PinPoint® II Sprayer

Operator and Maintenance Manual

APPLICATION SYST
FOR PROFESSION

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4.0 - SYNCHRO® AND SHARPSHOOTER® SYSTEM TESTING

4.1 - System Dry Test

Perform the following steps, to confirm that the soft boom and nozzle valves are operating correctly.

Boom Shutoff Dry Test

1. Engine OFF and key ON.
2. CapView power ON.
3. Turn ON all boom switches.
4. Rate Controller setup so that section control valves are able to be engaged.

NOTE: All nozzle valves on the boom should start clicking.

5. Turn OFF all boom sections.
6. Turn ON boom section 1.
7. Repeat steps 5 & 6 for each individual boom section. Verify that each boom section is firing in the correct order.

NOTE: If the clicking nozzle valves are not on the selected boom section, a VCM is not connected to the appropriate boom section on the Gateway Hub. This can be fixed electronically. See Location Setup on page **69**.

Boom Shutoff Dry Test with Key FOB

NOTE: Using the Key FOB to turn ON/OFF boom sections allows the operator to closely view the operation of the nozzle valves. Using the Key FOB also allows each individual nozzle to be turned ON/OFF.

1. **[Figure 19]** - Activate Nozzle Control (Key FOB) Line-8 in system setup to “Key FOB Active”.

NOTE: When the Key FOB mode is activated, all the nozzles are turned off. The CapView display indicates that the Key FOB Mode is active. This is indicated by the text block in the upper left corner and the blinking LEDs.

Figure 19

System Setup

1	Operation Mode	SharpShooter
2	Controller Gallon Counter	0 Gallons
3	Actual Gallon Counter	0 Gallons
4	Controller Acre Counter	0.0 Acre
5	Actual Acre Counter	0.0 Acre
6	Control Gallons Per Minute	0.0 GPM
7	Actual Gallons Per Minute	0.0 GPM
8	Nozzle Control (Key Fob)	12V Active
9	Pressure 1	18 PSI
10	System Voltage	13.8V

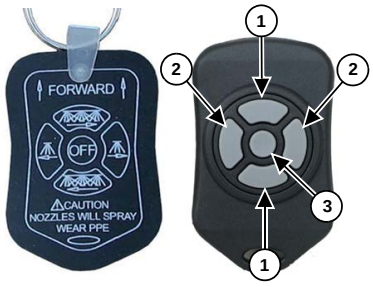
2. **[Figure 20]** - Press the top/bottom buttons (1) on the Key FOB to turn ON/OFF each boom section (1 thru 12). Verify that each boom section is operating (clicking) in the correct order.

3. Press the right/left buttons (2) on the Key FOB to turn ON/OFF each individual nozzle valve. Verify that each nozzle valve is operating (clicking) in correct order.

4. Press the center button (3) on the Key FOB to turn OFF the whole boom.

5. **[Figure 19]** - Activate **Nozzle Control (Key FOB)** Line-8 in system setup and change setting back to 12V Active or previous setting.

Figure 20



4.2 - System Wet Test

NOTE: Fill the sprayer with approximately 400 gallons of water.

Perform the following steps, to confirm that the soft boom and nozzle valves are operating correctly.

Boom Shutoff Wet Test

1. CapView and Rate Controller OFF.
2. Start the engine and set engine at idle speed.
3. Turn ON the CapView and the Rate Controller.
4. With the engine at idle speed, use the Rate Controller to start the pump.
5. Increase the engine speed to half throttle.
6. Set the CapView to the desired pressure.
7. Turn ON all boom switches.

NOTE: All nozzle valves on the boom should start spraying.

8. Turn OFF all boom sections.
9. Turn ON boom section 1.

NOTE: The nozzle valves on boom section 1 should start spraying.

10. Repeat step 9 for each boom section to verify boom sections operate in the correct order.

NOTE: If the nozzle valves that are clicking are not on the selected boom section, a VCM is not connected to the appropriate boom section on the Gateway Hub. This can be fixed electronically. See Location Setup on page 51.

Boom Shutoff Wet Test with Key FOB

1. **[Figure 21]** - Activate Nozzle Control (Key FOB) Line-8 in system setup to “Key FOB Active”.

