ViperPro™

Quick Reference Guide (Software Version 3.1)

P/N016-0171-147 Rev. J 09/15 E22655

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Viper Pro Do's and Don'ts

Do have the Viper Pro 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 Pro when calling for tech support.

Do review the manual in its entirety before operating Viper Pro.

Do power the DGPS receiver and the Raven console or CANBus system before powering Viper Pro.

Don't jump start or weld on any part of the vehicle with the field computer connected. To prevent damage to the field computer, disconnect the main and auxiliary cable connectors on the back of the field computer.

Don't turn Viper Pro off when in a job without properly closing the job first. If the field computer loses power when in a job, part of the information within the job files will not be saved and the associated files may become corrupt.

Don't use sharp objects or harsh chemicals on the field computer touch screen as they may damage the display.

Don't use the USB ports to charge mobile devices such as phones, tablets, or mp3 players.

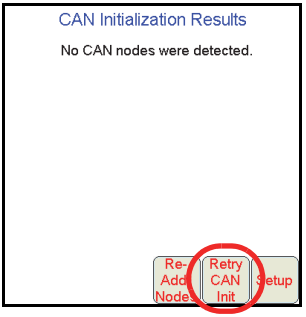
Basic Startup

1. Touch the power button to turn on the Viper Pro field computer.
2. Allow the Viper Pro field computer to power up.
3. If the Program Selection Menu displays, touch the **Sprayer/Spreader** option to begin the application management system.

Note: Refer to the *Installation and Operation Manual* for information about the other options available in the Program Selection Menu.

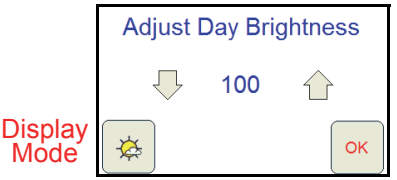
4. If the Viper Pro is configured as the CANbus controller, verify that the appropriate product nodes or control channels are displayed on the CAN Initialization Results screen and touch the **Start Viper** button to launch the Viper Pro precision application management system.

   If no CAN nodes are detected on the CANbus when the Viper Pro is powered on, touch the **Retry CAN Init** button. If you still have CAN issues, see the Viper Pro Installation & Operation Manual for more information.



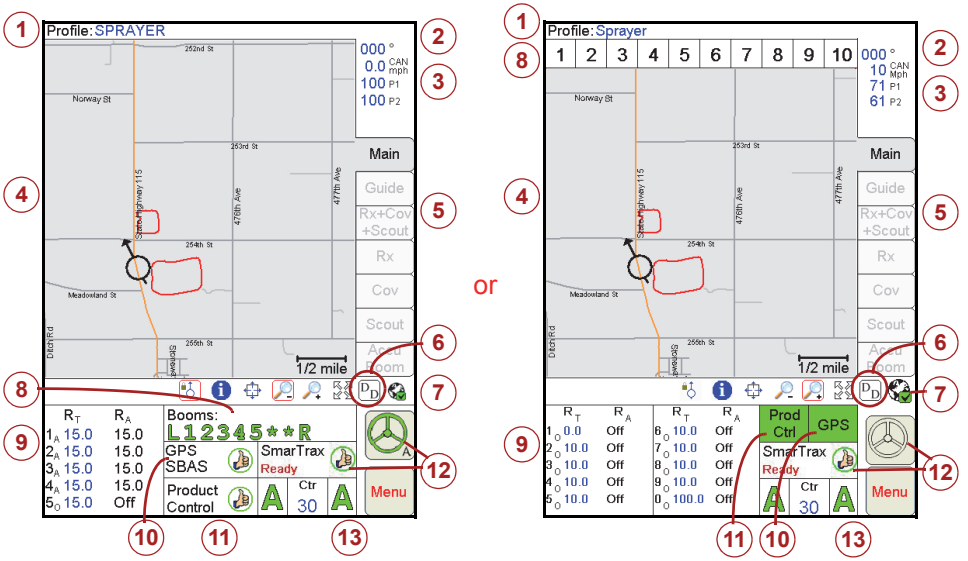
Backlight Adjustment

1. Touch **Menu**, **About**, **Adjust Brightness**.
2. Touch the display mode button to toggle the day or night modes for the Viper Pro display.
3. Touch ⇧ to increase screen intensity or touch ⇩ to decrease screen intensity.



Main Screen Areas

See the screens below and the corresponding numbered sections 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** - The map area displays information based on the selected tab. Touch the tabs along the right side of the Viper Pro display to view application information, maps, or guidance information.
5. **Tabs** - Used to access available features, functions and screen displays during a job. The Main tab is available only if a job is not in progress.
6. **Display Data and Alarm Information** - Touch the 'DD' icon to view the status of CAN Tally Registers. Touch the 'DD' icon again to hide the data.

   If an active alarm condition is detected, the 'DD' icon will be replaced with a red alarm icon. Touch this icon to display alarm information. Information for new alarms will be displayed automatically.

Note: Refer to the "CAN Controller Status Screen" section on page 4 for additional alarm display information.

7. **Wireless Status** - If a Slingshot Field Hub™ is connected to the Viper Pro field computer, the status of wireless communications is accessible by touching the wireless communication status indicator.
8. **Booms** - The Booms area displays the status of boom or implement sections. A section display character will display green when on, grey when off. Touch in this area to configure the optional AccuBoom system.

Note: Boom sections controlled by the optional AccuBoom system will display with a blue background.

9. **Application Rates** - Target rate (R_T) and actual rate (R_A). Touch in this area to set or change rates (available for CAN or serial systems only).
10. **GPS Status Indicator** - Status of DGPS messages and the current source of GPS corrections are displayed in this area. Touch this area for additional GPS information.
11. **Product Control Status** - Product Control Status of a Raven serial console or a Raven CAN system displays in this area. Touch this area to view or modify Product Control settings.
12. **SmarTrax Status Display** - If an optional SmarTrax system is installed with the Viper Pro, this area displays the status of SmarTrax system.
13. **AutoBoom Status Display** - If an optional Glide Series AutoBoom system is installed with the Viper Pro system, this area displays the status of AutoBoom system. Touch this area to enable/disable or configure AutoBoom system.

