Vineyard Sprayer

Operator’s & Parts Manual
This equipment was carefully designed and manufactured to give you dependable service. To insure efficient operation of this equipment, please read this operator’s manual carefully. Check each item and acquaint yourself with the adjustments required to maintain optimum performance and operation. Remember, this equipment’s performance depends on how you operate and care for it!

At the end of each season, thoroughly clean and inspect your equipment. Preventive maintenance saves time and pays dividends. Your nearest Wylie Spray Center has original equipment parts which assure proper fit and best performance. Record your equipment’s model and serial numbers and the date you purchased this equipment in the space below. Have this information available when you order parts or attachments.

Model Number: ____________________________
Serial Number: ____________________________
Date Purchased: ____________________________

Limited Warranty

This is a limited warranty. It covers products manufactured by WYLIE Mfg. Co. The Warrantor is WYLIE Mfg. Co., 702 E. 40th St., Lubbock, TX 79404 USA. The duration of the warranty for WYLIE manufactured equipment and products (excluding polyethylene tanks) is for one year from date of delivery to the carrier. The Warrantor warrants to the Buyer that the product(s) sold hereunder are free from defects to material and workmanship, under normal use and service, in the hands of the original buyer.

If goods are defective, the defective goods will be replaced with identical goods. If identical goods are not available, the Buyer may elect to receive a refund of the purchase price for the defective goods, or the Buyer may order similar goods. The damage for defective goods shall not exceed the purchase price of the defective goods. No allowance shall be made for labor or expense or repairing goods without prior approval in writing by the Warrantor. The Buyer’s remedy under this warranty does not include incidental or consequential damages.

For products not manufactured by the Warrantor, the Warrantor warrants these products to the extent of the warranties of their respective manufactures. There are no warranties which extend beyond this limited warranty, including the implied warranty of merchantability. Dealers or representatives shall not make any representation in regard to particular goods except as authorized by the Warrantor through a written warranty accompanying those particular goods.

Disclaimer of Warranty

WYLIE Mfg. Co., and its divisions, “Wylie Spray Centers,” in each location, requires as a condition of sale and coverage by its LIMITED WARRANTY that all equipment sold by it be used in accordance with the instructions and specifications of the Warrantor. This requirement is in addition to the LIMITED WARRANTY.

Polyethylene and fiberglass tanks – These tanks are warranted for the storage and transport of water, herbicide solutions (on farm), liquid fertilizer and liquid feed. Such tanks should not be used for the storage of any bulk herbicide (undiluted). Any such use will render this warranty void.

In addition, the Warrantor makes no warranty with regard to bulkhead tank fittings used in connection with tanks containing bulk herbicides and the use of any such fittings sold by the Warrantor or any WYLIE dealer in connection with tanks containing bulk herbicides is improper.

Chemical Incompatibility – The Warrantor does not make any recommendations or warranties regarding chemical compatibility. WYLIE shall not be liable for any damages due to chemical incompatibility, and any Buyer or user should rely solely on written information furnished by the chemical manufacturer regarding chemical compatibility.

No employee of WYLIE Mfg. Co., or its representatives, agents or dealers, is authorized to vary the terms of this limited warranty.
### Vineyard Sprayer

<table>
<thead>
<tr>
<th>Date of Purchase</th>
<th>Model Number</th>
<th>Size of Trailer:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>200 Gallon</td>
</tr>
<tr>
<td></td>
<td></td>
<td>300 Gallon</td>
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<tr>
<td></td>
<td></td>
<td>500 Gallon</td>
</tr>
<tr>
<td>Tank Serial Number</td>
<td></td>
<td></td>
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<tr>
<td>Trailer Serial Number</td>
<td></td>
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</tr>
<tr>
<td>Engine Serial Number</td>
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</tr>
<tr>
<td>Wylie Invoice Number</td>
<td></td>
<td></td>
</tr>
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<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>Dealer</td>
<td></td>
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</tbody>
</table>

______________________________

Owner’s Signature

Must be returned within 10 days to validate the warranty.

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-- Or Register Online --
Go to: www.wyliesprayers.com
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Be alert when you see the above symbol in the manual. It warns of a hazard which might lead to injury. It means: Attention! Become alert! Your safety is involved!

Three (3) words (Danger, Warning, and Caution) are associated with this symbol.

**DANGER** – Indicates a hazardous situation, which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.

**WARNING** – Indicates a hazardous situation, which, if not avoided, could result in death or serious injury.

**CAUTION** – Indicates a hazardous situation, which, if not avoided, may result in minor or moderate injury.

**NOTICE** – Indicates information considered important, but not hazard-related (e.g., messages relating to property damage).

