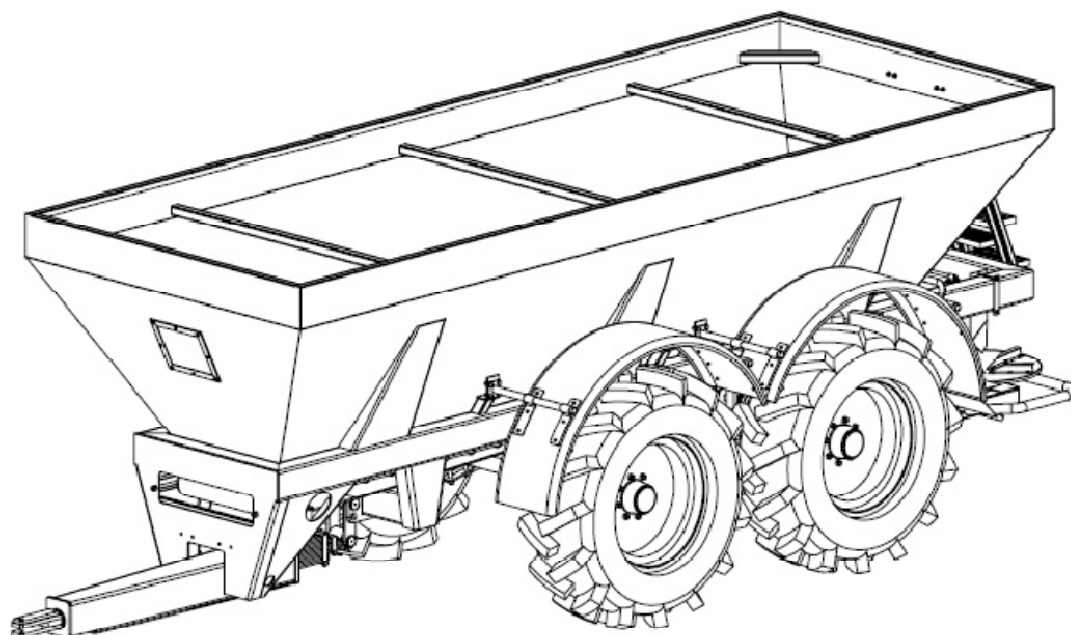


RA-TM20 FERTILIZER SPREADER



MAQUINÀRIA AGRÍCOLA SEGUÉS S.L.
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INTRODUCTION

The machine that you've already purchased is product of the technical development obtained by our company due to the support and confidence given by customers like you.

With these words, we'd like to appreciate the confidence given to our company and we wish this machine satisfies all your prospects.



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Everything written in the following pages are instructions and advices in order of obtaining the main objective, a safe use of the machine, as by the user as by the environment.

Maintenance advices and instructions are given also to obtain a long durability of the machine and the best work possible according to the field's conditions.

Because of all these, we specially encourage you to read this manual that will supply of good advices in order of obtaining the highest performance of your spreader. This manual must be read by the spreader's user.

Any doubt that could appear during this manual reading or during the machine's use, don't hesitate to contact with **SEGUÉS** or any of its dealers.

This manual has to be considered as a part of the machine and it must be attached to the machine if it's sold again. That's why, it's recommended to keep it carefully.

We'll agree since this moment that the right and left sides of the machines will be established by looking at **the tractor's advance direction**.

This machine only can be driven, repaired or kept by qualified staff whose know the machine's specialities and handling hazards and have read the owner's manual.

The manufacturer is not and won't be responsible for any consequence arise from any modification done without the written consent of the manufacturer.

This machine has been designed for spreading fertilizer over the field.

Segués won't be responsible of any consequence arise from an unsuitable use of it.

The right use according to the machine's characteristics also means that the manufacturer's instructions must be carefully followed.

2.1 WARNINGS

The machines are fit with numerous warning signals those show all dangerous possible situations. Following, all the stickers meaning are described.

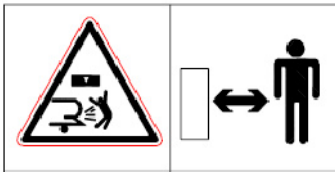


Carefully read the instructions manual



Risk of cut by spinner discs rotation

Don't approach to discs if are not completely stop



Risk to be hit by big objects strong thrown by the discs. Go away from the discs range of action, minimum 25 mts.



