MULTI-HYBRID SUPPLEMENT

OPERATOR AND PARTS MANUAL

M0269 Rev. 7/15

This manual is applicable to: Kinze Model 4900 with Multi-Hybrid

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Kinze Manufacturing, Inc. thanks you for your patronage. We appreciate your confidence in Kinze farm machinery. Your Kinze planter has been carefully designed to provide dependable operation in return for your investment.

This manual has been prepared to aid you in the operation and maintenance of the 4900MH planter and monitor. It should be considered a permanent part of the machine and remain with the machine when you sell it.

It is the responsibility of the user to read and understand the Operator Manual in regards to safety, operation, lubrication and maintenance before operation of this equipment. It is the user's responsibility to inspect and service the machine routinely as directed in the Operator Manual. We have attempted to cover all areas of safety, operation, lubrication and maintenance; however, there may be times when special care must be taken to fit your conditions.

Throughout this manual the symbol ⚠ and the words **DANGER, WARNING,** and **CAUTION** are used to call attention to safety information that if not followed, will or could result in death or injury. **NOTICE** and **NOTE** are used to call your attention to important information. The definition of each of these terms follows:

⚠ **DANGER Indicates a hazardous situation which, if not avoided, will result in death or serious injury.**

⚠ **WARNING Indicates a hazardous situation which, if not avoided, could result in death or serious injury.**

⚠ **CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.**

***NOTICE* is used to address practices not related to personal injury.**

NOTE: Special point of information or machine adjustment instructions.

⚠ WARNING

Improperly operating or working on this equipment could result in death or serious injury. Read and follow all instructions in Operator Manual before operating or working on this equipment.

⚠ WARNING

Some photos in this manual may show safety covers, shields, or lockup devices removed for visual clarity. NEVER OPERATE OR WORK ON machine without all safety covers, shields, and lockup devices in place as required.

NOTE: Photos in this manual may be of prototype machines. Production machines may vary in appearance.

NOTE: Some photos and illustrations in this manual show optional attachments installed. Contact your Kinze Dealer for purchase of optional attachments.

The Kinze Limited Warranty for your new machine is stated on the retail purchaser's copy of the Warranty And Delivery Receipt form. Additional copies of the Limited Warranty can be obtained through your Kinze Dealer.

Warranty, within the warranty period, is provided as part of Kinze's support program for registered Kinze products which have been operated and maintained as described in this manual. Evidence of equipment abuse or modification beyond original factory specifications will void the warranty. Normal maintenance, service and repair is not covered by Kinze warranty.

To register your Kinze product for warranty, a Warranty And Delivery Receipt form must be completed by the Kinze Dealer and signed by the retail purchaser, with copies to the Dealer, and to the retail purchaser. Registration must be completed and submitted to Kinze Manufacturing, Inc. within 5 business days of delivery of the Kinze product to the retail purchaser. Kinze Manufacturing, Inc. reserves the right to refuse warranty on serial numbered products which have not been properly registered.

If service or replacement of failed parts which are covered by the Limited Warranty are required, it is the user's responsibility to deliver the machine along with the retail purchaser's copy of the Warranty And Delivery Receipt to the Kinze Dealer for service. Kinze warranty does not include cost of travel time, mileage, hauling or labor. Any prior arrangement made between the Dealer and the retail purchaser in which the Dealer agrees to absorb all or part of this expense should be considered a courtesy to the retail purchaser.

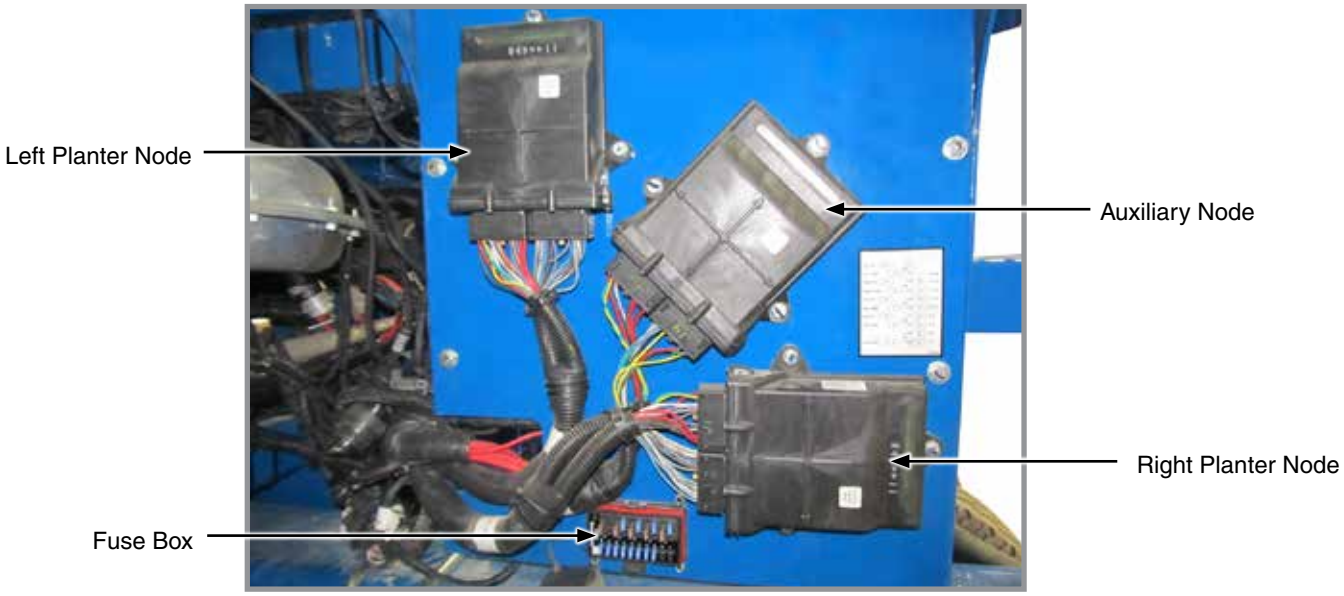
Kinze warranty does not include cost of travel time, mileage, hauling, or labor.

This supplement is to be used in combination with the standard 4900 Operator's Manual, M0247-01. The following table notes specific sections in the standard manual that are modified or overridden by this supplement.

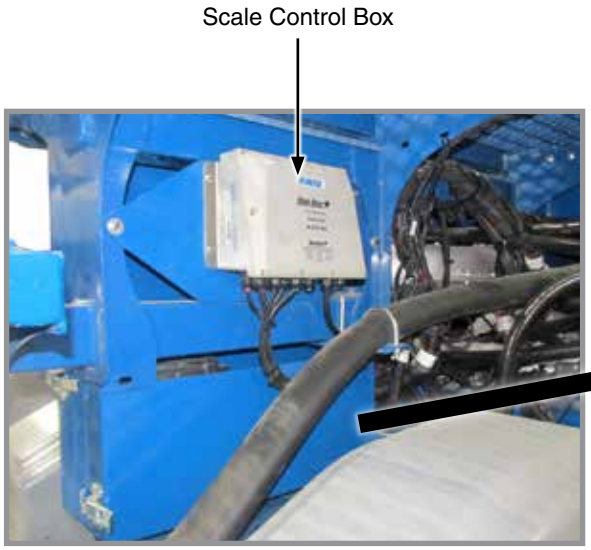
Refer to Section in M0247-01 (Operator's Manual)	Supplemental Information
Jump Start Sensor	The Model 4900MH does not use a jump start sensor. Refer to "Jump Start Function" in the operation section and troubleshooting section of this supplement.
Master Module	Refer to the "Control Nodes" section of this supplement.
Transport to Field Sequence / Field to Transport Sequence / Row Marker Operation	Refer to the Control Box instructions in each of the sections of the operator's manual.
Bulk Fill Scale	The Model 4900MH does not have a low seed alarm on the Envizio Pro field computer. The remaining functions described in the operator's manual are applicable.
Manual Run Button	The Model 4900MH is not equipped with a manual run button. Refer to the "Prime Seed Discs" function in "Basic Operation" chapter of the OmniRow™ Operation Manual for information on how to manually turn the meters.
Electrical Diagrams	Refer to the electrical diagrams in this supplement.

CONTROL NODES

The Control Nodes are located under the catwalk at the rear of the planter. These electronics relay information to and take inputs from the Envizio Pro™ field computer. They control the automatic row shutoffs, rate and hybrid controls, and auxiliary control inputs from the operator or the automatic prescription map loaded into the field computer.



L.H. Side of Panel



R.H. Side of Panel

Liquid Fertilizer Control Node Option

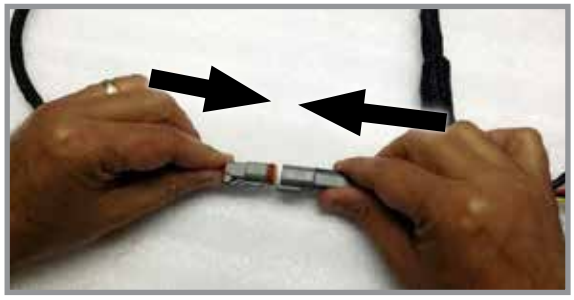
LIGHTS AND AUXILIARY POWER CONNECTION

The Lights on the 4900MH planter are connected to the 7-pin ASABE trailer wiring harness on the tractor and are controlled by the tractor light switch. Turn signals and brake lights function in sync with the tractor lights. Planter field lights will operate when the field lights on the tractor are switched on and will turn off when the tractor lights are off or in the road transport setting. Refer to your tractor operator's manual for additional information on your specific light settings.

Auxiliary 12VDC power is fed from the 7-pin ASABE trailer wiring harness to power the Bulk Fill Scale. This is a switched power source from the tractor that will turn the scale on when the tractor ignition switch is turned to the "ON" or "Accessory" positions on most tractors. Refer to your tractor operator's manual for additional information on the auxiliary power connection.

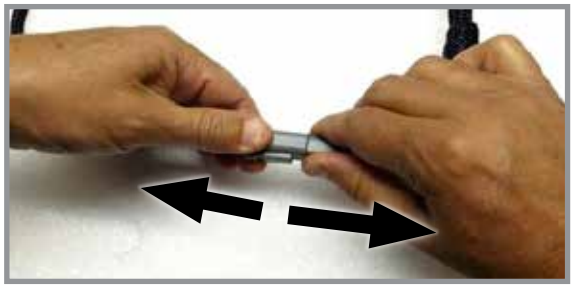
ELECTRICAL CONNECTIONS

Use the following steps for making correct electrical connections.

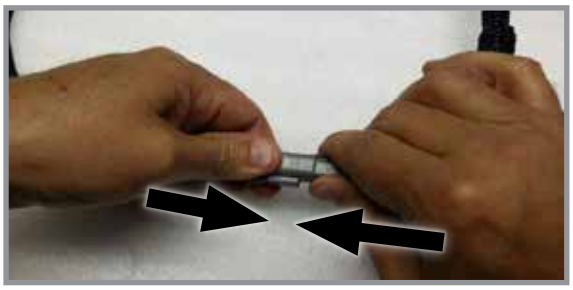


1. Push together.

2. Listen for click.



3. Pull/tug on connection.

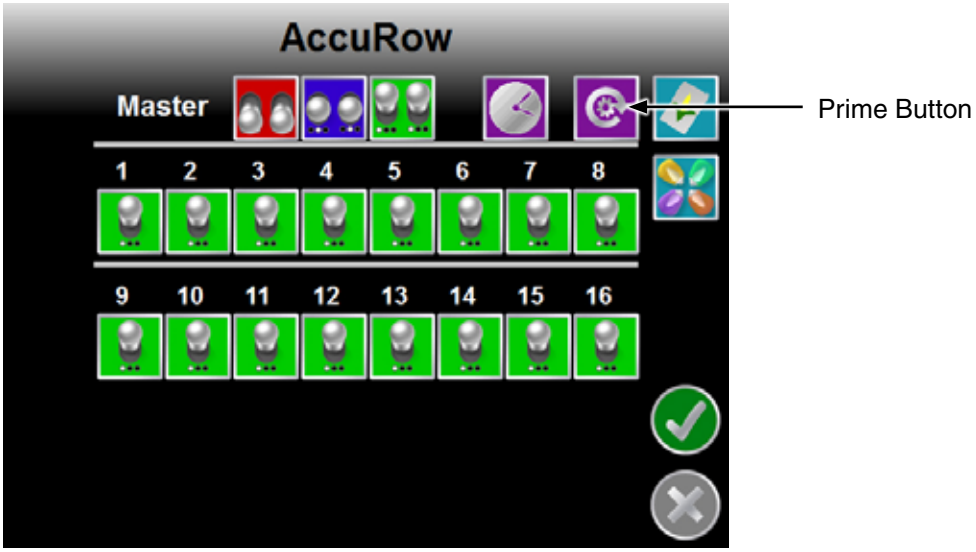


4. Push again.

JUMP START FUNCTION (Resume planting from a Complete stop)

To resume planting from a complete stop (without raising the planter and backing up) without leaving a skip. It is recommended to press the prime button located on the AccuRow control switch screen just as you begin to move forward. Refer to the Seed Rate and Liquid Shutoff Switch box section in Chapter 5 of the OmniRow Operation Manual.

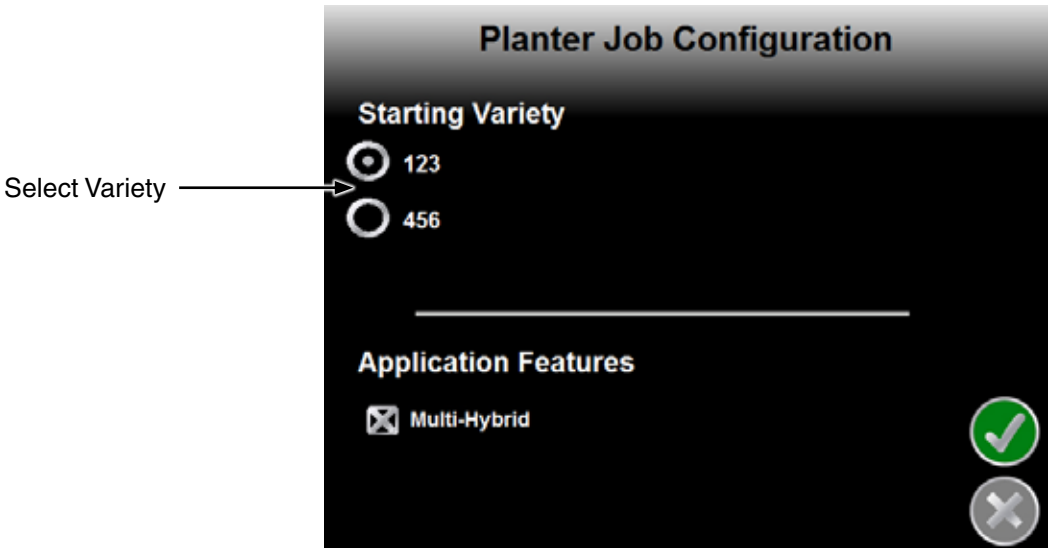
The GPS signal will take over and automatically control the seed meter rates once forward motion has been detected.



SELECTING THE RIGHT SEED VARIETY WHEN STARTING A JOB:

In the Planter Job Configuration screen a starting seed variety must be selected. The variety selected will be what is planted until the planter crosses the first variety boundary on the prescription map. It is very important to select the variety that is mapped in the area of the field where planting begins.

If seed variety is changed manually while planting, the variety selected will remain until the planter crosses the next hybrid boundary on prescription map. The automatic seed variety selection will resume.

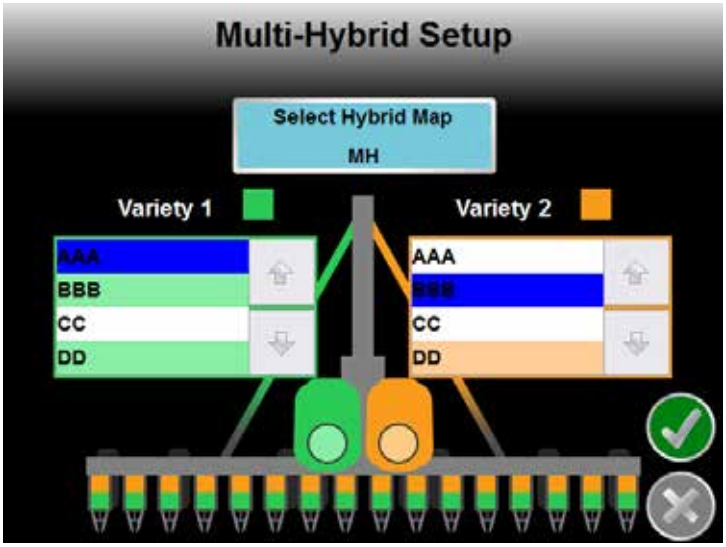


SEED VARIETY LOCATION

The tanks are labeled for reference when filling the planter and their locations are also visually noted on the Envizio Pro display when assigning varieties to the tanks.

NOTICE

It is very important to take note of which seed variety is placed into the planter for proper prescription mapping and data recording.

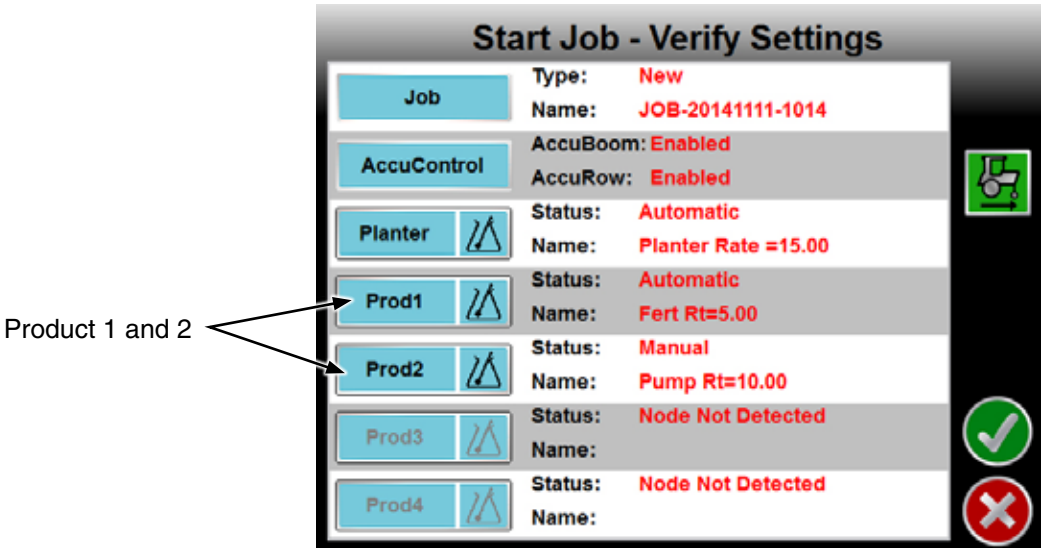


Seed Variety 1:	L.H. Tank / Rear Seed Meter
Seed Variety 2:	R.H. Tank / Front Seed Meter

SETTING UP LIQUID FERTILIZER SETTINGS FOR A NEW JOB

If planter is equipped with liquid fertilizer, the control system is set up that Product 1 controls the fertilizer application rate and Product 2 controls the centrifugal pump.

When starting a new job, set up these products as follows:



Select Product 1 and specify the following:

- "X" the box next to Enable Product
- Set the control to "Automatic"
- Give the product a name of your choice.
- Set the rate to the desired application rate in Gallons per Acre

NOTE: In this configuration, the Envizio Pro automatically adjusts the flow rate to maintain the specified Gallons per Acre.

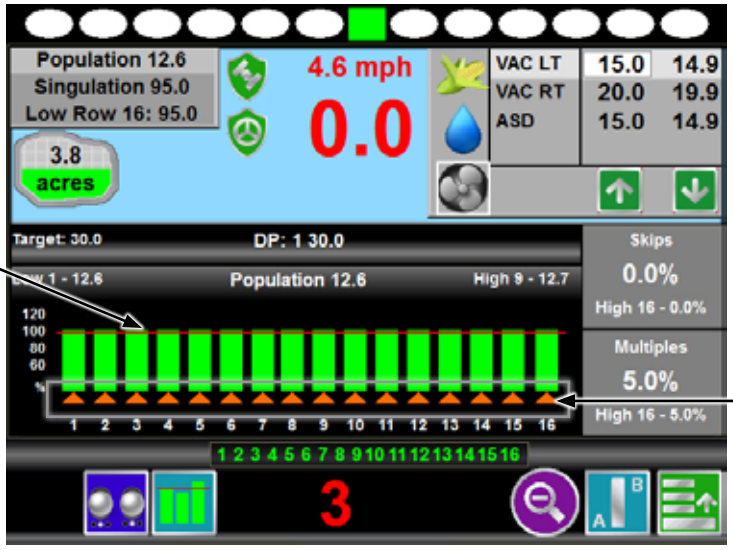
Select Product 2 and specify the following:

- "X" the box next to Enable Product
- Set the control to "Manual"
- Give the product a name of your choice. ("Pump" is suggested here)
- Set the rate to 10

NOTE: In this configuration, the centrifugal pump hydraulic motor is set to turn on when the job is started and to continue running.

SHOWING THE HYBRID PLANTED PER-ROW ON THE BARGRAPH

The bargraph on the run screen is configurable. To change between showing singulation status or hybrid selection, press the bargraph area, select the desired setting, then press Accept.



Select Bargraph Area

Set to show singulation or hybrid status.

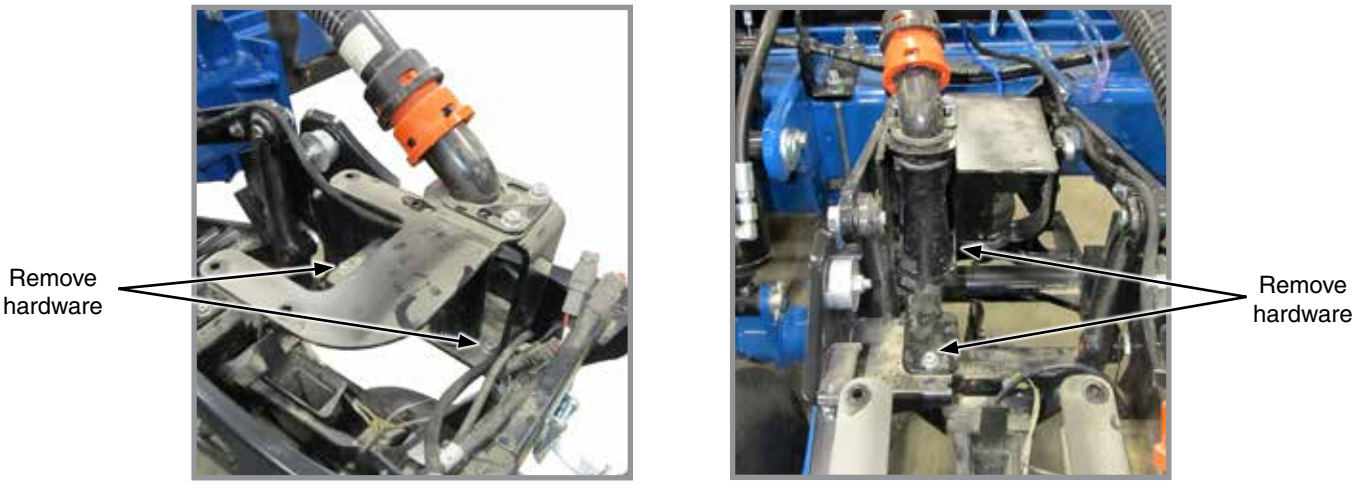
PROPER SHUT-DOWN OF THE ENVIZIO PRO DISPLAY

It is very important to select the Shutdown icon on the home screen of display before pressing and holding the power button on the side of display. Failure to do so can result in a loss of planting data and job status. Refer to “Closing Jobs and Power Down” section of the Basic Operation chapter of the OmniRow Operator’s manual for additional information.

NOTE: The display is powered directly from the tractor battery. Shut down the display at the end of work day to eliminate battery drain.

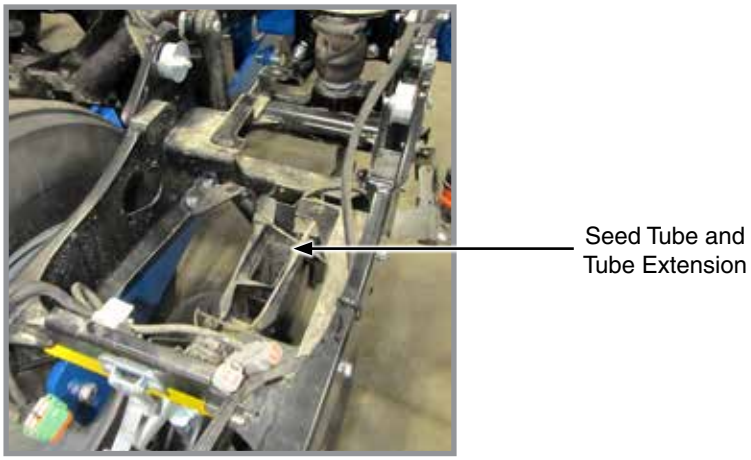
Shutdown

SEED METER INSTALLATION



Rear Manifold **Front Manifold**

1. Remove front and rear manifolds. Retain hardware.

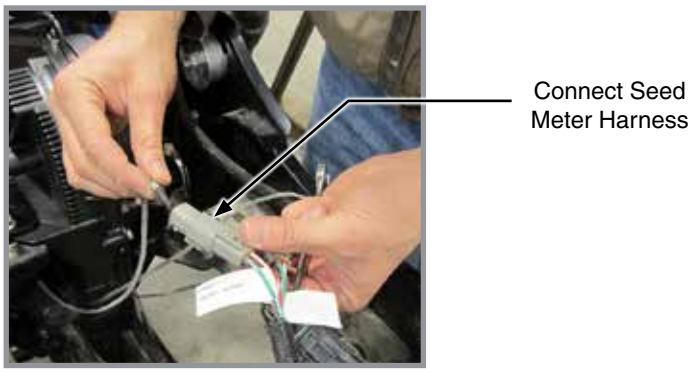


2. Check that seed tube and seed tube extension are properly installed into shank.

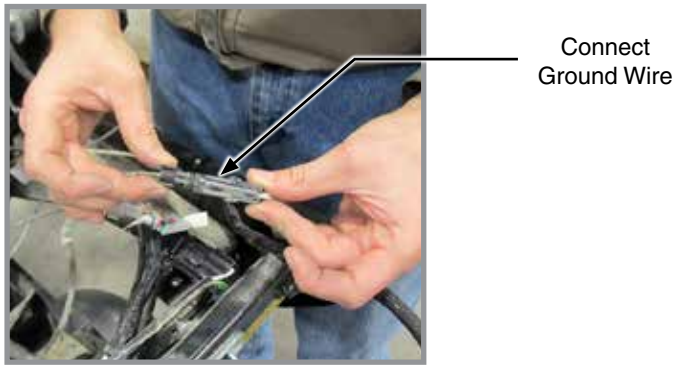
Front Meter and Manifold Shown Installed

3. Install front meter.

   a. Place meter into row unit. Ensure tab on seed tube extension is inside the meter seed outlet.



   b. Connect motor to the planter connection labeled “front meter”

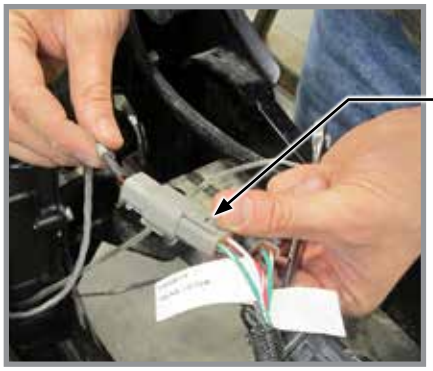


   c. Connect ground wire to row unit wire.

   d. Replace and secure front manifold using retained hardware.

