

ALPLER

OPERATORS MANUAL

BOOM SPRAYER



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1. CONDITIONS OF USE

- This machine shall be used as a spraying machine in line with the definitions and security instructions specified in the description and operation guidelines.
- The form of use that goes beyond these descriptions is not accurate. For this type of use, manufacturer shall not be liable for the damages and injuries that arise. All of the liability shall belong to the user.
- The right administration means the user's compliance with the service and maintenance terms and the manufacturer's conditions of operation.
- Machine can be operated and taken into care only by those individuals with sufficient knowledge and are informed about the relevant dangers.
- Conditions related to the prevention of accidents and security have to be taken into consideration and complied with.
- This device is designed to be used under those conditions where the operational safety terms specified in the guidelines are fulfilled.
- The manufacturer shall not be responsible for the damages and losses arising from the changes made to the machine.
- The user's negligence and mistakes can lead to the serious injury or serious damage to the user and others around him.

2. SECURE OPERATION RULES

- Please read the machine's description and operation guidelines. Please learn how the machine will be controlled and stopped.
- Operators aged below 18 cannot operate the machine.
- The individual operating the machine has to ensure that other people and objects around him are far enough while working.
- Please show the utmost care against hand and foot injuries while working.
- Always use an original spare part for ensuring safe operation.
- When you assemble the device onto the tractor, please check whether the connection safety locks are installed or not.
- Transmission shaft connected between the tractor's power take off and pump shaft has to be parallel to horizontal as much as possible. Operation angle cannot be more than 20°.
- While spraying with the machine, always wear clothes, gloves and a mask suitable for spraying.
- Power take off revolution should not be above 540 revolutions/minute.
- If you hit an object while working, please stop the machine and check the damage.
- Do not leave the machine without an operator while working.
- All of the liabilities arising from the failure to use original parts shall be borne by the user.
- Do not cancel any parts on your pulverizator.
- Do not operate your pulverizator while the spray tank is empty.
- Do not exceed the maximum pumping pressure under any circumstances.
- Do not operate your pump without grease.
- Set the remote center to by-pass while operating and stopping.

- Do not spray the pressurized liquid towards people or animals.
- The air pressure inside the pump air container in your pulverizator is 3-5 bars even when the pump is not working. When the pump's air container has to be disassembled, the air inside has to be discharged from the air cock and afterwards it would be suitable to disassemble the air flap.
- Do not disassemble the security valve found on the pump. This valve is automatically opened when the pump's maximum pressure exceeds 20% and it discharges the liquid into the tank.
- Please have an authorized service dealer perform all kinds of repair and maintenance works apart from cleaning. The user is responsible for all of the damages arising from the applications apart from this.
- Please wash the tank well after each spraying. Operate the pump with clean water for a few seconds.
- The removal of the pesticide and its residue remaining in the tank has to be carried out in accordance with the valid safety rules. Please follow the valid protection methods conveyed by drug manufacturers in this regard.
- Do not use the device for the pulverization of the drugs that damage your machine's plastic parts.
- Please keep the tank suction filter clean at all times.
- Do not disassemble the shaft holder connected to the pump and transmission shaft holder.
- Please read the operation and maintenance card on the shaft.
- This device shall be used as a spraying machine in line with the definitions and security instructions specified in the description and operation guidelines. The user shall be completely liable for the damages arising from operations otherwise.

3. OPERATION LIFETIME OF THE MACHINE

- Machine's operation lifetime is 10 years.

4. MACHINE'S OPERATION

Within the agricultural field, the selection of the device suitable for use in agricultural struggles for combating diseases is of utmost importance. Otherwise, efficiency will be very low or it will not be efficient at all. The preferences and requests of our customers are regarded as highly important by our company while manufacturing and developing our machines.

Due to the importance of agricultural combating in agriculture, the device selected has to be perfect. We offer our customers with **400 L. - 600 L. - 800 L. Mounted Type Field Pulverizator** and **800 L. Mounted Type Super Field Pulverizators**. We use imported pumps and remote centers on our pulverizators. Tank and chassis appurtenances are manufactured from the most suitable materials durable against corrosion that may occur.

