GEARMORE INC.

AIR BLAST TRAILER MOUNTED SPRAYERS

Operation / Service / Parts Manual For

Models ATSS1200, 1500, & 2000 (300, 400, & 500 Gallon)

February 2005 (Rev. 3-06)

Form: ATSSSprayers.pm7

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Date of Purchase: _____

Model: _____

Serial Number: _____

WELCOME

We welcome you as an owner of a Gearmore Trailer Mounted Air Blast Sprayer. We are confident that with proper use and maintenance this machine will give you many years of reliable use and will fulfill your needs. Please read the following instructions and refer to them when required.

This "Use and Maintenance" manual applies to all versions of the trailer sprayers.

Remember that any machine can work well and profitably only if it is used correctly and kept in efficient working conditions. Please read this instruction manual carefully and check with it whenever difficulties arise.

Should you need any assistance, our technical department is at your disposal with information and service.

The manufacturer reserves the right to change, at any time, any part, detail or accessory of the machine, either in order to improve it, or for marketing necessities. However, the changes made will not affect the main technical features of operation and safety.

The symbols given throughout this manual are safety warnings and indicate that the instructions must be followed in order to avoid harm and/or damages to persons, animals or environment.

Failure to comply with the instructions in this manual may cause personal injury and, in some cases, even death.

INTRODUCTION

This manual provides all the necessary information concerning the use and maintenance of the air blast, mist (low volume) and boom sprayers trailed by the tractor, as well as the list of spare parts.

The sprayers can be trailed by any tractor having a draw hook or bar adequate to pull the corresponding weight of the machine and an input shaft running at a maximum speed of 540 R.P.M. (Revolutions Per Minute). The horsepower required to run the sprayer is connected to the type of pump which is mounted, to the size of propeller and the angle of the blades of the propeller (see specifications chart).

The sprayers are designed and manufactured for use in open fields as well as for work between the rows of orchards, vineyards, etc. Therefore, **NEVER RUN THE SPRAYER INDOORS!**

Regular and adequate operation of the machine depends on correct use and maintenance.

The technical instructions that are contained in this manual must be therefore strictly complied with to prevent any problem that could hinder the correct use of the machine and reduce its life.

Compliance to the safety requirements mentioned herein is also essential to prevent accidents or injuries to the operator and other parties.

ANY USER OF THIS MACHINE IS REQUIRED TO READ CAREFULLY AND UNDERSTAND ALL THE INSTRUCTIONS IN THIS MANUAL BEFORE STARTING TO USE THE MACHINE.

Should these instructions, or even one of them, not be complied with, then the manufacturer can not be held liable for any damages whatsoever that are caused to the machine itself, to property, or to persons.

This handbook is an important part of the machine and must be kept on file as long as the machine is operative.

INTRODUCTION

Please contact your local dealer should you need any technical details or any information on how to improve the machine operation and efficiency.

Any repair must be carried out only by skilled technicians, either at your local authorized dealer or by the distributor.

For repairs, only original spare parts can be used. Failing to do so will void the warranty and the manufacturer shall not be held liable for incorrect operation of the machine and the user will not be entitled to any guarantee.

Should any doubt arise on the meaning of any part of this manual, the Italian texts shall be considered as the valid reference text.

IMPORTANT SAFETY INFORMATION

Before using the machine, please carefully read the safety rules and the recommendations of how to prevent accidents that are described in this manual.

These rules must be strictly complied with to ensure safety of the operators and other people as well as the environment.

The Manufacturer and its sales network will not be considered liable if such rules are not complied with.

The sprayers are machines designed and built for the use of chemical products, which could be very dangerous if handled, or just touched, by persons with no adequate skill.

- It is forbidden to allow anyone to use the machine who is under the age of 18 or someone without adequate skill.
- **NEVER** run the machine indoors because the air could be poisoned not only by chemicals, but also by the fumes of the motor.
- **DO NOT** transport the machine with the tank full of chemical.
- **DO NOT** allow anybody other than the operator in a radius of less than 100 meters (300 ft) when the sprayer is working.
- Check frequently the tightness of fittings and hoses. Tighten or replace if necessary.
- **NEVER** remove any shield or guard. If any shield or guard is damaged, repair it promptly without running the machine while waiting for the replacement.
- Always wear suitable protective clothing, especially during preparation of the product, during the treatment, when cleaning the nozzles and filters, emptying the tank and washing the machine.

IMPORTANT SAFETY INFORMATION

- Avoid inhaling the gases inside tanks.
- During treatments it is advisable to use overall working clothes, goggles, gloves, dust proof mask or helmets and boots resistant to the chemicals.
- The sprayers are designed to broadcast chemicals in agriculture; the constant use of chemicals make the machine a potentially dangerous implement, of which everybody must be aware.
- Before using the chemicals, read and understand all the warnings and directions given by the manufacturer of the chemical.

IMPORTANT: BE INFORMED OF HOW TO ACT IF ACCIDENTALLY THE CHEMICAL WOULD BE TOUCHED BY SOMEONE OR WOULD BE SPREAD IN THE ENVIRONMENT

SIGNS AND WARNINGS

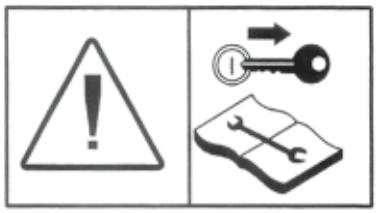
Please carefully read and understand the operating instructions in this manual before using the machine.

DANGER: The machine blows possibly dangerous chemical. Keep at a safe distance from the machine.

DANGER: Never get close to the driveshaft when it is rotating. COMING IN CONTACT WITH THE DRIVESHAFT COULD CAUSE INJURY OR DEATH!

DANGER: Keep hands, feet, and clothing away from all moving parts.

SIGNS AND WARNINGS



Before performing any service, stop both the machine and the tractor, verify that they are still on the ground in a stable position and read the instructions of the service section of this manual.

Only qualified personnel should be allowed to use the machine. Keep the machine away from children even when it is off.

Wash the machine with plenty of water after each working phase. Do no drop the chemicals in the environment.

If the chemical product gets in contact with eyes, hands, skin, or clothes, neutralize them with suitable products and rinse with plenty of water.

Keep clear of the machine when it is in operation.

SIGNS AND WARNINGS

Hitching point for lifting the machine. Make sure that the capacity of the vehicle used for transport is sufficient to lift the maximum weight of the machine.

Never remove safety shields when the machine is running. All the shields must stay in place during the life of the machine.

Have a thorough knowledge of the chemical products used and learn how they must be neutralized in case of contact with skin or eyes.

Never run the PTO (Power Take Off) at a speed exceeding 540 R.P.M. (Revolutions Per Minute)

SIGNS AND WARNINGS



Use special goggles, boots, overall working clothes, gloves, dust proof mask or certified helmets with filter when you use the sprayers.


Use only driveshafts with certified safety shields.


Carry out all the maintenance operations before starting to use the machine.


Avoid sharp angles of driveshaft because this could damage the joints, the pump and the PTO of the tractor. Stop the PTO of the tractor when taking a turn.


Use an additional support if the stand leg of the machine lies on soft ground. Be sure that the machien is always placed in stable balance.

SAFETY RULES FOR THE OPERATORS

BEWARE: The sprayers are machines where some parts are rotating at a very high speed, which, even if protected, are still potentially dangerous.

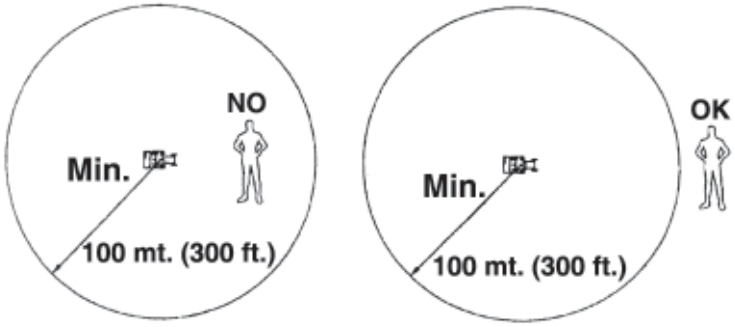
1. Pay careful attention to warning, danger, and marking signals that are both contained in this handbook and affixed on the machine.

2. Any time the machine needs to be serviced, the motor of the tractor must be off, the gear engaged, the hand brake pulled and the machine must be firmly parked on the ground.

3. Never touch parts while they are in motion. This could result in injury or death.

When in operation, the sprayer blows chemical products. Therefore, always make sure that no persons or animals are within the reach of the machine. When making this evaluation, consider also possible wind. Minimum distance between persons and working place: 100 mt. (300 ft.). Never work when persons are ina reas at risk.

The machine must be used by one person only who must operate it from the tractor's driver seat. Nobody else is necessary, therefore no other persons must approach the dangerous area. Minimum distance from the machine while in operation is 100 mt. (300 ft.).



SAFETY RULES FOR THE OPERATOR

Should someone come too close to the machine, then immediately stop any operation you are carrying out and warn these persons with acoustic and light signals until they leave the dangerous area, where they could be contaminated by chemicals, overrun by the tractor or be injured by machine mechanisms. Risks due to parts that are in motion and from sudden change of the wind's direction could be unavoidable.

Never wear loose clothes with free ends (such as belts, scarves, heads-squares, long skirts, etc.) that could drag you towards the machine parts while they are in motion.

The operator should keep all shields, of which the machine is equipped, in steady and sound conditions. After any service or repair, **all the shields must be put in the original place.**

Before stopping and/or starting the engine of the tractor be sure that:

- **The PTO must be disconnected**
- **The attached implement is firm on horizontal ground**
- **The hand brake is pulled**

The recommended position to use the lifting system of the tractors is ***only*** from the tractor's seat.

WARNING: It is strictly forbidden to stay between the tractor and the machine when the engine is on. This can result in injury or death.

When replacing any worn out pieces or during any other operation on the machine (which must be carried out by skilled technicians) please proceed as follows:

- Make sure the engine is stopped, hand brake pulled and PTO disengaged
- In case of the need of servicing the machine from underneath, make sure that this would rest safely on proper supports, in order to prevent any accidental fall which would seriously injure someone.
- Every intervention must be carried out on a clean horizontal floor.

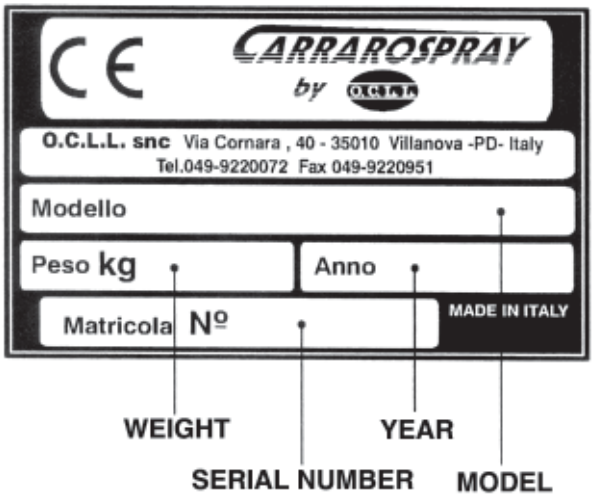
Should the machine accidentally bump into an obstacle, then proceed as follows:

- Stop the machine immediately and follow all the above mentioned safety instructions.
- Check the machine carefully, to be sure there are no damages. In the case of doubts please check with the service department of an authorized dealer.

MARKINGS AND IDENTIFICATION

On the machine the user will find the following plates or decals:

1. Marking plate containing the name of the manufacturer, the year of construction, the model, and the serial number.



2. Decals with general maintenance and lubrication instructions.

3. Decals indicating how to use the machine.

4. Danger, warning and marking signals.

Plates, decals and signs on the machine are parts of the machine itself and cannot be removed.

The operator must comply with the instructions affixed on the machine and keep them in clean and legible condition as long as the machine is operative.

DELIVERY OF THE MACHINE

The machine must be checked immediately upon delivery to ensure that it is complete with all its components; should this not be the case, the manufacturer and/or its representative must be notified at once.

The sprayer is normally supplied either wrapped with nylon or packed in a carton and all the components are appropriately protected for shipment. In order to save space and reducing risks of damages during transportation, some parts may be supplied loose and need to be reassembled before using the machine. In this case follow these instructions:

- Mount the pressure regulator on it's support
- Mount the delivery and bypass hoses
- Check that all the hoses are tight
- Connect the hoses of the nozzles and of the handgun (if supplied)

Run the sprayer, for the first time, with fresh water, to check that everything operates properly.

PRE-OPERATION CHECK LIST

1. Inspect for loose or missing parts and possible damages.

2. Make sure all fittings and drive components are secure.

3. Lubricate the parts that need to be lubricated. *(See lubrication section for details)*

4. Check tank for any foreign objects.

5. Fill tank 1/2 full with clean water. **DO NOT** add and spray chemicals until the sprayer is started, adjusted and calibrated.

MACHINE COMPONENTS

PUMP -

The diaphragm pump puts the liquid under pressure and is the hearth of the sprayer - it needs therefore particular attention.

PLEASE READ CAREFULLY THE MANUAL PROVIDED WITH THE PUMP.

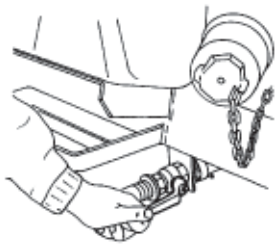
TANK -

The tank of the sprayer can be made either of fiberglass, polyethylene or stainless steel. Inside the tank there is an agitation system studied in order to keep the chemical uniformly and constantly mixed with the water, this during the spraying operations The agitation system can be either mechanical or jet (sometimes both together).

It is important to have the agitation system in good working conditions at all times, not only for the best job with the crops, but also because some chemicals can be dangerous if not mixed properly. Before using any chemical, please read and carefully follow the directions printed on its container.

DRAINAGE OF THE LIQUID OF THE TANK -

It is very important to learn how and where to drain the residue liquid of the tank. All the tanks are provided with a drain valve with a lever. Even if the valve is designed in a way that the liquid would not touch the hands or clothes of the operator, this has always to be opened with care. To avoid pollution, never drain the residue chemicals on the ground, but use instead appropriate reservoirs or drain ducts.



MACHINE COMPONENTS

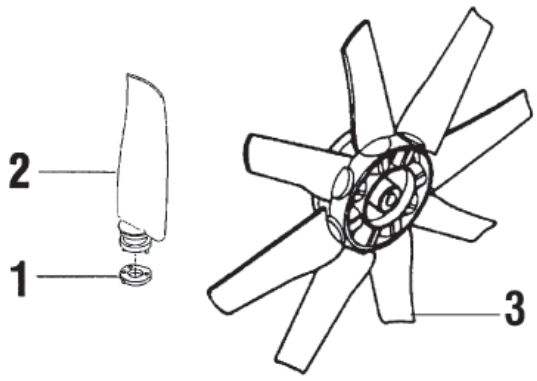
PROPELLER -

BEFORE PERFORMING ANY MAINTENANCE ON THE PROPELLER, BE SURE THAT THE MOTOR OF THE TRACTOR IS OFF AND THE TRANSMISSION OF THE PROPELLER IS DISCONNECTED. NEVER REMOVE THE SHIELDS OF THE PROPELLER WHEN THE TRACTOR IS RUNNING AND THE PTO CAN BE ENGAGED.

The purpose of the propeller is to produce the volume of air necessary to atomize the droplets of liquid sprayed by the nozzles. The result is a sort of fog that penetrates the foliage of the plants and performs the requested treatment.

The blades can be mounted with a different angle. The wider the angle, the more volume of air produced, however, on the other hand, there will be more absorption of power from the tractor.

