEND:
T= Drive Sprockets (Par)
M= Driven Sprockets (Odd)
N°= Number of Scale

DRIVE Z24 x Z14 DRIVEN

DRIVE Z14xZ24 DRIVEN

DRIVE Z16xZ22 DRIVEN

Note: values shown in table above are approximate values that changes may suffer due to differences in particle size of fertilizers, existing marketing.

THEORETICAL CALCULATION – FERTILIZER AND SEED DISTRIBUTION

For better determination proceed as follows:

- 1- Collect the quantity of seeds or fertilizers in a line through 10 turns of the drive wheel, using more than one collection point and doing the average to facilitate weighing;
- 2- At least 5 points for those of 9 lines, 4 points for the models of 7 lines. If required, all the lines can be used, thereby increasing the accuracy of the adjustment;
- 3- Weigh the quantities collected and obtain the averages per line.

Note: This calculation is based upon 10 turns of the drive wheel, for checking the flow.

IMPORTANT

High work speeds affect the uniformity of seed distribution.

CALCULATION OF QUANTITY OF FERTILIZER AS PER SPACING

For distributing quantities of fertilizer in different spacing, we advise making a quick calculation where all the data used can be replaced by other of interest to you, it sufficing to use the procedures below, which contain the following elements:

EXEMPLE:

- Quantity of fertilizer per hectare:
- Spacing between line in meters:
- Drive wheel perimeter:
- Number of turns of drive wheel:
- Grams per line in 10 wheel turns:

DATA:

- 200Kg
- 0,45 (m)
- 2,28m
- 10 voltas
- X?

$$200 \text{ Kg/ha} \times \frac{10000 \text{ m}^2}{1 \text{ ha}} = 2000000 \text{ g/ha}$$

$$2000000 \text{ g/ha} \times X = 2000000 \text{ g/ha}$$

*9,14 m² = # wheel turns x wheel perimeter x spacing.
 *10,26 m² = 10 x 2,28 x 0,45m

X = 0,205 Kg/ha

0,205 x 1000g = 205 grams per line in 10 turns of the drive wheel.





The fertilizer is distributed through the fertilizer doser box, by means of helical conductors (Rotors). To obtain different quantities of fertilizer, change the transmission cogwheels.

IMPORTANT

Maintain the chains with the correct alignment and stress using the chain tighteners. This procedure will avoid damage and problems of vibration to the system.



For maize cultivation, in the lines where the manure dosers are not being used, remove the drives (A) (fig. 24), leaving the dosers assembled and with the regulator (B) (fig. 25) closed to avoid manure leakage.

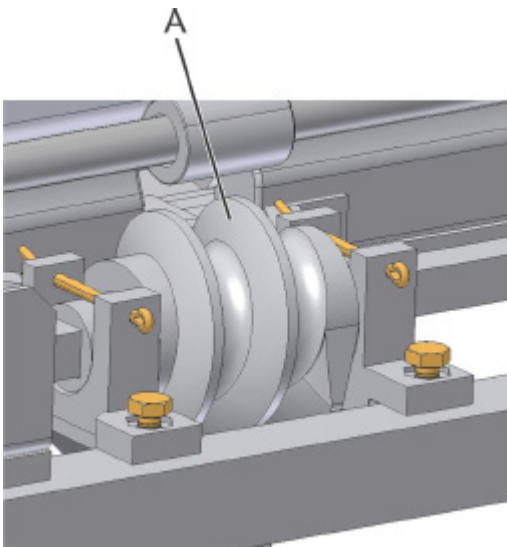


fig. 24

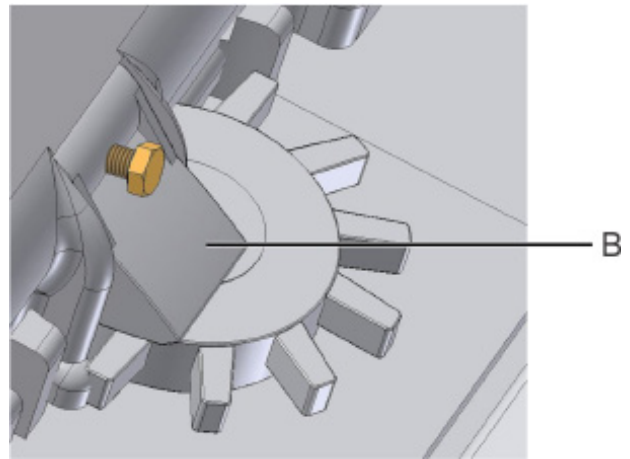


fig. 25

IMPORTANT

To increase productivity and release losses of product resources, i.e., lack of uniformity in the application throughout the area cultivated, we must be as careful as possible when making the adjustments of the seeder. Make daily checks in the quantities required of fertilizer and seeds per hectare, as it is in the planting that we define the production of the new harvest to be collected. To check the quantities obtained make the due tests.

Note that the adjustment for altering the flows is established through changing the transmission ratios, by means of basic cogwheels.

Use as the basis for starting the adjustment the tables attached to the seeder and joined to this manual.

IMPORTANT

High work speeds affect the seed distribution uniformity.

Whenever there occurs the change of formulation, batch or manufacturer of the fertilizer, check the quantities again.

Transmission Chains

The transmission chains leave the factory pre-adjusted in accordance with the distance between shafts of the cogwheels. If it should be necessary to maintain or repair joins (B) (fig. 26) or reductions (A), take out the cotter pin (C), removing the number of separate links, reductions or joins.

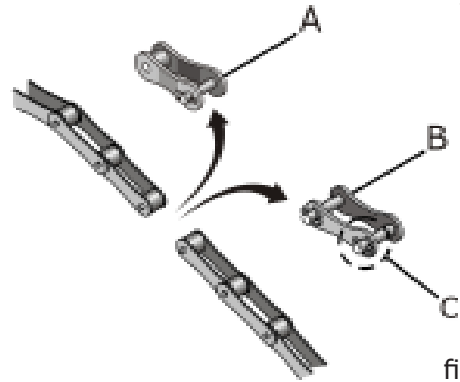


fig. 26

HYDRAULIC SYSTEM

Placing or Removal of Hydraulic Cylinders

To remove the cylinder (A) (fig. 27) fastened in the support (D), take away the hoses (E), removing the cast bearings (C), and the fastening pin of the articulator (B).

To assemble the cylinder, follow the aforesaid instruction in the inverse order.