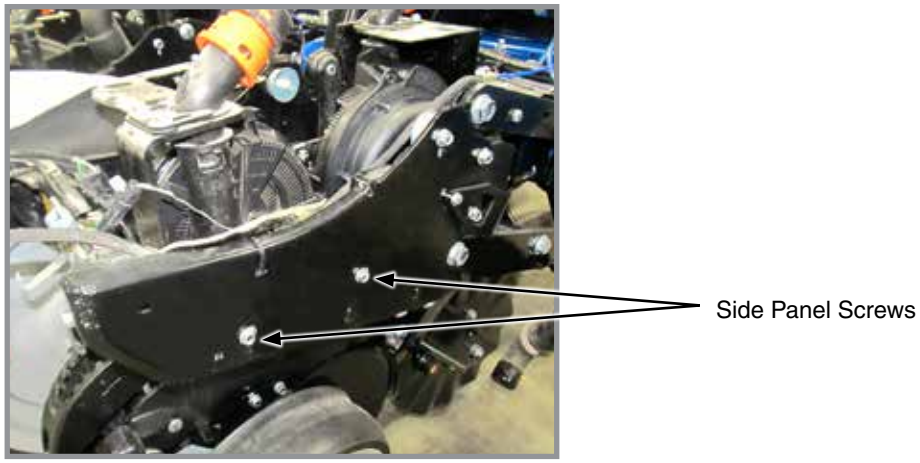
Rear Meter and Manifold Shown Installed

4. Install rear meter.

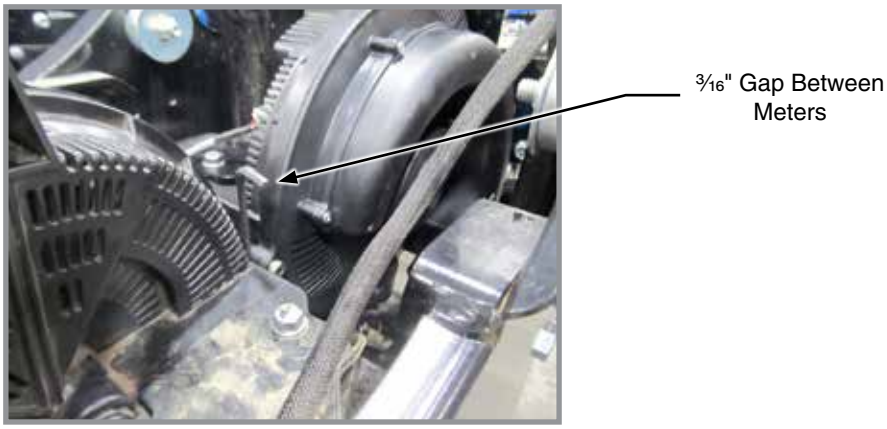


b. Connect motor to the planter connection labeled “rear meter”.

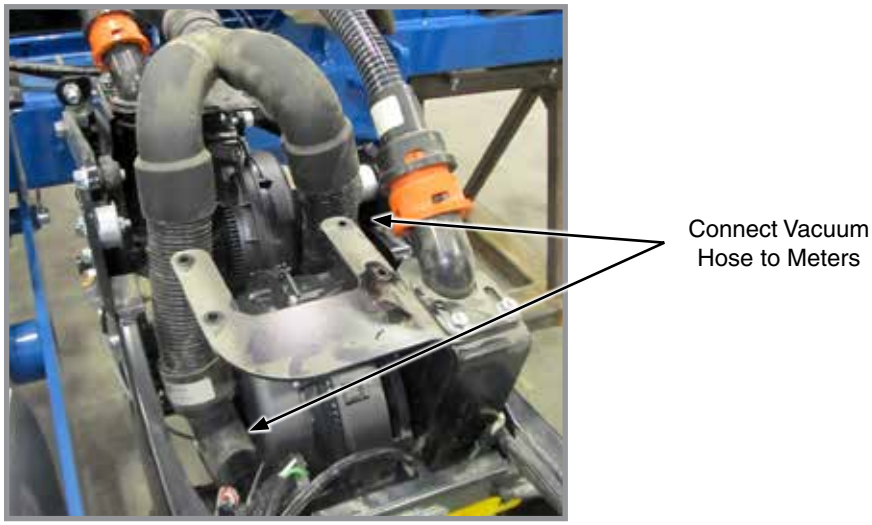
c. Connect ground wire to row unit wire
d. Place meter into row unit.
e. Replace and secure rear manifold.
f. Cable tie harnesses and wires so they are clear of moving parts and field debris.



5. Loosen side panel screws for rear meter bracket.



6. Adjust rear meter for 3⁄16" gap in area shown (this allows for seed disc removal without taking out meters). Place a 3⁄16" allen wrench between meters to maintain 3⁄16" gap and tighten side panel screws.

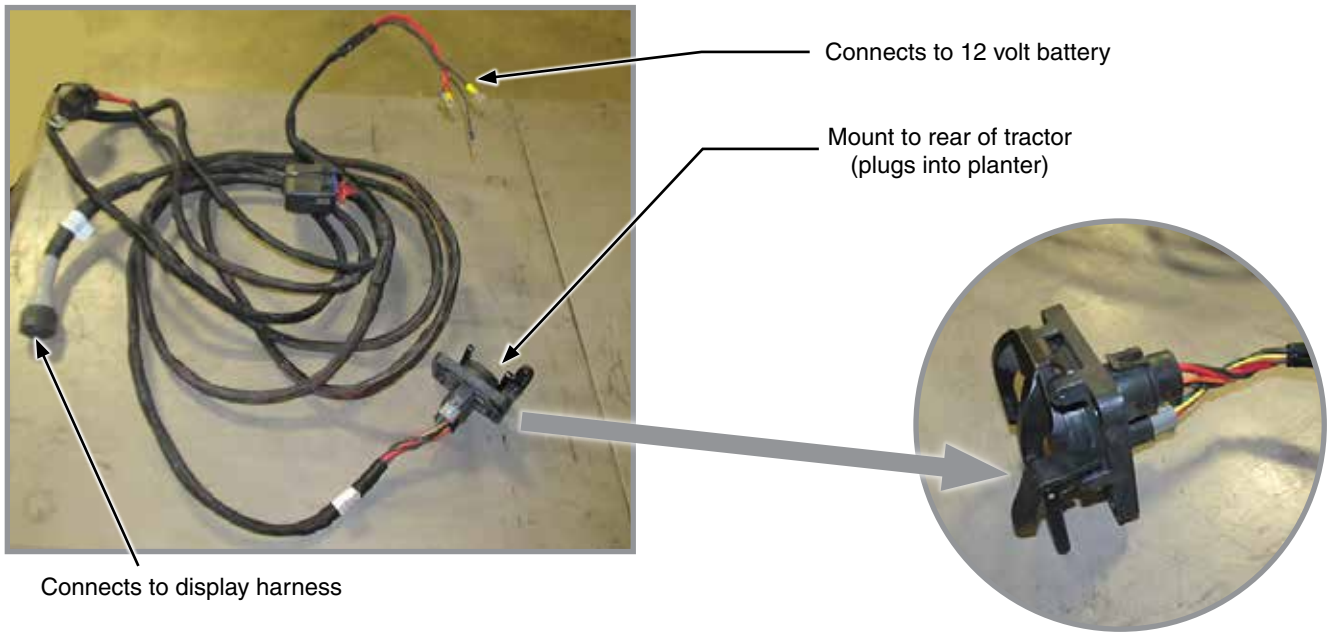


7. Remove caps from vacuum hoses and attach hoses to meters.

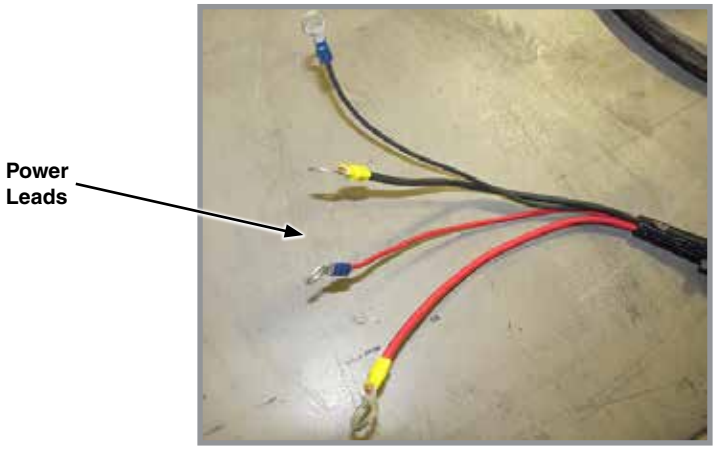
ENVIZIO PRO DISPLAY INSTALLATION

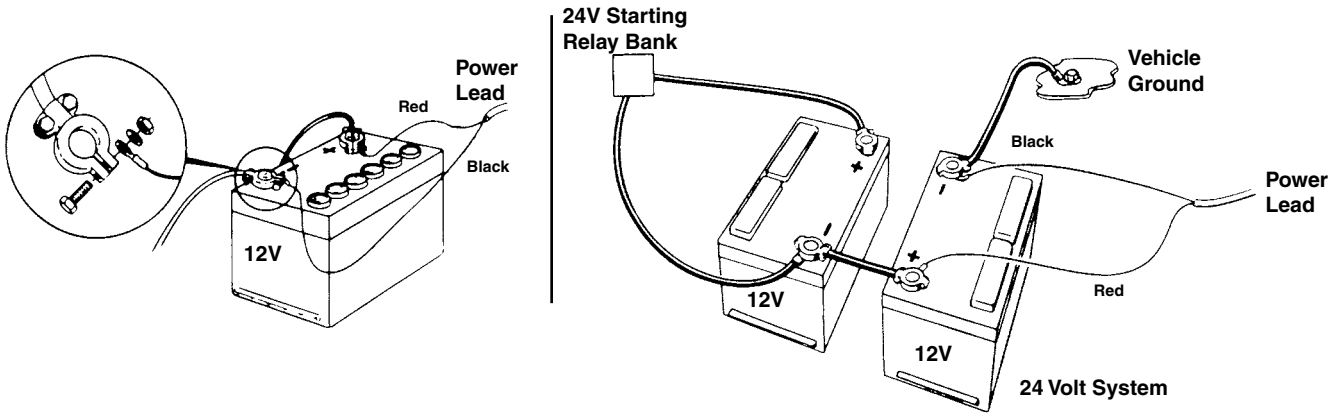
1. Choose a location for the Envizio Pro display in the tractor cab where it can be easily viewed and operated but not obstruct the operator's view. If required, optional adjustable arms are available from aftermarket suppliers. Mount the display with supplied hardware.

2. Locate the implement harness, Raven P/N 1157300055 (Kinze P/N A20120) as shown below. Connect this harness to the rear of the tractor.



3. Route the power leads to the tractor battery. Connect the red wire to the positive (+) battery terminal and the black wire to the negative (-) battery terminal. Refer to the following illustrations for typical battery connections.





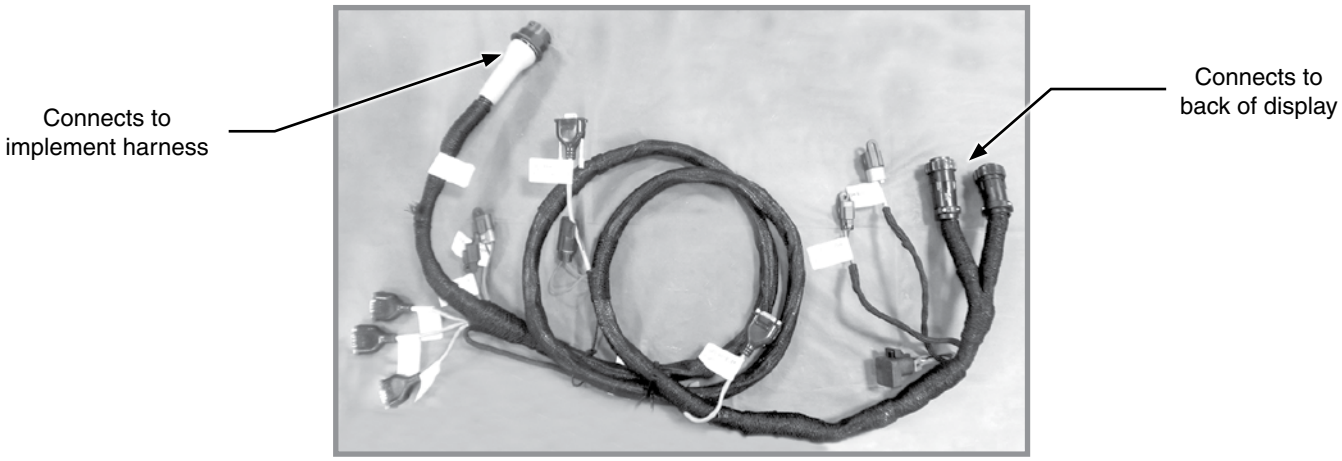
If your tractor's battery arrangement is different than shown or if there is any question as to where to connect the power lead, use a voltmeter to make sure you measure from 11 volts to 14 volts across the "red" and "black" leads. On tractors using two 12 volt batteries, make sure console power leads are connected directly to the grounded battery.

NOTE: Good battery connections are essential for proper display operation. Make sure connections are clean and tight.

NOTE: The battery, ignition and electrical system of the tractor must be in good working order.

Secure power lead with tie straps furnished with console.

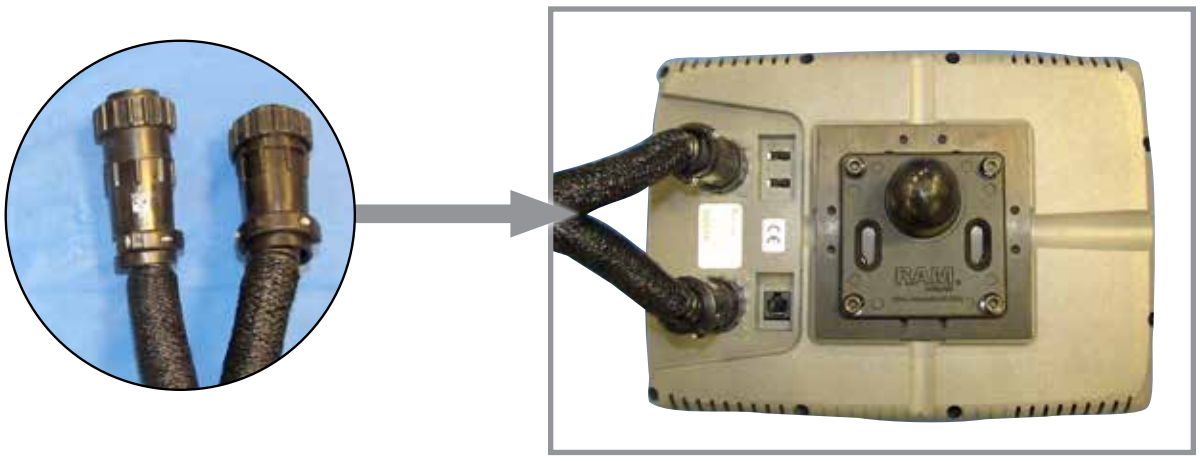
4. Locate the display harness, Raven P/N 115-7300-009 (Kinze P/N A20117), as shown below.



5. Connect implement harness to display harness as shown below.

6. Route the display harness into the tractor cab and tighten harness with plastic ties as required.

7. Connect the other end of the display harness to the back of Envizio Pro display. Refer to the photo below.



Display Harness **Envizio Pro Display**

GPS OVERVIEW

The Envizio Pro display connects to GPS over RS232 serial communication. There are three messages that the Envizio Pro needs from the GPS receiver in order to function. These messages along with the required update rate for each are listed below:

- GGA - Position and Accuracy
  Minimum of 5hz update rate

- VTG - Heading and Speed
  Minimum of 5hz update rate

- ZDA or RMC - Date/Time
  Minimum of 1hz update rate

The set-up and installation instructions that follow will explain how to set up the three Kinze approved receivers listed below to meet these requirements:

- Ag Leader 1500/1600/6000
- CNH 362/372
- John Deere Starfire

Almost all GPS receivers can output this information, however the Kinze supplied kit only supports the three receivers mentioned above. Kinze will only support the set-up of the approved receivers.

JOHN DEERE STAREFIRE SET-UP

To tap into the John Deere Starfire receiver, a tee harness is installed into the Starfire receiver which then runs into the cab where it connects to the Envizio Pro harnessing. The set-up also requires the correct messages to be turned on with a John Deere display.

Installing the Tee Harness

1. First, locate the tee harness for the John Deere Starfire receiver, Raven P/N 11150172237 (Kinze P/N A21146). This harness is included in Raven P/N 117-3001-095 (kit #A21143) and is pictured below.

2. Connect the Envizio Pro display harness, Raven P/N 115-7300-009 (Kinze P/N A20117), to the John Deere Starfire tee harness. It will plug into the connector labeled GPS Receiver DGPS. Both the harness and specific plug are pictured below.

Close up of Envizio Pro Display Harness GPS Plug-in

3. Route the rest of the Starfire tee harness up to the Starfire GPS receiver and secure it with cable ties.

Installing the Tee Harness (Continued)

4. Locate the plug-in for the Starfire receiver. This is usually located under the front lip of the tractor roof in the center of the windshield as seen below.

5. Unplug the 12 pin connector and plug the tee harness in-line as seen below.

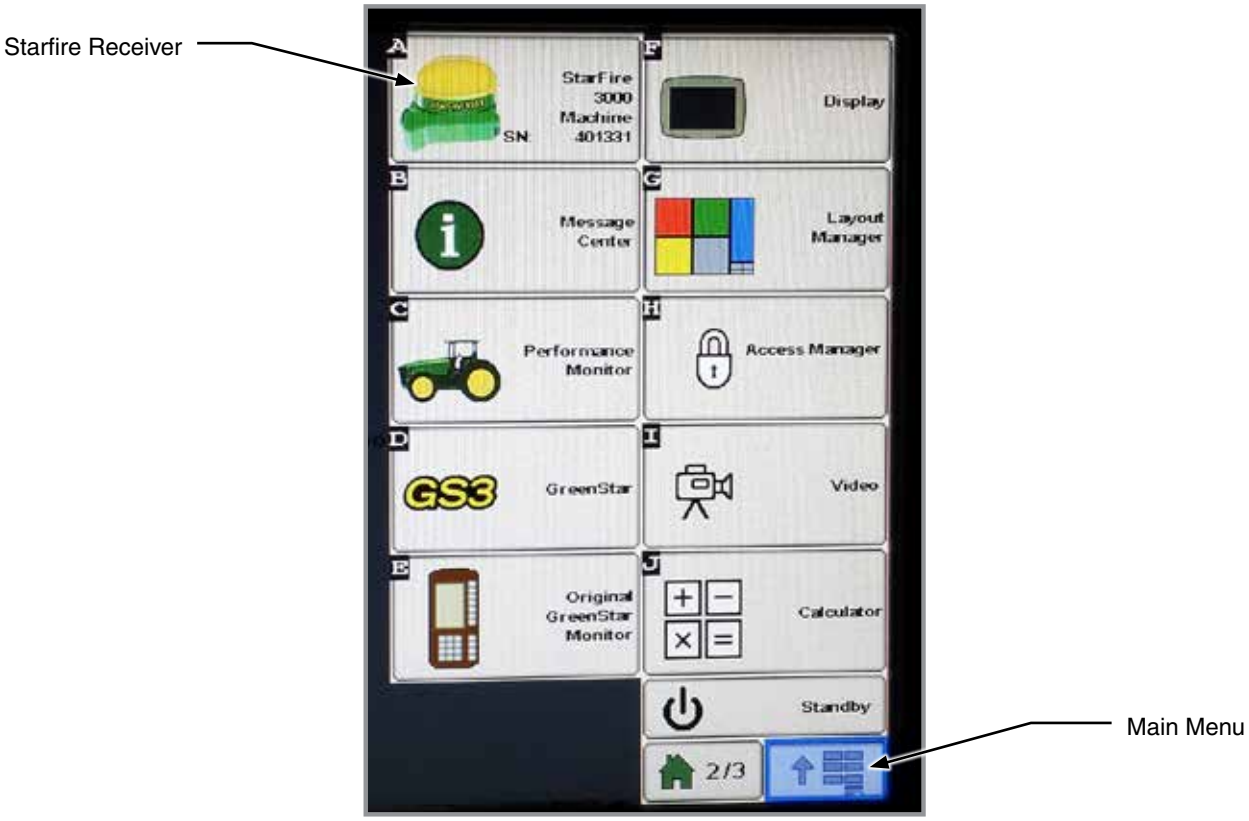
6. Finish securing the harness with cable ties and the installation is complete.

Message Set-Up

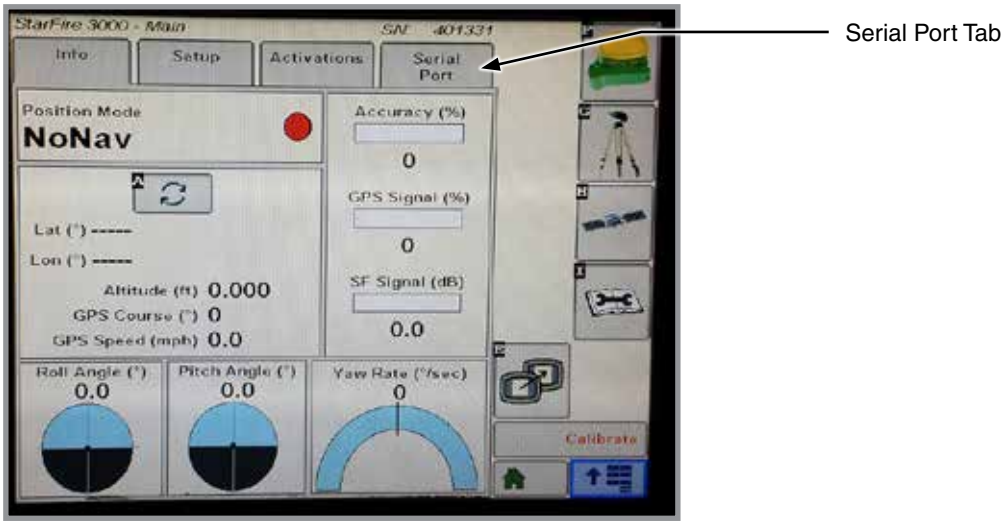
The GPS message set-up can be done with most John Deere displays, including 2600, 2630, and Command Center. The set-up may vary slightly between displays. The following instructions are for a 2630.

1. Turn the tractor key on.

2. Once the John Deere display starts up, navigate to the Main Menu and then select the Starfire receiver.

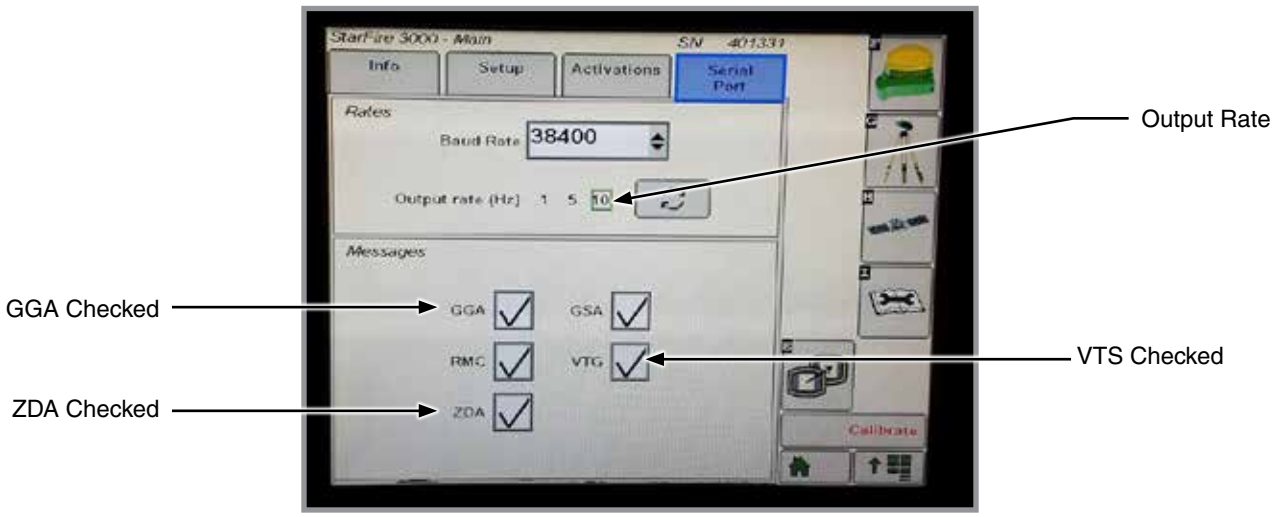


3. From the Starfire screen, select the Serial Port Tab.



Message Set-up (Continued)

4. Ensure the GGA, VTG, and ZDA boxes are checked and the Output rate is set to either 5 or 10.



5. That completes the set-up of the Starfire receiver.

6. Refer to Verifying Correct Set-up with the Envizio Pro to check your connection.

CNH 362/372 SET-UP

To tap into the CNH 362/372 GPS receiver, the John Deere Starfire tee harness is used as well as a CNH adapter harness. The John Deere Starfire tee harness connects to the Envizio Pro harness and then to the CNH adapter harness which plugs into the navigation diagnostics port. The set-up also requires the correct messages to be turned on with a CNH display.

NOTE: There are different setup instructions depending on whether or not navigation is enabled on the tractor. The harness installation is the same regardless of the navigation being enabled.

Harness Installation

1. First locate the tee harness for the John Deere Starfire receiver, Raven P/N 11150172237 (Kinze P/N A21146), and the CNH adapter harness, Raven P/N 11150172237 (Kinze P/N A21147). These harnesses are included in Raven P/N 117-3001-095 (kit #A21143). Pictured below are the 2 harnesses connected together.

2. Connect the Envizio Pro display harness, Raven P/N 115-7300-009 (Kinze P/N A20117), to the John Deere Starfire tee harness. It will plug into the connector labeled GPS Receiver DGPS. Both the harness and specific plug are pictured below.

Close up of Envizio Pro Display Harness GPS Plug-in

Harness Installation (Continued)

3. Locate the navigation diagnostics plug on your tractor. This is usually located near the navigational controller in the in-cab fuse panel. Below are locations for the most common tractors.

    a. Front Wheel Assist Tractors
        i. Remove panel behind the seat below the rear window.

        ii. Locate the 12-pin navigational diagnostics connector as pictured below.

Harness Installation (Continued)

b. Articulated Tractors (4-Wheel Drives)
   i. The navigational diagnostics connector is located under the buddy seat.
   ii. Lift up the buddy seat and remove the parts container to expose the fuse panel.
   iii. Then locate the 12-pin navigational diagnostics plug.

12-pin Navigational Diagnostics Plug

4. Plug the CNH Adapter harness into the NAV diagnostics port of the tractor as seen below.

CNH Adapter Harness
(A21143)

5. Reassemble tractor parts and neatly tie and store the extra length of wire behind the seat.

6. Harness installation is complete.

Message Set-Up with Navigation

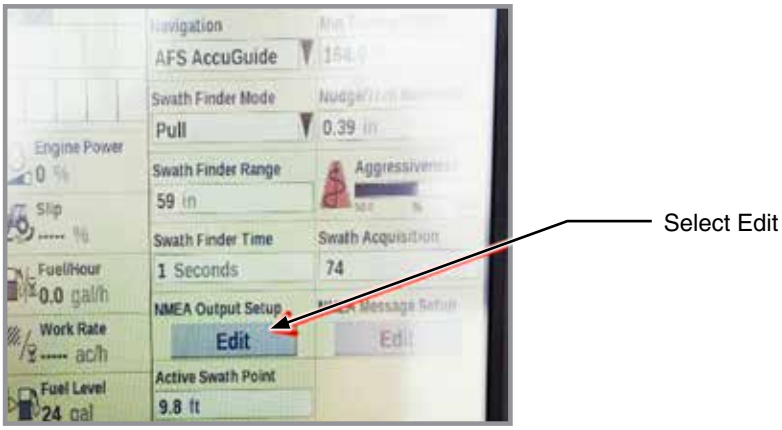
The GPS message set-up can be done with most CNH displays, including Pro 300/600/700 and Intelliview 3/4. The set-up may vary slightly between displays. The following instructions are for a Case Pro 700.

1. Turn the tractor key on.

2. From the Main Menu, select Toolbox.

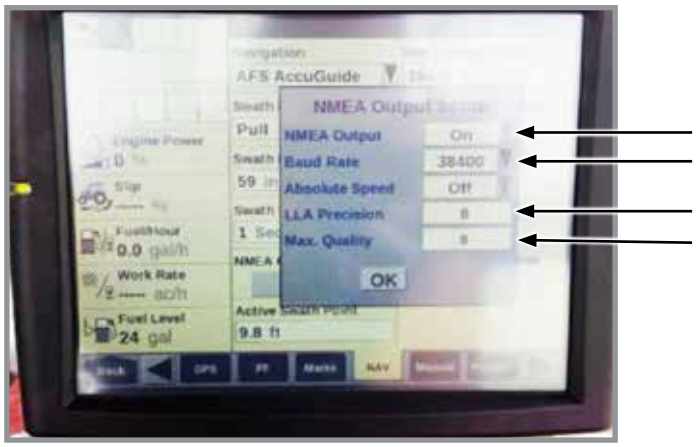
3. Then select the NAV tab for Navigation Settings.

4. Select the Edit button under NMEA Output Setup.



Message Set-Up with Navigation (Continued)

5. Ensure that the NMEA Output is set to On, the Baud Rate is 38400, Absolute Speed is off, and the LLA Precision and Max Quality are both set to 8 as seen below.



6. Select OK.
7. Select the Edit button under NMEA Message Setup.

8. Set the GGA message to 5hz, the RMC message to 1hz, the VTG message to 5hz, and the ZDA message to 1hz as seen below.

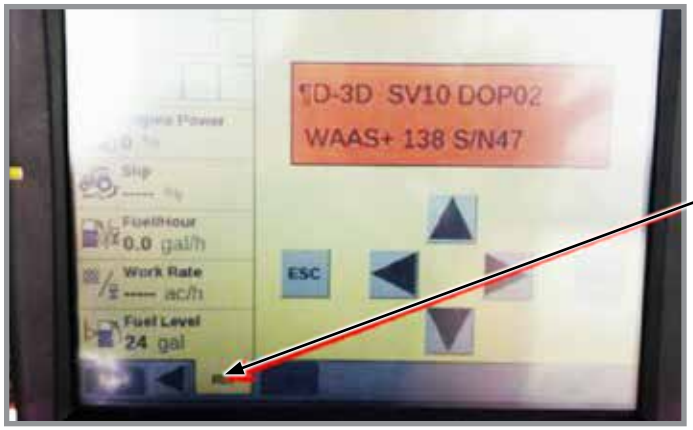
9. Select OK.
10. This completes set-up of the CNH receiver.
11. Refer to Verifying Correct Set-up with the Envizio Pro to check your connection.

