



TRAILER DUSTER



Maintenance, Operation & Service Manual For Model MAXI600-SPC

August 2013

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1 INTRODUCTION

We welcome you as an owner of a Gearmore duster. Please read the following instructions and refer to them when required. This manual contains parts diagrams and replacement parts lists. Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.

Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts ***MUST*** be used to restore your equipment to original specifications. The manufacturer will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.

The manufacturer reserves the right to make improvements to the machinery and parts at any time and at their discretion.

OPERATOR ORIENTATION - The directions left, right, front and rear, are as seen from the driver's seat and facing in the direction of travel.

1.1 PURCHASER'S RESPONSIBILITY

It is the responsibility of the owner to make sure the machine is maintained properly, and that all parts are in working order. It is the responsibility of the purchaser and/or operator to.....

- Inspect the equipment and replace or repair any parts that are damaged or worn which under continued operation would cause damage, wear to other parts, or cause a safety hazard.
- Return the equipment or parts to the authorized dealer, from where it was purchased, for service or replacement of defective parts that are covered by warranty. (The factory may inspect equipment or parts before warranty claims are honored.)
- Payment of all costs incurred by the dealer for traveling to or transporting the equipment for warranty inspection and/or claims.

1.2 MODEL / SERIAL NUMBER

NAME: _____

PURCHASED FROM: _____

DATE OF PURCHASE: _____

MODEL NUMBER: _____

SERIAL NUMBER: _____

2 SAFETY

2.1 SAFETY SYMBOLS

In the manual's text, some "symbols" were used, which point out and visually signal the importance of the different types of information.

Following is a graphic representation of those symbols, complete with their meaning:



Indicates complementary and important information.



Inobservance of the relevant indications can cause irreparable damages to the duster.



Points out some possible situation of danger for the personnel operating the unit.



- **This manual shall be kept during the whole life of the duster.**
- **Any amendment eventually got shall be kept, by inserting it inside this publication.**
- **The manual shall be handed out to the new owner, together with the duster, if the unit should be sold.**

2.2 GLOSSARY

Here following are some explanations relevant to the terms referred to the duster and used inside this publication:

Front Part: It is the part on which the duster is coupled to the tractor.

Rear Part: It is the part on which the distribution device is mounted.

Right/Left Side: They are the sides, corresponding with the direction of running, or considered when looking at the machine from the distribution device's side.

The "distribution device" is also referred to as "distribution head".

2 SAFETY (CONTINUED)

2.3 DECALS

On the machine, some warning decals, relevant to the safety and to the use-maintenance procedures, were applied.

SAFETY DECALS

1. **95001 - STOP THE MOTOR AND REMOVE THE KEY FROM THE TRACTOR'S CONTROL BOARD, BEFORE CARRYING OUT ANY MAINTENANCE OR REPAIR OPERATION.**
 - These warning decals are positioned: one on the fan's protection plastic guard and the other one on the protection of the security clutch, which is situated on the left side, under the fan's guard.
2. **95002 - POSSIBLE DANGER CAUSED BY ROTATING GEARS. BEFORE LIFTING THE COVER, STOP THE TRACTOR AND REMOVE THE KEY FROM THE CONTROL BOARD.**
 - Warning decal positioned on and under the tank's cover.
3. **95005 - POSSIBLE DANGER CAUSED BY ROTATING GEARS. BEFORE REMOVING THE PROTECTIONS, STOP THE TRACTOR, REMOVE THE KEY FROM THE CONTROL BOARD AND MAKE SURE THAT THE ROTATING GEARS HAVE STOPPED.**
 - Decal frontally positioned on the tank, near the fan's guard.
4. **95010 - MAXIMUM WORKING SPEED OF THE POWER TAKE-OFF: 540 RPM.**
 - Decal positioned at the side of the PTO protection guard.
5. **95007 - POSSIBLE DANGER OF SPRAYS, KEEP AT SAFETY DISTANCE.**
 - Decal positioned on the tank's rear side.
6. **95006 - CAUTION, CONSULT THE USE AND MAINTENANCE MANUAL, BEFORE OPERATING THE MACHINE OR UNDERTAKING ANY INTERVENTION ON IT.**
 - Decal positioned on the tank's front part, at the fan's guard side.
7. **95059 - HITCH POINT FOR THE UNIT'S HOISTING.**
 - Decal positioned: one at the front, on the fan's support, and two at the rear, on the frame's sides.
8. **95055 - CAUTION: THE DUSTER ISN'T HOMOLOGATED FOR CIRCULATING ON THE ROAD.**
 - Decal positioned on the tank's front part, at the fan's guard side.

2 SAFETY (CONTINUED)

2.3 DECALS

USE & MAINTENANCE DECALS

9. 95052 - GREASE EVERY 20 HOURS: FAN SHAFT'S BEARINGS.

- This decal is positioned on the frame, above the fan's guard.

10. 95053 - GREASE EVERY 50 HOURS: FAN TIGHTENER'S SUPPORT / SECURITY CLUTCH.

- These decals are positioned one on the guard's left, front side and the other one on the drive's guard.

11. 95051 - GREASE EVERY 50 HOURS: GEARING CHAINS.

- Decal positioned on the security clutch's protection, on the machine's left, front side, under the fan's guard.

12. 95054 - GREASE EVERY 200 HOURS: WHEELS.

- Decal positioned on the wheels' hub.

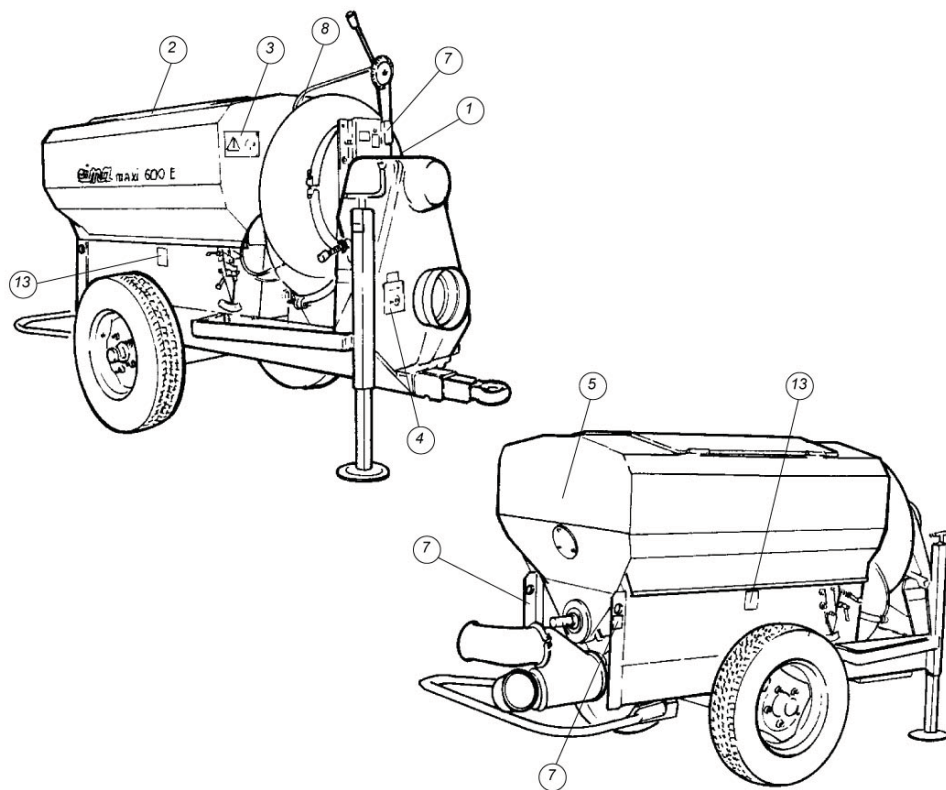
13. 95056 - INDICATION OF THE WHEELS' WORKING PRESSURE.