In order to change the angle of the blades (*ref. 2*) of the propeller (*ref. 3*) you need special inserts (*ref. 1*) that you can obtain from the manufacturer or the dealer.



NEVER USE, ON THE SAME PROPELLER, INSERTS HAVING A DIFFERENT ANGLE, AS THIS COULD CAUSE SEVERE DAMAGE TO THE MACHINE.

After placing the inserts, mount all the shields in their original position, before running the motor.

MACHINE COMPONENTS

HANDGUN -

The machine can be provided with a handgun (various models are available). The nozzles of the handguns can have different shapes and diameter of the holes, according to the job that needs to be done.

The chart provided herewith shows different tips according to the pressure used. The tips and the nozzles, either the ceramic or steel ones, wear out and need to be replaced. Replace when you notice that the delivery has increased or the spray pattern is not uniform.

FILTERS -

The sprayer is equipped with 3 filtering systems:

1. A basket filter is located under the main cover, the purpose of which is to prevent any impurity or foreign objects getting into the tank during the operation of filling it with water.
2. A main strainer is located under the tank, connected to the inlet system. The liquid is filtered before getting into the pump, which therefore will work with no risk of damages. This filter is provided with a valve that prevents the return of the liquid and that allows the maintenance of the cartridge also when the tank is full.
3. Each nozzle is provided with one or more filters.

All the filters are easily accessible and easy to clean.

NOZZLES -

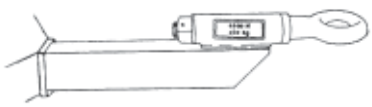
The machine is equipped with nozzles which can be either single or double and which can be adjusted to different angles of spray. By turning the nozzle 90° it shuts off. The double nozzles can spray dilute or concentrate, according to the hole of the top mounted on each side. For the nozzles there are available many types of ceramic tips with different holes, according to the job to be done. Tips wear out and, after a certain time, need to be replaced when the delivery starts to be too much or the spray is no longer uniform. Inside the nozzle there is a filter and an anti-drip valve. It is recommended to clean frequently the nozzles, filters, and anti-drip valves to prevent clogging.

CONNECTION TO TRACTOR

The attachment of the machine to the tractor is a dangerous operation.

It is recommended that such operation be carried out strictly complying with the following instructions and paying careful attention.

- **BEWARE:** In order to attach or set the machine, any operations must be carried out with the machine laid flat, tractor on standstill, engine off, parking brake set, and low gear inserted. Only the machine operator and the technical staff authorized by the dealer can be there.
- When working on the machine make sure nobody else is coming too close.
- Make sure the tractor power is appropriate for the machine before attaching.
- Never use tractors whose power exceeds that foreseen for the machine, as this has been tested with such power, exceeding which all machine members could suffer serious damages that are not covered by the guarantee.
- Make sure that the pull capacity of the tractor, as well as its weight, are sufficient to draw the machine when fully loaded with liquid and ready to work. **For these important safety instructions, please refer to the owner's manual of the tractor.**
- Consider that the towed sprayer is not provided with brakes and that particular care has to be taken when driving downhill as well as making sharp turns. In these cases the speed of the tractor has to be the lowest possible.
- Make sure that the tractor's draw hitch is provided with its original pin and that this fits perfectly into the hole of the drawbar of the sprayer. Make sure also, that the pin is provided with a locking system to prevent possible disconnection of the machine from the tractor while it is operated or driven.
- **Make sure that the weight of the machine on the hitch of the tractor would not exceed the one shown on the label on the drawbar of the sprayer.**



- Be sure to replace the stand leg before towing the machine with the tractor.

CONNECTION OF DRIVESHAFT

1. On pull type machines, it is very important to determine the right length of the driveshaft for a good performance, as well as for avoiding damages.
2. Check that the input shaft of the tractor would have the same size, type and number of splines as the yoke of the driveshaft on the tractor size.
3. Check if the RPM of the tractor's PTO are the same as for the machine to be attached (normally 540 RPM).
4. Check if the tractor's PTO rotates clockwise (please look at it from behind).

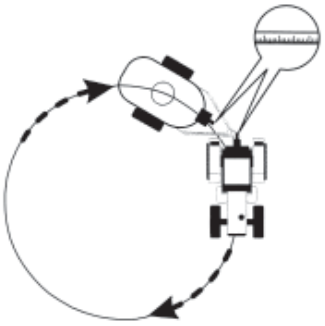
5. Use only the driveshaft supplied or recommended by the manufacturer.
6. When mounting the driveshaft to the input shaft of the machine, pay attention if there is any mark showing the tractor side and machine side (for example any limiting device normally has to be mounted on the side of the machine).

7. Drive the tractor close to the machine that has to be parked on flat ground, with the stand leg firmly locked and the wheels stopped with wedges.
8. Check that the drawbar of the tractor and the hook of the machine are on the same level. If necessary act on the handle of the stand leg to reach the same level.

9. Drive the tractor in reverse until the drawbar of the sprayer and the hitch of the tractor match up.
10. Switch the motor off, pull the hand brake and leave a low gear engaged.
11. Insert the pin of the hitch into the hole of the drawbar and lock it.
12. Once the machine is attached to the tractor, start it and drive the train into a sharp angle (without the driveshaft).

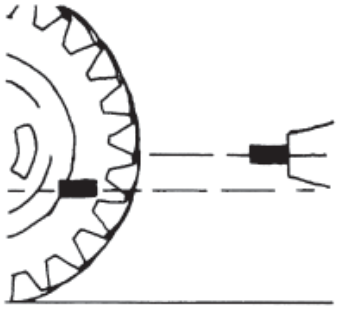
CONNECTION TO TRACTOR

13. Measure the distance between the groove of the PTO of the tractor and the groove of the PTO of the pump.

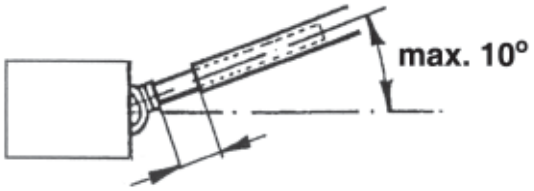


14. This distance, less 5 to 10 cm (2 to 4 in.), is the length of the driveshaft you have to use (a longer shaft, when taking a sharp angle, would push onto the two PTO's and, very likely, cause damage).

15. Adjust the hitch point so that the input shaft of the tractor and the one of the machine will be exactly parallel and horizontal with the ground. This will grant a good performance and a long life of the cardan shaft.



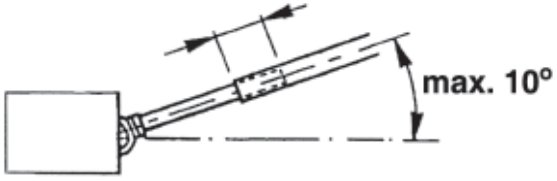
16. Connect the driveshaft to the input shaft of the tractor, double-checking again that a minimum distance of 5 to 10 cm (2 to 4 in.) is allowed to the completely closed position of the driveshaft.



MIN. 5 cm. (2")

17. Be sure that the driveshaft would work at an angle not exceeding 10° as this could cause damages to the shaft and to the PTO's of the tractor and the pump.

18. In its longest position the two halves of the telescoping tubes of the shaft must overlap at least 1/3 of their length. In case the driveshaft is too short, get a new one of the same type approved by the manufacturer from an authorized dealer.



1/3 MINIMUM OVERLAP

CONNECTION OF DRIVESHAFT

19. In the event that it is necessary to shorten the cardan shaft, make sure this operation is performed by skilled personnel. At the end of this operation be sure that all safety shields have been reinstalled in the original position.

20. When cutting shafts, proper equipment must be used to keep rotating parts coaxial and yokes in their original angle position.

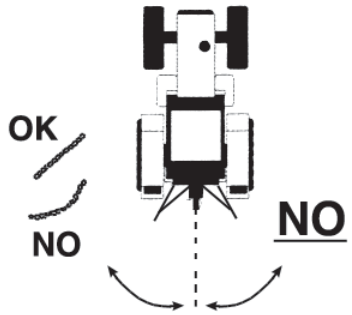
21. Before starting the tractor, be sure that the chains, of which the shaft is provided, have been locked to prevent the shield from rotating.

22. Before starting the tractor, be sure that the PTO is in neutral position; then it will be possible to start the motor, disengage the hand brake, engage a low gear and start slowly.

23. ***FOR OTHER IMPORTANT INFORMATION PERTAINING TO THE DRIVESHAFT, PLEASE SEE THE MANUAL SUPPLIED WITH IT BY THE SHAFT'S MANUFACTURER.***

BEWARE: Incorrect use of the driveshaft may cause damages to it. Such damages are excluded from warranty, even if within the warranty period. The misuse and/or abuse to the driveshaft can cause damages to the tractor, to the machine or injuries to people.

24. In case the sprayer would be provided with steering hitch attached to the lifting arms of the tractor, be sure to tighten the chains in order to avoid side swinging.

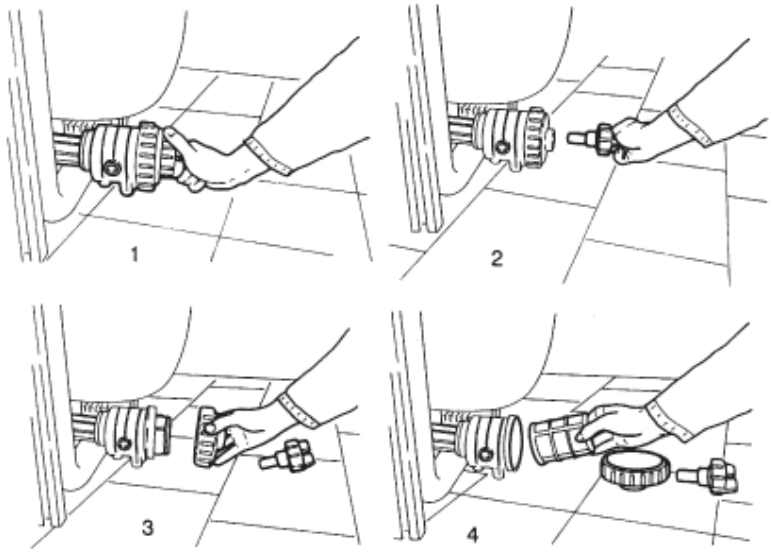


OPERATION OF MACHINE

THE SPRAYER IS A MACHINE THAT CAN BE OPERATED ONLY BY SKILLED PEOPLE AS IT IS POTENTIALLY DANGEROUS BOTH FOR THE OPERATOR AND FOR THE ENVIRONMENT IN THE CASE SOME SPECIFIC RULES WOULD NOT BE RESPECTED.

CHECK AND CLEAN THE FILTER -

Close the valve (*ref. 1*) that is placed between the tank and the filter, unscrew the lock ring of the filter (*ref. 3*) and clean the cartridge (*ref. 4*). In the case the cartridge would be damaged or worn out, replace it with one of exactly the same type.



After having replaced the cartridge and the cap in its position, it is possible to open the valve of the filter to allow the suction from the tank.

OPERATION OF MACHINE

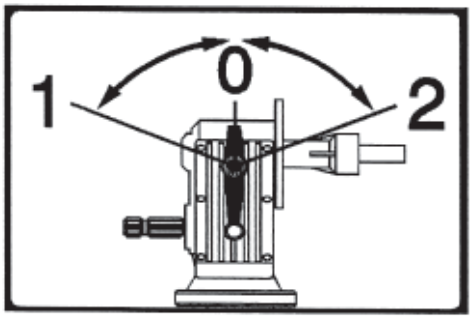
CHOOSE THE SPEED OF THE PROPELLER -

If the sprayer is provided with dual speed multiplier, it is possible to choose the speed by acting on the lever.

Choose the position of the lever that engages the propeller. The motor of the tractor must be off and the PTO disengaged when performing this operation.

Position 0	The propeller is in neutral for a possible use of the handgun
Position 1	The propeller will rotate at lower speed (for when not much air is necessary).
Position 2	The propeller will rotate at the highest speed and create more volume of air.

Once chosen the position of the lever, the PTO needs to be engaged at the lowest RPM of the motor and then slowly it will be necessary to accelerate so to reach 540 RPM.



AGITATOR -

Before starting to spray, it is important that the agitator (either mechanic or hydraulic) would operate for some minutes in order to have a uniform mix in the tank.

ADJUST THE WORKING PRESSURE -

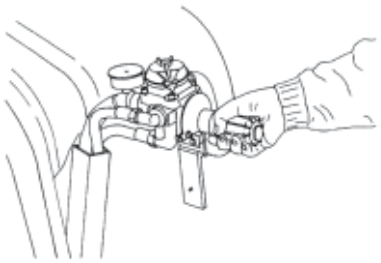
To adjust the pressure of the pump look at the gauge mounted on the regulator of the sprayer. Choose the pressure following the charts provided with the chemical and according to the quantity of product you plan to spray.

It is important that every adjustment of the pressure be made by turning the valve very slowly. In fact too quick changes of pressure could damage the components of the machine such as pump, valves, hoses, etc.

OPERATION OF MACHINE

During the work it may be necessary to re-adjust the pressure, as some tractors may not maintain the same power at all times. *Note: The pressure varies according to the tips mounted on the nozzles.*

The regulator valve is designed to adjust the pressure of the spray and to allow the excess of liquid to return into the tank.

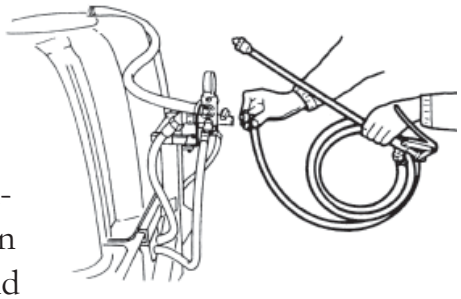


NOTE: The manual provided by the manufacturer of the pump also provides information on how to operate the regulator valve.

USE OF NOZZLES & MANIFOLDS -

The nozzles are mounted on the LH and RH manifold. They can be operated separately by acting on two levers mounted on the regulator. The use of one only manifold may be necessary when it is needed to treat one side only, for example the external rows.

USE OF HANDGUN -



In order to use the handgun, it is necessary to disengage the propeller and to connect the hose of the gun on the fitting that is on the pressure regulator. Should you not have connectors available on the regulator, you may use the one of which the pump is normally provided or you may disconnect one of the manifold. Before connecting the handgun, be sure that the fittings, the hose and the gun are designed for the maximum pressure supplied by the pump.

Periodically check the handgun, hose and connectors and replace immediately any defective parts (cracks, leaks, etc.). This is very important for the safety of the operator and the environment. It is absolutely forbidden to use hoses fixed with straps as they could easily blow out. Use only hoses with self-locking or threaded connectors. The lack of respecting these rules could cause severe damages and/or injury. Before starting any work, it is advisable to test the unit with clean water, in order to get used to it and to the handgun and for making the fine-tuning.

INSTRUCTIONS FOR USE OF SPRAYER

1. Position the regulator valve in by-pass position and close all the levers (manifold, handgun and/or other accessories).

2. Be sure that the machine is horizontal.

3. If the chemical mix has not been already prepared in advance, fill the tank with some clear water and then add the chemical. Then fill the rest of the tank with clear water up to approximately 3 cm. (1 1/2 in.) to the bottom of the strainer basket.

