

YieldSense™

Installation Guide **Case IH Flagship Combines** **x120, x230, x010, and x240**

Precision Planting®

Note: The information presented in this document was accurate at the time of publishing. The most current revision of this document can be found at <http://cloud.precisionplanting.com/pubs>.

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System Overview

YieldSense Base Kit (750003)		
Qty.	Part #	Description
1	750104	Flow Sensor Assembly
1	750190	YieldSense Module (YSM) Assembly
1	750523	Cab Harness
1	750529	Cab Power Harness
1	750527	Flow Sensor Harness
1	750528	Installation Hardware Kit
1	725822	RAM Mount Base - Triple Suction Mount
1	725821	RAM Kit Arm (10in) with Ball Mounts
1	725708	RAM Kit Arm (6in) with Ball Mounts
1	750359	Display Mounting Bracket
Chain & Paddle Kit		
1	750638	Chain Assembly with Paddles

Tools for Install

Drill

Needle Nose Pliers

7/16" Socket or Nut Driver

13 mm Deep Socket

Ratchet

#2 Phillips Screw Driver

18 mm Wrench (Qty. 2)

24 mm Wrench (Qty. 2)

1 3/4" Hole Saw

Cutting oil

Side cutters

Tape Measure

Vise Grips

Hammer

File (optional)

Quick Start Guide

Complete the following steps in order to make the YieldSense system operational.

*** For Further Information on each step, see the Operator's Guide.**

1. Ensure all Current Season Planting Data is in FieldView. If FieldView is missing any Planting Maps, connect the iPad to the 20/20 and open the FieldView app. Any current year data will sync to the FieldView app and planting maps will automatically be built.

2. Backup Current Season Planting Data and Delete from 20/20 SeedSense. Ensure all planting data is backed up in the Precision Cloud or export it to a USB drive. Then, delete planting data from the 20/20 Display to ensure adequate space is available for YieldSense data.

3. Install the latest iPad iOS software. Make sure that your iPad software is up to date. If your iPad software is not up to date, you might not see the latest version of FieldView in the App store.

4. Download the latest FieldView app from the App Store. Press the App Store button on the iPad home screen and either search for FieldView in the top right search box or, if you already have FieldView, press the Updates button in the bottom right.

5. Connect your iPad to the 20/20 Display and launch the FieldView app. For Gen 1 displays, a FieldView module is required. For Gen 2 displays, connect cable from the iPad to the middle USB port on the back of the 20/20.

6. Update your 20/20 display with YieldSense software from USB or FieldView. The current version of YieldSense is available on FieldView under **Tools, 20/20 Software Update, and YieldSense Updates**. It is also available on the YieldSense Support page at <http://www.precisionplanting.com>. Copy the file to a USB drive and insert it into the 20/20 display. Press **Setup, Data, and Software Update**. Select YieldSense on the bottom of the screen and update to the current version available on the USB.

7. On the 20/20 display, enter your combine configuration. Press **Setup** and under the **Harvest** Tab select **Combine**. Enter the make, series, and model of the combine as well as the four required GPS measurements.

8. Enter your head configuration. Press **Setup** and under the **Harvest** Tab select **Head**. Enter the make, model, and crop for the head. Each crop requires its own head setup. If the head is used for both wheat and soybeans, 2 separate heads need to be setup. Also complete the Harvesting Height Setup for the head/crop.