- These decals are positioned on the frame's sides, above the wheels.



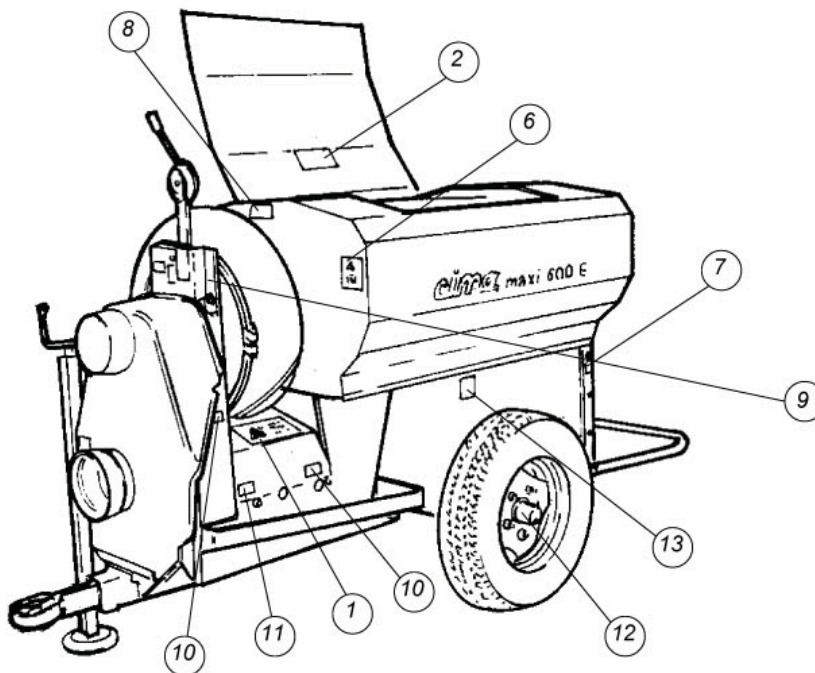
THE 5 DIGIT NUMBERS ARE CODES TO BE USED WHEN ASKING FOR THE DECALS.

Position of the safety, use and maintenance decals:

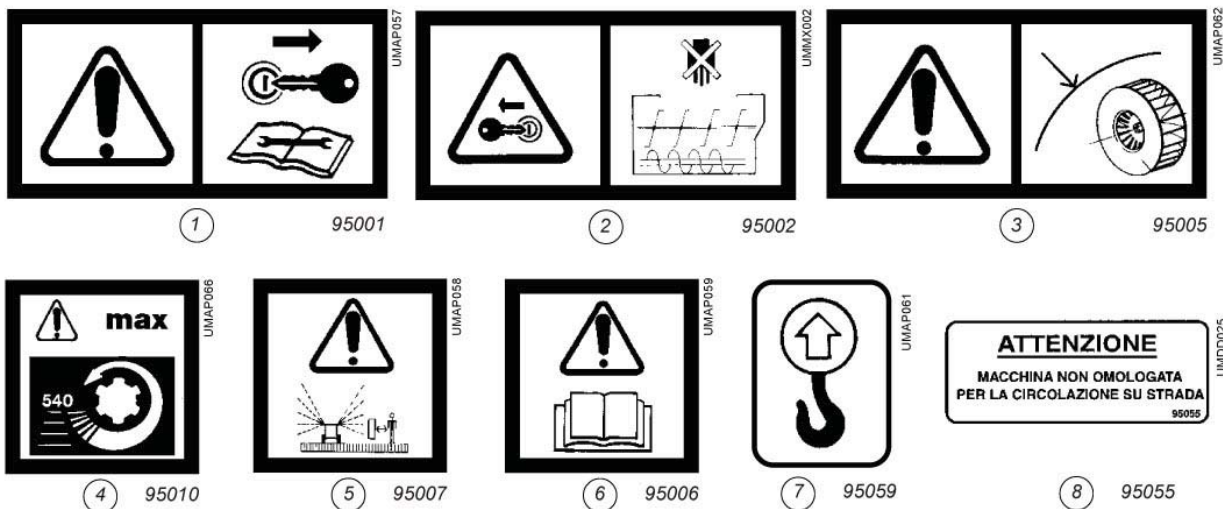


2 SAFETY (CONTINUED)

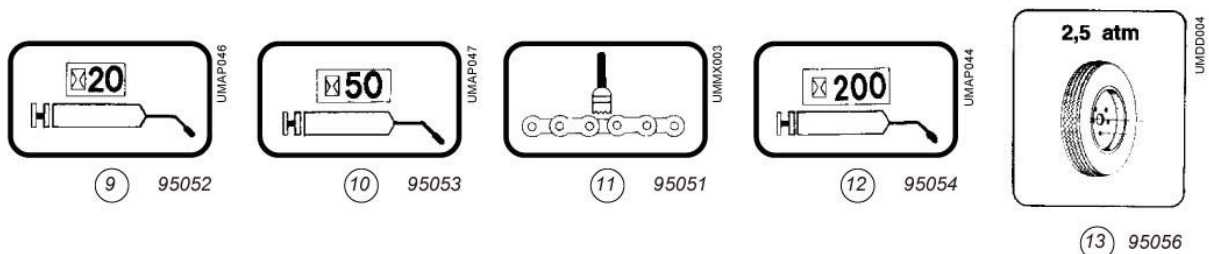
2.3 DECALS (CONTINUED)



* Safety



* Use and maintenance



2 SAFETY (CONTINUED)

2.4 SAFETY TIPS

1. **NEVER** run PTO at speeds exceeding 540 R.P.M.
2. Duster should be operated only by qualified personnel.
3. **ALWAYS** fill duster slowly to avoid spillage.
4. When starting duster, maintain a safe distance from moving parts.
5. **NEVER** leave duster unattended while it is running.
6. Keep hands, feet and clothing away from moving parts.
7. Handle powders carefully. Follow manufacturer's directions for application and rates.
8. Make sure all safety shields and guards are repaired and secure before operating duster.

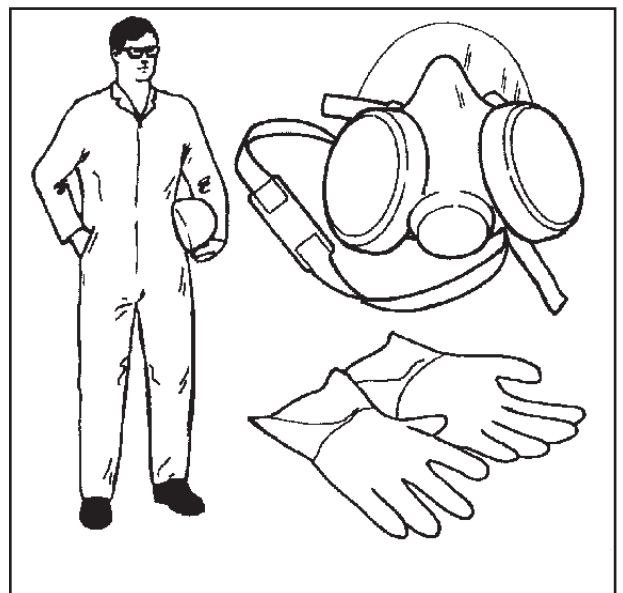
2.5 PERSONAL SAFETY

PERSONAL SAFETY WEAR:

The toxicity of phytopharmaceuticals compels the people using them to wear adequately protective clothing and accessories to avoid the risks of contamination by contact or inhaling the sulfur.

THE OPERATORS MUST WEAR:

- A. Polyethylene or polyvinyl gloves.
- B. Complete overalls, in waterproof cotton, to guarantee transpiration, with side polypropylene coating. It is **IMPORTANT** to find disposable overalls with these materials so that after use they are disposed of in the same way as the toxic waste.
- C. Half-size masks in neoprene rubber with one or two filters. It is **IMPORTANT** to use filters designed for gas or organic vapors combined with filters against powder for mists and irritating powders or for mists of harmful or toxic powders.



