



Owner's Manual

Legacy Series

305 LP, 500 ASM, 750 ASM,
1000 ASM, 1600 ASM,
Automated Power Bundle



Voigt Smith Innovation, LLC
23371 610th Avenue
Madison Lake, MN 56063

IMPORTANT: READ THIS MANUAL IN ENTIRETY BEFORE OPERATING

Warranty Notice:

This equipment comes with the following warranties:

- **Three year** - This equipment is powered by a Honda engine which is tested, certified and comes with a three year commercial warranty backed by Honda and any Honda certified repair center.
- **One year** - All other parts* on your equipment are warranted against defects through VSI for one year from the date of purchase. (*NOTE: There is no warranty on pump seals as these are normally caused due to improper use or running pumps dry.

This warranty is a parts and technical support only warranty and does not include labor.

Corrosion related issues including wire connections are not qualified warranty items.

We are not responsible for loss of product or productivity due to failures of any kind

In order to preserve your warranty status please go through the warranty registration form and procedure. This warranty registration was provided when the equipment was purchased. If you cannot locate this form please contact sales@vsinnovation.com or find the warranty registration form at:

<https://vsinnovation.com/pages/vsi-product-warranty-and-registration>

Failure to register this warranty may result in a denied claim due to improper setup, use or installation of equipment.

Your warranty will be void due to abuse, misuse, neglect, alteration, modification, improper handling, improper installation, improper maintenance or failure to follow the instructions and procedures in the VSI manual and warranty registration form.

Table of Contents

Introduction	5
Important Information	5
Charge Battery Before First Use	5
Pumps Seals and Running Your Pump Dry	6
Safety While Operating	6
Parts Overview	6
Total Control	6
Flowmeter	6
Proportional Valve	7
Filter	7
Pile Driver Boom	7
Emergency Back Up Harness	8
Installation and Setup	8
Installing Your Sprayer	8
Assembling Your Pile Driver Boom	8
Installing Your Boom Camlocks (Initial)	9
Boom Tip Positions Small, Medium, Large	9
Small	9
Medium Nozzles	9
Large Nozzles	10
Center Boom Connection Points	10
Pre Treatment Fan Nozzle	10
Center Boom Pipe Connection	10
Operating Procedures	11
Control Box Light Modes	11
Connecting to Bluetooth	12
Connecting to WiFi	13
Settings Tab of the App	13
Spray Tab	14
Auto Mode	14
Manual Mode	14
Hose Tracking	14
Ice Buster	15
Run/Hold	15

Boom Section Control	15
ACC Tab of App	15
Throttle and Choke Control	15
Engine Start	15
Engine Stop	15
Hose Reel Rewind Control	16
Details Tab	16
Job Tracking/Reporting	16
Profile Tab	17
Maintenance	17
Before Initial Operation	17
Check Your Tank Straps!	17
Checking the Engine Oil Level	17
Adding Fuel to Engine	17
Maintenance Checks	17
Valve Positions	18
Suction Side Vs Pressure Side	18
Application Mode	18
Self-Fill Mode	18
Pump-Out Mode	19
Time to Spray!	19
Starting Your Engine	19
Application	20
Auto Mode Display	20
Manual Mode Display	20
Remote	21
Pairing the Remote	21
Remote Overview	21
Remote Functions	21
Smartphone Connected and Remote	21
Only Remote Connected	22
Emergency Back Up	22
Charging the Remote	22
After Season Care	22
Care and Maintenance	22
FAQs/ Troubleshooting	23
Potential Reason for Fuses Blowing	23

Introduction

Proper setup, installation and best maintenance practices are vital to ensure longevity of your VSI equipment.

This equipment is intended to be used by trained operators for spraying ice-control solutions on residential or commercial properties. Using this equipment improperly or for purposes other than its intended use may prove dangerous to you and others. You are responsible for operating the equipment properly and safely.

A digital version of this manual that can be accessed on the VSI Spray Control app (“Getting Started/FAQ” button on the Profile” tab).

