

VIPER



Quick Reference Guide Version 2.08

VIPER

Basic Startup

1. Press the Power button to turn on the Viper system.



Viper Do's and Don'ts

1. **Do** have a flashdisk in the Viper at all times, including for Power-on.
2. **Don't** remove the flashdisk when the Viper 2 program is running.
3. **Do** have the Viper serial number and firmware revision available when calling for technical assistance. It is best if the user is in the machine and in front of the Viper when calling for tech support.
4. **Do** read the manual in its entirety before using Viper.
5. **Do** power the DGPS receiver and the Raven console or CANBus system before powering Viper.
6. **Don't** turn Viper off when in a job, without properly closing the job first. If Viper loses power when in a job, job files will not be saved and the associated files will be corrupt.
7. **Don't** connect Viper to a switched source. Always connect to a battery or other unswitched source.

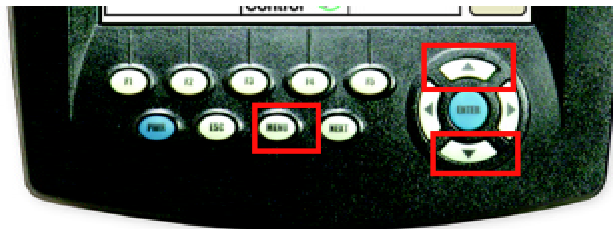
Backlight Adjustment

Increase Intensity

1. Hold the **Menu** button and press the **Up** arrow key.

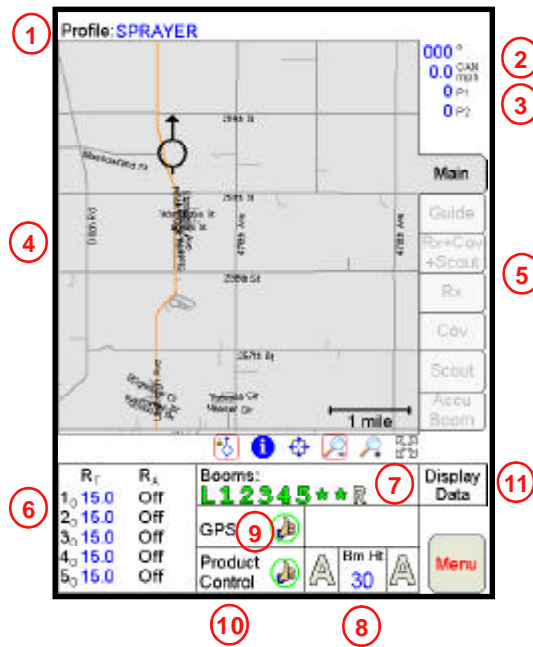
Decrease Intensity

1. Hold the **Menu** button and press the **Down** arrow key.



Main Screen Areas

See the screen below and the corresponding numbers on the next page for a description of each screen area.



1. **Profile** - The machine profile contains configuration settings for specific vehicles, when created by the user.
2. **Current Heading** - The current heading of the vehicle in compass degrees.
3. **Speed** - The current speed of the vehicle. CAN or GPS.
4. **Map Area** - Information that is associated with the current tab.
5. **Tabs** - Used to access the features, functions, and screen displays for the Viper console. Press a tab to access.
6. **Application Rates** - Target Rate (R_T) and Actual Rate (R_A). Press in this area to set or change rates (Available for CAN systems only).
7. **Booms** - Booms turn green when on, gray when off. Press in this area to configure AccuBoom Control.
8. **AutoBoom** - A's turn green when on, gray when off. Background turns red if there is an error condition. Press in this area to configure AutoBoom Control.
9. **GPS Status Indicator** - Status of the DGPS receiver displays in this area. Press this area for additional GPS information.
10. **Product Control Status** - Product Control Status of the Raven console or the Raven CAN system displays in this area. Press this area to modify Product Control settings.
11. **Display Data** - Status of CAN Tally Register. Press this area to view the CAN Tally Register data. Press the area again to hide the data.

CAN Controller Status Screen Areas

See the screen below and the corresponding numbers on the next page for a description of each screen area.

The image shows a 'CAN Controller Status' screen with various data fields and controls. Red circles with numbers 1 through 8 are placed around the screen to indicate specific areas of interest.