**SAFETY INSTRUCTIONS** - Indicates a type of safety sign where specific safety-related instructions or procedures are described.

**Before Use**

Do not operate sprayer until this manual has been read and understood!

- Thoroughly read and understand all instructions before operating this sprayer. If you have questions, please contact **Wylie Manufacturing, 702 E. 40th St., Lubbock, TX 79404, (888) 788-7753.** You can also contact your nearest **Wylie Spray Center.**
- Make sure that the sprayer is properly attached to the tow vehicle, including safety chains and hitch.
- Check lug bolts for tightness and tires for wear.
- Adjust hitch height as needed to assure that sprayer is level when fully loaded.
- Read and understand the engine manufacturer owner’s manual for instructions to safely operate the blower engine.

**During Use**

- Do not allow anyone to ride on sprayer during operation. Falling can cause injury or death.
- Reduce speed when crossing uneven or rough terrain.
- Always turn off tow vehicle engine before making adjustments or repairs to an attached trailer.
After Use

• Inspect sprayer for wear or damage.
• Ensure that all fasteners and fittings are tight.
• Drain water from tanks and lines to prevent freezing if unit is not being used.
• Flush tank and pump with fresh water. Dispose of flush water using appropriate means.
• Carry out maintenance and/or lubrication procedures as outlined in this manual.

Always

• Keep hands, feet and clothing away from moving parts.
• Attach the safety chains to the tow vehicle.
• Wear protective clothing and gloves when working with chemicals.
• Keep belt guards in place when operating sprayer.

Operator’s Instructions

• Securely fasten seat belt if tractor is equipped with a (ROPS).
• When possible, avoid operating the tow vehicle near ditches, embankments and holes.
• Reduce speed when turning, crossing slopes and on rough, slick or muddy surfaces.
• Do not permit others to ride.
• Operate tow vehicle smoothly – no jerky turns, starts and stops.
• Hitch only to the hitch points recommended by the tow vehicle manufacturer.
• When tow vehicle is idle, engage brakes and park lock securely.
• Tighten lug bolts before transporting the first time and maintain proper torque.
• Do not store or transport any petroleum based or flammable liquid in the polyethylene tank.
• Limit transport speed to 25 mph.
Safety Decals & Placement
Vineyard Sprayer

Contact us at mail@wyliesprayers.com or 888-788-7753 to order safety decal or manual replacements.
The Wylie Vineyard Sprayers are the result of years of testing and field proven experience. They are built of the finest materials and expert workmanship to provide you with years of reliable service. The Vineyard Sprayer is equipped with either a 200, 300 or 500 gallon spray tank, 29” vaneaxial variable speed fan that is powered by a 22 hp Honda engine and an Ace centrifugal pump.

The Vineyard Sprayer is designed to apply insecticides and fungicides in grape vineyards.

This manual explains how to safely and properly operate and maintain your Vineyard Sprayer. A separate manual is included with operating instructions for the Honda engine. Thoroughly read and understand the contents of this manual before operating your sprayer. If you have questions or do not understand particular items, contact your nearest Wylie Spray Center or call Wylie Manufacturing at (888) 788-7753. Please keep this manual handy to answer questions you may have as they arise.

*Pay Particular Attention To All Safety Suggestions* – Their purpose is to assure safe operation of the sprayer and prevent injury or damage to yourself or the unit.
**Inspection & Setup - Vineyard Sprayer**

**Initial Inspection**
Your Vineyard Sprayer is delivered ready for operation. However, it is suggested that you check lug nuts and other fasteners for proper torque. Check the motor to assure that it has the proper oil level (see the motor operator’s manual for details). Make a visual inspection to assure that nothing was damaged in shipping. Report any problems to your dealer or to Wylie Manufacturing.

The owner’s manual should be stored in the manual storage sleeve located near the fresh water tank or on the trailer tongue, depending on the model as seen in Figure A1 and A4.

Attach the sprayer with the hitch pin. Secure the hitch pin with the clip pin.

Attach the safety chains to the tractor.

Raise the jack, remove it from the tongue and attach it to the transport mount.

Preparing the Vineyard Sprayer for Initial Operation

Fill the fuel tank with gasoline which supplies the blower engine as shown in Figure A5.

Fill the fresh water tank with potable water for personal hygiene and first aid as shown in Figure A5.