Important Information

Charge Battery Before First Use

This equipment will heavily rely on the onboard battery. A built-in plug and onboard charger/battery maintainer are included as pictured in Figure 1 (power cord not included).



Figure 1

The batteries do not come fully charged from the factory. Before first use, plug in the equipment overnight or until fully charged.

To use the onboard charger, supply the AC port with 120v power connected to a GFCI circuit. With power supplied, select the type of battery that is currently installed on the unit (confirm the battery style on the unit by referencing the tag on the battery) by using the mode button on the charger. Once the battery type is selected the charging process will begin. Charge indicator bars are located on the battery charger. Once the green light is

illuminated, the battery has been fully charged.

To keep the battery maintained in peak condition, it is ***strongly suggested*** that the sprayer be plugged in between uses. Lead acid batteries can lose as much as 2% of their charge per day even when sitting idle.

Pumps Seals and Running Your Pump Dry

Running the motor without liquid will cause damage to the pump seal and potentially the pump housing. This is ***not*** a warranty claim.

To avoid this problem ensure to not run the motor while not having your tank valve open; refer to Valve Positions for Operating (page XX). Also avoid running your tank completely dry.

Safety While Operating

Pay attention to the road while driving and operating the VSI Spray Control app.

The operator is responsible for all actions taken while using VSI equipment.

Parts Overview

Total Control

The total control box contains actuators that control your throttle and choke. It is incredibly important to keep your choke and throttle mechanisms lubricated and clean so that the total control system can function properly. Take caution not to damage the linkage cables from the box to the engine.

Flowmeter

The flow meter on your unit is the green device inline with the plumbing on the pressure side of the pump. This vital instrument tracks the flowrate and volume going to your spray boom sections and your hose reel. This realtime reading is what tells your GPS rate control system to increase or decrease the flow rate to your boom based on your speed by opening or closing your proportioning valve (see next item). The image below shows your flow meter as viewed from the back of your spray unit. These magnetic flow meters never require re-calibration due to the use of different brine blends like a conventional turbine flow meter would.



Proportional Valve

The proportioning valve is what regulates the flow to your spray boom based on GPS speed inputs when spraying in “auto” mode or user inputs for desired gallons per minute by the user when using “manual” mode. The proportioning valve is pictured below as viewed from the back of the sprayer and clearly indicates full flow (all the way counter clockwise, 9 o clock) or closed (all the way clockwise, 12 o clock.) If your unit is equipped with a yellow proportional valve, adjust the sprayer’s PID Speed (auto servo speed) in the settings to 5.0. If your unit is equipped with a red proportional valve, adjust the sprayer’s PID Speed in the settings to 1.5.



Filter

Each sprayer is equipped with a filter right before the inlet to the pump. Inside is a stainless steel 30 mesh filter that is reusable. If you suspect it is clogged, close your tank valve and loosen the collar around the filter housing, pull outer housing off and remove the filter. Rinse clean and place back in the housing.

Pile Driver Boom

The Three Lane Boom upgrade offers the ability to spray over 30 feet wide with precision. Each section of the boom is controlled via the VSI Spray Control app by pressing the Boom Section Control buttons on the Spray tab in accordance with the boom section you want to activate/deactivate. If damage occurs to any part of your boom, contact us for replacement parts.

Emergency Back Up Harness

Your VSI sprayer comes standard with an emergency back up harness. This harness is to be used in situations where the sprayer will not function i.e, dead battery on the spray unit, damaged wiring/control box, connection or smartphone issues.

The emergency harness should be kept in the application vehicle and installed only when needed. Connect the harness to the ten pin plug located on the back of the control box and route the cable through an open window. Plug harness into the auxiliary power port (cigarette lighter) on the vehicle and plug the harness into the bottom of the remote.

If this harness is connected to the box while the power switch is on, the control box will turn off all functions and go to sleep. You will not be able to operate the sprayer with a smart device until the backup harness is disconnected.

A ten foot extension harness is also supplied and can be used when the 25 foot harness is not long enough to reach the cab.