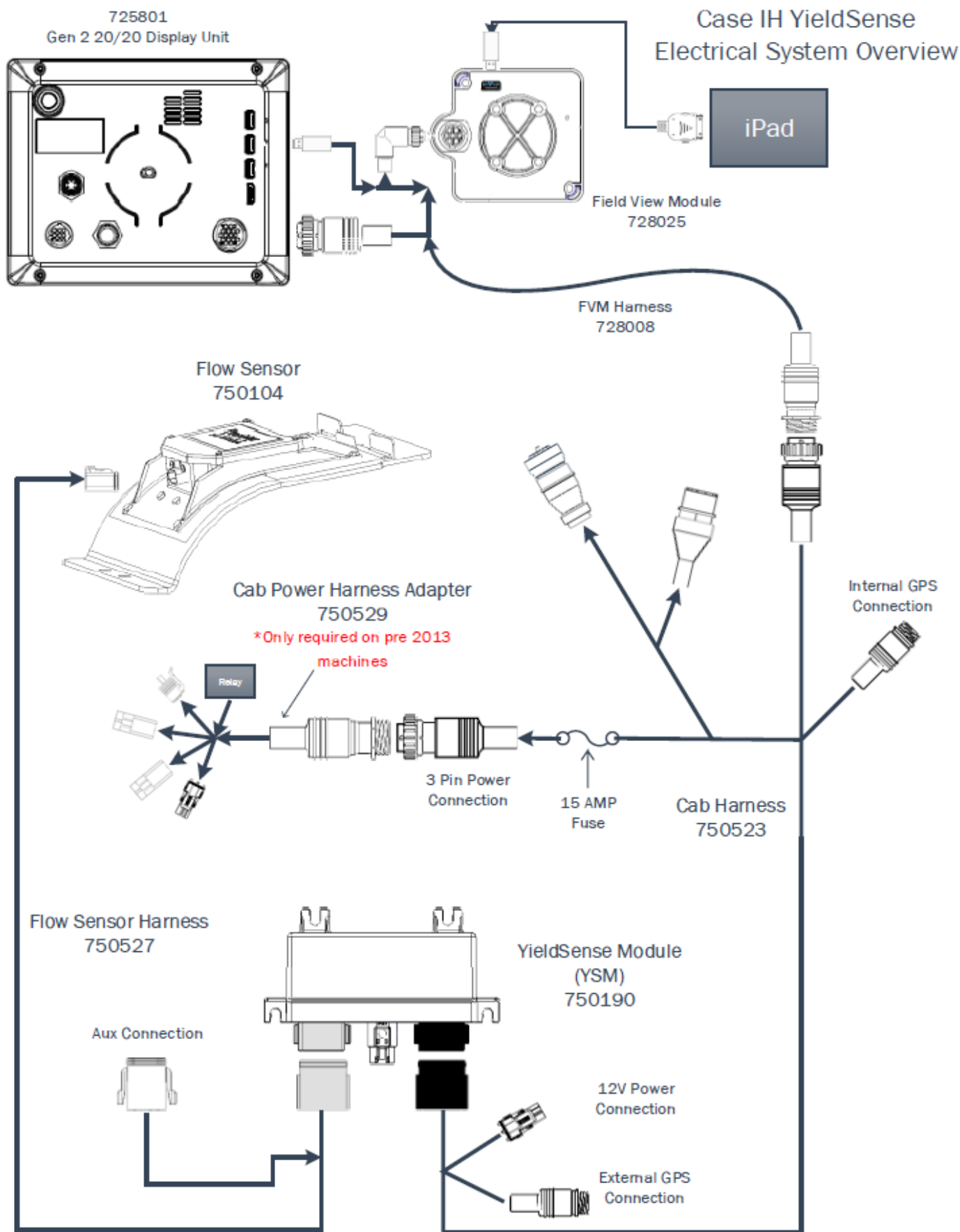
9. Ensure the 20/20 contains the correct Client, Farm, and Field List. Upon loading YieldSense Software, the field list from SeedSense will copy to YieldSense. If other fields exist in FieldView, they will transfer automatically to the 20/20 display.

10. In YieldSense, select the correct Client, Farm, and Field. From the home screen, press **Setup** and then press **Field** under the **Harvest** tab. Select the correct Client, Farm, and Field and press **Make Active** on the field setup page.