WARNING!!

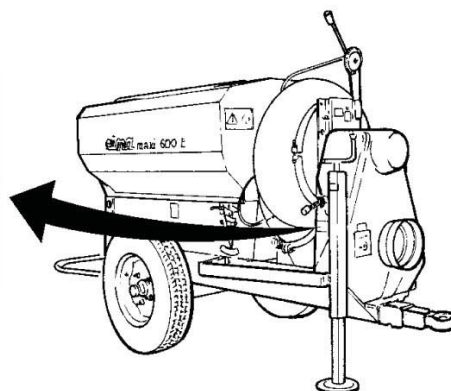
OPERATING THE TRACTOR PTO AT OVER 540 R.P.M. OR APPLYING RATES OF LESS THAN 8 POUNDS OF SULFUR PER ACRE COULD CAUSE THE SULFUR TO MELT.

SAFETY WARNING! All of the preparation, use, maintenance, handling and transport operations should be carried out only after having acquired the perfect understanding of all instructions contained in this publication and the ability of interpreting the symbols applied on the machine in the correct way.

3 GENERAL INFORMATION

3.1 MACHINE'S IDENTIFICATION

	cima S.p.A. S.MARIA DELLA VERSA (PV) ITALY (39) 0385/278223	Fabbr. nel 
Tipo 		
Matr. 	Press. max bar 	
Peso a V. Kg 	Peso T. Kg 	



3.2 CUSTOMER'S TECHNICAL SERVICE

Contact your local dealer

3.3 SAFETY WARNINGS

All the setup, use, maintenance, movement, and transport operations can be carried out, only after having acquired a perfect knowledge of the instructions supplied inside this publication, as well as the ability to correctly interpret the symbols applied on the machine.



IT IS FORBIDDEN TO USE THE DUSTER FOR ANY DIFFERENT PURPOSE OTHER THAN THE TRADITIONAL ONE, AS THIS UNIT WAS EXCLUSIVELY DESIGNED FOR DISTRIBUTING ANTI-PARASITICAL PRODUCTS IN A DUST SHAPE ON THE AGRICULTURAL CULTIVATIONS.

It is necessary to carefully observe the following general rules:



CLOSE THE DUST'S DELIVERY BEFORE DISENGAGING THE PTO OR WHEN THE FAN ISN'T OPERATING.

- Always stop the tractor's motor before lifting the tank's cover or before carrying out any operation of the duster.
- Verify that the tractor's weight and power are compatible with the duster to be used.
- Before using the duster, check the correct tightening and the clamping of the machine's different components, paying a special attention to the safety protections and to the operating gears.

3 GENERAL INFORMATION (CONTINUED)

3.3 SAFETY WARNINGS (CONTINUED)

- Use **ONLY** driving couplings complete with a protection and accompanied by a EC conformity certificate. Carry out the assembly only if the tractor's and the duster's powers to output are equipped with the protection counterguard.
 - Verify that the driving coupling's protection is locked by means of the relevant anti-rotation chains.
 - Do not allow people and animals within proximity of the machine when starting the unit.
 - Do not wear garments which could get entangled in the moving gears.
 - Reduce the speed when encountering rough terrain or when driving across a ditch.
-
- **ANY MAINTENANCE AND REPAIR OPERATION HAS TO BE CARRIED OUT ONLY AFTER HAVING CAREFULLY CLEARED ALL THE MACHINE PARTS FROM ANY PRODUCT'S RESIDUAL.**
 - **BEFORE OPERATING INSIDE THE TANK, IT WILL BE NECESSARY TO CAREFULLY CLEAN ITS INSIDE.**
 - **IT IS FORBIDDEN TO MAKE WELDINGS, IF SOME AMMONIUM SALTS WERE USED.**
 - **IT IS FORBIDDEN TO USE THE UNIT BY PRESENCE OF A POTENTIALLY EXPLOSIVE ATMOSPHERE.**
 - **THE EXPLOITATION OF THE AIR CURRENT FOR DIFFERENT USES THAN THE PHYTOPHARMACOLOGICAL PRODUCTS' DISTRIBUTION ISN'T ALLOWED.**



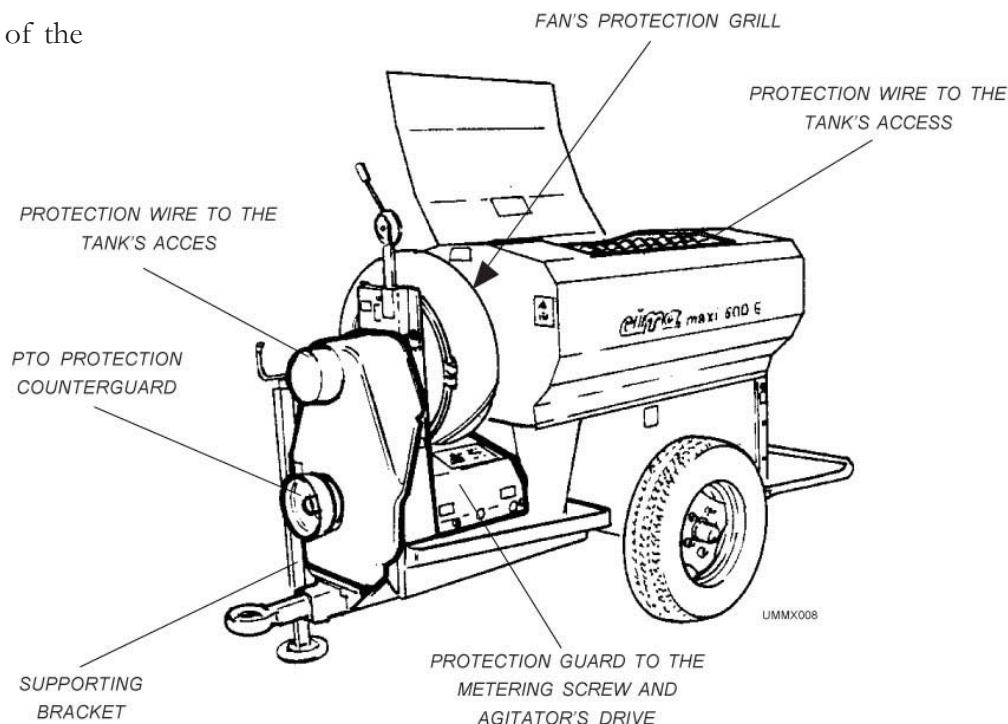
3.4 SAFETY SYSTEMS

All the moving parts of the machine were suitably protected and put into evidence by means of warning decals.



- **IT IS FORBIDDEN TO USE THE MACHINE WITHOUT THE RELEVANT PROTECTIONS MOUNTED ON IT.**
- **BEFORE REMOVING THE PROTECTIONS, STOP THE TRACTOR'S MOTOR AND REMOVE THE KEY.**
- **BEFORE STARTING TO DISTRIBUTE THE PRODUCT, MAKE SURE THAT THE COVER IS CLOSED.**

Protected parts of the machine are:



3 GENERAL INFORMATION (CONTINUED)

3.5 PHYTOPHARMACOLOGICAL PRODUCTS' MANAGEMENT

The **operator** can be contaminated by either contact or inhalation of the products or of the mixtures which are distributed during the treatment.

The **environment** can be polluted by the pouring out of the products, by the uncontrolled conservation of the empty and unwashed product packages and by discharging the products into the water system.

In order to avoid these risks, the filling operations shall be carried out either in places, which are appropriately prearranged and suitably equipped for this purpose, or on the treatment place itself.

3.5.1 STORAGE

Fixed/Stationary: the location used for this purpose shall be ventilated, equipped with doors complete with locks, in order to prevent the access, even fortuitous, either to children or to unqualified persons.