Risk to be caught by the conveyor belt.

Don't approach to belt when it been running.



Risk to be sheared off with the open-close cover system.

The stickers have to be perfectly kept and if they are damaged, have to be immediately replaced.

While using this machine, a number of instructions and safety regulations have to be followed, to avoid risks to the user, the environment and the machine. The safety regulations are:

- When hitching the machine to the tractor, never forget to place the security pin in the draw bar bolt.
- When driving by public roads, especially during the night, lights, license plates, warning triangles and reflectors have to perfectly work.
- The wheels air pressure have to be checked and the suitable for each kind of tyre.
- The driving speed has to be suitable for each situation and road's conditions. When the spreader is towed, the maximum speed never will be higher than 25 Km/h-15 M/h
- Each machine has its maximum load indicated. Never exceed this maximum load.
- Always avoid to drive by transversal slopes higher than 8,5° (14%).
- When the machine carries a load that doesn't take the entire hopper, all the previous safety regulations have to be respected.
- During the carry, the back hatch has to be full closed.
- **SEGUÉS** manufactures fertilizer spreaders for spreading and carrying fertilizers, and never can go up the spreaders persons when it is running.. Only the fertilizer transport is allowed.
- Never go in the hopper. If any operation has to be made in, go to an authorised Segués garage.
- During the uploading operation, nobody can be around the machine, they could be injured by the load or any mechanism.
- The previous regulation has to be followed also when downloading using the tractors PTO or when the machine is working.

- Never get closer the spinner discs when are running and either when are working. With the fertilizer could be stones or other strong objects that could injury the person.
- The belt taut can be only done when it's stopped.
- No mechanism will be handled if the tractor's engine isn't stopped. Specially the back mechanisms.
- When fixing the hatch position, be carefully not to injure your fingers with it or with the lever.
- When working, you can only drive following the slopes direction, never will be transversal driven.
- When uploading, the terrain never will be a slope or covered in mud. The spreader could overturn or slide.
- Always avoid the contact with hydraulic fluids at high pressure. They can seriously injure your skin and you. If any hydraulic fluid is inserted in the body, a Dr, will be urgently required. Suitable gloves have to be used.
- Be sure that at any tractor's position, the rubber hoses never will be forced or caught by the movements.
- Avoid the forced turns or the turns where the tractor's wheel can collide with the spreader.
- If any part of the spreader has to be welded, the paint has to be completely sanded. If the paint is warm, toxic gases will be given off. A mask must be used in this actuation.

- During the fertilizer spread or when working with fertilizer, never eat or drink. Hands have to be perfectly cleaned (even with a nails brush). After working with the fertilizer, a strong shower has to be taken to clean the body of fertilizer leftovers.
- Be careful to leave the fertilizer spreader or the fertilizer out of reach of children. Key close the store where the spreader is parked to avoid accidental ingestions of fertilizer. It's extremely toxic.
- It's forbidden to make any modification in the machine. It could affect the machine's safety. Modifications can be only done under the written authorisation of **MAQUINARIA AGRÍCOLA SEGUÉS SL.**

Any modification made without the **SEGUÉS** authorisation, will entail the guaranty and the CE conformity declaration cancellation.