Message Set-Up without Navigation

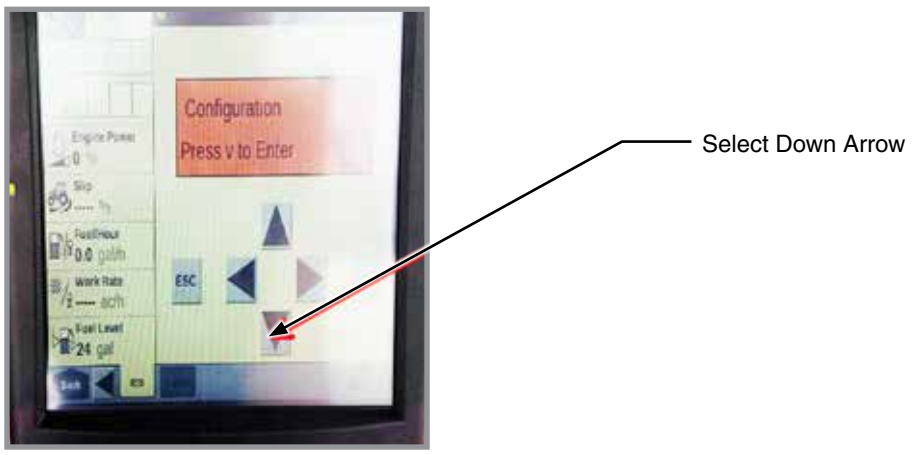
The GPS message set-up can be done with any CNH display, including Pro 300/600/700 and Intelliview 3/4. The set-up may vary slightly between displays. The following instructions are for a Case Pro 700.

1. Turn the tractor key on.
2. From the Main Menu select the Diagnostics button.

3. Then select the Tab labeled RDI.



4. Press the right arrow until it says “Configuration” in the orange box.
5. Once the “Configuration” screen is reached, select the down arrow as seen below.



Message Set-Up without Navigation (Continued)

6. Select the right arrow until “Port C Config” appears in the orange box.

Press down arrow after “Port C Config” appears in orange box above.

7. Once the “Port C Config” screen is reached, select the down arrow as seen above.

8. The following screen should then appear. “Port C Out” should be set to Off and the “Pt-B Flow” should be On. If not, use the following routine:

   a. To change the settings, select the right arrow button. The cursor will then blink on “Port C Out: On”.
   b. Select the up button and the value for “Port C Out” will change to Off.
   c. Then select the right arrow button and the blinking cursor will move to “Pt-B Flow is off line”.
   d. Select the up button and the value for “Pt-B Flow” will change to On.
   e. Press the Enter button to accept the changes.

Select Down Arrow

9. Select the ESC button to return to the “Port C Config” screen.

Message Set-Up without Navigation (Continued)

10. Press the left arrow button so the “Port B Config” label appears in the orange box as seen below.

11. Select the down arrow as seen above.

12. The screen should now appear as it does below. The second line should read “8N1 0 NMEA 38K.4.” If not, use the following routine:
    a. To change the settings, select the right arrow button until the blinking cursor is over “TSIP” as shown below.
    b. Select the up button until it says “NMEA”.
    c. Press the Enter button to accept the changes.

13. Select the down arrow. The settings on this screen should be as they appear below. If not, use the right and up arrow to change the settings as described in Step 8. Press enter to accept any changes made.

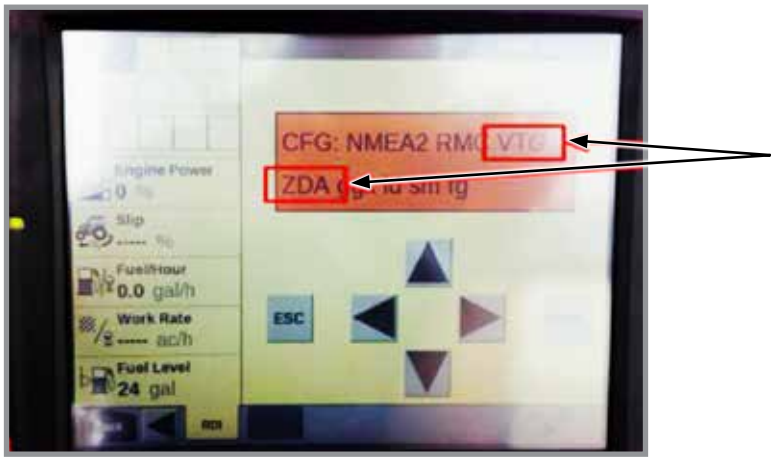
Message Set-Up without Navigation (Continued)

14. Select the down arrow to move to the next configuration screen. On this screen, ensure that “GGA” is in capital letters. If not, use the following routine:

    a. Select the right arrow button until the cursor is flashing over “GGA”.
    b. Select the up button and “gga” should change from lower case letters to upper case letters.
    c. Select Enter to accept the changes.

15. Press the down arrow to move to the next configuration screen. On this screen, ensure that the “VTG” and “ZDA” messages are in capital letters. If not, use the following routine:

    a. Select the right arrow button until the cursor is flashing over “VTG”.
    b. Select the up button and “vtg” should change from lower case letters to upper case letters.
    c. Select the right arrow button again until the cursor is flashing over “ZDA”.
    d. Select the up button and the “zda” should change from lower case letters to upper case letters.
    e. Select Enter to accept the changes.



Message Set-Up without Navigation (Continued)

16. Select the down arrow to move to the next configuration screen. On this screen, ensure that the output is set to ASAP. If it is not, press the right arrow until the cursor is blinking over the value you would like to change. Then use the up arrow to change the value and enter to accept the change. The settings should look as they do below when complete.

17. This completes the set-up of the CNH receiver. Go to the section titled Verifying Correct Set-up with the Envizio Pro to check your connection.

AG LEADER 1500/1600/6000

When using an Ag Leader 1500/1600/6000 GPS receiver, the Ag Leader adapter harness will be used to hook up to the GPS harness and then to the Envizio Pro harnessing. The set-up also requires the correct messages to be turned on with an Ag Leader display.

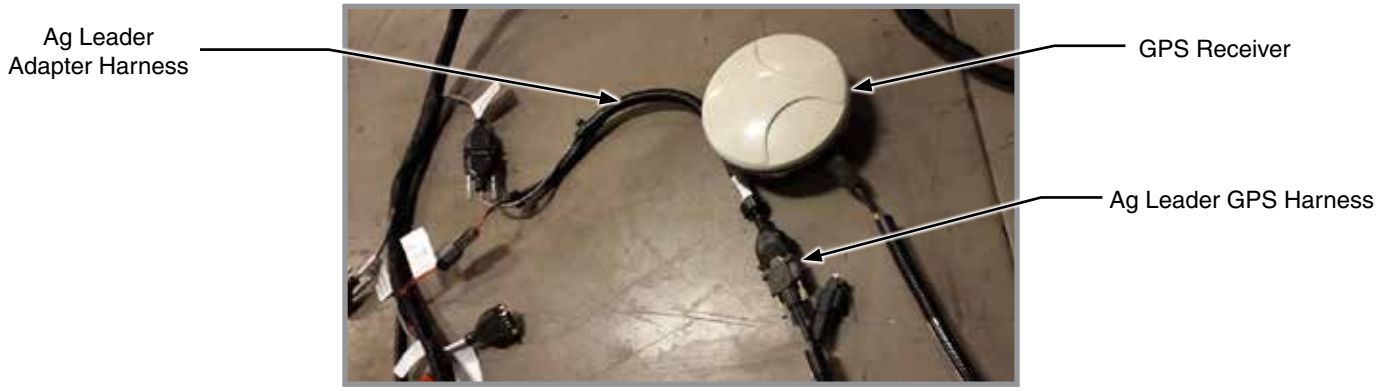
Harness Installation

1. First, locate Ag Leader adapter harness, P/N A21145 (Raven P/N 11150172236). This harness is included in kit # A21143 (Raven P/N 117-3001-095). Pictured below is the Ag Leader adapter harness.

2. Connect the Envizio Pro display harness, Raven P/N 115-7300-009 (Kinze P/N A20117), to the Ag Leader display harness as seen above. It will plug into the connector labeled GPS Receiver DGPS and the connector labeled switched PWR Output. The two connectors on the Envizio Pro display harness can be seen below.

Harness Installation (Continued)

3. Connect the GPS receiver harness to the Ag Leader adapter harness as shown below.



Message Set-Up

The GPS message set-up can be done with most Ag Leader displays including Insight, Integra, and Versa. The set-up may vary slightly between displays, the following instructions are for an Integra.

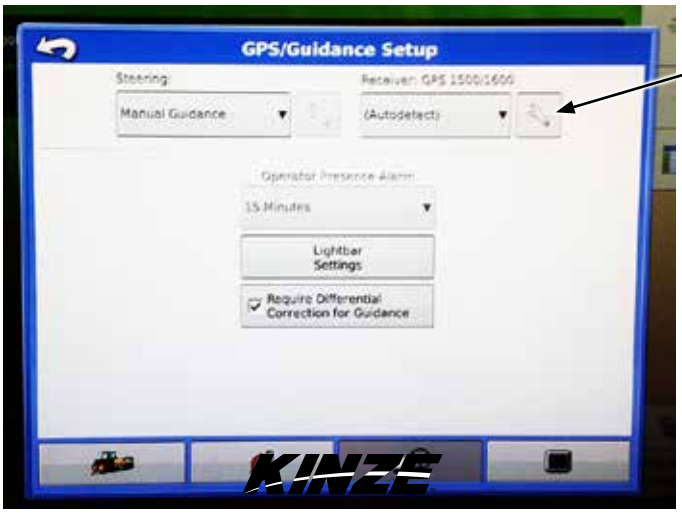
1. If you have already installed the Ag Leader adapter harness, you will need to unplug the GPS harness from the adapter harness and plug it into the Ag Leader display harness so it can be configured.

2. Turn on the Ag Leader display.

3. From the Main Menu, select the Wrench icon.

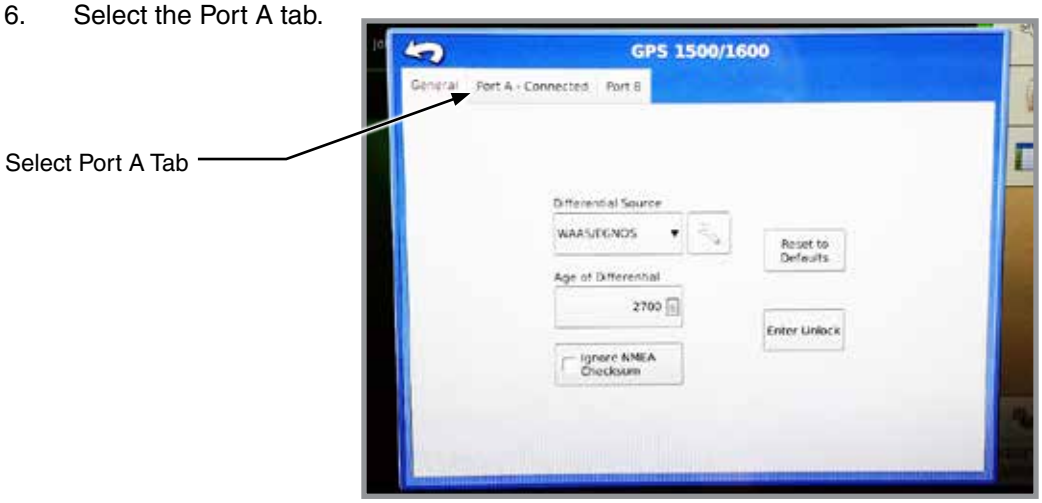
4. Select the GPS icon.

5. Select the wrench icon beside the GPS selection.



Message Set-Up (Continued)

6. Select the Port A tab.



7. Verify that the “GGA”, “VTG”, “ZDA”, and “RMC” messages are check marked and the GPS Position Rate is set at either 5 or 10hz.

8. The set-up is now complete. Unplug the GPS receiver from the Ag Leader display harness and plug it back into the Envizio Pro adapter harness.

VERIFYING CORRECT SET-UP WITH ENVIZIO PRO

1. Drive the tractor outdoors where the GPS can receive a signal.
2. Power on the Envizio Pro display.
3. When the Envizio Pro starts up, it will search for attached GPS receivers.
4. If a GPS receiver is found and it is receiving the correct GPS messages, the GPS icon pictured below will be green.

5. If this icon is green, the GPS is functioning properly and no further verification is needed. If this Icon is red, there is an issue with the GPS connection. Power down the Envizio Pro display, check the connections and GPS settings for any errors.

ENVIZIO PRO MONITOR OVERVIEW

This section explains the setup of the Envizio Pro monitor unique to Model 4900MH.

NOTE: For general operation of Multi-Hybrid Control System, reference OmniRow Calibration and Operation Manual, from Raven Industries (P/N 016-0171-405).

 Back	 Cancel
 Next	 Information
 Accept	

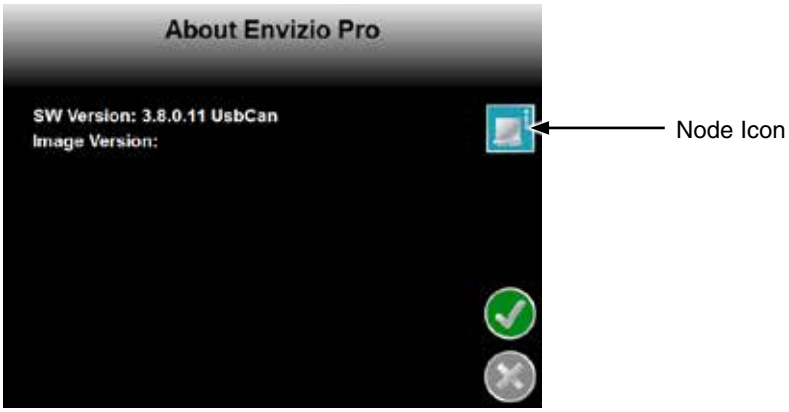
Common Icons

INITIAL STARTUP

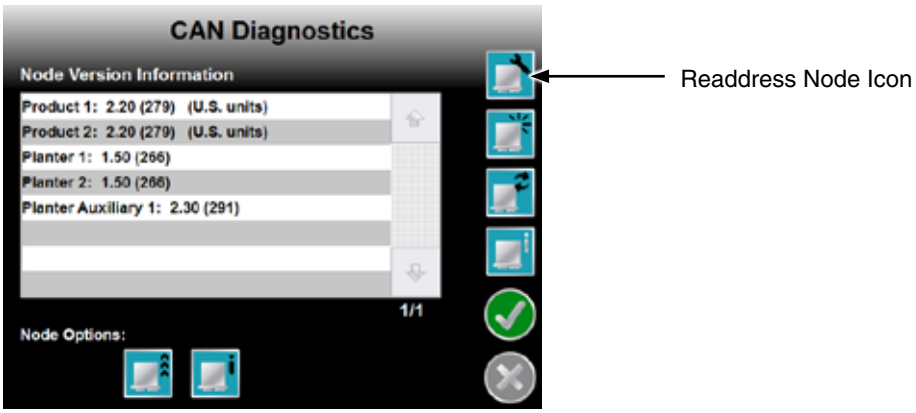
1. Power on the system by pressing the blue power button on the right side of the display.
2. If Envizio Pro asks how many products the node will control, verify using the serial number if Auxiliary node or liquid product controller node is requesting information. Select 0 if it is the Aux node, Select 2 if it is the liquid product controller node, then press Accept.

   NOTE: Liquid product controller node is only available when liquid fertilizer is an installed option on the planter.

3. From Home screen, select the Information Icon.

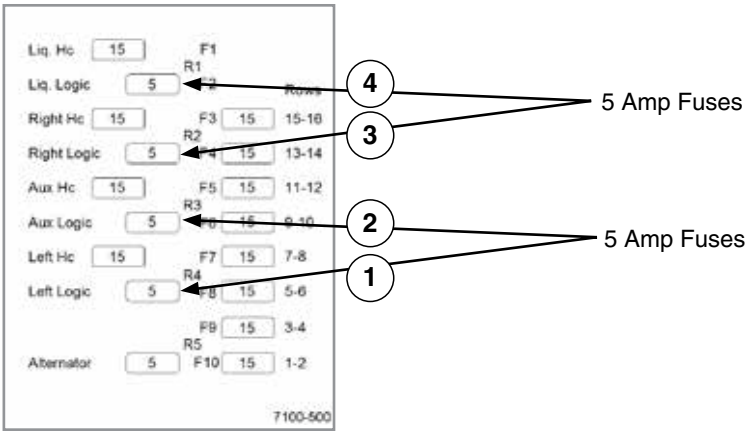


4. The software version of the Envizio Pro monitor is shown on this screen.
5. Press the node icon to view the current control nodes that are detected on system.



6. Press the readdress node icon  and confirm that you want to readdress the nodes on the system.

NOTE: If more than two products are shown or if two products are shown but liquid fertilizer is not installed, select Planter Auxiliary from the list. The number of products controlled by this node will display at the bottom of the screen. Select this button and set to zero.



7. Once the readdress procedure has started, remove and then replace the 5 amp logic fuses from the fuse panel on the back of the planter one at a time starting with the Left Logic fuse (1). Verify that the left planter node cycles power by watching the lights on the node cycle off when fuse is pulled then back on when fuse is inserted. Proceed with cycling power on Auxiliary node (2), then right planter node (3), then liquid product controller node (4).

8. After readdressing nodes select the reinitialize CAN button  to redetect the current state of the nodes in the system

9. CAN diagnostics page should appear as above with Product 1 and 2 (for liquid equipped systems only), Planter 1, planter2, and planter auxiliary.

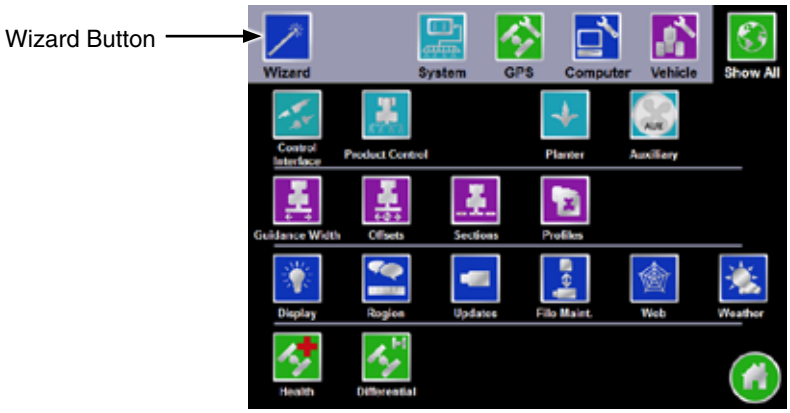
11. To update node firmware, select the node to be updated and then select the update button  . Only updates relevant to the selected node will be displayed. Highlight the latest firmware and select to update node.

    NOTE: Refer to OmniRow Quick Reference Guide or Operation Manual for detailed instructions on updating software. Software updates are available at www.kinze.com.

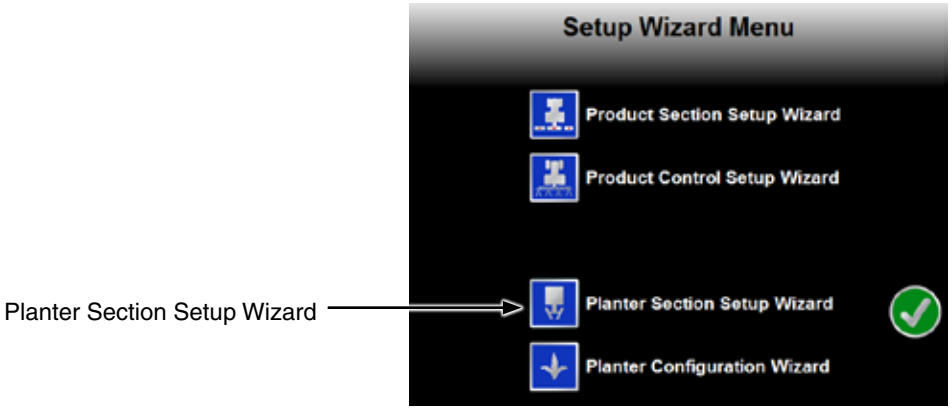
PLANTER SECTION SETUP

1. Navigate to Home Screen.

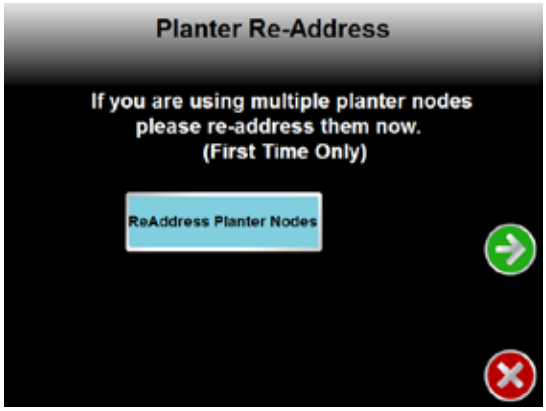
2. Select tools button at the bottom-center of screen.



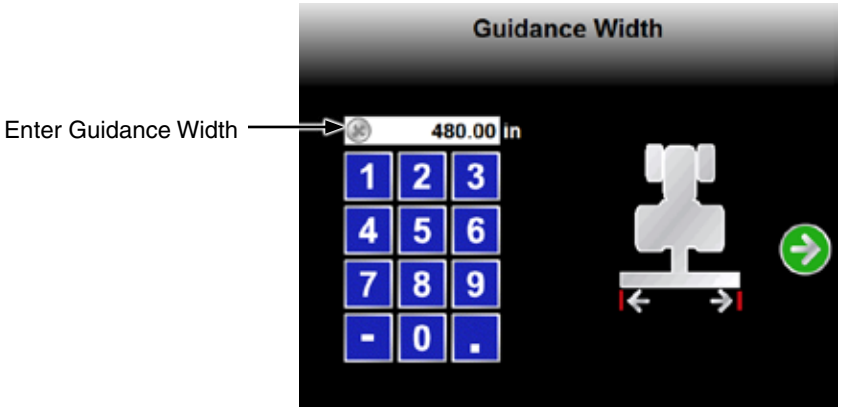
3. Select Wizard button  on the upper left. The following display appears:



4. Select Planter Section Setup Wizard.

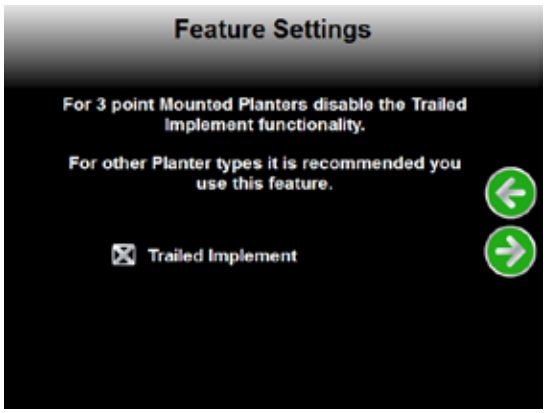


5. Do NOT Select ReAddress Planter Nodes if this has already been completed. Select Next button.

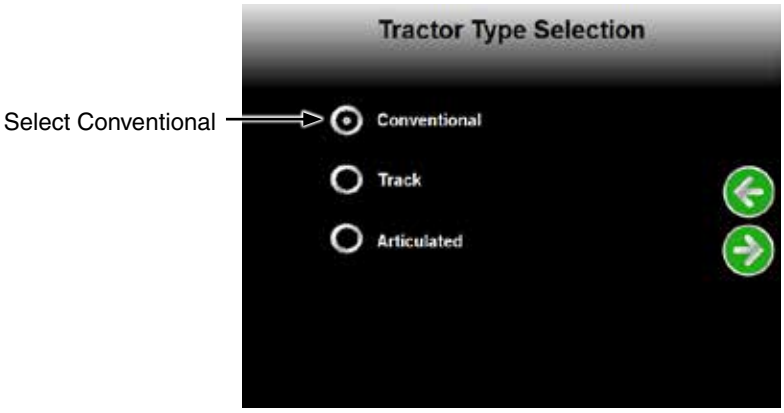


6. Enter Guidance Width based on the following table and select Next button.

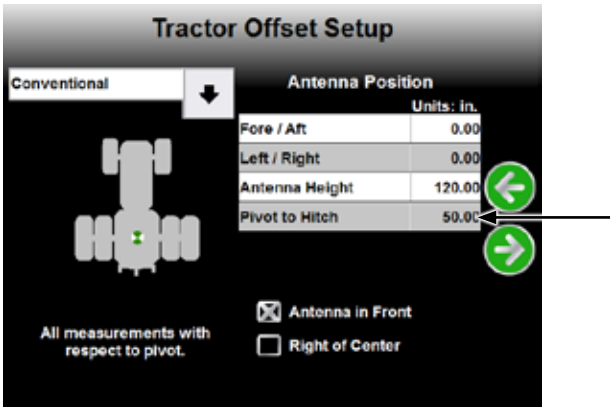
Number of Rows	Guidance Width
16	480



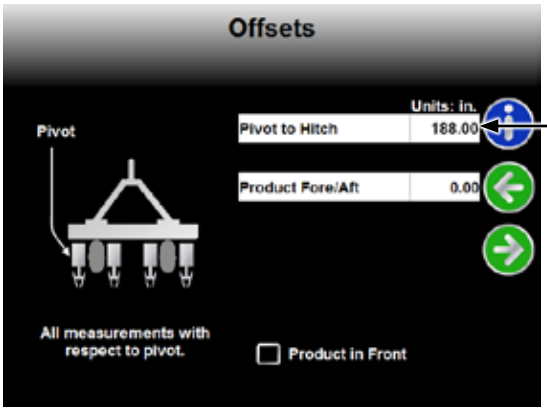
7. Select Next button.



8. Select Conventional and select the Next button.

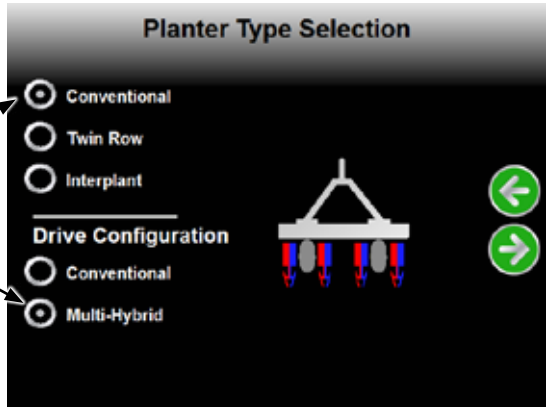


10. Enter the measurements specific to your tractor and select the Next button.



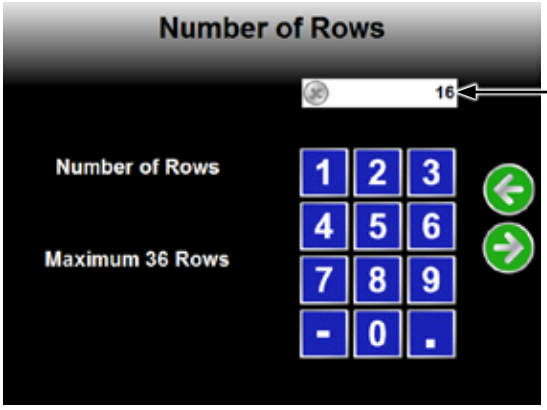
Enter “188” For Pivot to Hitch

11. Enter “188” for Pivot to Hitch and then select Next button.



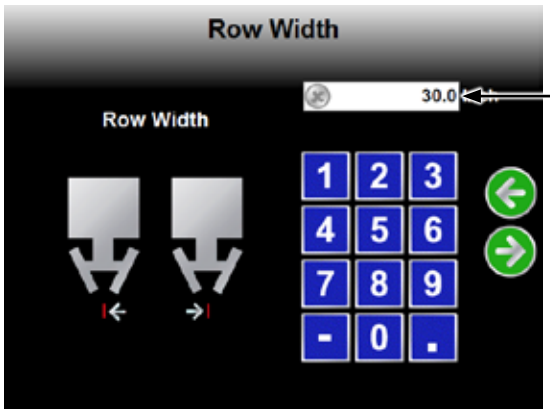
Select Conventional and Multi-Hybrid

12. Select Conventional and Multi-Hybrid, and then select Next Icon.

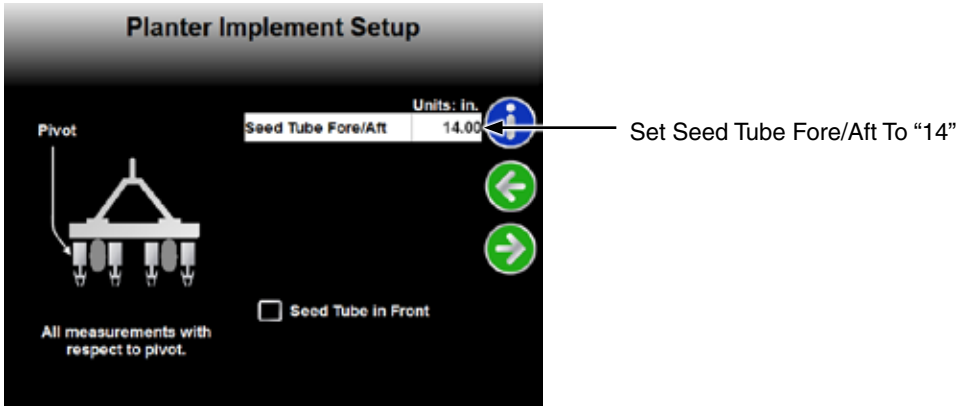


Enter Number Of Rows

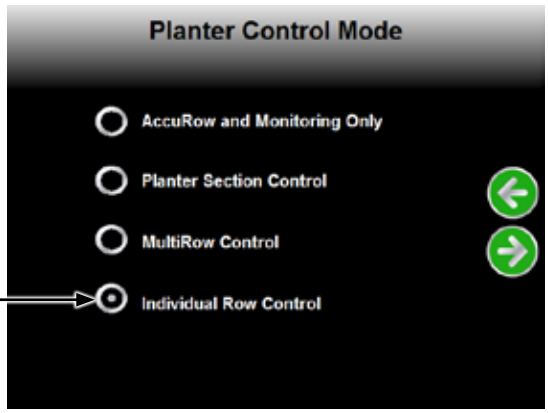
13. Enter Number of Rows and then select Next Icon.



