Coulter Applicator

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 warranteed 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.
### Coulter Applicator

<table>
<thead>
<tr>
<th>Date of Purchase</th>
<th>Type of Applicator:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model Number</td>
<td>1,000 Gallon Trailer</td>
</tr>
<tr>
<td>Tank Serial Number</td>
<td></td>
</tr>
<tr>
<td>Trailer Serial Number</td>
<td>3-Point Bar</td>
</tr>
<tr>
<td>Pump Serial Number</td>
<td></td>
</tr>
<tr>
<td>Wylie Invoice Number</td>
<td></td>
</tr>
<tr>
<td>Owner’s Name</td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>State</td>
</tr>
<tr>
<td>Phone</td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td></td>
</tr>
<tr>
<td>Dealer</td>
<td></td>
</tr>
</tbody>
</table>

---

Owner’s Signature

Must be returned within 10 days to validate the warranty.

-- Or Register Online --
Go to: www.wyliesprayers.com
# Table Of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Issues</td>
<td>2 - 3</td>
</tr>
<tr>
<td>Safety Decals &amp; Placement</td>
<td>4</td>
</tr>
<tr>
<td>Introduction</td>
<td>5</td>
</tr>
<tr>
<td>Inspection &amp; Setup</td>
<td>6 - 10</td>
</tr>
<tr>
<td>Operation</td>
<td>11 - 13</td>
</tr>
<tr>
<td>Spray Tip Chart</td>
<td>12</td>
</tr>
<tr>
<td>Maintenance</td>
<td>13</td>
</tr>
<tr>
<td>Lubrication</td>
<td>14</td>
</tr>
<tr>
<td>Troubleshooting Guidelines</td>
<td>15</td>
</tr>
<tr>
<td>Repair Parts</td>
<td>17 - 29</td>
</tr>
<tr>
<td>1,000 Gallon Applicator</td>
<td>18</td>
</tr>
<tr>
<td>1,000 Gallon Applicator Frame</td>
<td>19</td>
</tr>
<tr>
<td>Pump Kit</td>
<td>20</td>
</tr>
<tr>
<td>Injection Coulter Assembly</td>
<td>21</td>
</tr>
<tr>
<td>Knife Coulter Assembly</td>
<td>22</td>
</tr>
<tr>
<td>Tank Plumbing</td>
<td>23</td>
</tr>
<tr>
<td>Knife and Injection Distribution Plumbing</td>
<td>24</td>
</tr>
<tr>
<td>Axles, Tires, Hubs</td>
<td>25</td>
</tr>
<tr>
<td>3-Point Coulter Bar</td>
<td>26</td>
</tr>
<tr>
<td>3-Point Gauge Wheels</td>
<td>27</td>
</tr>
<tr>
<td>CDS/John Blue NGP7055 Pump</td>
<td>28 - 29</td>
</tr>
</tbody>
</table>
Safety Issues

Safety Precautions

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 applicator until this manual has been read and understood!

- Thoroughly read and understand all instructions before operating this applicator. 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 trailer 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 applicator is level when fully loaded.

During Use

- Do not allow anyone to ride on applicator 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 applicator.
**Safety Issues**

**After Use**

- Inspect trailer 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.

**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
Coulter Applicator

Contact us at mail@wyliesprayers.com or 888-788-7753 to order safety decal or manual replacements.
Introduction

The Wylie Coulter Applicators 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 Coulter Applicator is equipped with a 1,000 gallon tank, 20” coulters and a ground drive CDS/John Blue piston pump. It is available as a 12 row 30” (standard frame), or 12 row 40” (with additional wings).

The Coulter Applicator is designed to inject fertilizer preseason or during the growing season.

This manual explains how to safely and properly operate and maintain your Coulter Applicator. Thoroughly read and understand the contents of this manual before operating your applicator. 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 applicator and prevent injury or damage to yourself or the unit.
**Inspection & Setup - Coulter Applicator**

### Initial Inspection

Your Coulter Applicator is delivered ready for operation. However, it is suggested that you check lug nuts and other fasteners for proper torque. 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 on the tongue.

It is highly recommended that you fill out and return the warranty registration page in the manual. The frame serial number is located on a plate on the center frame section. The tank serial number is engraved in the tank on the fillwell. The coulter applicator has a second serial number on the tank mounting frame located near the pump.

### Attaching Trailer To Tractor

The drawbar is equipped with a clevis hitch and a height adjustable channel.

Set the hitch in the height adjustment channel as needed to match the tractor drawbar.