Installation and Setup

Installing Your Sprayer

Without a wiring harness running from cab to sprayer, installation is a breeze. Simply set your sprayer on the truck and strap, bolt or chain it down. Yes, it really is that simple! The units have multiple locations to either bolt or strap the unit down. Truck bodies with stainless/powder coated bodies benefit from adding rubber mats under the length of the skid to prevent the unit from sliding on the smooth surfaces.

Ensure that the unit is properly secured to the truck. VSI carries no liability for improper installation of the unit.

Assembling Your Pile Driver Boom

Your Pile Driver Boom will require bolt together assembly before use. A simple walkthrough video of this process is on our YouTube channel:

<https://www.youtube.com/watch?v=gHtMyaZNyhM>

A finished boom can be seen in Figure 2 and should be set at 20"-28" from the ground to the bottom of the boom shroud.



Figure 2

Installing Your Boom Camlocks (Initial)

A roll of 1" hose and a bag of barbed camlock parts and hose clamps is included with each spray unit as shown in Figure 3. A simple walkthrough video of installing the boom cam locks is on our YouTube channel: www.youtube.com...



Figure 3

Figure 4 shows where the hose camlock sections hook up to the equipment. While looking at the bank of 3 valves on the equipment:

Left Valve = Driver's side of boom

Center Valve = Middle of boom

Right Valve = Passenger's side of boom

Suggestion: Before cutting the roll of 1" hose for each connection, hold the hose from the valve to the boom connection to ensure it is long enough to reach.



Figure 4

Boom Tip Positions Small, Medium, Large

Small

The Small tips are the bottom ones on each end and the center fan tip, these are lower flow rate and made for the lower application rates of typical pre-treatment. These nozzles are to be used when spraying at 20-50 gallons per acre at normal speeds (2-10 mph). These tips could also be used in applications where you are post treating in very small lots, on driveways, or other low speed or low volume applications.

Medium Nozzles

The medium nozzles are designed for normal post treatment applications (60 - 80 gpa and travel speeds of 5 - 14 mph)

Large Nozzles

The post treatment tips are the top ones on each end and the central boom with a vertical camlock in the middle that sprays out of the jet nozzle holes in the stainless pipe. These nozzles are to be used when spraying 90 -120+ gallons per acre or when pre-treating at higher speeds than a typical parking lot such as roadways or large logistics centers where speeds commonly exceed 25 mph.

Center Boom Connection Points

Pre Treatment Fan Nozzle

There are two available connection points on the center boom, the center fan nozzle and the center boom pipe.

The center fan nozzle is designed to be a pre-treatment tip only. The design of the tip allows it to cover slightly more than the width of the truck and provide an even coverage of the application surface.

Tip - It is very common for people to want to pre-treat with the jet nozzle holes because they see local roadway and highway departments leaving "lines" of brine on the road. The reason they do

this is because of the high rate of speed at which they travel on roadways requiring a heavier jet pattern to not get diluted in the wind, plus they have very high traffic levels from cars to track the product evenly. Parking lots are different. Lower speeds and less traffic means that a fan tip is preferable, which is why our center pre-treat nozzle is a fan.

If you run the small, outside pretreat nozzles with the center jets, your application rate WILL NOT be balanced and your outer nozzle performance will suffer due to the center jets robbing a majority of the liquid pressure/volume from the outside nozzles.

Center Boom Pipe Connection

The center boom pipe connection utilizes the 1" stainless steel pipe inside of the boom shroud. This connection point will be used for all post treatment applications and high speed pretreatment applications. As stated before, the center boom will not be balanced when using the small side nozzles, but this configuration can be used in areas where very slow post treatment application is required.

Normal post treatment application will consist of the center boom pipe and medium side nozzles.

Operating Procedures

Control Box Light Modes

The computer inside the control box will display different light modes depending on the operation status/ battery level of the sprayer. Common light modes include the following:

- Solid Green, Yellow, or Red

If the light is solid one of these colors that means the Computer is on but is not connected to Bluetooth. The color of the light indicates the battery voltage that the computer is currently reading from the battery. Green is close to full charge, Yellow is medium charge, Red means the battery needs to be charged.