NOTE: Using the Key FOB to turn ON/OFF boom sections allows the operator to closely view the operation of the nozzle valves. Using the Key FOB also allows each individual nozzle to be turned ON/OFF.

2. Turn ON all boom section switches and the master switch to allow water to all boom sections.

NOTE: With Line-8 activated and all nozzles turned off, the CapView display will indicate that the Key FOB Mode is active. This is indicated by the text block in the upper left corner and the blinking LEDs on the CapView.

3. **[Figure 22]** - Press the top/bottom buttons (1) on the Key FOB to turn ON/OFF each boom section (1 thru 12). Verify that each boom section is operating (spraying) in the correct order.

4. Press the right/left buttons (2) on the Key FOB to turn ON/OFF each individual nozzle valve. Verify that each nozzle valve is operating (spraying) in the correct order. Check that no valves are leaking or dripping when the nozzle valve is shutoff.

NOTE: If a nozzle valve is leaking or dripping, use a marker to mark the nozzle valve. Continue to check all nozzle valves.

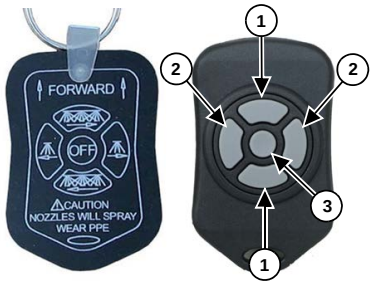
5. Press the center button (3) on the Key FOB to turn OFF the whole boom.

Figure 21

System Setup

1	Operation Mode	SharpShooter
2	Controller Gallon Counter	0 Gallons
3	Actual Gallon Counter	0 Gallons
4	Controller Acre Counter	0.0 Acre
5	Actual Acre Counter	0.0 Acre
6	Control Gallons Per Minute	0.0 GPM
7	Actual Gallons Per Minute	0.0 GPM
8	Nozzle Control (Key Fob)	Key FOB Active
9	Pressure 1	18 PSI
10	System Voltage	13.8V

Figure 22



6. When all nozzle valves have been tested, turn OFF the Rate Controller and CapView, disengage the product pump, turn OFF the engine, and then release the pressure from the sprayer lines.

NOTE: Make necessary repairs to any leaking or dripping nozzle valves. Dripping can be caused by debris on the plunger, preventing sealing when not pulsing.

7. **[Figure 23]** - If the coil housing (1)spins, tighten the flynut (2) until the coil housing does not spin.

8. If the coil housing does not spin, remove the nozzle valve (3) and inspect the O-rings (4). If an O-ring is damaged, replace the O-ring. If the O-rings appear to be okay, reinstall the nozzle valve.

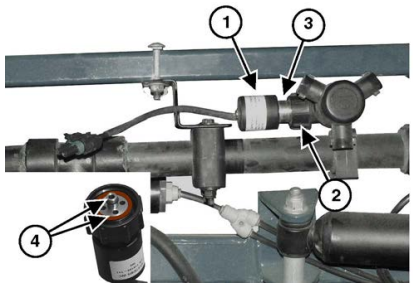
NOTE: Use the Key FOB to check the repaired nozzle valves.

NOTE: The Key FOB works well when checking for plugged tips without wasting a significant amount of product.

WARNING

CHEMICAL RESIDUES MAY BE PRESENT IN THE OEM EQUIPMENT. RELEASE PRESSURE ON THE SPRAYER SYSTEM BEFORE SERVICING. RINSE THE SYSTEM WITH CLEAN WATER PRIOR TO INSTALLING OR SERVICING FITTINGS, HOSES, VALVES, OR NOZZLES. USE PROPER PPE AT ALL TIMES TO AVOID PERSONAL INJURY.

Figure 23



9. **[Figure 24]** - Go to **Nozzle Control (Key FOB)** Line-8 in system setup and change setting back to 12V Active or previous setting.

