THE HOLLOW MODEL SPL300
PULL TYPE SPIN SPREADER
Operation Manual

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SECTION 1
General information

1.1 Presentazion

This manual gives information, instructions and everything else you will need to understand, correctly operate and perform routine maintenance on the **ground driven fertilizer spreaders mod. SPA-SPL** hereinafter also referred to as the **machine**, and of all the accessories.

You will not find a complete description of the various parts, or a detailed explanation of how they work herein. Nonetheless, you will find all the information you will usually need to operate the machine safely and to look after it properly.

Compliance with the instructions herein, together with careful, meticulous maintenance, is the only way to assure proper operation, lasting service and economic running of the machine.

Failure to comply with the provisions herein, negligent operation, incorrect use of the machine or performance of unauthorized changes may lead to the Manufacturer declaring its warranty covering the machine void.

The manufacturer also declines any responsibility for damages as a result of the above-mentioned actions or following failure to comply with the instructions herein.

For any repairs or overhauls entailing operations of some complexity, you must contact an authorized Customer Support Centre with specialized personnel, or the actual Manufacturer, who will be glad, in any case, to assure prompt, accurate technical servicing and anything else required to restore the machine to full working order.

This manual is an integral part of the machine and must be kept with the machine at all times, even when it is moved or sold. It must be kept in a safe place where personnel in charge of work on the machine know where to find it. Said personnel must look after it and keep it intact for future reference for the entire duration of the machine's service life.

If it is damaged or misplaced, you must ask the Manufacturer for a copy without delay.

1.1.1 Who the manual is intended for

This manual is an essential tool for personnel who, in their various capacities, are somehow involved with the machine.

The various job profiles are given below:

USER: A user is the person, or body, or company who has purchased or hired the plant and who intends to use it for its intended purposes. They are responsible for the machine and for the training of anyone involved with it.

OPERATOR: means the person or persons installing, operating, adjusting, maintaining, cleaning, repairing or moving machinery.

1.2 Conditions of guarantee

• The seller guarantees that the parts of the product are new, designed and manufactured so as to meet the specific technical characteristics of the product itself.

• The guarantee period is 12 months (twelve months) if the purchaser is a judicial entity (so-called "B to B sale", i.e. "business to business") or 24 months (twenty-four months) if the purchaser is a consumer (so-called "B to C sale"). The guarantee takes effect starting from the date of delivery of the product and, more specifically, from the date of the signature of the test certificate, if the machine has been tested, or from the date of the shipping document, in all other cases. In "B to B" sales, the guarantee period may not in any case exceed 18 months from the date the machinery is shipped.

• At the moment of delivery, the purchaser is required to check that the machine is in good condition and complete with all its parts.

• If the product has damage or defects which occurred during the guarantee period, the purchaser is required to inform the seller, in writing, of the existence and the extent of said damage or defects no later than 5 (five) days form the moment they are discovered, in "B to B" sales.

• The guarantee provides exclusively the right to free replacement or repair of the defective parts, which will be considered as such after careful examination by the seller's technical department. Shipping costs shall be at the expense of the seller, who shall select the method of shipment based on his own unquestionable judgment.

• Replacement or repair of parts covered by the guarantee shall not in any case extend the terms thereof.

• Under no circumstances shall the purchaser be entitled to the repair of the machinery or of the single components if full payment of the agreed amount has not been made.

1.2.1 Voidance of the guarantee

• This guarantee shall automatically be voided if the product undergoes interventions, modifications, or is used by technicians or staff who are not authorized in writing by the seller.

• This guarantee does not cover the replacement of the parts that are subject to normal wear and spare parts. Any additional costs, such as travel expenses, shipping and/or labour costs, are not covered by said guarantee.

• The guarantee shall not in any circumstance include loss of profits or any direct or indirect consequence thereof.

• The guarantee is automatically voided (in addition to the provisions in the supply contract) if:

a) non-original spare parts are used;

b) the damage is attributable to an erroneous operation performed by the purchaser and/or his personnel;

c) the damage is caused by insufficient maintenance;

d) the user carries out repairs at his discretion without the consensus of the manufacturer;

e) the instructions included in this manual are not carried out;

f) exceptional event;

also

g) THE REMOVAL OF THE SAFETY DEVICES WITH WHICH THE MACHINE IS EQUIPPED WILL AUTOMATICALLY VOID THE GUARANTEE AND RELIEVE THE MANUFACTURER OR ANY LIABILITY.

• The retailer shall not be liable for damage due to negligence, carelessness, poor utilization and improper use of the machine and all of its parts that are subject to normal wear during operation, lack of skill and carelessness of the purchaser or his employees and/or of the final client/user and/or his

employees, to unacceptable overloads, to inadequate means and/or operating materials, to defects of the foundations and structures of the building (if the machinery requires certain characteristics of the place in which the it is to be located and installed, to inadequate means and/or materials of operation and to any other activity which is extraneous or not compliant with normal use of the product or to its specific technical characteristics or damage caused by modifications and/or repairs, replacements of single components, maintenance carried out by personnel not authorized in writing by the seller or any circumstance independent of the seller, as well as negligence or lack of skill in assembly by the purchaser and/or the final client/user.

1.3 Customer service

DANGER

PERFORMING REPAIRS, WORK OR CHANGES OF ANY KIND OTHER THAN THOSE INDICATED HEREIN IS STRICTLY PROHIBITED.

A). Requests for servicing must be forwarded straight to the Technical Servicing Centre authorized which will send skilled personnel and provide any necessary information and explanationùs.

When applying, remember to quote:

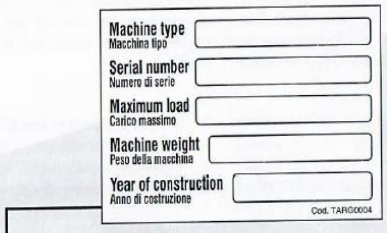
B). Machine model
C). Serial number
D). Year of manufacture
Type of problem encountered

SECTION 2
General features

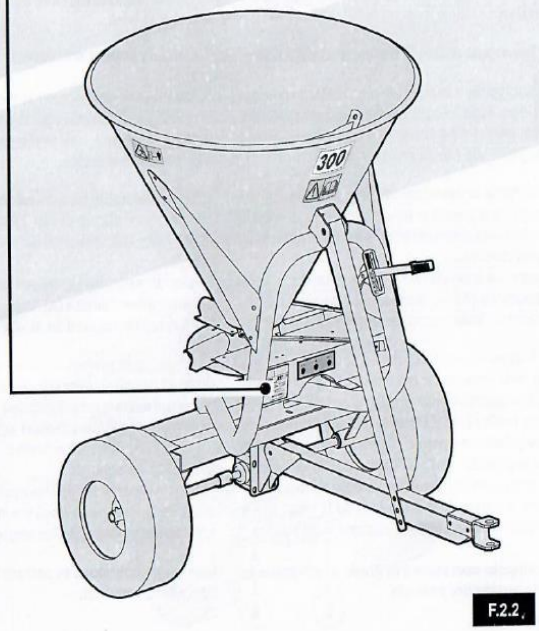
21. Identification plate

Each machine features an identification plate.

Removing, replacing or in any way altering the identification plates on the machine or any accessories it comes with is strictly prohibited.



F.2.1



F.2.2

2.2 Machine description

The towed fertiliser spreader with centrifugal distribution is an agricultural machine for on-the-field distribution of solid mineral fertiliser in granular or powder form. The machine can also be used for the distribution of seeds, salt and sand, again in solid form.

It has been designed to regularly and uniformly scatter the material contained in the loading hopper with a distribution width ranging from 6 to 18 metres according to the towing speed.

The machine consists mainly of:

1. Frame provided with axle with wheels, drawbar and towing hook.

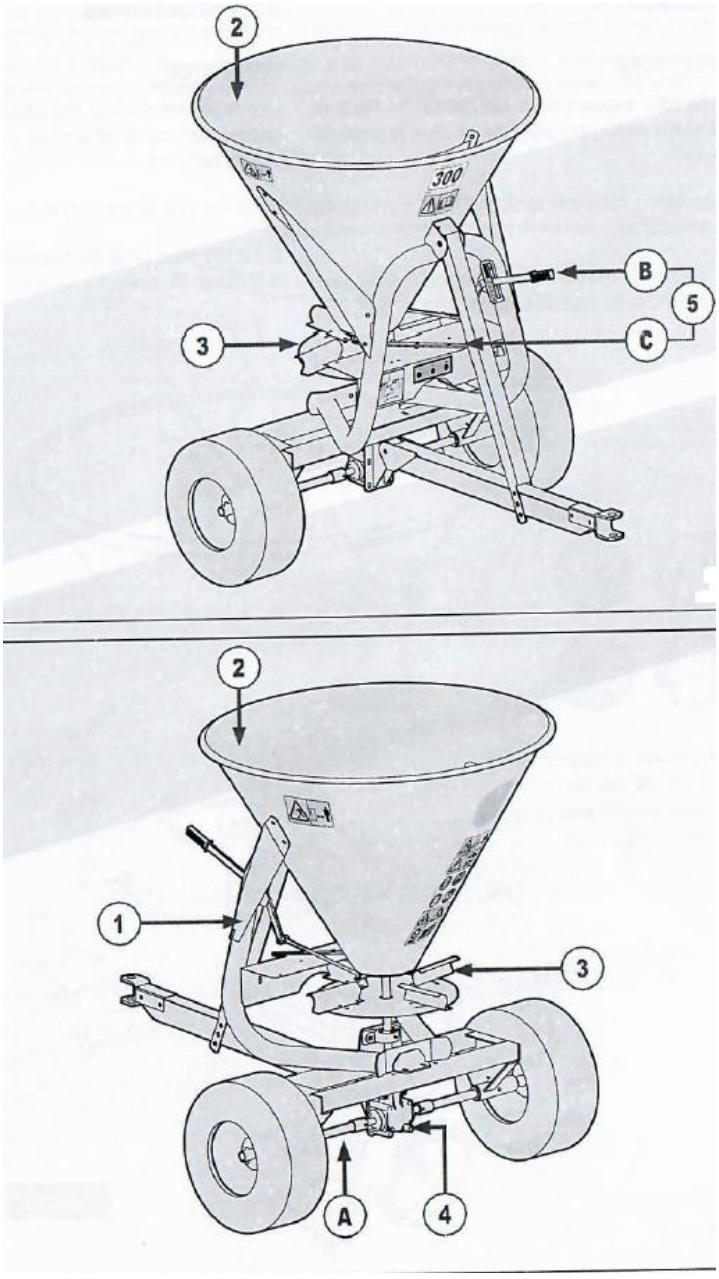
2. Loading hopper with capacity of 300 litres.