Map Tools

Map Symbols	Description
	When the **Cursor Lock icon** is active, Viper will automatically pan the display to keep the vehicle indicator on screen. Select this mode when running a job.
	The **Information icon** is available on the Main tab when a job is not in progress, or on the Scout tab during an active job. Select this icon and touch the map area to view map information.
	The **Prescription icon** is only available on the Rx tab (if a prescription map had been previously loaded) or the Cov tab.
	The **Pan icon** is used to manually pan the map information up/down or left/right.
	Touch the **Zoom Out icon** and then select the map area to view a larger area on the map.
	Touch the **Zoom In icon** and then select the map area to view a more detailed area on the map.

Map Symbols	Description
	The **Zoom Extents icon** allows you to quickly bring all map information back onto the display.

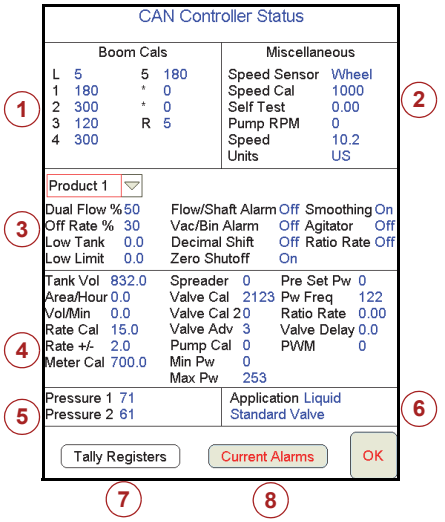
Status Symbols

Status Symbols	Description
	Thumbs Up: System is normal and all operating conditions are met.
	Caution: There is a system alert. It is recommended to investigate the cause of the condition and correct it.
	Red 'X': The system has encountered a critical error and requires immediate attention. The condition must be corrected before proceeding with application.

CAN Controller Status Screen

See the screen and the corresponding sections for a description of the CAN Controller Status screen areas.

Note: The CAN Controller Status screen shown above is only displayed if the Viper Pro is configured as the CANbus control console. Review the *Viper Pro Installation and Operation Manual* for information on configuring the field computer.



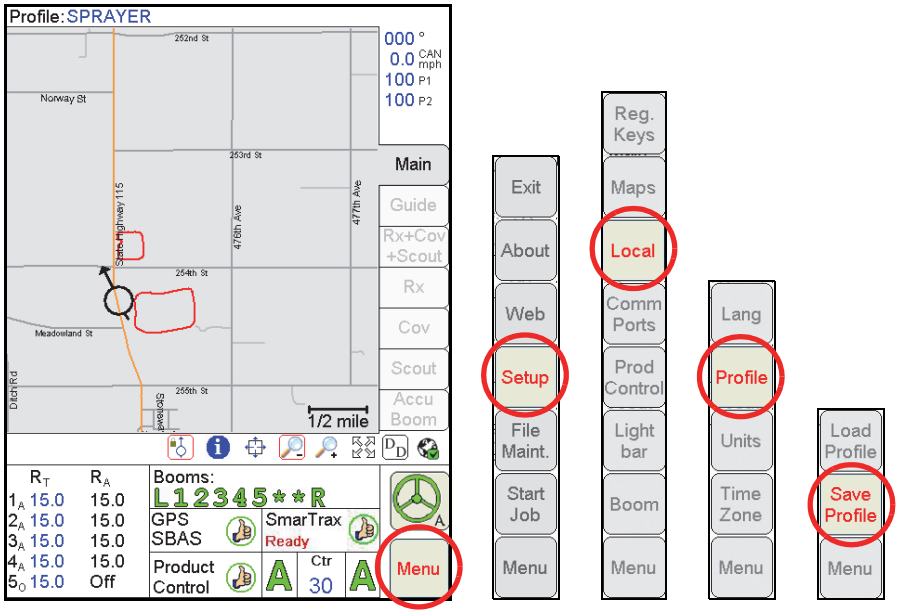
1. **Boom Cals Area** - Current booms that have been configured. Touch in this area to assign booms to products using the Boom Select screen.
2. **Miscellaneous Area** - Various system settings and actual system readouts. Touch in this area to change the displayed settings.
3. **Feature Settings Area** - The upper portion of the Feature Settings area displays the selected product node or control channel. Use the drop down selection box to select other available control channels and display the programmed channel settings.The lower portion of the Feature Settings area displays the current alarm and feature setting selections. Touch in this area to access the feature and alarm settings.

4. **Product Control Settings Area** - Displays the current product control settings for the selected product node or control channel. Touch in this area to configure product control for the selected node or channel.
5. **Pressure Area** - Dual pressure readouts for two different systems. Touch in this area to calibrate pressure readouts.
6. **Application Area** - Valve and application types used to apply the product. Touch in this area to select a different valve type and/or application type.
7. **Tally Registers** - Touch this button to access the tally registers. Also displays the distance traveled by the vehicle. All values except the total volume and total area may be reset to zero while in a job.
8. **Current Alarms** - Touch this button to view any current system alarms.

