

## AgPilotX Boom Shutoff Wiring & Setup for SwathPRO

---

- **General Guidelines:**

- The Right Boom Shutoff feature is compatible only with the following AgPilotX software versions:
  - Firmware 1.4.93i or newer on the lightbar and hub
  - App Build 491 or newer.

- **Important:**

- **DO NOT** connect any AgPilotX wires directly to SwathPRO wires.
- **Important:** AgPilotX wires must **NOT** be connected to voltage.

---

## Wiring Instructions

### Parts Needed (Not Supplied)

- **Relays:**

- 1 SPST 20A 24V relay
- 1 SPDT 20A 24V relay

- **Terminals:**

- 8 female 1/4" spade terminals for relays.
- 1 #6 ring terminal for DPST toggle switch.
- 1 ring terminal for airframe grounding point.

- **Wires:**

- 18 AWG mil-spec black wire (length varies, approx. 6 feet).
- 18 AWG mil-spec any colored wire (length varies).

---

1. **Mount Relays:**

Securely mount both relays in an accessible location.

2. **Black Wires:**

- a. Cut three black wires to approximately 3" each.
- b. Cut one wire long enough to run from an airframe grounding point to the relays.
- c. Splice all three short wires into the long ground wire.
- d. Attach a female spade terminal to each 3" wire ends.
- e. Attach a ring terminal of the correct size to the grounding point end of the long wire.

**3. Colored Wires:**

- a. Cut a colored wire to go from the relay to the Right Boom switch (DPST) in the cockpit.
  - o Attach a #6 ring terminal to the switch end.
  - o Attach a female spade terminal to the opposite end of the wire.
- b. Cut a colored wire to go from the SPST relay to the SwathPRO Shutoff Kit Relay. (See SwathPRO shutoff kit schematic.)
  - o Strip approximately  $\frac{1}{4}$  of insulation from the shutoff kit relay end of the wire.
  - o Attach a female spade terminal to the opposite end.
- c. Cut a colored wire to go from the SPDT relay to the SPST relay.
  - o Attach a female spade terminal to both ends.

**4. AgPilotX wire:**

- Cut a wire to run from the AgPilotX hub to the relays.
- Attach a female spade terminal to the relay end.
- Strip approximately  $\frac{1}{4}$  of insulation from the hub end.

---

## **Relay Connections**

**• Parts Required:**

- o Two relays (one SPST, one SPDT).
- o Eight spade terminals.

**5. Relay 1 (SPDT) Connections:**

- a. Terminal 86 → Right Boom Shutoff switch (DPST) wire (Step 3a).
- b. Terminal 87A → Ground wire from airframe ground lug (can be spliced with other grounds).
- c. Terminal 85 → Ground wire from airframe ground lug (can be spliced with other grounds).
- d. Terminal 30 → Relay 2 Terminal 30 wire (Step 3c)
- e. Terminal 87 not used.

**6. Relay 2 (SPST) Connections:**

- a. Terminal 30 → Relay 1 Terminal 30 wire (Step 3c).
- b. Terminal 85 → Ground wire from airframe ground lug (can be spliced with other grounds).
- c. Terminal 86 → Wire from shutoff kit relay (Step 3b).
- d. Terminal 87 → Port 10 from AgPilotX Hub wire (Step 4).

**Note:** Cut appropriate wire lengths, route appropriately, and secure with terminals at installer's discretion.

---

## Misc Connections

7. **Hub Connections:**
  - a. Locate **Switches and Devices Inputs rail (12-Pin, lower left)** on the AgPilotX Hub Enclosure.
  - b. Connect the stripped end of the wire from Step 4 to **Input 10 (EXT Switch Spare 1)**.
8. **Right Boom Switch Connection:**
  - a. Use the supplied **Double Pole Single Throw (DPST)** switch as the **Right Boom Shutoff** switch.
  - b. Connect the wire from **Terminal 86 of Relay 1 (DPST)** to **Terminal 4 or 6 on the Right Boom Shutoff** switch.
    - This terminal should switch from 0v to 28v when toggled.
    - This terminal will also be occupied by a SwathPRO wire.
9. **Grounding Point connection:**
  - a. Connect the **ring terminal** from Step 2 to the **airframe ground**.
10. **Shutoff Kit Relay Connection:**
  - a. Splice the **stripped wire** from Step 3b into the **wire connected to terminal 87A on the Shutoff Kit Relay**.