CAN Controller Status			
Boom Cals		Miscellaneous	
L 5	5 180	Speed Sensor	Wheel
1 180	* 0	Speed Cal	1000
2 300	* 0	Self Test	0.00
3 120	R 5	Pump RPM	0
4 300		Speed	0.0
		Units	US
Node <input checked="" type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5			
Dual Flow % 50	Flow/Shaft Alarm Off	Smoothing On	
Off Rate % 30	Vac/Bin Alarm Off	Agitator Off	
Low Tank 0.0	Decimal Shift Off	Ratio Rate Off	
Low Limit 0.0	Zero Shutoff Off		
Tank Vol 832.0	Spreader 0	Pre Set Pw 0	
Area/Hour 0.0	Valve Cal 2123	Pw Freq 122	
Vol/Min 0.0	Valve Cal 20	Ratio Rate 0.00	
Rate Cal 15.0	Pump Cal 0	Valve Delay 0.0	
Rate +/- 2.0	Min Pw 0	PWM 0	
Meter Cal 700.0	Max Pw 253		
Pressure 1 100	Application Liquid		
Pressure 2 100	Standard Valve		
Tally Registers		Current Alarms	OK








Numbered callouts on the image:

- 1: Points to the Boom Cals section.
- 2: Points to the Miscellaneous section.
- 3: Points to the Node selection row.
- 4: Points to the Tank Vol field.
- 5: Points to the Pressure 1 and Pressure 2 fields.
- 6: Points to the Application field.
- 7: Points to the Tally Registers button.
- 8: Points to the Current Alarms button.




1. **Boom Cals Area** - Current booms that have been configured. Press in this area to access the Boom Select screen and assign booms to products.
2. **Miscellaneous Area** - Various system settings and actual system readouts. Press in this area to change the settings.
3. **Data Box 1** - User configuration settings and product node selector. Press in this area to access and/or change the user configuration.
4. **Data Box 2** - More user configuration settings. Press in this area to access and/or change the user configuration.
5. **Pressure Area** - Dual pressure readouts for two different systems. Press in this area to calibrate pressure readouts.
6. **Application Area** - Valve and application types used to apply the product. Press in this area to select a different valve type and/or application type.
7. **Tally Registers** - Press this button to access the tally registers. Also displays the distance traveled by the vehicle. All values can be reset to zero.
8. **Current Alarms** - Press this button to access the current system alarms.

Screen Icons & Symbols

Map Symbols

Icon Name	Description
	When the Cursor Lock icon is active, Viper is in the auto-pan mode. Select this mode when running a job.
	The Information icon is only available when you are not running a job and you have selected the Main tab on the Viper console, or when you have selected the Scout tab when in a job.
	The Prescription icon is only available when on the Rx tab (if a prescription map had been previously loaded) or the Cov tab.
	The Pan icon is used to move screen information up/down or left/right.
	The Zoom Out icon zooms the map area displayed out to view a larger area on the map.
	The Zoom In icon zooms into the map area display and allows more detailed viewing of information contained within the display.
	The Zoom Extents icon allows you to quickly bring all map information back on to the display.

Status Symbols

Icon Name	Description
	Thumbs Up: System is normal and all operating conditions are met.
	Caution: There is a system alert. User should investigate cause of condition and correct it.
	Red 'X': The system is down and requires immediate attention. This problem must be corrected before proceeding with application.

Setting Application Rates

1. Press the **Application Rates Area**.
2. Press the **Node** you want to set/change.
3. Enter **Target Rate**. Press **Next** to change other Nodes or **OK** to save changes and close.

The screenshots illustrate the steps to set application rates:

- Top Left:** Main application control screen showing a map and various parameters. A red box highlights the 'Booms' section, which lists booms 1 through 5 with their respective rates (R₁ to R₅) and a 'Product Control' section.
- Top Right:** 'Application Control' dialog for Node 1. A red box highlights 'Node 1'. The dialog shows settings for Node 1 through Node 5, each with a 'Target Rate' field and radio buttons for 'Off', 'Man', and 'Auto'.
- Bottom Left:** Another view of the 'Application Control' dialog for Node 1, showing the 'Target Rate' field set to 15.00. A red box highlights the 'OK' button at the bottom right.
- Bottom Right:** A 'NODE 1' dialog showing the 'Target Rate' field set to 15.00. Red boxes highlight the 'Next', 'Cancel', and 'OK' buttons.