11. Complete Crop Setup. After opening the first field, follow the on screen instructions to continue harvesting while waiting for actual elevator scale weight. Enter actual weight to complete crop setup. Remember that the setup load must be at least 25,000 pounds.

12. Enter Moisture Offset. Obtain the actual moisture reading and compare it to your Moisture Sensor results. Press **Setup, Systems, and Moisture Sensor**. Then, enter an offset amount. If using an aftermarket AL yield monitor, enter in both the AL display and YieldSense.

13. GPS Setup Guides. These can be found in the Cloud under Tech Docs—2020 Products—GPS Setup Guides.



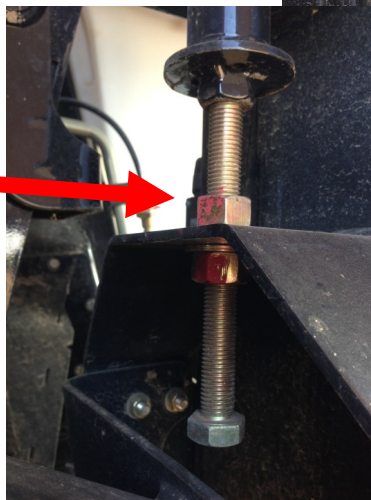
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Clean Grain Elevator Chain Installation

Step 1: Use two 18mm wrenches to remove the tension on the elevator chain. Once the tension is relieved, remove the chain from the tension pulley.



Step 2: Locate the tensioning bolts on the back of the elevator. Use a 24 mm wrench to loosen the two nuts and adjust the elevator downwards.



Clean Grain Elevator Chain Installation

Elevator Health Check:

- **Check the bottom and top elevator sprocket for wear.** It is recommended that you install a new sprocket for any used elevator. A worn sprocket will cause accelerated wear to the new YieldSense chain, and can affect the accuracy of the YieldSense system.
- **Check middle divider plate.** At the bottom of the elevator verify there is no damage to the divider plate. Repair or replace as necessary. A damaged or missing divider plate will cause potential failure to the chain and paddles.

Step 1: Rotate the OEM chain to find the master link and remove it.

Step 2: Use the old master link to connect the YieldSense Chain to the open end of the OEM chain that is towards the rear of the combine.

Note: Make sure that the paddles are facing the correct direction as shown figure 3 below.

Step 3: Pull out the old chain and feed in the new one.



Warning: When the loose end of the new chain is close to the bottom drive sprocket, be careful that the chain doesn't go past the bottom sprocket. This may cause the extra weight of the old chain to pull the new chain out of the clean grain elevator.

Step 4: Remove the old master link and connect the two ends of the new chain using the new master link.

Final Checks

- **Check for paddle contact in the elevator.** Locate the Grain Property bucket on the chain. Then spin the chain by hand one revolution until the bucket has come back around. This is to insure that no paddles are making contact with anything in the elevator.



Figure 3

Clean Grain Elevator Chain Installation (Cont.)

Step 1: Tighten the clean grain elevator chain using the 24 mm adjustment nuts on the back of the elevator.

Note: The chain is properly tightened when it cannot be pulled away from the bottom sprocket but can still be slid back and forth across the sprocket. Leave the drive chain off until the flow sensor is installed.

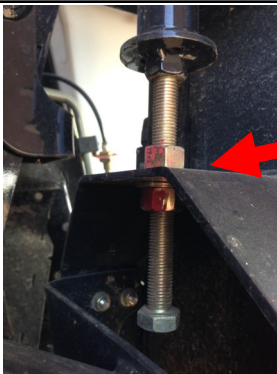


Figure 1

Step 2: Next mark the location you are at on the sprocket. Rotate to 90°, 180°, and 270° making sure at each point you are still able to slide the chain side to side and not pull it away from the sprocket at any point. (Figure 2)