- Breathing Green, Yellow, or Red

If the light is breathing one of these colors that means the Computer is on and connected to a device with Bluetooth. The color of the light indicates the battery voltage that the computer is currently reading from the battery. Green is close to full charge, Yellow is medium charge, Red means the battery needs to be charged.

- Flashing Green, Yellow, or Red

If the light is flashing one of these colors that means that one or more of the booms is on or Hose Reel Tracking is enabled. The color of the light indicates the battery voltage that the computer is currently reading from the battery. Green is close to full charge, Yellow is medium charge, Red means the battery needs to be charged.

- Flashing Orange

If the light is flashing orange this means the control box is saving data to the computer. **DO NOT UNPLUG THE CONTROL BOX WHEN THE ORANGE LIGHT IS FLASHING OR DATA CORRUPTION CAN OCCUR.** This happens when a user disconnects a smart device connection, whether the user chooses to disconnect or the smart device goes out of range. The control box also saves data when the power button is turned off. If the power button is turned off the computer will flash orange while it saves data and then the light on the computer will turn off.

- Flashing Magenta

If the light is flashing magenta that means it is receiving a firmware update. It is normal for the light to appear solid for a short period of time and flash at different rates while the firmware update is being downloaded. Once the process is finished the computer will restart and

the user will need to reconnect to the sprayer with their smart device.

- Flashing Green, Then Breathing cyan

When the user chooses to connect to WiFi the computer will start flashing green as it tries to connect to the WiFi network chosen. When the network is connected the light will flash cyan until it is able to establish a connection with the cloud. Then when it connects to the cloud it will start breathing cyan. If there is a firmware update available the computer will start downloading it and the color will change to Magenta. If the computer does not change from flashing green it could mean that an incorrect password was entered, or the network uses some security measures that don't allow the computer to connect to the internet.

- No Status LED

If there is no light coming from the computer it could be the following scenarios:

- Power button is turned off and the computer is off. Turn the power button on to turn the computer on.
- If the light goes away immediately after powerup, check if the backup harness is plugged into the sprayer. If the backup harness is plugged in, the computer will sense that and shut

down all functions, save data, and go to sleep.

- If the light never turns on check the fuses underneath the battery cover to see if there is a blown fuse.

Connecting to Bluetooth

To begin using your VSI sprayer you must first download the VSI Spray Control App from either the Google Play store or the Apple App store. Search for "*VSI Spray Control*" and download the app with our logo on it.

Once downloaded, open the app and read the liability prompt. Press OK and go to the Details tab at the bottom. Make sure your sprayer engine key is in the "on" position. Your switch can remain in this position all the time without draining the battery. Now turn on the power switch on the control box and you should see a blue light appear on the switch. You can now press connect on your phone or tablet. You will be shown all sprayers available within range. Select the sprayer from the list that matches the serial number of the one you are attempting to connect to. (The serial number can be found on the side of the control box.) You have now connected to the sprayer and have control over the unit. No other devices can connect to a unit that is actively paired to a device. If you want to name it to match the truck it is in or name it for

the operator instead of the serial number you can do so on the details page.

Connecting to WiFi

Next, go to the “profile” page of the app and connect your sprayer to the nearest WiFi to where it will be stationed or most often parked. To save WiFi credentials, connect your phone to the sprayer, and select ‘Scan for WiFi Networks. A list of available networks will be displayed. Select the network you wish to connect to and enter the credentials for that network. You will be prompted with either a successful connection or a failed connection. The system uses WiFi to search for new firmware releases that may come out to increase performance and reliability of the system. The sprayer will search for active WiFi networks once per day for 5 minutes. If an update is available and the unit is in range, the system will automatically update.

You can also do a prompted connection at any point in time by following the same connection steps.

Settings Tab of the App

Most of the app settings should be left alone unless you’ve consulted with a VSI employee first.