Check the oil level in the blower engine as shown in Figure A6.
Installing Pump Module

**WARNING**
The tractor engine must be turned off and the park brake engaged before mounting the pump on the PTO shaft. Failure to do so could result in serious bodily injury.

It may be necessary to remove the belt guard from the pump. Pull the coupler collar back and slide the PTO pump coupler on the 540 RPM tractor PTO shaft. The pump coupler should be slipped over the PTO shaft far enough for the coupler collar to lock in position. Pull on the pump to make sure that it is in the locked position. Install the belt guard as shown in Figure A8. The belt guard is held securely in place with a bolt through the anchor plate and a threaded plate inside the belt guard. Refer to the Ace Pump owner’s manual for more mounting and maintenance information.

**WARNING**
The belt guard must be re-installed if it was removed. Failure to do so could result in serious bodily injury.

Attach the pump chain to the tractor to prevent the pump from rotating with the PTO shaft. The discharge manifold should be above the pump volute for proper priming.

Check the lug nut tightness on the trailer wheels to make sure they are secure before transport and operation.

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**Figure A5**
*Fresh Water and Fuel Tanks*

**Figure A6**
*Check Engine Oil Level*

**Figure A7**
*Tighten Lug Nuts Before Operation*

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**Figure A8**
*PTO Pump Mounting*
Route the suction hose from the pump and connect it to the suction quick coupler (left side). *(Note: Left and right are determined by standing behind the sprayer, looking toward the tractor.)*

Connect the discharge hose to the bypass/agitator quick coupler (right side).

Connect the main sprayer hose from the trailer to the quick coupler on the pump discharge manifold.

Connect the control cable from the SCS440 console to the corresponding cable on the trailer as shown in Figure A9. Secure the connection with the coupler.

**Initial Operation**

The system should be tested with water before using spray solution to check for any leaks and proper operation.

Add at least 50 gallons of water to the main tank for testing (enough water to flood the line strainer). Do not install any spray tips until the system has been flushed.

With the parking brake set, start the tractor engine, open the main tank valve, the suction valve, the agitator valve and the bypass valve. Engage the PTO pump. Once the pump primes, water will be flowing back to the tank through the bypass and agitator.

If water is not flowing to the tank, loosen the air bleed plug (Fig. A9) on the pump and/or add more water to the tank.

On the SCS440 console, flip the Power Switch “On”, set the Flow Control switch to “MAN” (manual), flip the Boom 1 and Boom 2 switches “On” and the Master Switch “On”. Hold the Flow Control switch to “INC” (increase) which will open the regulator valve. (See Figure A10)

Water should flow from the nozzle bodies. If water does not flow from all the bodies, increase the engine RPM’s and close the agitator valve. Let several gallons flow through all of the spray nozzle bodies (without spray tips) to flush out any foreign matter in the hoses.
Flip the Master Switch "Off" and disengage the PTO pump.

**Spray Tip Selection**

Due to the various applications of the vineyard sprayer, the spray tips are not included with the sprayer. To determine which spray tip will fit your application, use the following formula:

\[
GPM = \frac{GPA \times MPH \times W}{5,940} \text{ (constant)}
\]

- GPM - Gallons Per Minute
- GPA - Gallons Per Acre
- MPH - Miles Per Hour
- W - Width (inches)

\[W = \text{Row spacing (in inches) divided by the number of nozzles per row.}\]

The Wylie Vineyard Sprayer has 14 nozzles.

Example: 11’ row (121”) / 14 nozzles = 8.64” (W)

**Formula Example:**

\[
GPM = \frac{25 \times 4 \times 8.64}{5,940} = \frac{864}{5,940}
\]

Answer: 0.145 GPM

The Teejet Conejet nozzle is very popular with the Vineyard sprayer. A Conjet spray tip chart is included on page 10 (Figure A15). In the example of 0.145 GPM, the chart shows that the TX-VK6 nozzle will operate at 90 PSI; the TX-VK8 will operate at 50 psi.

**Spray Tip Installation**

Assemble the spray tips as shown in Figure A13. There are fourteen nozzles. Twelve nozzles include an adapter.

The second from the top nozzle on each side does not include an adapter so that they do not extend past the air flow panels.