---

### 11. **Testing shutoff:**

- a. See Following Steps

## Testing Shutoff

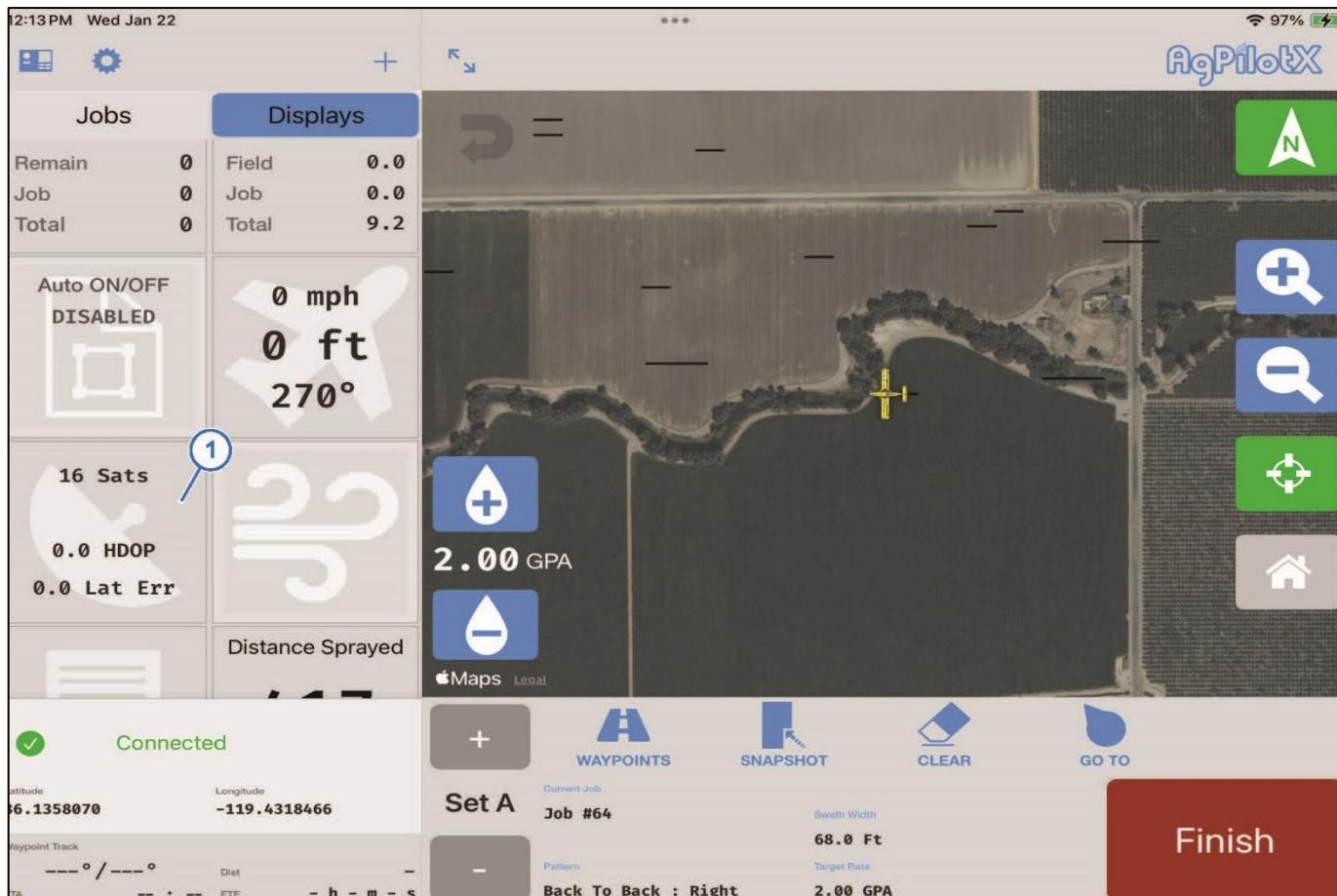
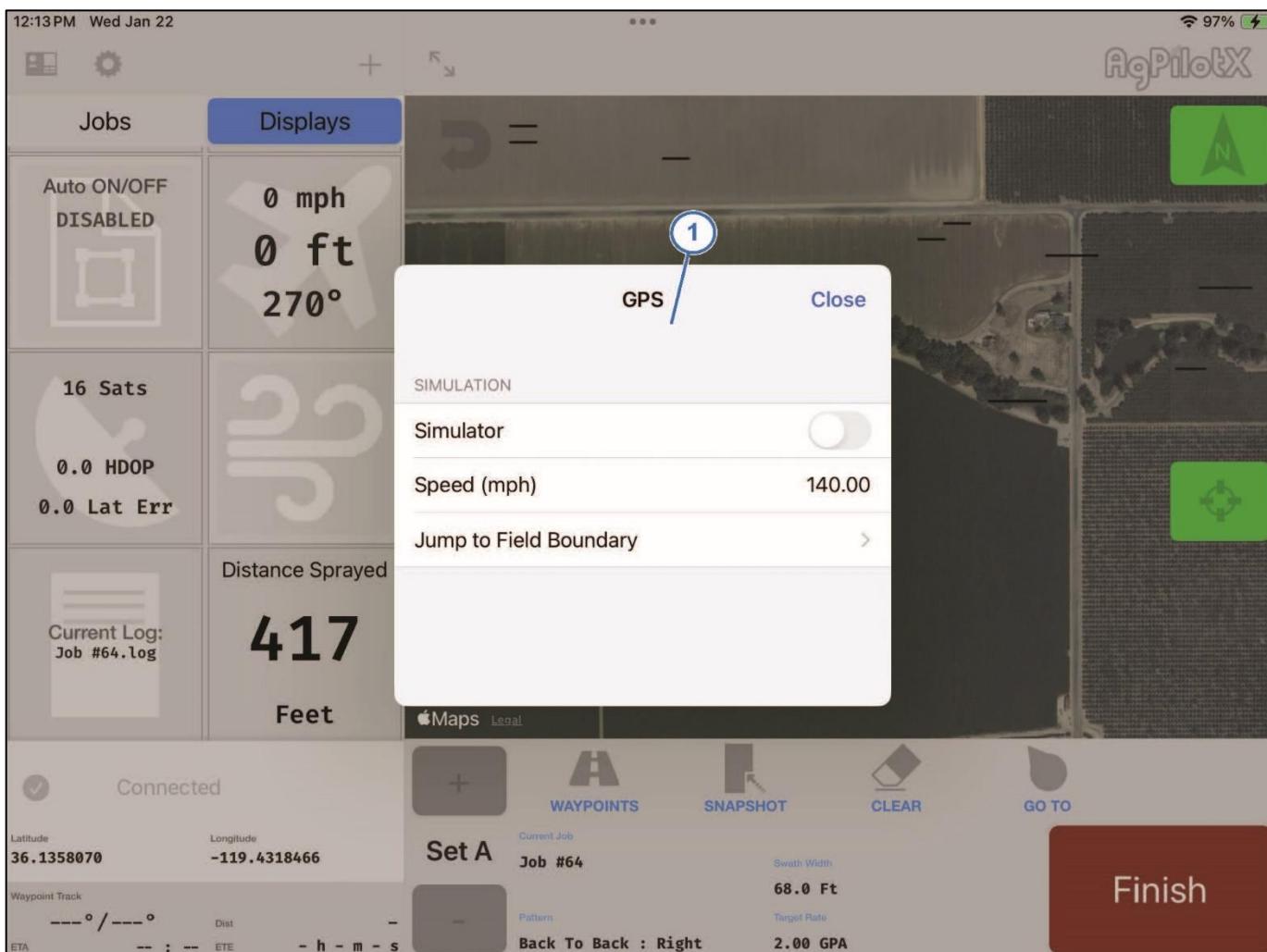