Tank Size - The tank size is pre-programmed to the size of the

sprayer, except on Automated Power Bundles as we do not know which tank size you plan to connect.

Tank Level - The Tank Level will need to be reset every time your sprayer is filled up. To reset the tank level, simply press the reset button and then select Save before exiting the Settings tab. An operator can also adjust the volume using the up and down buttons if a different volume is desired.

Brine Blend - Brine blend can be set to whatever blend the sprayer is running in order to track this information on your job reports for job costing/margin tracking.

The Boom Widths, Minimum Flow, Servo Speed, PID Speed, and Flowmeter Cal settings should be left alone unless otherwise noted.

Ice Buster - The Ice Buster setting allows you to set the desired application rate when using the Ice Buster mode on the Spray tab of the app.

If for some reason your settings have been changed and you don’t remember what they need to be at, you can reset them to factory settings at the bottom of the screen.

Make sure that after any settings changes or tank reset you hit the “Save” button at the bottom right of the screen

Spray Tab

The Spray tab of the app is where all functions of the application process are controlled.

Vital system information is displayed on the top line of the app. This information includes the sprayer name/serial number that is connected, system voltage, ground speed, satellite connecting, heading, and the ambient temperature.

Below the heading bar you will find the switches to signal your LED work lights and strobes.

The option to switch between Auto and Manual operation is directly to the right of the work light controls and are described below.

Auto Mode

When in Auto mode, you will be able to change the App Rate, which always defaults to 80 GPA (Gallons Per Acre.) The plus and minus buttons will adjust the GPA by 5 up or down for each press. The sprayer will automatically control the flow of solution to apply the desired application rate based on travel speed and spray width.

The system will automatically close all valve sections when the application vehicle has come to a complete stop

and open all signaled valve sections once the vehicle begins moving again.

Tip - If the application vehicle is not moving the valves will NOT open when signaled in Auto mode. This is normal and yields no cause for concern.

Manual Mode

When in manual mode, the readout changes from App Rate to GPM (gallons per minute). By holding open or close, you will be allowing more or less liquid GPM to flow through and be applied out of the selected boom sections. Manual mode is most often used in tight areas where slow application speeds are required. By using manual mode, the user is able to set a higher flow rate to help cut through snow pack and ice. The valves can be opened at any time in manual mode whether the application vehicle is stationary or moving.

The three buttons below are Hose Tracking, Ice Buster, and Run/Hold.

Hose Tracking

Hose Tracking is selected when using the hose reel and will track the gallons applied through the hose. When selected, the engine will automatically adjust to 100% throttle and the proportioning valve will fully open allowing the most flow to be present when using the hose reel. When deselected, the engine will return to the previously set engine speed. It is

recommended the user hits this button everytime the hose reel is used, even if you are not tracking the amount of liquid applied.

Ice Buster

The Ice Buster button is used when you are spraying a steady rate but have a section of snowpack, ice or a high priority area that needs a higher application rate for a short stretch. By pressing this button, your boom sections will put out a predetermined rate that will be higher than your standard application rates. This predetermined rate can be changed in the settings menu. Once deactivated, the system will return to the set rate in auto mode.

Run/Hold

Run/Hold is a new feature for 2021 and replaces the Boom Lock feature. The Run/Hold button will activate or deactivate all boom sections that are currently activated. This is especially useful in situations where all three boom sections are being used and need to be turned off at the same time. Simply press the Run/Hold switch to shut off all booms and press again to turn all sections back on. This can be used for any boom configuration. You may also choose to put the booms on Hold while traveling between jobs to prevent the sections from accidentally being activated.

Boom Section Control

At the bottom of the screen you will find your Boom Section Control buttons. These control your left, center, and right nozzles.

ACC Tab of App

Throttle and Choke Control

The throttle and choke are controlled by selecting the adjustment tabs on the Accessory tab in the app. Choke positions of 0% (off), 50% (half), and 100% (full) can be selected. Throttle positions function in the same way, 0% (idle) through 100% (WOT).