3. Distributor unit located in the lower part and consisting of a jointed mixer to shift any lumps of fertiliser; a metering unit and a spreader disc with adjustable radial blades.

4. Disconnectable transmission system.
The spreader disc is driven by a disconnectable transmission unit connected to the fertiliser spreader wheels.
The transmission unit is provided with a **mechanical disengagement device (A)**, essential when the fertiliser spreader is towed for long stretches on road.

5. Adjustment system. Vertical movement of the **product opening lever (B)** determines the exact amount of fertiliser to be distributed, while horizontal movement of the **distribution adjustment lever (C)** sets three distribution angles: 180°, 90° to the left, 90° to the right.
The motive power for operation of the machine is provided by the wheels when the machine is towed with the transmission device engaged.

One single operator can perform all the various operations required.



2.2.1 Accessories

DEFLECTOR

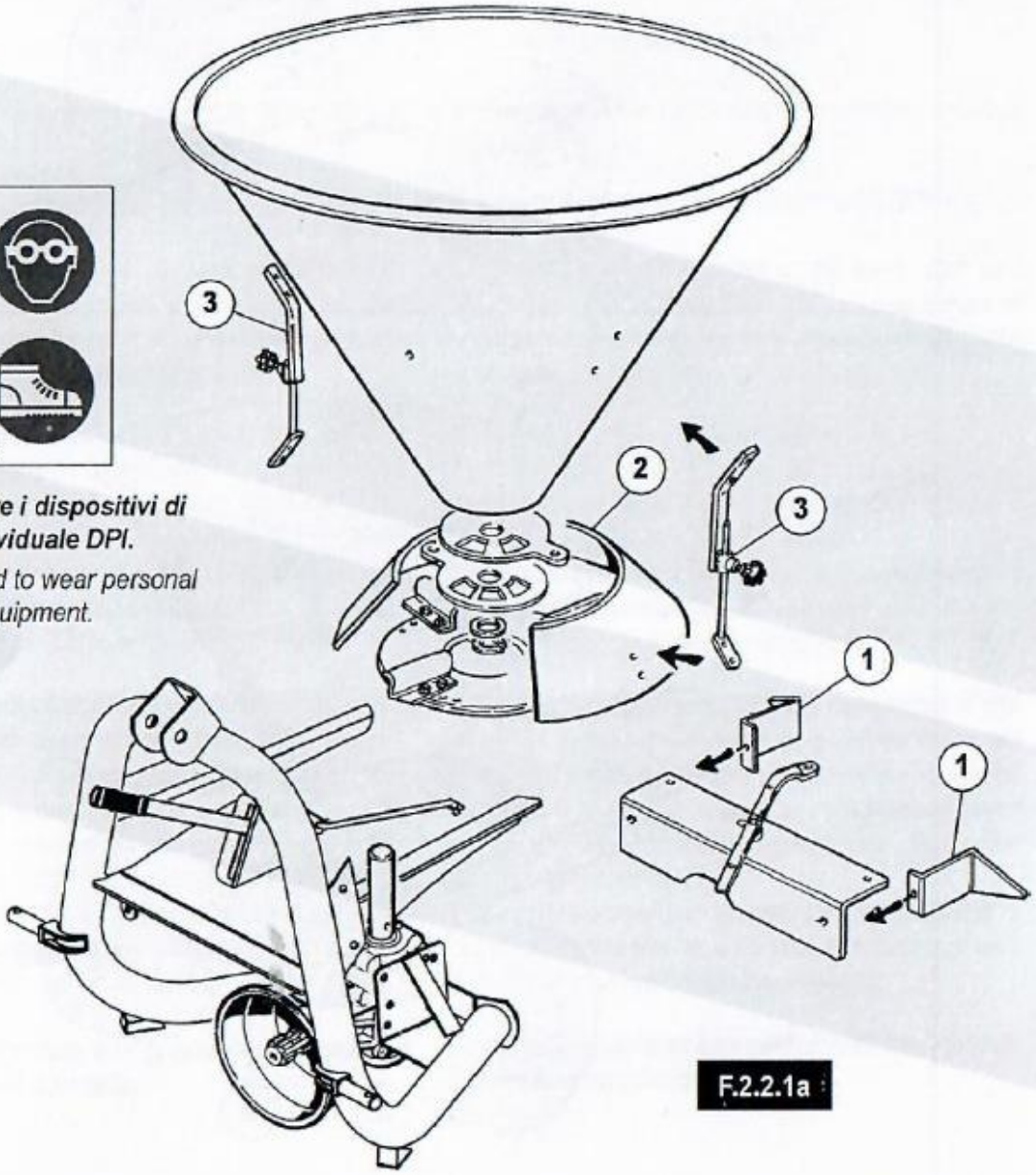
Our exploded view of the **«SECTION 7 - Spare parts»** represents all screws and washers which should be used.

1. Fix the side brakets (1) to the spreader guard.

2. Fix the cone (2) to the two deflector supports (3) and mount the deflector assembly on the spreader.

Obbligo di indossare i dispositivi di protezione individuale DPI.

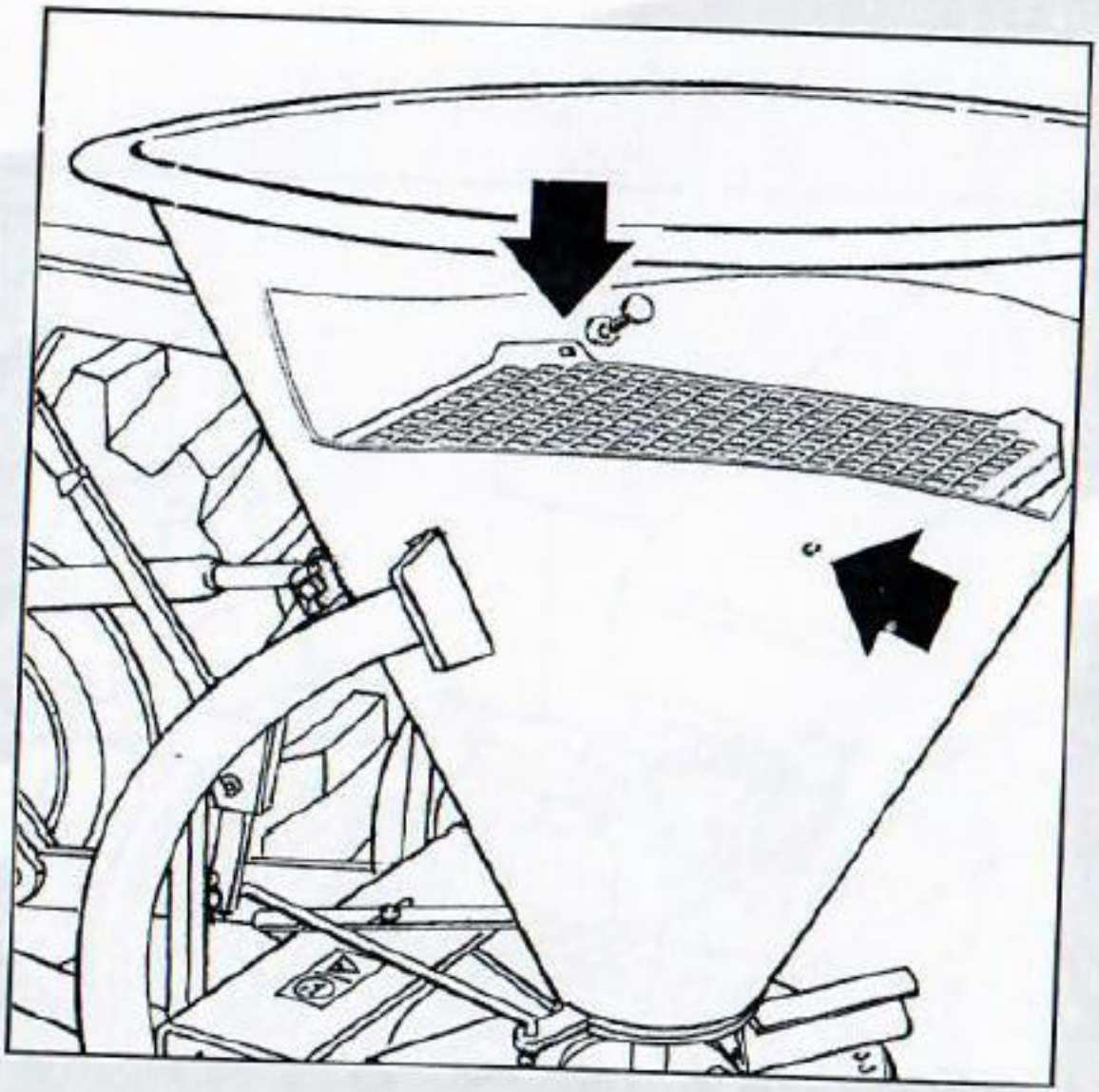
Personnel are required to wear personal protective equipment.