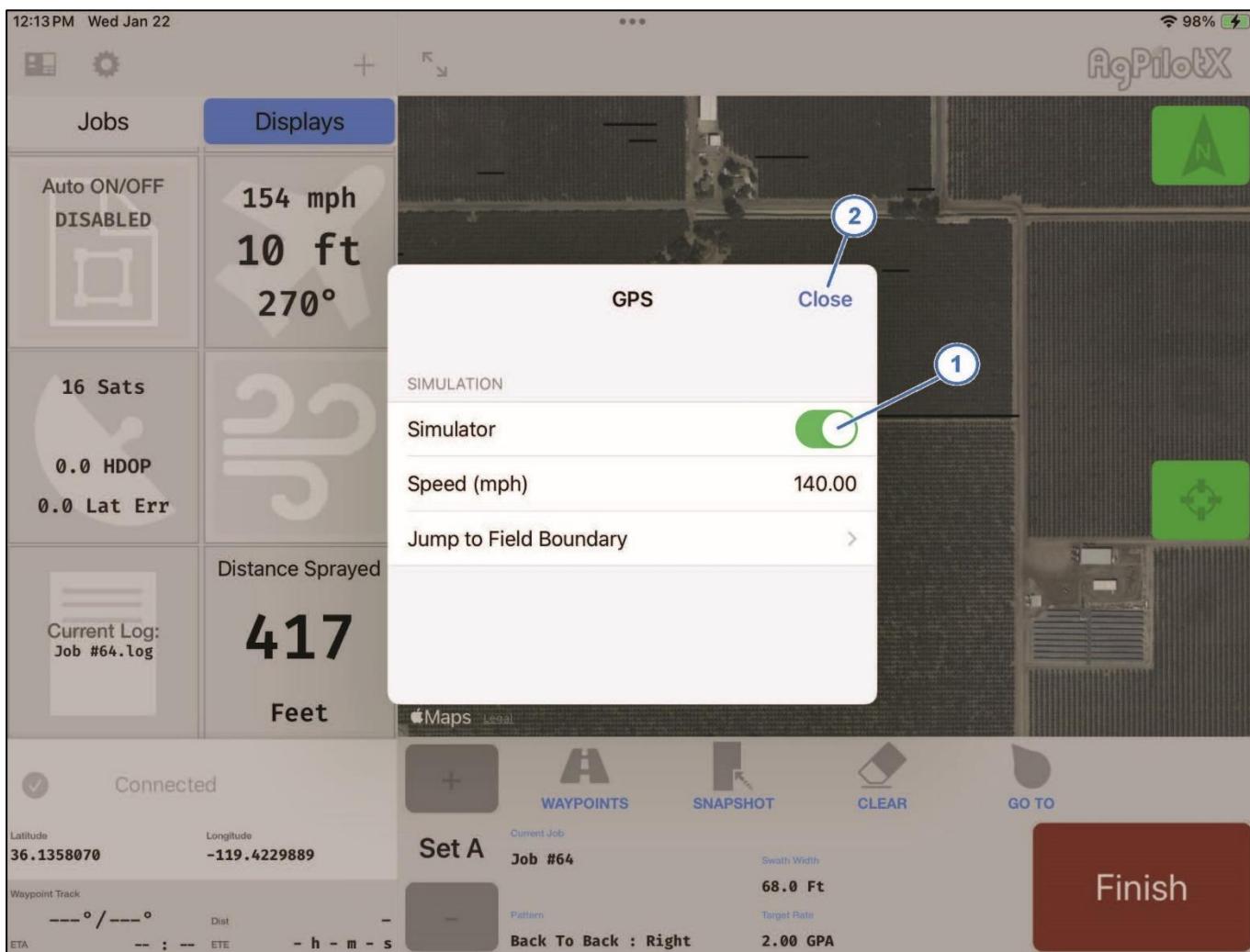
Figure 1: Satellite Icon

1. Select the “**Displays**” tab at the top left of the interface.
2. In the AgPilotX interface, scroll down on the left side until you see the Satellite icon (1).
3. Select the **Satellite** icon (Figure 1).