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

Attach the safety chains to the tractor.

Pull the jack handle and raise the jack base. Rotate the jack into the transport position.

The coulter applicator is equipped with two sets of hydraulics; the lift circuit and the fold circuit. Plug the hydraulic hoses into the appropriate tractor hydraulic couplers.
Plug the light plug into the electric receptacle. Make sure the flashers are operating any time the applicator is on the road.

![Applicator Hydraulic Hoses and Electrical Plug](image)

**WARNING**

Make sure that no people, animals or other equipment are in the area where the wings will unfold. Failure to do so could result in serious injury or death.

![Applicator Hydraulic Hoses and Electrical Plug](image)

**WARNING**

Put the tractor in Park and set the Parking Brake before removing the transport and wing locks. Failure to do so could result in serious injury or death.

Move the applicator to an empty open area. Remove wing lock pins and store pin in field position hole.

![Wing Locked in Transport Position](image)

Activate the fold hydraulic circuit to unfold the wings. Air in the hydraulic lines can cause erratic movement of the wings until all air is purged.

![Wing Locked in Transport Position](image)

The coulter applicator can be equipped with optional extensions to accommodate 12 coulters on 40” spacing. If so equipped, remove the pin from the transport lock and rotate the extension. (See Figure A9)
Insert the lock pin to lock the extension in the field position.

Activate the lift circuit to extend the lift cylinder. Remove the lock pin from the front hole and rotate the transport lock up. Insert the lock pin in the back hole to keep the transport lock in the field position.

The coulter applicator is equipped with cylinder spacers (donuts). The spacers set the coulter depth. Install three spacers on the cylinder rod.
Activate the lift hydraulic circuit to lower the coulter bar. Spacers can be added or removed to fine tune the coulter depth.

The pump drive tire automatically engages the ground tire when the coulter bar is lowered.

Refer to the owner’s manual for the CDS/John Blue pump for additional pump operating instructions.

**Coulter Applicator Styles**

The coulter applicator is available with fertilizer knives or injection nozzles.

The fertilizer knives are a low pressure system. The fertilizer is routed through a flow divider that equally distributes the fertilizer between all the coulters.

---

**Setting the Pump**

The CDS/John Blue Piston Pump has a dial setting to set the application rate. A Pump Setting Calculator is included with the applicator.

The drive sprocket is 40 tooth. The driven sprocket on the pump is 18 tooth. **The sprocket ratio is 2.2/1.**

The drive tire is a 4.80-8NHS with a loaded radius of 7.5". Follow the instructions on the calculator to determine the pump setting.

An online calculator is also available at: [www.cds-johnblue.com](http://www.cds-johnblue.com)

---

**Figure A13**  
*Engaged Pump Drive Tire*

**Figure A14**  
*CDS/John Blue Pump and Calculator*

**Figure A15**  
*Fertilizer Coulter Knife Assembly*
The injectors are a **high pressure system** that require a metered orificed straight stream nozzle in each injector. Check with Wylie customer service for the proper orifice for your application.

Remove the injector cap and install the nozzle in the cap. Make sure the check valve is installed in the injector body. Replace the injector cap.

The injector tube should be mounted directly behind the coulter. Flat washers can be used to space the mount bracket for precise positioning of the injector tube. The angle of the injector tube can also be adjusted with the mount bracket.

---

**Filling the Spray Tank**

**CAUTION**

Wear appropriate safety apparel when handling fertilizer. Refer to safety information from the fertilizer dealer. Failure to do so could result in bodily injury.

Remove the cap from the fill valve and couple the fill hose to the fill valve.

Start the transfer pump, open the tank fill valve and the supply hose valve. When the desired amount of fertilizer has been added, close the tank fill valve and turn off the transfer pump. Close the supply hose valve before uncoupling the supply hose. Replace the valve cap.
Applicator Operation
Move the applicator to the field. Unfold the wings. Lower the coulter bar. Add or remove cylinder spacers as needed to attain precise coulter depth.

Check the pump drive tire to make sure it is engaging the ground tire. If the pump drive tire slips on the ground tire, shorten the drive turnbuckle to increase the pressure on the ground tire.

Check the pump drive tire to make sure it is engaging the ground tire. If the pump drive tire slips on the ground tire, shorten the drive turnbuckle to increase the pressure on the ground tire.

Make sure the tank ball valve is open to start the flow of fertilizer to the pump.