F.2.2.1a

GRID

Set the grid inside the hopper as shown in the figure. Drill some holes in the hopper connected with the fixing holes of the grid and fix it with screws.

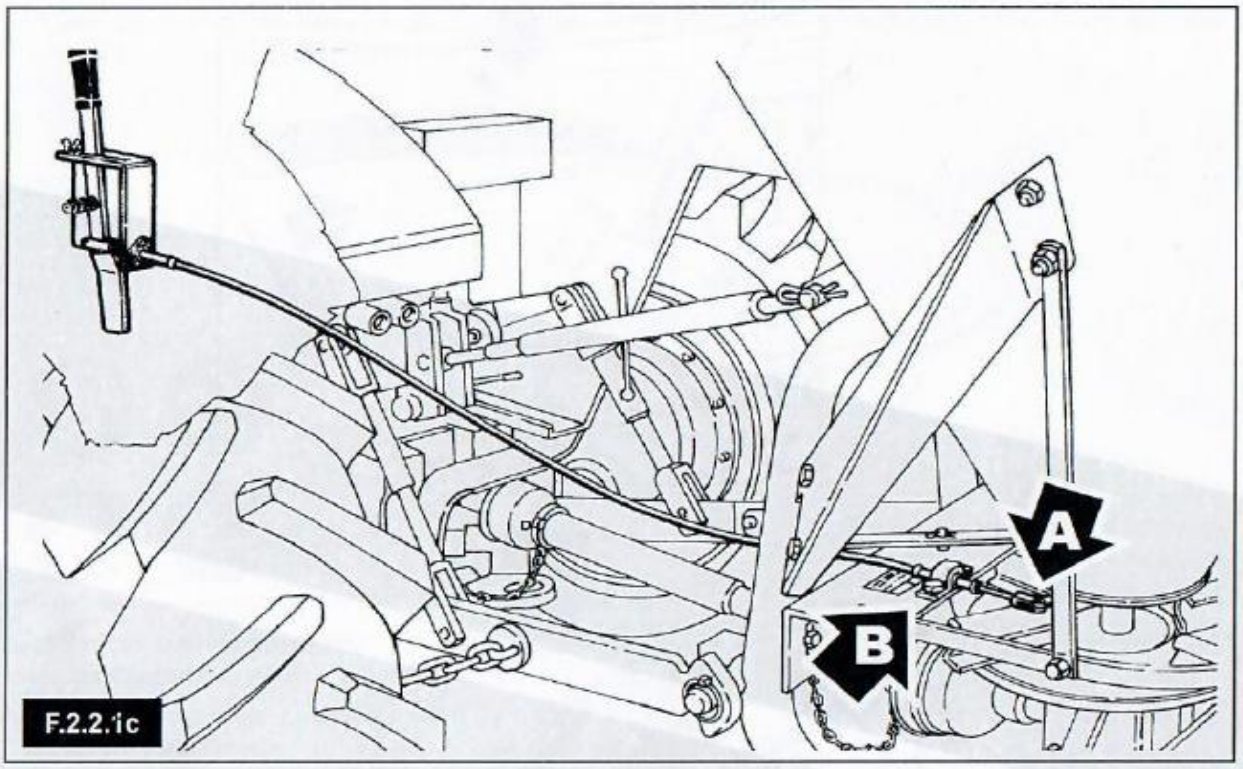


F.2.2.1b

MECHANIC CONTROL

A Connect the ending part of the mechanic control to the 2-hole dosing disc (Ref. position 30 on the spares breakdow).

B Fix the mechanic control cable to the protection case.

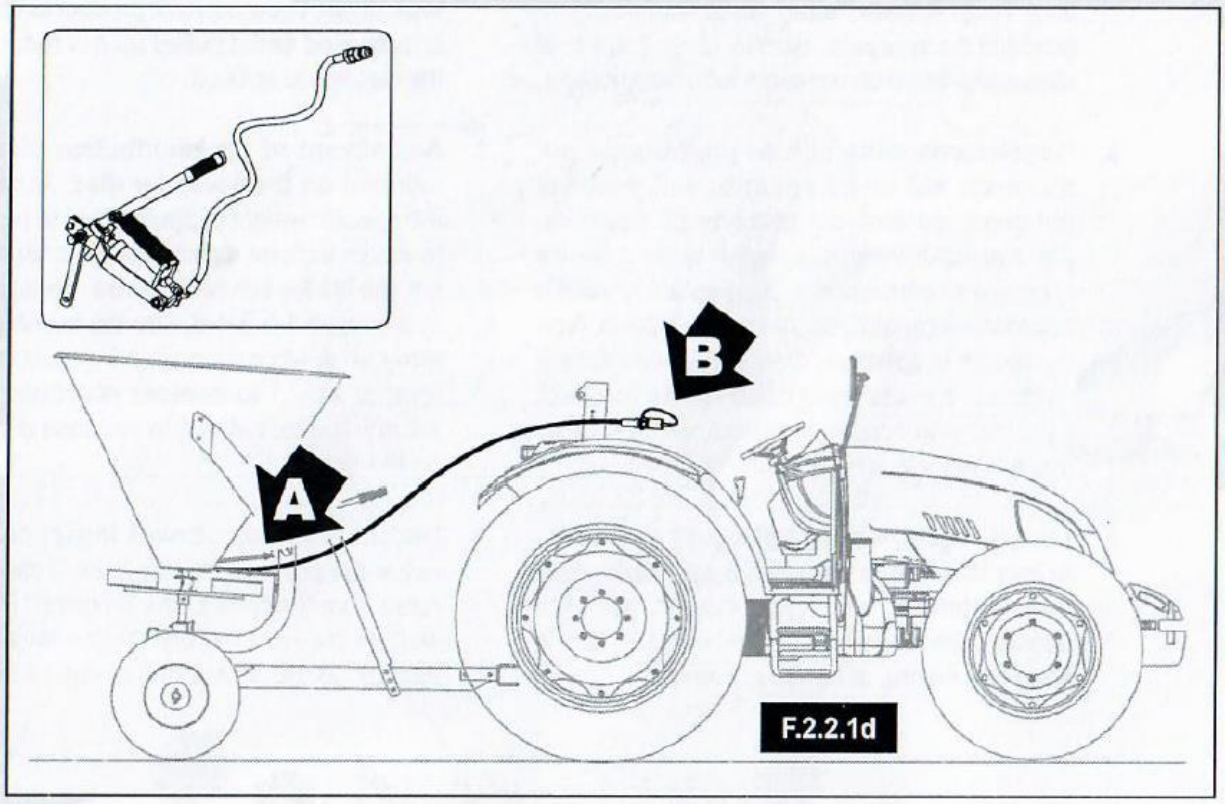


F.2.2.ic

HYDRAULIC CONTROL

A Connect the hydraulic control to the opening lever of the product.

B Connect the quick coupling to the tractor hydraulic distributor.



2.2.2 Control devices

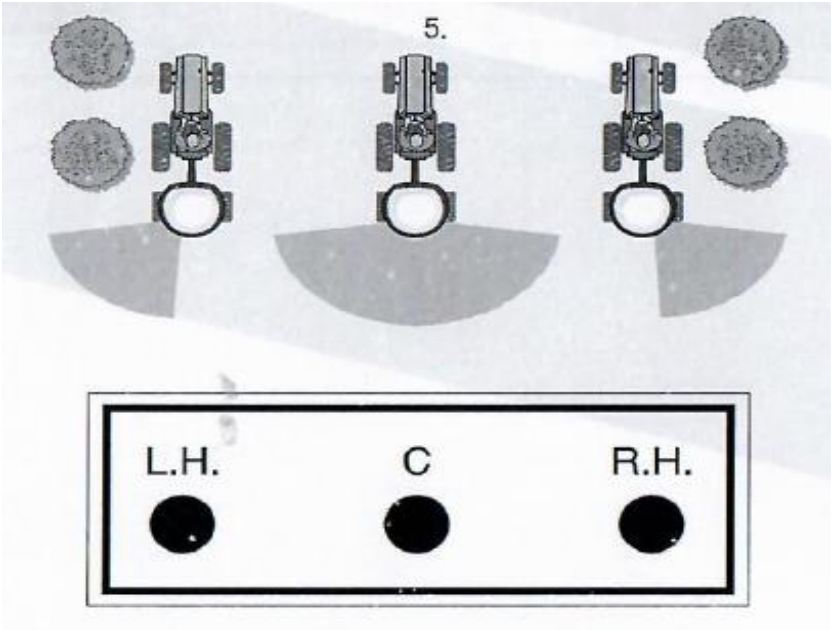
The machine is provided with the following controls:

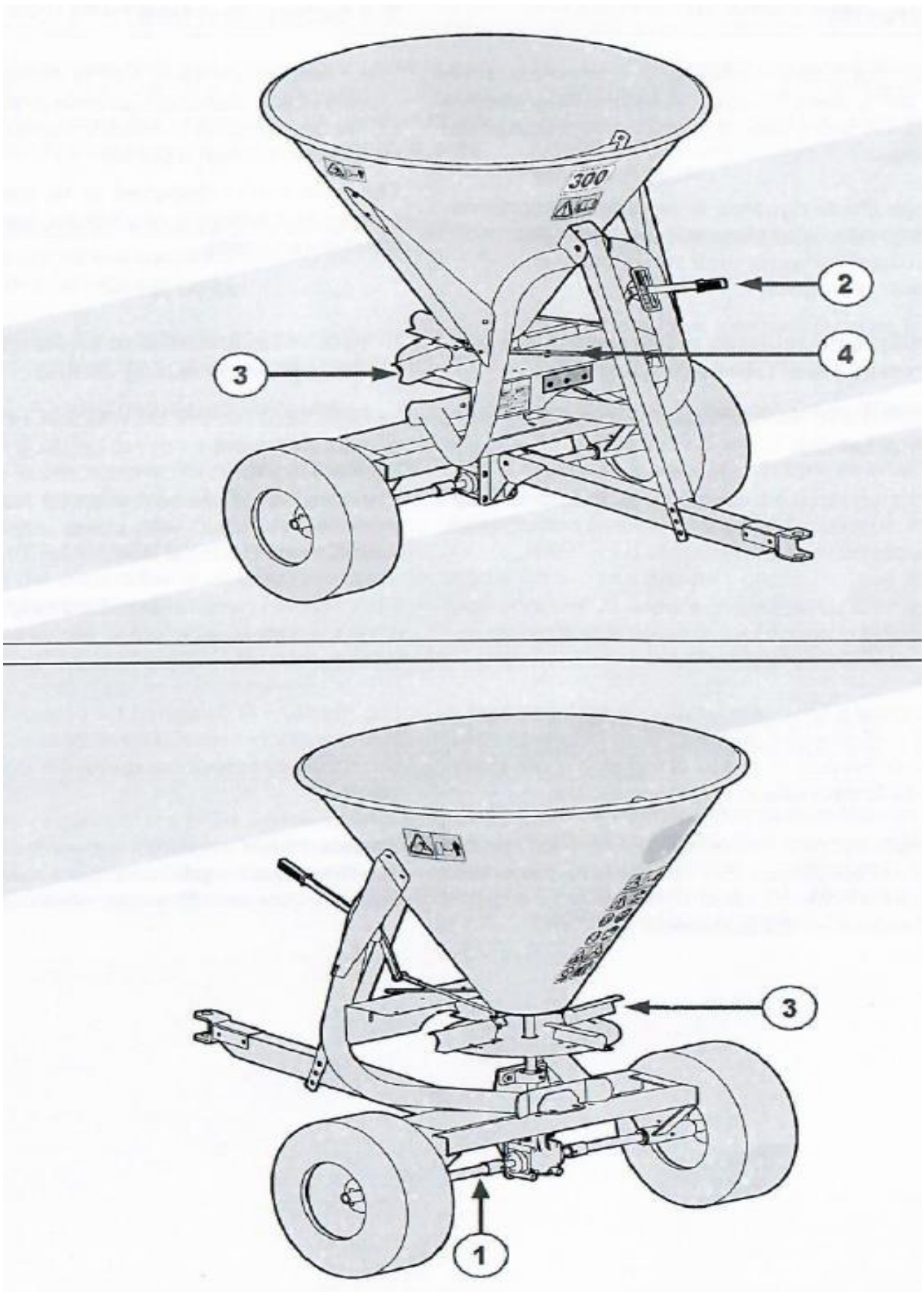
1. **Spreader disc engagement-disengagement system:** directly connected to the fertiliser spreader wheel transmission.

2. **Product opening lever:** it can be operated from the front of the machine. By pressing the lever down, the amount of product to be spread is increased and if pulled up it is reduced until the delivery is shut off.

3. **Adjustment of the distribution blades positioned on the spreader disc.** According to the specific weight of the fertiliser to be spread, to obtain uniform distribution on both right and left, the blades can be adjusted by moving them in the stops 1-2-3-4-5. The blades should normally be positioned in stop 3. Adjust the blade towards stop 1 to increase distribution on the left and towards stop 5 to increase distribution on the right.

4. **Distribution adjustment lever:** positioned below the product opening lever, it can be operated from the front of the machine. By simply shifting the lever the distribution angle can be directed to the right, to the centre or to the left.




300
2
4
3
3
1

2.3 Scheduled use

The machine has been built in conformity with European Union standards given in directive 2006/42/EC as described in the manufacturer's declaration supplied with each machine.

The machine is designed to be used ideally for sowing and fertilising of gardens, sports fields and small green areas.

The following can be spread:

- **solid mineral fertilisers in granular or powder form** *(See spreading tables)*
- **seeds** *(See spreading tables)*
- **salt and sand**

The machine must be towed by tractors or self-propelled vehicles with power adequate for the overall weight with full load.

The machine must be operated only outdoors and when visibility is sufficient to see where the product is being spread.

The machine is designed for professional use and the operators in charge must be certified fit and be able to read and understand the contents of this manual.

Operators must also use the machine in compliance with the current regulations concerning safety, conditions for use and characteristics of the machine.

2.4 Non-scheduled use

The machine is **not intended** for uses other than those described in chapter *§"2.3 Scheduled use" a pag. 22* or for performance exceeding the characteristics given in chapter *§"2.5 Technical data" a pag. 24*.

Do not use the machine's capacity for movement for uses other than those for which it is intended.

Do not use the machine's capacity for movement to move or lift anything.

NEVER spread materials not specified in this manual: this would affect the safety of the machine users and persons working nearby.

NEVER disable the machine safety devices or remove the danger notices.

NEVER allow the machine to be used by disabled persons or children.

DO NOT transport people or animals during work and when moving the machinery from one place to another.

Consequently, the manufacturer shall NOT BE held responsible for any damage to equipment or property or bodily injury as a result of its improper use or any use other than that for which the machine is intended.

2.5 Technical data

[redacted] Models:	SPA 300	SPL 300
Hopper capacity:	66 gallons	66 gallons
Spreading width:	6,5 - 15,3 yd	6,5 - 15,3 yd
Tractor Power:	10 HP	10 HP
Maximum transport speed:	12 mph	12 mph
Maximum working speed:	8,7 mph	8,7 mph
Empty mass:	189 lb	181 lb
Max. rated load:	595 lb	595 lb
Load on hook:	110 lb	110 lb
Length:	70 inch	70 inch
Hopper width:	48 inch	48 inch
Loading height:	57 inch	57 inch

2.6 Standards applied

The machine has been designed and produced in conformity with the provisions of directive 2006/42/EC, namely all moving parts have been made harmless by using guards, barriers and safety systems.

The machine has also been designed to the following directives and standards:

EN 14017:2005+A2:2009
Agricultural and forestry machinery – Solid fertilizer distributors – Safety (2005)

EN ISO 4254-1:2009
Agricultural machinery -- Safety -- Part 1: General requirements

ISO 11684:1995
Tractors, machinery for agriculture and forestry, powered lawn and garden equipment - Safety signs and hazard pictorials - General principles. (1995)

SECTION 3

Safety and accident prevention

3.1 Safety

The user must instruct personnel as to risks deriving from accidents, devices installed for the purpose of operator safety, and general safety rules provided for by directives and legislation in the country where the machine is being used.

Operator safety is one of the primary concerns of any machine manufacturer. When producing a new machine, every effort is made to allow for all potential hazardous situations and, of course, to adopt appropriate safety devices.

Nonetheless, the level of accidents caused by careless and inexpert use of various machines is still very high.

Lack of attention, thoughtlessness and overconfidence often lead to accidents, as can fatigue and drowsiness.

Hence this manual must be read very carefully, concentrating in particular on the section on safety rules.

WARNING

The Manufacturer declines all responsibility for failure to comply with safety and accident prevention regulations provided for by legislation, and with the provisions herein

WATCH OUT FOR THIS SYMBOL IN THE MANUAL: IT INDICATES A HAZARDOUS SITUATION.

Depending on the danger involved, this symbol may have one of three meanings:

DANGER

The **«DANGER»** label indicates the highest level of danger and is intended to warn you that if the operations described are not performed properly, they will result in serious injury, death or long-term health risks.

WARNING

The **«WARNING»** label warns you that if the operations described are not performed properly, they may result in serious injury, death or long-term health risks.

CAUTION

The **«CAUTION»** label warns you that if the operations described are not performed properly, they may result in damage to the machine and/or injury.

IN ACCORDANCE WITH OF THE DIRECTIVE 2006/42/CE NOTE THE FOLLOWING CONVENTIONS:

DANGER ZONE: means any zone within and/or around machinery in which a person is subject to a risk to his health or safety.

EXPOSED PERSON: means any person wholly or partially in a danger zone

OPERATOR: means the person or persons installing, operating, adjusting, maintaining, cleaning, repairing or moving machinery.