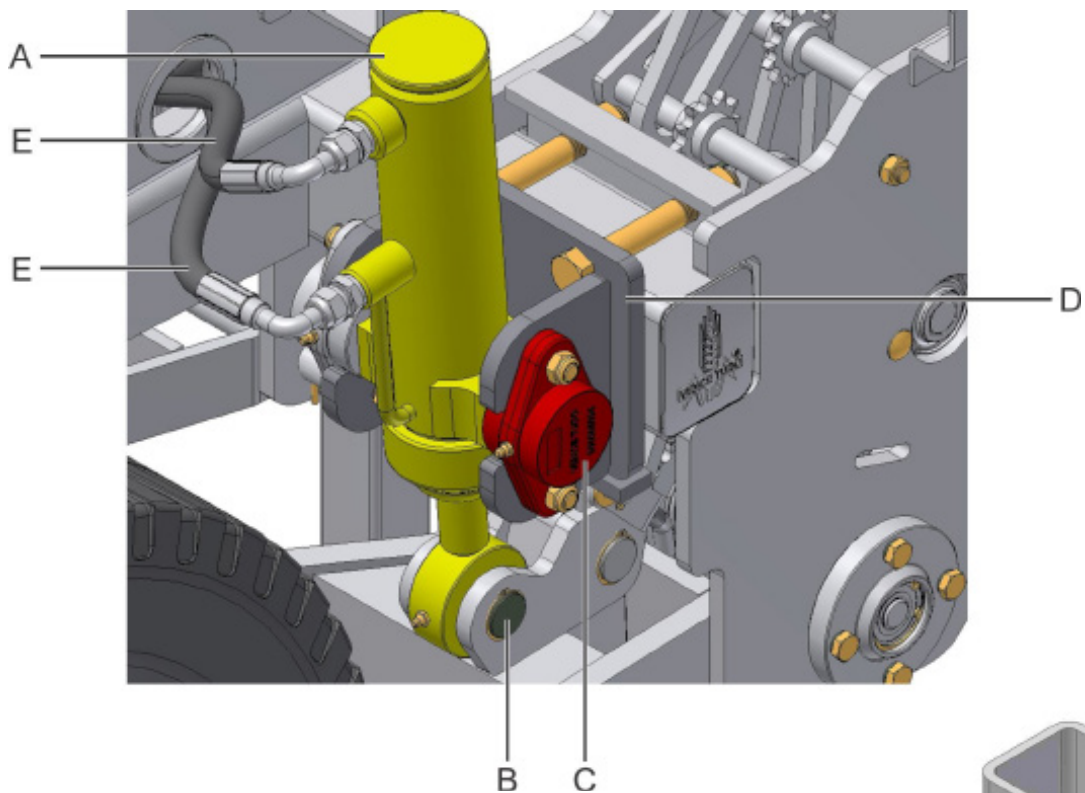
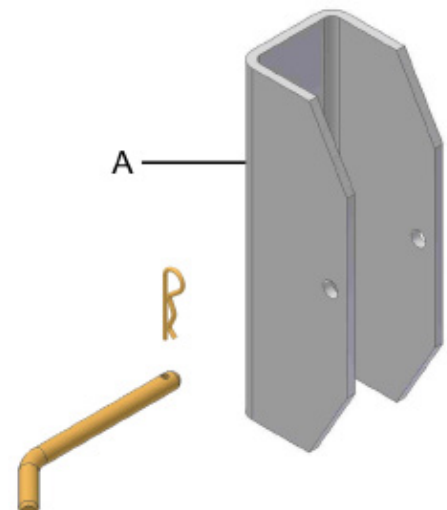


fig. 27

IMPORTANT

WHEN TRANSPORTING THE SEEDER, PLACE THE DEPTH WEDGES (A) (FIG. 28) TO AVOID OVERLOADING THE HYDRAULIC CYLINDERS.

DO NOT ACTIVATE THE CYLINDERS WITH THE DEPTH WEDGES LOCKED.

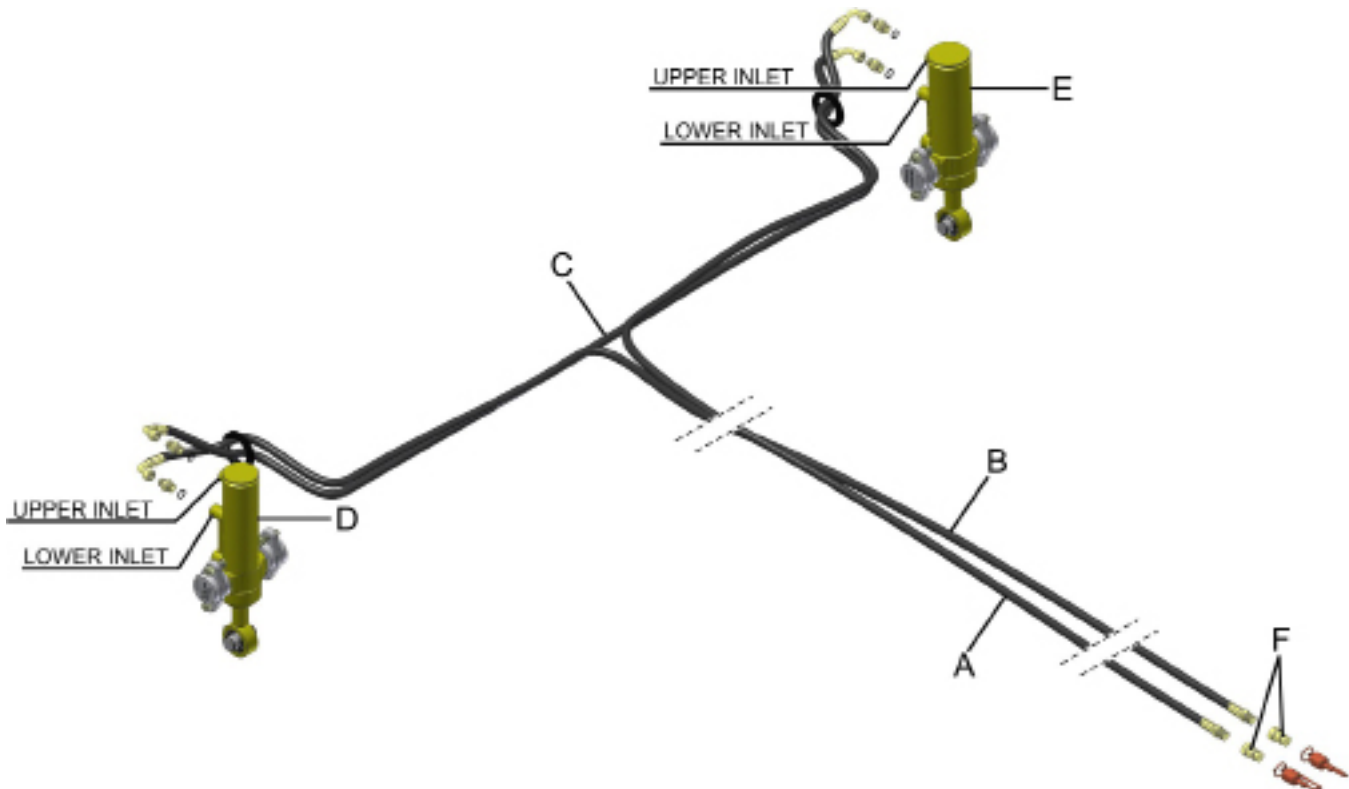


Placing of Hoses

Place the tractor-seeder flow direction hose (A) (fig. 29), in the lower inlet of the smaller cylinder (D). Place the connection hose (C) in the upper inlet of the smaller cylinder (D), placing the other end of the hose (C) in the lower inlet of the larger cylinder (E).