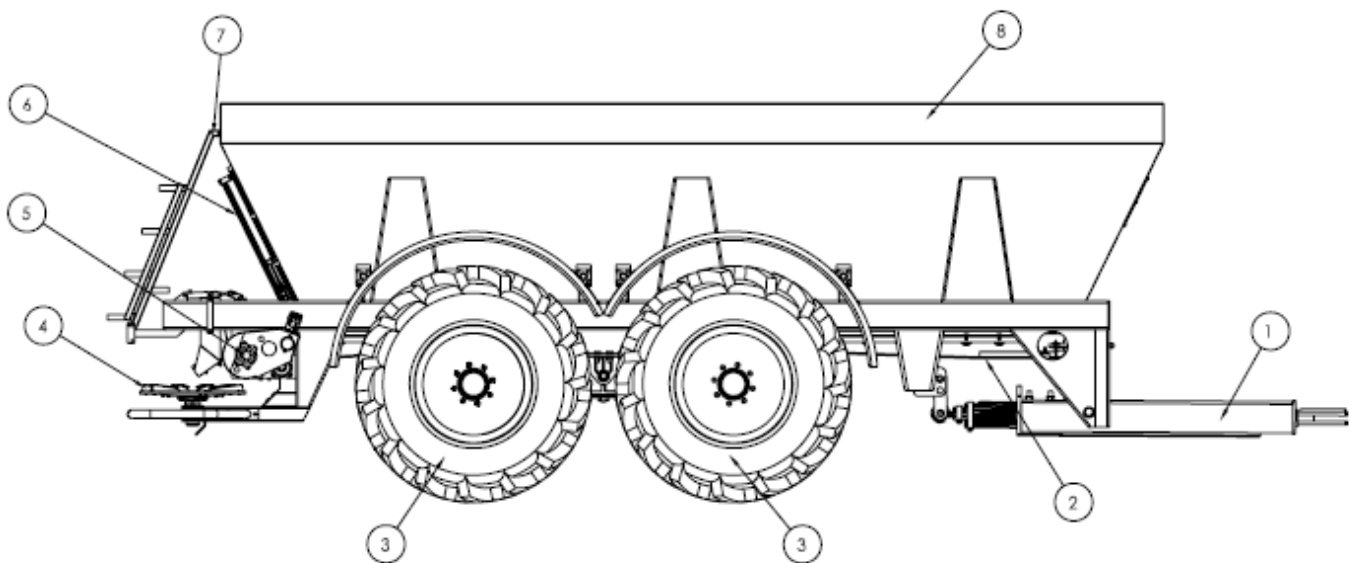
4.1 MACHINE DESCRIPTION

The SEGUÉS fertilizer spreaders are designed to spread fertilizer over the field.

The fertilizer spreaders are fixed to the tractor by a hitch with bolt.

The necessary movement for the machine's running is given, to the discs by two hydraulic motors and two the conveyor belt by other bigger hydraulic motor.

In the following picture are shown the most important parts of the machine:



1. Draw bar
2. Conveyor belt
3. Wheel
4. Spreading spinner discs
5. Gear box
6. Download hatch
7. Stairs
8. Hopper

4.2 TECHNICAL INFORMATION

The **SEGUÉS** RA-TM20 fertilizer spreaders have the following sizes and characteristics:

Maximum length	8.540mm
Hopper length	6.606mm
Total width	2.855mm
Axle width	2.335mm
Back projection	3.330mm
Floor height	1.375mm
Total height	2.756mm
Free height	363mm
Axles distance	1.820mm
Distance from hitch centre to first axle	5.160mm
Maximum payload	20.000Kg
Wheels: Regular	520/70 R34"

When hitching the fertilizer spreader to the tractor, the user must be careful not to get caught between them and not to get any part of the body caught.

The coming steps have to be followed for a safe hitching.

- Place the bolt and the corresponding pin that will avoid the bolt can go out of its place
- Next, the chains have to be hitched in a fix and resistant tractor's point.
- Next, connect the brake's hose and other hydraulic hoses.
- Next, the support must be raised and secured by its bolt and pin.
- Before taking off the parking brake, an ocular inspection must be done to assure that there are no oil leaks.
- Be sure that the main parts like bolts, pins, screws, nuts are correctly placed and the wheels air pressure is ok.
- Also a lights test has to be done by connecting the lights plug to the tractors power point.
- Any failure must be repaired before start working with the fertilizer spreader.
- If there is any hazard that hinders to start, it must be removed from the way or if it is a person, our intentions must be explained. Only when there is no hinders, we can start.
- Don't forget to take off the parking brake before starting. This brake will be taken off only when the machine been perfectly hitched to the tractor.
- When going up to the tractor, ensure that the brake works by pushing it 2 or 3 times.

6.1 UPLOAD

The fertilizer spreader can be uploaded by different ways, using an auger, a tractor's bucket or any other system. During the fertilizer upload, not allow anybody to go close the machine; there is danger of being caught.

For filling up the fertilizer spreader, first of all the tarpaulin must be removed. The machine is provided with a tarpaulin removing mechanism. Start the tarpaulin opening mechanism and fill the spreader.

