



# Liquid Applicator Owners Manual



# Mounting Instructions

## 1. Applicator Unit

Choose a location that is easily accessible to mount the applicator as it will need to be refilled occasionally. It also should be mounted where it gets the least dust and dirt possible. *If the machine the unit is getting mounted on is stored outdoors, the pump needs to be covered to protect it from the elements.* If you purchased a standard unit with the gauge mounted on the relief valve, it should be placed where it is visible from the tractor. The mounting needs to be sturdy as the unit could weigh up to 360 lbs. (40 gallons) when full. Anchor the applicator with the four holes located in the steel frame under the tank.

## 2. Spray Nozzles

There are two nozzle bodies included with each kit. The location you chose to mount these nozzle bodies determines whether 1 or 2 nozzles should be used. The second nozzle body should only be used if 1 tip doesn't spray wide enough. When two nozzle bodies are used the tips are smaller causing more trouble with clogging. There are clamps included to attach the nozzle bodies to a 1/2" pipe. Generally they are mounted above the pickup head, but that can vary from one machine to the next. Attach the 3/8" hose to the discharge barb on the applicator and then to the first nozzle body and then to the second. (if used) Make sure each hose end is secured with one of the provided hose clamps.

## 3. Wiring Harness

**Standard Applicator:** There is a 14' wire attached to the pump that needs to be plugged into the control box. Position the control box where it can be reached easily to stop and start the pump. The power wire needs to be attached to at least a 10 amp power supply. This is normally the battery unless your tractor has a power supply located elsewhere. The brown wire is ground and the red wire is positive.  
**Electronic Pressure Control Applicator:** There is a 30' wire attached to the pump that needs to be plugged into the control box. The 10' red & black power wire then need to be attached to at least a 10 amp power supply. This is normally the battery unless your tractor has a power supply located elsewhere. *Be careful not to reverse the polarity of the power wires as this can result in damage to the control box. (Red is always positive and black is ground.)* Position the control box where it can be reached easily to stop and start the pump.

# Maintenance Instructions

## 1. Summertime

The most important thing for the pump is that it gets rinsed out thoroughly after each use. This can greatly improve the life of the pump. (Note: It will not hurt this pump to be run dry)

## 2. Wintertime

To avoid damage to the unit, this must be done before freezing conditions. Empty tank and rinse out with clean water. Then dump approximately 1/2 gallon of RV Nontoxic Antifreeze into the tank. Run the pump for several minutes or until the antifreeze has been pumped through the entire system.

# Selecting The Correct Nozzle Size.

1. Determine the gpt.
2. Determine the tpm or mpt.
3. Multiply the gpt by the tpm or divide the gpt by the mpt
4. This gives the needed gpm per nozzle.
5. Refer to chart pick the correct nozzle.

Definition of Terms
psi - pounds per square inch
gpm - gallons per minute
tpm- ton per minute
mpt - minute per ton
gpt - gallon per ton
see back page for conversion factors

**Example 1-**Suppose you need .25 gallon of inculant for every ton of silage. Your blower output is 4 tpm. Formula - gpt x tpm = gpm of nozzle.(i.e. .25 gpt x 4 tpm = 1 gpm) Refer to chart to find correct nozzle. The 8010 tip at 40 psi would be a good choice.

**Example 2-** Suppose you need .125 gallon of inculant for every ton of hay. Your baler processes one ton in two minutes. Formula - gpt ÷ mpt = gpm of nozzle. (i.e. .125 ÷ 2 mpt = .063) Refer to chart to find correct nozzle. The 8001 tip at 15 psi would be a good choice.