Preparation for Travel
(1) Place tractor in Park and set brake.
(2) Raise coulter bar to maximum height.
(3) Place pump drive T-pin in the transport position (See Figure A11).
(4) Rotate cylinder lock and secure with lock pin in transport position.

Operating Recommendations
The Coulter Applicator 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 application operation. Factors such as rough surface conditions, hillsides, and contours will require a slower operating speed.

Listed below are several things you should do to maintain trouble free fertilizer applications:
- 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. Reference TP Solid Stream Tips.) (See Figure B4)
- Clean pump strainer as needed to maintain adequate flow to the pump.

If using injectors, maintain a field speed that is within the specifications of the chosen spray nozzle. The injector system should run at 80-120 PSI.

Operation - Coulter Applicator

If using knives, maintain a field speed that is reasonable for the ground conditions.
## TP SOLID STREAM 40" TIP SPACING

GALLONS PER ACRE CALIBRATED FOR FERTILIZER (11.4 LB/GAL.)

<table>
<thead>
<tr>
<th>mph</th>
<th>4.0</th>
<th>4.5</th>
<th>5.0</th>
<th>5.5</th>
<th>6.0</th>
<th>6.5</th>
<th>7.0</th>
<th>7.5</th>
<th>8.0</th>
<th>8.5</th>
<th>9.0</th>
<th>9.5</th>
<th>10.0</th>
<th>10.5</th>
<th>11.0</th>
<th>11.5</th>
<th>12.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>psi</td>
<td>gpm</td>
<td>psi</td>
<td>gpm</td>
<td>psi</td>
<td>gpm</td>
<td>psi</td>
<td>gpm</td>
<td>psi</td>
<td>gpm</td>
<td>psi</td>
<td>gpm</td>
<td>psi</td>
<td>gpm</td>
<td>psi</td>
<td>gpm</td>
<td>psi</td>
<td>gpm</td>
</tr>
<tr>
<td>80</td>
<td>0.12</td>
<td>80</td>
<td>0.19</td>
<td>80</td>
<td>0.14</td>
<td>80</td>
<td>0.09</td>
<td>80</td>
<td>0.27</td>
<td>80</td>
<td>0.11</td>
<td>80</td>
<td>0.09</td>
<td>80</td>
<td>0.27</td>
<td>80</td>
<td>0.11</td>
</tr>
<tr>
<td>80</td>
<td>0.12</td>
<td>80</td>
<td>0.19</td>
<td>80</td>
<td>0.14</td>
<td>80</td>
<td>0.09</td>
<td>80</td>
<td>0.27</td>
<td>80</td>
<td>0.11</td>
<td>80</td>
<td>0.09</td>
<td>80</td>
<td>0.27</td>
<td>80</td>
<td>0.11</td>
</tr>
<tr>
<td>80</td>
<td>0.12</td>
<td>80</td>
<td>0.19</td>
<td>80</td>
<td>0.14</td>
<td>80</td>
<td>0.09</td>
<td>80</td>
<td>0.27</td>
<td>80</td>
<td>0.11</td>
<td>80</td>
<td>0.09</td>
<td>80</td>
<td>0.27</td>
<td>80</td>
<td>0.11</td>
</tr>
<tr>
<td>80</td>
<td>0.12</td>
<td>80</td>
<td>0.19</td>
<td>80</td>
<td>0.14</td>
<td>80</td>
<td>0.09</td>
<td>80</td>
<td>0.27</td>
<td>80</td>
<td>0.11</td>
<td>80</td>
<td>0.09</td>
<td>80</td>
<td>0.27</td>
<td>80</td>
<td>0.11</td>
</tr>
<tr>
<td>80</td>
<td>0.12</td>
<td>80</td>
<td>0.19</td>
<td>80</td>
<td>0.14</td>
<td>80</td>
<td>0.09</td>
<td>80</td>
<td>0.27</td>
<td>80</td>
<td>0.11</td>
<td>80</td>
<td>0.09</td>
<td>80</td>
<td>0.27</td>
<td>80</td>
<td>0.11</td>
</tr>
<tr>
<td>80</td>
<td>0.12</td>
<td>80</td>
<td>0.19</td>
<td>80</td>
<td>0.14</td>
<td>80</td>
<td>0.09</td>
<td>80</td>
<td>0.27</td>
<td>80</td>
<td>0.11</td>
<td>80</td>
<td>0.09</td>
<td>80</td>
<td>0.27</td>
<td>80</td>
<td>0.11</td>
</tr>
<tr>
<td>80</td>
<td>0.12</td>
<td>80</td>
<td>0.19</td>
<td>80</td>
<td>0.14</td>
<td>80</td>
<td>0.09</td>
<td>80</td>
<td>0.27</td>
<td>80</td>
<td>0.11</td>
<td>80</td>
<td>0.09</td>
<td>80</td>
<td>0.27</td>
<td>80</td>
<td>0.11</td>
</tr>
</tbody>
</table>
Operation cont’d.