Mobile: the container has to be equipped with locks and stored in such a way as to prevent the access to it both to children and to unqualified people, when the operator isn't there. All the products' packages, both the new and the open ones, shall be secured in order to prevent them from reversing, or from falling and breaking themselves during the transport. In both cases, it is absolutely necessary to dispose of:

- a special container for storing the empty packages, if a specific place for this purpose isn't available.
- some clear water for washing the packages, either kept inside a container or through a water connection system.
- some operating fire extinguishers, in case of inflammable products' presence.



ALL THE PACKAGES, BOTH THE NEW AND THE OPEN ONES, SHALL BE KEPT IN THEIR ORIGINAL PACKAGES, ON WHICH THE LABELS SHALL ALWAYS BE CLEARLY READABLE.

THE DIRECTIONS FOR THE STORAGE, THE USE AND THE ELIMINATION MENTIONED ON THE ORIGINAL PACKAGES OF THE PRODUCTS SHALL ALWAYS BE STRICTLY OBSERVED.

3.5.2 SPECIAL TOOLS

The place chosen for the preparation and filling of the product inside the duster shall be equipped with the following:

- all the instruments which facilitate the direct pouring of the products into the tank;
- all the necessary tools for mixing the right quantity of product to be poured into the tank at every filling;
- all the equipment and the required means for mixing up the dusts and for cleaning the operator, in case of his contamination;
- the appropriate protective gear necessary to prevent any possible contamination either by contact or by inhalation of the products, during the whole operative phase of the intervention.

3 GENERAL INFORMATION (CONTINUED)

3.5.3 DISPOSAL OF PRODUCT RESIDUAL AND OF THE EMPTY PACKAGES

The phytopharmacological products are classified as "hazardous waste" and their disposal has to be carried out in accordance with local laws.



THE EMPTY PACKAGES AND THE CONTAMINATED CONTAINERS TO BE DISPOSED OF CANNOT EITHER BE THROWN AWAY, BURNT OR BURIED.

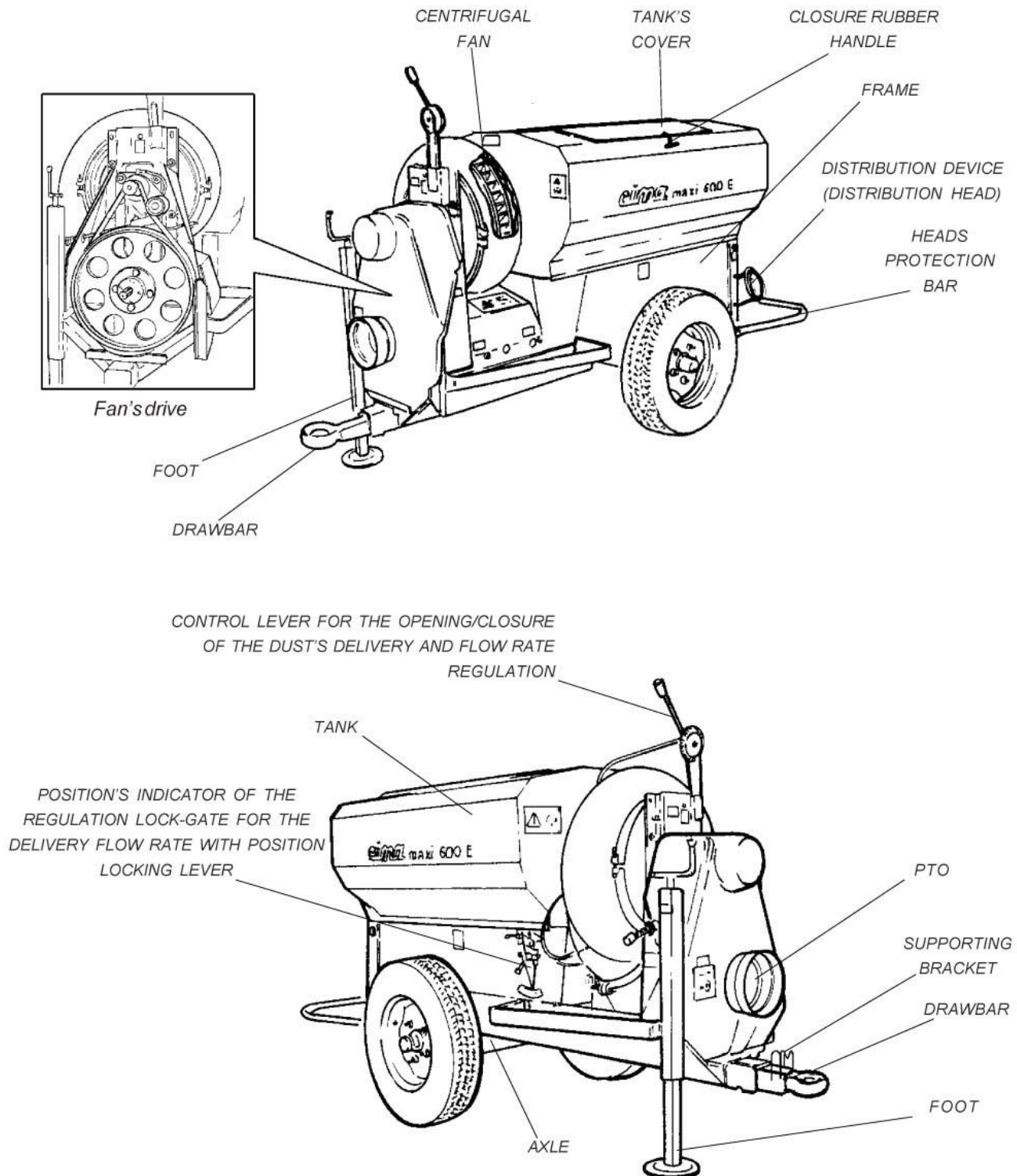
THE RESIDUE CONTAINED INSIDE THE TANKS AND THE WATER USED FOR WASHING THE INSTRUMENTS USED FOR PREPARING THE MIXTURES CANNOT BE DISPOSED OF INTO THE GROUND OR POURED INTO DITCHES, STREAMS OR RIVERS.

The disposal of hazardous waste is regulated by special laws. In order to carry out this operation, it will be necessary to be informed about the correct procedure at the local offices, charged with the management of this subject. The inobservance of these directions can cause serious damage to people, animals and to the environment.

4 STRUCTURAL ANALYSIS OF THE MACHINE

4.1 MAIN COMPONENTS

This figure shows the position of the duster's main components.



4 STRUCTURAL ANALYSIS (CONTINUED)

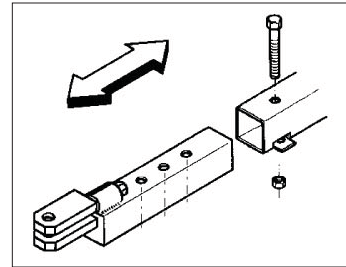
4.2 FRAME WITH DRAWBAR

DOUBLE TUBING DRAWBAR is housed in the frame's front part and is clamped to it by means of a through bolt and a self-locking nut.

- It is adjustable in **length** of 3 and 6 inches.

AXLE - The wheels' axle shafts, which are housed inside the frame's axle and locked there by means of special bolts allow to adjust the width.

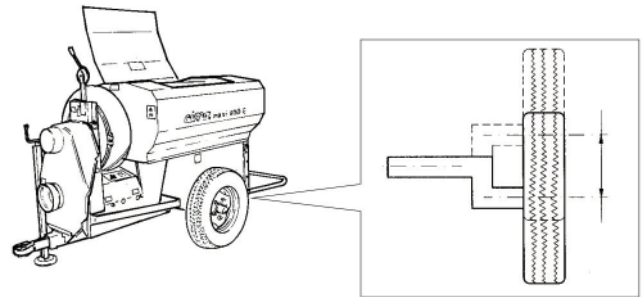
- The misalignment between the axle shaft and the wheel's hub allow to adjust the axle's height from the ground. By turning the wheels' axle shafts, it is possible to get a variation of 4 ¾".