Engine Start

The Honda engine will be started using the Start button on the app. Hold the button down to engage the starter. Once the engine is running, remove your finger from the button.

Tip - The starter will stay engaged for 5 consecutive seconds and will automatically disengage. If cranking times of longer than 5 seconds are required, activate the starter button again.

Engine Stop

The Killswitch button turns off the engine on the spray unit. HOLD the button

down until the engine has stopped running to shut down the engine.

Hose Reel Rewind Control

The bottom button on the ACC tab of the app gives you the option to rewind the hose reel by using your tablet or smartphone. There is also an option to disable this feature while spraying so that the hose reel is not accidentally activated.

Details Tab

The Details tab of the app allows the user to connect to the sprayer. This is indicated by the Connect button located at the top right corner of the screen. The Details tab also contains the job tracking, event tracking, season tracking, as well as the total amount of liquid applied and engine hours.

Job Tracking/Reporting

The first option you will see is the built in job tracking display. This can be used when information is needed specific to billing for work completed. To start tracking a job select Start. You will be asked to name the job if you prefer and then select OK.

All information will be recorded while spraying or using the hose reel. Once the job is completed you can select to

stop the job. The job will then be saved until the user is ready to submit the report.

When the user selects the Submit Report function, the user will be prompted to supply an email address to which the report will be sent. Additional notes may be added at this time as well. The report will be emailed as a CSV file and can be opened to view all recorded data.

Event

Event tracking can be useful to record information pertaining to a single event.. This can be helpful when tracking production times and efficiencies of vehicles and operators. The Reset button is used to clear all information

Season

Season tracking functions the same as event tracking. More information will be displayed such as average GPA (gallons per acre). The information is able to be reset using the Reset button.

Tip - The Event and Season tracking will continuously count unless the tracking is Reset.

Profile Tab

The profile tab is used to search and connect to WiFi networks. Reference the Connecting to WiFi section of the manual. The Profile tab will also display the Product ID, Product Version, and app version that are currently configured and installed.

Product version relates to the firmware version of the sprayer and will be used frequently in diagnosing and troubleshooting. VSI customers will be notified when new firmware versions are available for download.

Maintenance

Before Initial Operation

Check Your Tank Straps!

Your VSI Sprayer is equipped with stainless steel tank bands. It is important to frequently check the bands to ensure the straps are remaining tight. If a band can move freely by hand it should be tightened using the side and top adjustment bolts. Take care not to over tighten as tank damage may occur.

Checking the Engine Oil Level

Your VSI sprayer is equipped with a GX200 Honda engine. Checking the engine oil follows the same procedure as all small engines. Remove the dipstick located on the lower part of the block and check the oil level. The oil should reach the F on the dipstick. If the oil is low add oil through the same dipstick hole.

Adding Fuel to Engine

To add fuel to your Honda engine, remove the fuel tank lid and fill until full. Take caution to not overfill the tank. It is recommended to run a non oxygenated fuel in these sprayers or a stabilizing agent if ethanol fuel is used.

Maintenance Checks

The Details tab on the app will show the total gallons sprayed and engine hours of the spray unit. These numbers are retained by the control system on the sprayer and reflect the usage of the system. It is recommended to change the engine oil every 20 hours or less if used in very humid climates or when the unit frequently travels down the road with the engine running. It is important to keep the oil clean from contaminants such as moisture and salt.

It is also important to keep your sprayer clean of all salt residue. Frequently washing your sprayer will prolong the life of all of the components.

Valve Positions

Proper valve positioning is vital to your sprayer working correctly for each given task.

The images on the following pages indicate proper valve positions for different functions of the sprayer.

Suction Side Vs Pressure Side

Best rule of thumb is that any valves on the unit entering the lower part of the pump housing are suction side valves and any valves high up or connected to the top side of the pump are pressure side valves.

Application Mode

Your valves are to be in this configuration when you are applying liquid de-icer.