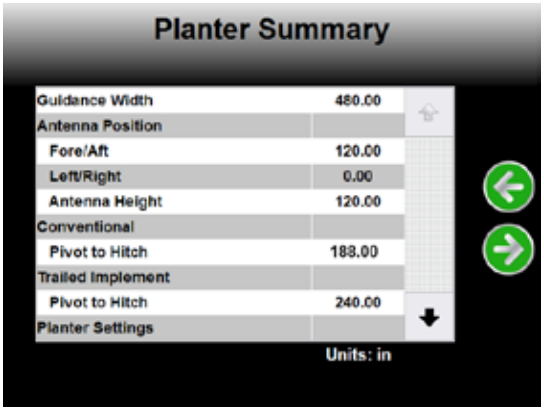
14. Set Row Width to 30 inches, and then select Next Icon.



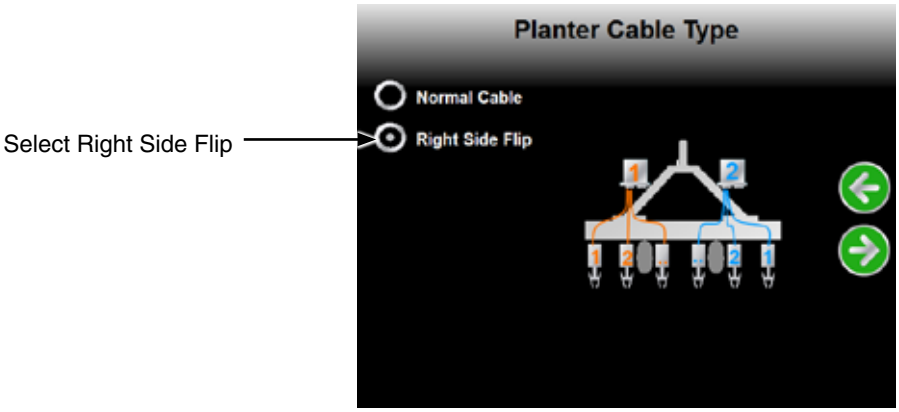
15. Set Seed Tube Fore/Aft to 14, and then select Next Icon.



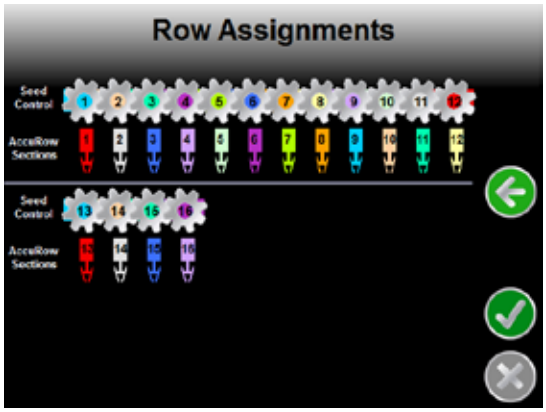
16. Select Individual Row Control, and then select Next Icon.



17. Select Next Icon.

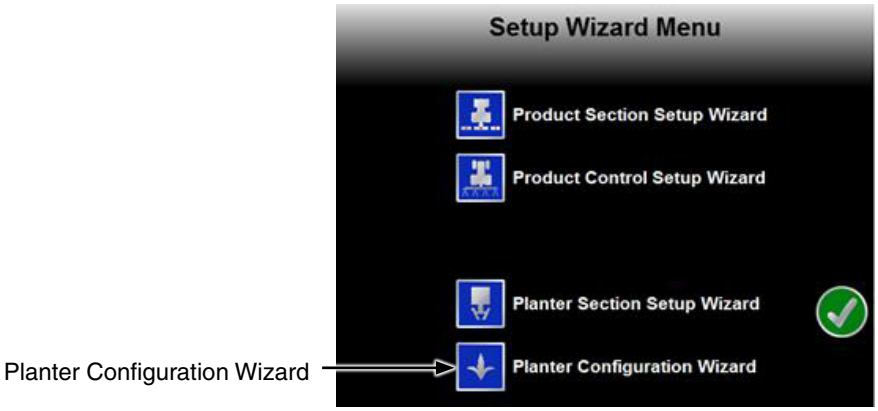


18. On the Planter Cable Type screen, select Right Side Flip and then select Next Icon.

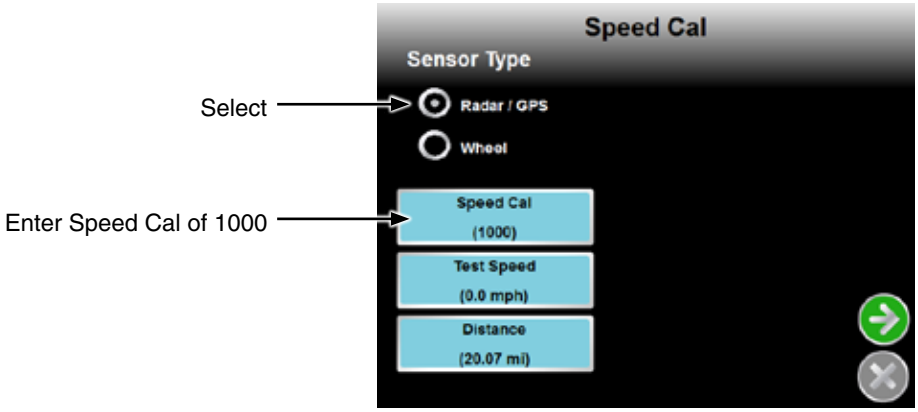


19. Select Accept Icon.

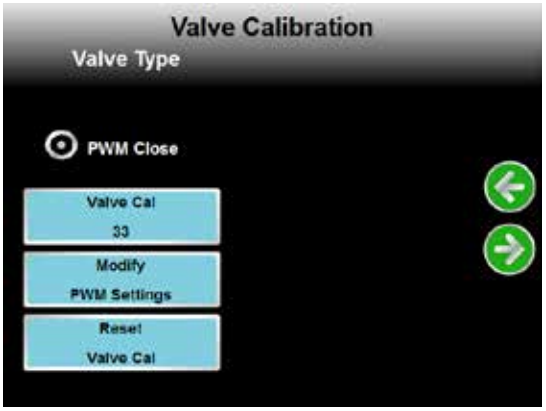
PLANTER CONFIGURATION



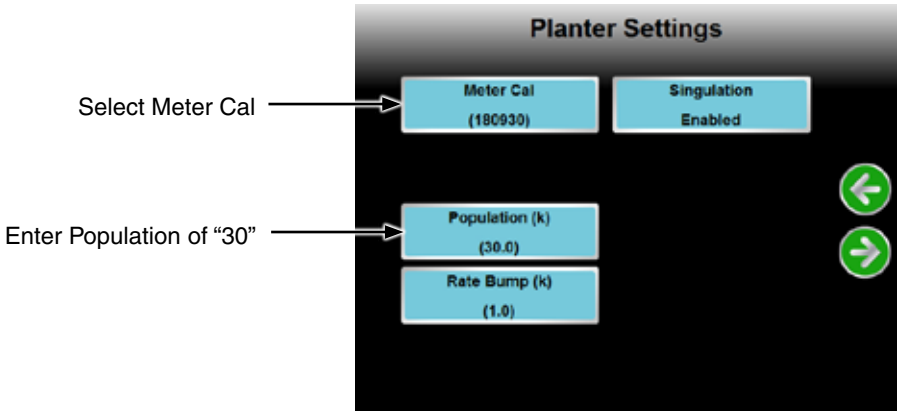
1. From the Setup Wizard Menu, select Planter Configuration Wizard.



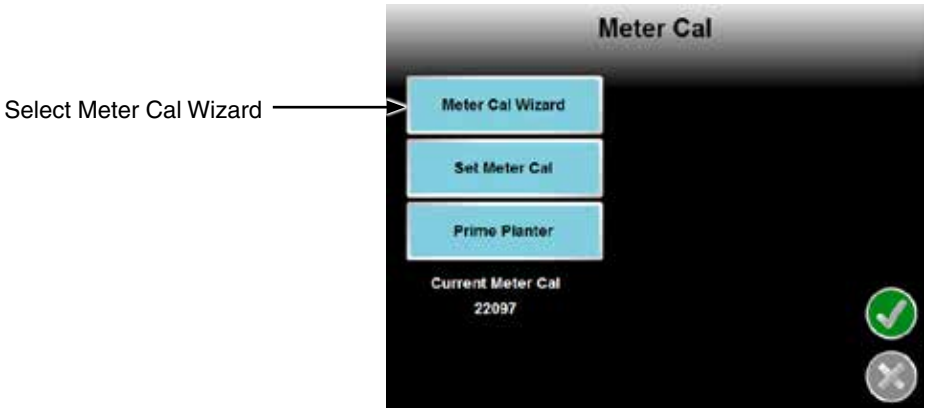
2. Select Radar/GPS, enter a Speed Cal of 1000 and then select Next button.



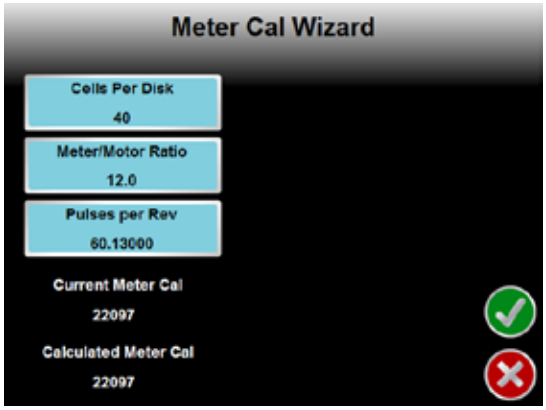
3. Select Next Icon.



4. Enter a population of 30.
5. Select the singulation setting: Corn = “Enabled”; Soybeans = “No Enabled”.
6. Select Meter Cal.
   NOTE: This is a default population and should always be set to a non-zero number. When using prescription maps, this setting will be automatically overidden by the prescription.



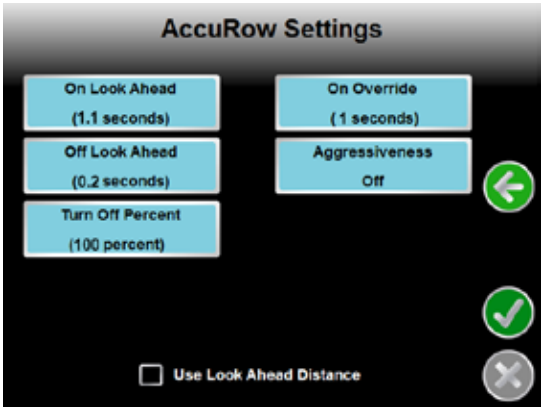
7. Select Meter Cal Wizard.



8. Enter the following:

Cells Per Disk =	40 (corn) or 120 (soybeans)
Meter/Motor Ratio =	12
Pulses Per Rev =	60.13

   Select Accept.
   Select Accept on the meter cal page.
   Select Next on planter settings page.



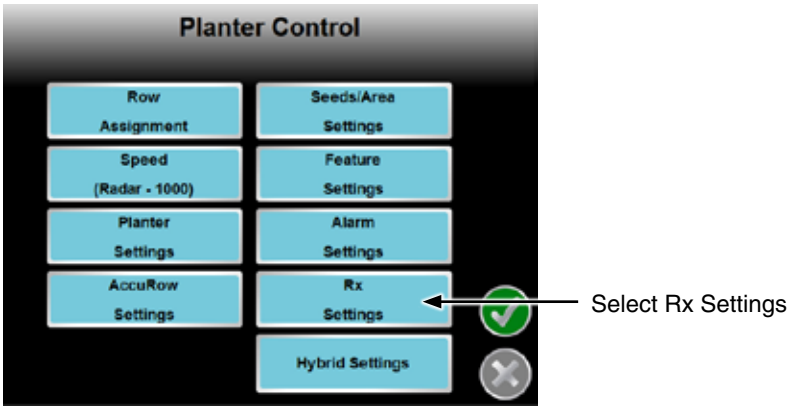
9. Enter the recommened initial settings:

	John Deere	Ag Leader	CNH
On Look Ahead =	1.1	0.9	1.1
Off Look Ahead =	0.2	0.2	0.4
Turn Off Percent =	100	100	100
On Override =	1	1	1
Agressiveness =	Off	Off	Off

Select Accept Icon.

NOTE: These are recommended initial settings only. It is recommended that the row shutoffs be checked at the start of a planting season and adjusted to match tractor, GPS, driving style, and planting preferences. Refer to the OmniRow "Calibration and Operation Manual" for detailed information on AccuRow settings adjustments.

HYBRID AND RATE SWITCH SETINGS



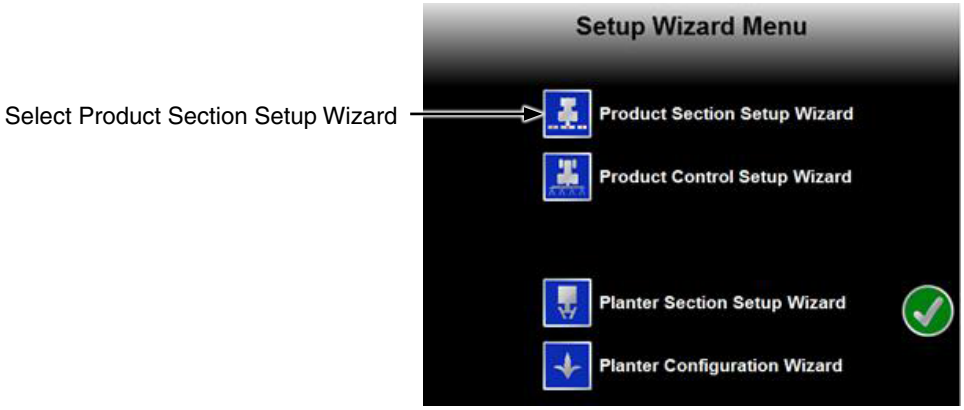
1. Navigate to the planter control menu (Home→Tools→Planter).

2. Select Rx Settings. Rx settings adjust the pass-to-pass accuracy of seed rate changes when using prescription maps.
   Enter the following initial settings:
   a. Place an “X” next to “Zero Rate Shutoff” (This allows the control system to shut off rows based on zones, such as waterways or ditches, with a target rate of zero on the prescription map).
   b. Set the Rx Look Ahead to 0.3.
   c. Set the Rx Default Rate to the desired default seed population.
   d. Select Accept.

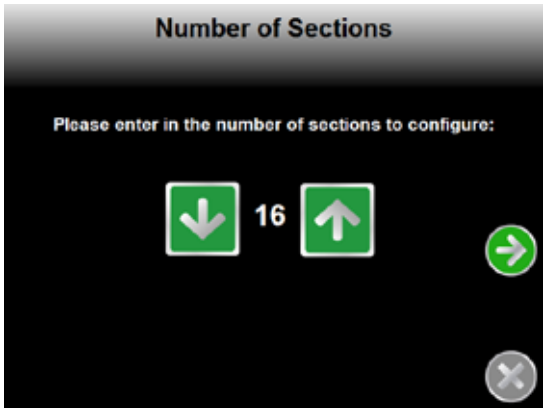
3. Select Hybrid Settings. Hybrid settings adjust the pass-to-pass accuracy of seed rate changes when using prescription maps.
   Enter the following initial settings:
   a. Place an “X” next to “Use Grouping with Map”.
   b. Set the Switch Look ahead to 0.6.

   NOTE: These are recommended initial settings only. It is recommended that the pass-to-pass accuracy be checked at the start of a planting season and adjusted to match tractor, GPS, driving style, and planting preferences. Refer to the OmniRow “Calibration and Operation Manual” for detailed information on AccuRow settings adjustments.

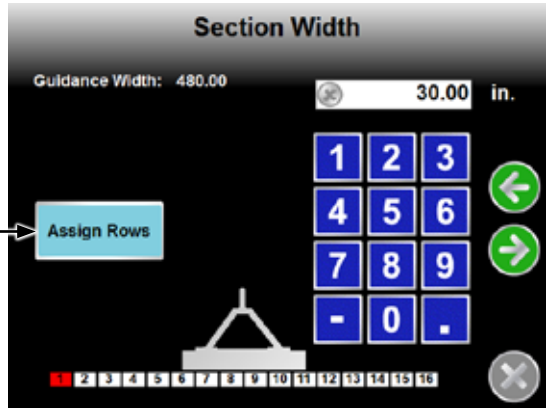
LIQUID SETUP AND CONFIGURATION (SKIP IF NOT INSTALLED)



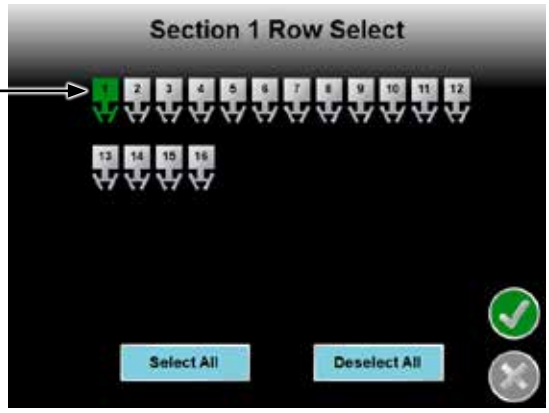
1. Navigate to Setup Wizard Menu (Home -> Tools -> Wizard). Select Product Section Setup Wizard.



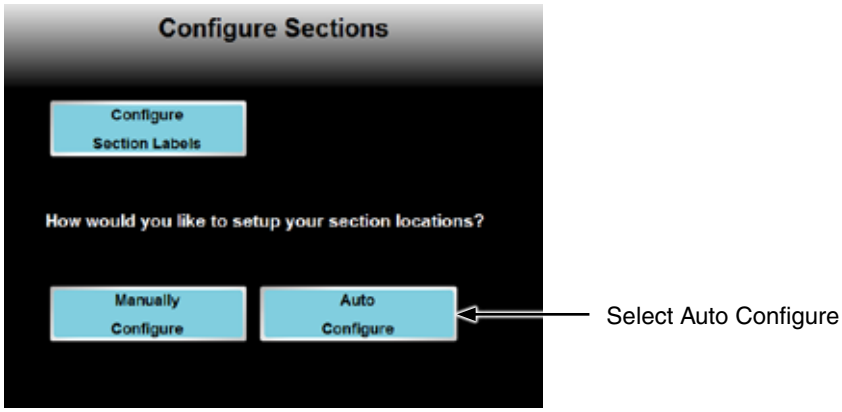
2. Set number of sections to 16 and select Next.



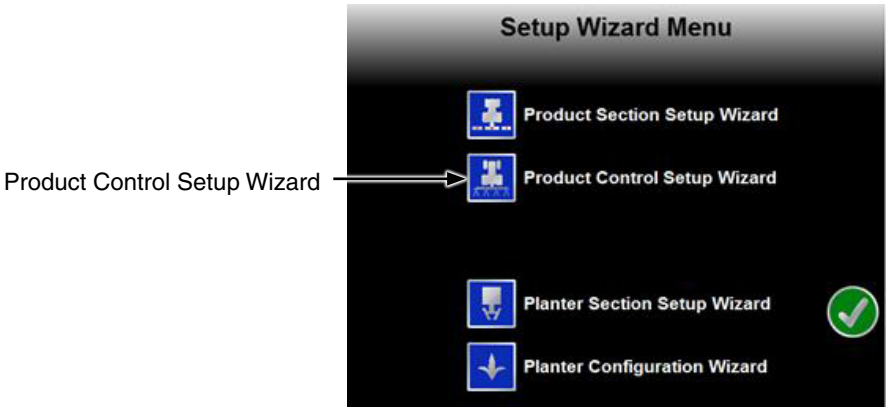
3. Select Assign Rows.



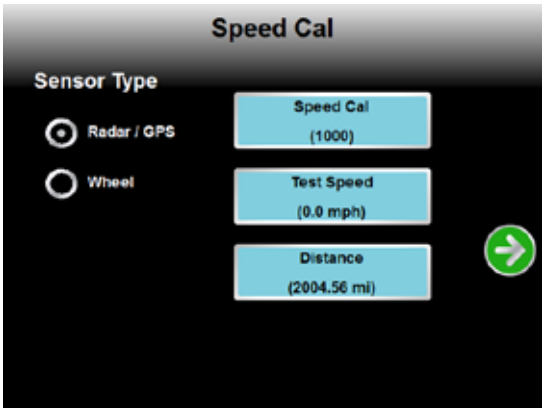
4. Select only row number one for section number one then select check box
5. Select next arrow to proceed to section 2. Via the Assign Rows button, assign row number 2 to section 2. Proceed through remaining sections, assigning them to corresponding row.



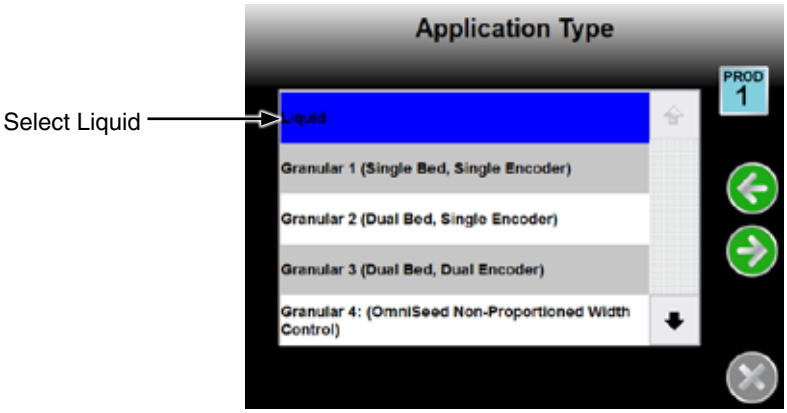
6. Select Auto Configure.
7. Wait until the Accept icon is displayed, and then select Accept.



8. From Setup Wizard Menu, select Product Control Setup Wizard.

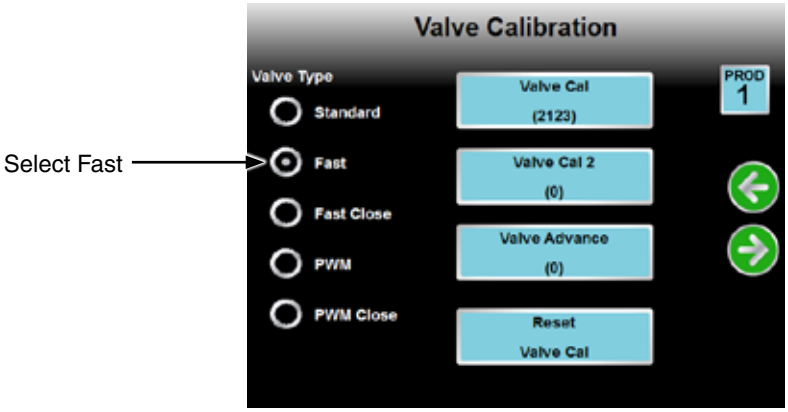


9. Select Next.

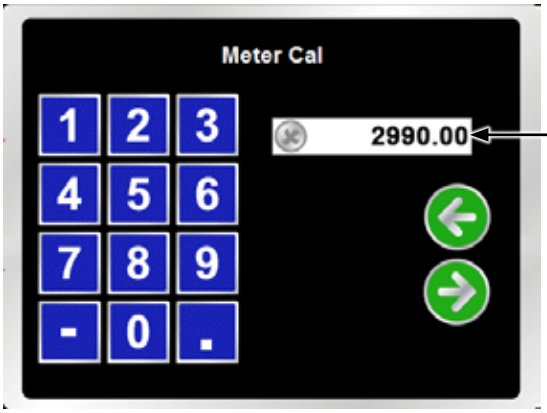


10. Select Liquid in the table then select Next.

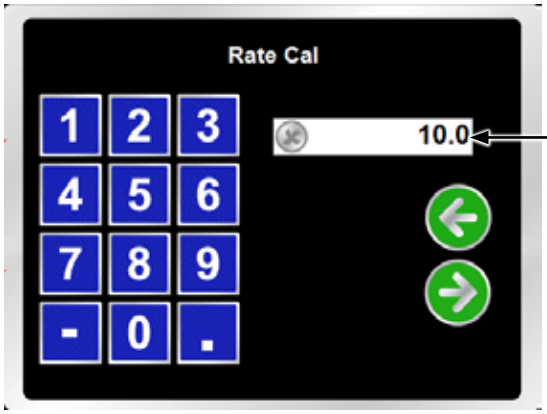
NOTE: Product one configures the liquid fertilizer flow meter and control valve.



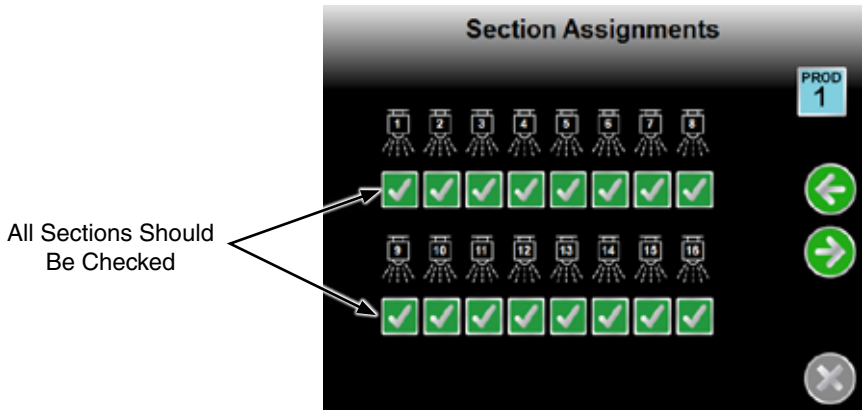
11. Select Fast for Valve Type.
12. Select Next.



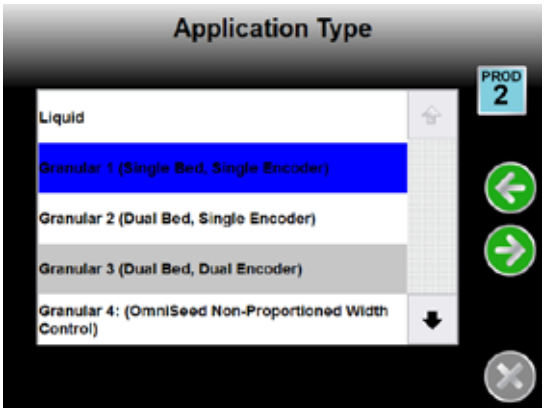
13. Set Meter Cal to 2990 or to 10 times the number of pulses per gallon of the liquid flowmeter.
14. Select Next.