4. Start the tractor being sure that the hand brake is pulled and PTO disengaged.

5. Engage slowly the PTO.

6. Increase the speed of the motor until it reaches 540 RPM at the PTO.

7. Set the lever of the regulator valve on work position and check on the gauge that the pressure would not be too high.

8. Open the lever of the nozzles or of the handgun and adjust gradually the pressure until you reach the one you desire.

9. To stop the treatment, first set the lever on the by-pass position and then close the levers of the nozzles.

OPERATING TEST -

It is advisable, before proceeding to the first treatment, to test the machine with clear water in order to check:

- If everything works properly on the machine
- If the adjustments, gallon/acre are correct
- To get used to the machine

CALIBRATION AND RATE CHARTS

FORMULA AND RATE CHART FOR CALIBRATING

The following date must be known:

1) Tree spacing (swath width) in feet (ft.)
2) Tractor speed in feet per minute (ft/min).
3) Gallons per acre desired (gal/acre).

Note: 1 acre = 43,560 sq. ft.
1 MPH = 88 ft/min

[Tree spacing _(ft)] x [Tractor speed _(ft/min)] x [Gallons per acre desired _(gal/acre)] ÷ 43,560 = GPM (gallons per minute gal/min).

Next:

gal/min _ ÷ no. of nozzles _ = _ gal/min per nozzle

Refer to the chart: Nozzle tip Ø _ Swirl plate Ø_

Pressure setting ÷ _ P.S.I. or BAR

Now choose the correct tips and the pressure setting.

FORMULA AND RATE CHART FOR CALIBRATING

The following date must be known:

1) Tree spacing (swath width) in metres (m.).
2) Tractor speed in (Km/h).
3) Litres per hectare desired (Lt/h).

Note: 1 hectare = 10,000 mq

[Tree spacing _(m)] x [Speed _(km/h)] x [Litres per hectare desired _(Lt/ha)] ÷ 600 = (Lt/min)

Next: _ Lt/min ÷ _ no. of tips = _ Lt/min each tips

Now choose the appropriate tip and pressure setting

***Delivery chart for single tip (Lt per minute) [Lt/min]**

	Tip Ø	Swirl Plate Ø	BAR	10	15	20	30	40
			PSI	150	220	300	450	600
540 R.P.M.	0.8	0.0	Lt/min	0.98	1.21	1.40	1.72	1.98
	1.0	0.0	Lt/min	1.43	1.73	1.98	2.41	2.80
	1.2	0.0	Lt/min	1.53	1.87	2.14	2.57	2.95
	1.2	1.0	Lt/min	2.31	2.75	3.14	3.78	4.29
	1.5	1.2	Lt/min	3.58	4.38	5.05	6.20	7.13
	1.8	1.5	Lt/min	5.31	6.50	7.50	9.20	10.60
	2.0	1.8	Lt/min	6.65	8.15	9.40	11.50	13.30

Note: any difference between values measured in the field and the values indicated in the tables may be due to various factors: viscosity of the chemical products used, differences in the tractor speed, filter not perfectly clean. It is advisable to verify capacity and consumption with clean water before the treatment. The above values are for reference only.

CALIBRATION AND RATE CHARTS

CERAMIC TIPS Ø 15-18	 TIPS	 SWIRL PLATE

TIPS SW. PL. = SWIRL PLATE				PRESSION PSI gallons per minute (gal/min)									
Ø	**Part Nr. Tips**	**Sw. Pl. Ø**	**Part Nr. Sw. Pl.**	**73**	**145**	**218**	**290**	**363**	**435**	**508**	**580**	**653**	**725**
0.8	0800327	blind	0800325	0.19	0.26	0.29	0.33	0.38	0.41	0.44	0.47	0.49	0.51
1.0	0800323	blind	0800325	0.17	0.27	0.31	0.37	0.42	0.46	0.50	0.54	0.57	0.71
1.0	0800323	1.0		0.27	0.36	0.46	0.52	0.59	0.68	0.70	0.75	0.81	0.85
1.2	0800326	1.0		0.38	0.43	0.57	0.69	0.80	0.87	0.94	1.02	1.04	1.11
1.5	0800324	1.2	0800360	0.58	0.87	1.08	1.22	1.38	1.56	1.71	1.83	1.90	2.07
1.8	0800362	1.5	0800361	0.84	1.35	1.73	1.97	2.16	2.25	2.44	2.75	3.10	3.36
2.0	0800358	1.8	0800362	0.83	1.37	1.63	1.95	2.16	2.48	2.89	3.12	3.41	4.44

The two values indicated in the table refer to a single tip.

Note: Any difference between values measured in the field and the values indicated in the tables may be due to various factors: viscosity of the chemical products used, differences in the tractor speed, filter not perfectly clean. It is advisable to verify capacity and consumption with clean water before the treatment. The above values are for reference only.

SPRAY GUN'S DELIVERY LITER/MINUTE

STAINLESS STEEL CONE TIPS		WORKING PRESSURE BAR									
REF.	**DIA.**	**5**	**8**	**10**	**12**	**15**	**18**	**20**	**25**	**30**	**40**
0800176	1.0	1,1	1,3	1,5	1,7	1,9	2,1	2,3	2,5	2,8	3,3
0800177	1.2	1,5	1,7	2,0	2,3	2,7	3,0	3,2	3,6	3,9	4,8
0800179	1.5	2,4	2,9	3,3	3,8	4,3	4,8	5,1	5,6	6,2	7,5
0800180	1.8	4,0	4,6	5,1	5,6	6,3	6,9	7,2	8,2	8,9	10,8
0800181	2.0	5,0	5,6	6,3	6,9	7,7	8,5	8,8	10,0	11,0	13,4

CALIBRATION AND RATE CHARTS

SPRAY GUN'S DELIVERY LITER/MINUTE

CERAMIC CONE TIPS	WORKING PRESSURE BAR

REF.	DIA.	5	8	10	12	15	18	20	25	30	40
0800262	1.0	1,1	1,3	1,5	1,7	1,9	2,1	2,3	2,5	2,8	3,3
0800263	1.2	1,5	1,7	2,0	2,3	2,7	3,0	3,2	3,6	3,9	4,8
0800264	1.5	2,4	2,9	3,3	3,8	4,3	4,8	5,1	5,6	6,2	7,5
0800265	1.8	4,0	4,6	5,1	5,6	6,3	6,9	7,2	8,2	8,9	10,8
0800266	2.0	5,0	5,6	6,3	6,9	7,7	8,5	8,8	10,0	11,0	13,4
0800267	2.2	6,1	6,8	7,7	8,4	9,4	10,3	10,8	12,1	13,3	16,2
0800268	2.5	8,2	8,8	9,9	10,8	12,1	13,3	14,0	15,7	17,2	20,8
0800269	3.0	10,5	12,7	14,2	15,6	17,5	19,1	20,1	22,5	24,8	30,0

Note: The tips, both made of ceramic or stainless steel, wear out with use and need to be replaced. When you see that the delivery of liquid sprayed has increased or it is no longer uniform, it is time to replace the tip.

USE OF PUMP

- The pump is built only for liquids foreseen for agricultural use. Running it with any other liquid may damage it as well as other parts of the sprayer. Please refer to the pump manual for more information.
- Never exceed the maximum pressure recommended for the pump.
- The temperature of the liquid has to be between 10 and 30 centigrade (44° to 86° Fahrenheit).
- Before performing any service to the sprayer or to the pump, be sure to discharge all the pressure by opening the main valve so that the liquid will by-pass to the tank.
- Verify that the liquid runs fluently through the by-pass hose.
- Any part to be replaced such as hoses, valves, connectors, etc. that are subject to pressure, must be original or of the type approved by the manufacturer.
- Never use the pump of the sprayer for running water for human or animal use.

MAINTENANCE OF THE PUMP -

- The pump has been tested before leaving production and therefore it is ready to work.
- Before performing any operation with the pump, check that all the hoses are tight and that the pump itself is firmly bolted on the frame of the sprayer.
- Before starting to work, it is advisable to check the oil level. The oil level needs to be verified daily, or more frequently if the sprayer would be working in heavy conditions.
- The oil reservoir has never to be completely full. The oil level has to be about at the middle of the check glass.
- The oil to be used is of the type anti-foam SAE 20 W 40.
- The oil of the pump needs to be replaced at the end of every season or at least every 500 hours of work.
- Some pumps are provided with an accumulator to control the pressure, in order to avoid vibrations and pulsation. The pressure of the accumulator has to be checked periodically with a gauge. The correct pressure setting of the accumulator is shown in the pump manual and, as reference, it has to be the 10% of the pressure used for working.
- For any more information about the pump, read and understand the pump manual.

DIAPHRAGM & VALVE REPLACEMENT

1. VALVE AND O-RING REPLACEMENT -

- The constant work and, occasionally, debris can cause the valves to not seal properly, or damage the o-ring. To check for this problem, follow these steps:
  - **a)** Remove the pump manifold (see parts list for your model)
  - **b)** With manifold removed, valves can easily be removed and checked for debris or wear.

- To replace valves or o-rings, refer to parts list for appropriate kits.

2. DIAPHRAGM REPLACEMENT

- Drain the oil from the pump by removing drain plug. Rotate the shaft to remove excess oil. Lock back the drain plug.
- Remove the pump manifold as per instruction above in section 1 (*valve and o-ring replacement*).
- Remove pump heads to expose the diaphragms.
- Use a 13 mm box wrench to remove the diaphragm retaining bolt, support washer and diaphragm.
- To replace diaphragms order appropriate repair kit. (*See parts list*)
- Turn the crankshfat to bring the piston to its down stroke and seat the new diaphragm into the sleeve groove. Install retaining washer and tighten nut.
- Re-fill crankcase with anti-foam SAE 20 W 40 oil. Rotate the shaft to distribute oil and fill to proper level.
- Check the level of the oil that has to be on the middle of the glass (double check after short time of first run).

CHEMICAL PREPARATION

WARNING: Keep the products in ventilated premises, with a door provided with a lock, inaccessible both to children and to unauthorized persons. Place warning notices on the outside indicating the danger zone.

Before preparing the mixture to be sprayed:

1. Calculate the exact amount of the chemical product needed for the area to be treated, so as to be able to prepare the exact quantity of product. The chemical products must be kept in their original package, supplied with their own labels.

2. Ensure that the machine has been correctly set up and calibrated.

3. Carefully read the instructions concerning:

- The use of the chemical product to be applied, especially as regards to the conditions of use and the correct preparation of the dose as shown on the package.
- Operation of the sprayer.
- **WARNING: When mixing the chemical products it is always necessary to check that they are physically, chemically, and biologically compatible with one another.**

4. During preparation of the mixture, ensure that there are no children, unauthorized persons, or animals in the vicinity, or anyone without suitable protection. Always wear protective clothing; gloves, goggles, dust proof mask or helmets, overall working clothes, and boot resistant to the chemicals. Do not eat, drink or smoke.

5. After preparing the mixture, carefully wash your hand and face.

6. As soon as package that contained chemicals products have been emptied, they must be washed and rinsed with clean water; the waste water must be poured into the distribution tank (tank for chemicals).

7. The empty packages must be kept inside the premises used for storing chemical products until they can be handed over to an authorized collection service.

GENERAL MAINTENANCE

WARNING: In order to grant a long life to the sprayer, it is important to give particular care to the maintenance.

The sprayer is a machine that has some components running as a very high speed that may accelerate damages if the following important points would not be respected:

- **NEVER** run the sprayer without having first checked that all shields are in place.
- **BEFORE** starting to work, verify if all the lubrications have been made according to the instructions.
- Daily check tightness of all bolts and nuts.
- Daily check for any leaks, and repair promptly if necessary.
- Daily check the tension of drive belts.
- Daily, or at the end of the treatment, rinse the hydraulic circuit of the sprayer with clean water to avoid sediments which could damage the pump, the valves, etc.

Any of the above operations have to be performed only with the motor of the tractor off, a low gear engaged and the parking brake set.

CLEANING & MAINTENANCE

Since the sprayer is always in contact with chemical products, **BE SURE TO ALWAYS USE APPROPRIATE GLOVES, PROTECTIVE CLOTHING AND GOGGLES** to avoid burns or injuries when doing any work on the machine.

- After any treatment has been completed, the sprayer has to appropriately washed and rinsed inside. When doing this operation, be sure of not polluting the environment with the water used for washing.

- The tank needs to be rinsed inside also when it is necessary to change the type of chemical to be sprayed.

- At the end of the working season, the machine has to be cleaned throughout and every part has to be checked accurately to verify the need of any repair or maintenance

- In areas where the winter may be cold, be sure that all the parts of the sprayer are completely dry to prevent the risk that ice could damage some components, particularly the pump and the valves. To dry out the hoses, blow air with a compressor until all the liquid has evaporated. It may be advisable to run some anti-freeze in the pump and then drain it out.

- At the end of the working season, thoroughly inspect the machine and make all the necessary repairs and maintenance operations.

- At the beginning of the new season, double check again the need for any repairs, particularly if everything is tight and there are no leaks. Verify that the hoses are in good sound condition. Should you note cracks, replace immediately the hoses with new ones, to prevent the risk of possible blow up when the sprayer will go under pressure.

- All the tests at the beginning of the season have to be carried out with clear water.

LUBRICATION

DRIVESHAFT -

- Even if the driveshaft is lubricated at the time when it is manufactured, it is advisable to grease it again before use. The parts that need to be greased are the spiders and the telescoping tubing.
- The spiders need to be greased every 8 hours of working and before a long period of inactivity as well as after, because the grease could have dried out.
- Particularly when the machines are used in dusty areas, it may be necessary to clean and grease again frequently the telescoping tubing to prevent excessive wear.
- The use of some chemicals may also require a particular attention to the lubrication of the driveshaft as the grease could be degraded.
- For any other information about the driveshaft, please refer to the manual supplied with it.
- **The grease used for lubricating the driveshaft is NLH1 Grade 2.**

TRANSMISSION -

The gearbox that engages and disengages the propeller contains oil of the type SAE 90 EP. This oil needs to be changed possibly at the end of every season or, at least every 500 hours of work. The quantity of oil to be used depends on the model of the gearbox. It is therefore necessary to check the oil level on the eye on the side of the gearbox.

MECHANICAL AGITATOR -

If the sprayer is provided with the mechanical agitator, it is necessary to lubricate every 8 hours, the brass nut which holds the stainless steel shaft of the agitator. The brass nut contains a special gasket that prevents leaks along the shaft that needs to be greased periodically. When there is a leak also after the lubrication has been performed, tighten the brass nut slowly. If leak will continue, this means that the gasket needs to be re-place. **For lubricating use grease NLG1 Grade 2.**

ROAD SAFETY

Agricultural implements are conceived for use int he country-side and when they are driven on public roads it is necessary to meet with the rules in force.

Before driving on the road the tractor with the sprayer, as a first thing make sure there are no leaks of liquid.

The operator must also ensure that the Rules of the Road in force are complied with, such as but not limited to:

- Total length of the convoy
- Overall width
- Axle load
- Lifting and/or pulling capacity in the point where the machine is connected to the tractor
- Rear lights and refractive signals
- Brake efficiency

Whatever else the "Rules of the Road" provide for

It is strictly forbidden to transport persons, animals or goods on the machine. Operators that are not of age, without driving license, unskilled and not in good physical or mental health conditions, cannot use the sprayer.

Bear in mind that a trailed machine, because of its weight, can heavily influence the drive of the tractor. The efficiency of the brakes and the stability of the convoy can become less safe when the tractor is taking a turn. Turns have to be taken with care and at slow speed to avoid the risk of rolling over.

TRANSPORT

Check if the vehicle's capacity is adequate to the weight of the machine, which is indicated on the serial number plate riveted on to the frame of the sprayer.

WARNING: The weight indicated on the serial number plate refers to the machine at full load with the liquid. To calculate the weight of the machine with empty tank, subtract the corresponding weight of the liquid.

Also, when transported for a short distance, it is recommended always to empty the tank and be sure that there are no leaks dangerous both for persons and the environment.