Tip - The most common error that is made in application mode is that the agitation valve (on the upper right of the image) gets left open. This will rob a majority of the pressure and liquid flow for your system and won't leave enough

for your sprayer or hose reel to work correctly.

Tip - The next most common mistake is that the tank valve (back left of image) gets left closed. With no liquid getting to the pump, your system won't work at all and eventually you will burn out your pump seal



Self-Fill Mode

Your hose must be connected to the bottom left camlock and your valves need to be in the configuration shown when you are using the pump on your sprayer to self fill from a holding tank. A common mistake made here is that the tank valve (back left) gets left open, this won't allow the pump to prime as it will be sucking air from the tank. The other common mistake when self filling is that the Agitation valve (top right) gets left closed. The system will still fill this way as the valve has a hole that allows constant flow through the valve even when closed (to protect the pump from

being deadheaded) but it will take an exceptionally long amount of time through that bypass. If the tank you are pulling liquid from is lower than the height of the pump, you may have to prime the pump by unscrewing the top cap on the pump and allowing the air out of the system. In some cases you may need to fill the pump housing with liquid to purge the air fully. Most of the time when filling from a bulk storage tank, this is not an issue, especially if the fill hose is pre-charged with liquid.



Pump-Out Mode

Your tank must have liquid in the tank. The hose must be connected to the top right camlock and your valves need to be in the configuration shown when you are using the pump to transfer liquid from the sprayer to another tank outside of the sprayer.

Tip - One common mistake commonly seen is that the bypass valve (top right) gets left open. This will still allow the

pump-out to work, but it will be substantially slower than if it is set up properly as shown.



Time to Spray!

Now that you understand the main components, app, and operation of the sprayer it is time to get started!

Starting Your Engine

Starting your Honda engine uses the same principles as manual starting a unit not equipped with Total Control. With your phone connected to the sprayer select the Accessories tab. If the engine is cold, select 100% choke. Allow a few seconds for the choke actuator to move to full choke position and press the starter button. Once the engine is running, move the choke position to 50% throttle and allow the engine to warm. When the engine is warm, the choke can be set at 0% and the engine can be throttled up to the desired engine speed. Normal

application will require that the engine be at 75% or 100% throttle.

Application

Now that the engine is running, application can begin! Select the Spray tab on the app. Take a few moments to ensure that the battery voltage is displayed in green and that satellite connection has been established.

Select the mode that is desired (Auto/Manual). If Auto mode is selected, verify your application rate. Changes can be made using the +/- keys.

If manual mode is selected a boom section must be open in order to see the flow read out. Changes to flow can be made by using the Open/Close keys.

Begin moving and signal the desired boom section(s) to open. You will see liquid flowing from the boom.

Auto Mode Display

While Spraying in Auto mode, the display of GPA will be showing the instantaneous rate which is being applied. This number WILL change as travel speed increases or decreases. The GPA will be locked to the set rate under normal conditions. You will see the flow to the boom increase and decrease as the speed changes,

especially on the boomless nozzles spray pattern.

Continue spraying until the desired area has been covered.

Manual Mode Display

As stated previously, the manual mode will display the GPM (gallons per minute) flowing out of any boom section. To set the GPM, open the desired boom section and use the +/- keys to change the flow rate. The sprayer will hold this flow rate until there is a manual change to the flow rate.

The rate in GPA is also displayed to the left of the screen. This can be helpful as an instantaneous readout of what is being applied will be shown. Use this to gauge the flow rate (GPM) that you desire. Application rates (GPA) of 250+ are unnecessary and the flow rate could be reduced.

Continue spraying in Manual mode until the desired area is covered.

Tip - You can switch between Auto and Manual mode at any point during the spraying process. If the user is going from Auto to Manual mode the sprayer will hold the last position of the servo and the flowrate (GPM) will be displayed.

If the user is switching from Manual mode to Auto mode, the sprayer will adjust as needed to match the set application rate (GPA).

Remote

Your VSI sprayer comes standard with a wireless remote which can be used to control many functions on the unit. The remote also has several back up features incorporated into the design which allow the unit to function when control equipment fails.