After any adjustment, carefully tighten the bolts and the nuts

WHEELS - The wheels' hubs are equipped with grease nipples, for the bearings' lubrication (see pg.).

FOOT - The foot with crank adjustment guarantees the machine's stability, when the duster isn't coupled to the tractor.



The foot must always be lifted during the machine's operation



The drawbar can never be used as the machine's bearing point, instead of the foot.

HEADS PROTECTION BAR - To the frames, a distribution devices' (distribution heads') protection bar is applied, which has to be mounted in the most effective position, with respect to the working conditions and to the distribution head's type.

BRACKET - When the machine isn't coupled to the tractor, the driving coupling has to be housed inside the relevant support bracket, which is mounted on the drawbar.



When the driving coupling is mounted on the PTO, the bracket shall always be lowered.

The responsibility of the wheels' setting, assembly and disassembly operations is charged to the operator, who has to prove and to guarantee all the required security conditions, in order to prevent any possible accident.

4 STRUCTURAL ANALYSIS (CONTINUED)

4.3 TANK

- It is a sheet metal tank and is clamped to the frame. Capacity: 1000 pounds
- Sheet metal cover with closure rubber handle.



**Before lifting the cover, stop the tractor and remove the key.
Before starting the tractor again, make sure that the cover
was correctly closed.**

- Protection grill for the loading's opening.
- Exhaust opening for the product's residuals or for the cleaning water, positioned in the rear section, on the tank's bottom.
- Triangular opening for the product's distribution on the tank's bottom, on the center of the housing, into which the metering screw turns.
- Sheet metal realized lock-gate for the opening, the closure and the setting of the delivery flow rate.

4.4 MULTIPLIER - FAN

It is positioned in the machine's front part and is protected by means of a plastic shaped guard.

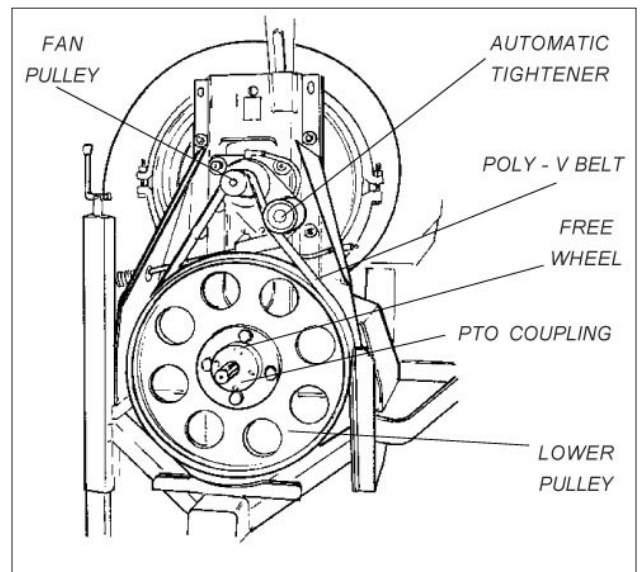
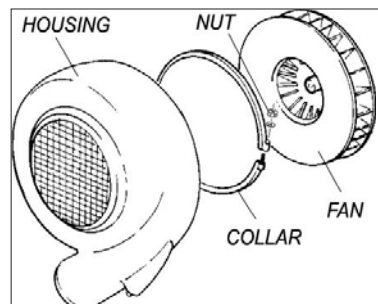
FAN

The poly v-belt, transmitting the movement to the fan, is equipped with an automatic tightener, which eliminates any maintenance necessity (see figure).

Upon Request:

Between the multiplier's PTO and its lower pulley, a free wheel is inserted. Should it be necessary to suddenly decelerate or should the motor suddenly stop, the free wheel allows the fan to go on turning in a free way, avoiding to transmit violent solicitations to the gears, which are involved in the movement.

Centrifugal fan with high pressure closed blades, plastic guard and sheet metal fan.



4 STRUCTURAL ANALYSIS (CONTINUED)

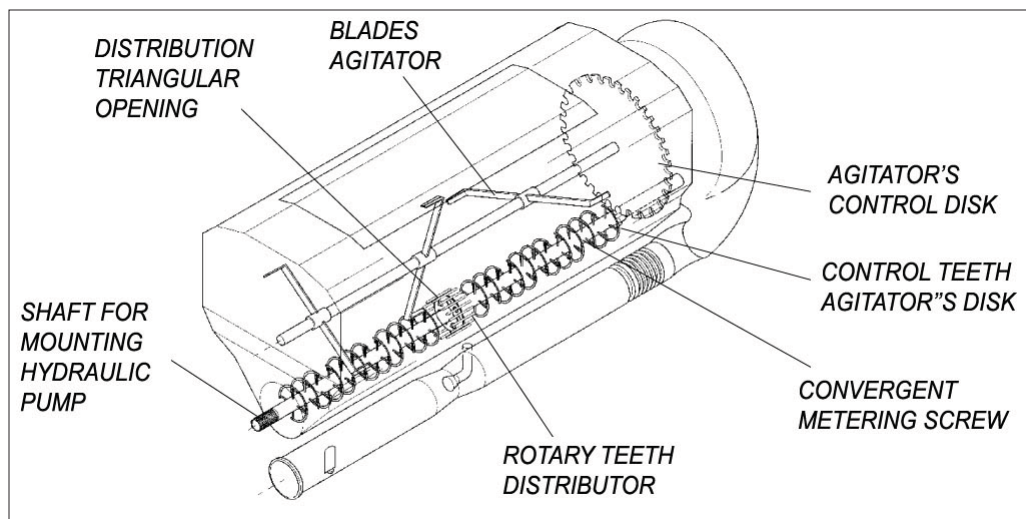
4.5 DISTRIBUTION UNITS

The dust's delivery is realized by means of a mechanical-pneumatic distribution system.

4.5.1 CONVERGENT METERING SCREW

It turns inside the relevant housing, which is machined on the tank's bottom. The metering screw carries out approximately 48 revolutions per minute with the PTO at 540 rpm. The spiral's shape causes the product to gather in direction of the rotary teeth distributor, which is mounted on the metering screw's center, in correspondence with the triangular opening for the product's distribution. This system allows to completely use the product loaded inside the tank. A scraper locking ring, mounted above the distribution's triangular opening, prevents the distributor's rotary teeth from getting obstructed.

The metering screw is operated by a crown gear, which is mounted externally to the tank, where the chain, which transmits the movement from the PTO, operates. On the metering screw's axis, inside the tank, near the front wall, 6 teeth have been foreseen, which activate the toothed disk of the blades agitator. Behind the machine and externally to it, the metering screw shows a power takeoff, which is protected by means of a small plastic cover. This power takeoff has to be manually activated by means of a wrench, when the agitator gets obstructed, because of a product's compacting.



4.5.2 BLADES AGITATOR

It has the purpose of moving the product's mass inside the tank and to prevent it from getting too compact. It carries out approximately 10 revolutions per minute, and can be adjusted by the hydraulic motor. The blades agitator is controlled by a 30 tooth sheet metal disk, which is mounted inside the tank, against the front wall. It consists of three groups of respectively 2 blades, which are opposite positioned and welded on a bush. This last one is inserted on the agitator's axis and clamped there by means of a screw.