15. Set Rate Cal to 10.
16. Select Next.

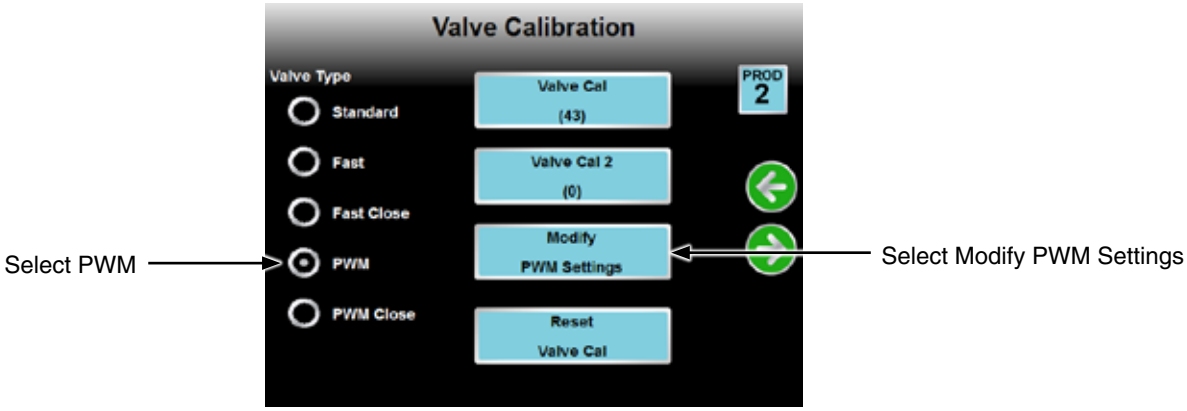


17. Ensure all sections are checked and select Next.

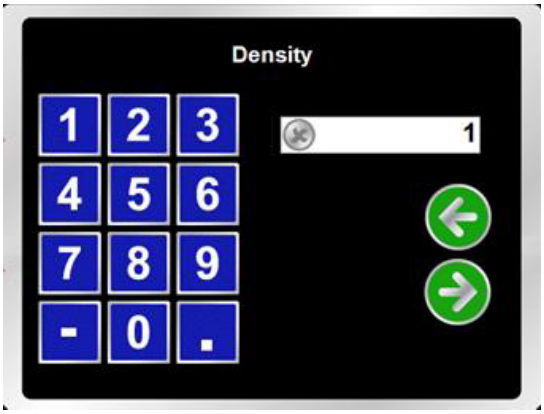


18. For Product 2, select Granular 1.
    NOTE: Product 2 configures the liquid fertilizer pump control. The name "Granular 1" does not refer to a literal granular application on the planter.

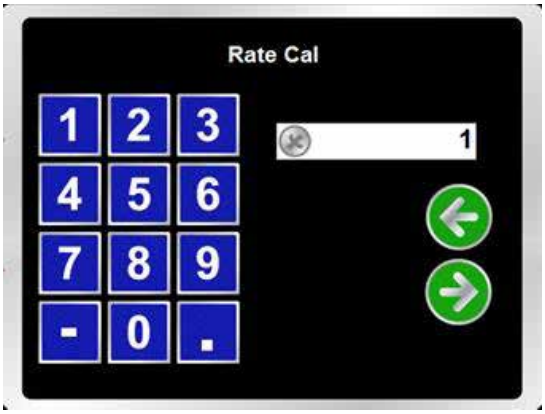
19. Select Next.



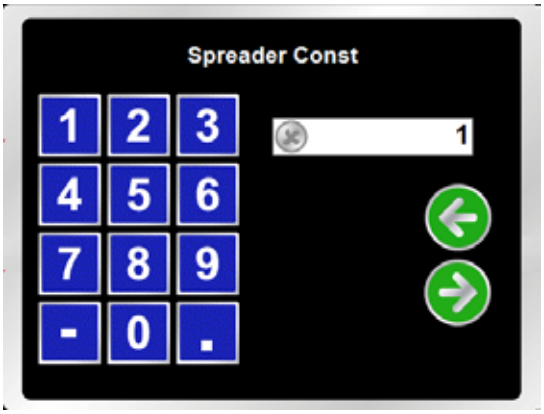
20. Select PWM for Valve Type.
21. Select Modify PWM Settings.
22. Set the Max PWM to 253.
23. Set the Min PWM to 250.
24. Select Accept.
25. Select Next.



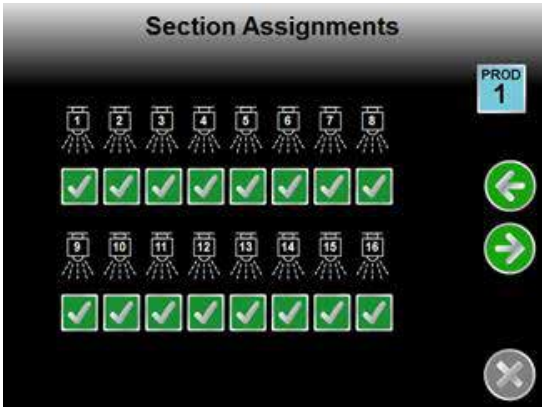
26. Set Density to 1.
27. Select Next.



28. Set Rate Cal to 1.
29. Select Next.



30. Set Spreader Const to 1.
31. Select Next.

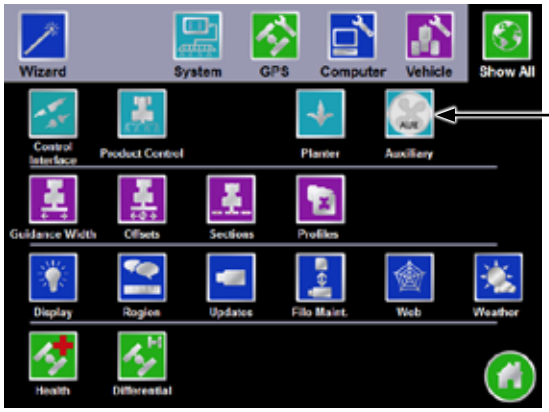


32. Select Next.

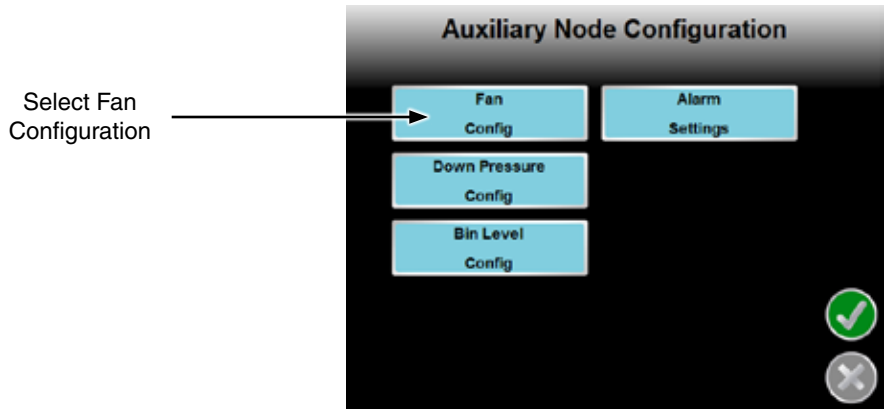
33. Select Accept Button to return to configuration screen.

FAN AND PDP CONFIGURATION

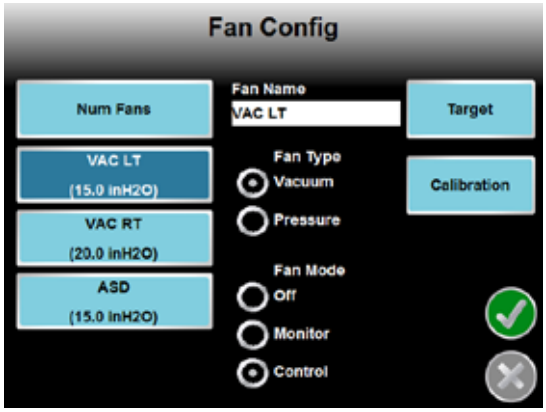
1. From Home Screen, select Configuration.



2. Select Auxiliary.



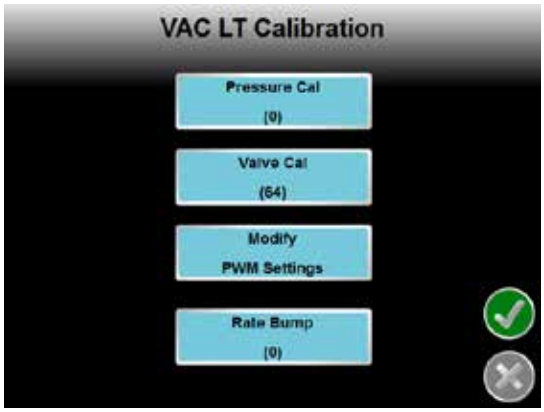
3. Select Fan Config.



4. Enter 3 for Num Fans.
5. Enter the fan names as Left, Right, and bulk fill from top to bottom
6. Set Fan type for Left and Right vacuum fans to Vacuum.
7. Set Fan type for bulk fill to Pressure.
8. Set Fan Mode for all fans to Control
9. Set Target for the Left/Right Vac to the desired vacuum level.
10. Set Target for the bulk fill to the desired pressure level.
11. For each fan, calibrate the air pressure sensor to zero.

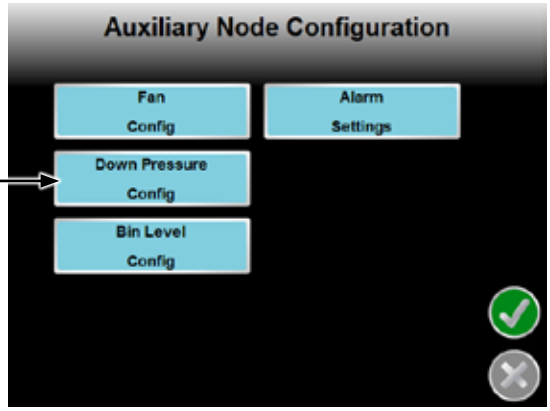
NOTE: Be sure that fans are not supplying pressure/vacuum during calibration.

a. Select Calibration.



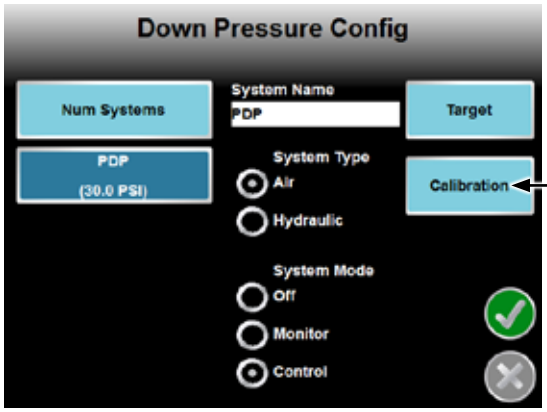
b. Set Pressure Cal to 0.
c. Set Rate Bump to 1.

12. Navigate back to the Auxiliary Node Configuration screen.



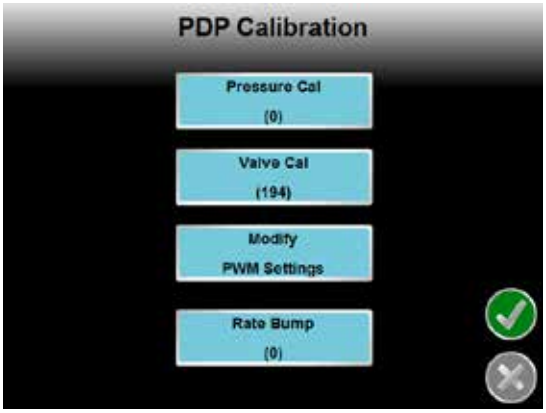
Select Down Pressure Configuration

13. Select Down Pressure Config.



Select Calibration

14. Set Num Systems to 1.
15. Set System Mode to Control.
16. Set System Type to Air.
17. Set Target to desired PSI.
18. Select Calibration.



19. Set Pressure Cal to 0.
    NOTE: Make sure there is zero pressure in the row untis during calibration.
20. Set Rate Bump to 5
21. Select Accept.

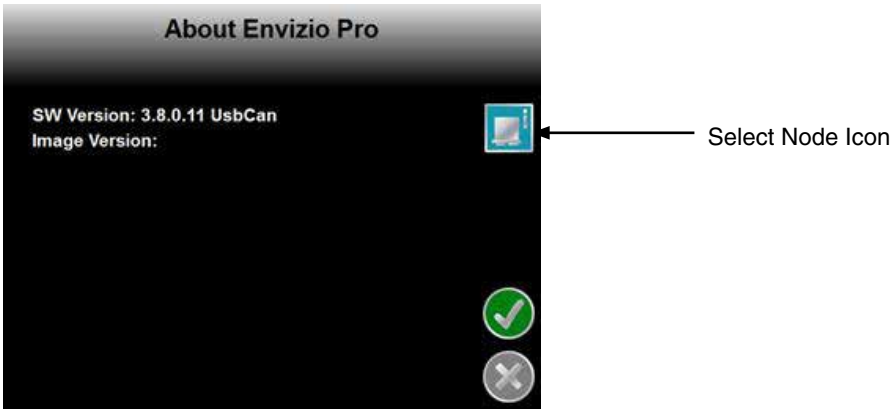
Appendix A:
Troubleshooting a Loss of Auxiliary Control (Fans, PDP, Etc.)

The hardware in the product node and auxiliary node are very similar, and it is possible for the product node to override the auxiliary node. This will cause the auxiliary node to stop responding to commands and the icon may disappear from the Setup page. This is not likely to occur unless a new product or auxiliary node is installed in a previously configured planter.

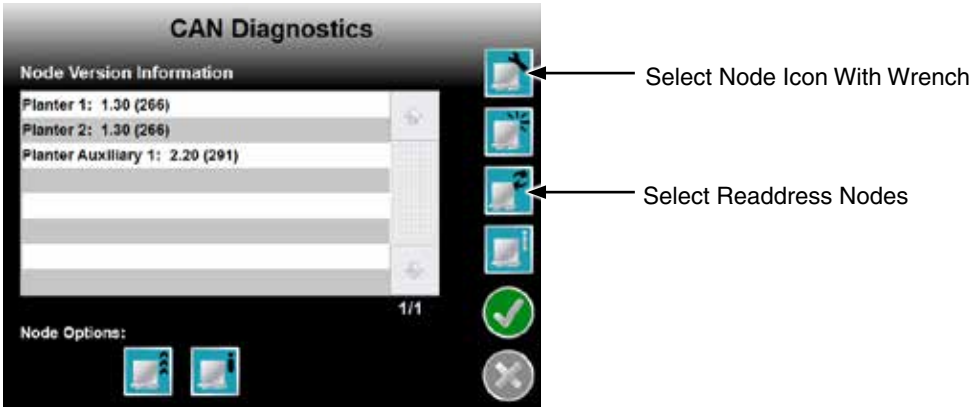
To reinitialize the node:

1. Disconnect the product node from the wiring harness.

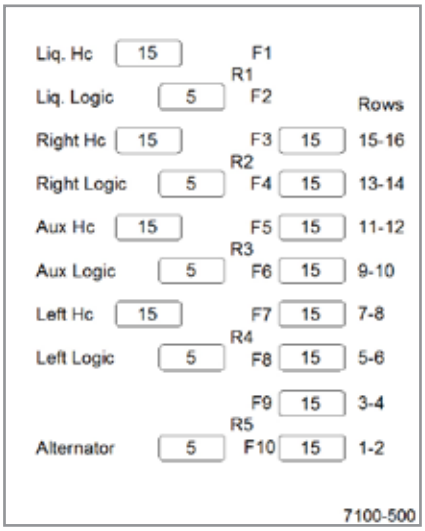
2. From the Home page, select the Info Icon.



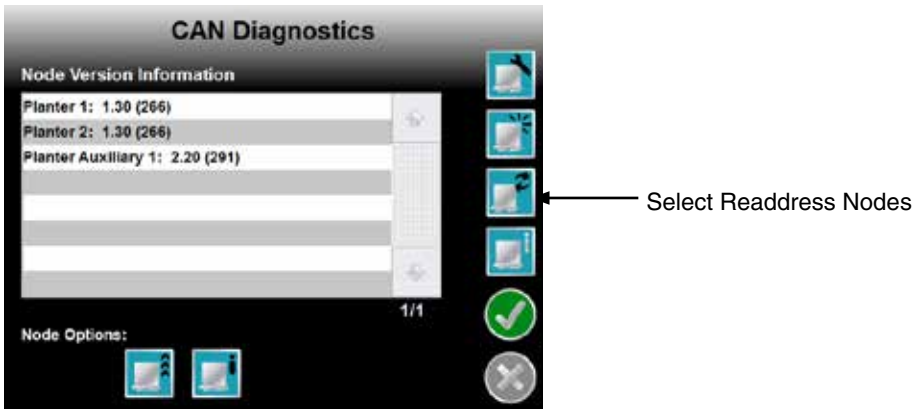
3. On the About Envizo Pro Page, select the Node Icon.



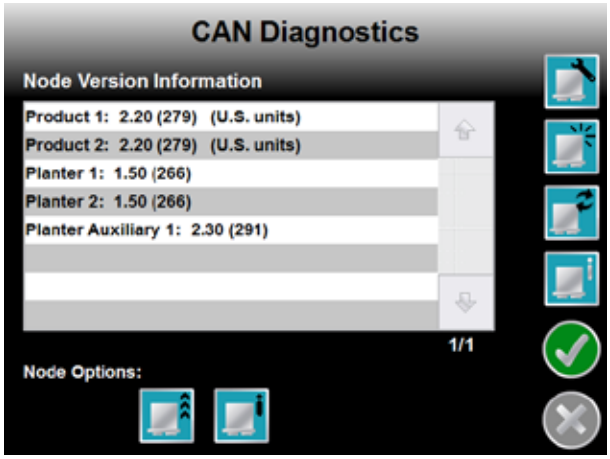
4. Selecting the Node Icon with the wrench.
5. Select Readdress nodes.



6. Remove and replace the fuses in this order:
   a. Left Logic
   b. Aux Logic
   c. Right Logic
7. Select Accept after readdressing.
8. Reconnect the Product Node to the wiring harness.



9. Select Node Communication Retry.



10. CAN diagnostics page should appear as above with Product 1 and 2, Planter 1, Planter 2, and planter auxiliary.

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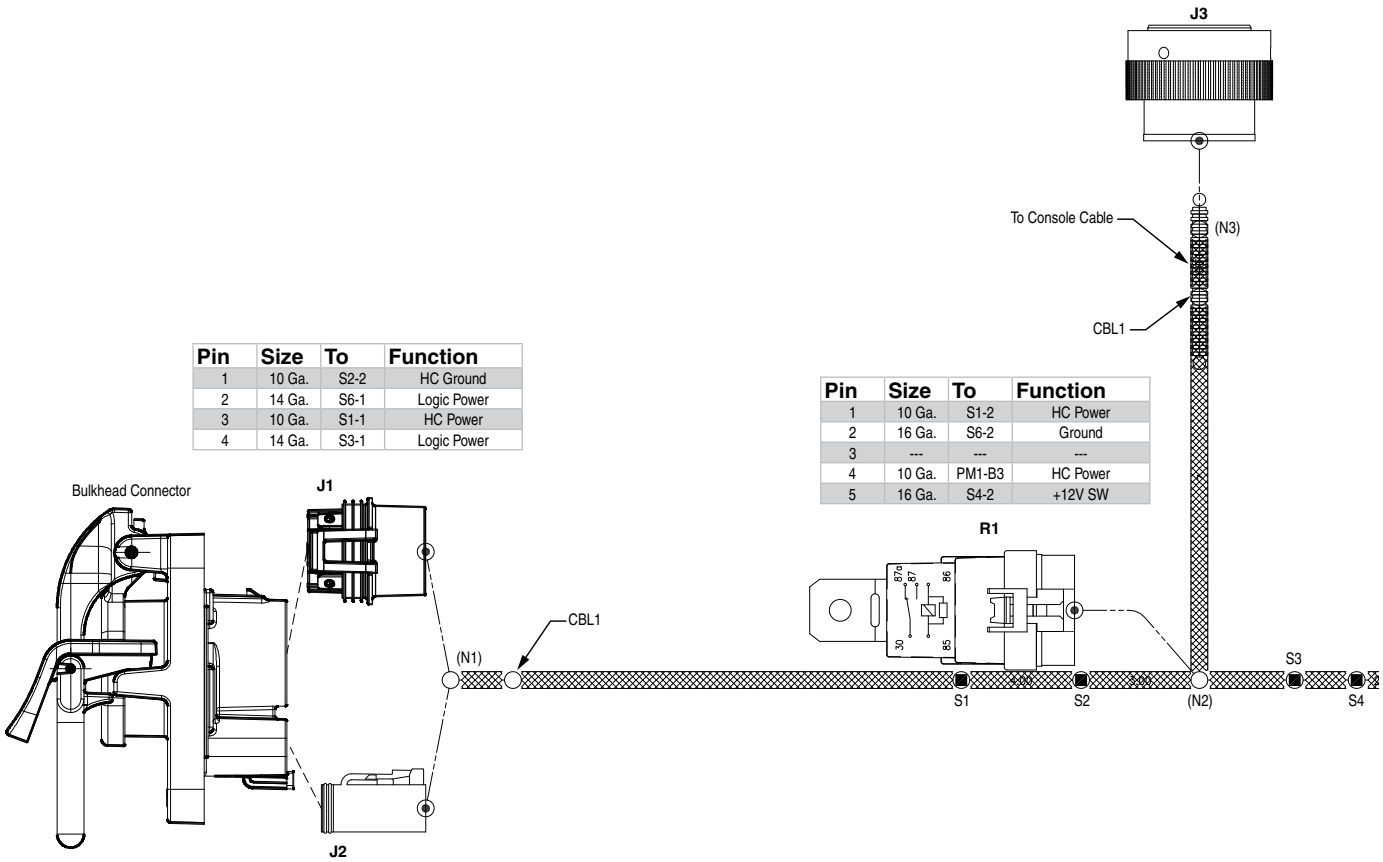
CHASSIS CABLE

Pin	Size	To	Function
1	18 Ga.	J2-3	CAN Ground
2	16 Ga.	S6-4	Logic Ground
3	16 Ga.	S5-1	Console Power
4	18 Ga.	J2-4	CAN Low
5	18 Ga.	J2-1	CAN Power
6	18 Ga.	J2-2	CAN High
7	16 Ga.	PM1-C4	HC Power
8	---	---	---
9	16 Ga.	S2-3	HC Ground
10	---	---	---
11	---	---	---
12	---	---	---
13	---	---	---
14	18 Ga.	J3-15	Jumper
15	18 Ga.	J3-14	Jumper
16	18 Ga.	J3-17	Jumper
17	18 Ga.	J3-16	Jumper
18	16 Ga.	S4-1	+12V SW
19	---	---	---
20	---	---	---
21	18 Ga.	S3-3	+12V SW Out

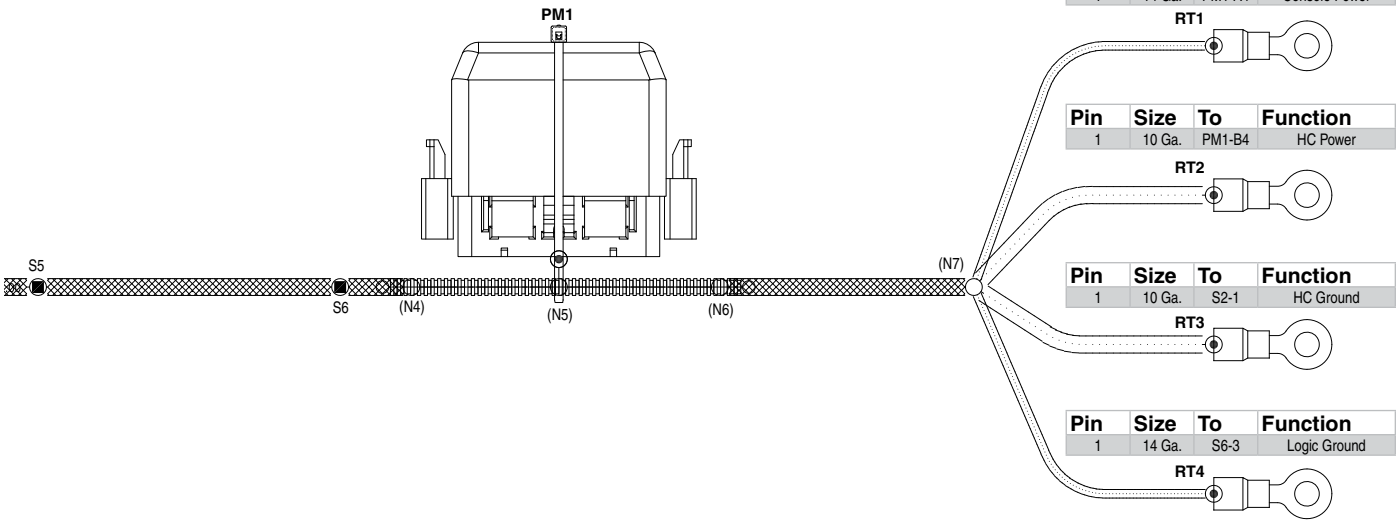


Pin	Size	To	Function
1	10 Ga.	S2-2	HC Ground
2	14 Ga.	S6-1	Logic Power
3	10 Ga.	S1-1	HC Power
4	14 Ga.	S3-1	Logic Power

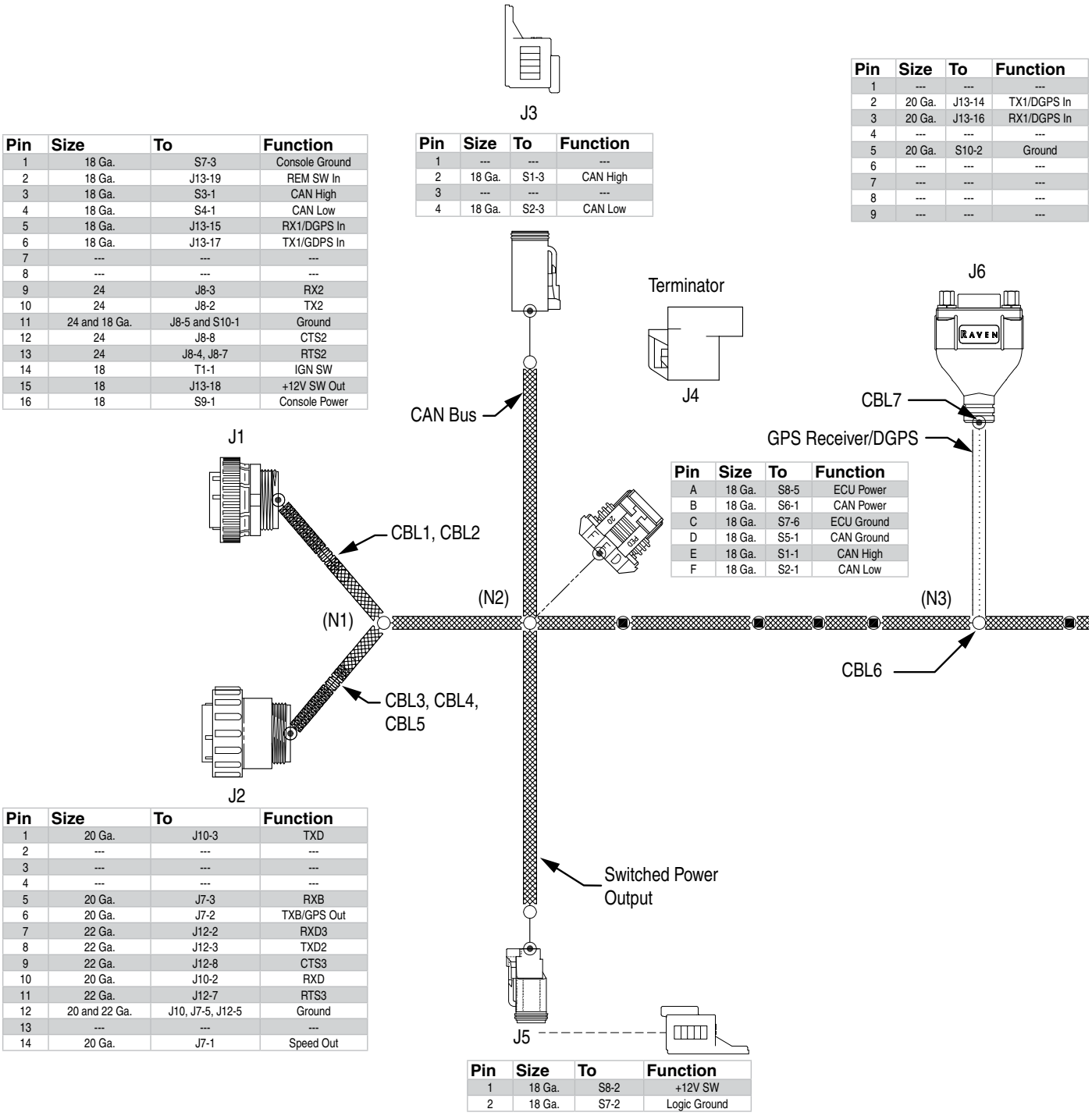
Pin	Size	To	Function
1	10 Ga.	S1-2	HC Power
2	16 Ga.	S6-2	Ground
3	---	---	---
4	10 Ga.	PM1-B3	HC Power
5	16 Ga.	S4-2	+12V SW

Pin	Size	To	Function
1	18 Ga.	J3-5	CAN Power
2	18 Ga.	J3-6	CAN High
3	18 Ga.	J3-1	CAN Ground
4	18 Ga.	J3-4	CAN Low

Pin	Size	To	Function
A1	---	---	---
A2	---	---	---
A3	14	S5-2	Console Power
A4	14	RT1-1	Console Power
A5	---	---	---
A6	---	---	---
B1	16	S5-3	Power
B2	18	S6-5	Ground
B3	10	R1-(4)87	HC Power
B4	10	RT2-1	HC Power
B5	---	---	---
B6	---	---	---
C1	16	S4-3	+12V SW
C2	18	S3-2	+12V SW Out
C3	16	S1-3	HC Power
C4	16	J3-7	HC Power
C5	---	---	---
C6	---	---	---