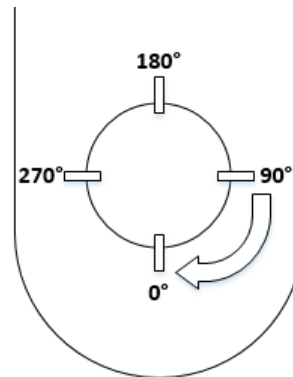


Figure 2

Step 3: Check clearance between the auger and the bottom of the tube. If clearance between transfer auger and auger tube is less than 1/4", remove a half link and adjust the bearing up. Check to make sure you have at least 1/4" of clearance to the top of the tube as well. (Figure 3)

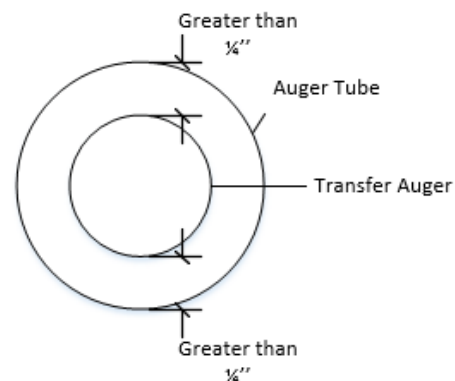


Figure 3

Flow Sensor Installation

Step 1: Remove the access panel inside the hopper to gain access to the top of the clean grain elevator.

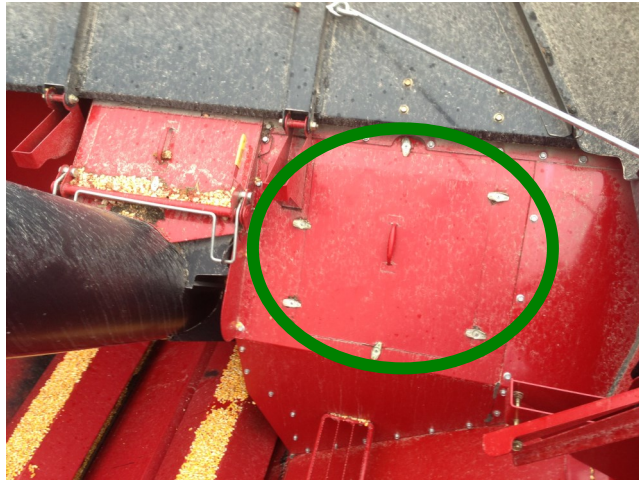


Figure 1

Step 2: Remove the elevator cover by unlatching the U-bolt and by removing the two hairpins in the cover pin and then the cover pin itself. Then remove the elevator cover.



Note: On combines with hydraulic folding bin extensions, the cover pin will be more difficult to remove. Lift the far side of the cover and rotate towards the center of the combine and pull the pin down below the bin extension frame. Use vise grips if needed when pulling the pin down.

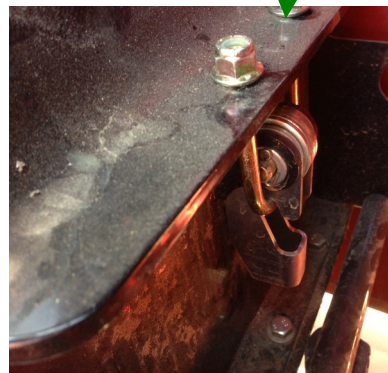


Figure 2

Flow Sensor Installation

Step 4: Compare your original cover to the picture below. If you have the high wear cover, you will have a welded plate where the U-bolt connects. The standard cover does not have this welded plate.



Figure 4

Step 5: Install the flow sensor assembly. If your original cover was the high wear type, install the shim included in the installation hardware kit between the cover and the pin as shown. Then tighten the U-bolt until snug, then tighten each nut 3 additional turns.



High Wear Shim

Figure 5a



Figure 5b



Figure 5c

Flow Sensor Installation

Step 6: Use the Paddle Clearance Gauge to check the distance between the flow sensor and a paddle on the clean grain elevator chain.