Adequately fasten the machine and detached parts. Load the sprayer always horizontal (in working position) to avoid leaks from the pump, tank, etc. Be careful to firmly attach the machine on the vehicle to avoid unnecessary and/or dangerous movements during the transit. Check all the parts that may get loose and tighten them accordingly.

When loading the sprayer on the truck, trailer, or other, make particular attention to the marked lifting points. Lifting the sprayer by hitching other points could create damages.

Make sure to respect the limits of weight and overall dimensions foreseen by the rules of road circulation.

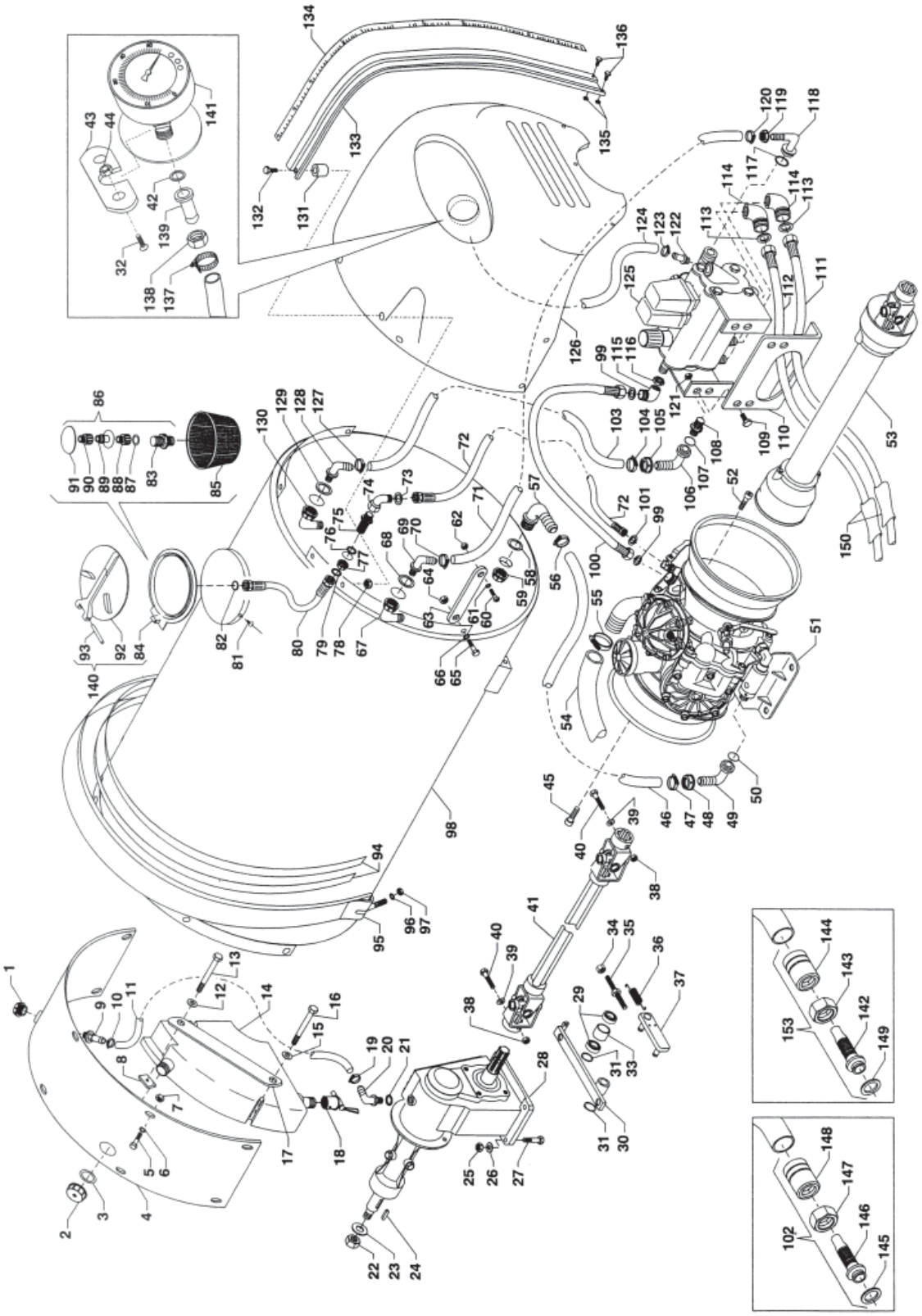
TROUBLESHOOTING

PROBLEM	CAUSE	REMEDY
The pump does not draw water	One or more valves are seating improperly	Examine the valve seatings and clean them.
	Suction line is plugged or collapsed	Examine suction line
	Clogged strainer	Clean strainer
Pressure gauge fluctuates excessively	The pump is sucking in air through the inlet	Examine the suction hose and make sure it is firmly secured
	Air has not been entirely evacuated from the pump	Run the pump with the outlet hose open to evacuate air from the pump
	Locked valves	Clean or replace the valves
	Leaks from gasket	Clean or replace the gaskets
The liquid flow is irregular	One or more valves are seating improperly or are damaged	Examine the valve seatings and clean or replace them
Output drops and the pump is noisy	Oil level is too low.	Add oil to correct level (halfway up the sight tube)
Oil gets out with the liquid or there is liquid mixed with oil in the sight glass of the pump	One or more diaphragms split.	Drain the pump of oil, dismantle the heads and mount new diaphragms. Fill to correct oil level with Motor oil (SAE20W40)

WARRANTY TERMS

- The manufacturer guarantees the machine for 12 months from the date of delivery to the final user. Within this period of time the company will be liable to repair or replace, free of charge, any part that would result defective after appropriate examination.
- The absence of a sure demonstration of the purchase date shall void the warranty.
- The misuse or abuse of the machine, any unauthorized modification of it, the use by unqualified persons, negligence, lack of servicing, the use of not original parts, will void any guarantee right.
- All charges for labor andinspection are at buyer's expense, as well are any costs incurred for sending the spare parts.
- All spare parts replaced under warranty must be returned, prepaid, to the head office of the manufacturer within a maximum period of 30 days, on pain of invalidity of the guarantee.
- Any replacement part claimed under warranty will be invoiced at the time of delivery. The charged sum will then be credited at a later time, once the technical department of the manufacturer will have inspected it and approved the warranty claim.
- Any repair or replacement carried out or any tampering with the machine during the guarantee period without the authorization of the manufacturer cause the guarantee to become invalid.
- There is no warranty coverage for all those parts that, for its norma use, are foreseen to wear out or deteriorate.
- The manufacturer has the right to reverse the warranty rights to the suppliers of complete components.
- In no case may the buyer claim refunds for damages of any kind, arising in any way as a result of use of the machine.

SPRAYER ASSEMBLY



SPRAYER ASSEMBLY

REF #	QTY.	PART NO.	DESCRIPTION
1	1	2100150	Plug 1/2
2	2	0600142	Plug Handwashing Georgia VTR D.70
3	1	1700067	Gasket "U" = 250 mm
4	1	0101660	Rear Hood
5	10	1800021	Bolt TE UNI 5739 8.8 8x20 Galvanized
6	10	1800122	Washer 8x24 Uni 6593 R40 Galvanized
7	10	1800181	Nut Aut. High Cl. 8 M 8
8	2	0100107	Plate
9	1	1400228	Connector D.20 M 1/2"
10	1	1500003	Clamp 15-25/12 Head 7
11	1	1600091	Hose PVC 19x26 20 Bar L=420
12	1	1800131	Washer F.L.M. 10x30x2.5 Galvanized
13	1	1800153	Bolt TE UNI 5737 8.8 10x150
14	1	0600143	Tank Handwashing Georgia
15	1	1800131	Washer F.L.M. 10x30x2.5 Galvanized
16	1	1800153	Bolt TE UNI 5737 8.8 10x150
17	1	0600141	Plate Handwashing Georgia
18	1	0600145	Valve Handwashing Georgia
19	1	1500003	Clamp 15-25/12 Head 7
20	1	1400062	Elbow Connector D.20 1/2 G
21	1	1700001	Gasket 33x21x2 PTO1470
22	1	1800266	Nut 22x1.5 Galvanized
23	1	0100055	Washer 22x45x5
24	1	1800421	Key A 8x7x40 UNI 6604-6.8
25	4	1800191	Nut Aut. M12 CL8
26	4	1800140	Plain Washer UNI6592 M12
27	4	1800057	Bolt TE M12x55 UNI 5737-8.8 Galvanized
28	1	0300193	Gearbox M47 CS 1:3,6-1:4,6
29	2	6001-2RS	Bearing 12x28x28 6001 2RS
30	1	0101684	Belt Support ATI
31	2	47112	Circlip E12 UNI 7435 C-70 FOSF. Black
32	2	1801208	Bolt TC-CR M4x25 A2 INOX
33	1	0100017	Roller
34	2	1800180	Nut M8 UNI 5587-6.8 Galvanized
35	1	0100127	Spring Connecting Rod
36	1	2500005	Spring 15x2.2x90
37	1	0101683	Idler Bracket
38	2	1800190	Nut M12 UNI 5587-6.8 Galvanized

SPRAYER ASSEMBLY

REF #	QTY.	PART NO.	DESCRIPTION
39	2	1800139	Washer Grower 13x21 UNI1751 Galvanized
40	2	1800089	Bolt TE M12x70 UNI 5738-8.8 Galvanized
41	2	0900046	Cardan Shaft B5 1500 00 C60
42	1	1700010	White gasket 18x12x2
43	1	0200492	Stirrup For Mod.1008PBL
44	3	1800277	Nut M4 A2 INOX
45	4	1800018	Bolt TCEI M8x20 UNI 5931-8.8 Galvanized
46	1	1600660	Spiral Hose D.20 L=450
47	1	1500003	Clamp 15-25/12 Head 7
48	1	AR550450	Ring Nut
49	1	AR550460	Elbow
50	1	AR880831	O-Ring
51	1	0200317	Pump BHA110 AP C/C
52	4	1800018	Bolt TCEI M8x20 UNI 5931-8.8 Galvanized
53	1	0900042	PTO Shaft B4 1000 CE A60 ATSS1200
53	1	0900044	PTO Shaft B5 1100 CE A60 ATSS2000
54	1	1600361	Suction Hose 40x51 10 Bar L=700
55	1	1500005	Clamp 35-52/12 Head 7
56	1	1500003	Clamp 15-25/12 Head 7
57	1	1400062	Elbow Connector D.20 1/2 G
58	1	1700001	Gasket 33x21x2 PTO 1470
59	1	1400001	Ring Nut 1/5
60	9	1800155	Bolt TC-CR M5x20 UNI 7687-4.8 Galvanized
61	9	1800161	Washer 5x15x1.5 UNI 6593 R40 Galvanized
62	9	1800314	Nut M5 Galvanized
63	2	0101707	Locking Clip Lever Plate
64	9	1800314	Nut M5 Galvanized
65	9	1800155	Bolt TC-CR M5x20 UNI 7687-4.8 Galvanized
66	9	1800161	Washer 5x15x1.5 UNI 6593 R40 Galvanized
67	1	1400141	Curve Connector D.25 F3/4
68	1	1700011	Gasket 40x26x2
69	1	1400042	Elbow Fitting D.25 - 3/4
70	1	1500004	Clamp Perfect 21x38
71	1	1600528	Spiral Hose D.25 L=950
72	1	1600215	Hose CO.PVC 10x19 80 Bar L=600
73	1	1700010	White Gasket 18x12x2
74	1	1300001	Brass Elbow MF 1/2 - 1/2
75	1	1400002	Nipple 1/2 - 1/2
76	1	1700001	Gasket 33x21x2 PTO 1470

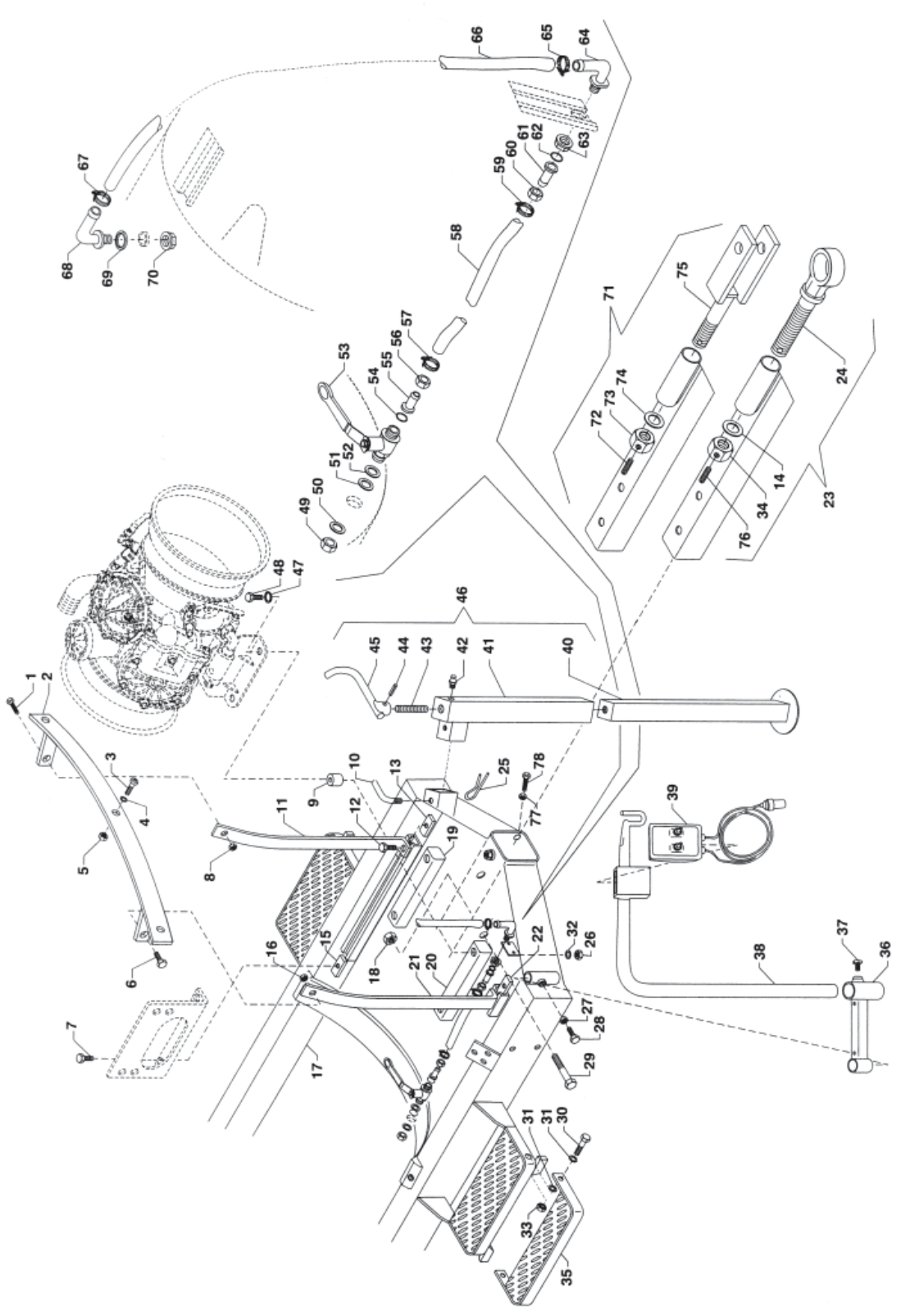
SPRAYER ASSEMBLY

REF #	QTY.	PART NO.	DESCRIPTION
77	1	1400001	Ring Nut 1/2
78	1	1800184	Nut Aut. Cl.8 M6
79	1	1700010	White Gasket 18x12x2
80	1	1600003	Hose CO.PVC 10x19 80 Bar L=1000
81	6	1800349	Rivet D.5x15 In Aluminum
82	1	1700010	White Gasket 18x12x2
83	1	1400003	Fitting 1/2 - 3/4
84	1	AG3562065.020	Threaded O-ring For Tank Cover
85	1	0600005	Tank Filter
86	1	1400035	Hydraulic Powder Mixer
87	1	1700006	OR D.36x26x5
88	1	1400004	Adapter MF 1/4 - 3/4
89	1	1400005	Diffuser MF 3/4 - 1/4
90	1	1400004	Adapter MF 1/4 - 3/4
91	1	1400006	Shower
92	1	1400213	Cover With Aste Red
93	1	356060.040	Pin
94	4	1600724	Adhesive List Mousse 40x5 RPE L=2500
95	2	0101689	Clamp Locking Tank
96	4	1800150	Plain Washer UNI 6592 M14
97	4	1800194	Nut Aut. M14 UNI 7473 - 6.8
98	1	0600225	SS Tank-AISI 304 300USG
99	2	OR173	OR D.22.2x16.2x3
100	1	1600021	Hose CO 19x32 100 Bar L=600
101	1	1700010	White Gasket 18x12x2
102	2	1300012	Hose Fitting 19x32
103	1	1600528	Spiral Hose D.25 L=950
104	1	1500004	Clamp Perfect 21x38
105	1	0200051	Ring Nut
106	1	0200076	Curve Connector
107	1	OR1786262	OR D.23x10 x 17.86 x 2.62
108	1	1400161	Nipplo MM 3/4 - 1
109	4	1800021	Bolt TE UNI 5739 8.8 8x20 Galvanized
110	1	0101675	Valve Support El. ARAG 2V+V+VRP AT
111	1	1600161	Hose CO. PVC 10x19 80 Bar L=3200
112	1	1600161	Hose CO. PVC 10x19 80 Bar L=3200
113	2	1700010	White Gasket 18x12x2
114	2	1300004	Brass Elbow MF 1/2 - 1/2
115	2	1300019	Brass Curve MF 3/4 - 3/4
116	1	0100030	Nut 3/4