Afterwards, fasten the second tractor-seeder flow direction hose (B) in the upper inlet of the larger cylinder (E).

After placing the hoses, place the taps (F), connecting them to the hydraulic control of the tractor and depressurize the system, as per the following instructions.



Depressurization or Bleeding of Air of the Hydraulic System

- 1- First connect the hoses to the tractor hydraulic valve system;
- 2- Activate the lever of the hydraulic control in the raising position, extending the rod of the hydraulic cylinder, until obtaining the maximum pressure, remaining with the system pressed for 20 seconds;
- 3- Activate the lever of the hydraulic control in the lowering position, so that there is collection of the cylinder rod, and when the rod is totally collected remain pressing the system for 20 seconds;
- 4- Proceed in this way until the uniform raising of the seeder;
- 5- If it is difficult to raise the seeder loaded or after heating of the oil, check the pressure of the tractor hydraulic system, which has a pressure regulating valve;
- 6- Progressively increase the pressure until obtaining the raising of the seeder at a normal raising speed (approximately 120 Kg/cm²);
- 7- If the problem continues, contact the **VENCE TUDO** technical assistance department.

IMPORTANT

**IF THE HYDRAULIC SYSTEM HAS VERY HIGH PRESSURE, IT SHALL BE ADJUSTED.
TRANSPORTATION ON TRUCK OR CART.**

SAFETY RULES – TRANSPORT



TRANSPORT ON TRUCK OR CART



- Use suitable ramps to load or unload the seeder on trucks and carts. Do not accomplish these operations in improvised ravines because this may cause serious accidents.
- When using tow-car, use suitable points for the hoisting.
- Use the safety stops and lock adequately the wheels of seeder, to support it correctly.
- Use mooring lines (cables, chains, ropes, etc.) in sufficient quantities to immobilize the seeder during transport.
- Check the conditions of the load in the first 10 km of transport and after each 80 to 100 km. Observe if the mooring lines are not loosening. Check more frequently the cargo in roads with many holes.
- Be always attentive to the transport height, especially to the in electric networks and viaducts, etc.
- Check the existing laws on the limits of height and width of the load. Use flags, lights, and spotlights to alert other drivers, if necessary.
- The transport over long distances must be carried out on trucks or carts.



TRANSPORT WITH COUPLING IN THE TRACTOR'S DRAWBAR



When the transport of seeder is carried out by means of coupling in the tractor's drawbar, make the following way:

- Do not make the transport with the seeder filled.
- Observe the width of the seeder in relation to the sites closest of way, mainly yard gates and roads with ditches.
- The tractor should travel with the headlamps turned on, for a better visualization.
- Transport by means of a tractor must not be carried out in long journeys.
- Not travel during the night.

OPERATION

IMPORTANT

The **SA ARRASTO** seeders have several adjustments which shall be observed, considering the local conditions to determine their best adjustment;

To check and adjust the cutting part (disks and furrowers), disconnect the ratchet to avoid loss;

Carefully check the depth of the seeds, the compacting pressure and position of the manure related to the seed;

Maintain the seeder level;

Inspect the seed distributors twice a day, if necessary, removing and cleaning chemical products;

Inspect the manure distributors and check that they are functioning well;

Always use manure and seeds free of impurities;

Maintain the speed constant throughout the planting;

Never make maneuvers or reverse with the lines lowered to the soil;

The correct calibration of the tires is very important for maintaining the uniformity of the planting;

Lubricate the seeder correctly, observing the lubrication intervals;

Retighten screws after planting, also checking the conditions of pins and cotter pins.

RATCHET

The **SA ARRASTO Super Series** seeders are equipped with ratchets located in the intermediary transmission. When starting the planting, the ratchet is automatically activated.

Adjust the regulating rod (B) (fig. 30), so that it allows a greater or smaller time of opening and activation of the ratchet drives (C), through the nuts (A).

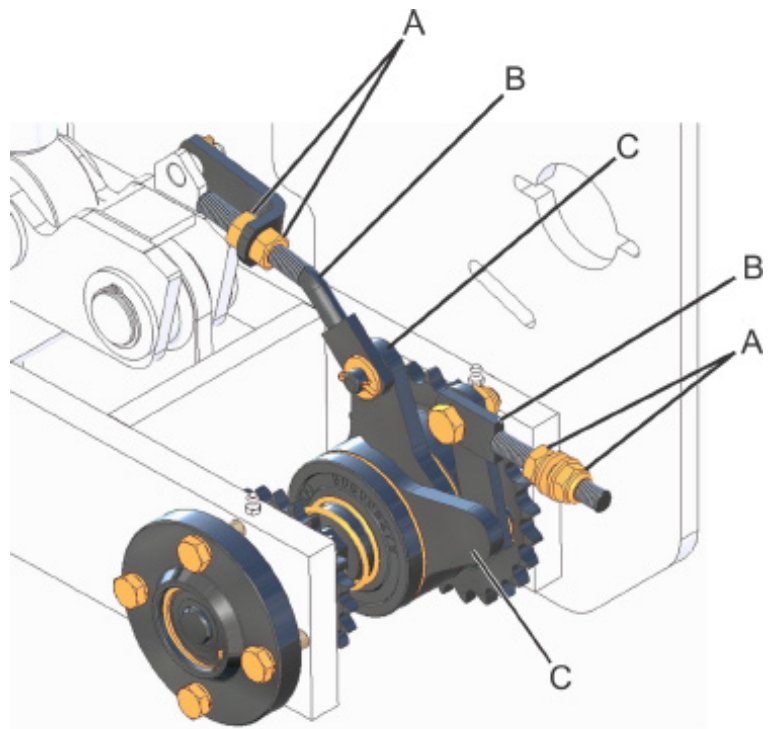


fig. 30

IMPORTANT

Whenever changes occur in the adjustments, check the stress of the drive chain.

ADJUSTMENT OF PLANTING HEIGHT

The seeder has a system with articulated wheels, which allow the planting to be executed on uneven soil.

This adjustment is determined related to the height of the seeder regarding the soil surface, being able to be altered through changing the position of the stop (A) (fig. 31), located next to the hydraulic cylinders (B). By raising its thickness the seeder will work further from the soil surface.