**Spray Nozzle Assembly With and Without Adapters**

Install the spray tips on the nozzle bodies by pressing the nozzle assembly on the body and turning to the right ¼ turn.
## Conejet Spray Tip Chart for Airblast Sprayers

| Tip | 30 PSI | 40 PSI | 50 PSI | 60 PSI | 70 PSI | 80 PSI | 90 PSI | 100 PSI | 120 PSI | 140 PSI | 160 PSI | 180 PSI | 200 PSI | 220 PSI | 240 PSI | 260 PSI | 280 PSI | 300 PSI |
|-----|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| TX-VS1 | 0.015 | 0.017 | 0.018 | 0.020 | 0.021 | 0.022 | 0.023 | 0.024 | 0.026 | 0.028 | 0.030 | 0.031 | 0.032 | 0.034 | 0.035 | 0.036 | 0.037 | 0.038 |
| TX-VS2 | 0.029 | 0.033 | 0.037 | 0.040 | 0.043 | 0.045 | 0.047 | 0.050 | 0.054 | 0.058 | 0.061 | 0.064 | 0.067 | 0.070 | 0.073 | 0.075 | 0.078 | 0.080 |
| TX-VK3 | 0.044 | 0.050 | 0.055 | 0.060 | 0.064 | 0.068 | 0.071 | 0.075 | 0.081 | 0.086 | 0.092 | 0.096 | 0.101 | 0.105 | 0.109 | 0.113 | 0.117 | 0.120 |
| TX-VK4 | 0.058 | 0.067 | 0.074 | 0.080 | 0.086 | 0.091 | 0.096 | 0.101 | 0.110 | 0.118 | 0.125 | 0.132 | 0.139 | 0.145 | 0.151 | 0.157 | 0.162 | 0.167 |
| TX-VK6 | 0.088 | 0.100 | 0.111 | 0.120 | 0.129 | 0.137 | 0.145 | 0.152 | 0.165 | 0.177 | 0.188 | 0.199 | 0.208 | 0.218 | 0.226 | 0.235 | 0.243 | 0.251 |
| TX-VK8 | 0.116 | 0.133 | 0.148 | 0.162 | 0.174 | 0.186 | 0.196 | 0.207 | 0.225 | 0.243 | 0.259 | 0.274 | 0.288 | 0.301 | 0.314 | 0.326 | 0.338 | 0.349 |
| TX-VK10 | 0.145 | 0.167 | 0.185 | 0.202 | 0.218 | 0.232 | 0.246 | 0.258 | 0.282 | 0.303 | 0.323 | 0.342 | 0.360 | 0.376 | 0.392 | 0.408 | 0.422 | 0.437 |
| TX-VK12 | 0.174 | 0.200 | 0.223 | 0.243 | 0.261 | 0.279 | 0.295 | 0.310 | 0.338 | 0.364 | 0.388 | 0.410 | 0.432 | 0.452 | 0.471 | 0.489 | 0.507 | 0.524 |
| TX-VK18 | 0.260 | 0.300 | 0.335 | 0.367 | 0.396 | 0.423 | 0.449 | 0.473 | 0.517 | 0.538 | 0.597 | 0.633 | 0.667 | 0.699 | 0.730 | 0.759 | 0.788 | 0.815 |
| TX-VK26 | 0.376 | 0.433 | 0.484 | 0.530 | 0.572 | 0.611 | 0.648 | 0.683 | 0.747 | 0.807 | 0.862 | 0.914 | 0.963 | 1.01 | 1.05 | 1.10 | 1.14 | 1.18 |
Open the main tank valve, suction valve, and the agitator valve. Close the bypass valve.

Engage the pump and flip the Master Switch “On”. Adjust the Flow Control Switch until the pressure gauge reads 40 PSI. The bypass/agitator valve can be closed, if needed, to achieve the proper operating pressure.

Check the complete system for leaks. If the pressure will not come up (with the bypass/agitator valve closed), check for an air leak on the suction side and sufficient water in the tank.
Filling the Sprayer

**WARNING**

Appropriate safety clothing must be worn when handling chemicals. This may include gloves, apron, face shield and/or respirator. Physical contact or ingestion/inhalation of certain agricultural chemicals can result in bodily injury or death. Refer to chemical label for safety recommendations.

The spray tank can be filled through the fillwell or the bottom fill valve. To fill through the bottom fill valve, close the fill valve and remove the coupler cap. Couple the supply hose to the bottom fill valve.

Start the supply pump, open the supply valve and the fill valve. When the tank is filled to the desired level, close the supply valve and fill valve before turning off the pump. Uncouple the fill hose and replace the coupler cap.

Open the main tank, suction, agitator, and bypass valve. Flip the Master Switch “Off”. Start the pump and allow the spray solution to mix thoroughly.

Controller Setting

Refer to the Raven SCS440 Automatic Control owner’s manual for specific instructions on setting the controller for operation at the desired rate.