SPRAYER ASSEMBLY

REF #	QTY.	PART NO.	DESCRIPTION
117	1	OR1786262	OR D.23 10x17.86x2.62
118	1	0200076	Curve Connector D.25
119	1	0200051	Ring Nut
120	1	1500004	Clamp Perfect 21x38
121	4	1800180	Nut M8 UNI 5587 - 6.8 Galvanized
122	1	1300058	Cilindric Fitting 454/A8
123	1	1500028	Clamp 6-16/8 mm
124	1	1600714	Hose PVC 8x14 50 Bar L=620
125	1	1400272	Reg. 2E+V+RPM 40 Bar ATP
126	1	0101659	Anterior Hood ATI1150
127	1	1500004	Clamp Perfect 21x38
128	1	1400042	Elbow Fitting D.25 - 3/4
129	1	1700011	Gasket 40x26x2
130	1	1400141	Curve Connector D.25 F3/4
131	1	1600723	Hose PVC 13x23 100 Bar L=20
132	1	1801207	Bolt TPS 6x40 UNI 6109-4.8 Galvanized
133	1	0101656	Support Pipe Level
134	1	2600258	Label PVC TRASP. Level ATSS 930x45
135	2	1800179	Nut M6 UNI 5587-6.8 Galvanized
136	2	1800013	Bolt TE UNI 5739 8.8 6x20 Galvanized
137	1	1500028	Clamp 6-16/8 mm
138	1	1300088	Nut R.A. 13x24 1/2
139	1	0100711	Hose Tail D.8
140	1	AG356065	Complete Tank Cover
141	1	0200491	Pressure Gauge 100 P 1/2G 0/60 B PS
142	1	AG006721.020	Pin R.A. 10x19
143	1	AG006721.030	Nut R.A. 10x19
144	1	AG006721.010	Bushing R.A. 10x19
145	2	OR173	OR D.22.2x16.2x3
146	1	AG006750.020	Pin R.A. 19x32
147	1	AG006750.030	Nut R.A. 19x32
148	1	AG006750.010	Bushing R.A. 19x32
149	8	1700010	White Gasket 18x12x2
150	2	1600455	Handle Padova 60 8 Bar Il Mt.
153	8	1300003	HP Hose Fitting 10x19

FRAME ASSEMBLY



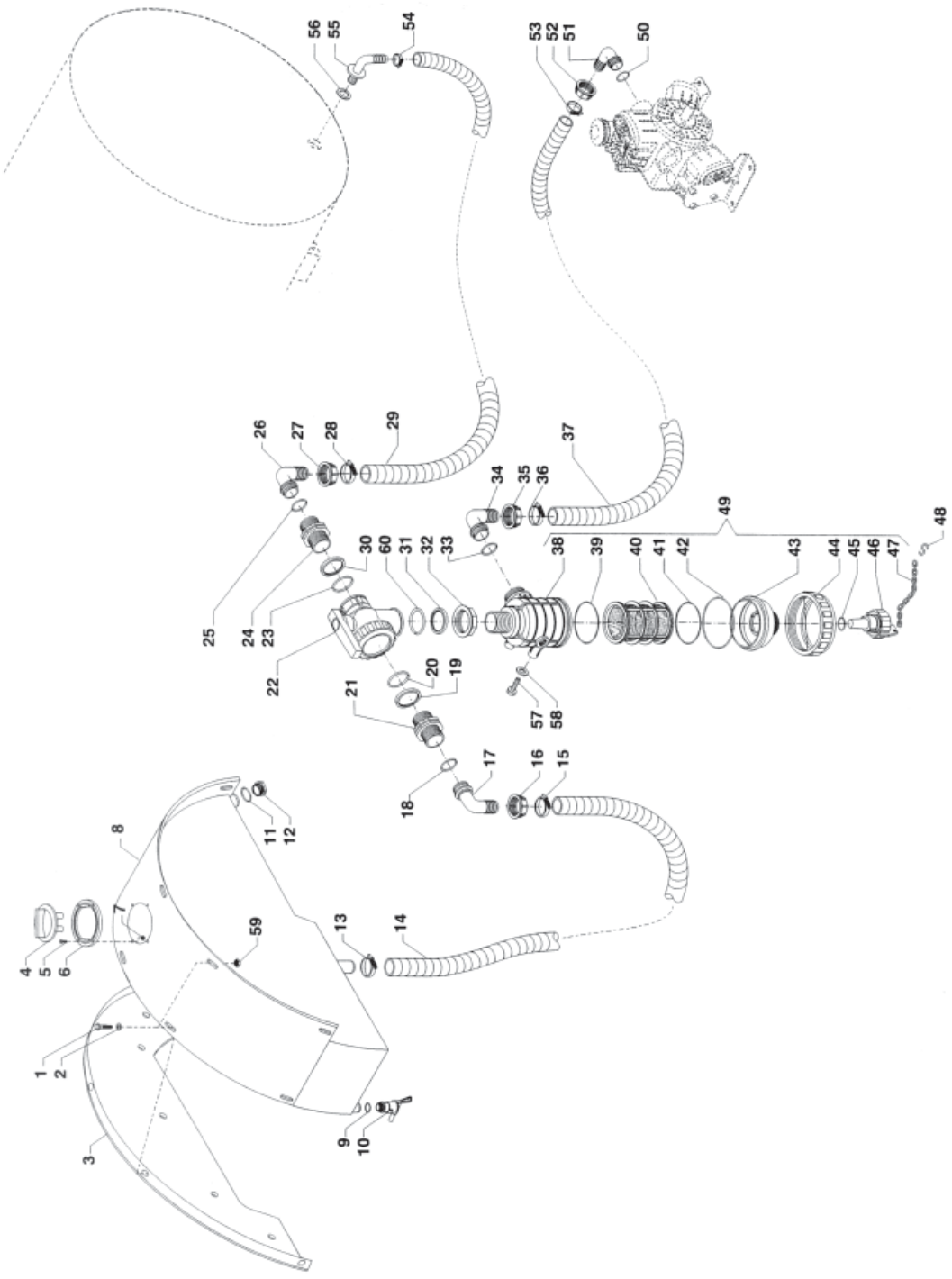
FRAME ASSEMBLY

REF #	QTY.	PART NO.	DESCRIPTION
1	1	1800261	Bolt TE M6x25 UNI 5739-8.8 Galvanized
2	1	0101300	Support Coffer Rearward
3	9	1800155	Bolt TC-CR M5x20 UNI 7687-48 Galvanized
4	9	1800161	Washer 5x15x1.5 UNI 6593 R40 Galvanized
5	9	1800314	Nut M5 Galvanized
6	1	1800261	Bolt TE M6x25 UNI 5739-8.8 Galvanized
7	1	1800036	Bolt TE UNI 5739 8.8 10x25 Galvanized
8	1	1800179	Nut M6 UNI 5587-6.8 Galvanized
9	4	0101030	Damper D.40 L=20
10	1	0100629	Pin D.10
11	1	0101681	Hood Support Left ATI
12	1	1800036	Bolt TE UNI 5739 8.8 10x25 Galvanized
13	1	0100107	Plate
14	1	1800175	Washer 34x60 UNI 6592 R4033 Galvanized
15	1	0100107	Plate
16	1	1800179	Nut M6 UNI 5587-6.8 Galvanized
17	1	0101658	Frame ATI 1150
18	2	1800212	Self Block Nut M20x1.5 UNI 7473-6.8
19	1	0101674	Pump Thickness BHA-BHS ATI 1150
20	1	0101674	Pump Thickness BHA-BHS ATI 1150
21	1	0101680	Hood Support Right ATI
22	1	0100107	Plate
23	1	0100992	Drawbar Eye ATF-NTF1000
24	1	2100113	Eye E2 Finish Cer. 1319
25	1	2100006	Pin R2
26	4	1800191	Nut Aut. High M12
27	1	1800187	Nut M10 UNI 5589-6.8
28	1	1800036	Bolt TE UNI 5739 8.8 10x25
29	2	1800339	Bolt TE M20x1.5x140 Black
30	4	1800038	Bolt TE M10x35 UNI 5739-8.8 Galvanized
31	8	1800130	Plain Washer UNI 6592 M.10
32	4	1800140	Plain Washer UNI 6592 M.12
33	4	1800186	Nut Aut. High Cl.8 M10
34	1	1800233	Nut M33 UNI 5587-6.8
35	2	0101657	ATI Step
36	1	0101699	Prolong Support Hook
37	1	1800036	Bolt TE UNI 5739 8.8 10x25 Galvanized
38	1	0100037	Hook Support
39	1	1400267	Consol RH/LH Kit Elett. 1400272

FRAME ASSEMBLY

REF #	QTY.	PART NO.	DESCRIPTION
40	1	0100021	Step
41	1	0100022	Step Body
42	1	1800300	Grease Zerk
43	1	0100023	Filett Pivot M22
44	1	1800309	Elastic Pin 6x26 UNI 6873-C70
45	1	0100024	Handle
46	1	0100380	Complete Step 600-800-1000
47	4	1800141	Washer F.L.M. 12x36x3
48	4	1800246	Bolt TE M 12x100 Galvanized
49	1	0800071	Ring Nut Nozzle 3/8
50	1	1800348	Washer 6592 A2 M.14
51	1	1700019	OR D.130x123x3.5
52	1	1800348	Washer 6592 A2 M.14
53	1	1300010	Valve LH 1/2 x 3/8 A.5264
54	1	1700010	White Gasket 18x12x2
55	1	1300047	Complete Fitting D.13 - 1/2
56	1	1300088	Nut R.A. 13x24 1/2
57	1	1500030	Clamp BIF. A Spring 173 mm 16.8-17.7
58	1	1600721	Hose VIPLA Crystal 12x17 L=350
59	1	1500030	Clamp BIF. A Spring 173 mm 16.8-17.7
60	1	1300088	Nut R.A. 13x24 1/2
61	1	1300047	Complete Fitting D.13 - 1/2
62	1	1700010	White Gasket 18x12x2
63	1	1400001	Ring Nut 1/2
64	1	1400130	Elbow Fitting D.13 1/2
65	1	1500030	Clamp BIF. A Spring 173 mm 16.8x17.7
66	1	1600720	Hose VIPLA Crystal 12x17 L=1300
67	1	1500030	Clamp BIF. A Spring 173 mm 16.8x17.7
68	1	1400130	Elbow Fitting D.13 1/2
69	1	1700001	Gasket 33x21x2 PTO 1470
70	2	1400001	Ring Nut 1/2
71	1	0100991	Fork Drawbar ATF-ATE 1000
72	1	1800305	Elastic Pin 5x45 UNI 6873-C70
73	1	1800233	Nut M33 UNI 5587-6.8
74	1	1800175	Washer 34x60 UNI 6592 R4033 Galvanized
75	1	0100468	Fork Hook
76	1	1800305	Elastic Pin 5x45 UNI 6873-C70
77	1	1800194	Nut Aut. M14 UNI 7473-6.8
78	1	1800326	Bolt TE M14x50 All Fillet