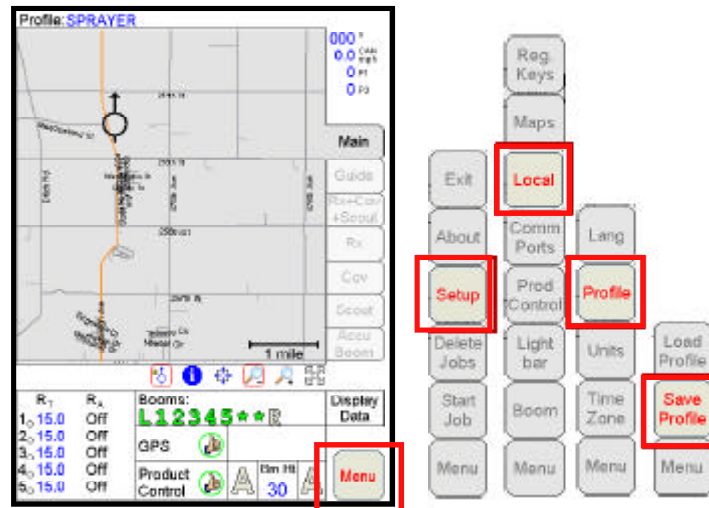


Important: You can only set Application Rates if you are using a CAN system.