Sprayer Operation

Position the trailer in the vineyard row. The two top nozzles and the bottom nozzle on each side can be adjusted for the desired spray angle. These three nozzles should all be aimed toward the cordon.
Start the Honda engine. Advance the throttle slowly as the fan attains full operating speed.

Open the main tank valve, suction valve and the agitator valve. Close the bypass valve.

Engage the pump and bring it up to operating speed.

Flip the Power Switch “On”, select the Rate that has been calibrated (Rate 1 or 2), flip Boom Switches 1 and 2 “On”, and flip the Master Switch “On”.

Move the tractor forward. The automatic controller opens the regulator valve in relationship to the ground speed. The Flow Control switch is not active when in Rate 1 or 2. The Flow Control switch is only active in Manual Mode.
Operating Recommendations

The Vineyard Sprayer can be operated at a variety of ground speeds. Care and common sense, however, must be used to determine the optimum speed for a particular spraying operation. Factors such as rough surface conditions, hillsides, and coverage requirements will require a slower operating speed.

Listed below are several things you should do to maintain trouble free spraying:

* Make sure spray tips are sized for the desired volume and speed. (Refer to the TeeJet Catalog or Wylie web site (www.wyliesprayers.com) if using TeeJet™ tips.)
* Clean pump strainer as needed to maintain adequate flow to the pump.
* Keep the agitator ball valve partially or fully open, if possible, to maintain chemical suspension and circulation, and prevent pump overheating.
* Plan your spray operation to be out of chemical at the end of the day to prevent overnight settling in the tank and lines.

End Of The Day Procedure

Add at least 25 gallons of water to an empty spray tank. With the controller “Off”, open the agitator and bypass valves. Engage the pump to flush the lines and rinse the tank. Close the agitator valve. Set the controller to “Manual” and open the boom valves to flush the boom. Spray the rinse solution or drain the tank and properly dispose of the rinse solution.

Pressure wash the outside of the sprayer to prevent the buildup of dirt/chemical.
Preparing The Sprayer For Storage

(1) Flush the tank, pump and lines with clean water.

(2) Remove cap from the main tank fill valve and open ball valve to drain the spray tank.

(3) Drain the fresh water tank by removing the plug.

(4) Remove the strainer base and screen to drain the suction plumbing. Remove pump plug to drain pump housing.

(5) Remove tips and strainers from the nozzle bodies. Clean strainers and check tips for wear and damage.

(6) Pull the clip pins from the electric ball valves. Drain any water from the boom supply lines. Replace the lines including clip pins.

(7) Check any fittings where water can collect and disconnect to allow drainage. Reconnect all fittings and ensure tightness once system is drained.

(8) For further protection, pump environmentally safe antifreeze or winter grade windshield washing fluid into the lines.
Cleaning the Spray System
From time to time it may be necessary to clean debris from the Y-strainer.

Close the main tank valve and suction valve to isolate the Y-strainer.

Unscrew the strainer bowl, remove the screen and clean as necessary. Make sure the O-ring is on the bowl before re-installing the screen and bowl. A missing or pinched O-ring will result in a fluid and air leak. Do not over-tighten the strainer bowl.

Open the main tank valve and suction valve before operating the sprayer.

Cleaning Spray Tips
If one or more nozzles show an uneven spray pattern, debris may be restricting the flow in the nozzle.

Remove the cap and clean the tip strainer. If it is necessary to remove debris from the spray tip orifice, use an approved spray tip cleaning brush. Do not clean the spray tip with wire or a pocket knife. The orifice can be damaged resulting in incorrect spray pattern and/or flow.

Chemical Compatibility
The polyethylene tank is designed to hold water based chemicals. Wylie polyethylene tanks are not designed to hold petroleum based chemicals or petroleum fuels.

Wear protective gloves when handling spray system components. Failure to do so can cause exposure to harmful chemicals which could result in serious bodily injury.
Lubrication

The wheel bearings should be serviced once each season. Lubrication may be needed more often if the sprayer is used in severe conditions. The wheel hubs should be checked regularly for excess heat. Heat buildup is an indication that the bearings need grease and may soon fail.

The axles are equipped with Accu-Lube hubs. Remove the rubber boot and attach grease gun to the grease zert. Replace the rubber boot after the hub is serviced.

Remove the belt guard to access the outside pillow block bearing.

The fan axle is supported by two pillow block bearings. The bearings should be greased once per season.

Remove the front air diverter from the left side to access the inside pillow block bearing.