4 STRUCTURAL ANALYSIS (CONTINUED)

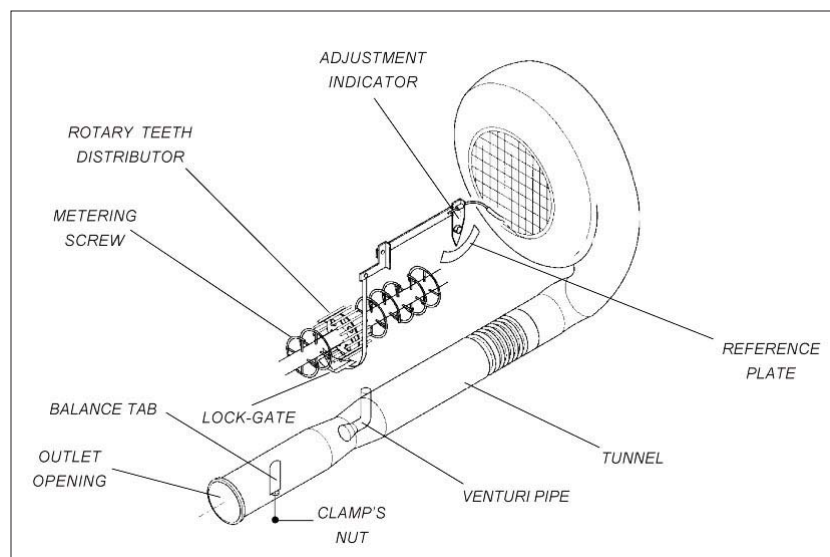
4.5.3 MECHANICAL DISTRIBUTION

Mechanical distribution:

The rotary teeth distributor allows a constant and uniform distribution of the product. The flow rate necessary to the treatment, is determined by the positioning of the stainless lock gate, which is mounted in a position, corresponding with the distribution opening, under the tank. A remote control with release adjustment lever, operates the lock gate, by means of a sheath covered wire. The adjustment indicator is positioned on the machine's right side.

It consists of:

- a reference plate with graduated scale from 0 to 3. It shows the opening's width of the dusts' delivery. "0" indicates the opening's complete closure, while "3" corresponds to the maximum delivery.
- indicator of the delivery's orifice opening point.
- locking handle of the fixed delivery point. After every closure, it locks the indicator's stroke in the desired opening position, always assuring the same delivery.



Pneumatic distribution:

A sheet metal tunnel, positioned under the tank, conveys the fan's air to the rear outlet opening. A "Venturi" effect, created in correspondence with the distribution opening, under the tank, suctions the product and causes it to enter into the tunnel's air flow, which supplies the distribution head.

Inside the tunnel, before reaching the outlet opening, there is an air flow's balance tab. This one has to be used, when the product isn't uniformly distributed on both sides. It is enough to remove the distribution head, to release the nut under the tunnel, to lightly turn the tab and to carefully tighten again the nut. It isn't possible to give very exact indications on this subject, as the setting depends on the type of product, on the distribute quantity and on the humidity conditions present at the treatment's time.

5 INSTALLATION

5.1 DUSTER SPECIFICATIONS

APPLICATION RATES:	Adjustable from 5 to 100 pounds per acre.
HOPPER:	Formed steel and treated with anti-corrosive paint.
CAPACITY:	1000 Pounds of sulfur..
BLOWER:	Dynamically balanced steel centrifugal fan in a polypropylene housing.
DISTRIBUTORS:	Two low mounted adjustable angle nozzles.
AGITATION & SPIRAL CONVEYOR:	Hydraulic motor with flow control.

5.2 DUSTER INSTALLATION

Connect the Maxi 600 tongue to the tractor drawbar. Make certain that the tractor drawbar is properly secured to the tractor and is fixed in the center position (will not move from side to side). Be sure to use the correct length draw pin and secure with safety pin or double nut, if a bolt is used.

Connect the constant velocity PTO shaft to the duster and the tractor PTO. Connect the constant velocity end (large end) to the tractor. Make sure that the driveshaft is the correct length. The telescoping halves of the driveline should overlap two-thirds to three-quarters of the telescoping length, but should not collapse completely when the tractor is making a right angle turn. (i.e., if the telescoping halves are 28" long, they should overlap 19" to 21" each half and leave 7" to 11" of tubing not overlapped when the shaft is straight behind the tractor.)

Connect **ALL** the PTO safety shield anti-rotation chains to the duster and tractor.

Connect hydraulic motor hoses (come less couplers) to rear remote of tractor.

P = Pressure T = Return

RPM CHART Regulated Flow 0.1 - 6 GPM		
GPM	1350 PSI	1800 PSI
2	13 RPM	
4	44 RPM	22 RPM
6	68 RPM	54 RPM

6 OPERATION

6.1 BEFORE OPERATING YOUR DUSTER

1. Inspect for damage and loose or missing parts. Make sure all fittings and drive components are secure.
2. Lubrication: *See Lubrication Section.*
3. Check hopper for any foreign objects.

6.2 TO OPERATE DUSTER

1. Fill the hopper with the amount of dust you will want to use for the acreage to be covered. Since the hopper will hold 1000 pounds of sulfur, you may not want to fill it completely. (For calibration, the operator should load the hopper with only a small amount of dust.
2. Carefully read the instructions for the manufacturer's use of the sulfur, check the conditions for use, the correct dosage and the expiration date.
3. Start the tractor engine and engage the power take-off. (*Always* engage the tractor PTO slowly and with the engine at near low idle.)
4. Increase engine speed to rated R.P.M. to achieve 540 PTO R.P.M.
5. Set agitator/spiral conveyor to correct RPM's for desired rate being applied.
6. Move toggle switch to open the metering control gate of the duster.
7. Set the metering control lever at one of the numbers on the graduated indicator decal. A good starting point is .75 or 1 on the scale. The operator will have to make several passes through the field to check the calibration. Since there are so many variables (moisture in the dust, humidity, ground speed, plant row width, to name a few) involved in metering dust, it is impossible to make a positive calibration recommendation.
8. After locating the delivery position that provides the desired application rate, set the stop bolt so the operator can easily return to that position after closing the control at the end of the row.

7 MAINTENANCE

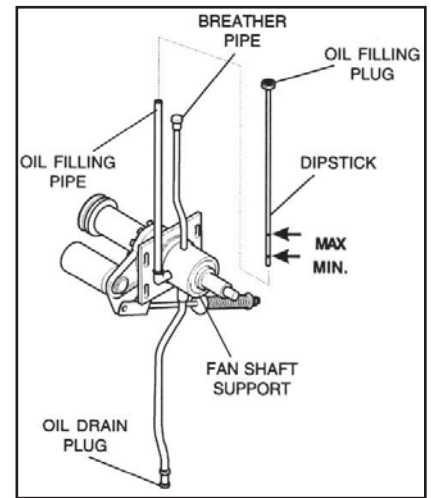


WARNING: All maintenance operations should be carried out with the tank completely empty.

7.1 LUBRICATION

1. **Fan support oil level check** - Unscrew and remove the oil filling plug with dipstick. Clean the dipstick and reinsert in oil tube. Remove dipstick and check oil level. Oil should be between the min. and max. marking on dipstick. If oil is low add SAE 90 wt. oil. Reinstall dipstick and re-tighten.

Changing fan support oil - Unscrew and remove the oil filling plug with dipstick. Remove the oil drain plug and drain oil completely. Replace oil drain plug. Through the filling pipe, pour SAE 90 wt. oil to proper level on dipstick. Reinstall dipstick and re-tighten.