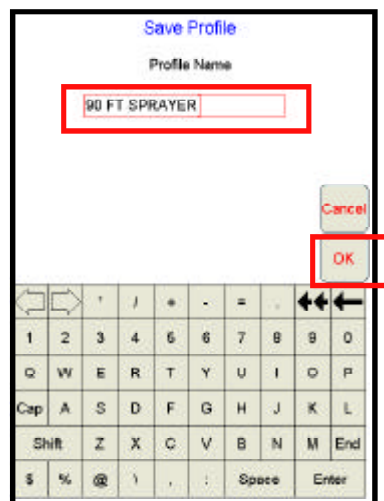
Profiles

Saving a Profile

1. Select **Menu**, then **Setup**, **Local**, **Profile**, and **Save Profile**.

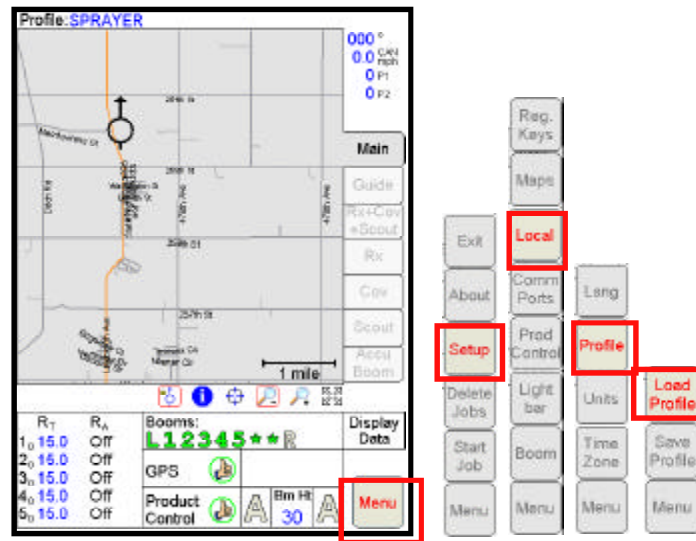


2. Type a **Profile name** and press **OK**.

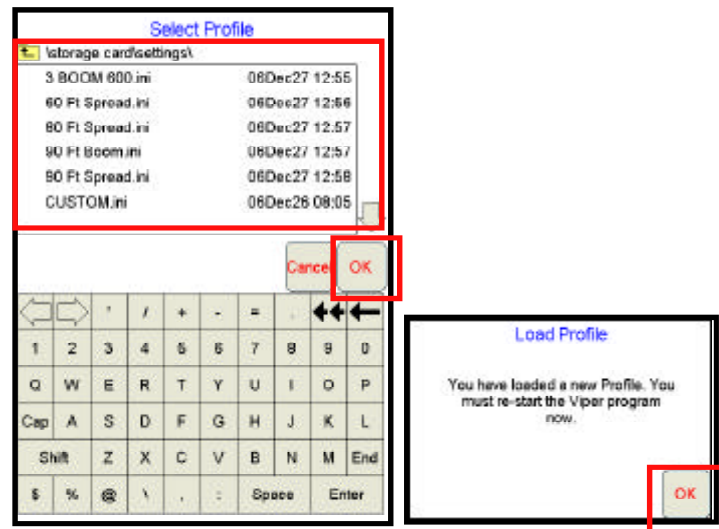


Loading a Saved Profile

1. Select **Menu**, then **Setup**, **Local**, **Profile**, and **Load Profile**.

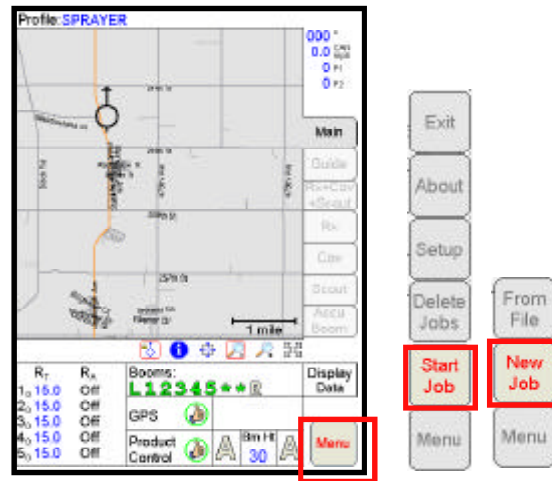


2. Select a profile from the list.

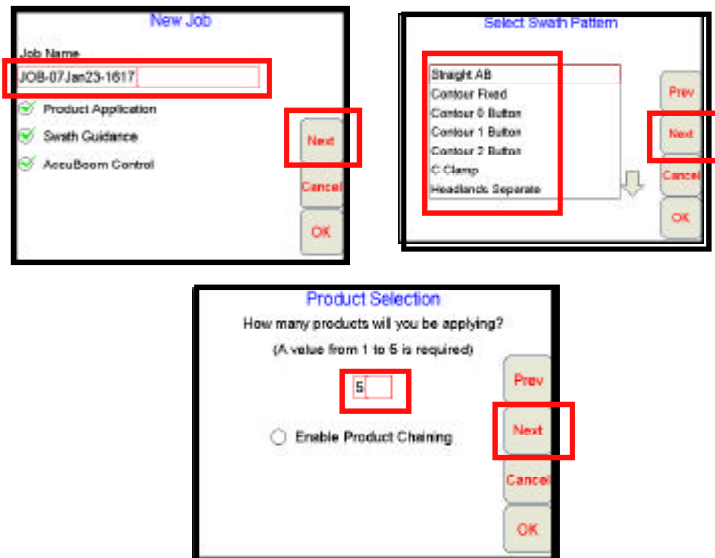


Starting a New Job

1. Select **Menu**, **Start Job**, then **New Job**.



2. Type in a **Job Name**, select a **Swath Pattern** (if the Guidance Option has been installed), and **enter the number of products**.



3. Type a **Product Name**.
4. Select **Booms** (typically 'All'), if necessary.
5. Select **VRC** (if variable rating), otherwise, click **OK**.
6. Click **Browse** to find a Rx Map file. Select the file and click **OK**.
7. Click on the **Rate Field** (outlined in red below) and click **Next**.
8. Type in a **Rate Conversion** (if necessary) and click **OK**.