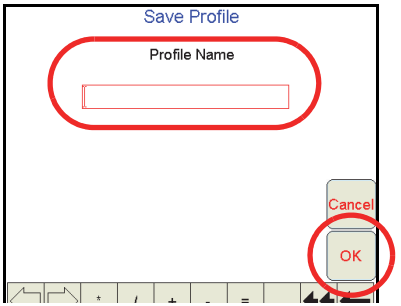
Profiles

Saving a Profile

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

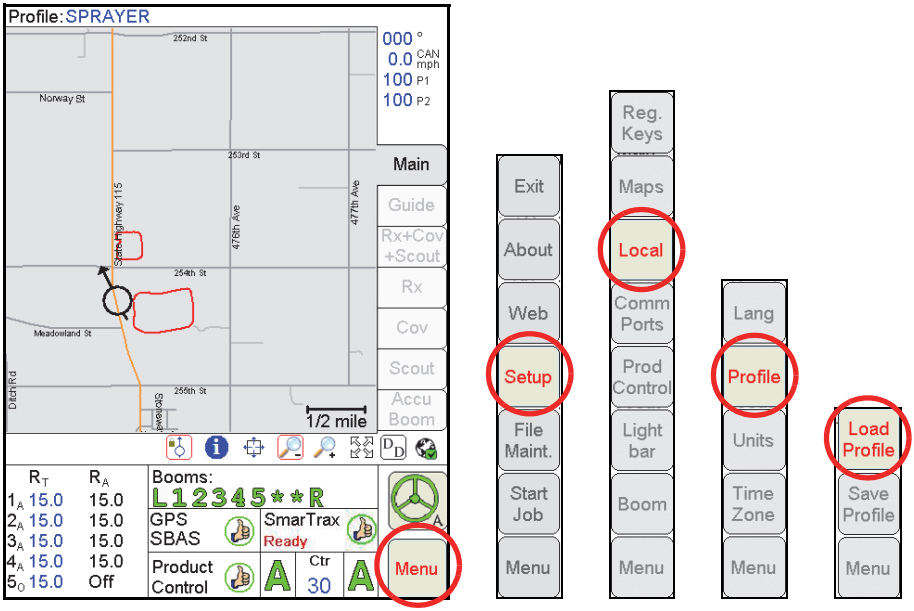


2. Use the on-screen keyboard to enter a **Profile Name** and touch **OK**.

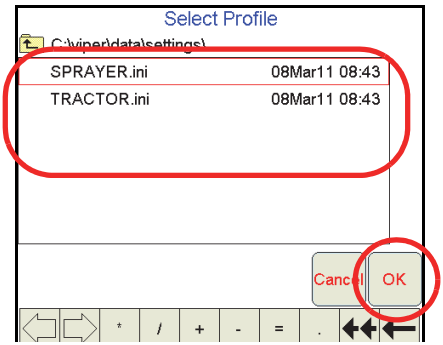


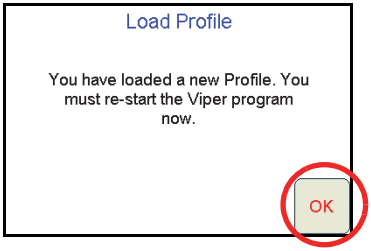
Loading a Saved Profile

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



2. Select a profile from the list and touch **OK**.

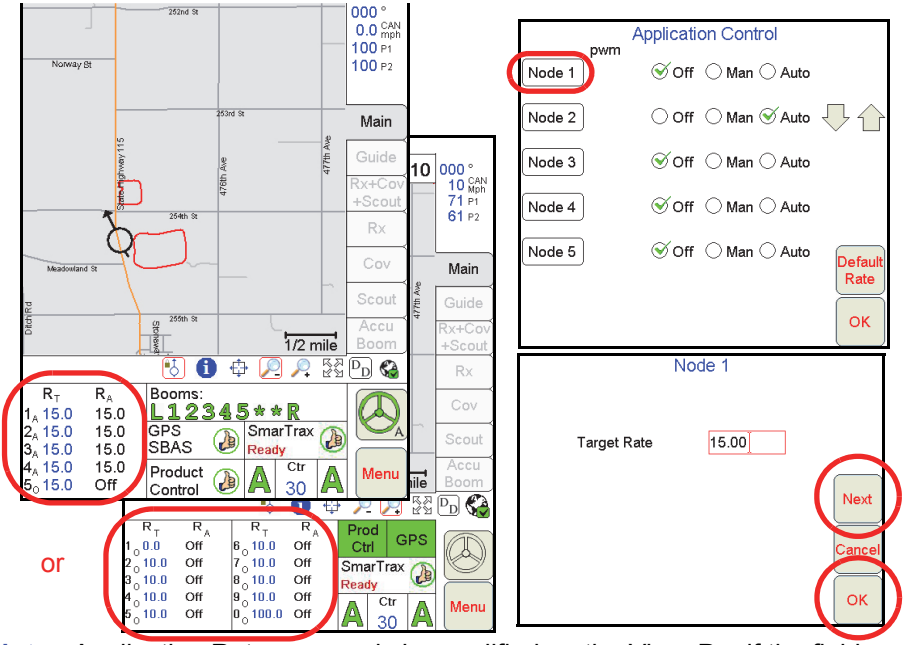




3. Touch the **OK** button on the Load Profile prompt. The Shutdown Viper prompt will be displayed.
4. Select the **Exit to Menu** button and select the appropriate option to restart the Viper Pro application management system.

Setting Application Rates

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

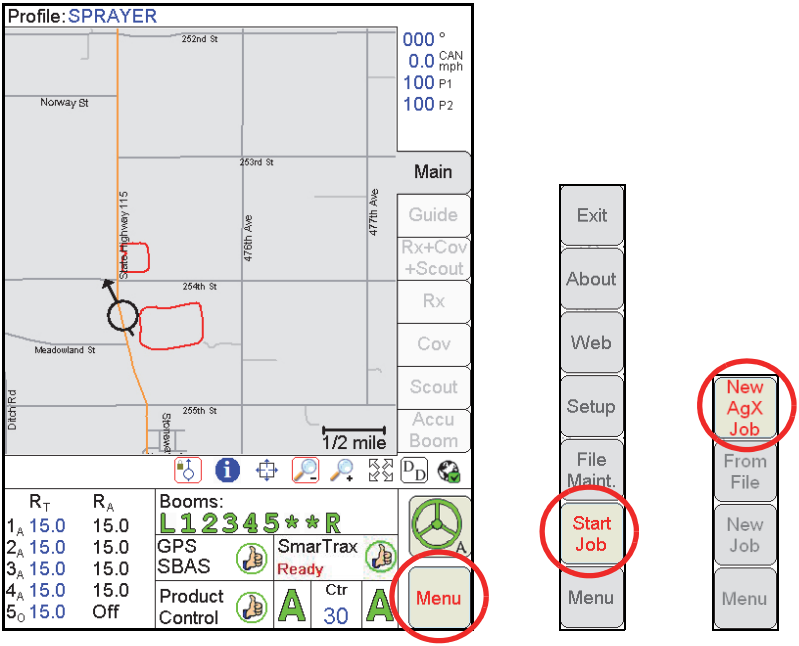


Note: Application Rates may only be modified on the Viper Pro if the field computer is set as the CANbus controller. Product density and spreader constant may also be modified when controlling a granular application system.

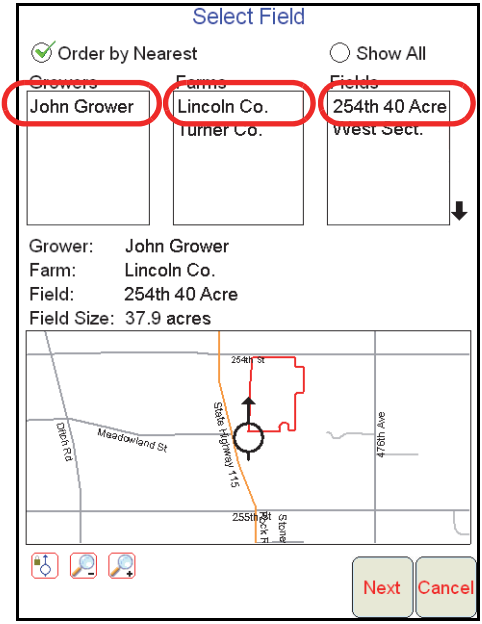
4. Touch the **Default Rate** button to set a default rate for each product used with a prescription map. The default rate will be applied to areas without prescription information (i.e. outside of the prescription map area).