4.1. OPERATION SYSTEM

The liquid taken in from the tank with the pump shall come to the filter with the suction hose between the tank and the filter and after it is filtered, it reaches the pump with the suction hose between the filter and the pump. The liquid that leaves the pump with high pressure shall reach the

command center (regulator) with the pump pressure hose. Part of the liquid that reaches the command center shall flow into the tank with pressure through the return hose and ensures that the pesticide inside the tank is mixed. Remaining part of the liquid coming in from the command center shall reach the nozzles found on the spraying arms through the spraying hoses and it will be pulverized as pressurized and spraying is ensured.

4.2. FILTERING SYSTEM

4.2.1. 400 L. Mounted Type Field Pulverizator Filtering System:

There is a 120 Liter non-return valve filter on the chassis. With the help of the filtering switch, the valve will be opened by being turned to the left and the filter inside will be removed for cleaning purposes. After it has been cleaned, the filter and the lid will be assembled back to their place and the valve will be tightened by being turned to the right with the help of a switch.

NOTE: If this procedure is to be carried out, when the boiler is full, non-return valve shall stop the flow of the pesticide coming from the boiler when the lid is disassembled and prevents the drug to be wasted.

4.2.2. 600 L. - 800 L. Mounted Type Field Pulverizator and 800 L. Mounted Type Super Field Pulverizator Filtering System:

There is a 160 Liter bi-directional filter on the chassis. While the filling procedure is being carried out, the direction of the suction hose coming from the tank will be closed with the help of the red arm found on the filter and the filler's direction will be opened. After the filling procedure is completed, the direction of the suction hose coming from the tank will be opened with the help of the red arm found on the filter and the filler's direction will be closed. While the filter is being cleaned, the suction hose coming from the tank will be closed with the help of the red arm found on the filter. Filter will be turned left with the switch and the lid will be disassembled. After the filter has been removed and cleaned, it will be assembled back to its place and the lid will be fixed by turning it right with the help of a filter switch. It prevents the waste of the pesticide coming from the tank when the cleaning procedure is being carried out.

4.3. CONTROL SYSTEM (REGULATOR)

4.3.1. 400 L. - 600 L. - 800 L. Mounted Type Field Pulverizator Control System:

There is an imported **VDR 50**, screw pressure adjusting control system on the machine. Command center will be turned right with the help of the knob on it and the increase in the bar level can be reduced by turning it left. The arm found on the left part of the command can be used to adjust the by-pass position or spraying position.

4.3.2. 800 L. Mounted Type Super Field Pulverizator Control System:

There is an imported **UCM 6 (6 way)**, screw pressure adjusting control system on the machine. Command center will be turned right with the help of the knob on it and the increase in the bar level can be reduced by turning it left. The arm found on the left part of the command can be used to adjust the by-pass position or spraying position. 6 segments found on the command center can ensure the arm to make partial sprays in 6 parts. This command system ensures that the nozzles are controlled separately in each section on the arm.

4.4. FILLING OF THE TANK

4.4.1. 400 L. Mounted Type Field Pulverizator:

Remove the lid on the filling injector and assemble the 6 m suction hose. Dip the filter on the other end of the hose inside the water you will fill the tank with. The depth that you will apply the suction should not exceed 6 m. Fill the tank with 5-10 L. water to prevent the pump from operating dry. Keep the valve going to the filling system open and close other valves. Bring the arm on the command center to the pressure position. With the operation of the power take-off of the tractor, it will be ensured that the pump will be operated. A few seconds after the pump is operated, it will start suction and fill your tank in a short period as 10 minutes.

4.4.2. 600 L. - 800 L. Mounted Type Field Pulverizator and 800 L. Mounted Type Super Field Pulverizator:

Turn the 6 m. suction hose found on the filter in the filling direction right above the cutting depth to tighten it. Bring the filter position to the filling position. Dip the filter on the other end of the suction hose inside the water you will fill the tank with. The depth that you will apply the suction should not exceed 6 m. Bring the arm on the command to by-pass position. After operating the power take off of the tractor, your tank will be filled in 10-15 minutes.

4.5. FIELD SPRAYING ARM

4.5.1. 400 L. Mounted Type Field Pulverizator:

Spraying arms are manufactured from 40x40 and 25x25 square profiles and metal sheets in different dimensions. With the help of the holes found in 7 cm intervals on the chassis behind the machine, the height of the spraying group can be adjusted in 15 stages. The spraying arms are made of 1/2" plastic pipes. They are comprised of 5 fixed and folding parts. Nozzle type will be empty on the inside and conic. Nozzle connection type will be with a clamp. The number of nozzles is 16. The distance between the nozzles is 500 mm. The diameter of the placquet holes is 1.2 mm.