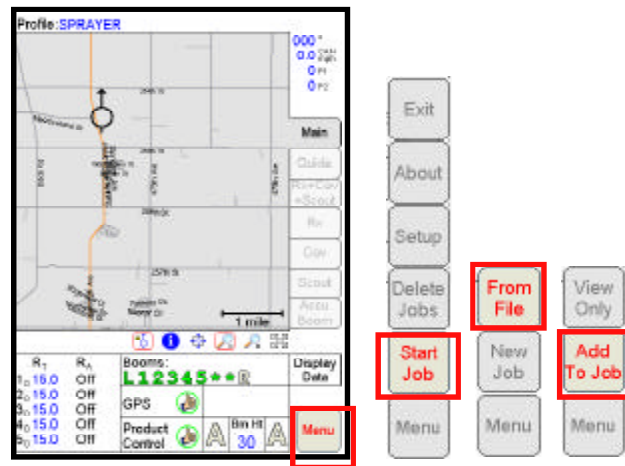
The figure consists of four screenshots of a software interface, arranged in a 2x2 grid, illustrating the steps for product setup. Red boxes highlight the specific elements mentioned in the instructions.

- Top Left: Product #1 Setup**
 - Product Name:** A text field with a dropdown arrow, highlighted by a red box.
 - Booms:** A dropdown menu currently set to 'All', highlighted by a red box.
 - VRC:** A checkbox labeled 'Using Default Colors', highlighted by a red box.
 - Browse:** A button next to the 'Prescription File and Rate Field' text, highlighted by a red box.
- Top Right: Select Rx Shape File**
 - liquid.shp:** A file name in a list, highlighted by a red box.
 - OK:** A button at the bottom right, highlighted by a red box.
- Bottom Left: Product #1 Setup (continued)**
 - Rate:** A text field at the bottom, highlighted by a red box.
 - Next:** A button on the right side, highlighted by a red box.
- Bottom Right: Rate Conversions**
 - PRODUCT 1 1.0:** A text field for entering a rate conversion factor, highlighted by a red box.
 - OK:** A button at the bottom right, highlighted by a red box.

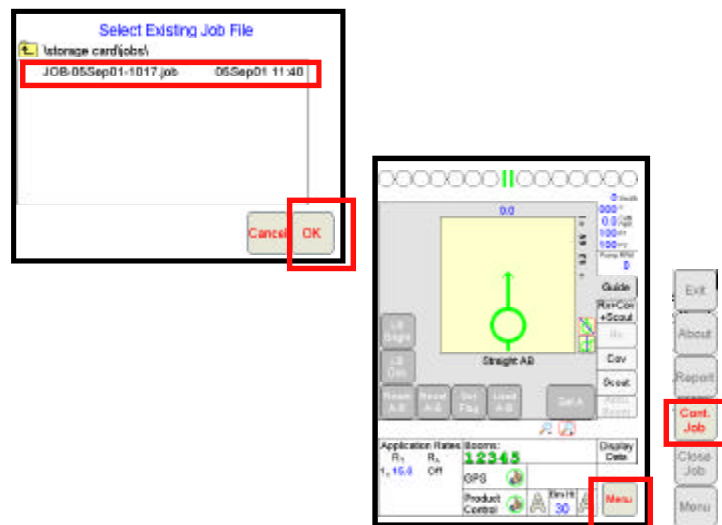
Note: The steps above are for a single product. If you have more than one product, you will be guided through the product setup for each product.

Adding to Existing Jobs

1. Select **Menu**, **Start Job**, **From File**, then **Add to Job**.



2. Select **Existing Job** and press **OK**. Then press **Menu** and **Cont Job** to un-pause the job.

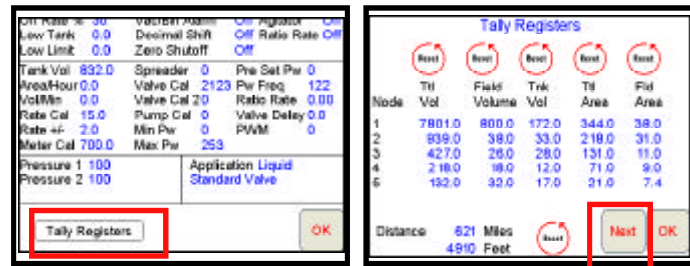


Resetting Tank Volume

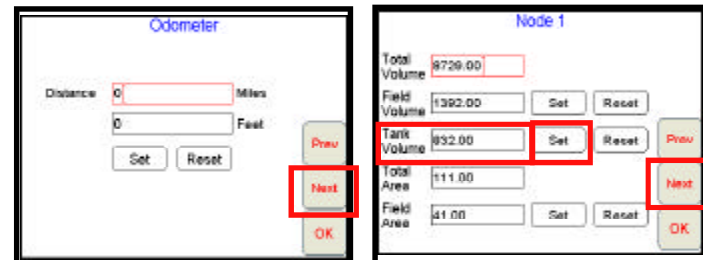
1. Press **Product Control**.