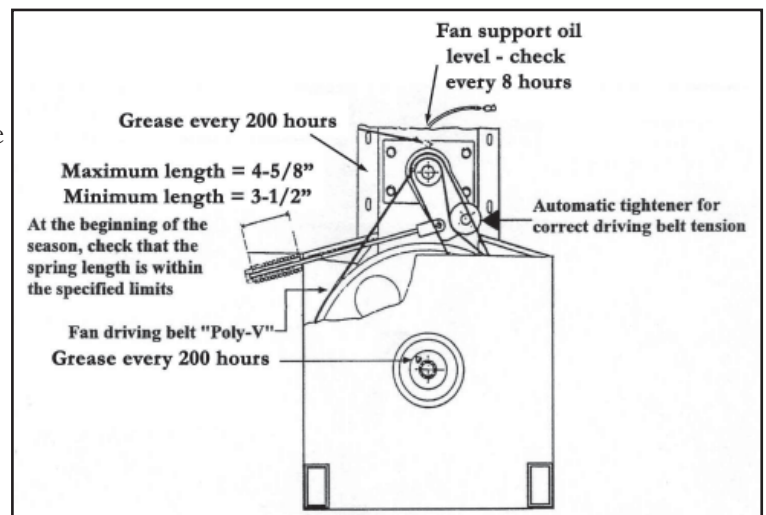


2. The main drive belt idler assembly has sealed bearings, but the idler needs to be greased **every 200 hours** to allow it to pivot freely. This grease zerk is located on the middle right frame by the fan housing.

3. The overrunning clutch is designed to allow the fan assembly to rotate freely when the tractor PTO is shut down. The grease zerk is located behind the PTO driveline and requires you to remove the PTO in order to grease it **every 200 hours**.

4. The PTO driveline u-joints should be greased **every 8 hours** and the shafts **every 20 hours**.

The PTO safety shields have a plastic zerk for the shield bearings that should also be greased **every 20 hours**.

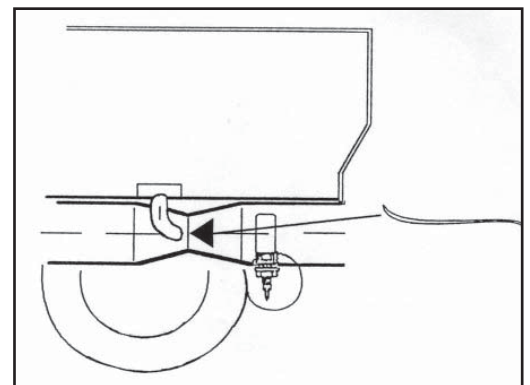


5. The axle wheel bearing should be greased **every 200 hours**.
6. The jackstand should be oiled **every 200 hours**.
7. Belt Tension - minimum length 3 1/2" - maximum 4 5/8" (See diagram)

7.2 CLEANING DUST NOZZLE

Every trailer duster is supplied with a special (crowbar type) tool. This tool is to scrape off built-up sulfur that accumulates on the dust nozzle.

Usually it is only necessary to clean this nozzle once a year. However you always check before every operation.

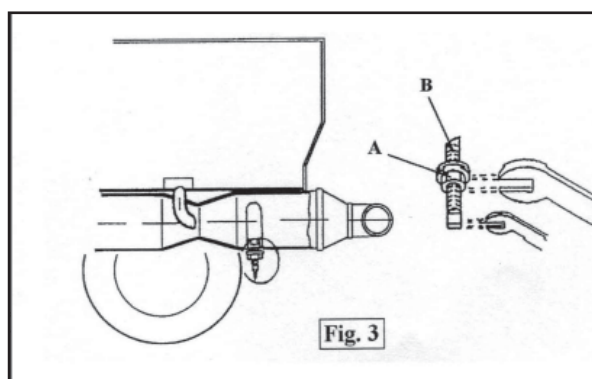
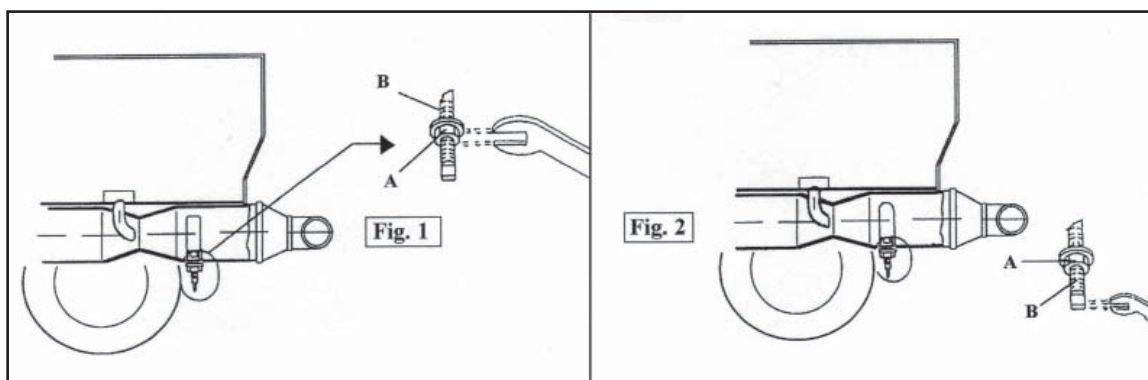


7 MAINTENANCE (CONTINUED)

7.3 BAFFLE ADJUSTMENT

To obtain uniform delivery between the right and left side, a special baffle is built into the air duct. The adjustments should be made in the following manner:

1. Make sure the tractor is not running.
2. Loosen nut "A" (*Fig. 1*).
3. Swing the baffle "B" to the right or left in order to obtain uniform delivery (*Fig. 2*).
4. Tighten nut "A" by keeping the baffle "B" in the chosen position (*Fig. 3*).
5. Operate the duster to verify uniform delivery. If delivery is not equal to both sides, repeat steps 1 through 4.



8 LUBRICATION

8.1 LUBRICATION

DRIVESHAFT:

The driveshaft must be lubricated before the duster is put into use. After that, grease every 8 hours of use.

It is recommended that after every 20 hours, disconnect the driveshaft, clean and re-grease the telescoping shafts.



CAUTION: Check to make sure that the safety shielding telescopes freely and does not bind. If the safety shielding binds or gets damaged, replace immediately.

FAN DRIVE:

See Maintenance Section.

AGITATOR:

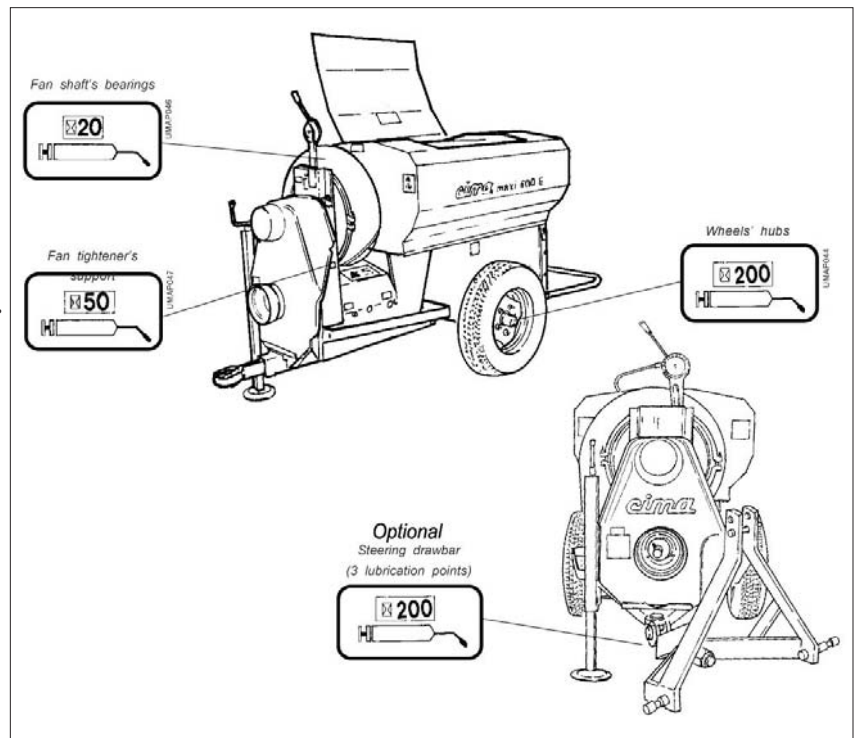
The agitator bearings are sealed and do not require greasing.