The fertilizer spreader never can be overload and neither will be exceeded the maximum payload.

After uploading the fertilizer spreader, start the tarpaulin mechanism again and cover the hopper.

6.2 DURING THE SPREAD

Both the fertilizer spreader is full or empty, the start must be smoothly. It will benefit the tractor, the fertilizer spreader and also your security and comfort.

During the route, the Highway Code always must be respected.

You must remember that the tractor speed limit is 40 Km/h (25 m/h) but when it drags a tow, the speed limit is 25 Km/h (15m/h). Never exceed the limits.

When uploading the fertilizer, be careful not to throw fertilizer out of the hopper. A fertilizer concentration is highly dangerous for people and environment.

It must be also avoided to overly upload the hopper to not throwing the fertilizer over the road or environment.

According to the Spanish Highway Code is necessary to cover the load with a tarpaulin.

SEGUÉS can provide a hydraulically or mechanical tarpaulin system to do it.

When working with the machine on fields, be sure that there aren't abysses, holes or other obstacles those could be dangerous. If there are, signal to can avoid them.

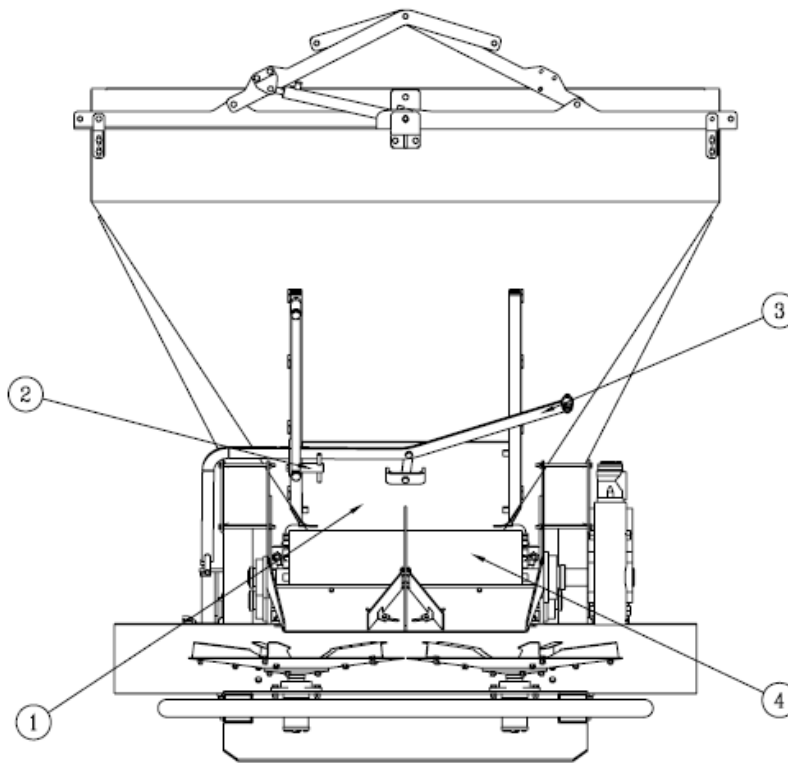
The fertilizer spreader never can be overload or overpass the maximum payload. You must consider that the tractor driving conditions change when the spreader is full load, the steering could be softer due to a light lifting of the front wheels. This situation will be inverted when driving up a slope.

It's also important to take care with the relation between the tractor's tare and the upload fertilizer total weight. This relation never can be higher than 3,5. If the tractor weight is 4.000Kg, it can tow a fertilizer spreader with a maximum payload:

$$Q=3,5 \cdot 4.000 = 14.000Kg$$

Nobody can go up the spreader during the route, neither, of course, during the work and neither if the tractors engine is on. When going back (reverse gear) you must sound the horn to warn what is being done.

Before start working, you must adjust the back hatch as is shown in the following picture. This hatch will be open or close depending on the desired fertilizer amount per hectare.