CONSOLE CABLE



Pin	Size	To	Function
1	18 Ga.	S7-3	Console Ground
2	18 Ga.	J13-19	REM SW In
3	18 Ga.	S3-1	CAN High
4	18 Ga.	S4-1	CAN Low
5	18 Ga.	J13-15	RX1/DGPS In
6	18 Ga.	J13-17	TX1/GDPS In
7	---	---	---
8	---	---	---
9	24	J8-3	RX2
10	24	J8-2	TX2
11	24 and 18 Ga.	J8-5 and S10-1	Ground
12	24	J8-8	CTS2
13	24	J8-4, J8-7	RTS2
14	18	T1-1	IGN SW
15	18	J13-18	+12V SW Out
16	18	S9-1	Console Power

Pin	Size	To	Function
1	---	---	---
2	18 Ga.	S1-3	CAN High
3	---	---	---
4	18 Ga.	S2-3	CAN Low

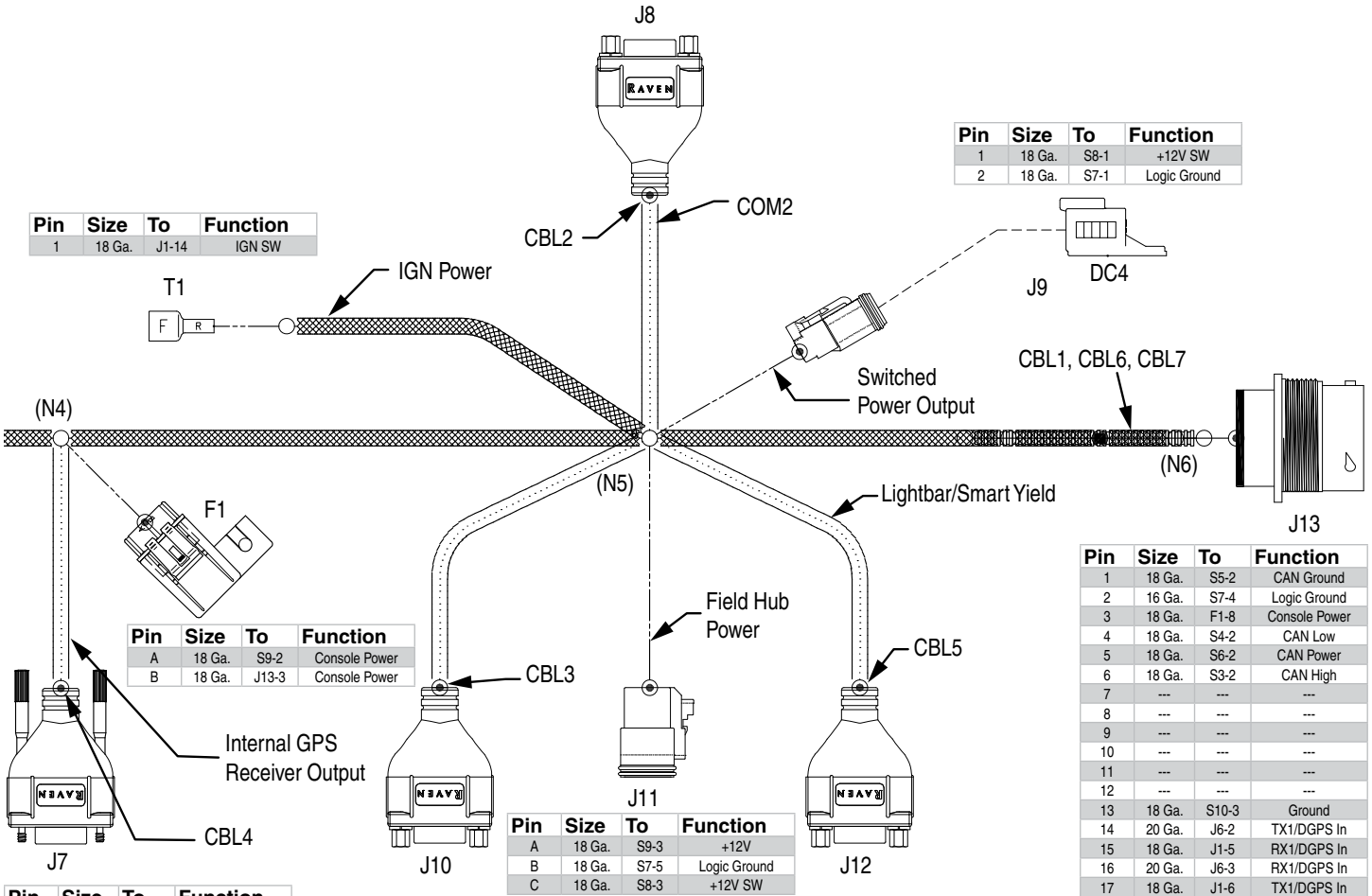
Pin	Size	To	Function
1	---	---	---
2	20 Ga.	J13-14	TX1/DGPS In
3	20 Ga.	J13-16	RX1/DGPS In
4	---	---	---
5	20 Ga.	S10-2	Ground
6	---	---	---
7	---	---	---
8	---	---	---
9	---	---	---

Pin	Size	To	Function
A	18 Ga.	S8-5	ECU Power
B	18 Ga.	S6-1	CAN Power
C	18 Ga.	S7-6	ECU Ground
D	18 Ga.	S5-1	CAN Ground
E	18 Ga.	S1-1	CAN High
F	18 Ga.	S2-1	CAN Low

Pin	Size	To	Function
1	20 Ga.	J10-3	TXD
2	---	---	---
3	---	---	---
4	---	---	---
5	20 Ga.	J7-3	RXB
6	20 Ga.	J7-2	TXB/GPS Out
7	22 Ga.	J12-2	RXD3
8	22 Ga.	J12-3	TXD2
9	22 Ga.	J12-8	CTS3
10	20 Ga.	J10-2	RXD
11	22 Ga.	J12-7	RTS3
12	20 and 22 Ga.	J10, J7-5, J12-5	Ground
13	---	---	---
14	20 Ga.	J7-1	Speed Out

Pin	Size	To	Function
1	18 Ga.	S8-2	+12V SW
2	18 Ga.	S7-2	Logic Ground

Pin	Size	To	Function
1	---	---	---
2	24 Ga.	J1-10	TX2
3	24 Ga.	J1-9	RX2
4	24 Ga.	J1-13	RTS2
5	24 Ga.	J1-11	Ground
6	---	---	---
7	24 Ga.	J1-13	RTS2
8	24 Ga.	J1-12	CTS2
9	---	---	---



Pin	Size	To	Function
1	18 Ga.	J1-14	IGN SW

Pin	Size	To	Function
1	18 Ga.	S8-1	+12V SW
2	18 Ga.	S7-1	Logic Ground

Pin	Size	To	Function
A	18 Ga.	S9-2	Console Power
B	18 Ga.	J13-3	Console Power

Pin	Size	To	Function
1	18 Ga.	S5-2	CAN Ground
2	16 Ga.	S7-4	Logic Ground
3	18 Ga.	F1-8	Console Power
4	18 Ga.	S4-2	CAN Low
5	18 Ga.	S6-2	CAN Power
6	18 Ga.	S3-2	CAN High
7	---	---	---
8	---	---	---
9	---	---	---
10	---	---	---
11	---	---	---
12	---	---	---
13	18 Ga.	S10-3	Ground
14	20 Ga.	J6-2	TX1/DGPS In
15	18 Ga.	J1-5	RX1/DGPS In
16	20 Ga.	J6-3	RX1/DGPS In
17	18 Ga.	J1-6	TX1/DGPS In
18	18 Ga.	J1-15	+12V SW Out
19	18 Ga.	J1-2	REM SW In
20	---	---	---
21	16 Ga.	S8-4	+12V SW In

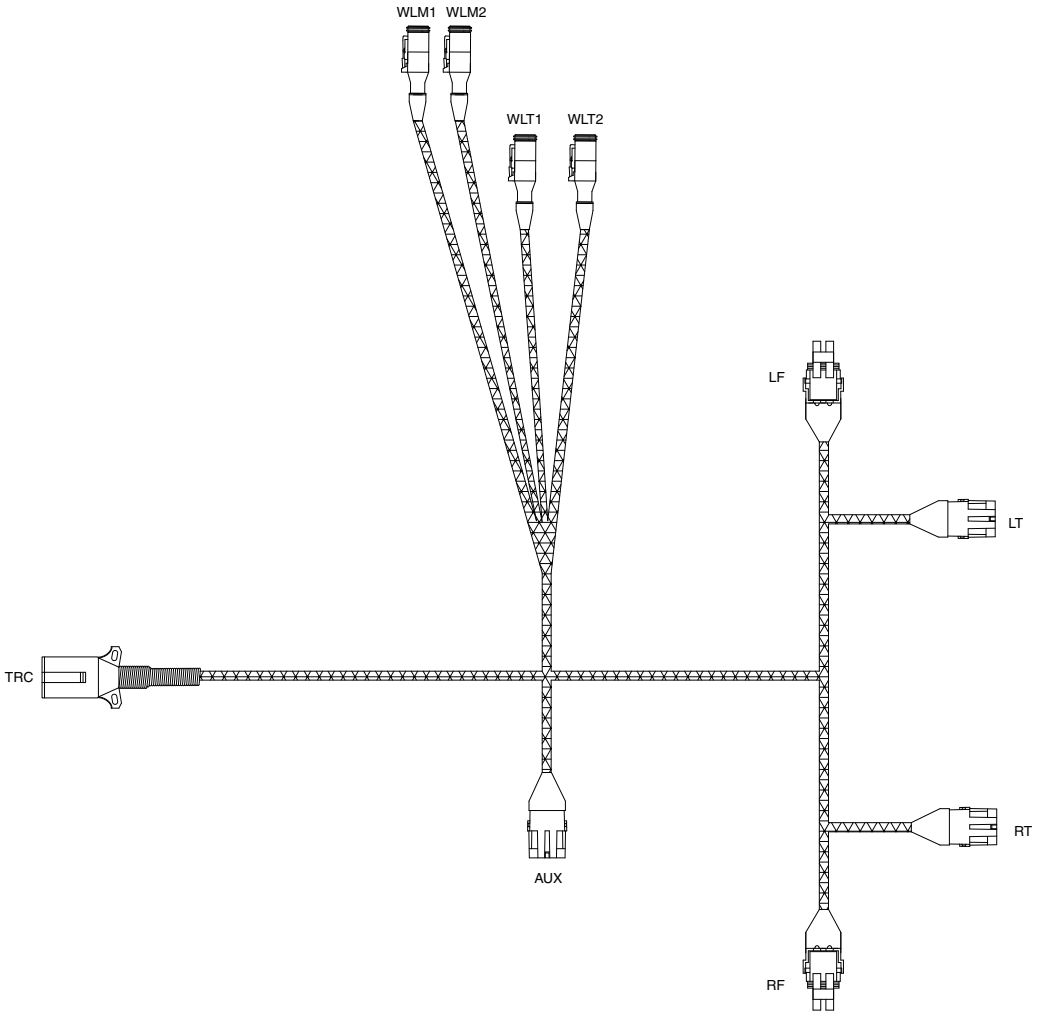
Pin	Size	To	Function
1	20 Ga.	J2-14	Speed Out
2	20 Ga.	J2-6	TXB/GPS Out
3	20 Ga.	J2-5	RXB
4	---	---	---
5	20 Ga.	J2-12	Ground

Pin	Size	To	Function
1	---	---	---
2	20 Ga.	J2-10	RXD
3	20 Ga.	J2-1	TXD
4	---	---	---
5	20 Ga.	J2-12	Ground

Pin	Size	To	Function
A	18 Ga.	S9-3	+12V
B	18 Ga.	S7-5	Logic Ground
C	18 Ga.	S8-3	+12V SW

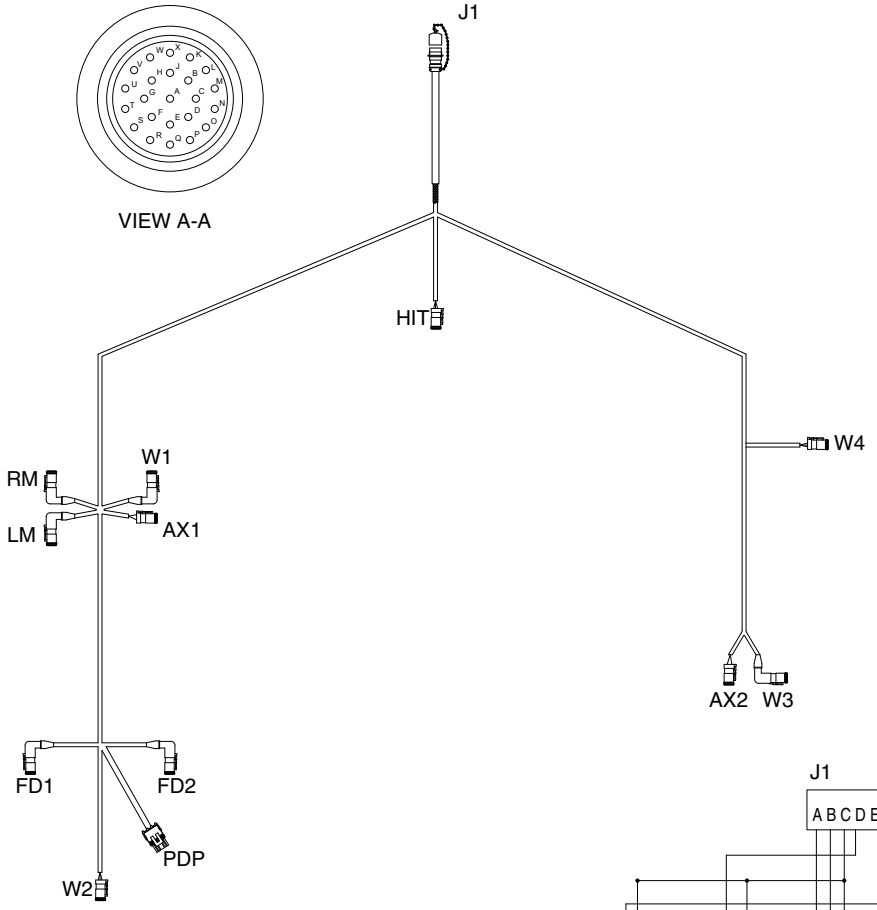
Pin	Size	To	Function
1	---	---	---
2	22 Ga.	J2-7	RXD3
3	22 Ga.	J2-8	TXD3
4	---	---	---
5	22 Ga.	J2-12	Ground
6	---	---	---
7	22 Ga.	J2-11	RTS3
8	22 Ga.	J2-9	CTS3
9	---	---	---

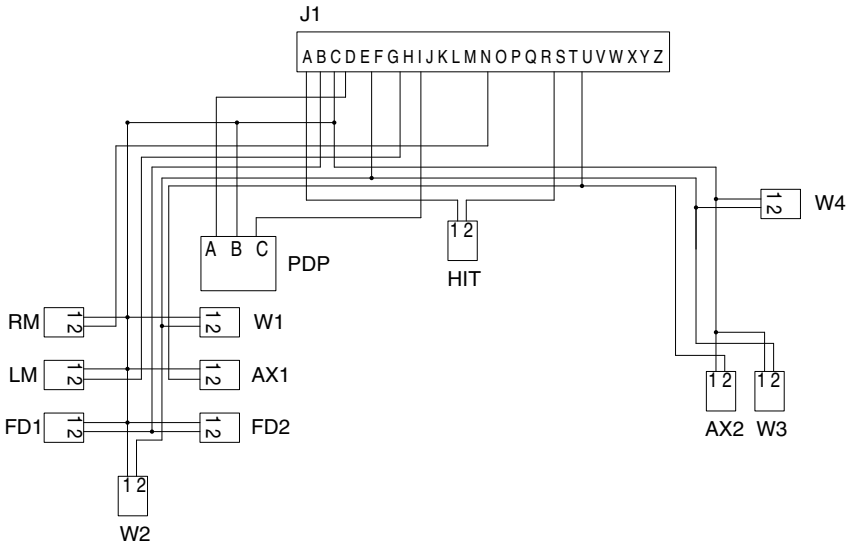
12V ASABE LIGHT HARNESS



Signal	Wire Gauge	Color	TRC	LF	LT	RF	RT	WLM1	WLM2	WLT1	WLT2	AUX
Ground	14	White	White	A	A	A	A	1	1	1	1	B
Tail Control	16	Brown	Brown	-	C	-	C	-	-	-	-	-
Left Flasher Control	16	Yellow	Yellow	B	-	-	-	-	-	-	-	-
Right Flasher Control	16	Green	Green	-	-	B	-	-	-	-	-	-
Work Light	14	Black	Black	-	-	-	-	2	2	2	2	-
Auxiliary Power (12V DC)	14	Blue	Blue	-	-	-	-	-	-	-	-	A

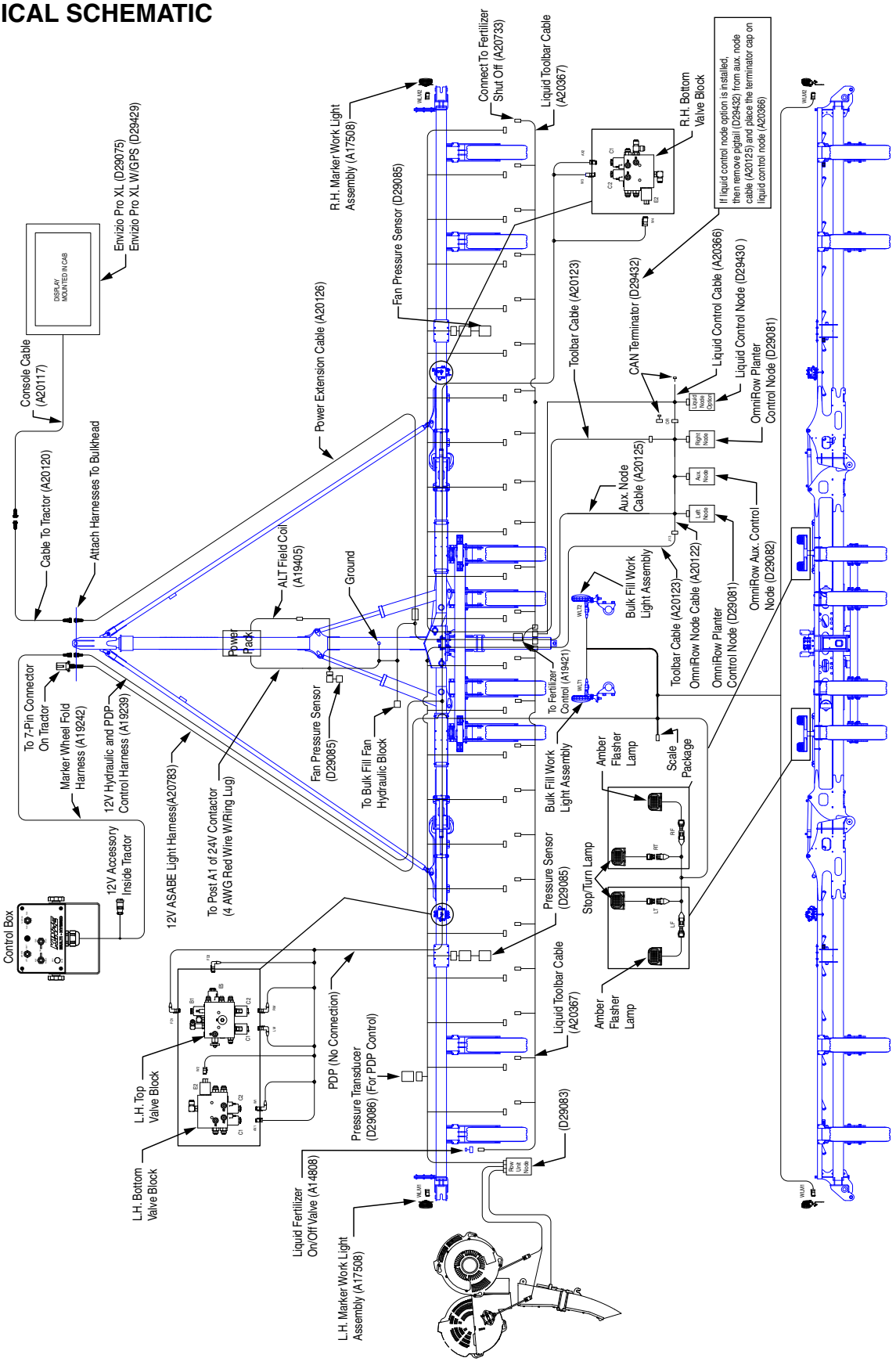
Hydraulic and PDP Control Harness



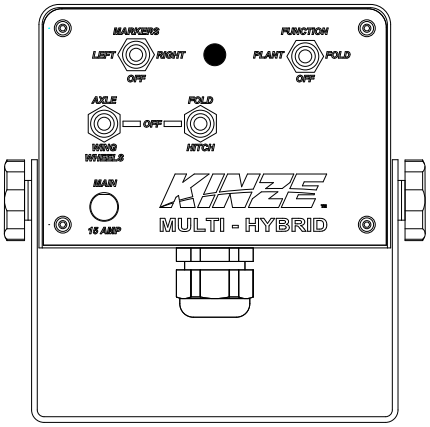


Signal	Wire Gauge	Color	J1	RM	LM	W1	W2	W3	W4	AX1	AX2	FD1	FD2	HIT	PDP
Hitch Raise/Lower	14	Orange/Red	A	-	-	-	-	-	-	-	-	-	-	1	-
Fold	14	Blue/Red	B	-	-	-	-	-	-	-	-	2	2	-	-
Ground	14	Black/Red	C	1	1	1	1	1	1	1	1	1	1		B
PDP Increase	14	Blue/White	D	-	-	-	-	-	-	-	-	-	-	-	A
Wing Wheels	14	Yellow/Red	F	-	-	2	2	2	2	-	-	-	-	-	-
L.H. Marker	14	Blue	H	-	2	-	-	-	-	-	-	-	-	-	-
PDP Decrease	14	Gray	J	-	-	-	-	-	-	-	-	-	-	-	C
R.H. Marker	14	Red	O	2	-	-	-	-	-	-	-	-	-	-	-
Ground	14	Black	T	-	-	-	-	-	-	-	-	-	-	-	-
Raise to Transport	14	Blue/Black	V	-	-	-	-	-	-	-	-	-	-	-	-

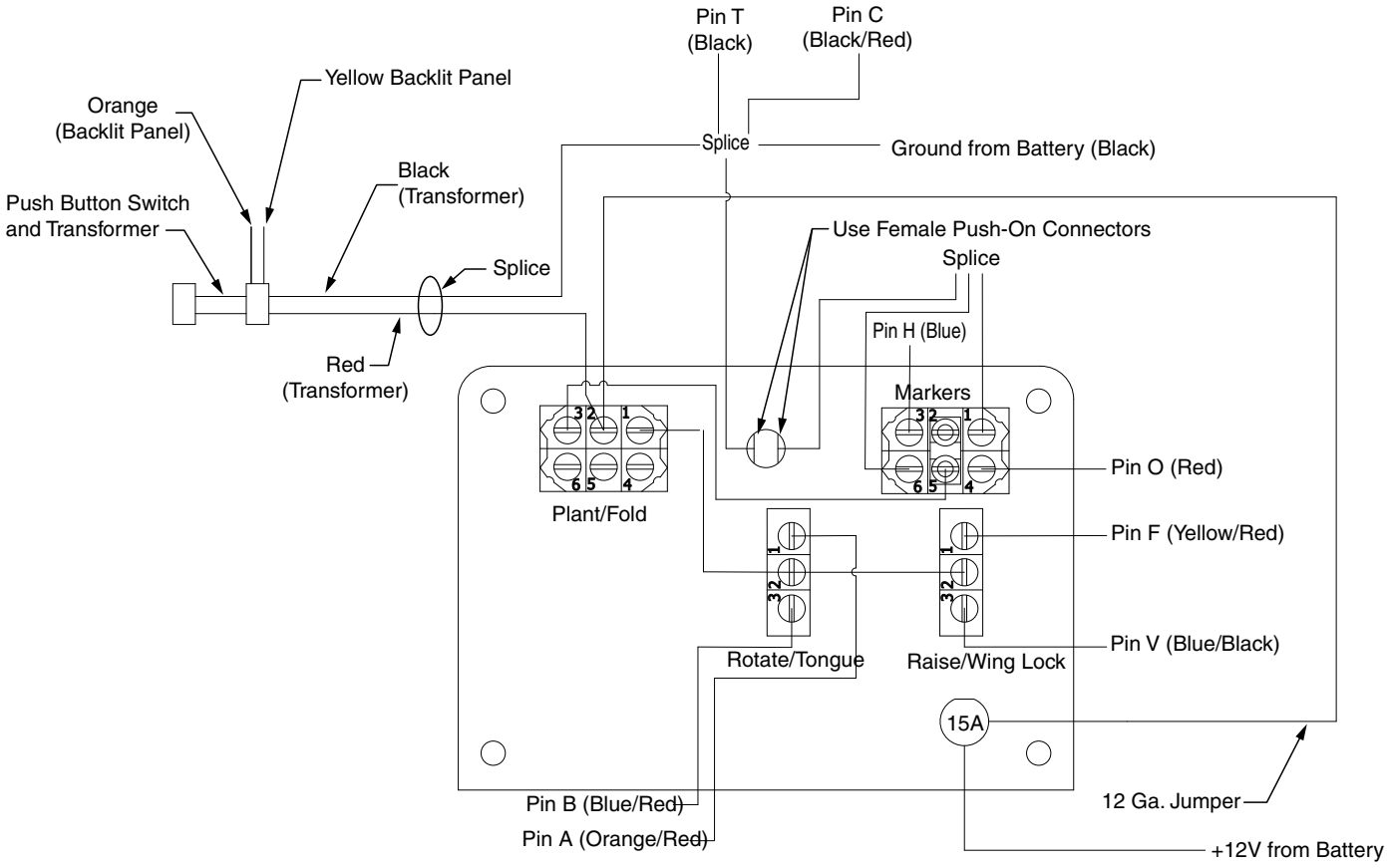
ELECTRICAL SCHEMATIC



ELECTRICAL CONTROL CONSOLE SCHEMATIC



Wire Color	Function
Orange/Red	Hitch
Blue/Red	Fold
Black/Red	Ground
Yellow/Red	Wing Wheels
Blue	Marker - Left
Red	Marker - Right
Black	Ground
Blue/Black	Axle



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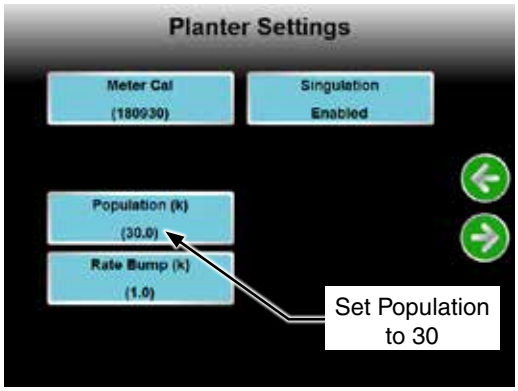
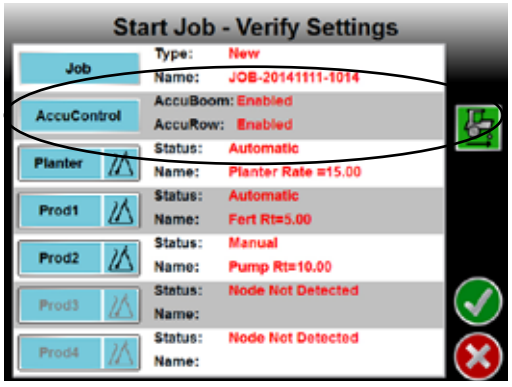
WARNING
An operating planter has rotating parts and high pressure hydraulics. NEVER OPERATE OR WORK ON machine without all safety covers, shields, and lockup devices in place as required.

PROBLEM	SOLUTION
NOTE: It is sometimes a useful troubleshooting aid to operate the planter control system in a stationary condition. From the Home screen select Tools → Planter → Speed and select a test speed that is consistent with your normal planting speed. Lower the planter to the ground to engage the planter control system.	
Auxiliary Functions (Fans, PDP, Fertilizer Pump) do not turn on when job is started.	When the Envizio Pro display is first turned on and a job is started, the auxiliary functions may not start until the planter is lowered. After the planter is lowered for the first time, the auxiliary components will remain on until the job is ended.
The planter does not start seeding when toolbar is lowered.	1. Check the Boom Master options. From home screen select: Tools→Control Interface. Make sure that "Planter Master Switch" is selected on this screen.  **Normal Configuration of control interface for Model 4900MH shown.**
	2. Check that the default population is not set to zero. From the home screen select: Tools→Planter→Planter Settings. Set the population to 30 (the actual value will be overridden by the prescription map when planting begins). 
The display is showing no speed input, or incorrect speed.	1. Check that the speed calibration is set correctly. From the home screen select Tools → Planter → Speed and verify that the Speed Cal is set to 1000.
	2.Check the GPS Icon at the top of the screen: if it is yellow or red, check the GPS system for errors.
Planter leaves skips when planting is resumed from a complete stop.	Manualy turn the meters using the Prime button to compensate for the time it takes the GPS system to recognize forward motion. Refer to the "Jump Start Function (Resume planting from a Complete stop)" on page 7 in the Operation Section of this supplement.