LUBRICATION SCHEDULE:

Maintenance Point	Action	Material to be used	Frequency
Support of the fan shaft's bearings	Lubricate	Grease type EP Class NLGI 2	20 hours
Fan tightener's support	Lubricate	Grease type EP Class NLGI 2	50 hours
Security clutch	Lubricate	Grease type EP Class NLGI 2	200 hours
Free wheel	Lubricate	Grease type EP Class NLGI 2	200 hours
Wheel's hub	Lubricate	Grease type EP Class NLGI 2	200 hours
Steering drawbar	Lubricate	Grease type EP Class NLGI 2	200 hours



Carefully clean both the grease nipples and the oil intake, in order to avoid that, during the lubrication, also some dirt can be introduced. If the machine is intensively used, the lubrication intervals shall be proportionally reduced.



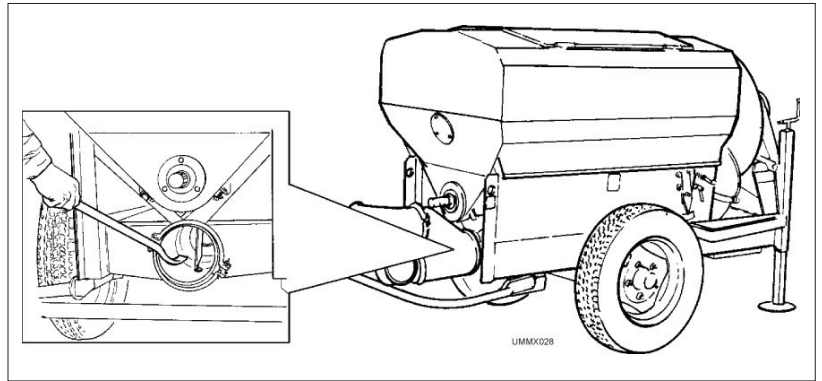
8.2 CLEANING & STORAGE

1. Do not leave material in hopper for long periods of time.
2. Clean out and lubricate duster thoroughly before storing.
3. Check duster for needed repairs before time to dust again.
4. Use the special clean out tool to scrape off built-up sulfur that accumulates on the dust nozzle. (See Maintenance Section)
5. Always store machine where children and unskilled people can not get to it.

CLEANING OF THE VENTURI DEVICE

This operation could be necessary, when a reduction in the delivery takes place. In order to carry out this intervention, use the special tool, delivered with the duster.

1. Disassemble the distribution device (distribution head), by removing the collar, fixing it to the duster.
2. Through the rear outlet opening of the machine, introduce the tool into the dusts' outlet duct, which is centrally positioned inside the tunnel.
3. By lightly scraping, remove all the possible product's residuals and incrustations present inside the dusts' exhausting bend pipe.



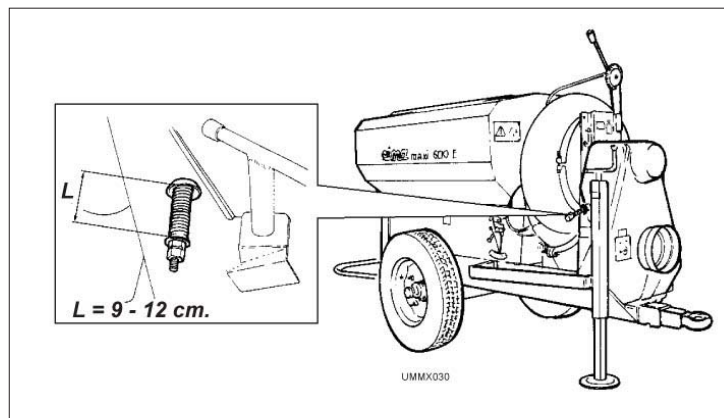
CLEANING OF THE FAN



When the machine has been in use for quite a long time, some dirt deposits or incrustations could set the fan out of balance, causing it to vibrate. The fan's cleaning has to be carried out at your dealership.








FAN TIGHTENER

Check the spring's length "L" (See Figure): it shall be in tension, when corresponding to a length, comprehended between 9 and 12 cm.



8 LUBRICATION (CONTINUED)

8.3 MAINTENANCE OPERATIONS' TABLE

Treatment	Beginning of Season	Before Any Treatment	End of Any Treatment	End of Season
Fan tightener's spring: CHECK ITS LENGTH (between 9-12 cm)	Yes	Yes	-	-
Chain's tension: TO BE CHECKED	Yes	Yes	-	-
Fan shaft's support: TO BE LUBRICATED	Yes	-	 20	Yes
Fan tightener's support: TO BE LUBRICATED	Yes	-	 50	Yes
Security clutch: TO BE LUBRICATED	Yes	-	 200	Yes
Wheels' bearings: TO BE LUBRICATED	Yes	-	 200	Yes
Free wheel (if foreseen): TO BE LUBRICATED	Yes	-	 200	Yes
Foot: TO BE LUBRICATED	Yes	-	-	Yes
Drawbar (if foreseen): TO BE LUBRICATED	Yes	-	 200	Yes
Pneumatic circuit and tank: TO BE CLEANED & COMPLETELY EMPTIED	-	-	-	Yes
Tires pressure: TO BE CHECKED	-	Yes	-	-
Duster: EXTERNAL WASHING	-	-	Yes	Yes
Duster: TO BE STORED	-	-	-	Yes
Chain: TO BE LUBRICATED	Yes	-		Yes

9 TROUBLESHOOTING

PROBLEM:	CAUSE:	REMEDY:
Vibration of fan unit:	Dirty fan.	Clean fan.
	The 2 power takeoffs aren't aligned or they aren't positioned parallel.	Correctly position the 2 PTO.
Abnormal and continuous noise, accompanied by vibrations of the fan unit:	Breaking of the fan shaft's bearings.	Contact the service department at your local dealer.
More abundant delivery on one side:	The humidity's and temperature's environmental conditions don't allow a perfect and uniform dust air mixture.	Modify the position of the balance tab inside the tunnel. This operation is carried out by disassembling the distribution head and by acting on the tab's clamping nut.
	The balance tab is incorrectly positioned.	Same as above.
Insufficient delivery:	The distribution's triangular opening is dirty.	Contact the service department at your local dealer.
	The lock gate can only partially open.	Contact the service department at your local dealer.
	The Venturi pipe is obstructed.	Clean it.
The dust's delivery is missing:	The feeding opening is obstructed	Contact the service department at your local dealer.
	The lock gate is closed and locked.	Contact the service department at your local dealer.
	The chain is broken.	Contact the service department at your local dealer.
	The clutch slips.	Contact the service department at your local dealer.
	The Belleville washer are broken.	Contact the service department at your local dealer.
Noise caused by the chain's jump:	The chains are not sufficiently stretched.	Restore the chains' tension.
	The chain's tightener is broken.	Replace the spring.
	The tightener pawl is broken.	Replace the pawl.

10 LIMITED WARRANTY



GEARMORE, INC., warrants each new Gearmore product to be free from defects in material and workmanship for a period of twelve (12) months from date of purchase to the original purchaser. This warranty shall not apply to implements or parts that have been subject to misuse, negligence, accident, or that have been altered in any way.

Our obligation shall be limited to repairing or replacement of any part, provided that such part is returned within thirty (30) days from date of failure to Gearmore through the dealer from whom the purchase was made, transportation charges prepaid.

This warranty shall not be interpreted to render us liable for injury or damages of any kind or nature, direct, consequential or contingent, to person or property. This warranty does not extend to loss of crops, loss because of delay in harvesting or any other expenses, for any other reasons.

Gearmore in no way warrants engines, tires, or other trade accessories, since these items are warranted separately by these respective manufacturers.

Gearmore reserves the right to make improvements in design or changes in specification at any time, without incurring any obligations to owners or units previously sold.

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13477 Benson Ave.
Chino, CA 91710

Always refer to and heed machine operating warning decals on machine.

The serial number of this product is stored in our computer database, thus submitting a warranty registration card is not required.