## Tip Chart

Tip Size*	Tip Capacity in gallons per minute at given psi ** ( <i>1 tip</i> )					
	15	20	30	40	50	60
<b>650033</b>	.021	.023	.29	.033	n/a	.04
<b>650050</b>	.03	.035	.04	.05	n/a	.06
<b>8001***</b>	.06	.07	.09	.10	.11	.12
<b>110015***</b>	.09	.11	.13	.15	.17	.18
<b>11002***</b>	.12	.14	.17	.20	.22	.25
<b>11003***</b>	.18	.21	.26	.30	.34	.37
<b>11004</b>	.25	.28	.35	.40	.45	.49
<b>11005</b>	.31	.35	.43	.50	.56	.61
<b>11006</b>	.37	.42	.52	.60	.67	.73
<b>11008</b>	.49	.56	.69	.80	.89	.98
<b>11010</b>	n/a	n/a	.87	1.00	1.12	1.22

\*80 degree tips available in sizes 015-08

\*\* Rates based on water density

\*\*\*Included with kit, other sizes available upon request

# Standard Applicator Parts Sheet

Part Number	Description
10958	15 gallon poly tank
10957	25 gallon poly tank
8000-443-236	Shurflo 8000 series 12 volt pump, all Santoprene, 1.8 GPM
9439006	Replacement valve kit for Shurflo 8000 series pump, Santoprene
9439506	Replacement diaphragm kit for Shurflo 8000 series pump, Santoprene
9438006	Replacement pump head assembly, 8000 series, Santoprene
AA12212PP50	In-line filter 1/2"npt, 50 mesh screen (complete)
CP451023SSPP	Replacement 50 mesh filter screen
CP23173EPR	Replacement filter gasket
CP23172PP	Replacement filter bowl
2312012PP	Relief valve 1/2" npt
GG100	Pressure gauge 100 psi, glycerin filled
WGGSS100	All stainless pressure gauge 100 psi, glycerin filled (optional)
6106	3/8" vinyl reinforced hose
62602	3/8" SS hose clamp
814500	3/8" x 1/2" white plastic nipple
22251311375NYB	TeeJet nozzle body elbow 3/8"
22252312375NYB	TeeJet nozzle body tee 3/8"
QJ111-1/2	Nozzle body mounting clamp 1/2"
CP256076NY	Nozzle body cap yellow
CP19438EPR	Nozzle cap gasket
8079PP100	Tip strainer 100 mesh
XR8001VS	Flat fan tip orange
XR110015VP	Flat fan tip green
XR11002VP	Flat fan tip yellow
XR11003VP	Flat fan tip blue
F1512	14' wiring harness, motor end
F1511	8' wiring harness with switch box and power wire

Note: Other parts are available. Please call for more info.

# Electronic Pressure Control Applicator Parts Sheet with Remote Mounted Gauge

Part Number	Description
10957	25 gallon poly tank
10959	40 gallon poly tank
8000-443-236	Shurflo 8000 series 12 volt pump, all Santoprene, 1.8 GPM
9439006	Replacement valve kit for Shurflo 8000 series pump, Santoprene,
9439506	Replacement diaphragm kit for Shurflo 8000 series pump, Santoprene,
9438006	Replacement pump head assembly, 8000 series, Santoprene
AA12212PP50	In-line filter 1/2"npt, 50 mesh screen (complete)
CP451023SSPP	Replacement 50 mesh filter screen
CP23173EPR	Replacement filter gasket
CP23172PP	Replacement filter bowl
JDS-10	Control box
GG1004	4" liquid filled pressure gauge, 100psi
BAAF	1/4" npt gauge isolator
T533	1/4" gauge mounting bracket
6106	3/8" vinyl reinforced hose
62602	3/8" SS hose clamp
814500	3/8" x 1/2" white plastic nipple
22251311375NYB	TeeJet nozzle body elbow 3/8"
22252312375NYB	TeeJet nozzle body tee 3/8"
QJ111-1/2	Nozzle body mounting clamp, 1/2"
CP256076NY	Nozzle body cap yellow
CP19438EPR	Nozzle cap gasket
8079PP100	Tip strainer 100 mesh
XR8001VS	Flat fan tip orange
XR110015VP	Flat fan tip green
XR11002VP	Flat fan tip yellow
XR11003VP	Flat fan tip blue
10-8-IN	Power wire 10', red & black
10 - 30	Output wire 30', blue & orange
1925	1/4 OD poly gauge tubing

Note: Other parts are available. Please call for more info.

# Miscellaneous Conversion Factors

One Acre = 43,560 sq/ft

One mile = 5,280 ft  
1,610 meters  
1.61 kilometers

One gallon = 128 fluid ounces  
8 pints  
4 quarts  
3.79 liters

One mile per hour = 1.609 kilometers per hour

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