Pairing the Remote

The VSI remote must be paired with the sprayer. The process for pairing is as follows

1. Turn on the remote by pressing and holding the power button. A light will be displayed which will indicate the charge level of the remote. Green (Full) Yellow (half) and Red (time to charge!).
2. With a smartphone or tablet connected to the sprayer go to the Profile page on the app and select Scan for Wifi Networks. An option to Pair Remote will be displayed. Select this option and follow the onscreen instructions.
3. The app will ask you to hold the Run/Hold button on the

REMOTE. Hold down the button for 5 seconds and the pairing will be verified. If pairing fails, return to step one.

Once the remote is paired it will be connected to the serial number of the sprayer used to connect. Remotes can be interchanged by going through the outlined three steps.

Remote Overview

The remote controls many of the same features as the app. With the remote, you are able to control boom sections independently, use the Run/Hold function, control engine speed and choke position, and rewind the hose reel.

Remote Functions

The remote operates in three different configurations; smartphone or tablet connected to sprayer and remote, only remote connected to the sprayer, and with the wired emergency backup.

Smartphone Connected and Remote

With a smartphone connected to the sprayer the remote simply replaces the need to use the touch screen on your device. This is preferred by most users as it gives a tangible feel of turning

boom sections on and off. Normal use of the smartphone and remote consists of the phone or tablet mounted on a holder in the vehicle to monitor the spray display and the remote being used to signal boom sections and engine control.

The display on the Spray tab is identical when using the remote or only the smartphone/tablet.

Only Remote Connected

The VSI remote is able to control the sprayer in situations where a smartphone or tablet are not connected. In this configuration the remote will default to 100 GPA and function in auto mode.

Emergency Back Up

In an emergency situation (dead battery on spray unit, damaged components etc) the emergency back up harness will be plugged into the bottom of the remote. *Reference the Emergency Back Up Harness previously discussed in the manual for installation instructions.* The remote will signal the three boom sections along with the throttle and choke on the engine. All other functions are disabled.

Charging the Remote

The remote uses a USB C (supplied) to charge the battery. If a yellow/red light is illuminated, the remote should be charged. The charging plug is located on the top of the remote under the rubber cover. Plug the remote in and charge until the green light is displayed.

Tip - The remote will automatically shut down after 15 minutes of inactivity to conserve battery life.

After Season Care

Care and Maintenance

Proper care and maintenance is essential to the longevity of the sprayer. Be sure to wash the sprayer after use, ensuring that all salt and road spray are removed. Make sure the choke, throttle, and other engine components are sprayed down with a penetrant and lubricant product like Fluid Film, JB-80, or WD-40. Follow recommended oil, filter, and spark plug replacement intervals as recommended by Honda.

After the season is complete, be sure to rinse out your sprayer and run fresh water through the entire system to wash out any salt residue. Use dielectric grease on all connection points and cap them. Add stabilizer to the fuel tank and

run the motor to ensure proper off season storage of fuel.

Tip - The drain plug located on the bottom of the pump can be removed to drain excess water from the pump during storage. This has shown to increase seal life.

CAUTION - If the unit is rinsed with water it should be noted that the system WILL freeze if an antifreeze solution is not added. RV antifreeze is a cheap insurance and can be added/pump through the plumbing after the system has been flushed. Frozen components are NOT covered under warranty.

FAQs/ Troubleshooting Potential Reason for Fuses Blowing

If you have fuses blowing the following could be common reasons for that happening-

-Your battery voltage has dropped too low due to lack of charging, this causes higher amperage draw and blown fuses. Charge your battery regularly to avoid this.

- When rewinding the hose reel if the hose gets caught underneath a tire or hung up on an object it might blow the fuse. Take care to avoid obstructing the hose when rewinding.

Voigt Smith Innovation LLC

150 East Sharon Street

Le Center, MN 56057

www.vsinnovation.com

Main Office: 507-252-3033

Email: sales@vsinnovation.com