2. Press **Tally Registers**.
3. Press **Next**.



4. Press **Next** again. Type in a value for the **Tank Volume** and then press **Set**. Press **Next**. Do the same process for all nodes, if needed, and press **OK** when finished. Press **OK** again to exit the Product Control screen.



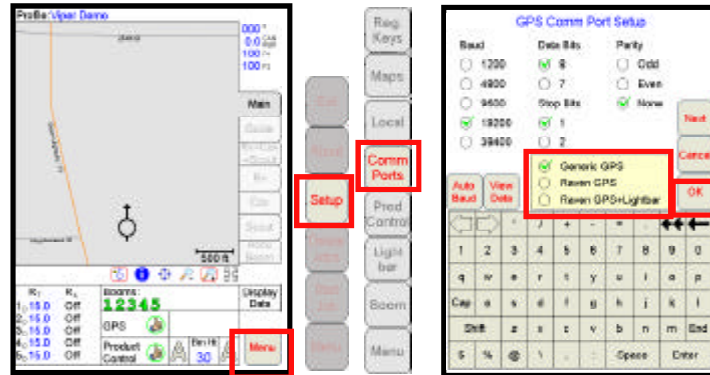
Marking a Field Boundary

1. Press the **Scout** tab and then **Record**.
2. Press **Zone**.
3. The Record Field Feature Screen Displays. Select **Field Boundary**, choose your **options**, and press **OK**.

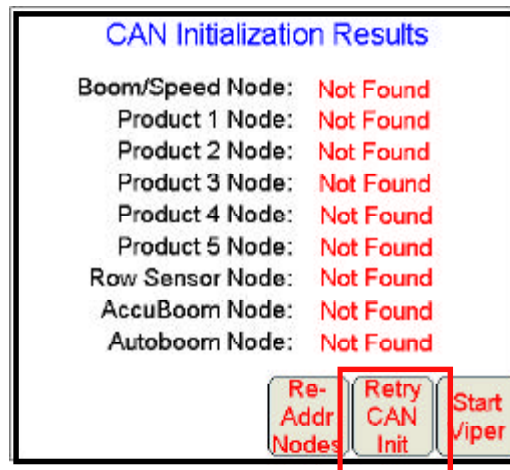


GPS

1. Select **Menu**, **Setup**, and **Comm Ports**.
2. Select the **GPS** setting.
3. Press **OK**.



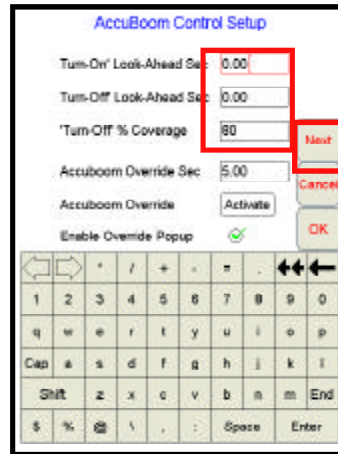
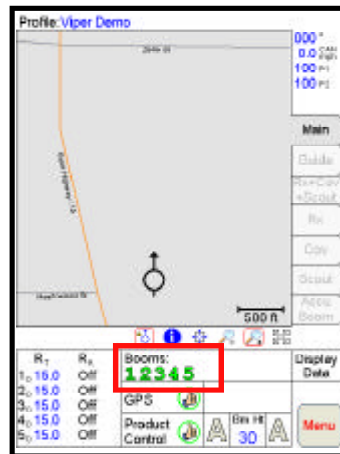
CAN Startup



If the results show 'Not Found' for all of your nodes, press the **Retry CAN Init** button. If you still have CAN issues, see Chapter 2 in the Viper Installation and Operators Manual for more information.