3.1.1 General safety rules

DANGER

Failure to comply with the provisions of «Section 3 – Safety and accident prevention» and any tampering with safety devices shall relieve the Manufacturer of any responsibility in case of accident, damage or malfunctioning of the machine.

GENERAL WARNINGS:

• The user undertakes to entrust the machine only to qualified and suitably trained personnel.

• The user is required to take all necessary measures to ensure that unauthorized personnel have not access to the machine.

• The user undertakes to suitably instruct his personnel on the application and observance of safety rules. For this reason, he undertakes to ensure that all persons receive directions for using the machine and safety rules appropriate to their tasks.

• The user must contact the Manufacturer to report any defects or malfunctions detected in safety systems, as well as any situation presumed to be dangerous.

• The user at all times, must use personal protective gear provided for by legislation, and follow the instructions herein.

• The user must comply with all safety symbols and warnings applied on the machine.

• The user must not take their own initiative to perform operations or work outside their area of competence.

• The user are required to report to their superior any problems or hazardous situation encountered to their superiors.

• The machine has been tested only with the equipment supplied only. Fitting parts of different makes or making changes may alter the machine's characteristics and hence compromise its safe operation. **Consequently, the Manufacturer declines any responsibility for any damage that might derive from use of nonoriginal parts.**

• The machine must be used only for the purpose for which it has been designed alone.

• The machine must not be run with safety devices removed.

3.2 Safety signs

The machine has been produced adopting every possible safety standard to assure operator safety.

Nonetheless, the machine may present further residual hazards that cannot be eliminated altogether under certain conditions of use.

The safety symbols (pictograms) applied on various points of the plant are intended to draw the user's attention and warn him/her of danger: consequently, it is necessary to know the meaning of said symbols and to memory them. Any symbols that have been damaged, misplaced or belong to parts that have been changed must be replaced with other original symbols, requesting them to from the Manufacturer, and must be applied in exactly the same place.

DANGER

KEEP ADHESIVES CLEAN, AND REPLACE THEM AS SOON AS THEY START PEELING OFF OR ARE DAMAGED.

Referring to figure F.3.2ab read the following descriptions carefully, committing their meanings to memory.

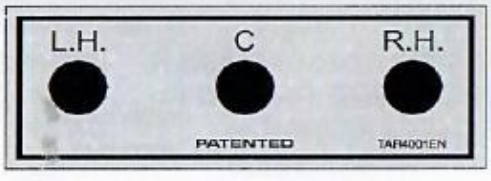
Cod. KITPTG1000

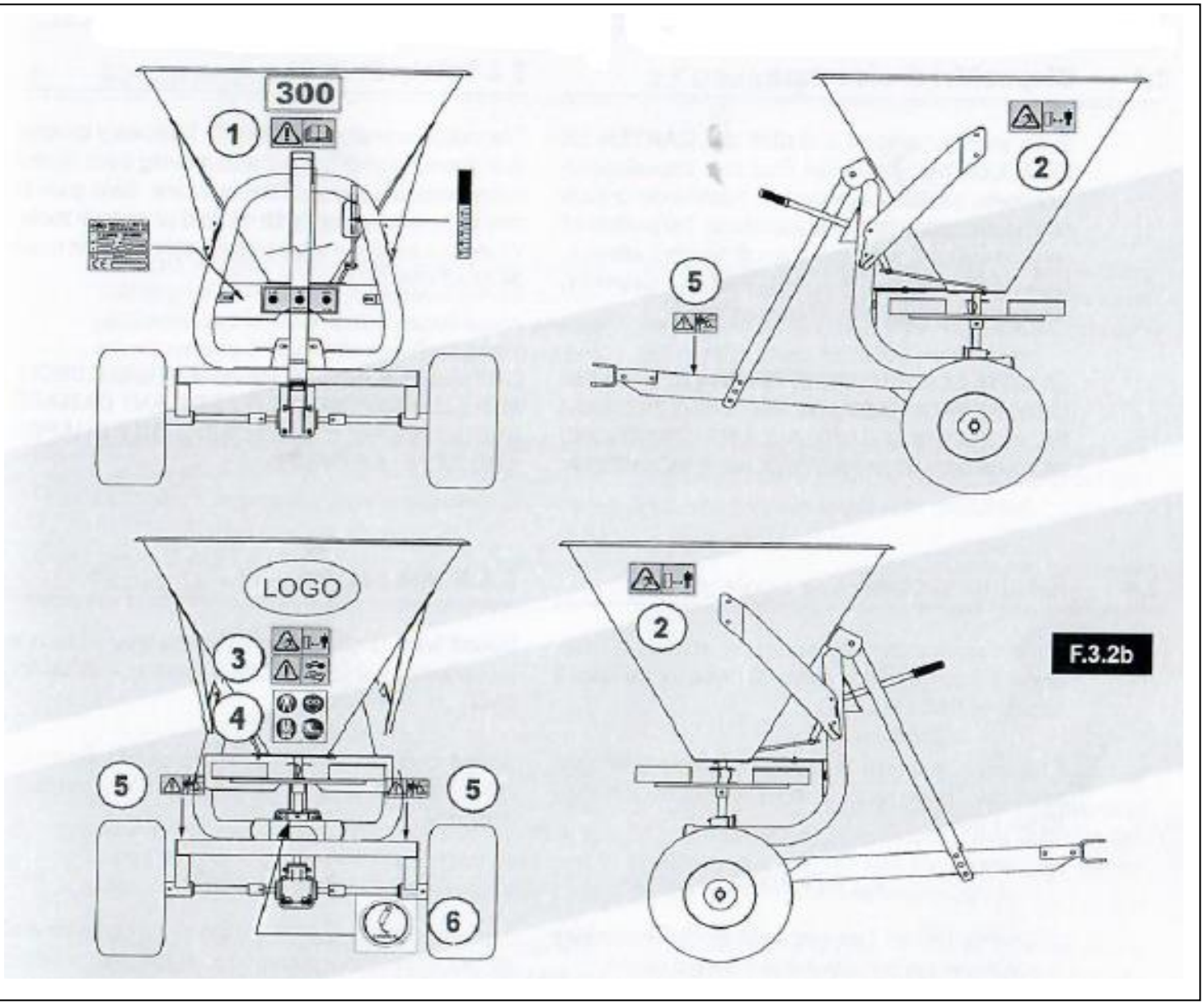
LOGO

250 mm

300

Cod. KITPTG1100
per spandiconcime
monodisco
mod. XT-XTL





1. Before operating the machine, read the user's guide carefully.

2. Warning! Keep away from the machine: danger of product being ejected.

3. Warning! Before performing any maintenance operations, remove the tractor's ignition key and read the Operation and Maintenance Manual.

4. Personnel are required to wear personal protective equipment: Overalls, Safety goggle, Protective gloves, Safety shoes.

5. Warning! Risk of falling, do not mount the machine for purposes of transportation.

6. Lubrication point.

3.3 Safety devices

The machine features **GUARDS**: Stationary devices that prevent direct contact with moving parts or any other hazardous part of the machine. Said guards can be removed only with the aid of special tools. When the machine is operating, said devices must be fitted correctly.

CONSEQUENTLY, THE MANUFACTURER DECLINES ALL RESPONSIBILITY FOR ANY DAMAGE RESULTING FROM TAMPERING WITH GUARDS AND SAFETY DEVICES.

3.4 Noise hazard

Sound level (airborne noise) measured from one metre away with the machine running was as follows:

Sound pressure at the operator's position measured according to EN ISO 4254-1:2009 Standard-Appendix B.

$$L_{pA} < 70 \text{ dB(A)}$$

The noise values quoted are the emission levels and do not necessarily correspond to the safe working levels.

While there is a correlation between emission levels and exposure levels, this is not reliable for the purposes of determining whether or not further precautions are required.

The factors influencing a worker's actual level of exposure include the duration of the exposure, characteristics of the environment and other emission sources, for example, the number of nearby machines and processes.

The permitted exposure levels may also vary from country to country. This information does, however, enable the machine operator to assess the risks and dangers more accurately.

3.5 Clothing

WARNING

Wear suitable clothing. Avoid baggy, loose-fitting clothing: It might get caught up in moving parts. Long hair should be tied back. Operators should not carry scissors or sharp tools in their pockets.

During maintenance and repair work, workers are required to wear protective clothing, cut-proof gloves, and non-slip boots with reinforced.

3.6 Ecology and pollution

WARNING

• Comply with laws in force in the country where the machine is being used regarding use and disposal of products employed in cleaning and servicing the machine, and comply with the instructions issued by the manufacturers of said products.

• Dispose of any special waste by handing waste materials in to suitably authorized firms, and demand a receipt attesting the disposal.

• Dispose of any packaging left over from the machine's transport in conformity with the regulations in force.

• If the machine is to be dismantled, comply with the pollution prevention regulations provided for by the country it is used in, exercising particular care when it comes to lubricants and electric components.

3.7 Safe use

WARNING

Safety standards:
HOW TO AVOID ACCIDENTS

• To avoid accidents, pay close attention to the warning notices affixed on the machine and read this guide carefully.

• The use of the spreader is restricted to the fuctions, for which it has been designed and which are described in the present guide. The manufacturer will not be held responsible for any damages to things or injuries to people caused by a wrong use of the spreader.

• Before starting the spreader, make sure all protection devices and guards are mounted correctly.