Starting a New AgX Job

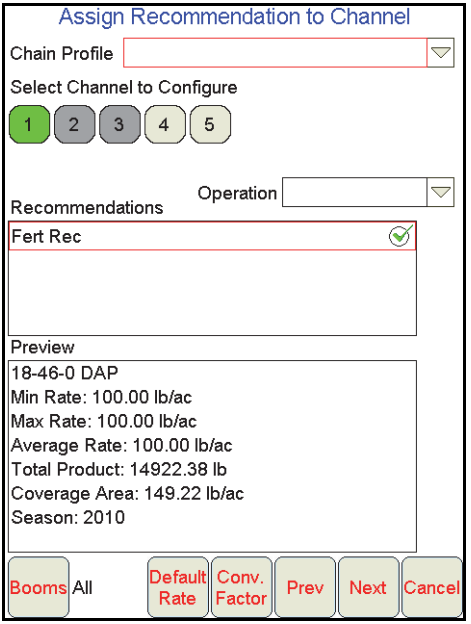
1. Select **Menu**, **Start Job**, then **New AgX Job**.



2. Select from the available grower, farm and field lists to locate the prepopulated job information for the next job.



3. Touch the **Next** button.



4. Touch an available control channel and select a recommendation from the list to assign prepopulated job information to the selected control channel.

Note: While recommendations are not required, product control channels selected on this screen should have a recommendation assigned before the job is started.

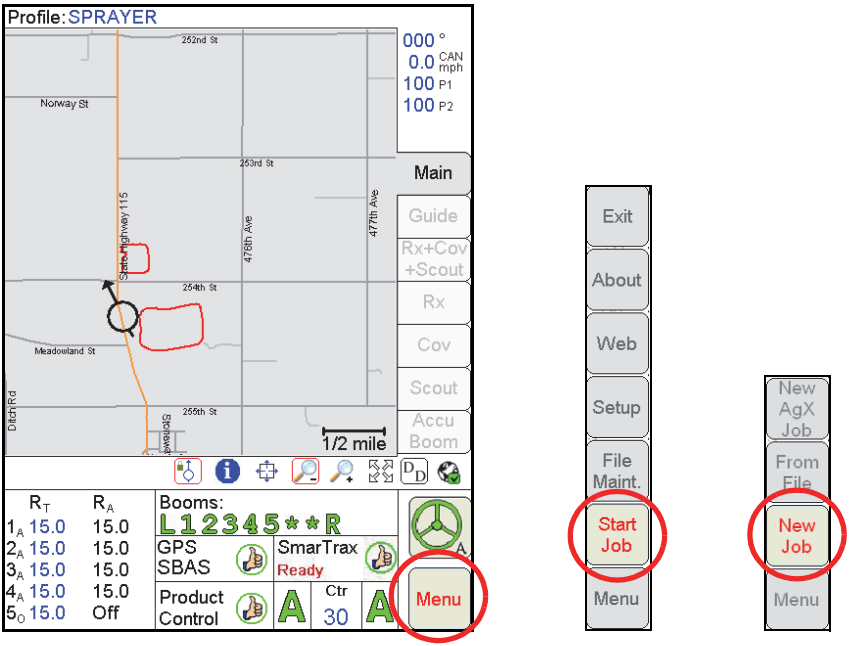
A target rate may be entered for channels used to control pump, fan, or spinner speeds as necessary after the job is started. Do not select control channels for these functions during the job setup process.

To deselect a channel, touch a selected channel again to remove the channel from the job setup process. Any deselected channels will not be available during the active job.

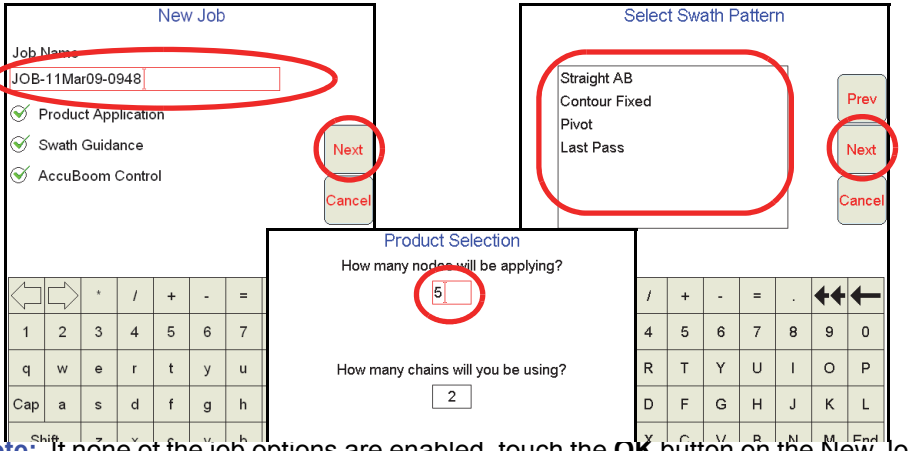
5. Touch the **Default Rate** button and enter the default rate for each control channel outside of the prepopulated prescription map.
6. A **Conversion Factor** may be entered to adjust rate zones within the prepopulated prescription map.
7. Touch **Next** and enter the name for the job, select the guidance pattern to use during the job and enable the AccuBoom feature if applicable.
8. Touch the **OK** button to begin the job.

Starting a New Standard Job

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



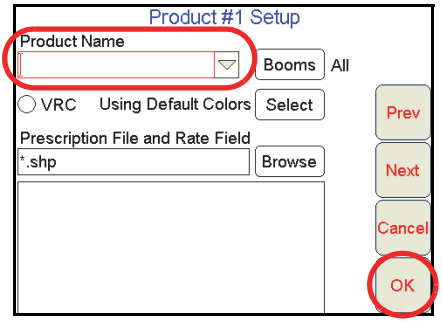
2. Type in a **Job Name**, and enable appropriate application options to use during the job. Select a **Swath Pattern** (if guidance is enabled), and **enter the number of products** (if product application is enabled).