AccuBoom Setup

1. Press the **Booms Area**.
2. Enter **Look-Ahead** values and press **Next**.
3. Select the **booms** to control and press **OK**.



AutoBoom UltraGlide Calibration

1. Press in the center of the **AutoBoom Area**.
2. Select Autoboom **ON** and **UltraGlide** for mode.
3. Press the **Calibrate** button.
4. Press **Cal Left** and wait for left boom calibration to complete, then press **Cal Right** and wait for right boom calibration to complete.
5. Press **OK**.

Applied: 0.0a		Booms:		Display Data
R _T	R _A	1	2	3
1 _A 12.0	12.0	1	2	3
2 _A 15.0	15.0	4	5	
3 _A 15.0	15.0			
4 _A 15.0	15.0			
5 _A 15.0	0.0			
GPS		Product Control		Menu
		Autoboom Off		

Mode	Autoboom Control	Autoboom
<input checked="" type="checkbox"/> UltraGlide	Calibrate	<input checked="" type="checkbox"/> On
<input type="checkbox"/> PowerGlide Plus		<input type="checkbox"/> Off
Current Sensor Height	Current Pressure	
Left: 39 Right: 39	Left: 1263 Right: 1267	
Sensor Height	Calibration Required	
30	Please press the Calibrate button.	
Enable Left	Enable Right	OK
Enable Audible Alarm	Enable Alarm Logging	

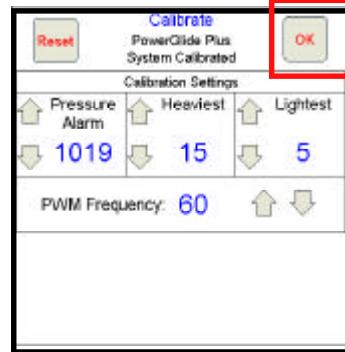
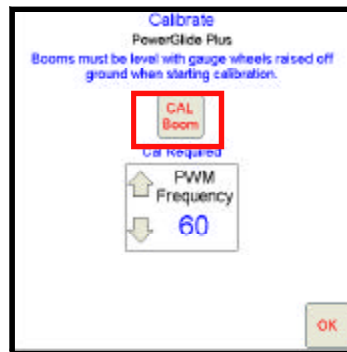
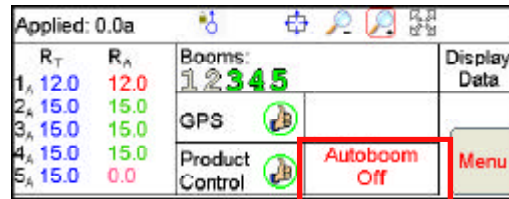
Mode	Autoboom Control	Autoboom
<input checked="" type="checkbox"/> UltraGlide	Calibrate	<input checked="" type="checkbox"/> On
<input type="checkbox"/> PowerGlide Plus		<input type="checkbox"/> Off
Current Sensor Height	Current Pressure	
Left: 39 Right: 39	Left: 1263 Right: 1267	
Sensor Height	Calibration Required	
30	Please press the Calibrate button.	
Enable Left	Enable Right	OK
Enable Audible Alarm	Enable Alarm Logging	

Calibrate		
UltraGlide		
Booms must be level with gauge wheels raised off ground when starting calibration.		
CAL Left	CAL Right	
Cal Required	Cal Required	
Sensitivity	Speed	PWM Frequency
10	8	60
OK		

Calibrate	
UltraGlide	
System Calibrated	
Reset	
PWM Frequency	
60	
OK	

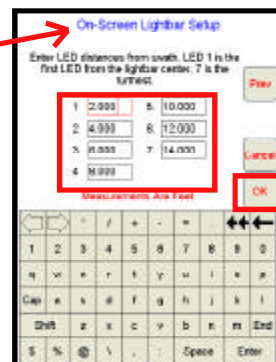
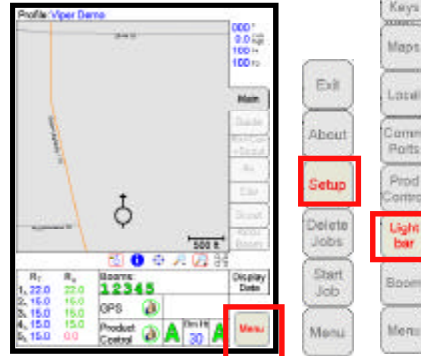
AutoBoom PowerGlide Plus Calibration

1. Press in the center of the **AutoBoom Area**.
2. Select Autoboom **ON** and **PowerGlide Plus** for mode.
3. Press the **Calibrate** button.
4. Press **Cal Boom** button.
5. Press **OK**.