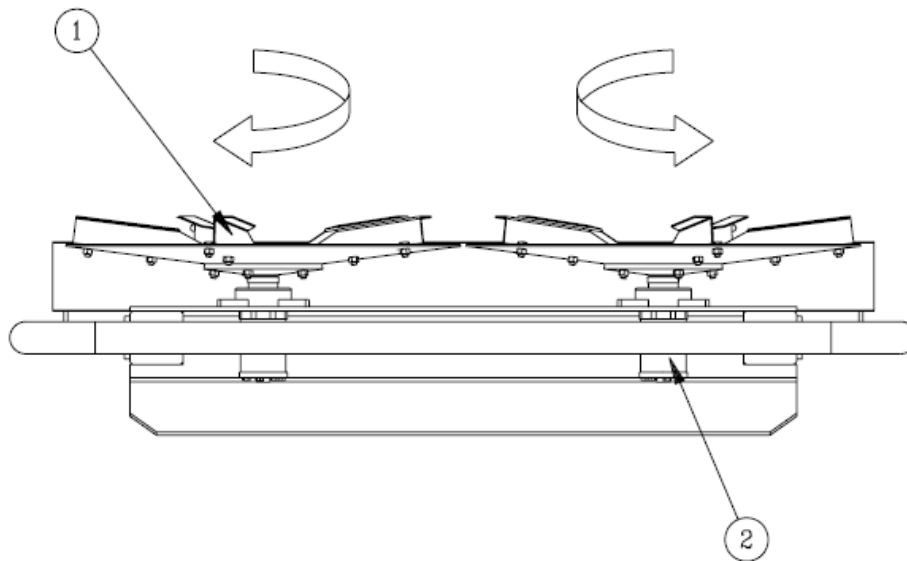


To adjust the Hatch (1), you must follow the next steps;

- The lock system must be loosened by the handle (2).
- Move the lever (3) in order to adjust the hatch (1) opening to leave outgo more or less fertilizer depending on the desired amount.
- Tighten the system by the handle (2)
- The hatch is adjusted to determine the desired amount of fertilizer allowing going out more or less fertilizer than what the conveyor belt moves.

The discs turning movement is made by two contra-rotary hydraulic motors, those that have to be started when starting the fertilizer spread.

The discs rotary speed is directly proportional to the oil flow given by the tractors oil pump.



1. Fertilizer spreading disc.
2. Hydraulic motor.

6.3 MACHINE UNHITCH

When the fertilizer spreader has to be left parked after the work, you'll proceed as is following explained:

- When the machine been placed at the desired site, it has to be brake with the mechanical brake in order to avoid any undesired movement.
- Next, the support has to be vertically placed and the security bolt and pin placed in the hole to assure it. Using the lever, lean the support on the floor and lightly push up the draw bar.
- Unplug the electrical connection.
- With the tractor's engine stopped, move the oil controls to eliminate the oil pressure inside the oil pipes.
- Next, the hoses that connect the spreader to the tractor can be disconnected and placed in the holes that will hold them. All the oil connectors have to be always perfectly clean.

- If the machine is parked on a slope (not advisable), place wedges under each wheel to avoid any movement if the brake wouldn't work fine.
- The chains can be taken down from the tractor and left hitched at the draw bar.
- The last step consists in taking off the draw bar bolt and release the spreader from the tractor. It is highly advisable to leave the bolt in the draw bar hole to don't lose it.
- It must be checked that the machine hasn't suffered any damages during the work.
- Visually check the hydraulic system, be sure that there is no oil leaks, the wheels air pressure is ok, all the lights and reflectors are ok and be sure that there haven't been any loose of screws, bolts, pins, etc...
- It's highly advisable to put away the spreader in a garage or in a store protected from the weather inclemency that could shorten its working life.
- The often spreader wash will extend the working life because it will take off the fertilizer leftovers that could remain in different parts of the machine.

- During any maintenance operation, the tractor and the fertilizer spreader must be **perfectly braked** in order to avoid any movement.

The PTO transmission protection must be always new, with no breakages or fissures. If it's broken, it must be replaced.

It's highly advisable to often wash the machine with pressure water to remove any fertilizer leftover, especially when it will be parked for a long time after the season. After washing it, grease it.

Paint again the machine's area where the paint could disappear (due to frictions or wear), to avoid the contact between the fertilizer and steel.