• Make sure no bystanders (especially children) or animals are in the working area. This is extremely important when the spreader is being used near pubblic or easily accessible roads.

• Minors (under 18) are not allowed to operate the spreader.

• The spreader can be used with every kind of tractor of suitable power, whose couplings are compatible with those of the spreader.

• It is strictly forbidden to spread iron pieces, stones, grivel, glass and similar materials as they may injure people and cause damages to things.

• Before carrying out any repair or maintenance work on the machine, detach the towing vehicle and disable the transmission to the spreader disc.

• It is strictly forbidden to transport persons while the spreader is in operation or during transfers.

• When travelling on public roads, connect the spreader to the tractor as described on the present guide. A wrong connection may alter the vehicle stability. It is necessary to abide by the national traffic code.

• We remind you that a careful operator is the best insurance against accidents.

• The area the machine is used in should be considered a «**DANGER ZONE**», especially for anybody not trained in its use.

• When people are «**exposed**», i.e. are in the «**DANGER ZONE**», the operator must stop the machine instantly, and possibly have the person removed.

• Whilst the machine is operating, operators must be in a position where they have full control of the machine so that they can take immediate action at any time and in any event.

• If safety guards are removed, make sure they are refitted properly before using the machine again.

• Maintenance or repair work must be performed by personnel qualified for the specific tasks.

• Never enter the hopper with the fertilizer spreading devices in motion.

• In order to avoid the formation of lumps of salt and the clogging of the hopper, do not spread fertilizer on extremely humid or rainy days (if necessary, use the hopper cover tarpaulin provided as an optional). Whenever clogging occurs, immediately switch off the machine to avoid damaging the fertilizer spreading devices. Remove lumps of fertilizer only after first switching off the tractor. Wear personal protective equipment (safety gloves, goggles) during machine cleaning operations.

3.8 Residual risks

Despite close attention to risk reduction during design and the application of protective devices, there are a number of residual risks inherent in the interchangeable machine and the operator must be aware of these in order to counteract them and avoid becoming a victim.

Mechanical risks

• Crushing of the lower limbs during manoeuvres to hitch or unhitch the interchangeable machine and tractor.

• Crushing/shearing of the upper limbs due to contact between the fingers and the centrifugal disc during rotation.

• Impact and abrasion due to contact with the salt flung out by the impeller during operation.

Electrical risks

None

Chemical/environmental risks

See the safety sheet for the material to be spread and adapt work methods to the safety procedures indicated.

SECTION 4
Handling and installation

CAUTION

The fertiliser spreader and accessories are generally partially fitted at the factory and shipped in cardboard packaging or on pallet. To complete assembly, follow the instructions given in this manual.

In some cases, depending on customer requirements, the machine is delivered fully assembled.

Upon receipt of the goods, carefully check to ensure that no damage has occurred during transport.

4.1 Machine handling

For handling (or when the tractor is detached), place the machine on a pallet of adequate size and loading capacity.

DANGER

- **Handle the machine only when the hopper is empty.**
- **The machine must rest steadily, if necessary fix it with screws to the pallet.**

For handling use a transpallet (or a lift truck) appropriate to the weight to be lifted, as shown in figure.

If the machine is not immediately assembled and temporary storage is required, the machine must be kept in a dry covered place.

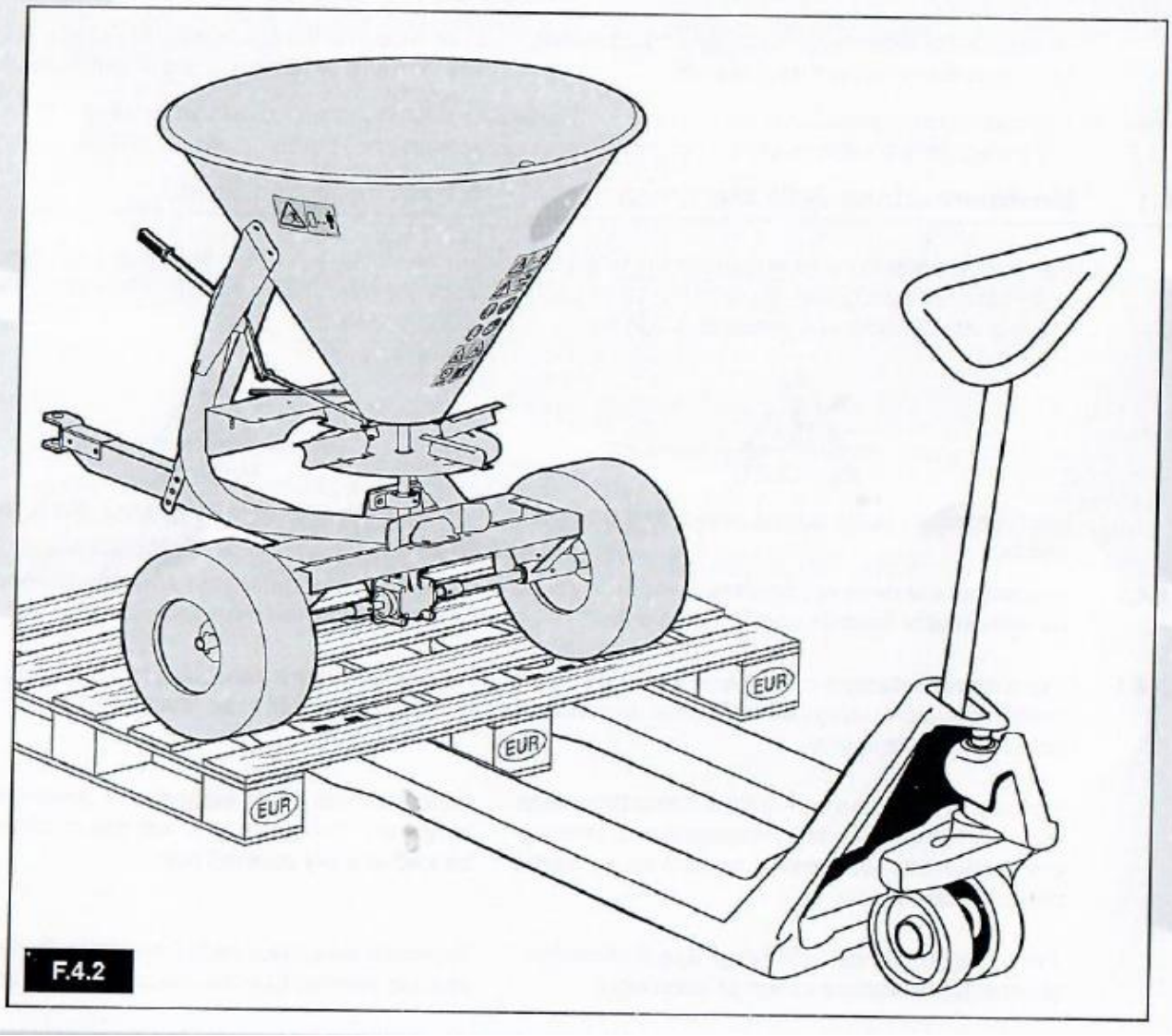
To protect the various parts from atmospheric agents you are advised to leave the packaging intact.

4.2 Installation of the spreader

For assembly of the spreader, follow the directions in Section *"7 Spare parts" a pag. 51.*

The technician will have to look up in the operating manual of the machine, test its final inspection and give to each user all the necessary information about the use and the ordinary maintenance of it. Its technical maintenance has to be always entrusted to technical well-prepared staff.

In Section *"7 Spare parts" a pag. 51* view represents all screws and washers which should be used.



F.4.2

4.3 Positioning

To guarantee maximum stability in working conditions, the machine must be attached to tractors of adequate weight and power.

The machine is built to guarantee maximum stability even when detached from the tractor, on condition that it is emptied some load and positioned on a compact surface. For this purpose the machine is provided with an adjustable foot on the drawbar.

4.4 Tractor hitching

DANGER

This operation must be performed with the machine completely emptied of its load.

Personnel are required to wear personal protective equipment.

The spreader can be hitched to any tractor or self-propelled machine of suitable power.
(See "2.5 Technical data" a pag. 24).

Before hitching, make sure that:

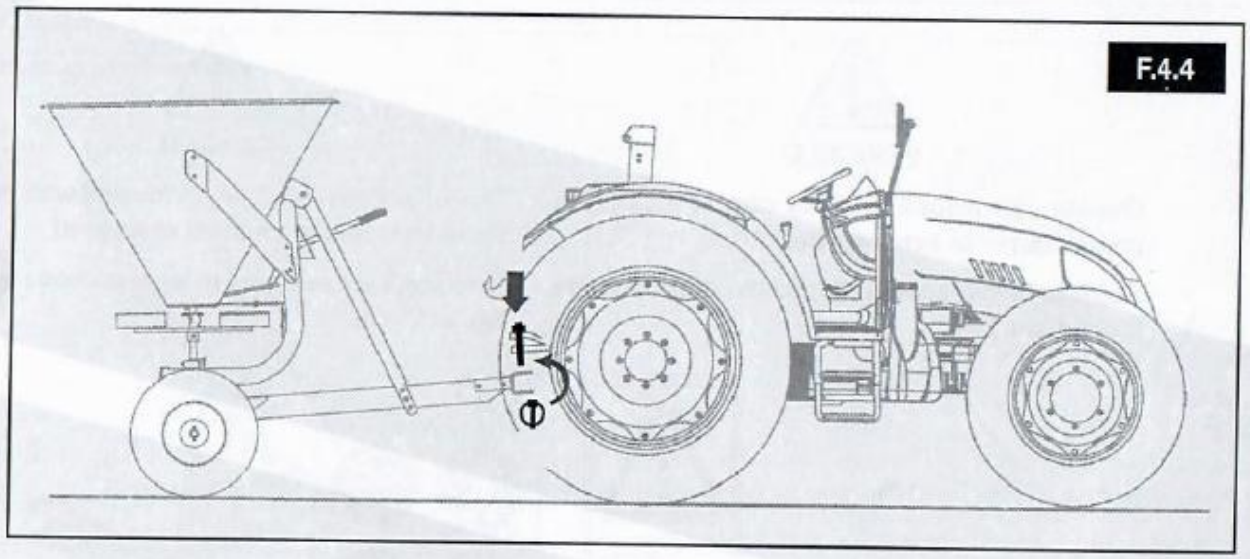
- there is no-one in the area apart from the operator.
- hitching manoeuvres are performed on level ground, with the tractor brake on and the spreader stable.