4.5.2. 600 L. - 800 L. Mounted Type Field Pulverizator:

Spraying arm is manufactured from 50x50 and 30x30 square profiles and metal sheets in different dimensions. Height adjustment can be made in 18 grades with the help of the holes found on the roof in 7 cm intervals made of 60x6 brace clamps found behind the machine. The spraying arms are made of 1/2" plastic pipes. They are comprised of fixed and foldable 5 parts. Nozzle type will be empty on the inside and conic. Nozzle connection type will be with a clamp. The number of nozzles is 21. The distance between the nozzles is 500 mm. The diameter of the placquet holes is 1.2 mm.

4.5.3. 800 L. Mounted Type Super Field Pulverizator:

Spraying arm is manufactured from 50x50 and 40x40 square profiles and metal sheets in different dimensions. With the help of the hydraulic system found on the machine, the height of the spraying arm can be adjusted without any grades at an interval between 5 cm and 1 cm. They are comprised of 5 fixed and folding parts. They can control water separately on each section to be divided from the middle on the arm. Balance system can be ensured with the piston and springs found on the right and left of the arm. The spraying arms are made of 1/2" plastic pipes. Nozzle type will be fan beam. Nozzle connection type will be with a clamp. The number of nozzles is 25. The distance between the nozzles is 500 mm. Nozzle orifice dimensions are 0.5x1.5 mm.

4.6. AMOUNT OF SPRAYING DEPENDING ON WORKING PRESSURE AND TRACTOR SPEED

FILTER	ORDER TYPE	bar	L./min.		SPEED Km./h				
					6	8	10	12	14
100 MESH	256.1805.7 11001 ORANGE	2.0	0.33	Liter / Hectar	66	50	40	33	28
		2.5	0.37		74	56	44	37	32
		3.0	0.40		80	60	48	40	34
		3.5	0.43		86	65	52	43	37
		4.0	0.46		92	69	55	46	39
100 MESH	256.1805.6 110015 GREEN	2.0	0.49		98	74	59	49	42
		2.5	0.55		110	83	66	55	47
		3.0	0.60		120	90	72	60	51
		3.5	0.65		130	98	78	65	56
		4.0	0.69		138	104	83	69	59
50 MESH	256.1805.1 11002 YELLOW	2.0	0.65		130	98	78	65	56
		2.5	0.73		146	110	88	73	63
		3.0	0.80		160	120	96	80	69
		3.5	0.86		172	129	103	86	74
		4.0	0.92		184	138	110	92	79
50 MESH	256.1805.2 11003 BLUE	2.0	0.98		196	147	118	98	84
		2.5	1.10		220	165	132	110	94
		3.0	1.20		240	180	144	120	103
		3.5	1.30		260	195	156	130	111
		4.0	1.39		278	209	167	139	119
50 MESH	256.1805.3 11004 RED	2.0	1.31		262	197	157	131	112
		2.5	1.46		292	219	175	146	125
		3.0	1.60		320	240	192	160	137
		3.5	1.73		346	260	208	173	148
		4.0	1.85		370	278	222	185	159
50 MESH	256.1805.8 11005 BROWN	2.0	1.63	326	245	196	163	140	
		2.5	1.83	366	275	220	183	157	
		3.0	2.00	400	300	240	200	171	
		3.5	2.16	432	314	259	216	185	
		4.0	2.31	462	347	277	231	198	
30 MESH	256.1805.9 11006 GRAY	2.0	1.96	392	294	235	196	168	
		2.5	2.20	440	330	264	220	189	
		3.0	2.40	480	360	288	240	206	
		3.5	2.60	520	390	312	260	223	
		2.0	2.80	560	420	336	280	240	
30 MESH	256.1805.4 11008 WHITE	2.0	2.61	522	392	313	261	224	
		2.5	2.92	584	438	350	292	250	
		3.0	3.20	640	480	384	320	274	
		3.5	3.46	692	519	415	346	297	
		4.0	3.70	740	555	444	370	317	
30 MESH	256.1805.10 11010 BLACK	2.0	3.27	653	490	392	327	280	
		2.5	3.65	730	548	438	365	312	
		3.0	4.00	800	600	480	400	342	
		3.5	4.32	864	648	518	432	370	
		4.0	4.62	924	693	554	462	396	