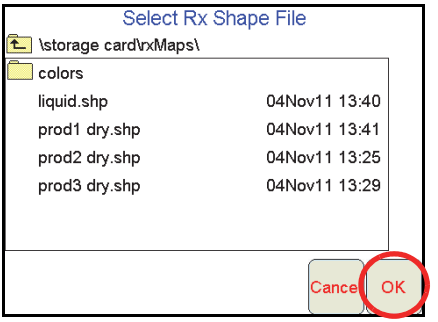


Note: If none of the job options are enabled, touch the **OK** button on the New Job screen to begin the job.

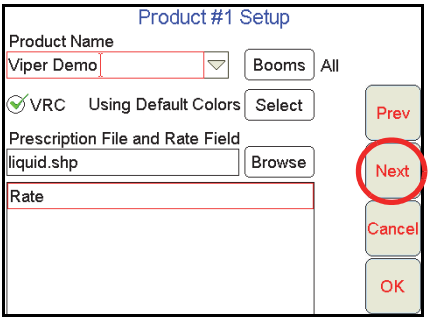
3. If products should be applied using a product chain, enter the number of product chains to be used (see the Installation and Operation Manual for more information on setting up and using the product chaining feature.

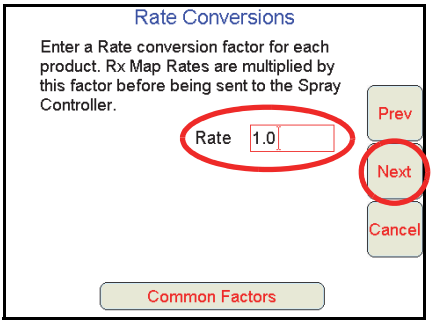
4. Select an existing product name or use the on-screen keyboard to enter a new product name.





5. If a Variable Rate map will be used, select **VRC** and proceed with the steps below. Otherwise, touch **OK**.
   a. Touch **Browse** to find an Rx Map file.
   b. Select the desired map file and touch **OK**.
   c. Select the column heading from the .dbf file to use for rate information.
   d. Touch the **Next** button.

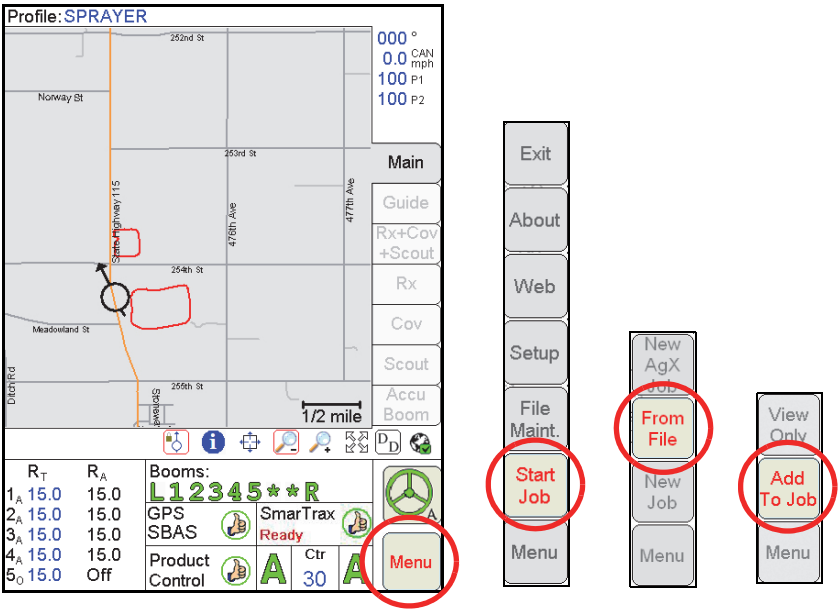




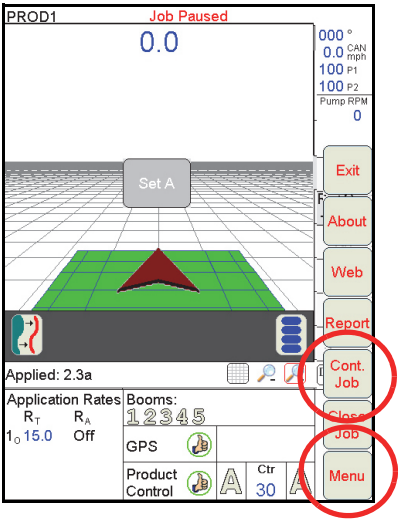
6. After each of the products have been configured for the job, enter a **Rate Conversion** (if necessary) and touch **OK**.

Adding to Existing Jobs

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



2. Select an **Existing Job** and touch **OK**. Then touch **Menu** and the **Cont. Job** button to resume application within the job.

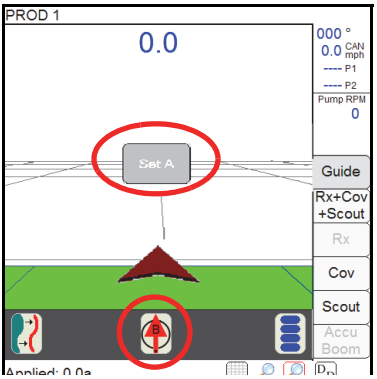


Note: The Viper Pro will not log application or location information until the **Cont. Job** button is selected.

Guidance (A-B) Lines

Use the following steps to set an A-B Line.

1. With the Guide tab selected, touch the **Set A** button.

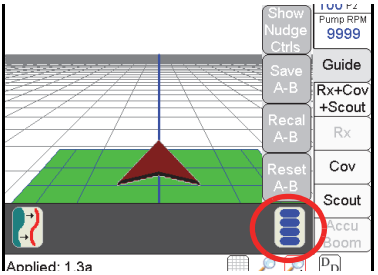


An A-B Line may also be set by entering a compass heading. Touch the **Set B by Heading** icon at the bottom of the guidance display to enter an A-B Line heading.

2. When the **Set B** button appears, touch the button to set the B point of the A-B Line. The set A-B Line appears on the screen in blue.

To save the currently displayed A-B Line:

1. With the Guide tab selected, touch the Guide Menu icon.



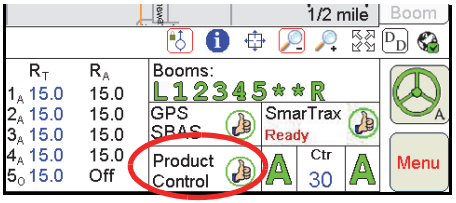
2. Touch the **Save A-B** button and follow the on-screen instructions to save the displayed Guidance path.