Having verified the above:

1. The machine is coupled to the tractor by means of the towing hook.

2. Check that the spreader disc transmission is disengaged (Remove the pin to disengage the motion to the drive shaft).
   (See "5.2.1 Transmission of movement" a pag. 42).

3. Position the tractor adjacent to the machine and connect the drawbar, inserting the bolt and safety pin.



4.5 Inspection

A final inspection must be carried out before using the machine to ensure no unforeseen situations exist.

- Make sure all hitch pins are inserted and locked in place with the safety pins.

- Lubricate the points indicated *(See the points indicated in the "SPARE PARTS CATALOGUE).*

- Make sure the controls correspond to the movement of the machine.

4.6 Preliminary cleaning

Once all connections have been made, the whole machine must be cleaned of dirt that has built up during transit, storage and handling.

Use suitable non-corrosive degreasing products and dry all machine parts exposed metal and paintwork alike using soft, dry cloths.

4.7 General inspection

WARNING

Before starting to use the machine, safety devices must be checked to ensure they are efficient and working perfectly.

To work in complete safety it is necessary to:

- *Tighten the bolts and all locking devices.*

- *Make sure all safety guards are properly installed.*

- *Do not leave tools or other objects not belonging to the machine inside the hopper or on the mechanical parts.*

SECTION 5
Use

5.1 Prior to use

Before operating the machine, the operator must have read and understood all parts of this manual, especially those given in "Section 3" on Safety.

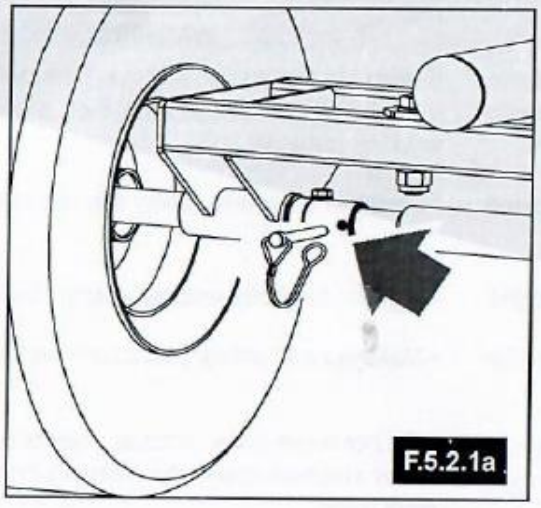
Check the machine's conditions carefully, especially parts most subject to wear and tear.

5.2 Starting up

The machine must be operated exclusively by skilled personnel, who have been properly trained in the use of the machine and in the main safety procedures. Before starting the machine, personnel are required to make themselves familiar with its controls.

5.2.1 Transmission of movement

After engaging the transmission unit via the fixing pin, the spreader disc is operated directly by rotation of the fertiliser spreader wheels. The towing speed determines the distribution width.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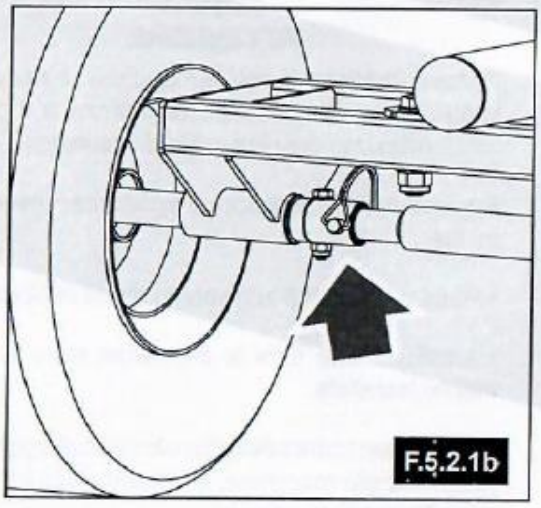
F.5.2.1b

5.3 Adjustments

WARNING

To avoid accidents and danger situations, all machine adjustments must be performed exclusively with the machine emptied of its load.

Adjustments must always be performed following the instructions provided in this use and maintenance manual.

The machine controls are described in "2.2.2 Control devices" a pag. 20.

- Adjustments to the distribution equipment (positioning of the blades and adjustment of the distributor) must always be performed with the tractor engine switched off.
- Select the distribution direction (90° to the right or left, 180°) by moving the distribution adjustment lever to one of the three positions LH-C-RH indicated by the adhesive label.
- Adjust delivery of the product by means of the product opening lever or by operating the remote mechanical control from the tractor driving position.

See: SECTION 8: Spreading Table

- Engage the spreader disc transmission by operating the engagement-disengagement lever.

WARNING

Rotation of the disc is directly connected to the fertiliser spreader wheel transmission: the travel speed also determines the number of rotations of the spreader disc.

5.4 Hopper loading

The hopper is generally loaded by hand.

Avoid loading the hopper beyond the maximum permitted load – See table *"2.5 Technical data" a pag. 24.*

The hopper must only be filled after having hitched the fertiliser spreader to the tractor, with the engine off and with the parking brake engaged, so as to avoid sudden movements and prevent the machine from rolling over.

It is very important to check the stability of the tractor-fertiliser spreader together before starting to fill the hopper.

When handling fertilisers, operators must comply with all the instructions shown on the product labels.

For best results and safe operation, the following warnings must be observed at all times:

1. Before filling, fully close the shutter on the metering device.
2. Fill the hopper until reaching the indicated level. Distribute the fertiliser uniformly and level inside the hopper.

Make sure the product to be spread is clean: stones and metallic objects may be a cause of danger, as well as irreparably damaging the machine's mechanisms.

WARNING

Do not park the machine with the hopper full or partly loaded.

5.5 Distribution

The product is distributed when the fertiliser spreader is towed and the metering unit outlet is opened by means of the opening lever or the remote mechanical control.

The action of the mixer causes the product to drop onto the spreader disc where the distributor blades propel it to the outside via the centrifugal reaction.

The quantity distributed depends on travel speed, distribution radius, fertiliser quality and moisture, and how rough the terrain is.

Travel speed of the vehicle that tows the machine needs to be established before starting spreading, and where possible should be kept constant throughout the operation.

The **"SPREADING TABLES"** provide general information on determining the quantity to be spread in the field: this is then enhanced based on the operator's experience and expertise.

5.6 Spreading table

WARNING

In order to make the reference to the spreading table as clear as possible, we have listed only a few FERTILIZERS and SEEDS that differ in composition, quality, shape and specific weight. We remind you that the above indicated data are intended for reference only and are not binding.

Spreading table is in kilograms per hectare (kg/he) and in pounds per acre (lb/ac).

For a quick reference it can be found at the end of this manual.

5.7 Road transport

DANGER

THIS MACHINE IS NOT APPROVED FOR THE TRANSIT ON PUBLIC ROADS.

Can be loaded on means of transport with ability of load adjusted to the mass of the machine.

WARNING

It is obliged to follow all the traffic regulations in force in the country where the machine is used.

5.8 Detachment of the machine

DANGER

Before performing this operation, completely empty the machine of all residual load to prevent it accidentally tipping over.

When detached from the tractor, the fertiliser spreader must be left on compact flat ground (checking the load on the resting points), with the spreader disc transmission disengaged and the product outlet closed.

Lower the resting foot on the drawbar.

Position wedges under the wheels to prevent the fertiliser spreader accidentally moving.

SECTION 6
Maintenance

6.1 Maintenance and cleaning

WARNING

Before any maintenance operation make sure the spreader is detached from the tractor. It is forbidden to service the spreader while it is working or the tractor is on. Personnel are required to wear personal protective equipment.

The time intervals given refer to normal operating conditions; consequently, if the machine is subjected to particularly heavy duty, they must be reduced accordingly.

The purpose of these instructions is to assure efficiency, reduce wear and generally make the machine last longer: the user has everything to gain from keeping the machine in pristine condition.

• After use, wash the hopper carefully and remove fertilizer residues: before storing the spreader, it is advisable to unload the hopper completely so as to prevent product residues from obstructing the hopper or blocking the bottom shutter.

• It is essential to conduct a general inspection of the machine's mechanical parts at regular intervals.

• Keep the work area clean, dry and free from obstacles to allow the maintenance worker complete freedom of movement in safety.