RUN OF FLUIDS



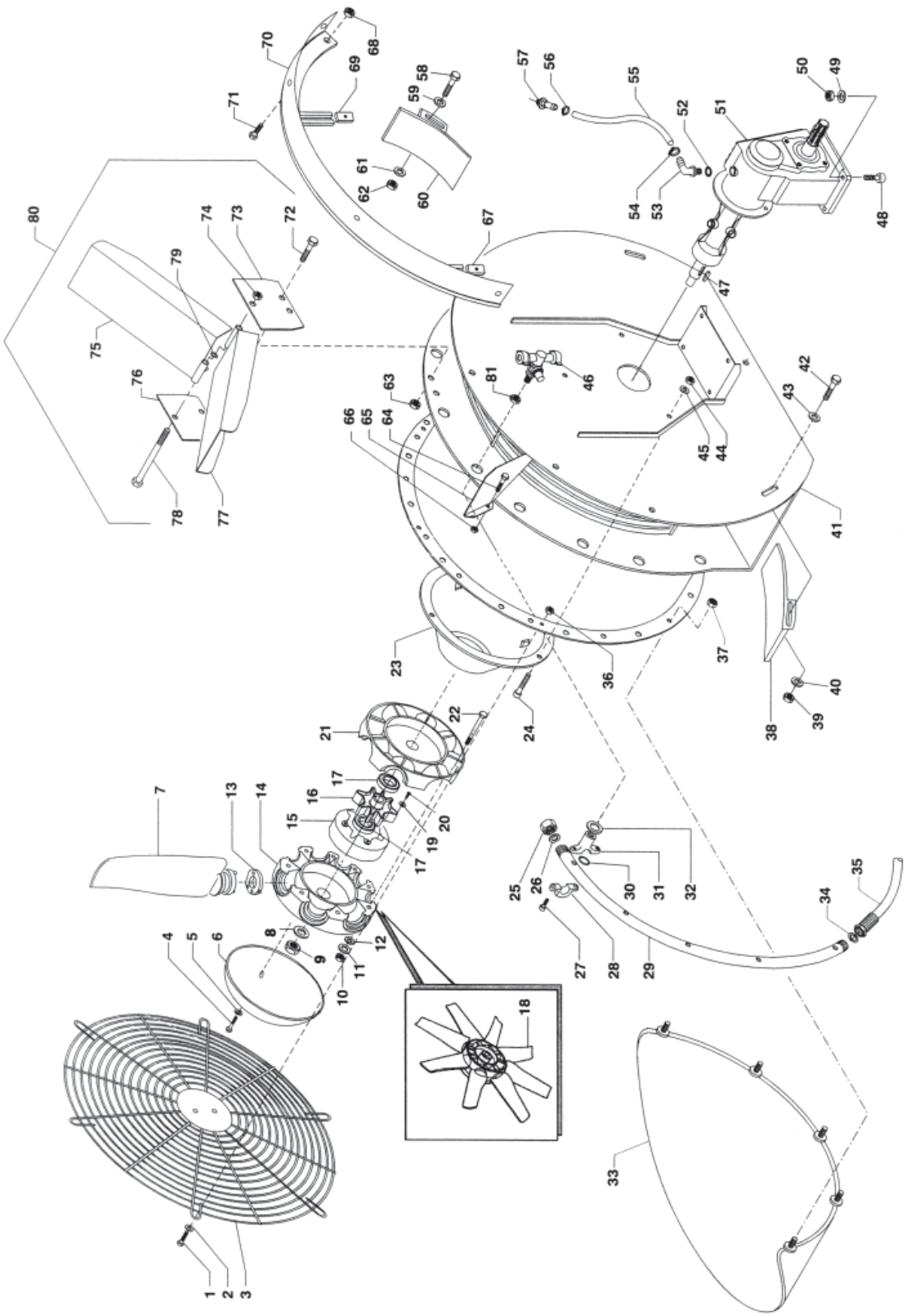
RUN OF FLUIDS

REF #	QTY.	PART NO.	DESCRIPTION
1	10	1800021	Bolt TE UNI 5739 8.8 8x20 Galvanized
2	10	1800122	Washer 8x24 UNI 6593 R40 Galvanized
3	1	0101700	Galvanized Steel Support
4	1	1400293	Tank Cover
5	4	1800259	Bolt TPSEI M4x20 UNI 6109-A20
6	1	1400299	O-Ring
7	4	1800199	Nut M4 UNI 5588-A2
8	1	0101698	Fresh Water Tank Galvanized
9	1	1700011	Gasket 40x26x2
10	1	0600145	Valve Handwashing
11	1	1700011	Gasket 40x26x2
12	1	1400297	Plug 3/4"
13	1	1500034	Perfect Clamp 21x44
14	1	1600516	Spiral Hose D.30 L=2650
15	1	1500034	Perfect Clamp 21x44
16	1	1400038	Ring Nut 1" 1/2
17	1	1400045	Elbow Fitting 1" 1/2
18	1	OR253	OR 31x25x3
19	1	1700026	Gasket 67x47x3
20	1	OR3747533	OR D.48.15 x37.47x5.34
21	1	AG2502060	Symetrical & Bulkhead Nipple G1" 1/2
22	1	1400363	Soupape Ball 1" 1/2 Ways Hole 90
23	1	OR3747533	OR D.48.15x37.47x5.34
24	1	AG2502060	Symetrical & Bulkhead Nipple G1" 1/2
25	1	OR253	OR 31x25x3
26	1	1400034	Elbow Fitting D.40
27	1	1400038	Ring Nut 1" 1/2
28	1	1500005	Clamp 32-52/12 Head 7
29	1	1600722	Scrivia Hose 40x51 10 Bar L=1900
30	1	1700026	Gasket 67x47x3
31	1	1700026	Gasket 67x47x3
32	1	1400020	Ring Nut 1" 1/2
33	1	OR253	OR 31x25x3
34	1	1400034	Elbow Fitting D.40
35	1	1400038	Ring Nut 1" 1/2
36	1	1500005	Clamp 35-52/12 Head 7
37	1	1600361	Scrivia Hose 40x51 10 Bar L=700 f/Pump BHA
38	1	1400090	Filter Body
39	1	1700052	OR Dia. 71.1x2.6
40	1	1400029	Filter

RUN OF FLUIDS

REF #	QTY.	PART NO.	DESCRIPTION
41	1	1700052	OR Dia. 71.1x2.6
42	1	1400209	OR 5.35x91.44
43	1	1400323	Middle Filter Cover CV
44	1	1400089	Ring Nut
45	1	1700051	OR Viton Dia. 31.0x2.5
46	1	1400205	Cover Filter Plug
47	1	1400007	Plastic Chain D.3.5 L=300
48	1	2100153	Armed Draw
49	1	1400196	Filter with Valve
50	1	OR3617262	O-Ring 36.17 x 2.62
51	1	AR540550	Elbow 40
52	1	AR540540	Rint Nut 1" 3/4 G
53	1	1500005	Clamp 32-52/12 Head 7
54	1	1500005	Clamp 32-52/12 Head 7
55	1	1400008	Elbow Fitting D.40 1" 1/4
56	1	1700015	Gasket 57.5x40x3
57	3	1800120	Flat Washer UNI 6592 M.8
58	3	1800120	Flat Washer UNI 6592 M.8
59	5	1800181	Nut Aut. High CL.8 M8
60	1	1700026	Gasket 67x47x3

FAN ASSEMBLY



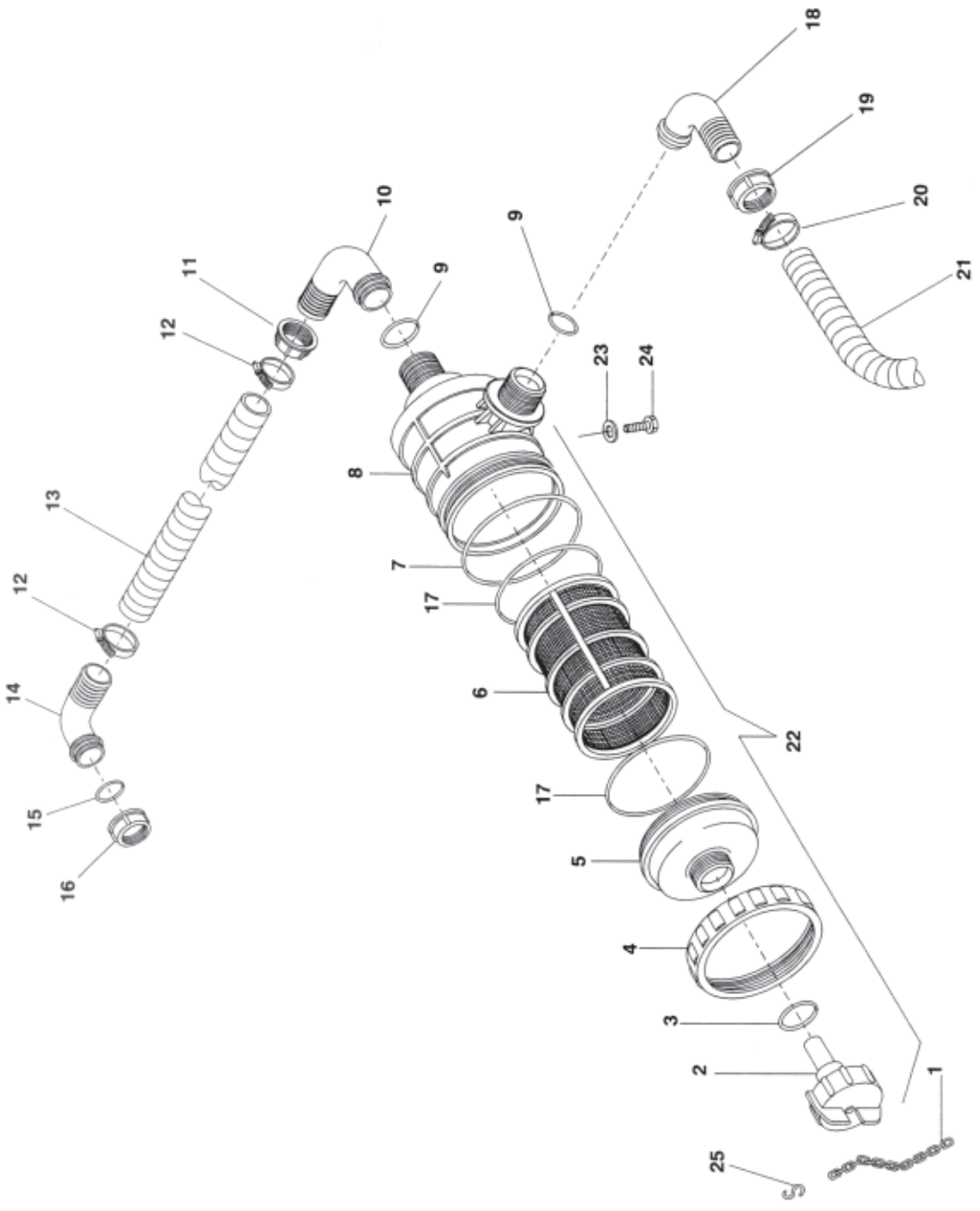
FAN ASSEMBLY

REF #	QTY.	PART NO.	DESCRIPTION
1	18	1800135	Bolt TPS M6x20
2	6	1800114	Washer 6x18
3	1	0100332	Grill 810E
4	2	1800146	Bolt TC 5x25
5	2	1800147	Washer Grower A5
6	1	0100818	PVC Fan Cover Dia. 330
7	10	0100620	Blade NV 60A (700/8-800/10)
8	1	0100055	Washer 22x45x5
9	1	1800215	Self Lock Nut M22x1.5
10	10	1800184	Self Lock Nut M6
11	10	1800114	Washer 6x18
12	10	1800111	Washer 6.4x11
13	10	0101416	PVC Insert 15°
13	10	0101417	PVC Insert 15°
13	10	0101418	PVC Insert 20°
13	10	0101419	PVC Insert 25°
13	10	0101420	PVC Insert 30°
13	10	0101421	PVC Insert 35°
13	10	0101422	PVC Insert 40°
13	10	0101423	PVC Insert 45°
14	1	0101225	O-Ring All 330
15	1	0101088	Rubber Clutch 330
16	1	0101226	Hub 330
17	1	1000046	Bearing
18	1	0100501	Fan D.800/NV 10P
19	8	1800149	Washer 5 DIN 6798
20	8	1800148	Bolt TPS 5x12
21	1	0101225	O-Ring All 330
22	10	1800094	Bolt E M 6x25
23	1	0100090	Cone M47
24	3	1800021	Bolt TE M 8x20
25	2	0100097	Plug
26	2	1700021	Gasket 19x4 White
27	36	1800002	Bolt TCEI M5x16
28	18	0800004	Buckle Nozzle
29	2	2000030	SS Tube D.20x1.2 (7) L=950
30	18	1700020	OR Dia. 15.16x9.92x2.62
31	18	0800003	Body Nozzle
32	4	1800150	Washer M14
33	1	1400247	Trash Shield in Rubber
34			
35			

FAN ASSEMBLY

REF #	QTY.	PART NO.	DESCRIPTION
36	18	1800179	Nut M6
37			
38	1	0101083	Lateral Wing RH 800
39	2	1800185	Nut M10
40	4	1800130	Washer 10.5x21
41	1	0101008	Fan Housing Conveyor
42	2	1800036	Bolt TE M10x25
43	4	1800130	Washer 10.5x21
44	3	1800180	Nut M8
45	3	1800120	Washer 8.4x17
46	14	0800210	Double Nozzle USA Version
46	14	0800295	Double Nozzle USA Version
46	14	0800296	Double Nozzle USA Version
47	1	1800424	Key 10x8x40
48	4	1800058	Bolt TE M12x60
49	8	1800140	Washer 13x24
50	4	1800191	Self Lock Nut M12
51	1	0300193	Gearbox M60 1:3, 6-1:4, 6
52	1	1700001	Guarnizione Piana 33x21x2 PTO 1470
53	1	1400062	Curve Connector D.20x1/2"
54	2	1500003	Strap Ring Perfect 14x27
56	2	1500003	Strap Ring Perfect 14x27
57	1	1400228	Straight Connector D.20 M1/2"
58	2	1800036	Bolt TE M10x25
59	4	1800130	Washer 10.5x21
60	1	0101084	Lateral Wing LH 800
61	4	1800130	Washer 10.5x21
62	2	1800185	Nut M10
63	4	1800180	Nut M8
64	12	1800020	Bolt TE M8x16
65	6	0101553	RH Directional Wing
65	6	0101554	LH Directional Wing
66	12	1800181	Self Lock Nut M8
67	2	0100107	Steel Plate
68	3	1800186	Nut Aut. High Cl.8 M10
69	2	0100107	Steel Plate
70	1	0101300	Support Coffer Rearward
71	3	1800036	Bolt TE UNI 5739 8.8 10x25 Galvanized
72	4	1800021	Bolt TE M8x20
73	1	0101467	Front Support
74	12	1800181	Self Lock Nut M8
76	1	0101468	Rear Support
77	2	0101465	Top Wing 800
78	1	1800288	Bolt TE M8x110
79	1	1800123	Washer Grower 8.4x14.4
80	1	2700030	Complete Top Wing

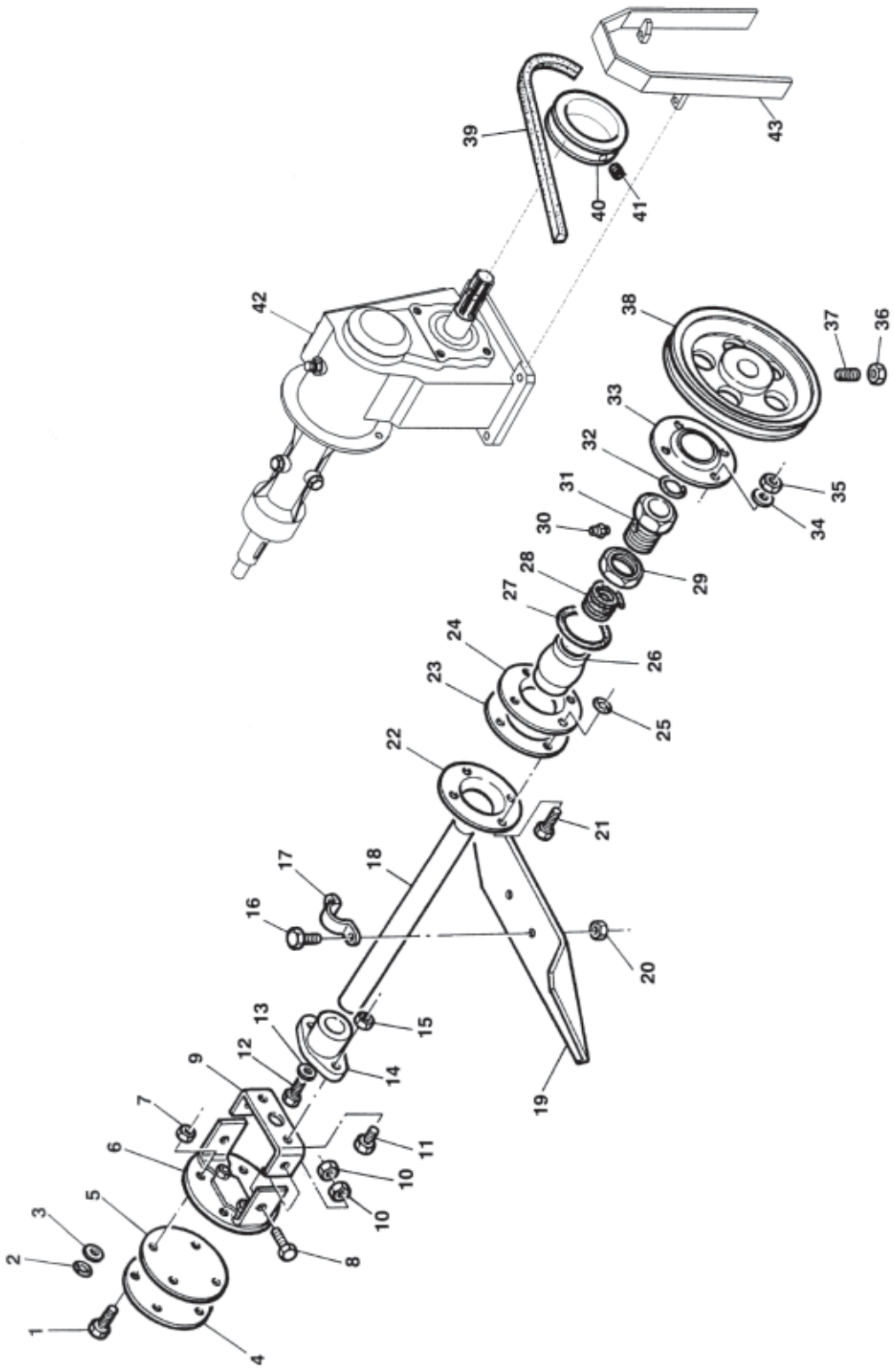
IN-LINE FILTER ASSEMBLY



IN-LINE FILTER ASSEMBLY

REF #	QTY.	PART NO.	DESCRIPTION
1	2	1400007	Chain D.3.5 L=300
2	1	1400205	Plug
3	4	1700051	OR Viton Dia. 31.0x2.5
4	1	1400089	Ring Nut
5	1	1400323	Cover
6	1	1400029	Strainer
7	1	1400209	OR D.5.34x91.44x102.1
8	1	1400090	Body Filter
9	4	0200142	Ring OR 3.0x25
10	1	1400034	Elbow Connector D.40
11	2	1400038	Ring Nut 1" 1/2
12	4	1500014	Clamp Perfect 40x64
13	1	1600722	Scrivia Hose 40x51 10 Bar L=1900
14	1	1400008	Curve Connector D.40x1" 1/4
15	4	1700015	Gasket 57.5x40x3
16	1	1400009	Ring Nut 1" 1/4
17	2	1700052	Dia. 71.1x2.6
18	1	1400034	Elbow Connector D.40
19	2	1400038	Ring Nut 1" 1/2
20	4	1500014	Clamp Perfect 40x64
21	1	1600361	Scrivia Hose 40x51 10 Bar L=700
22	1	1400196	Complete Filter 314 with Valve
23	3	1800120	Washer D.8
24	3	1800021	Bolt TE M8x12
25	1	2100153	Support Chain "S"