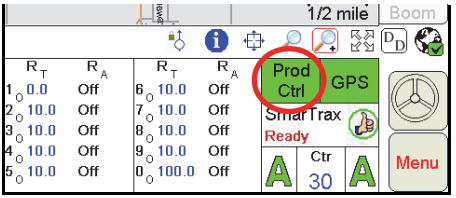
To load a saved A-B Line:

1. Reset any currently displayed Guidance paths.
2. With the Guide tab selected, touch the Guide Menu icon.
3. Touch the **Load A-B** button and follow the on-screen instructions to load a selected Guidance path.

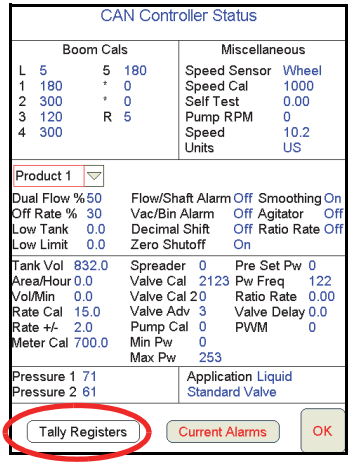
Resetting Tank Volume

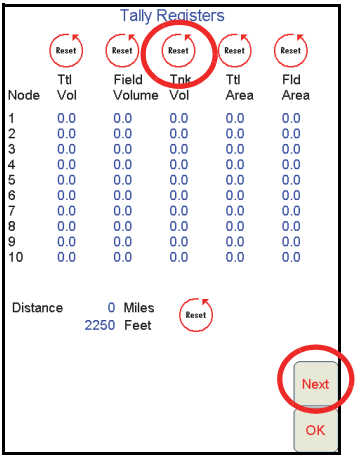
1. Touch **Product Control**.



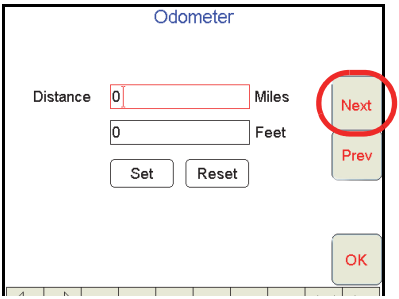


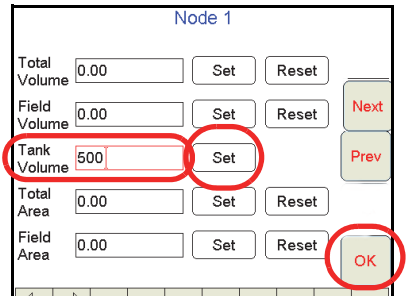
2. Touch **Tally Registers**.
3. To reset all tank volumes to the previously entered values, touch **Reset** above Tnk Vol.





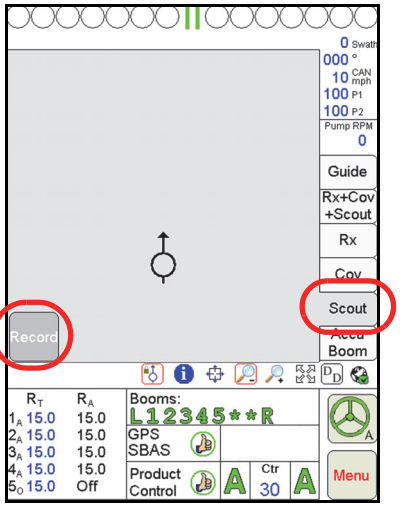
4. To reset individual nodes, touch **Next**.
5. On the Odometer screen, touch **Next**.
6. Type in a value for the **Tank Volume** and then touch **Set**.
7. Touch **Next**. Do the same process for all nodes, if needed, and touch **OK** when finished.
8. Touch **OK** again to exit the Product Control screen.

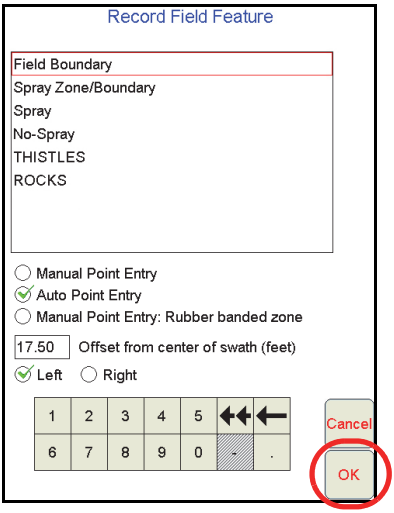




Marking a Field Boundary

1. Touch the **Scout tab** and then the **Record** button.
2. Select **Zone** from the list of features.
3. The Record Field Feature screen displays. Select **Field Boundary** and select the point entry and offset your **options**, and touch **OK**.

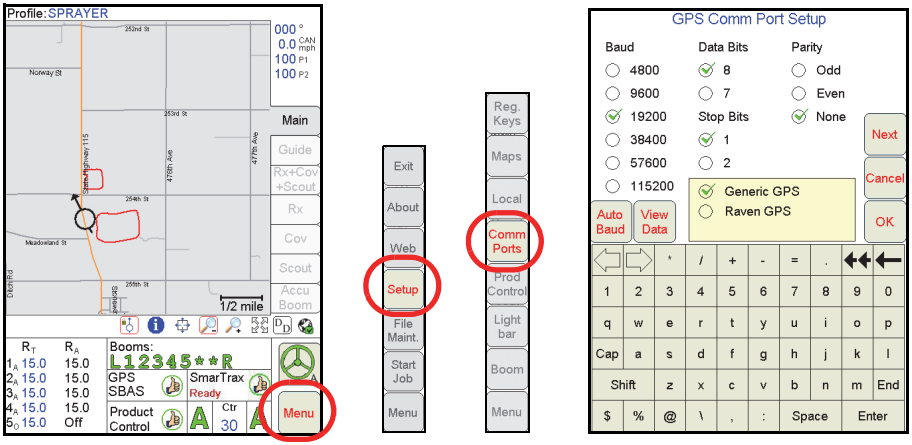




Note: The Field Boundary will automatically close if the machine comes within one boom width of the starting point. To manually close the boundary, touch the **Finish** button in the Map area and select the zone or feature to close.