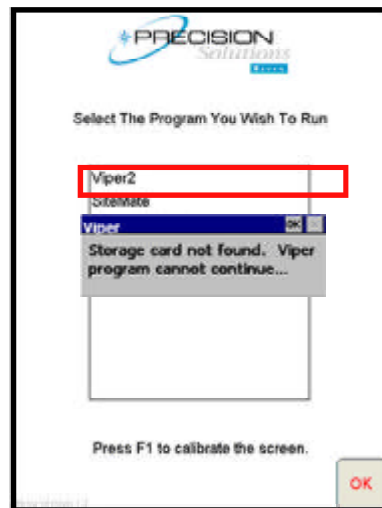
On-Screen Lightbar

1. Press **Menu**, **Setup**, then **Lightbar**.
2. Select a **Lightbar** to use.
3. Press **Next** to set it up.
4. Press **OK** when finished.



Troubleshooting

Storage Card (Flashdisk) Warning

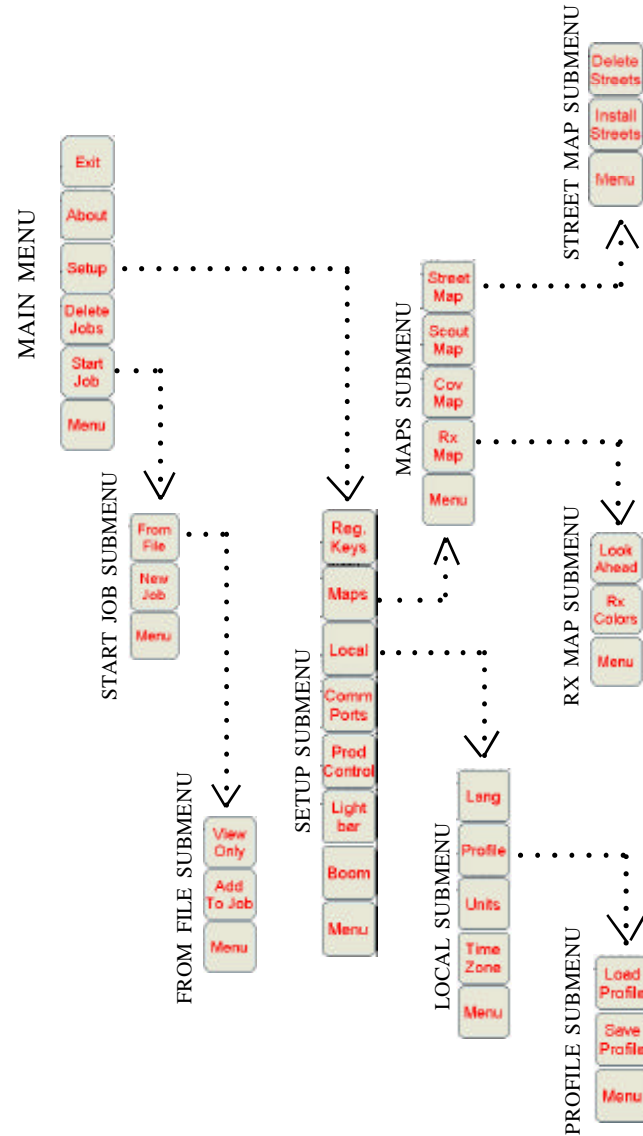


Make sure the flashdisk is inserted properly and the storage card door is closed.



Important: You must use a flashdisk with a minimum of 128 MB and a maximum of 512 MB for the Viper console. The flashdisk must be a SanDisk brand and either a full size PC card or a compact flashcard in a PC card adapter.

Viper Sub-Menu Structure



* Buttons with arrows go to sub-menus. Buttons without arrows go directly to selection screens.



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