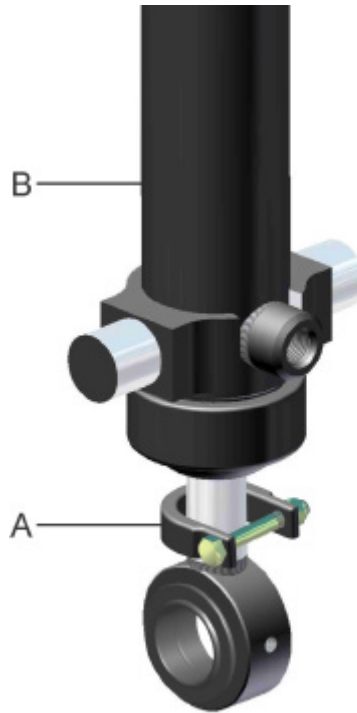
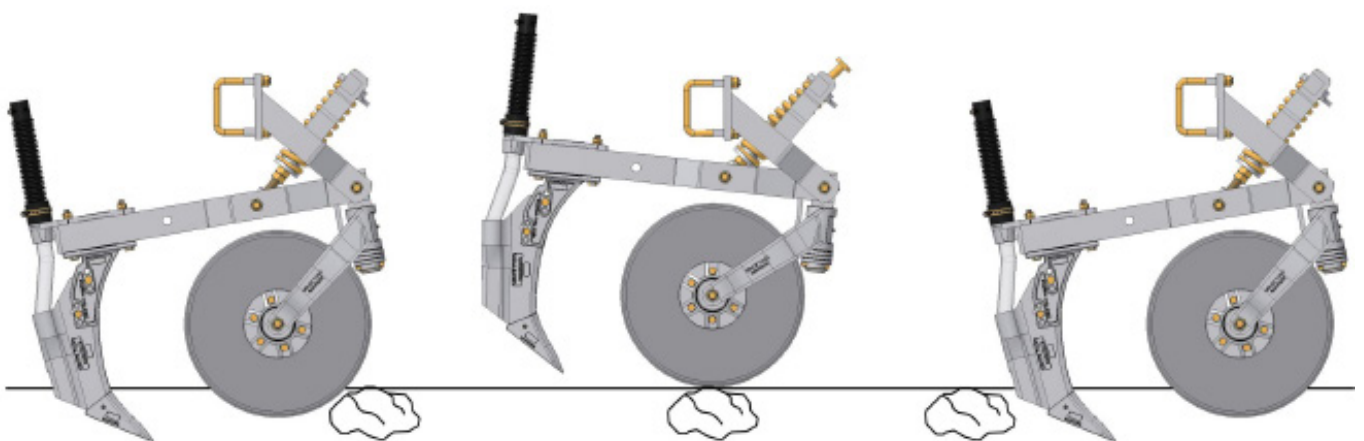


fig. 31

PLANTING UNIT WITH MOBILE FURROWER

This planting unit, which is called "**Pula Pedra (Jump Stone)**", was developed in a pioneering way by **VENCE TUDO** LTDA., to meet the need of planting in very stony soil.

This mechanism is based upon a unit where the cutting disk and furrower are fastened in the same device, so that when the cutting disk during the movement of the seeder meets an obstacle, it overlaps it, the furrower being thrown and removed from the soil by means of a lever formed by the system, in a way that after the cutting disk has passed the obstacle, the furrower returns automatically to its original work position without its safety fuse breaking.



DEPTH AND POSITION OF THE FERTILIZER FURROWER AND HEIGHT OF THE CUTTING DISK

The position of the furrower can be adjusted in the vertical direction. To do so, it suffices to release the furrower blade (A) (fig. 32) and alter the depth of the furrow changing the position of the screws (B).

The position of the cutting disk (C) can also be adjusted in the vertical direction, and to do so, it is necessary to remove the locking pin (D), and alter the height of the cutting disk, changing the position of the washers (E).

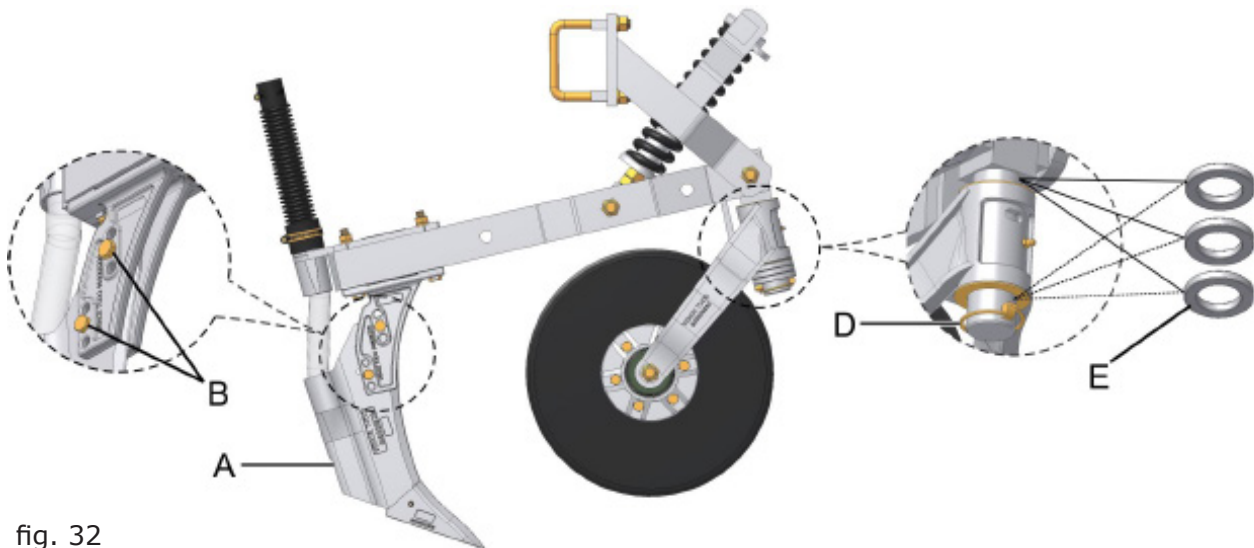


fig. 32

DEPTH OF CUT AND FURROW OF FERTILIZER

The depth of the cutting disk is determined by increasing the pressure of the spring (A) (fig. 33) through moving with the guide key (B), which is locked through the nut (C). Note that the measure adjusted shall be the same in all the springs of the lines.

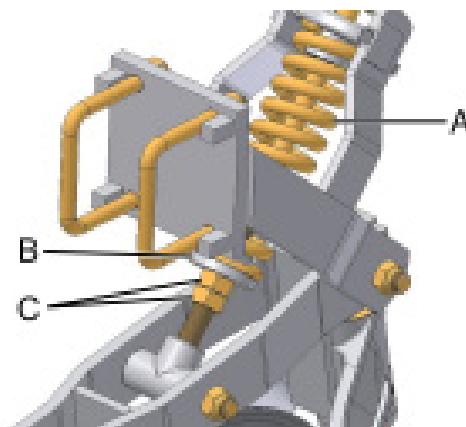


fig. 33

IMPORTANT

ALWAYS WORK IN THE DEPTHS RECOMMENDED FOR THE CULTIVATION.