Belt guards must be installed before operating the sprayer. Failure to do so could result in serious bodily injury.

Reinstall the belt guard after lubricating the pillow block bearing.

Refer to the Honda engine manual for instructions and service intervals for the fan engine.
# Vineyard Sprayer Troubleshooting Guidelines

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pump Will Not Operate</strong></td>
<td>(1) PTO not engaged</td>
<td>(1) Engage PTO</td>
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<tr>
<td></td>
<td>(2) Pump malfunctioning</td>
<td>(2) See pump owners manual or contact Wylie Spray Center</td>
</tr>
<tr>
<td><strong>Pump will not spray solution</strong></td>
<td>(1) Discharge and/or suction ball valves</td>
<td>(1) Open ball valves</td>
</tr>
<tr>
<td></td>
<td>closed</td>
<td>(2) Loosen bleed plug at pump outlet to bleed air. Add</td>
</tr>
<tr>
<td></td>
<td>(2) Pump is not priming</td>
<td>more spray material to tank until fluid level is above</td>
</tr>
<tr>
<td></td>
<td>(3) Spray tank is empty</td>
<td>pump</td>
</tr>
<tr>
<td></td>
<td>(4) Pump malfunctioning</td>
<td>(3) Add spray solution to spray tank</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(4) See pump owners manual or contact Wylie Spray Center</td>
</tr>
<tr>
<td><strong>Pump output is very low; erratic</strong></td>
<td>(1) Tank empty</td>
<td>(1) Fill tank</td>
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<tr>
<td></td>
<td>(2) Main tank ball valve closed</td>
<td>(2) Open ball valve</td>
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<tr>
<td></td>
<td>(3) Plugged strainer</td>
<td>(3) Clean strainer screen</td>
</tr>
<tr>
<td></td>
<td>(4) Malfunctioning pump</td>
<td>(4) See pump owners manual or contact Wylie Spray Center</td>
</tr>
<tr>
<td></td>
<td>(5) Discharge valves not open</td>
<td>(5) Open discharge valve</td>
</tr>
<tr>
<td></td>
<td>(6) Air leak causing pump to lose suction</td>
<td>(6) Close valves and tighten fittings that can leak air</td>
</tr>
<tr>
<td><strong>No output or insufficient pressure at spray tip(s)</strong></td>
<td>(1) Tractor engine speed too low</td>
<td>(1) Increase engine speed to recommended PTO speed</td>
</tr>
<tr>
<td></td>
<td>(2) Air leak in suction side of system</td>
<td>(2) See above</td>
</tr>
<tr>
<td></td>
<td>(3) Problem with pump</td>
<td>(3) See above</td>
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<tr>
<td></td>
<td>(4) Ball valve malfunctioning</td>
<td>(4) Repair or replace ball valve</td>
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<tr>
<td></td>
<td>(5) Bypass valve open</td>
<td>(5) Close bypass valve</td>
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<tr>
<td></td>
<td>(6) Boom valves closed</td>
<td>(6) Open boom valves</td>
</tr>
<tr>
<td></td>
<td>(7) Automatic controller set improperly</td>
<td>(7) Refer to Raven owner’s manual</td>
</tr>
<tr>
<td></td>
<td>(8) Agitator valve fully open</td>
<td>(8) Partially or fully close agitator valve</td>
</tr>
<tr>
<td><strong>Spray pattern uneven at one tip</strong></td>
<td>(1) Trash in tip orifice</td>
<td>(1) Clean tip</td>
</tr>
<tr>
<td></td>
<td>(2) Damaged tip orifice</td>
<td>(2), (3) Replace tip</td>
</tr>
<tr>
<td></td>
<td>(3) Worn or damaged tip</td>
<td></td>
</tr>
<tr>
<td><strong>No air flow or insufficient air flow</strong></td>
<td>(1) Honda engine not running</td>
<td>(1) Start engine/add gasoline to fuel tank</td>
</tr>
<tr>
<td></td>
<td>(2) Engine speed too low</td>
<td>(2) Increase engine speed</td>
</tr>
<tr>
<td></td>
<td>(3) Loose drive belts</td>
<td>(3) Tighten drive belts</td>
</tr>
<tr>
<td></td>
<td>(4) Malfunctioning clutch</td>
<td>(4) Contact Wylie Spray Center</td>
</tr>
<tr>
<td><strong>Misdirected airflow</strong></td>
<td>(1) Diverters misaligned</td>
<td>(1) Aim diverters at cordon</td>
</tr>
</tbody>
</table>