4.7. SPRAYING NOZZLE

4.7.1. 400 L. - 600 L. - 800 L. Mounted Type Field Pulverizator:

Nozzles with conic beams and empty on the inside are found on the boom equipment located on the machine. You can carry out the following procedures when there is a problem with spraying in our nozzles:

- Remove the head on the nozzles by turning it left.
- Take the filter inside out and clean it if it is dirty. Check the joints and brackets during this procedure and change them if necessary.
- Place the filter in its place and the brackets inside the head, tighten it by turning it right.

4.7.2. 800 L. Mounted Type Super Field Pulverizator:

Nozzles with fan beams and plastic T-Jets are found on the boom equipment located on the machine. You can carry out the following procedures when there is a problem with spraying in our nozzles:

- Turn the red nut on the plastic nozzles left and remove it.
- Remove the filter and clean it if it is dirty. Check the joints and brackets during this procedure and change them if necessary.
- Place the filter in its place and turn the red nozzle lid right to tighten it ensuring non-permeability.
- Check the spring and membrane taking the lid of the stop membrane out and change them if necessary. Cleaning the nozzles after each spraying is recommended.

4.8. THINGS TO DO BEFORE EACH OPERATION

In order to reach success in the agricultural operation, please pay attention to the following issues:

- Select the pesticide that is suitable for your operation.
- Carry out the spraying considering the timing of the operation and weather conditions.
- Prepare the pesticide mixtures that you will use in line with the recommendation of the producers.
- The operation of the machine without failure and its efficiency depends on careful maintenance and regular servicing. Do not neglect this issue.
- Please read the pump's description and operation guidelines carefully prior to the operation of the machine.
- Check the pump grease levels.

4.9. MACHINE'S CONNECTION TO THE TRACTOR

Machines are manufactured by assembling it to 3 point hydraulic system. In order to connect your machine to the tractor, bring the machine's connection locks close to your tractor's hydraulic arms. Assemble the safety locks by installing the lifting arms on the right and left onto the locks on the machine by coming down from the tractor. Connect the tractor's middle arm to the hole found on the machine's chassis ensuring that the machine has a vertical position and assembly the safety lock. Connect the machine's shaft between the tractor's power take off and pump axle. Machine's shaft has to be horizontal and flat during operation. Operation angle cannot be more than 20°. Never disassemble the shaft holder. After assembling the shaft, connect the chains on the shaft to an appropriate location to prevent the plastic holder from turning.

4.10. OPERATION OF THE MACHINE

Prior to the start of spraying, please consider the following issues:

- Install the filling hose.
- Put 1-2 buckets of water in the tank.
- Dip the other end of the suction hose into the water canal.
- Operate your tractor, move the power take off and carry out the filling.
- After your filling procedure is complete, remove the filling hose and bring your machine to spraying position.
- Open the distribution valves on the command center and start spraying.
- You can adjust the working pressure with the knob on the command center.
- For the spraying you will carry out with field spraying arms, working pressure has to be maximum 8 atmosphere.

5. MAINTENANCE

5.1. PROCEDURES TO BE CARRIED OUT AFTER EACH USE

After each operation (even if these operations are short-term), the parts of the pump in contact with the liquid being used have to be washed and cleaned with clean water. In order to wash, operate the pump with clean water for 4-5 minutes and ensure that the clean water is completely discharged. Empty this water to a place where the use of the liquid will not cause any damage.

5.2. GREASING

The following parts on the machine have to be greased constantly.

Shaft: Prior to the start of the operation and after every 10 (ten) hour operation, greasing has to be done with the grease pump from the greasers found on the cross-pieces. During greasing, the grease used has to be seen between the axle.

5.3. TECHNICAL SPECIFICATIONS OF THE PUMP

On our machines, **Annovi Reverberi AR 503**, **AR 1064** and **AR 1516** pumps are being used.