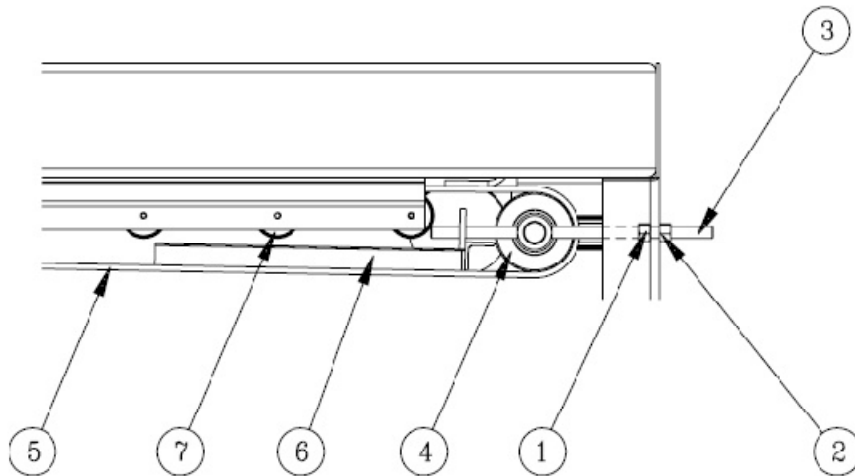
The wheel nuts must be tightened since the first trip and along the first working days.

This operation must be done with the screws that fix the axles to the chassis.

7.1 CONVEYOR BELT MAINTENANCE

The conveyor belt must be correctly tightened. To do it, tighten or loosen the screws as is shown in the next picture.

- Loosen the security nut (1)
- Tighten the belt with the jam nut (2), being highly careful to turn exactly one and the other. If we tighten one nut more than the other, the belt will be more tighten in one side and this will produce a lateral movement.
- After tighten the belt, tighten the security nut again (1).

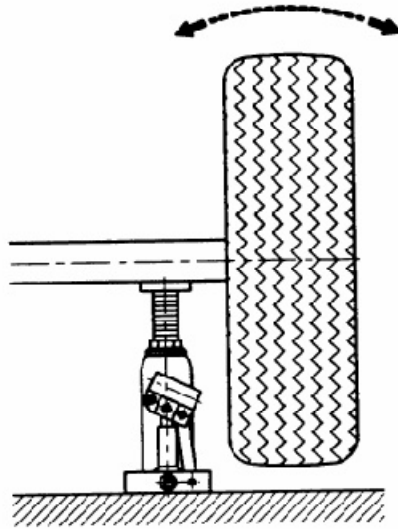


1. Fixation security nut
2. Belt tensor nut
3. Belt tensor bar
4. Belt tensor roller
5. Conveyor belt
6. Cleaner
7. Support roller

7.2 WHEELS MAINTENANCE

Every 200 working hours, remove the bushing cap of each wheel (generally is placed by pressing) and the bearings tighten nut pin, and tighten the nut in order to avoid the wheel has any movement and can turn without noises or difficulties. Next, clean the old grease and grease again, fix the nut with the pin and cover the bushing again with the cap.

To do the wheels maintenance, follow the next picture:



- A hydraulic jack has to be placed under the axle, as much nearest the wheel as possible.
- Push up the axle until the wheel been 4 or 5 cm from the floor.
- Move the wheel as is shown in the picture, and if we notice some looseness, act as is explained.
- Take this opportunity to check also the tyres conditions and the air pressure. The air pressure has to be checked very often, each 100 working hours or minimum 4 times per year.

7.3 HYDRAULIC SYSTEM MAINTENANCE

The hydraulic hoses conditions have to be checked periodically (two times per year minimum). There can't be cracks (generally produced by the UV beams) and neither cuts or wears.

If there is any abnormality, is necessary to replace the damaged hoses. To not replacing it could cause a burst, especially when working, and consequently an accident.

Don't doubt! Be well prepared.

The hydraulic cylinders must be checked for no oil loss. If there is any oil loss, you must go to a specialized garage where they'd contact **SEGUÉS** who would explain what to do.

Each 100 working hours, the brake cylinder must be checked and repaired if there are oil losses.

7.4 GREASING

Different points of the machine must be greased to assure a good maintenance and run.

