



396-4061Y1 Commander Orchard Sprayer QuickStart Card

This page is general information about the Commander II. Specific setup instructions start on page 2.

In Field Operating Instructions

VOLUME: Displays total gallons (liters) of liquid applied. Can be reset to 0 by holding the reset button.

3 SECTION SWITCHES: Turns application ON or OFF for each section. If not dividing implement into sections, use Section 1 switch only. If using Left and Right Sections, Section 1 is Left, Section 2 is Right.

AREA: Displays the area of coverage by the equipment in acres (hectares). May be reset.

VOLUME/MINUTE: Displays gallons (liters) of liquid applied per minute. Use this to read instant flow in GPM.

DISTANCE: Displays the distance traveled in feet (meters). May be reset.

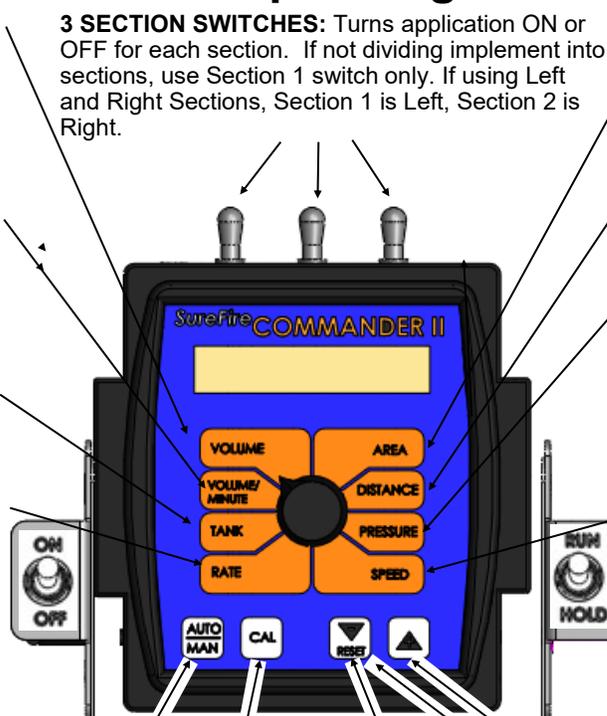
TANK: Displays gallons (liters) of liquid remaining

PRESSURE: Displays the liquid pressure at the location of the optional pressure sensor. In addition to displaying Pressure the console will warn the operator with HiPSI (High Pressure) message when the input pressure exceeds the limit pressure (set in Special Cal)

RATE: Displays application rate GPA(LPH)

SPEED: Displays ground speed in miles per hour (Kilometers per hour).

ON/OFF: Commander II power switch. When the console is turned on (except when starting in "SPECIAL" CALIBRATE) the data display will show the Number of Hours it has operated for one second, followed by the Software Part Number (45124) and the Software Revision (rP X) for 1.5 seconds each. Then it will display the Control Mode (P-FLO or S-FLO) for 1.5 seconds.



CAL: This key is used to enter & exit calibration (CAL) mode.

RUN/HOLD: Turns liquid application on (RUN) or off (HOLD)

AUTO/MAN: Key which changes operation from automatic control to manual.

RESET/ - : When not in CAL, clears the selected counter when held for two seconds.

+ & - : Plus & Minus keys are used to increase and decrease values

Five Steps for Commander II Setup for Orchard Sprayer Systems

See the following pages for instructions on each step:

1. Commander II Special Cal Quick Setup
2. Standard Calibration settings
3. Initial Operation in Manual Mode
4. Test Speed Operation in Automatic Mode
5. Speed Signal Verification & Field Operation