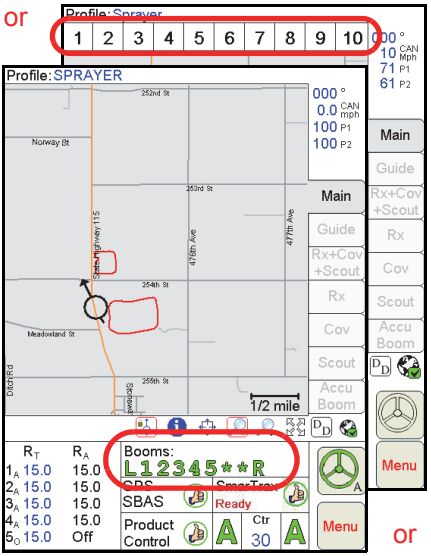
GPS

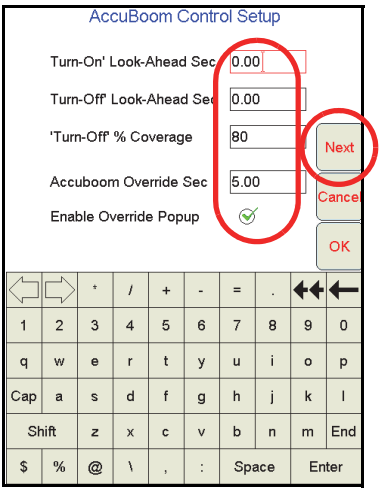
1. Select **Menu**, **Setup**, and **Comm Ports**.
2. Select the appropriate GPS setting.
   - Select **Raven GPS** when connected to all Raven GPS receivers, except for the RPR 400, RPR 410, and the Phoenix 300, or when not using the guidance in the Viper Pro to control a SmarTrax/SmartSteer system.
   - Select **Generic GPS**, when connected to a Raven RPR 400, RPR 410, Phoenix 300, Non-Raven GPS receivers or when the Viper Pro is providing guidance to a SmarTrax/SmartSteer system.
3. Touch **OK**.

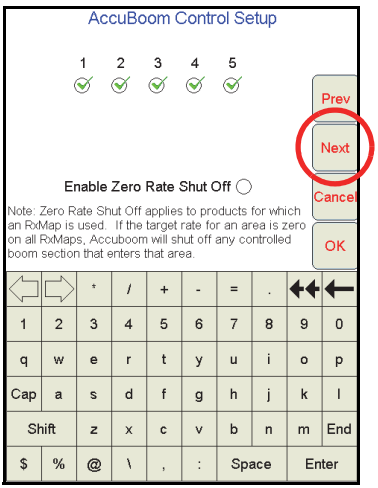


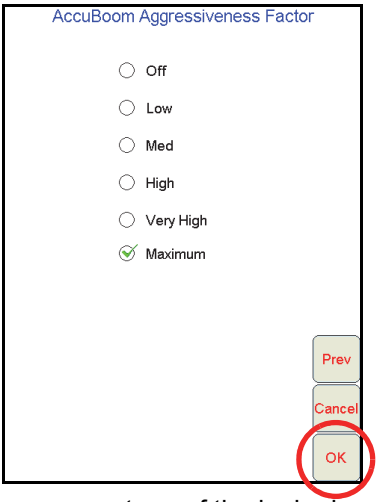
AccuBoom Setup

1. Touch the **Booms Area**.
2. Enter **Look-Ahead** values and touch **Next**.
3. Select the **booms** for AccuBoom automatic boom section control and touch **Next**.
4. Select the desired aggressiveness setting and touch **OK**.









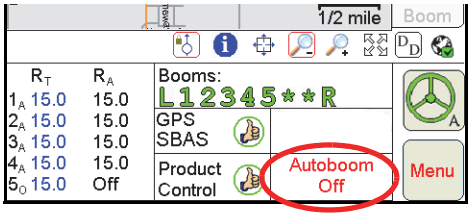
Note: The aggressiveness factor setting uses a percentage of the look-ahead times to adjust the responsiveness of the AccuBoom system.

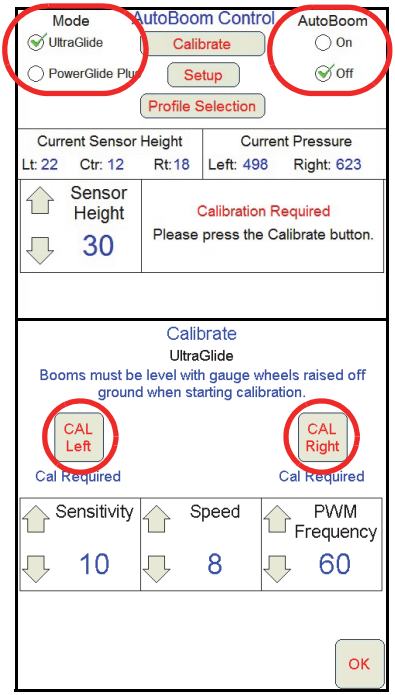
If a SwitchPro is connected to the Viper Pro, AccuBoom control is controlled by the switch position on the Switch Box. Review the SwitchPro instruction guide for more information.

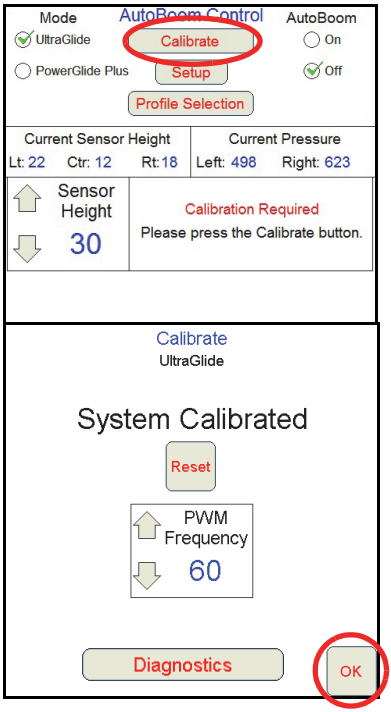
AutoBoom Calibration

UltraGlide

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





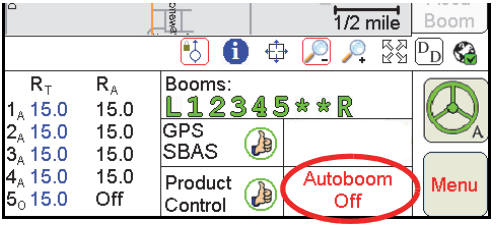


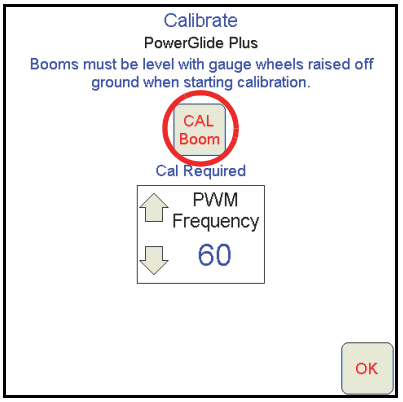
PowerGlide Plus

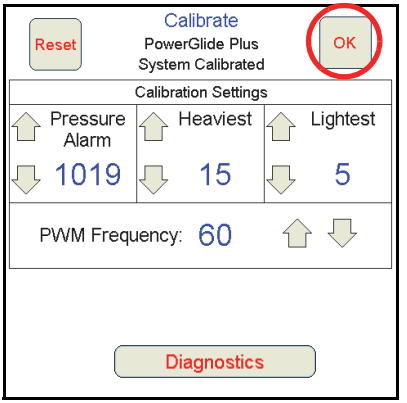
1. Touch in the center of the **AutoBoom Area**.
2. Select AutoBoom **ON** and **PowerGlide Plus** for mode.
3. Touch the **Calibrate** button.