IN PLANTING SOYBEAN AND MAIZE THE DISTRIBUTION OF THE FERTILIZER AND SEEDS IS IN THE SAME PLANTING LINE. THEREFORE, A DISTANCE SHALL BE OBSERVED BETWEEN THE SEED AND FERTILIZER OF APPROXIMATELY 5CM OF SOIL IN DEPTH, SO THAT IT DOES NOT CAUSE PROBLEMS IN THE GERMINATION.

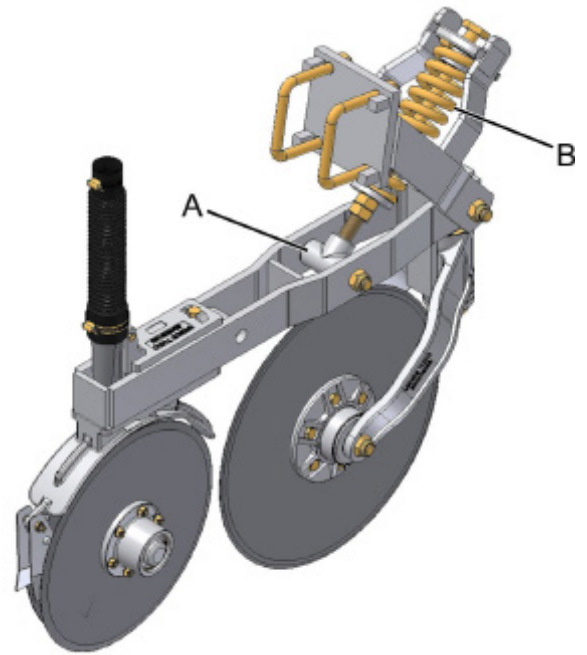
DOUBLE DISKS FOR MANURE

Developed in order to execute a furrow "V" shape for placing fertilizer at its bottom, in light and well-drained soil.

Formed of a unit of mismatching double disks of 13 and 14 inches, assemble din an interchangeable structure fastened by screws in the furrow line.

To obtain a greater penetration and depth of the fertilizer, suspend the seeder and move the guide (A) (fig. 34) of the helical spring (B).

fig. 34



ADJUSTMENT OF AMPLITUDE AND PRESSURE OF SPRINGS

Double Seed Disks

To obtain greater amplitude (oscillation of height) of the double seed disks, lower the machine, and loosen the screw (A) (fig. 35) of the stop (B), moving it upwards if you want to increase the amplitude, and downwards if you want to decrease the amplitude.

After choosing the height required, retighten the screw (A), locking the stop (B). These adjustments depend upon the unevenness of the soil and planted area.

To adjust the pressure in the double disks more easily, the seeder must be suspended.

To do so, loosen the screw (D) and move the stop (C) upwards or downwards, as per the pressure required. Having done this, retighten the screw (D), which will lock the stop (C).

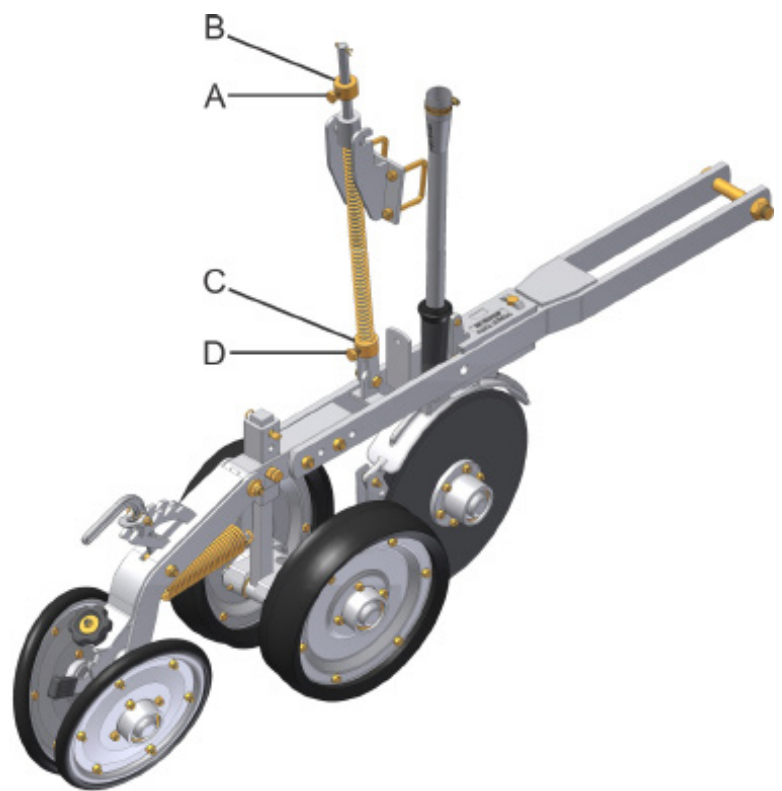


fig. 35

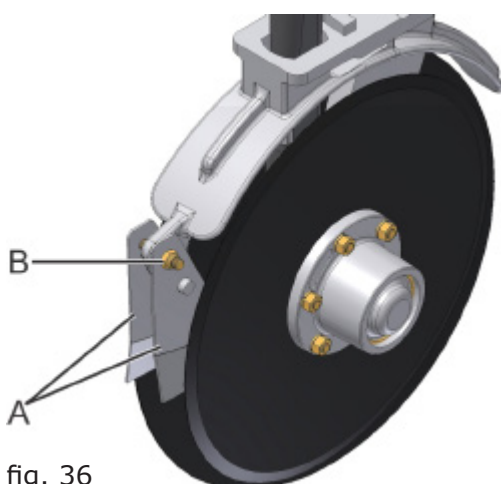


fig. 36

INTERNAL DISK CLEANER

Periodically adjust the cleaners (A) (fig. 36) of the dephased seed and manure double disks. To adjust the cleaners, tighten the nut and bolt (B). Adjust it so that it maintains efficient cleaning. Do not tighten it too much so as not to cause excessive wear in the cleaners (A).

INDEPENDENT AND FIXED LIMITER IN "V"

The limiting wheels follow the unevenness of the ground, which allows great uniformity in depth to be maintained. The wheel unit is assembled in strategic position, right after the seed dephased double disks. Besides the limiting function, the wheels assembled in "V" shape replace the straw removed and execute a side compaction on the seeds, avoiding air pockets forming in the furrow. The limiting wheels have the function of bringing again the earth which the seed double disk and furrow blade removed.

In each planting line adjustment must be made in the regulating pin (A) (fig. 37/38) in the following manner:

- 1- Suspend the planting lines from the soil, to alleviate the weight on the limiting wheels;
- 2- Remove the fastener (B) of the regulating pin (A);
- 3- Choose the position and depth required, and replace the pin and fastener in the hole. For your guidance the depth limits (related to the seed double disk) are 5.0 cm (minimum) and 14.5 cm (maximum), there being between the limits options of 6 holes with intervals of 20 cm between them.