Figure 24

System Setup

1	Operation Mode	SharpShooter
2	Controller Gallon Counter	0 Gallons
3	Actual Gallon Counter	0 Gallons
4	Controller Acre Counter	0.0 Acre
5	Actual Acre Counter	0.0 Acre
6	Control Gallons Per Minute	0.0 GPM
7	Actual Gallons Per Minute	0.0 GPM
8	Nozzle Control (Key Fob)	12V Active
9	Pressure 1	18 PSI
10	System Voltage	13.8V

4.3 - Pressure Control Test

NOTE: Make sure the tank has adequate water supply to perform the following tests.

1. CapView and Rate Controller OFF.
2. Start the engine and set engine at idle speed.

3. Turn ON the CapView and Rate Controller.
4. With the engine at idle speed, use the Rate Controller to start the pump.

5. Press the PinPoint® II CapView Auto button to place PinPoint® II in Auto mode.
6. Place the Rate Controller in manual mode, or set a test speed and place the Rate Controller in auto mode.
7. Turn on all boom sections (system will spray).
8. Slowly increase the engine to full speed.

9. Press ENTER (White Check) to switch between set points.
10. If the pressure is stable on a set point and moves between set points at a reasonable rate, the system has passed the test.

NOTE: If the pressure is unstable, decrease the system gain value.

NOTE: If the pressure moves too slowly between set points, increase the system gain.

4.4 - Flow Control Test

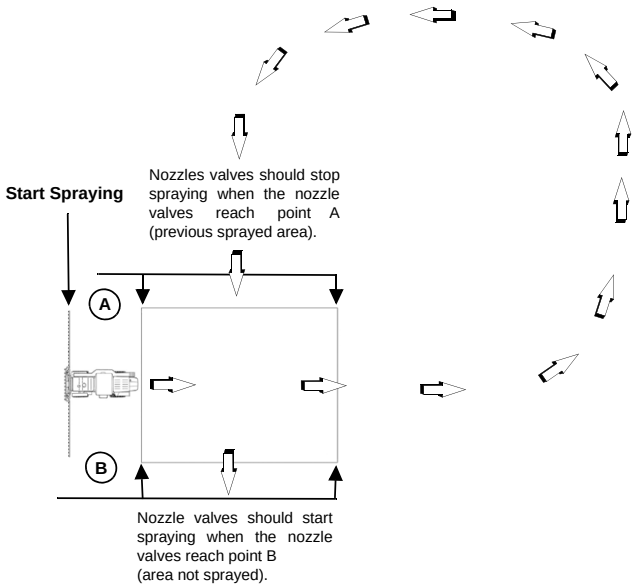
NOTE: Make sure the tank has adequate water supply to perform the following tests.

1. While stationary, set a test speed in the Rate Controller.
2. Set the Rate Controller to AUTO.
3. Set the Rate Controller for an appropriate rate for the tips on the machine.
4. Turn ON the master and boom section switches.
5. The actual rate should match the target rate.
6. If you change the target rate, the actual rate should change to match the new target rate.

NOTE: If the rate change is unstable or too slow, the gain values in the Rate Controller should be changed.

4.5 - Look Ahead Time

Figure 25



NOTE: Look Ahead Times how PinPoint® II is tuned to the speed of the GPS sensor and the time that it takes for overlap messages to make it to the nozzle valves. Look Ahead Time can be set with the help of two people to watch the nozzle valves at a known overlap point.

NOTE: When setting look ahead time and overlap distance, the overlap distance must be set to ZERO. Reset the distance to 40 plus after setting look ahead.

[Figure 25] - With the aid of two people to watch the operation of the nozzle valves, perform the following steps:

1. Place a person at point (A) and a person at point (B).
2. Travel forward and start spraying.
3. Continue to drive straight approximately 150 feet.
4. Turn left while continuing to spray. Travel a short distance, and then turn around and travel towards the previously sprayed area, (point A).
5. When the booms reach point (A) (the previously sprayed area) the nozzle valves should shutoff.
6. When the booms reach point (B) (the area not sprayed) the sprayer nozzle valves should start spraying.

NOTE: The helpers can see if the nozzle valves shutoff time is early or late at point (A), or if the spray-on time is early or late at point (B). Adjust Line-17 Look Ahead Time accordingly.