These points are:

- Hitch.
- Conveyor belt tighten system (studs, nuts and sliding guides).
- Brake cylinder joints.
- Mechanical brake joints.
- Back hatch sliding guides.
- Bushes of the system that supports the fertilizer retention system after the hatch.
- Belt's drive roller support bearings.
- Belt's drive contra roller support bearings.
- Gear box fixing piston rod.
- Support sliding system.
- Draw bar joint bolts.

The gear box doesn't need any maintenance job except if there is any oil loss or any unusual noise. In both cases, contact **SEGUÉS** technical service.

Enclosed with this user's guide you'll find the proportional advance regulating system CCS100 guide.

To use this machine, you must perfectly know the proportional advance system and how to adjust the machine to adapt it to your fields' requirements and the fertilizer amount you'd like to spread.

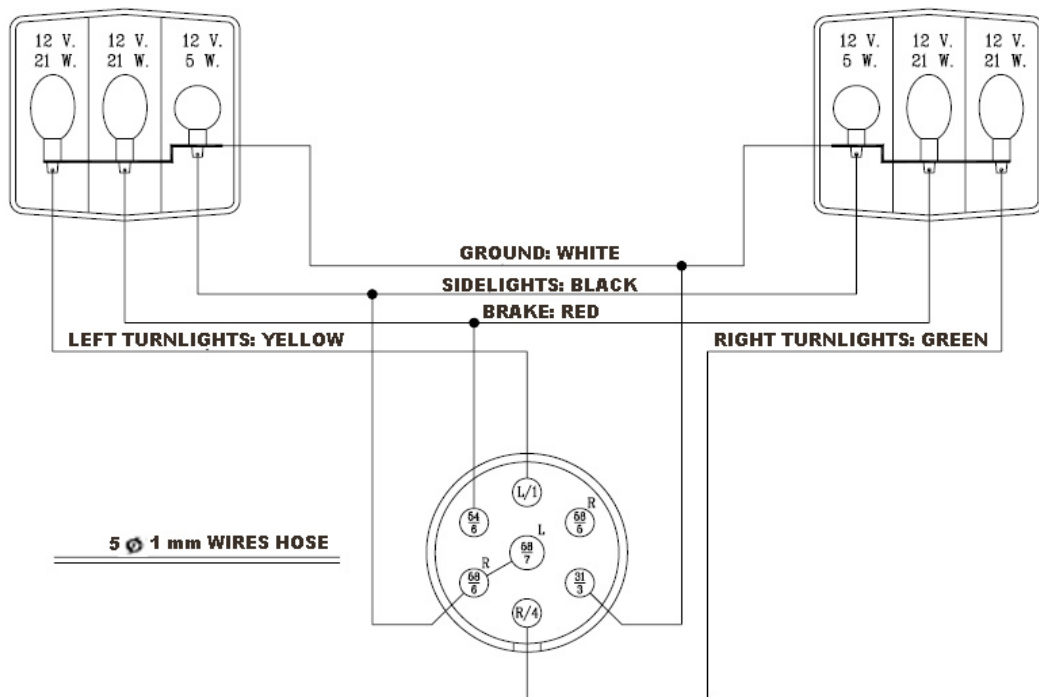
9. ELECTRIC SCHEMA

RA-TM20 FERTILIZER SPREADER

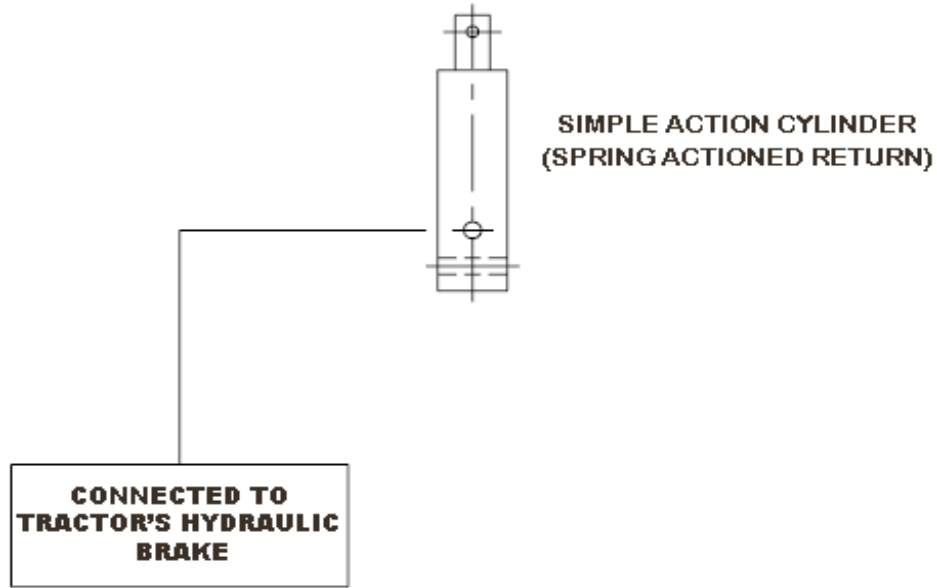
9.1 REAR LIGHTS



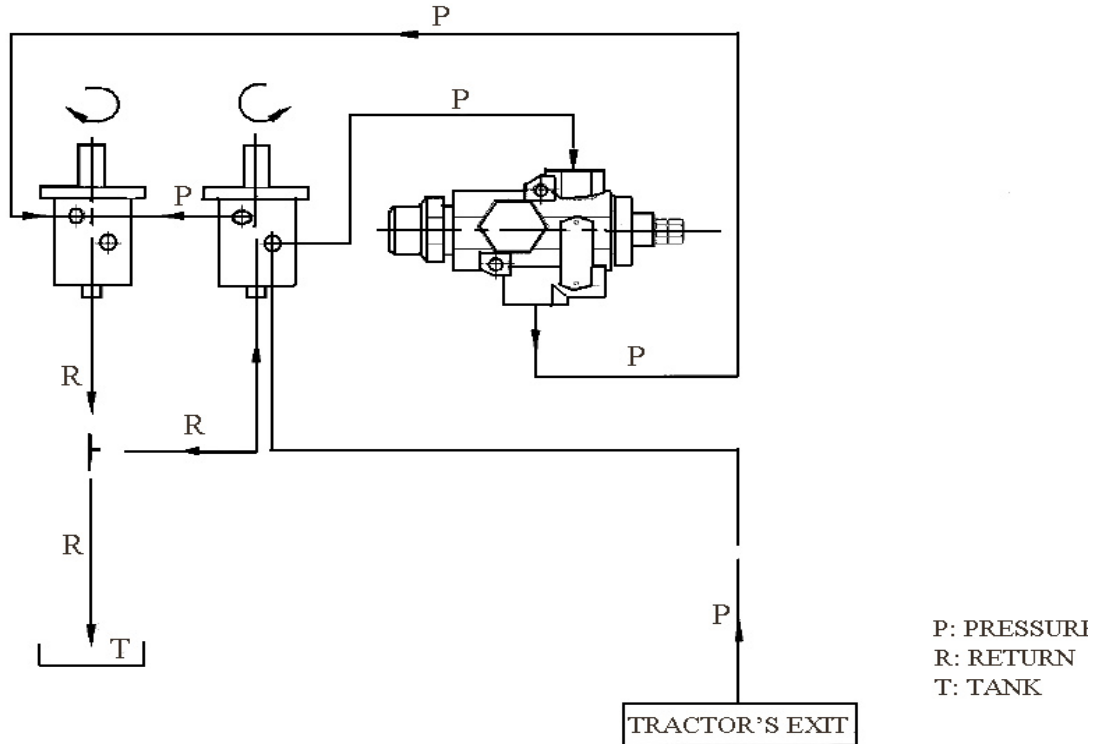
9.2 ELECTRIC SCHEMA



10.1 HYDRAULIC BRAKE SCHEMA



10.2 HYDRAULIC MOTORS SCHEMA



CE AGREEMENT CERTIFICATE

The undersigned hereby: **MAQUINARIA AGRÍCOLA SEGUÉS, S.L.**



Placed in: AVDA. SANTUARI, s/n
25215 SANT RAMON (LLEIDA)
Tel.: +34 973524336 / Fax: +34973524381

CERTIFIES

The Fertilizer Spreader.....

Model.....

Serial Number.....

Has been made according to the European Guideline 89/392/CEE (compiled at 98/37)

SIGNATURE AND STAMP

Signed _____.

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SPARE PARTS