Commander II Special Cal Quick Setup

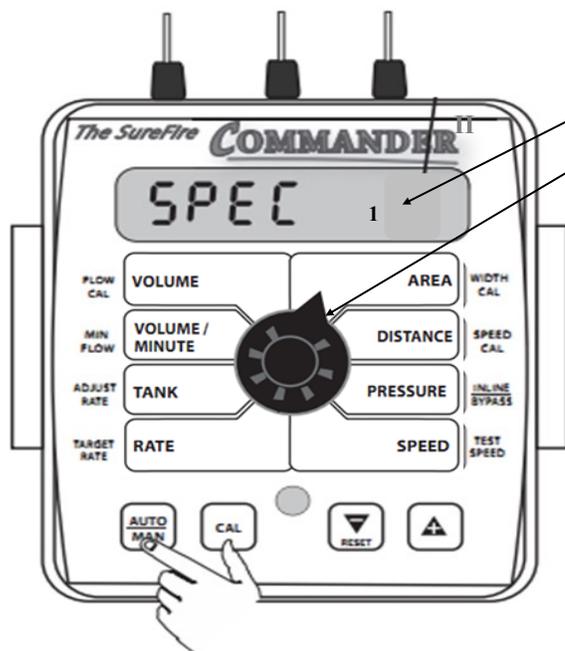
Step 1



The Commander II must be set up to run the Orchard Sprayer by entering some values in the SPECIAL CAL (SPEC) mode. Follow the steps below to set up the Commander II for your operation.

Notice that Step 10 must be done if you are using a speed sensor located on the sprayer that is plugged into the connector on the final pump harness.

1. Power off Commander II.
2. Enter **Special Cal** by holding both the AUTO/MAN and the CAL button down while turning on the power switch.
3. You should see "SPEC" on the screen, if not, repeat steps one and two.
4. Ensure "1" displays to indicate Page 1 in Special Cal. Press CAL to change if necessary.
5. Turn dial to point at **AREA**, Select "**HS-E**" for Orchard Sprayer with Servo control (and English units). (*Press the UP or DOWN arrow to change selection.*)
6. Turn dial to **SPEED**. Select **InLin(e)**.
7. Press **CAL** to go to Page 2.
8. Turn dial to **SPEED**. Hold + button to set **Full Scale Pressure** to **400**.
9. Turn dial to **AREA**. Set **MAX PRESSURE** to **250**.
10. (*Do this step if Radar or GPS Speed Sensor is located on the sprayer and is plugged into the final pump harness. Skip this step if speed sensor is plugged into connector behind the Commander II.*) Turn dial to **RATE**. Set to **SPEED**.
11. Save changes by holding CAL button until red light goes out (about 3 seconds).



This number tells you which special CAL screen you are on. Pressing the CAL button will change this number. Quick Setup begins on Page 1, with dial turned to AREA.

Select "**HS-E**" for the orchard sprayer with a Servo control valve and English units (gallons and acres, etc...).

Follow instructions printed above.

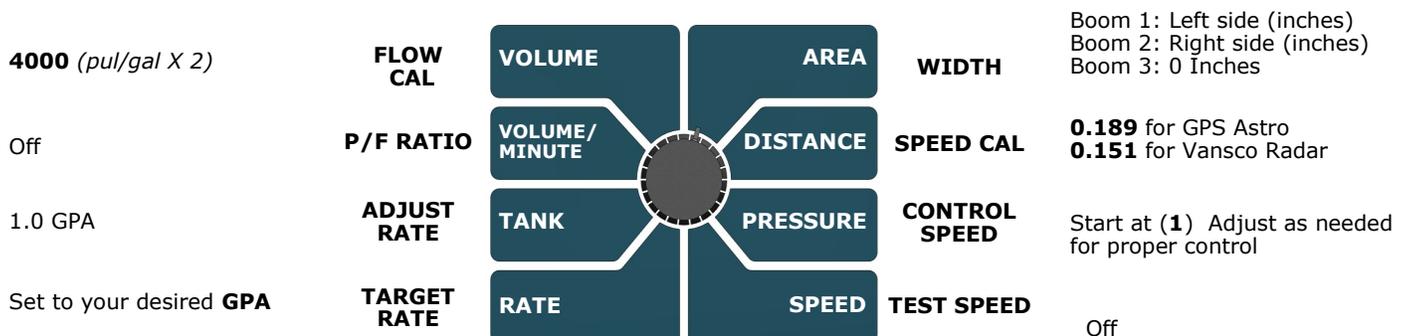
Standard Calibration Procedure:

Step 2



1. Press CAL key for one (1) second to enter calibration mode.
2. Red light will be on steady and CAL will be displayed in CAL mode.
3. Turn the dial to the items listed below and set as instructed.
4. Turn dial to **VOLUME**. This is the flowmeter calibration number. It should be the number of pulses per gallon for the flowmeter multiplied by 2. (On the SureFire 1.3—26 gpm electromagnetic flowmeter, this will be set at **4000**.)
5. Turn dial to **AREA**. Turn on **Boom 1** (top left switch). Use the (+) or (-) button to set the width (in inches) of the left side of the sprayer coverage area. *(If you do not have left and right section control valves, this would be the spray width of the entire sprayer.)*
6. Turn Boom 1 off and turn **Boom 2** on (top middle switch). Use the (+) or (-) button to set the width (in inches) of the right side of the sprayer coverage area. *(If you do not have left and right section control valves, this would be left at 0.)*
7. Turn dial to **DISTANCE**. If using the Astro II GPS Speed Sensor, this should be 0.189, and should not need to be adjusted. If using the Vansco Radar Speed Sensor, set this at 0.151. Adjust as needed after performing Distance Calibration Verification. *(Measure a 300 foot long course. Drive this course and change Distance measurement on display as needed. See bottom of page 35 in the manual for instructions on this procedure.)*
8. Turn dial to **PRESSURE**. Press (+) button to increase **Control Speed** to **(1)**. Adjust as needed in the field for best operation. *(If the system is slow to get to rate, increase this number. If the system overshoots back and forth, and will not lock on to the rate, decrease the Control Speed.)*
9. Turn dial to **RATE**. Use the (+) or (-) button to set the application rate in **gallons per acre (gpa)**.
10. Save these settings by holding the CAL button until the red light goes out.
11. The Commander II controller is ready to go.

Typical CAL settings for Commander Orchard Sprayer



Initial Operation Instructions



SureFire highly recommends you perform these exact steps with water to verify system is correctly installed and ready for field use.

Test the system in **MANUAL mode**. Test first with the pump off, then with the pump on.

Step 3

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1. Push the AUTO/MAN button until **MAN** is displayed on the Commander II. You are now in Manual mode.
2. Put the system in **RUN**. Turn the console switch to RUN. When HOLD Is not displayed on the screen the system is in RUN.
3. Turn **Boom 1 and Boom 2 switches ON** (top left switch). Left and right section valves should open.
4. Turn dial to **VOLUME/MINUTE** position. Push the (+) button for 5 seconds. The Servo control valve should open. Push the (-) button. The Servo control valve should close. Leave the Servo valve slightly open. Turn the Boom switches OFF.
5. Start the pump. Turn the Boom Switches ON.
6. There should be numbers on the **VOLUME/MINUTE** screen. Hold the (+) button. Flow should increase. Hold the (-) button. Flow should decrease. If no reading in VOLUME/MINUTE, is the pump turning and is there water present at the pump inlet?
7. If water is being pumped, but no reading on the Commander VOLUME/MINUTE, check the flowmeter connections and the Flow Cal value.

Proceed to STEP 4, ONLY when you can increase and decrease the VOLUME/MINUTE reading using the "+" and "-" keys on the Commander II.

Now, we will operate the Commander II in **AUTO Test Speed mode**.

Step 4

1. Enter calibration by pushing and holding the **CAL** button until CAL is displayed on the Commander II and the red light is on.
2. Push the AUTO/MAN button until **AUTO** is displayed, indicating you are in automatic mode.
3. Turn the dial to **Test Speed** in the bottom right corner. Use the + key to adjust to your field operating speed.
4. Turn the dial to **RATE**.
5. Turn Run/Hold switch on Commander II to **RUN**.
6. Turn Boom Switches ON.
7. You should now be dispensing liquid as if you were traveling through the field at the test speed you entered. The RATE should lock on to your Target Rate. You can turn the dial to SPEED and change the speed to see if the system locks on the rate at the new speed. Turn dial to RATE to see if it is on the Rate. Turn dial to PRESSURE to see what the pressure is.
8. Turn Boom Switches OFF. Hold CAL button until red light goes out.

Proceed to the next step when liquid application is verified in AUTO mode with Test Speed operation.

Finally, we will verify the Commander II Speed is correct.

Turn the dial to **SPEED**. Drive the tractor. Compare the Speed on the Commander with the tractor speed. The Astro speed sensor is probably more accurate than the tractor speedometer. *If using the Vansco Radar Sensor,*

verify the Distance/Speed setting using the procedure at the bottom of page 35 in the manual.

In general, if the speed on the Commander II is too slow, increase the Speed/Distance Cal number.

If the speed on the Commander II is too fast, decrease the Speed/Distance Cal number.

Step 5

When your Commander II Ground Speed is correct you are ready to verify regular field operation.

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