Note: The AutoBoom Control screen in PowerGlide Plus mode will appear similar to the screens shown in the previous UltraGlide section. Refer to the UltraGlide section to locate the **ON** and **Calibrate** buttons if necessary.

4. Touch the **Cal Boom** button. Wait for the calibration to complete.
5. Touch **OK**.

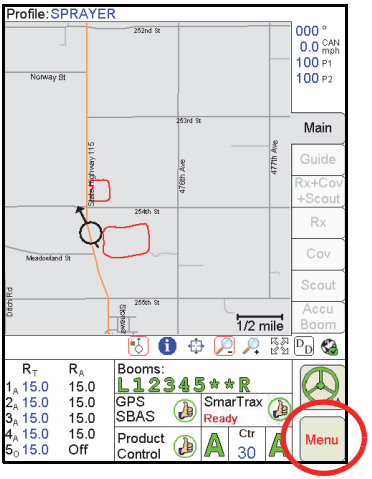


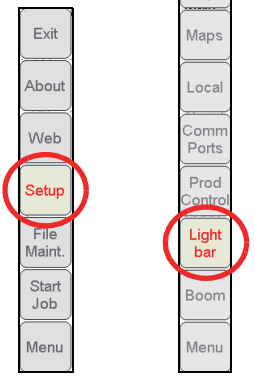


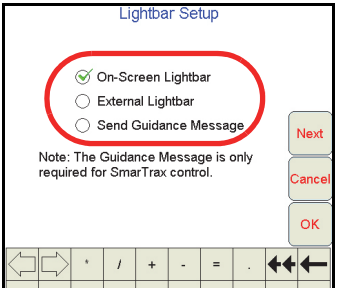


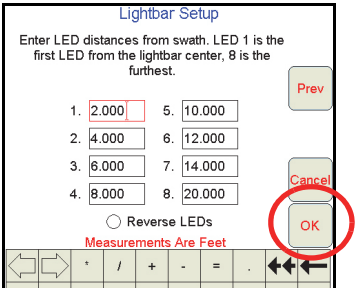
On-Screen Lightbar

1. Touch **Menu**, **Setup**, then **Lightbar**.
2. Select a **Lightbar** to use.
3. Select **Send Guidance Message**, when using the Viper Pro to provide guidance information to a SmarTrax/SmartSteer system.
4. Touch **Next** to set it up.
5. Touch **OK** when finished.

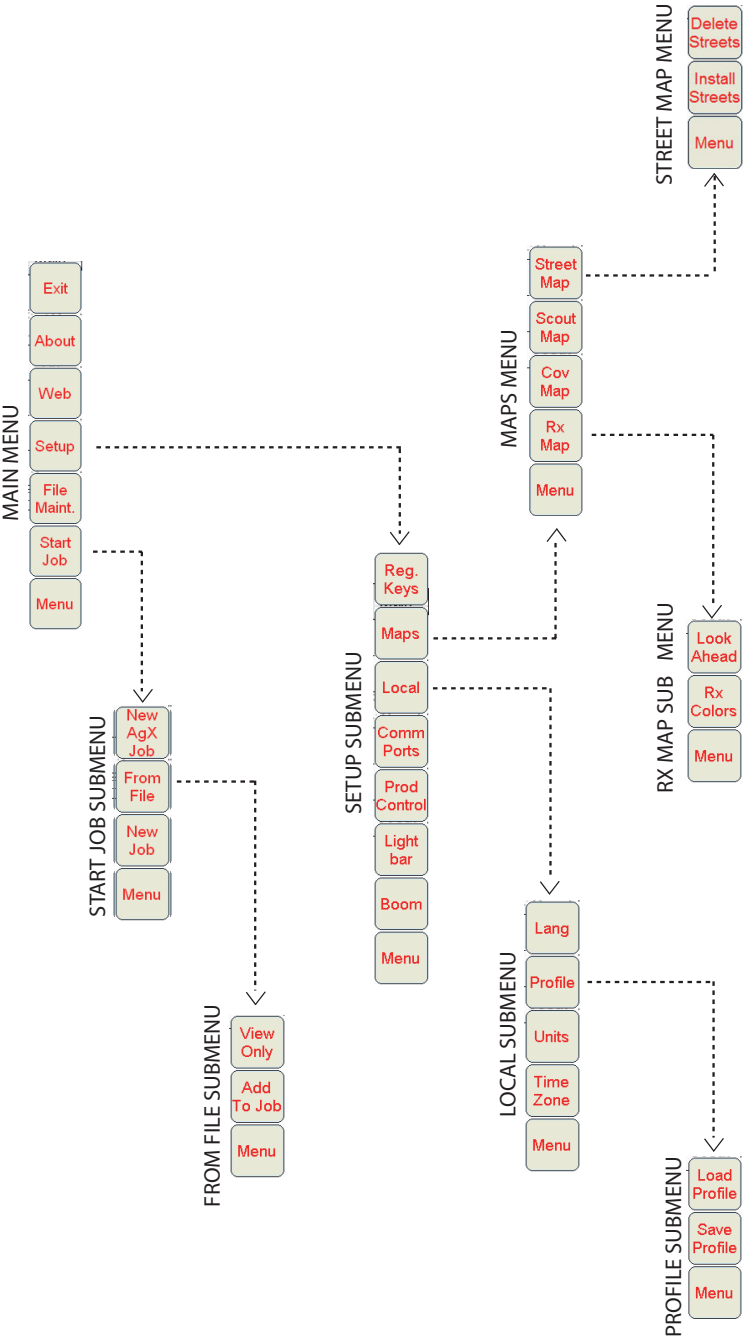








Viper Pro Menu Structure



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