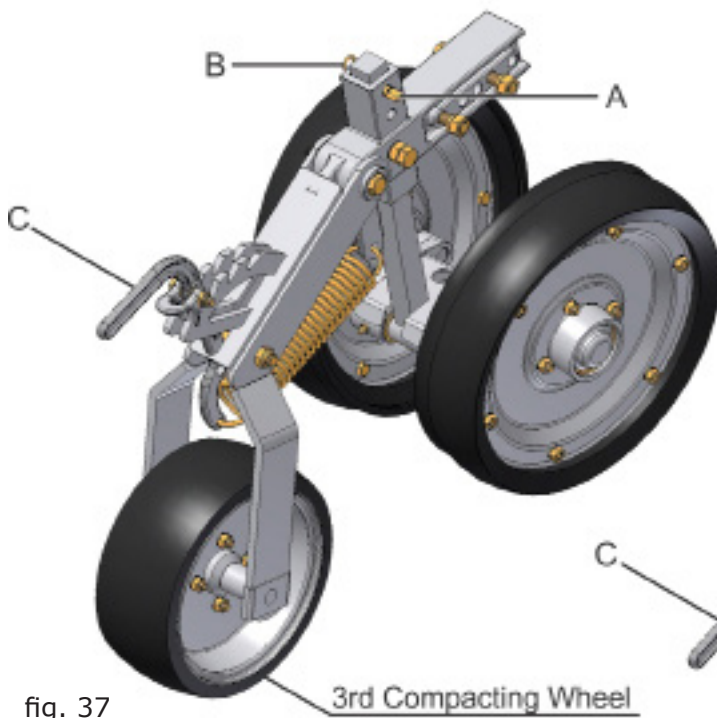


fig. 37

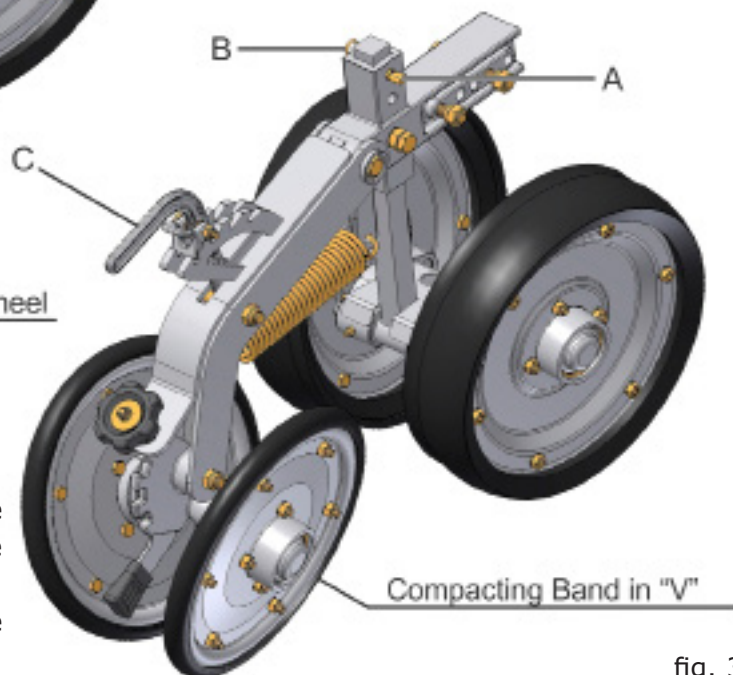


fig. 38

COMPACTION ADJUSTMENT

To adjust the pressure of the compacting wheel, adjust the pressure of the spring moving the lever (C) (fig. 37/38). The greater the pressure of the spring, the greater the pressure exerted on the seed.

Always note this adjustment, as the conditions of soil, humidity, haystack, etc. may vary in the same or another area of planting, having to be adjusted for each situation.

IMPORTANT

Note that the regulating pin (A) (fig. 37/38) is in the same position in all the planting lines.

COMPACTOR IN "V"

The compactors in "V" (A) (fig. 39) execute the pressure of the soil sideways on the seed and work with several adjustments of pressure, as per conditions of soil, haystack, humidity, etc.

Adjust the pressure pulling the handwheel (B), changing the position in the regulator (C), adjusting the angle of opening between the compactors, allowing compaction distancing or approach related to the seed furrow.