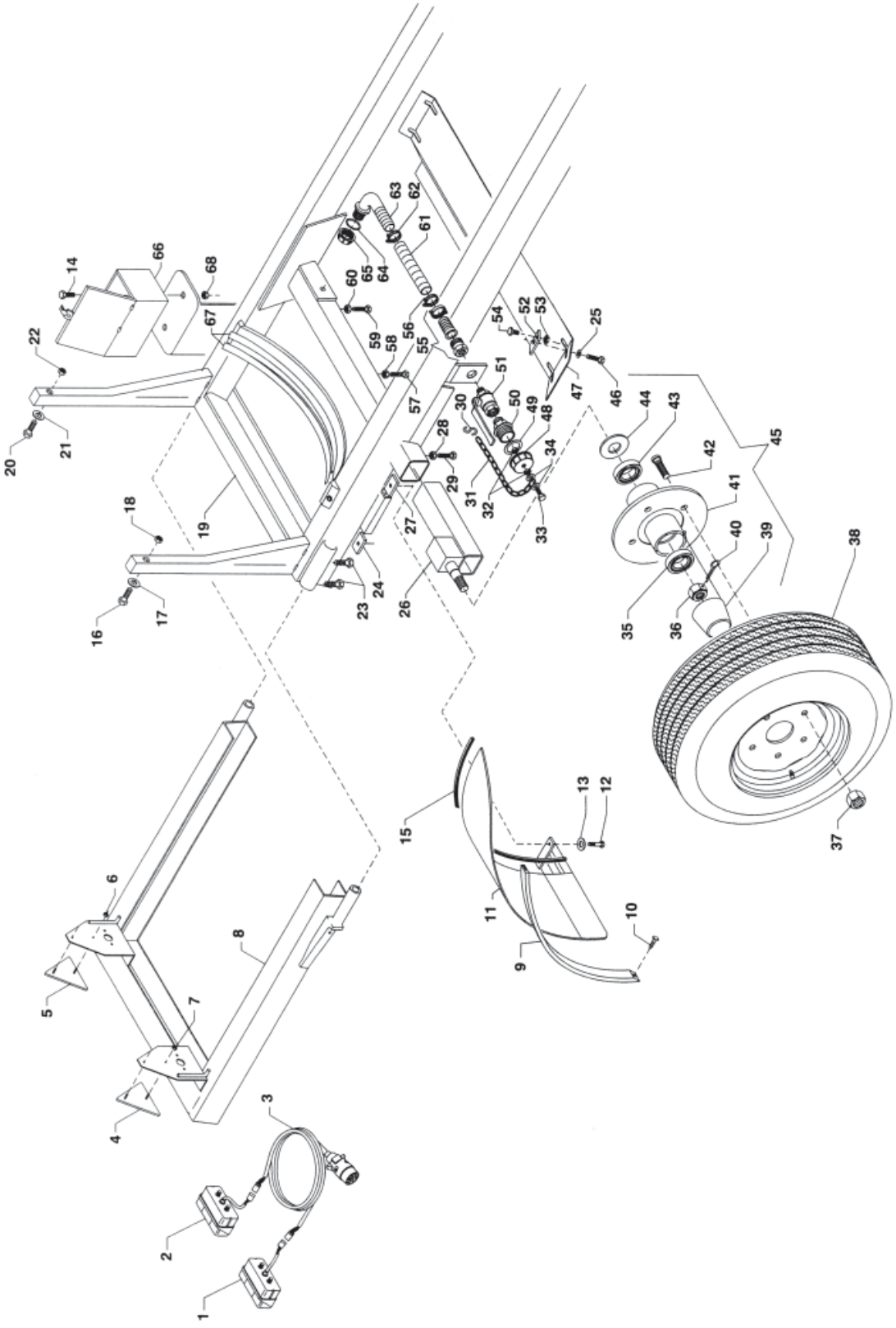
AGITATOR ASSEMBLY



AGITATOR ASSEMBLY

REF #	QTY.	PART NO.	DESCRIPTION
1	12	1800012	Bolt TE UNI 5739 A2 6x25
2	8	1700005	OR D.8.84x5.28x1.78
3	9	1800113	Washer 6.4x12.5 UNI 6592 A2
4	1	0100039	SS Blind Flange
5	1	1700008	Gasket 80x3
6	1	0100044	Female Clamp
7	16	1800182	Nut M6 A2 UNI 5587
8	12	1800012	Bolt TE UNI 5739 A2 6x25
9	1	0100430	Male Clamp "A"
10	16	1800182	Nut M6 A2 UNI 5587
11	12	1800012	Bolt TE UNI 5739 A2 6x25
12	1	1800079	Bolt TPSEI M6x16 UNI 5933-A2
13	1	1800125	Washer 8x24 UNI 6593 A2
14	1	0100431	Shaft Support
15	16	1800182	Nut M6 A2 UNI 5587
16	2	1800010	Bolt TE M6x16 UNI 5739-A2
17	1	0100041	SS Clamp
18	1	0100622	Agitator Shaft D.16 L=270
19	1	0100617	Fan 120x22x2 Agitator Mechanical
20	16	1800182	Nut M6 A2 UNI 5587
21	12	1800012	Bolt TE UNI 5739 A2 6x25
22	3	0100031	Flange Agitator
23	1	1700007	Gasket 80x46x3
24	3	0100031	Flange Agitator
25	8	1700005	OR D.8.84x5.28x1.78
26	1	0100040	Ball Joint
27	1	1700004	OR D.44.75x37.69x3.53
28	1	1700003	Packing 5x5 L=450
29	1	0100030	Nut 3/4
30	1	1800300	Steel Hydraulic Lubricator M6 Right
31	1	0100029	Nut 3/4
32	1	1700002	OR D.20.22x15.08x2.62
33	3	0100031	Flange Agitator
34	9	1800113	Washer 6.4x12.5 UNI 6592 A2
35	16	1800182	Nut M6 A2 UNI 5587
36	5	1800180	Nut M8 UNI 5587-6.8 Galvanized
37	1	1800293	Bolt STEI M8x30 UNI 5923-H45
38	1	2300001	Pulley 130 1 A/16
39	1	2200025	Belt A22 Roflex
40	1	2300002	Pulley 651 A/35
41	1	1800290	Bolt STEI M8x10 UNI 5923-H45
42	1	0300193	Gearbox M60 CS 1:3,6-1:4,6
43	1	0101701	Carter Mechanical Agitation

REAR FRAME ASSEMBLY



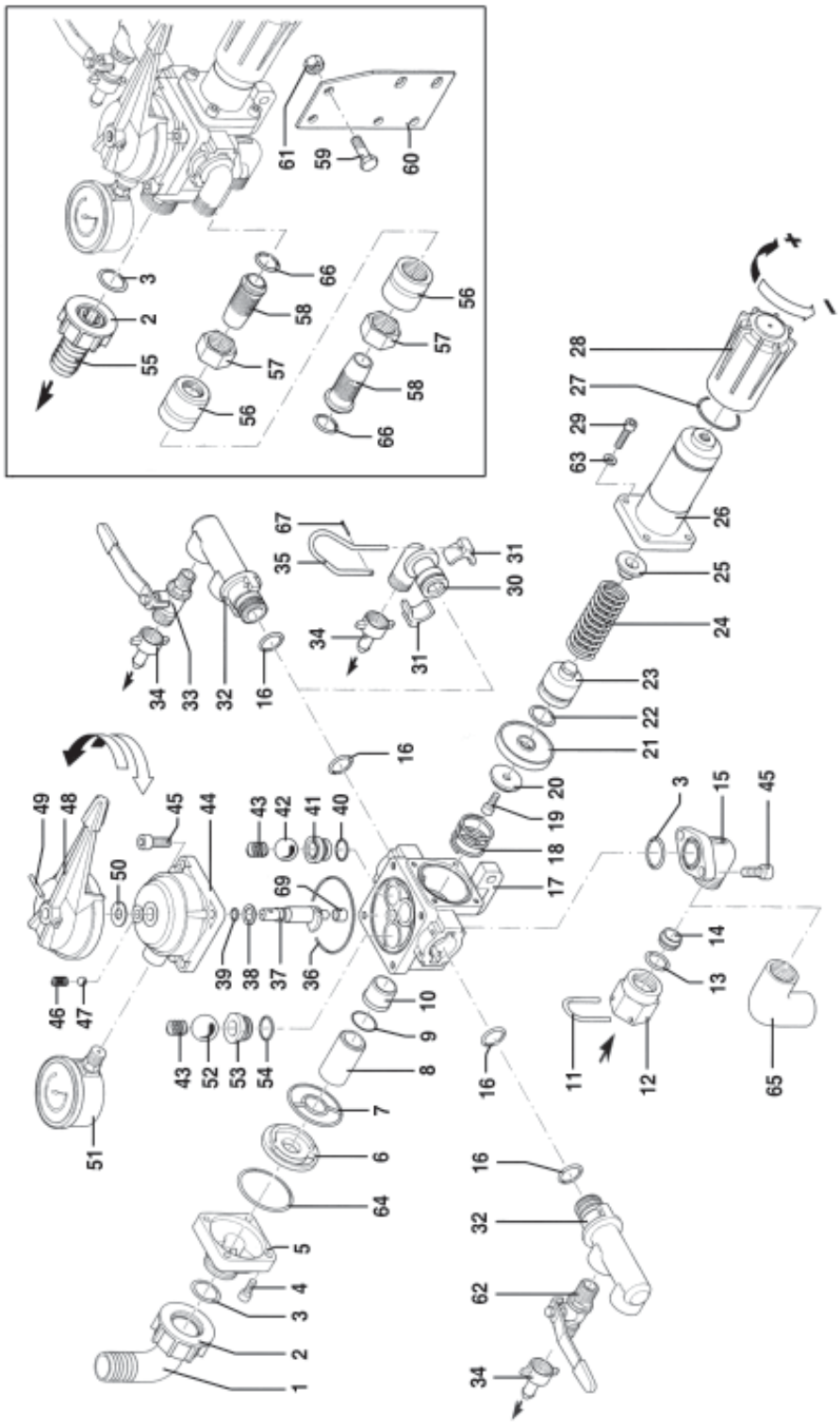
REAR FRAME ASSEMBLY

REF #	QTY.	PART NO.	DESCRIPTION
1	1	2100145	Right Light
2	1	2100146	Left Light
3	1	2100148	Wiring Pin 7 Pole
4	1	2100149	Reflector Triangular
5	1	2100149	Reflector Triangular
6	2	1800314	Nut M5 High Galvanized
7	2	1800314	Nut M5 High Galvanized
8	1	0101586	Complete Step
9	2	2100140	Armed Draw DH.62 mm
10	12	1800446	Aluminum Rivet 4x16
11	1	0101685	Protection ATI 1150 Right
11	1	0101686	Protection ATI 1150 Left
12	4	1800036	Bolt TE UNI 5739 8.8 10x25 Galvanized
13	4	1800130	Plain Washer UNI 6592 M.10
14	2	1800021	Bolt TE UNI 5739 8.8 8x20 Galvanized
15	2	2100141	Armed Draw
16	1	1800043	Bolt TE M10x60 UNI 5737-8.8
17	1	0100685	Washer 13x35x4
18	1	1800186	Nut Aut. High CL.8 M10
19	1	0101658	Frame ATI 1150
20	1	1800043	Bolt TE M10x60 UNI 5737-8.8 Galvanized
21	1	0100685	Washer 13x35x4
22	1	1800186	Nut Aut. High CL.8 M.10
23	4	1800085	Bolt TE M12x25 UNI 5739-8.8 Galvanized
24	4	0100107	Plate
25	4	1800131	Washer F.L.M. 10x30x2.5 Galvanized
26	2	0101593	Axle A556043
27	2	0100107	Plate
28	4	1800195	Nut M14 UNI 5588-6.8 Galvanized
29	4	1800326	Bolt TE M14x50 All Fillet
30	1	1900056	Hook for Chain
31	1	1400007	Plastic C hain D.3.5 L=300
32	2	1800179	Nut M6 UNI 5587-6.8 Galvanized
33	1	1800094	Bolt TE UNI 5739 8.8 6x25 Galvanized
34	2	1800111	Washer A 6.4x12.5 UNI 6592 R40
35	2	1000056	Anterior Bearing A556043
36	2	0101603	Nut A556043
37	2	0101692	Nut M12x1.5 A304059
38	2		Wheel 11L15 Power B5F Tub RM

REAR FRAME ASSEMBLY

REF #	QTY.	PART NO.	DESCRIPTION
39	2	0100669	Cap D.72 A556043
40	2	1800372	Split Pin A505159+A505158+A556043
41			
42	2	0101704	Hub 6x6
43	2	1000053	Rear Bearing A556043
44	2	1100026	Seal Ring 45x85 A556043
45	2	0101705	Axle Q.55 L=400
46	4	1800036	Bolt TE UNI 5739 8.8 10x25 Galvanized
47	1	0101291	Fore Plate
48	1	1400010	Female Plut 1" 1/4
49	1	1700011	Gasket 40x26x2
50	1	1400232	Nipple MM 1" - 1" 1/4
51	1	1300044	Ball Valve Export 1" A.4170
52	4	0100107	Plate
53	4	1800187	Nut M10 UNI 5589-6.8 Galvanized
54	4	1800063	Bolt TE M10x20 UNI 5739-8.8
55	1	1300097	Connector 3 PZ. 1"x30 A.3130
56	1	1500004	Clamp Perfect
57	6	1800326	Bolt TE M14x50
58	6	1800195	Nut M14 UNI 5588-6.8 Galvanized
59	6	1800326	Bolt TE M14x50
60	6	1800195	Nut M14 UNI 5588-6.8 Galvanized
61	1	1600034	Spiral Hose D.30 L=350
62	1	1500004	Clamp Perfect 21x38
63	1	1400065	Elbow Fitting D.30-1"
64	1	1700016	Gasket 45x33x3
65	1	1400031	Ring Nut
66	1	1382	Box 260x140x130 SP. 8/10
67	4	1600657	Adhesive Rubber 40x5 L=600
68	2	1800181	Nut Aut. High CL. 8 M8