(5) If equipped, remove lock pin from extension, rotate extension and insert lock pin (See Figure A9).
(6) Activate fold hydraulics to fold wings (See Figure A6).
(7) Turn on applicator flashers to warn traffic.

Preparing The Sprayer For Storage
If the unit will not be used for several days or weeks during the season, or if the fertilizer formulation is changed, follow steps 1-6 to rinse and flush the system.

For end of season storage, follow all eight steps to properly protect the system.

(1) Rinse the inside of the spray tank with clean water.
(2) Drain the spray tank. Dispose of the rinse water appropriately.
(3) Add 25 gallons of clean water.
(4) Open pump to the maximum #10 setting for complete pump cleanout.
(5) Flush the tank, pump and lines with clean water by running the applicator in the field, or rotate the drive wheel until clean water is flowing from all the nozzles.
(6) Drain the spray tank and the Y-strainer.
(7) Add several gallons of windshield washer fluid to the spray tank.
(8) Flush the pump and lines with windshield washer fluid by running the applicator in the field, or rotate the drive wheel until windshield washer fluid is flowing from all the nozzles.

Maintenance

Cleaning the Fluid System
From time to time it may be necessary to clean debris from the Y-strainer.

⚠️ WARNING ⚠️

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.

Close the main tank 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.

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.
Lubrication

The wheel bearings should be serviced once each season. Lubrication may be needed more often if the applicator 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.

Service the other lubrication points as noted:

Refer to the CDS/John Blue pump manual for lubrication recommendations for the piston pump.
# Coulter Applicator Troubleshooting Guidelines

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump Will Not Operate</td>
<td>(1) Drive tire not engaging ground tire</td>
<td>(1a) Lower coulter bar</td>
</tr>
<tr>
<td></td>
<td>(2) Pump malfunctioning</td>
<td>(1b) Shorten turnbuckle for better engagement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2) See pump owners manual or contact</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wylie Spray Center</td>
</tr>
<tr>
<td>Pump will not move fertilizer</td>
<td>(1) Suction ball valve closed</td>
<td>(1) Open ball valve</td>
</tr>
<tr>
<td></td>
<td>(2) Spray tank is empty</td>
<td>(2) Add fertilizer to spray tank</td>
</tr>
<tr>
<td></td>
<td>(3) Pump malfunctioning</td>
<td>(3) See pump owners manual or contact</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wylie Spray Center</td>
</tr>
<tr>
<td>Pump output is very low; erratic</td>
<td>(1) Tank empty</td>
<td>(1) Fill tank</td>
</tr>
<tr>
<td></td>
<td>(2) Main tank ball valve closed</td>
<td>(2) Open ball valve</td>
</tr>
<tr>
<td></td>
<td>(3) Plugged strainer</td>
<td>(3) Clean strainer screen</td>
</tr>
<tr>
<td></td>
<td>(4) Pump setting too low</td>
<td>(4) Adjust pump for desired speed and pressure</td>
</tr>
<tr>
<td></td>
<td>(5) Ground speed too slow</td>
<td>(5) Increase speed as specified on tip chart</td>
</tr>
<tr>
<td></td>
<td>(6) Malfunctioning pump</td>
<td>(6) See pump owners manual or contact</td>
</tr>
<tr>
<td></td>
<td>(7) Air leak causing pump to lose suction</td>
<td>(7) Close valves and tighten fittings that can</td>
</tr>
<tr>
<td></td>
<td></td>
<td>leak air</td>
</tr>
<tr>
<td>No output or insufficient pressure at spray</td>
<td>(1) Ground speed too low</td>
<td>(1) See above</td>
</tr>
<tr>
<td>tip(s)</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>
</tr>
<tr>
<td></td>
<td>(4) Ball valve malfunctioning</td>
<td>(4) Repair or replace ball valve</td>
</tr>
<tr>
<td></td>
<td>(5) Plugged strainer</td>
<td>(5) See above</td>
</tr>
<tr>
<td>Spray pattern uneven at one tip</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>
</tbody>
</table>