- User has to comply with the information in the book.
- The fluid to be used in the pump has to be 100% clean.
- Moving parts of the pump should be protected from dust and rust.
- The pump and parts inside have to be serviced periodically.
- Solvents, volatile substances such as thinners should not be used inside the pump.
- Clean water with high fluidity has to be used.
- 100% chemical solutions should not be used.
- Sea water should not be used.
- Machine should not be operated in temperatures below 5°C and above 40°C.
- Substances such as lacquer and varnish should not be used.
- Prior to the start of the operation, all of the appurtenances have to be used.
- Drive shaft connected to the pump's power take off has to be compatible with the slope.
- Our company's technical service is always ready to solve all kinds of problems.

Pump Type	Membrane Number	Flow Rate	Pressure	Power	Revolution	Weight	Dimensions (mm.)			Suction (mm.)	Spraying (mm.)
		L./min.	Bar	HP	r/min.	Kg.	Length	Height	Width		
AR 503	3	55	40	5.2	550	13	272	274	294	Ø 30	Ø 3/4" G (M)
AR 1064	4	105	50	13.1	550	22	421	381	337	Ø 40	Ø 3/4" G (M)
AR 1516	6	151	50	18.6	550	34	406	446	415	Ø 40	Ø 3/4" G (M)

5.4. PUMP MAINTENANCE AND PUMP'S PERIODIC MAINTENANCE CARD

The first oil change of the pump we use on the machine has to be made approximately at the end of 50 hours. Other changes can be made between 300 - 350 hours. Please use 20W-50 diesel motor oil as the oil.

Things to do to prevent the pump from freezing:

- Open the valve at the front of the pump and discharge the water inside the pump provided that it is operated for 1 minute.
- Discharge the water of the entire revolution inside the machine where the water circulates (filters, injector pipes, collector).

OPERATION	EVERY 8 HOURS	EVERY 50 HOURS	EVERY 300 HOURS	AT THE END OF THE SEASON
Oil level and indicator control	■			
Air tube pressure control		■		
Hose connection control		■		
Suction filter control and cleaning	■			
Pump connection bolts control		■		
Control of the membranes and other parts				○
Oil change			○ ⁽¹⁾	○ ⁽²⁾
Control of the input and output valves			○	
Control of the bolt and nut on the pump				○

■ = Control by the user

○ = Control by the expert

(1) = Part and oil change

(2) = Membrane (diaphragm) and oil change

6. TECHNICAL PROPERTIES

MODEL	TAN K	PUMP				DIMENSIONS			
	Liter	Type	L./min	rev./min	kg./cm. ²	Width (mm.)	Length (mm.)	Height (mm.)	Weight (Kg.)
400 L. Mounted Type Field Pulverizator	400	AR 503	50	540	12.60	1,440	1,980	1,578	170
600 L. Mounted Type Field Pulverizator	600	AR 1064	106	540	23.80	1,590	2,390	1,630	190
800 L. Mounted Type Field Pulverizator	800	AR 1064	106	540	23.80	1,795	2,505	1,745	275.80
800 L. Mounted Type Super Field Pulverizator	800	AR 1064	106	540	23.80	1,840	2,800	1,950	422
19 Nozzle Boom Equipment	-	-	-	-	-	300	2,355	392	47

7. FAILURE TABLE

FAILURE	CAUSE FOR FAILURE	RESOLUTION
Pump does not do suction!	Regulator's position is wrong, filter is not on intake position.	Bring the regulator to suction and the filter to intake position.
Pump does not exert pressure!	There is dirt in the suction valve.	Clean the suction valve and filter.
Pressure is unadjusted and incoherent!	There is no air inside the air tube and the pump carries out suction with air.	Air has to be pumped inside the air tube and the suction hoses have to be checked.
Oil gets mixed with water!	Membrane (diaphragm) has exploded.	Change it.
Pump does not suck water!	Filter's drain is blocked.	Tighten the suction hose clamps. Check the suction cantilever orings.
	Suction hose has a hole.	
Manometer vibrates!	There is air intake from the suction revolution or the air has not been discharged from the pump completely.	Check the suction hose.
		Operate the pump when the taps are open.
Pesticide flow is irregular!	Pressure inside the air container is not right.	Check the pressure inside the air container.
Nozzles on the spraying arms do not spray or spray only a little!	Nozzle filters are blocked or defective.	Disassemble, clean or change them.
Pressure hose leaks water from the connecting points!	Pressure hose bolts are worn or loose.	Change or tighten the bolts.