Figure 6

Step 7: Remove the panel just above the bubble auger to gain access to the clean grain elevator and move a paddle to the vertical position.



Figure 7

Step 8: Gently insert the Paddle Clearance Gauge at the center of the paddle until it becomes tight against the sensing pad on the flow sensor. Use a finger to identify how far the gauge inserts into the gap. Remove the gauge and note the position.

Sensing Pad

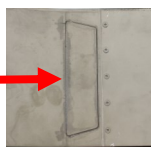


Figure 8b



Figure 8a

Step 9: If the Paddle Clearance Gauge becomes tight within regions A through D, the sensor is in the correct location. If the gauge does not become tight inside this range, verify that you have the correct chain and paddle kit installed and check the sprocket for excessive wear and replace if needed.

Clean Grain Elevator Chain Installation (Cont.)

Step 1: Confirm that the drive chain is properly installed and then adjust the tensioning spring until the washer reaches the spring tension gauge.



Figure 1

Step 2: After 10 hours of operation, check the chain tension. Adjust the tension if needed.



Figure 2

YieldSense Module (YSM) Installation

Step 1: Open the right side panel of the combine. Identify a mounting location for the YSM and use the YSM mounting plate to mark two spots to drill holes to secure the mounting plate to the combine. The YSM will need to be level, or $\pm 5^\circ$ of level once bolted in place.



Figure 1

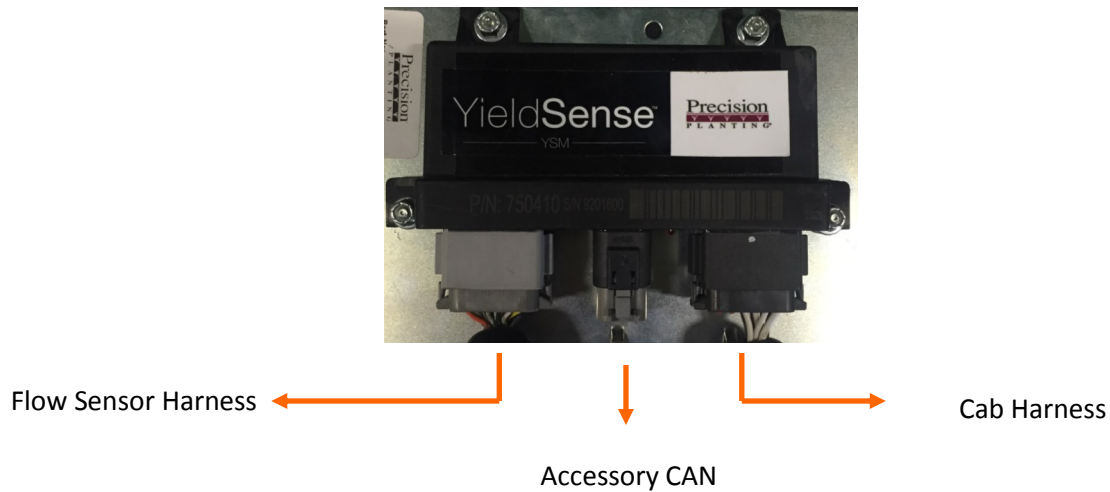
Step 2: Drill the two holes as marked in step 1 using the provided #4 bit.

Step 3: Tap the holes using the provided 1/4"-20 tap.

Step 4: Mount the Yield Sense Module using the provided 1/4"-20 bolts.

Flow Sensor Harness Installation

Illustration A



Step 1: Plug the 6-pin Deutsch connector of the Flow Sensor Harness into the Flow Sensor Assembly.

Step 2: Route the flow sensor harness down to the YSM. Secure the harness with zip ties about every 12 inches. Tighten the zip ties so that they are just snug.