MATIC 50 ASSEMBLY



MATIC 50 ASSEMBLY

REF #	QTY.	PART NO.	DESCRIPTION
1	1	550370	Elbow
2	1	550242	Ring Nut 1"
3	2	OR2381262	O-Ring 23.81 x 2.62
4	4	780060	Bolt M6 x 25
5	1	1150031	Flange
6	1	1150021	Spacer
7	1	1150041	Gasket
8	1	1150050	Spacer
9	1	OR2195178	O-Ring 21.95 x 1.78
10	1	1150060	Valve Seat
11	1	850760	Fork
12	1	850750	Ring Nut 3/4"
13	1	OR1872262	O-Ring 18.72 x 2.62
14	1	850490	Ring
15	1	850713	Adapter 3/4"
16	4	OR2063262	O-Ring 20.63 x 2.62
17	1	1150012	Valve Body
18	1	320420	Spring
19	1	680700	Bolt M6 x 20
20	1	1150070	Valve
21	1	1150130	Diaphragm
21	1	1150131	Diaphragm
22	1	OR2499353	O-Ring 24.99 x 3.53
23	1	1150180	Piston
24	1	1150190	Spring
25	1	1150200	Spring Plate
26	1	1150171	Spring Guide Body
27	1	OR3465178	O-Ring 34.65 x 1.78
28	1	1150210	Knob
29	4	1040370	Bolt M6 x 22
30	2	1150140	Adapter
31	4	1150150	Clamp
32	2	1150161	2-Way Valve Body
33	2	160142	Left Valve
34	4	110130	Fitting 1/2"
35	2	1040690	Fork
36	1	OR652	O-Ring 65 x 2
37	1	1150120	Selector
38	1	850720	Washer
39	1	OR73024	O-Ring 7.30 x 2.4
40	2	OR14178	O-Ring 14 x 1.78

MATIC 50 ASSEMBLY

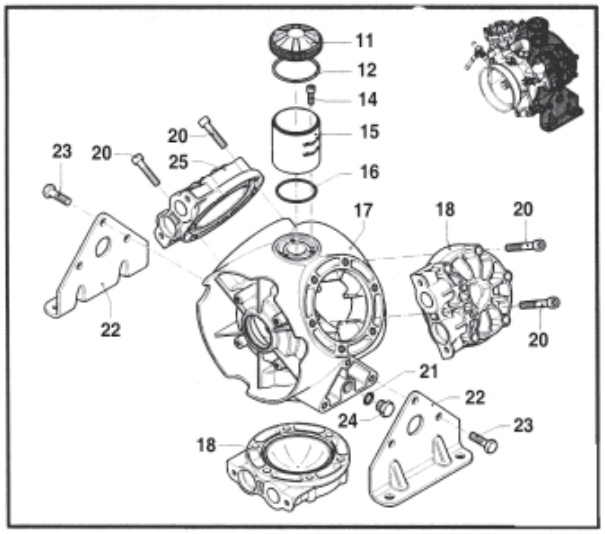
REF #	QTY.	PART NO.	DESCRIPTION
41	2	850650	Seat
42	2	850660	Ball
43	3	850680	Spring
44	1	1150082	Upper Body
45	6	320360	Bolt M8 x 22
46	1	850830	Spring
47	1	621160	Ball
48	1	1150110	Lever
49	1	480520	Pin
50	1	391460	Washer
51	1	550545	Pressure Gauge
52	1	1150100	Ball
53	1	1150091	Bypass Seat
54	1	OR1717178	O-Ring 17.17 x 1.78
55	1	550210	Hose Tail
56	2	850770	Ring Nut
57	2	850790	Ring Nut
58	2	850780	Hose Tail
59	2	180370	Bolt M8 x 25
60	1	850690	Bracket
61	2	390270	Nut M8
62	2	160141	Right Valve
63	4	550331	Washer
64	1	OR5052178	O-Ring 50.52 x 1.78
65	1	1150690	Elbow 90º
66	2	OR1786262	O-Ring 17.86 x 2.62
67	2	1040950	Split Pin
68	1	1150840	Bushing
69	1	1150840	Bushing

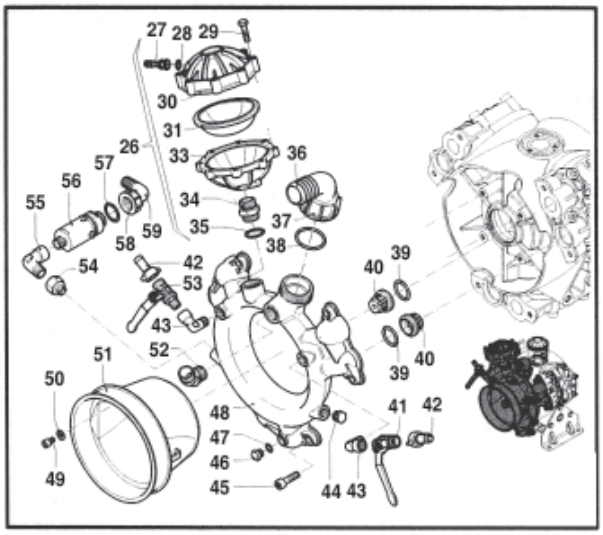
KIT 1967 O-Ring			
REF.	QTY.	REF.	QTY.
3	2	40	2
9	1	54	1
13	1	64	1
16	4	66	2
22	1		
27	1		
36	1		
39	1		

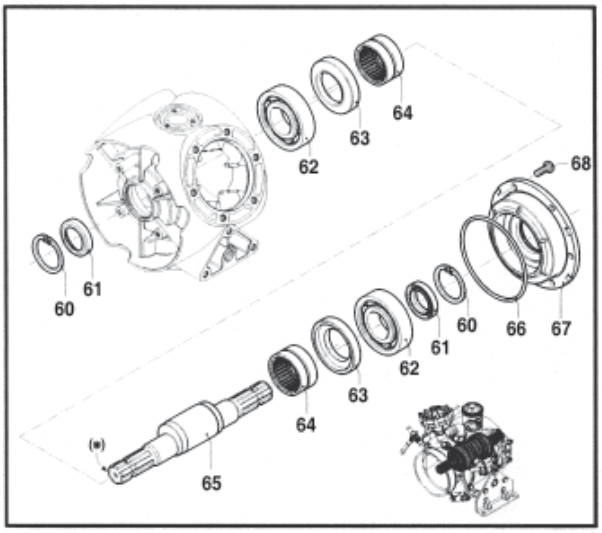
KIT 1968 Maintenance Repair No. 1			
REF.	QTY.	REF.	QTY.
3	2	48	1
9	1	54	1
10	1	64	1
13	1	27	1
16	4	36	1
20	1	39	1
21	1	40	2
22	1		

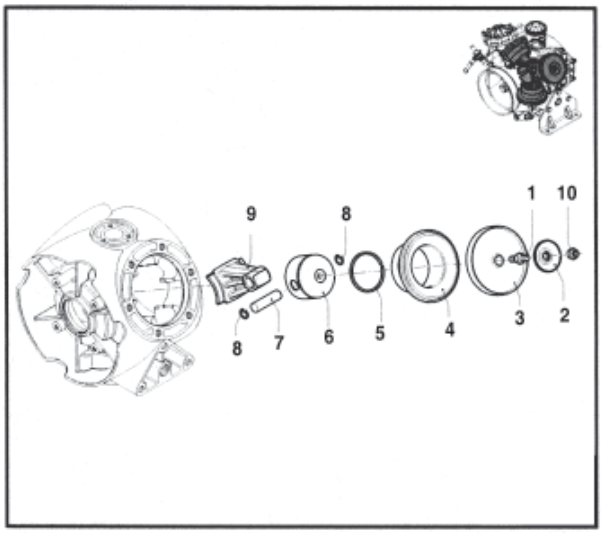
KIT 2485 Maint. Repair No. 2	
REF.	QTY.
7	1
9	1
10	1
19	1
20	1
21	1
22	1

BHA 110 ASSEMBLY









KIT 2444 Diaphragms	
REF.	QTY.
3	3

KIT 2445 Valves	
REF.	QTY.
39	6
40	6

KIT 2446 O-Rings			
REF.	QTY.	REF.	QTY.
12	1	39	6
16	1	47	1
21	2	57	1
35	1	66	1
38	1		

KIT 2447 Maintenance Repair					
REF.	QTY.	REF.	QTY.	REF.	QTY.
1	2	15	1	39	6
2	2	16	1	40	6
3	3	21	1	61	2
10	2	35	1	66	1
12	1	38	1	74	1

BHA 110 ASSEMBLY

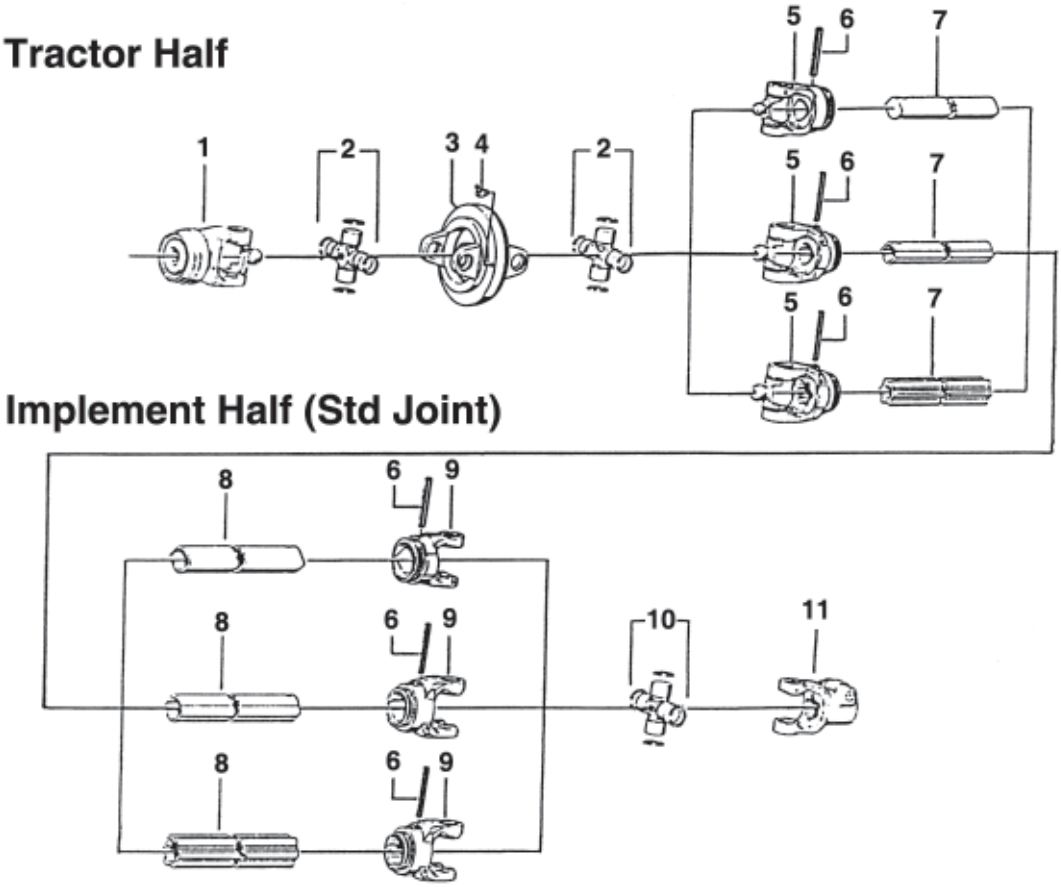
REF #	QTY.	PART NO.	DESCRIPTION
1	3	2240100	Diaphragm Pin
2	3	580090	Plate
3	3	2240080	Diaphragm
4	3	2240050	Sleeve
5	3	260230	Piston Ring
6	3	2240060	Piston
7	3	260700	Piston Pin
8	6	160691	Pin Ring
9	3	2240090	Connecting Rod
10	3	2240110	Nut M10
11	1	1800060	Black Oil Tank Cap
12	1	OR7269262	O-Ring 72.69 x 2.62
14	3	540290	Bolt M8 x 25
15	1	2240070	Oil Tank
16	1	OR6795262	O-Ring 67.95 x 2.62
17	1	2240010	Pump Body
18	2	2240450	Right Head
20	18	2240470	Bolt M12 x 70
21	1	OR1752	O-Ring 17.5 x 2
22	2	2240190	Base
23	6	540100	Bolt M12 x 40
24	1	820361	Cap 1/2"
25	1	2240451	Left Head
26	1	1527	Complete Air Chamber
27	1	180020	Air Valve
28	1	650542	Gasket
29	8	621781	Bolt M8 x 40
30	1	620230	Upper Air Chamber
31	1	550190	Semi Air Chamber
33	1	1520770	Lower Air Chamber
34	1	1520740	Threaded Adapter
35	1	OR2222262	O-Ring 22.22 x 2.62
36	1	540550	Elbow
37	1	540540	Ring Nut
38	1	OR3614262	O-Ring 36.14 x 2.62
39	6	OR315425	O-Ring 31.5 x 4.25
40	6	759051	Complete Valve
41	1	130491	Right Valve
42	2	110130	Fitting 1/2"
43	2	2240260	Valve Elbow

BHA 110 ASSEMBLY

REF #	QTY.	PART NO.	DESCRIPTION
44	1	880530	Plug 3/8"
45	6	650330	Bolt M10 x 35
46	1	880581	Plug 1/4"
47	1	OR1082178	O-Ring 10.82 x 1.78
48	1	2240460	Manifold
49	4	850250	Bolt M8 x 12
50	4	390311	Washer
51	1	1500470	Cardan Protection
52	1	851650	Outlet Elbow
53	1	130492	Left Valve
54	1	881461	Threaded Adapter
55	1	881560	Elbow 90°
56	1	1609002	Safety Valve
57	1	OR1554262	O-Ring 15.54 x 2.62
58	1	550450	Ring Nut
59	1	550460	Elbow
60	2	2240160	Circlip]
61	2	2240150	Seal Ring
62	2	2240430	Bearing
63	2	2240121	Connecting Rod Ring
64	2	850320	Roller Bearing
65	1	2240173	"C/C" Shaft
66	1	OR1527262	O-Ring 152.7 x 2.62
67	1	2240020	Flange
68	6	160670	Bolt M10 x 25

DRIVE SHAFT ASSEMBLY

80° Wide Angle Constant Velocity Drive Shaft



REF #	QTY.	PART NO.	DESCRIPTION
1	1	380882	Fork w/Rel. Button
2	2	345221	Cross & Bearing Kit
3	1	365722	Double Yoke
4	1	020674	Grease Zerk 45°
5	1	341586	Inboard Yoke
6	2	020617	Straight Pin
7	1	047901	Inner Shaft 1bga
8	1	089551	Outer Shaft 2ag
9	1	019519	WWE Inboard Yoke
10	1	312410	Cross & Bearing

LIMITED WARRANTY

GEARMORE INC.

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 warranties 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.

GEARMORE, INC.
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.