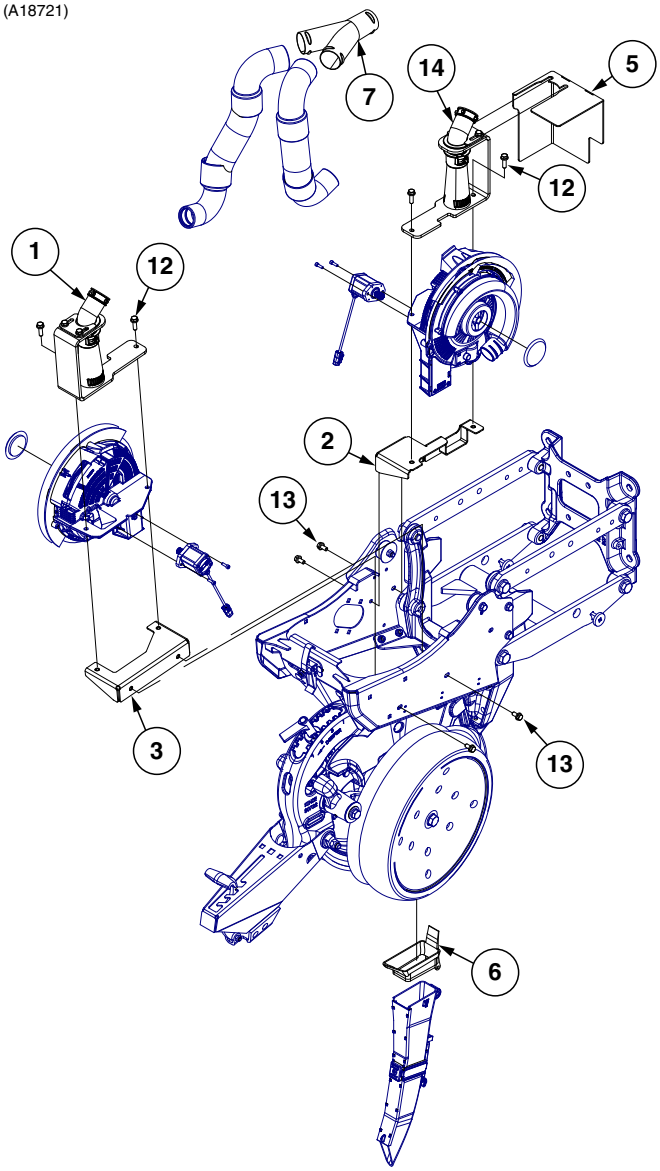
<table>
<tr><td rowspan="2">Section control is not functioning.</td><td>1. From the Start Job – Verify Settings screen, verify that Accurow is Enabled.</td><td> 
</td></tr>
<tr><td>2. From the Run Screen, verify that the onscreen switchbox is blue (automatic control).</td><td> 
</td></tr>
<tr><td>Fans do not reach the target pressure.</td><td>1. Check the PWM output. From the Run screen in an active job, select the fan icon, then press on the target pressure window, then select the right arrow in the Auxiliary Monitor Screen.
 

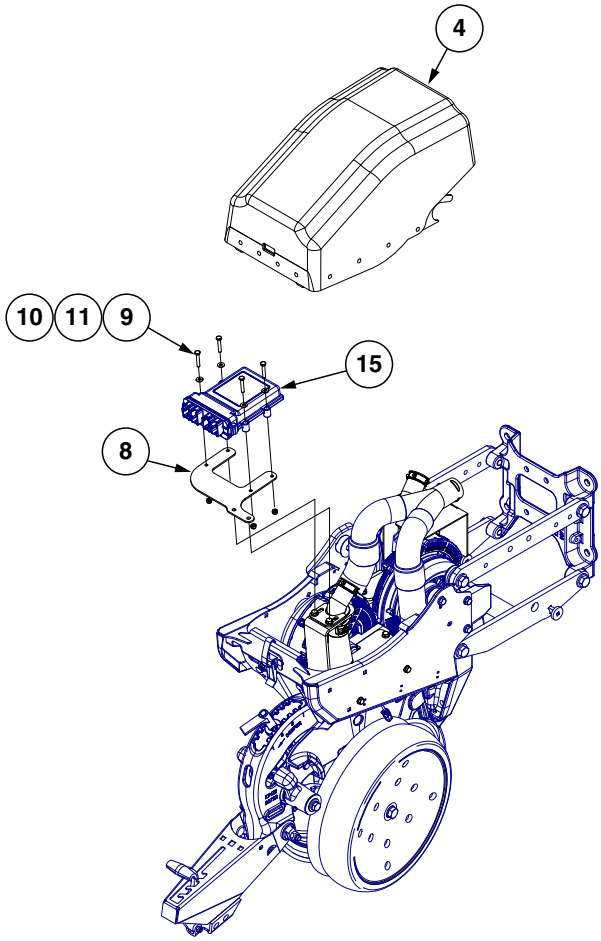
PWM Output displays how far the PWM valve is open. A value of 253 for a fan control means the PWM valve is all the way open and 0 is closed.

Example: If your target pressure is 10 but the actual pressure is 5 and the PWM Output is reading 253 means there is something wrong with hydraulic flow to the fan, the PWM valve is not working, or debris in the PWM valve.</td></tr>
<tr><td></td><td>2. Verify that the pressure sensor calibration is correct. Refer to the Fan and PDP Configuration Section for instructions.

Example: If the pressure reading on the mechanical gage is 20 but the sensor reading on the display is 10, shut down the fan system and recalibrate the sensor to zero.</td></tr>
<tr><td>A new job will not load or the display freezes part way through loading:</td><td colspan="2">There is insufficient memory space left on the Envizio Pro to load the project. Offload the data from completed projects and restart the current job. For further details on file maintenance, refer to the “Software Updates and File Maintenance” chapter of the OmniRow Operator’s Manual.</td></tr>
</table>

(A18721)

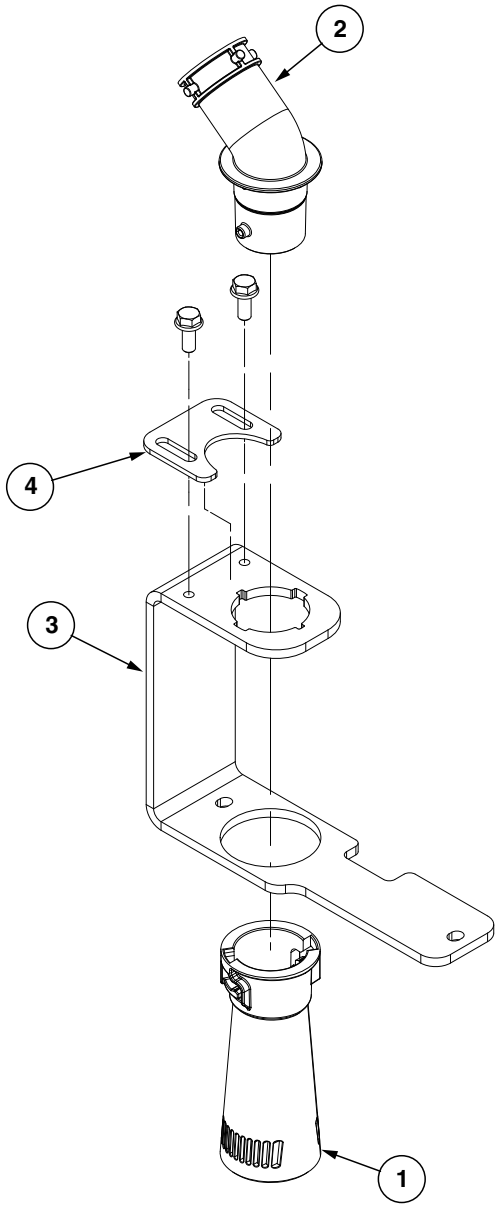




Motor Module and Cover Detail

ITEM	PART NO.	QTY.	DESCRIPTION
1	---	1	“Seed Meter Manifold” on page 78
2	GA19857	1	L.H. Meter Mount
3	GA19858	1	R.H. Meter Mount
4	---	1	“Meter Cover Assembly” on page 79
5	GA20764	1	Rain Guard
6	GB0876	1	Seed Tube Extension
7	GB0880	1	Vacuum Splitter, 2"
8	GD29010	1	Multi-Hybrid Module Bracket
9	G10021	4	Hex Head Cap Screw, ¼"-20 x 1½"
10	G10110	4	Lock Nut, ¼"-20, Grade B
11	G11385	4	Flat Washer, ¼" SAE
12	G11480	4	Hex Socket Flange Cap Screw, 5⁄16"-18 x 1"
13	G11560	4	Hex Socket Flange Cap Screw, 5⁄16"-18 x 5⁄8", Grade 5
14	---	1	“Seed Meter Manifold” on page 78
15	GD29083	1	Row Unit Node

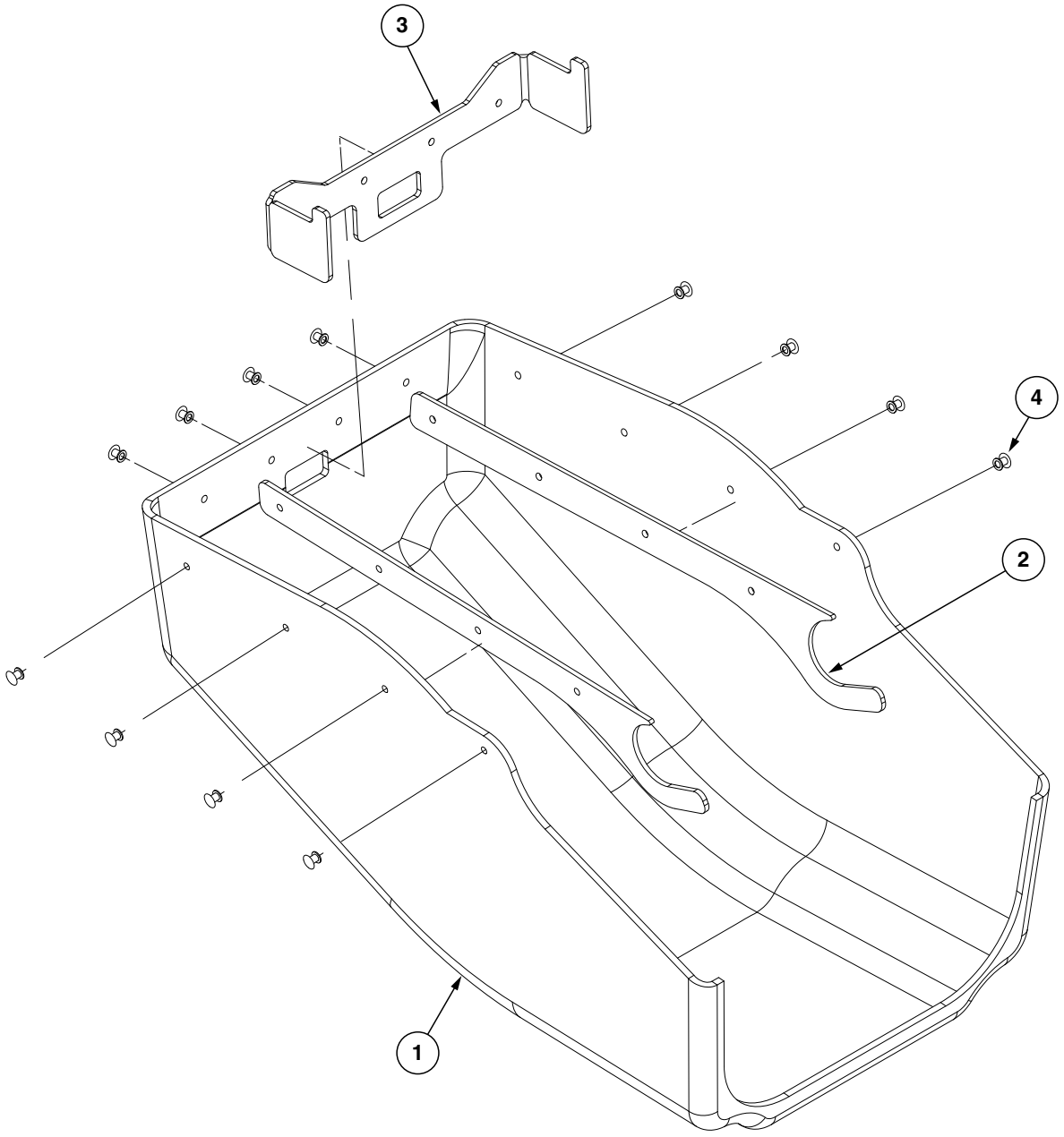
(A18449)



ITEM	PART NO.	QTY.	DESCRIPTION
1	GB0696	1	Discharge
2	GB0695	1	Inlet
3	GD28694 GD29785	1 1	Meter Manifold Bracket, Rear Meter Manifold Bracket, Front
4	GD29473	1	Coupler Bracket
5	G11539	2	Hex Socket Flange Cap Screw, 5⁄16"-18 x 3⁄4"

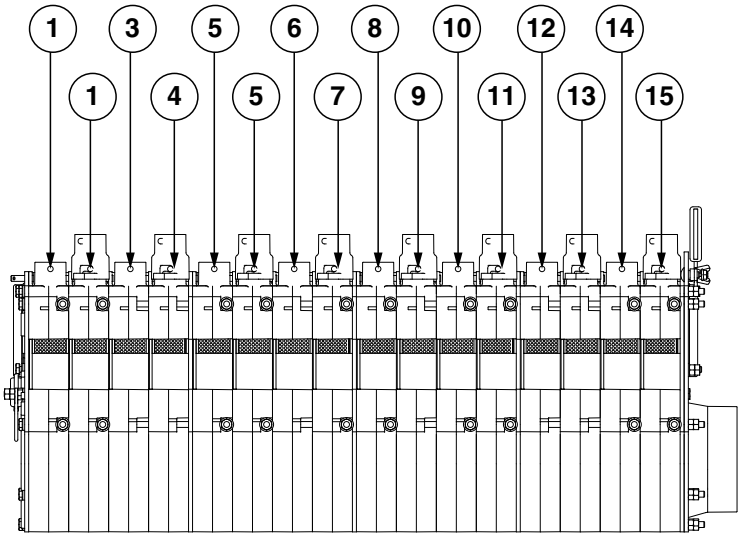
Meter Cover Assembly

(A19862)

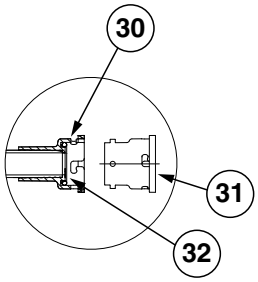


ITEM	PART NO.	QTY.	DESCRIPTION
1	GB0892	1	Multi-Hybrid Meter Cover
2	GD29013	2	Meter Cover Side Support
3	GD29012	1	Meter Cover Rear Support
4	G11672	12	Rivet Blind

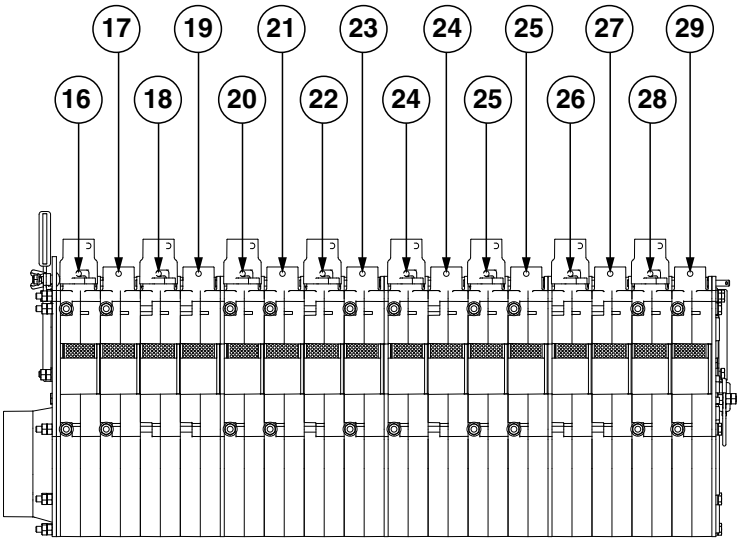
(To Front Meters)



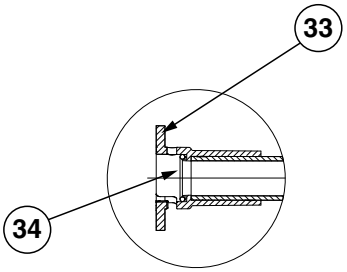
(R.H. Entrainer)

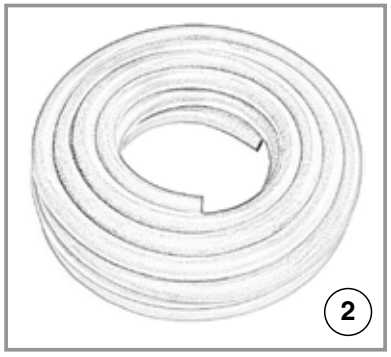


(To Rear Meters)



(L.H. Entrainer)

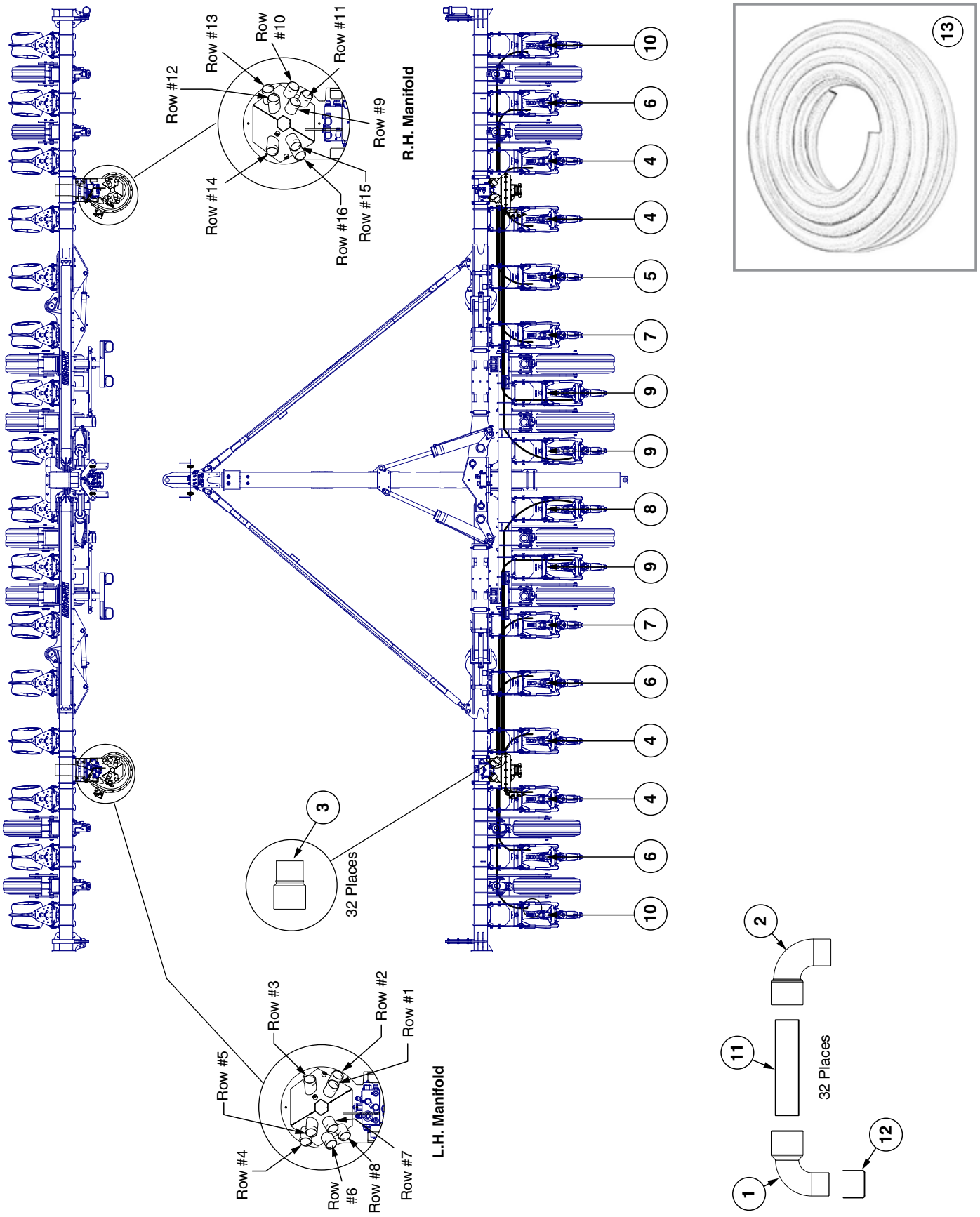




Bulk Fill Hoses

ITEM	PART NO.	QTY.	DESCRIPTION
1	*A13870-309	2	Seed Hose Assembly, 1¼" x 309"
2	GR1947	1	Bulk Fill Hose, 1" I.D. x 1¼" O.D. x 100'
3	*A13870-280	1	Seed Hose Assembly, 1¼" x 280"
4	*A13870-275	1	Seed Hose Assembly, 1¼" x 475"
5	*A13870-246	2	Seed Hose Assembly, 1¼" x 246"
6	*A13870-213	1	Seed Hose Assembly, 1¼" x 213"
7	*A13870-209	1	Seed Hose Assembly, 1¼" x 209"
8	*A13870-170	1	Seed Hose Assembly, 1¼" x 170"
9	*A13870-176	1	Seed Hose Assembly, 1¼" x 176"
10	*A13870-143	1	Seed Hose Assembly, 1¼" x 143"
11	*A13870-137	1	Seed Hose Assembly, 1¼" x 137"
12	*A13870-65	1	Seed Hose Assembly, 1¼" x 65"
13	*A13870-112	1	Seed Hose Assembly, 1¼" x 112"
14	*A13870-74	1	Seed Hose Assembly, 1¼" x 74"
15	*A13870-103	1	Seed Hose Assembly, 1¼" x 103"
16	*A13871-125	1	Seed Hose Assembly, 1¼" x 125", Gray
17	*A13871-82	1	Seed Hose Assembly, 1¼" x 82", Gray
18	*A13871-135	1	Seed Hose Assembly, 1¼" x 135", Gray
19	*A13871-79	1	Seed Hose Assembly, 1¼" x 79", Gray
20	*A13871-152	1	Seed Hose Assembly, 1¼" x 152", Gray
21	*A13871-149	1	Seed Hose Assembly, 1¼" x 149", Gray
22	*A13871-187	1	Seed Hose Assembly, 1¼" x 187", Gray
23	*A13871-190	1	Seed Hose Assembly, 1¼" x 190", Gray
24	*A13871-222	2	Seed Hose Assembly, 1¼" x 222", Gray
25	*A13871-260	2	Seed Hose Assembly, 1¼" x 260", Gray
26	*A13871-290	1	Seed Hose Assembly, 1¼" x 290", Gray
27	*A13871-285	1	Seed Hose Assembly, 1¼" x 285", Gray
28	*A13871-326	1	Seed Hose Assembly, 1¼" x 326", Gray
29	*A13871-317	1	Seed Hose Assembly, 1¼" x 317", Gray
30	GB0425 GB0947	1 1	Dissipator Quick Coupler, Black (Use Black Couplers At Front Meters) Dissipator Quick Coupler, Gray (Use Gray Couplers At Rear Meters)
31	GB0430	1	Bulk Fill Large Cap
32	GD19509	1	O-Ring, Large
33	GB0429 GB0948	1 1	Seed Entrainer Quick Coupler, Black (Use Black Couplers On R.H. Hoses) Seed Entrainer Quick Coupler, Gray (Use Gray Couplers on L.H. Hoses)
34	GD19508	1	Small O-Ring

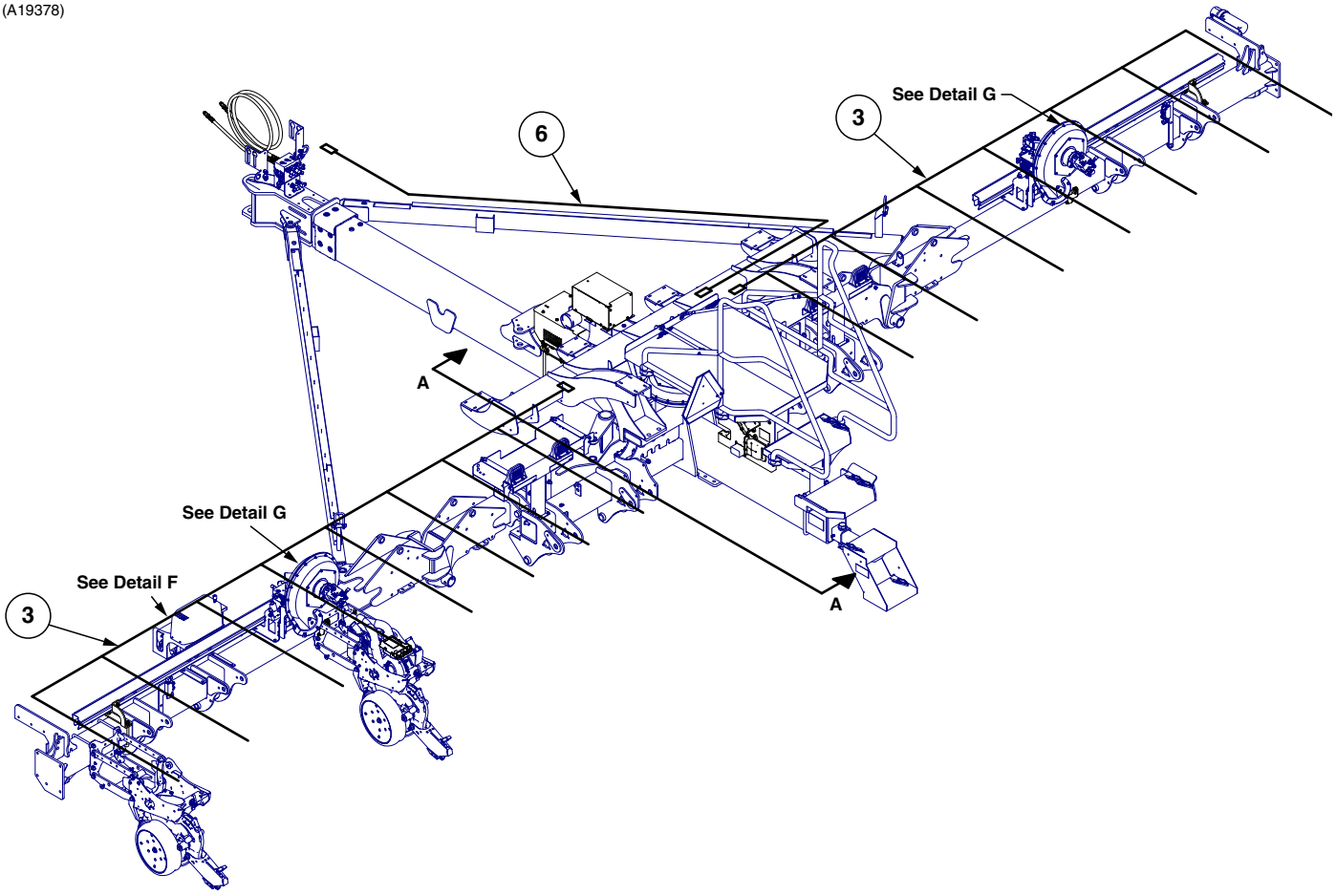
***Items are shown for reference and are not stocked by Kinze Repair Parts. Bulk hose is available for purchase.**

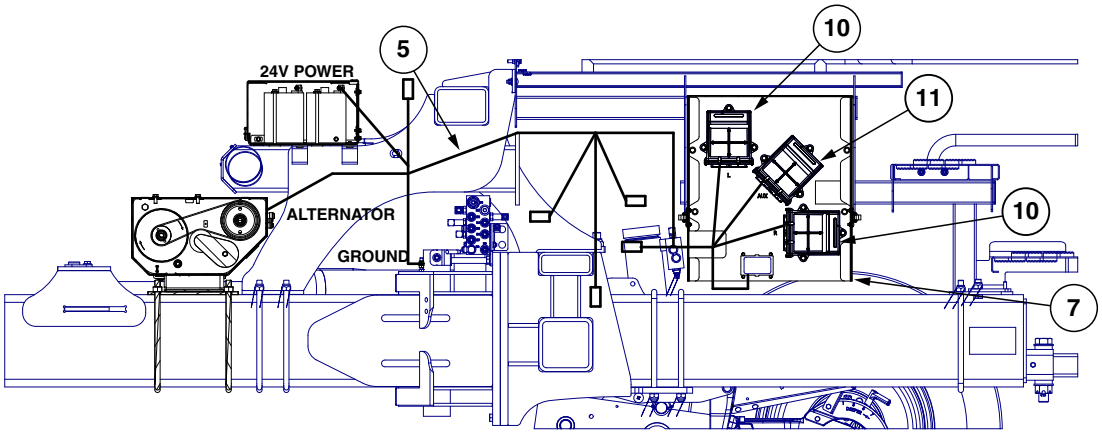

Row #12
Row #13
Row #10
Row #11
Row #9
Row #14
Row #16
Row #15
R.H. Manifold
10
6
4
4
5
7
9
9
8
9
7
6
4
4
6
10
3
32 Places
Row #5
Row #3
Row #2
Row #1
Row #4
Row #6
Row #8
Row #7
L.H. Manifold
13
2
11
32 Places
1
12