• Use of naked flames for any operation is absolutely prohibited.

• Do not use petrol, solvents or other flammable liquids.

• If elements of the spreader must be lifted, make sure suitable lifting equipment with an adequate capacity is available and make sure the spreader is balanced during lifting. Do not transit or stand under hanging loads.

• The vibrations produced during work and movement of the equipment from one place to another may in the long term cause loosening of the bolts. You are advised to check the nuts and bolts roughly every **50 working hours**.

WARNING

N.B.: All work on the machine under guarantee must be performed according to agreements and instructions from the manufacturer. FAILURE TO OBSERVE THIS CONDITION invalidates the guarantee.

6.2 To keep in mothball

If the machine is not employed for a long time it is necessary to check its mechanical and electrical parts, so that to avoid problems when bringing it into use again .

All parts subjected to wear must be carefully controlled. The worn out and damaged parts should be immediately replaced by original spare parts provided by the distributor or the producer.

Besides, check that the bolts of the machine are not shaked loose during the working.

Such instructions are meant to maintain the machine in good conditions, riducing its wear and tear and prolonging its life.

6.3 Re-start

Before putting the machine back into service, it is always a good idea to check its general conditions: its current state will depend on the conditions it was mothballed in.

6.4 Dismantling the machine

Should the decision be made to dismantle the machine, its components must be sorted into groups of like materials and disposed of individually in accordance with the local laws in force on disposal of special waste.

WARNING

WHEN DISPOSING OF THE VARIOUS COMPONENTS, ONLY GO THROUGH A LEGALLY AUTHORIZED FIRM THAT WILL ISSUE A RECEIPT ATTESTING TO DISPOSAL.

None of the materials used to make the machine are classified as toxic or harmful. For disposal, contact an authorised collection centre for the disposal of special waste.

SECTION 7

Spare parts

7 Spare parts

All spare parts can be ordered from the manufacturer, consulting the"SPARE PARTS CATALOGUE" annexed to the technical documentation accompanying the machine, specifying:

- **Machine model**
- **Machine's serial number**
- **Year of manufacture**
- **Reference code of the part**
- **Means of transport:** if no preference is specified, the manufacturer shall do its best to ensure you receive good service, though it declines all responsibility for any delays in shipment as a result of force majeure.

Lastly, remember you can always contact the manufacturer for your servicing.

Fertilizer spreading table

Fertilizer type	Spreading (m)	Work Speed (km/h)	Quantity of fertilizer per hectare (kg/ha) - Dosage							
			1,5	2	2,5	3	3,5	4	4,5	5
Coarse grained	12 m	1,5	225	375	691	1139	1455	1795	2175	2628
		4	106	156	277	465	580	720	887	150
		8	58	78	145	230	292	360	441	530
		12	39	60	95	156	197	245	292	363
		14	23	39	72	120	150	192	225	270
Medium grained	10 m	1,5		523	896	1279	1635	2027	2258	2624
		4		197	370	525	671	830	927	1062
		8		118	192	265	340	422	469	537
		12		82	127	183	223	284	321	365
		15		60	92	130	174	212	232	276
Fine grained	8 m	1,5	198	324	550	926	1195	1507	1766	2125
		4	95	137	229	382	494	619	727	866
		8	52	68	121	200	252	315	364	445
		12	33	46	105	137	172	217	248	296
		14	19	34	59	98	128	154	189	224
Medium cristal	8 m	1,5	375	620	1144	1855	2294	2940	3436	4094
		4	131	249	468	751	927	1197	1387	1643
		8	77	127	237	374	473	607	698	829
		12	50	86	159	253	318	414	472	557
		14	34	61	114	194	236	312	361	413
Calcium cyanamide and similar	10 m	1,5	312	852	1255	1859	2295	2095	3259	3801
		4	124	341	515	752	919	1129	1316	1526
		8	66	169	260	337	462	562	664	764
		12	42	113	168	248	309	378	441	510
		14	29	83	127	189	232	285	328	382
Ammonium sulphate (Cr)	10 m	1,5	161	642	1050	1581	2022	2499	2963	3478
		4	69	254	424	633	814	1007	1182	1395
		8	32	130	214	319	411	504	590	699
		12	26	83	139	215	274	335	396	475
		14	17	66	107	162	204	252	298	350
Thomas meal	6 m	1,5					2571	5724	7580	7874
		6					650	1451	1915	1973
		12					330	610	658	988
		14					222	485	337	662

Seeds spreading table

Type of seed	Spreading (m)	Work Speed (km/h)	Quantity of seeds per hectare (kg/ha) Dosaggio - Dosage 1	1,5	2	2,5	3	3,5	4
Wheat	8 m	1,5			306	495	677	830	
		4			122	197	270	354	
		8			61	98	135	177	
		12			40	65	89	118	
		14			29	48	67	88	
Oat	6 m	1,5		235	389	580	777		
		4		92	155	231	310		
		8		46	77	115	154		
		12		30	51	77	103		
		14		22	38	56	77		
Rye	8 m	1,5			395	615	843	1025	
		4			156	242	336	410	
		8			81	122	167	205	
		12			51	82	111	136	
		14			39	62	86	102	
Barley	10 m	1,5				405	492	680	837
		4				161	197	273	334
		8				80	97	135	166
		12				52	64	91	110
		14				40	49	66	82
Rye grass	5 m	1,5	56	159	335				
		4	22	64	134				
		8	12	33	68				
		12	8	22	45				
		14	6	16	34				
Rape seed	5,5 m	1,5	43	240	478				
		4	18	96	192				
		8	9	47	96				
		12	7	32	64				
		14	4	24	47				
Red clover	5,5 m	1,5	64	220	539				
		4	25	88	217				
		8	12	44	108				
		12	8	29	73				
		14	7	23	54				

Fertilizer spreading table

[redacted] Fertilizer type	[redacted] Spreading (yard)	[redacted] Work Speed (mile/h)	[redacted] Quantity of fertilizer per acre (lb/ac) Dosaggio - Dosage							
			1,5	2	2,5	3	3,5	4	4,5	5
Coarse grained	13 yd	1	201	335	616	1016	1298	1601	1940	2344
		2,5	95	139	247	415	517	642	791	134
		5	52	70	129	205	260	321	393	473
		7,5	35	54	85	139	176	219	260	324
		8,7	21	35	64	107	134	171	201	241
Medium grained	11 yd	1		467	799	1141	1458	1808	2014	2341
		2,5		176	330	468	599	740	827	947
		5		105	171	236	303	376	418	479
		7,5		73	113	163	199	253	286	326
		8,7		54	82	116	155	189	207	246
Fine grained	8,7 yd	1	177	289	491	826	1066	1344	1575	1896
		2,5	85	122	204	341	441	552	648	772
		5	46	61	108	178	225	281	325	397
		7,5	29	41	94	122	153	194	221	264
		8,7	17	30	53	87	114	137	169	200
Medium cristal	8,7 yd	1	335	553	1020	1655	2046	2622	3065	3652
		2,5	117	222	417	670	827	1068	1237	1466
		5	69	113	211	334	422	541	623	739
		7,5	45	77	142	226	284	369	421	497
		8,7	30	54	102	173	211	278	322	368
Calcium cyanamide and similar	11 yd	1	278	760	1119	1658	2047	1869	2907	3390
		2,5	111	304	459	671	820	1007	1174	1361
		5	59	151	232	301	412	501	592	681
		7,5	37	101	150	221	276	337	393	455
		8,7	26	74	113	169	207	254	293	341
Ammonium sulphate (Cr)	11 yd	1	144	573	937	1410	1804	2229	2643	3102
		2,5	62	227	378	565	726	898	1054	1244
		5	29	116	191	285	367	450	526	624
		7,5	23	74	124	192	244	299	353	424
		8,7	15	59	95	145	182	225	266	312
Thomas meal	6,5 yd	1					2293	5106	6761	7024
		3,5					580	1294	1708	1760
		7,5					294	544	587	881
		8,7					198	433	301	591

Seeds spreading table

Type of seed	Spreading (yard)	Work Speed (mile/h)	Quantity of seeds per acre (lb/ac) Dosaggio - Dosage 1	1,5	2	2,5	3	3,5	4
Wheat	8,7 yd	1			273	442	604	740	
		1,2			109	176	241	316	
		1,6			54	87	120	158	
		2			36	58	79	105	
		2,2			26	43	60	78	
Oat	6,5 yd	1		210	347	517	693		
		1,2		82	138	206	277		
		1,6		41	69	103	137		
		2		27	45	69	92		
		2,2		20	34	50	69		
Rye	8,7 yd	1			352	549	752	914	
		1,2			139	216	300	366	
		1,6			72	109	149	183	
		2			45	73	99	121	
		2,2			35	55	77	91	
Barley	11 yd	1				361	439	607	747
		1,2				144	176	244	298
		1,6				71	87	120	148
		2				46	57	81	98
		2,2				36	44	59	73
Rye grass	5,4 yd	1	50	142	299				
		1,2	20	57	120				
		1,6	11	29	61				
		2	7	20	40				
		2,2	5	14	30				
Rape seed	6 yd	1	38	214	426				
		1,2	16	86	171				
		1,6	8	42	86				
		2	6	29	57				
		2,2	4	21	42				
Red clover	6 yd	1	57	196	481				
		1,2	22	78	194				
		1,6	11	39	96				
		2	7	26	65				
		2,2	6	21	48				