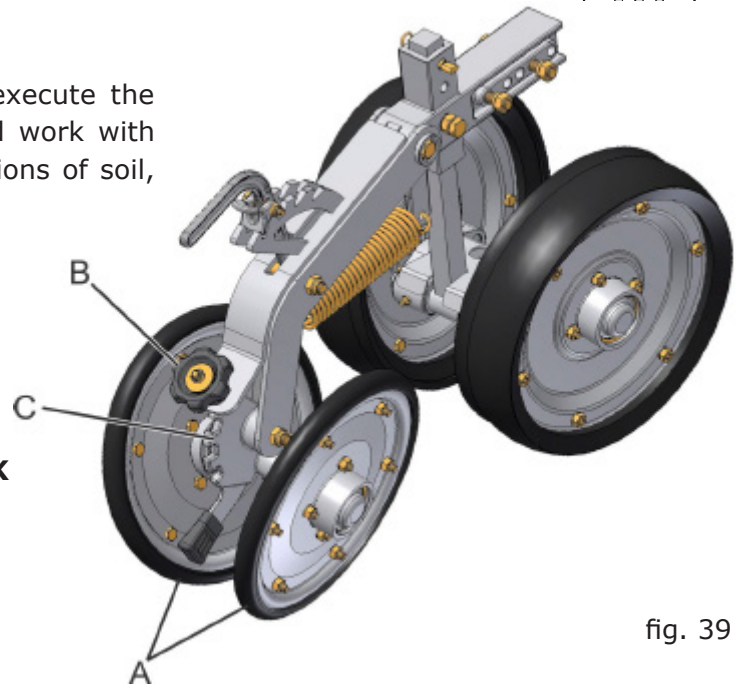


fig. 39

NORMAL COMPACTOR AND COVERING DISK

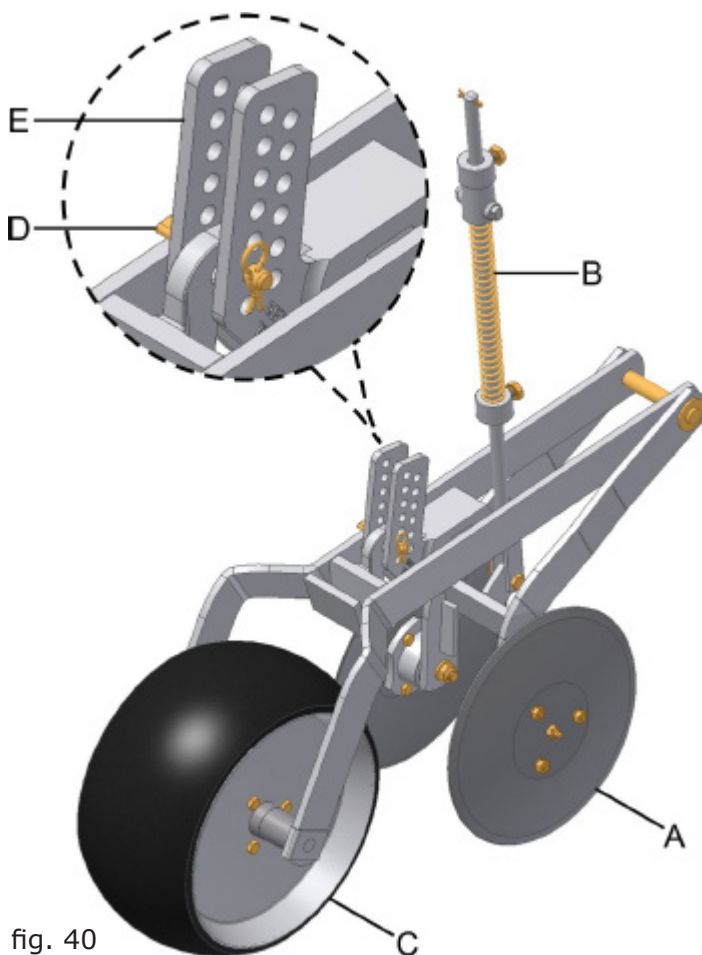


fig. 40

The covering disks (A) (fig. 40), have the function of bringing again the earth which the furrow blade and double disk of the seed removed so that then the compacting and limiting wheel (C) executes the closing and compaction of the furrow.

The disk unit is assembled in strategic position, straight after the dephased double disks of the seed.

The pressure adjustment of the covering disks is executed through the helical spring (B), assembled in the rod.

The depth adjustment of the furrow can be altered through changing the position of the regulating pin (D) in the regulating plate (E).

IRON LIMITER IN "V"

The iron limiting wheels (A) (fig. 41) also have the function of bringing again the earth which the furrow blade and double disk removed so that the 3rd compacting wheel (C) then executes the closing and compaction of the furrow.

The iron limiters in "V" are positioned straight after the dephased double disks of the seed.

The angle of the wheels is adjusted through changing the position of the pin (B) in the structure.

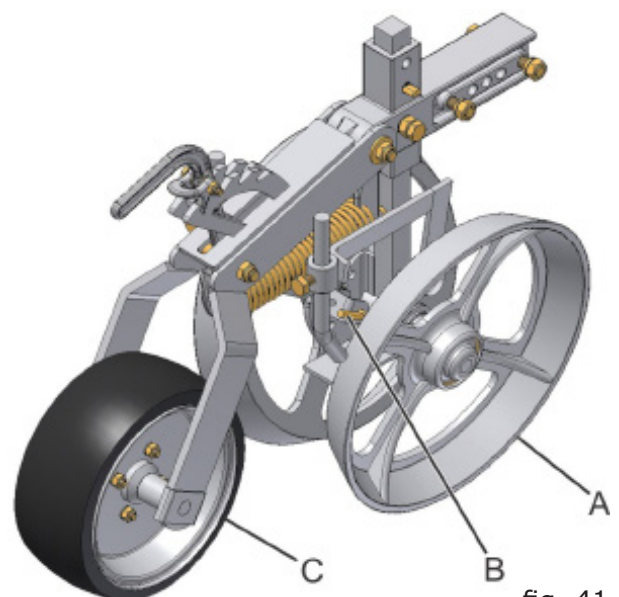
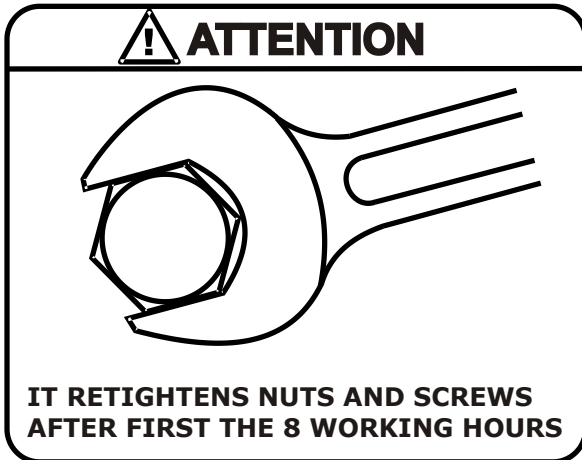


fig. 41

MAINTENANCE



In order to preserve an agricultural implement or machine efficiently, we must take certain care to increase the useful life of the equipment and improve its functioning and use made of it. To do so, we must follow certain preservation standards which will avoid unnecessary bother, as a simple loose screw of a component can interrupt the functioning of a mechanism, stopping work with the seeder. This small care we call periodic and preventive maintenance, costs little and provides us with great results in production and preservation.

IMPORTANT

USE ONLY ORIGINAL VENCE TUDO PARTS. IMPROVISED PARTS BESIDES CHANGING THE NATURE OF THE PRODUCT SHALL PREVENT THE ANALYSIS OF THE WARRANTY IF IT IS NECESSARY TO USE THE WARRANTY CERTIFICATE OF THE EQUIPMENT.

INSPECT THE SEEDER CHECKING IF THERE ARE WORN OR BROKEN PARTS. IF SO AND IF NECESSARY, REPLACE DEFECTIVE PARTS.

USE THE TIME THAT THE SEEDER WILL REMAIN STOPPED TO EXECUTE THE DUE REPAIRS.

USE VEGETABLE OIL TO PROTECT THE SEEDER. IF IT IS NOT POSSIBLE TO USE VEGETABLE OIL, LUBRICATING, HYDRAULIC OR DIESEL OIL CAN BE USED ONLY IN THE INTERNAL PARTS OF THE SEEDER, AND IT WILL BE NECESSARY TO PROTECT THE RUBBER PARTS AND DISTRIBUTION DISKS.

Double Disks and Cutting Disks

Every 500 hours of planting or harvesting, execute the maintenance of the double disks, bearings and roller bearings, proceeding as follows:

- Remove the external cap, loosening the setscrews;
- Wash the hub and remove the old grease;
- Check if there are spaces in the roller bearings, and if so, adjust them;
- Replace the worn parts which may affect the functioning of the equipment;
- Place new grease in the hubs and internal part of the cap, assembling them again;
- Every 200 hours' work, check if there is a space in the bearings or roller bearings.

IMPORTANT

DURING THE ASSEMBLY, ADJUST THE ROLLER BEARINGS SO THAT THE DISK UNIT ROTATES FREELY.

Furrow Blade

It is of paramount importance to check and replace the tires, when they are worn.

Limiting and Compacting Wheels

Every 200 hours check the space distance of the bearings, and if there is any, proceed with the maintenance required.

Store the seeder in a sheltered and safe place.