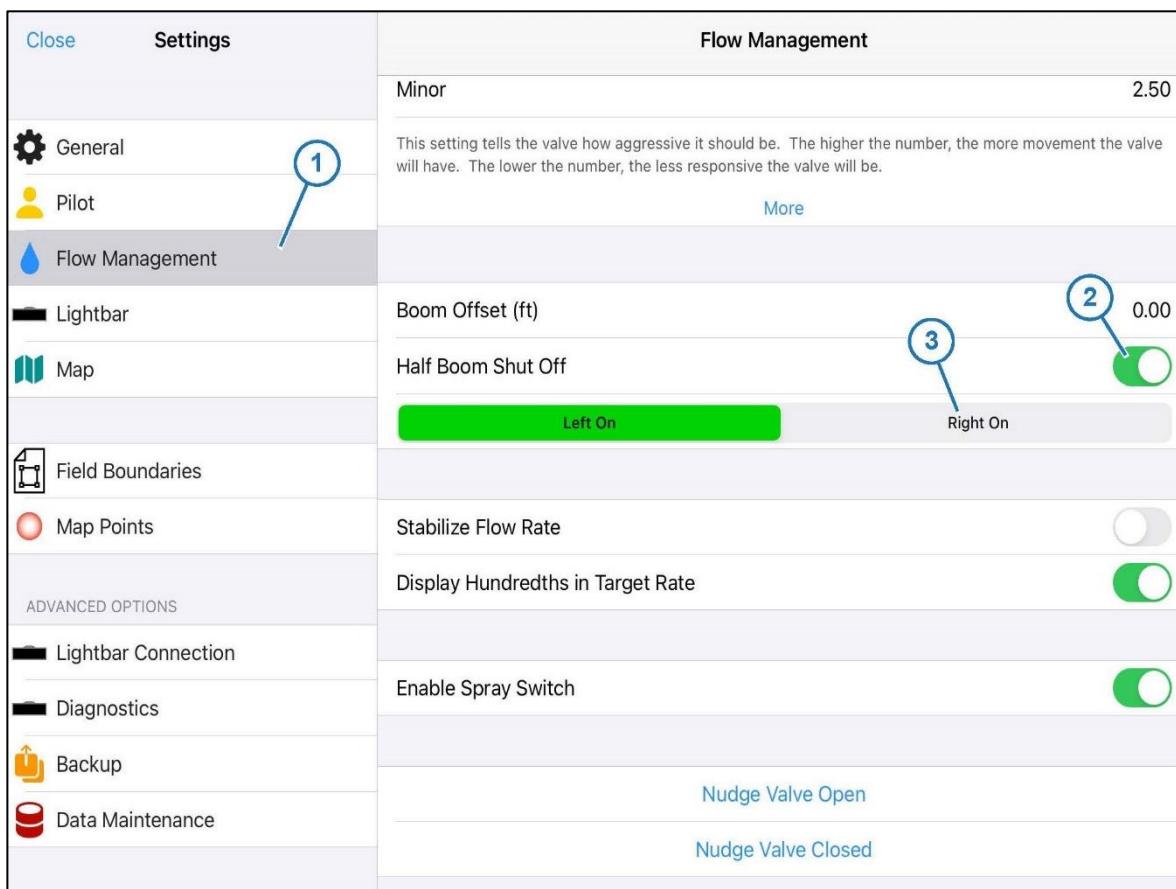
**Figure 2: GPS Simulation Window**

4. The GPS Simulation window should appear (1).



**Figure 3: GPS Simulation Slider**

5. Toggle the **Simulator** slider to the “On” position; it should turn green (1).
6. Close the window by selecting the **Close** text at the top-right of the window (2).
  - The plane should now appear to be moving on the screen.