ITEM	PART NO.	QTY.	DESCRIPTION
1	GB0915	32	Vacuum Elbow Reducer
2	GD14626	32	Elbow, 90°, 2"
3	GD14627	32	Coupler, 2"
4	*D15792-05	4	Hose, 2" x 38"
5	*D15792-10	1	Hose, 2" x 38"
6	*D15792-16	3	Hose, 2" x 55"
7	*D15792-35	2	Hose, 2" x 84"
8	*D15792-37	1	Hose, 2" x 182"
9	*D15792-45	3	Hose, 2" x 188"
10	*D15792-49	2	Hose, 2" x 88"
11	*D15792-51	32	Hose, 2" x 10"
12	G11147	32	Cap, 2"
13	GD15792-18	-	Vacuum Hose, 2" x 50'

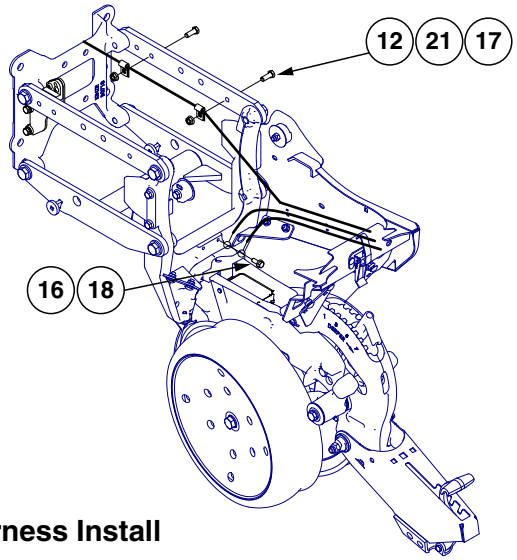
***Items are shown for reference and are not stocked by Kinze Repair Parts. Bulk hose is available for purchase.**

(A19378)

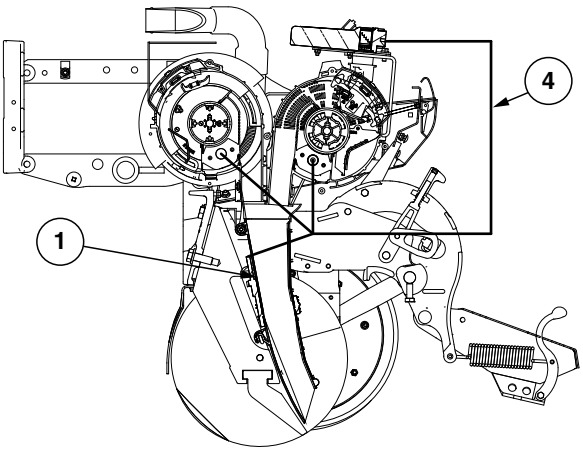




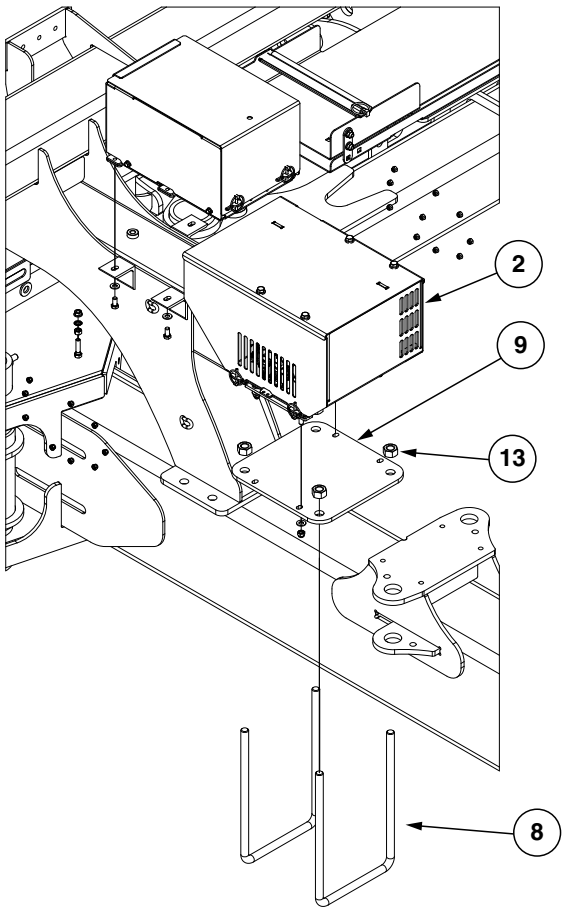
Section A-A
Planter Node ECU Cable



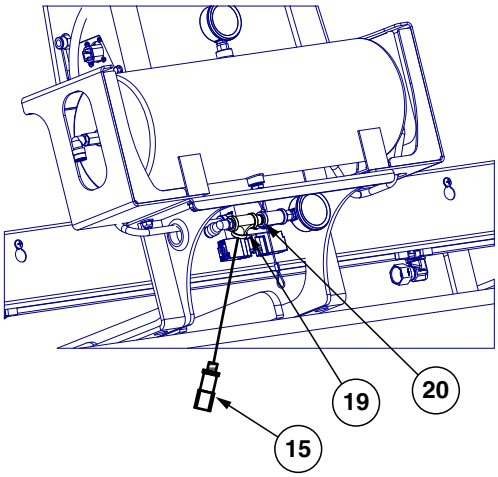
ESD Harness Install



Section D-D



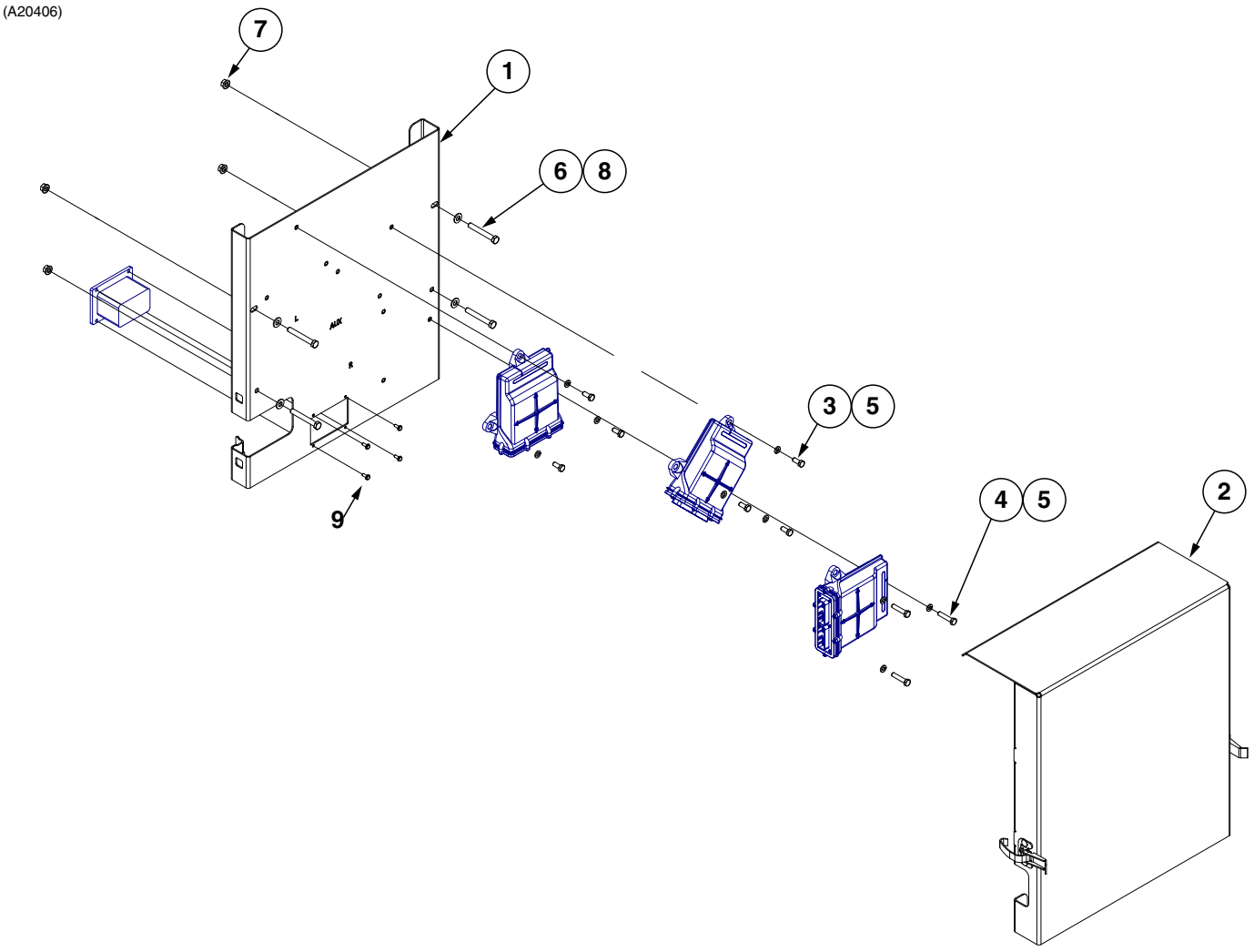
Detail B



Detail F

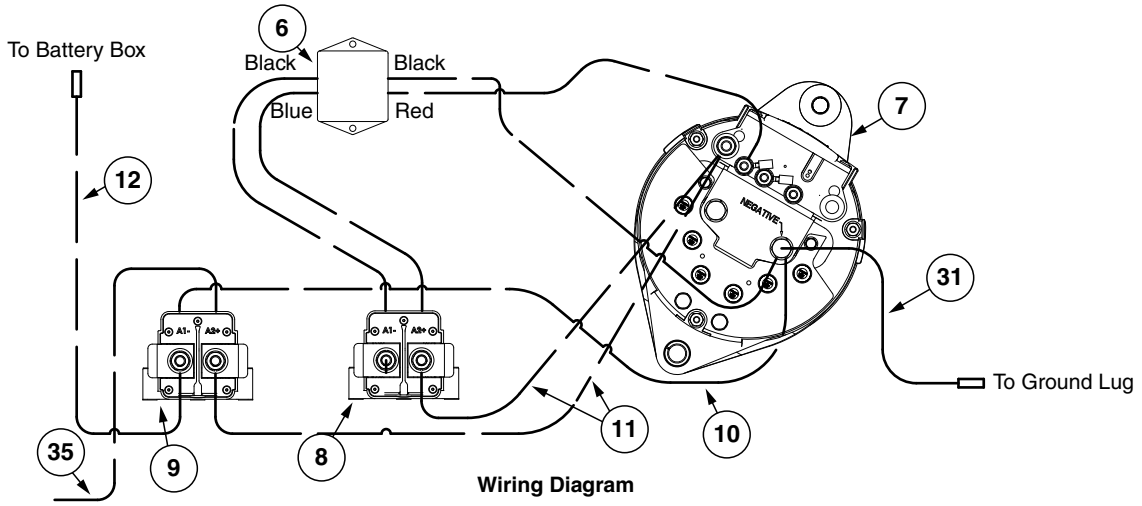
ITEM	PART NO.	QTY.	DESCRIPTION
1	GA21242	16	Seed Tube
2	---	1	“24 Volt Power Pack” on page 88
3	GA20123	2	Toolbar Cable
4	GA20124	16	Row Unit Node Cable
5	GA20125	1	Planter Node ECU Cable
6	GA20126	1	ISO Extension, 36'
7	GA20406	1	“Multi-Hybrid Control Panel” on page 87
8	GD25235	2	U-Bolt, 8" x 14" x ¾"-10
9	GD27019	1	Power Pack Mount
10	GD29081	2	OmniRow Planter Control Node
11	GD29082	1	OmniRow Auxiliary Control Node
12	G10001	36	Hex Head Cap Screw, ⅜"-16 x 1"
13	G10105	4	Hex Nut, ¾"-10
14	GD29085	3	Fan Pressure Sensor
15	GD29086	1	Down Pressure Transducer
16	GA20712	32	Row Unit ESD Drain Harness
17	GD6291	32	Insulated Clamp, ⅜"
18	G11539	16	Hex Socket Flange Cap Screw, 5⁄16"-18 x ¾"
19	GD19237	1	Tee, ¼" NPT
20	GD19238	1	Nipple, ¼" NPT
21	G10622	-	Serrated Flange Nut, ⅜"-16

(A20406)

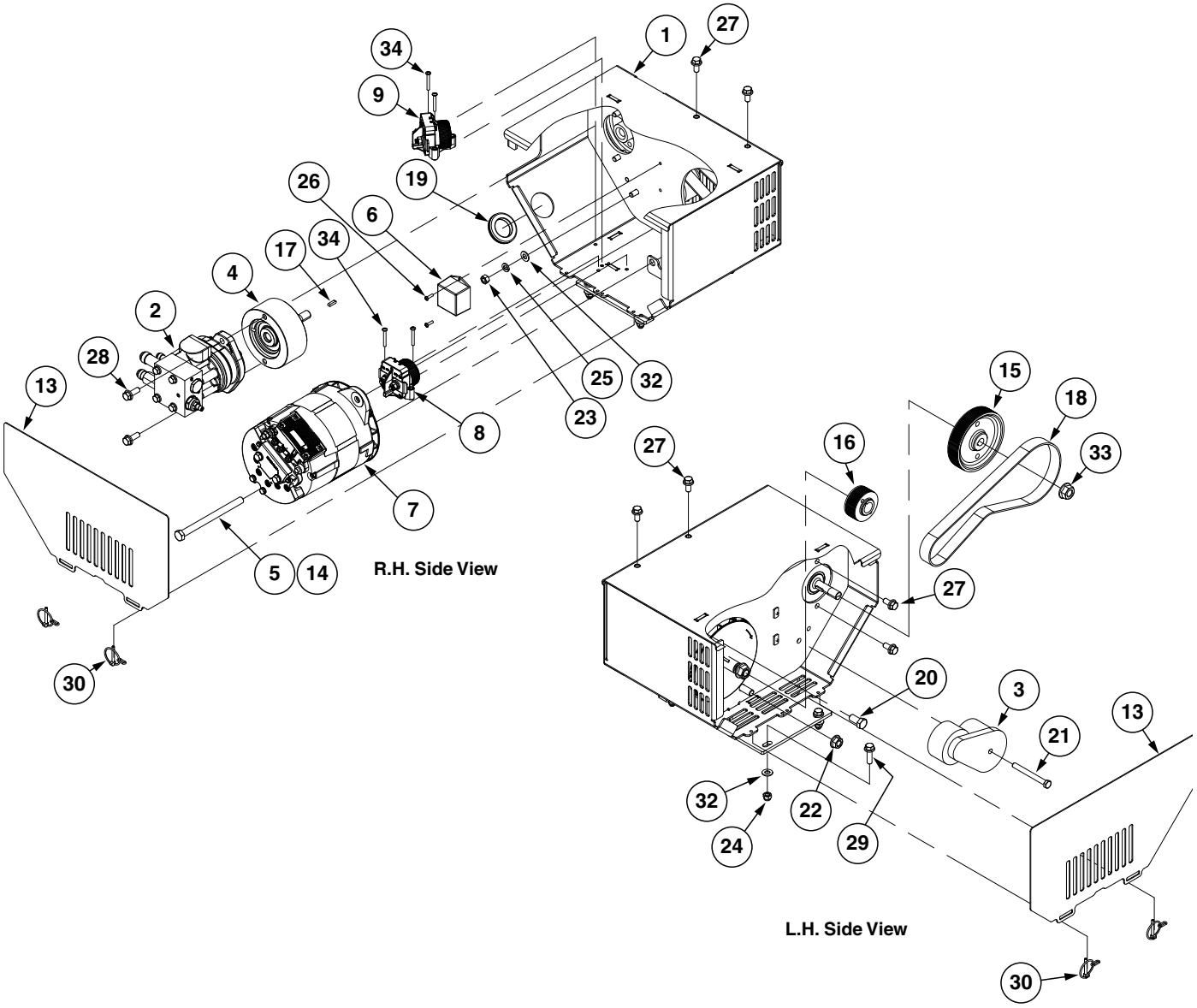


ITEM	PART NO.	QTY.	DESCRIPTION
1	GA20644	1	Module Mount
2	GA20645	1	Module Cover
3	G10043	6	Hex Head Cap Screw, 5⁄16"-18 x 3⁄4"
4	G10133	3	Hex Head Cap Screw, 5⁄16"-18 x 1½"
5	G10232	9	Lock Washer, 5⁄16"
6	G10325	4	Hex Head Cap Screw, 3⁄8"-16 x 2¾"
7	G10622	4	Serrated Flange Nut, 3⁄8"-16
8	G11387	4	Flat Washer, 3⁄8" SAE
9	G11239	4	Hex Head Cap Screw, 10-32 x ½"

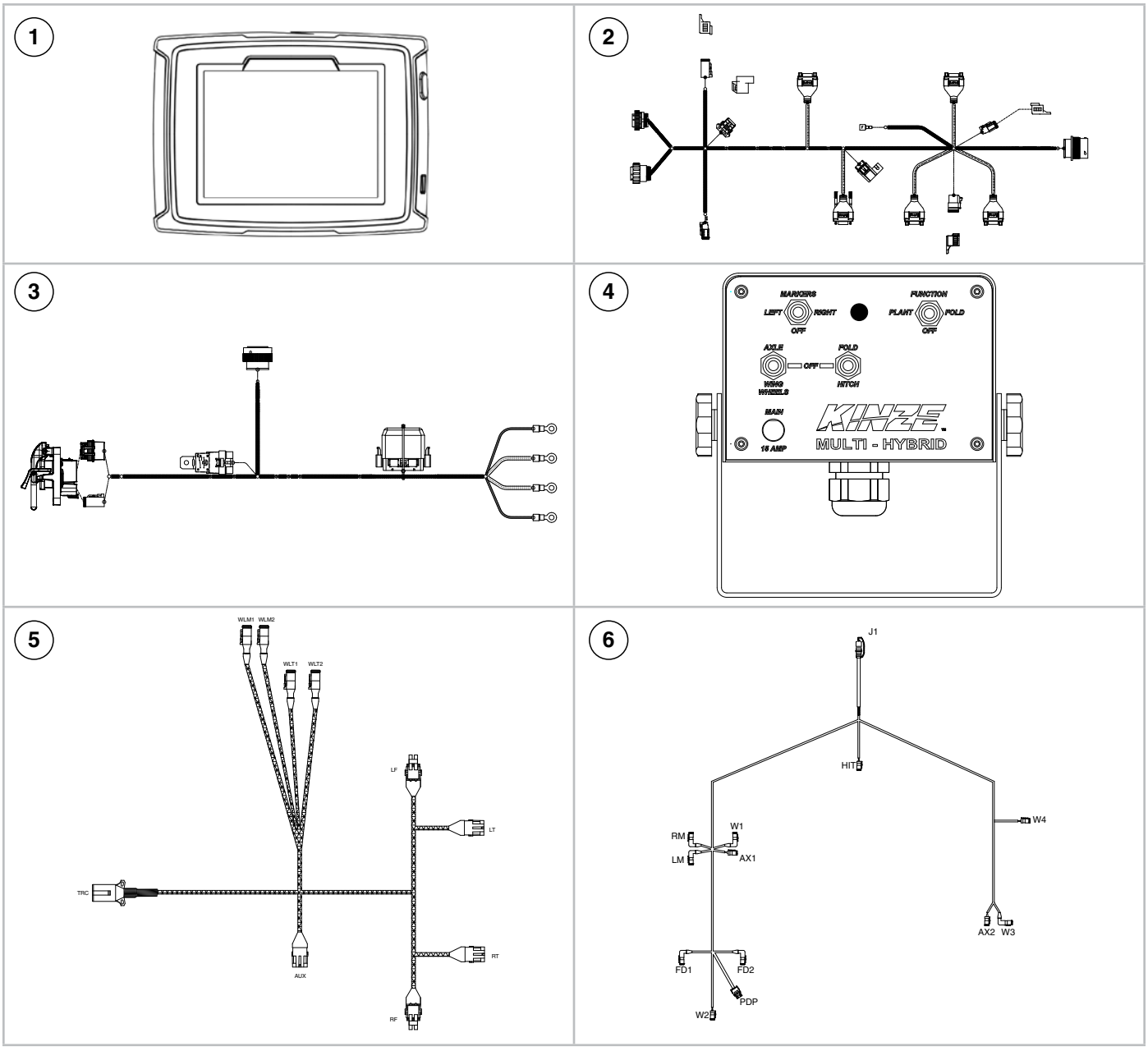
(A21212)



Wiring Diagram



ITEM	PART NO.	QTY.	DESCRIPTION
1	GA19271	1	Power Pack Frame
2	GA14883	1	See “Power Pack Hydraulic Motor” in Model 4900 Parts Manual
3	GA14884	1	Tensioner
4	GA14916	1	Overhung Load Adapter
5	G10829	1	Hex Head Cap Screw, ½"-13 x 6½"
6	GA18934	1	Rectifier, 24 VDC
7	GA19301	1	Alternator, 28 Volt/200 Amp
8	GA19302	1	Contactor, 24 Volt/200 Amp
9	GA19306	1	Contactor, 12 Volt/200 Amp
10	GA19310	1	Alternator to Contactor, 24 Volt (Black)
11	GA19311	2	Alternator to Contactor, 24 Volt (Red)
12	GA19313	1	Alternator to Battery, 24 Volt
13	GD28521	2	Power Pack Side Plate
14	GD10538-18	1	Sleeve, ¾" x 3.85"
15	GD20924	1	Drive Pulley
16	GD20925	1	Alternator Pulley
17	GD21300	1	Key
18	GD27023	1	Poly V-Belt, 10 Ribbed, 34" (J Groove)
19	GR2126	1	1½" Push-In Grommet
20	G10014	1	Hex Head Cap Screw, ½"-13 x 1"
21	G10061	1	Hex Head Cap Screw, ⅜"-16 x 3½"
22	G10071	1	Serrated Flange Nut, ½"-13
23	G10101	1	Hex Nut, ⅜"-16
24	G10108	4	Lock Nut, ⅜"-16
25	G10229	1	Lock Washer, ⅜"
26	G11065	2	Phillips Pan Head Machine Screw, No. 8-32 x ⅝", Stainless Steel
27	G11123	6	Hex Serrated Flange Cap Screw, ⅜"-16 x ¾"
28	G11124	2	Hex Serrated Flange Cap Screw, 3⅜"-16 x 1"
29	G11204	4	Hex Serrated Flange Cap Screw, ⅜"-16 x 1¼", Grade 5
30	G11339	4	Pin W/Chain
31	GA18938	1	Ground Cable
32	G11387	5	Flat Washer, ⅜" SAE
33	G11415	1	Serrated Flange Nut, ⅝"-11
34	G11430	4	Phillips Pan Head Machine Screw, No. 10-24 x 1½"
35	GA19405	1	Alternator Field Coil Cable



ITEM	PART NO.	QTY.	DESCRIPTION
1	GD29429	1	Envizio Pro XL Display
2	GA20117	1	Console Cable
3	GA20120	1	Chassis Cable
4	GA19243	1	Control Box
5	GA20783	-	12V ASABE Light Harness
6	GA19239	-	Hydraulic and PDP Control Harness
7	GA21143	-	GPS Interface Package (Not Pictured)

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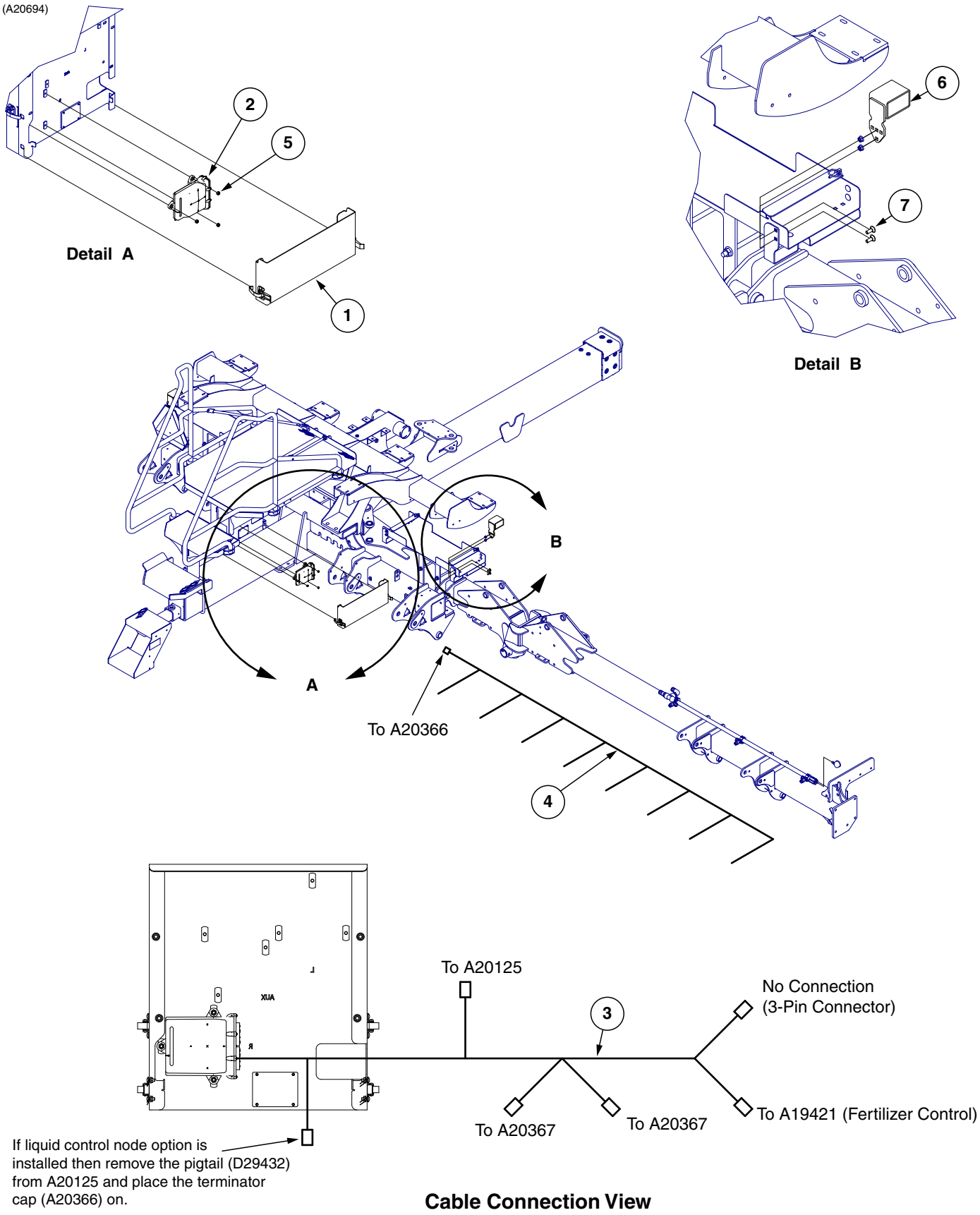
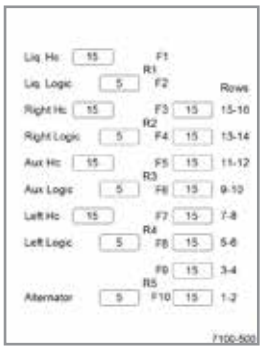
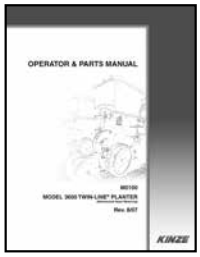


Cable Connection View

ITEM	PART NO.	QTY.	DESCRIPTION
1	GA20763	1	Module Cover
2	GD29430	1	OmniRow Liquid Control Node
3	GA20366	1	Liquid Node Cable
4	GA20367	2	Liquid Toolbar Cable
5	G10109	3	Lock Nut, 5⁄16"-18
6	GA18345	2	Hose Support
7	G10305	4	Carriage Bolt, 3⁄8"-16 x 1"

	Part No.: G7100-492 Description: Decal, Variety 1
	Part No.: G7100-493 Description: Decal, Variety 2
	Part No.: G7100-500 Description: Decal, Fuse Block
	Part No.: G7100-489 Description: Decal, Kinze 4900MH Quantity: 4 (1 On Each Side Of Draft Link; 1 On Each Stub Wing)
	Part No.: GM0269 Description: Operator and Parts Manual Supplement, 4900 Multi-Hybrid

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Kinze Manufacturing, Inc.

I-80 at Exit 216 North, Williamsburg, Iowa 52361