Maintain the seeder duly supported and avoid contact of its disks and furrowers directly with the soil.

Covering Disks

Every 300 hours' work check the space in the bearings of the covering disk, and if there is any, execute the maintenance required.

Store the seeder in a sheltered and safe place.

Maintain the seeder duly supported and avoid contact of its disks and furrowers directly with the soil.

Seed Distributors

Execute periodic maintenance and cleaning in the precision distributors (disks) and seed boxes to eliminate powder of graphite, fungicides and inoculants contained in the seeds.

Also execute periodic maintenance during the planting, as required, mainly to eliminate the excess of products used during the treatment.



During the adjustment and maintenance operation take maximum care during the work, as the seeder shall be suspended to execute the work using the safety devices. Follow the safety standards described previously.



Harvest End Maintenance

Deposit Cleaning

After the end of the planting clean the tanks removing the remains of fertilizers and seeds. Open the distributors to wash the components of the system.

- 1- Remove all the conductors, of both fertilizers and seeds, washing them only with water and neutral soap and storing them in a separate place;
- 2- Paint all the parts which require repainting;
- 3- Lubricate all the machine;
- 4- Wash the seeder completely and lubricate it using castor oil;
- 5- After executing all the repair and preservation operations, maintain the seeder in a dry and sheltered place with all its parts in operating condition. Thus, you will get the most out of your investment.

Fertilizer Distributors

After having cleaned the tanks, remove the protection tiles, through moving the upper locks which fasten the tiles;

Execute the cleaning required;

Remove the worm drives, it being necessary to remove the fastener holding the engine shaft of the drives, which is positioned on the same side as the driven gear of the fertilizer tank. After having unlocked the shaft remove the transmission chain and pull the cogwheel, pulling the drive shaft of the drives;

Unlock the rotors removing the cotter pin which is fastened in the fertilizer distribution plate;

Then remove the drives required. If it is only maintenance, clean the components of the system, lubricating them and assembling them again.

Seed Distributors

Execute periodic maintenance and cleaning in the precision distributors (disks) and seed boxes to eliminate powder of graphite, fungicides and inoculants contained in the seeds;

Also execute periodic maintenance during the planting, as required, mainly to eliminate the excess of products used during the treatment.

Lubrication

Suitable grease-based lubrication consists of not allowing its excess or lack in any place, as both situations are harmful.

The regular supply of grease linked to the suitable quantity are basic conditions for achieving greater efficiency during the work of bearing and joints. The grease supply interval shall be less when the operating conditions are considered to be severe (large loads, constant knocks of the bearings, influence of the environment with high temperatures, high index of dust and contact with water).

Through a spray gun or grease pump, lubricate the lubrication points so that the new grease enters and expels the portion of deteriorated grease. Before lubricating, clean the oilers with a cloth. And if the oilers have any defect, replace them.



TECHNICAL RECOMMENDATIONS

For a good quality operation of the seeder, meet the following procedures:

- 1-** AFTER THE FIRST 8 WORKING HOURS, ACCOMPLISH THE RETIGHTENING OF ALL ITS COMPONENTS.
- 2-** MAKE THE LUBRICATION IN ALL THE POINTS, BEFORE BEGINNING THE PLANTATION.
- 3-** BEFORE STARTING THE PLANTATION, ACCOMPLISH THE SETTINGS (ROW SPACING, SEED AND FERTILIZER).
- 4-** DO NOT ACCOMPLISH THE SETTINGS WITH THE SEEDER IN MOTION.
- 5-** DO NOT MAKE THE DISPLACEMENT, SHED - CROP - SHED, WITH SEEDER LOADED.
- 6-** DO NOT STORAGE THE SEEDER WITH ITS HOPPERS FULL OF THE FERTILIZER AND SEEDS.
- 7-** WHEN RESTARTING THE PLANTATION, CHECK IF THE DISTRIBUTION MECHANISMS ARE NOT OBSTRUCTED.
- 8-** DO NOT DO THE REVERSE GEAR WITH THE SEEDER IN PLANTING POSITION.
- 9-** DO NOT ACCOMPLISH VERY CLOSED CURVES WHEN THE SEEDER BE IN THE OPERATION POSITION. ONLY MAKE MANEUVERS WITH THE SEEDER WHEN IT IS TOTALLY LIFTED AND OUT OF THE SURFACE OF THE SOIL.
- 10-** ACCOMPLISH THE OPERATION OF PLANTATION IN THE RECOMMENDED SPEED FOR EACH CROP.
- 11-** AT THE END OF THE PLANTATION, MAKE THE CLEANING, WASHING AND LUBRICATION OF THE EQUIPMENT (USING PULVERIZATION PRODUCTS WITHOUT THE PRESENCE OF DETERGENTS).
- 12-** SHELTER THE SEEDER AGAINST WEATHER DURING THE IDLE PERIOD.
- 13-** USE ONLY ORIGINAL VENCE TUDO PARTS FOR THE REPLACEMENT.
- 14-** READ CAREFULLY THE OPERATOR MANUAL.

THE NON-OBSERVATION OF THE RELATED ITEMS CAN GET SERIOUS DAMAGES TO THE OPERATION AND CONSERVATION OF THE SEEDER.

VENCE TUDO

WORK SPEED CALCULATION

To calculate the work speed, proceed in the following manner:

- 1- Determine the time spent in seconds by the tractor-seeder unit to travel 50 meters, with the seeder supplied.
- 2- Measure it again to obtain an average.
- 3- Afterwards make the calculation, as per the example below.

EXEMPLE:

Time: 32 seconds in 50 meters.

$$\begin{array}{r}
 \text{To travel 50 meters} \\
 50 \text{ m} \quad \underline{\hspace{2cm}} \quad 32 \text{ seg.} \\
 1000 \text{ m} \quad \underline{\hspace{2cm}} \quad X \\
 \\
 X = 640 \text{ seg.}
 \end{array}$$

$$\begin{array}{r}
 \text{To travel 1 Km} \\
 1 \text{ Km} \quad \underline{\hspace{2cm}} \quad 640 \text{ seg.} \\
 X \quad \underline{\hspace{2cm}} \quad 3600 \text{ seg. (1h)} \\
 \\
 X = \frac{1 \times 3600}{640}
 \end{array}$$

X = 5,6 Km/h - work speed

Unidades de medida:	
1Kg.....	1000g
1ha.....	10000m ²
1min.....	60s
1hs.....	3600s
1Km.....	1000m

IMPORTANT

DURING THE DETERMINATION OF THE WORK SPEED, DISCONNECT THE RATCHET TO AVOID LOSS OF FERTILIZER AND SEEDS.

ADDITIONAL PARTS BOX

The **Vence Tudo** Drag Manure Spreader Seeders model **SA ARRASTO** leave the factory together with a box of additional parts as per the option chosen by the customer to handle the most varied cultivation conditions. Upon receiving your seeder, see with your reseller and check the parts as per the model and assembly option.