**Figure 5: Half Boom Shutoff**

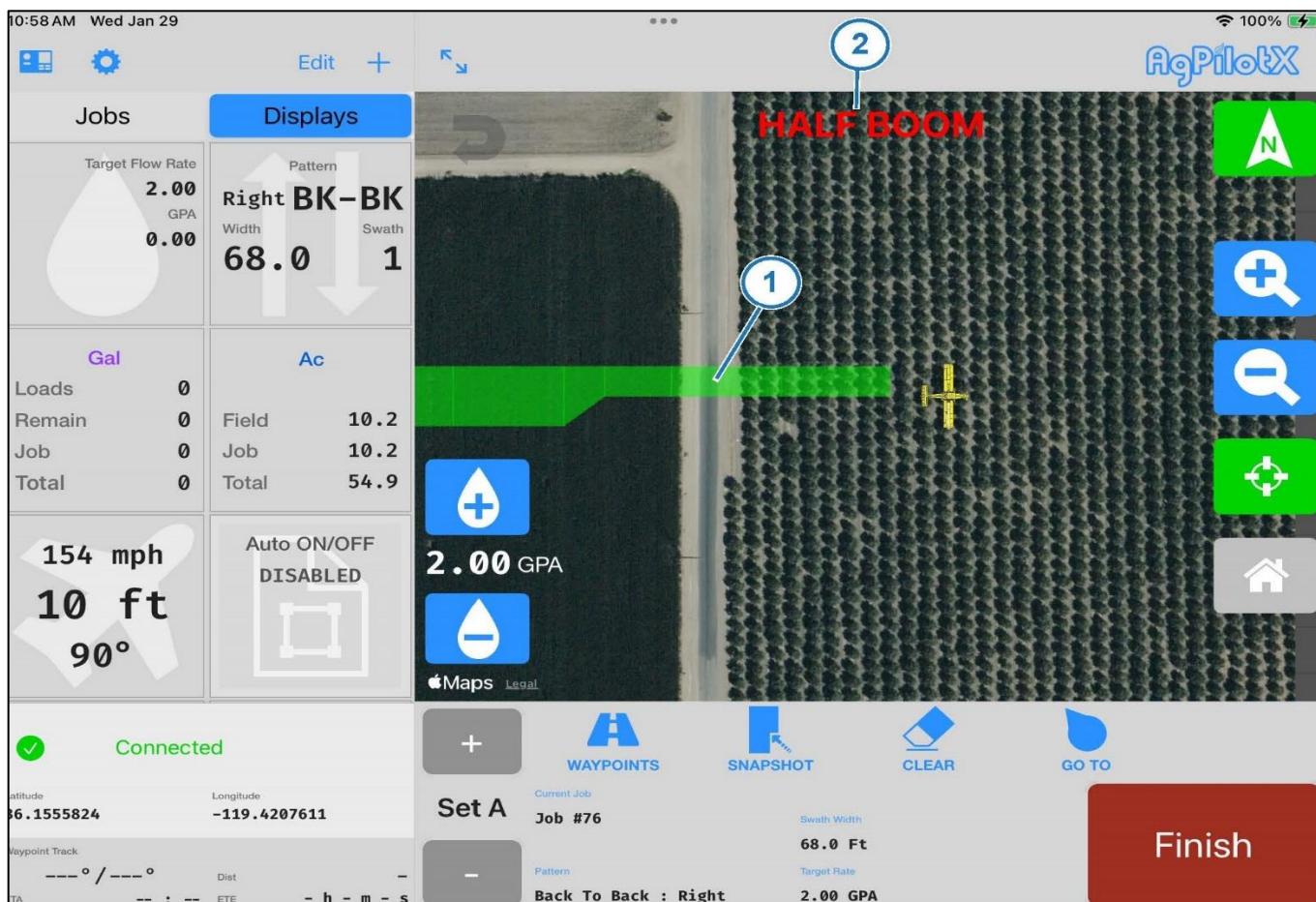
7. Select the gear icon at the top left corner on the main page.
8. Select the **Flow Management** Icon (1).
9. If not already On, toggle the **Half Boom Shut Off** slide to the “On” position (2). The toggle should turn green.
10. Confirm that **Right On** (3) is displayed in grey, and the **Left On** is green.
11. Close the window by selecting “**Close**” at the top left of the interface.



**Figure 6: Full Boom Spray**

**12. Engage the valves** to activate pulsing.

- A green spray pattern should appear behind the plane (1).



**Figure 7: Half Boom Spray**

13. Toggle the **Right Boom Shutoff** switch to **ON**.
  - The spray pattern should reduce to half-width (1).
  - **HALF BOOM** should display at the top of the screen (2).
14. Toggle the **Right Boom Shutoff** switch to **OFF**.
  - The spray pattern should return to full width (Figure 6, Item 1).
  - The **HALF BOOM** text should be removed from the screen.
15. If the system operates as expected, disengage the valves to disable pulsing, disable Simulation mode by repeating step 2-5. Ensure the **Simulator slider** returns to grey.

**Wiring Schematic**