Warning Notes:

- 1) Do not route the flow sensor harness next to the power cable covered by the red sleeve. Doing so may result in a noisy sensor signal and could affect the accuracy of the system.
- 2) When routing the flow sensor harness along the back side of the elevator, make sure that it does not come into contact with the elevator drive chain.



Illustration B

Cab Harness Installation

Step 1: Pull up the floor mat on the right side of the cab to gain access to the metal floor. Drill a hole with a 1-3/4" hole saw (not provided) in the location shown.



Warning: Before drilling, ensure that the area immediately underneath the area you plan to drill through is free from harnesses and tubing. Adjust your hole location as necessary.



Figure 1

Step 2: Remove the sharp edges of the hole with a file.

Step 3: Feed the 12-pin Deutsch connector end of the Cab Harness through the hole in the floor as shown at right.



Figure 3

Cab Harness Installation

Step 4: Route the cab harness to the YSM. Secure with zip ties about every 12 inches, pulling the zip ties just snug. Connect the 12-pin deutsch connector on the cab harness to the YSM.

Step 5: Insert the grommet on the cab harness into the hole in the floor.



Figure 4

Step 6: In the cab, route the cab harness inside the harness channel towards the cab post as shown and reinstall the floor mat.



Figure 6

Cab Harness Installation

Step 7: In most 2013 and newer cabs, plug the power connector of the cab harness into the 3-pin AMP connector just below the key as shown.

In early 2013 and older cabs, connect the cab power harness to the seat harness underneath the seat. Then plug the power connector of the cab harness.

Most 2013 & Newer



Early 2013 & Older

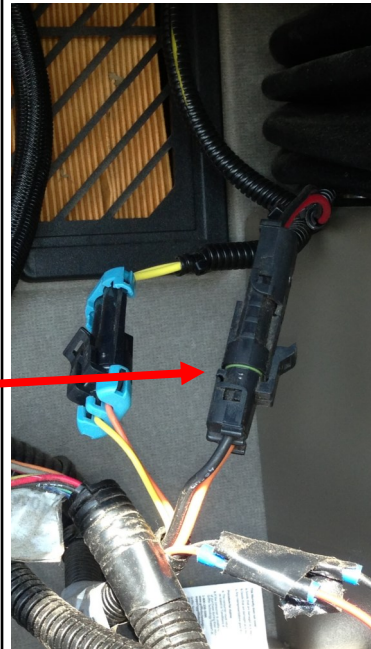


Figure 7

Step 8: In most 2013 and newer cabs, plug the 9-pin deutsch connector on the cab harness into the diagnostic port located to the left of the operator's seat.

In early 2013 and older cabs, plug the 9-pin deutsch connector on the cab harness into the diagnostic port located just below the key.

Most 2013 & Newer



Early 2013 & Older



Figure 8

20/20 and iPad Installation

Step 1: Mount the 20/20 display and the iPad RAM mount in the cab as you desire. A display mounting bracket and two mounting options are provided.

- 1) A 10 mm bolt is provided if you have an open and threaded hole in the railing along the top edge of the right window.
- 2) Two 1/4"-20 bolts are provided if drilling and tapping is required.
- 3) Use the triple suction cup mount for the other display.

Step 2: For Gen 1 20/20 displays, connect the Cab Harness to the FieldView Display Harness and then plug the display harness into the back of the 20/20. For Gen 2 20/20 displays, plug the cab harness into the back of the 20/20 display.



Warning: Do not connect the Cab Control Module when using YieldSense. All connectors for the CCM should be disconnected.



Illustration A



Illustration B

Display Mounting Bracket

GPS Connection

Step 1: The YieldSense Cab Harness has two 4-pin connectors that are labeled “GPS”. One is located inside the cab and one is located outside of the cab. Only use one of these connectors. Connect the GPS Adapter Harness to either the inside or outside connector depending on where you are connecting to GPS.

Inside the cab



Figure 1a

Outside the cab



Figure 1b

Step 2: If the combine has a NAV II Controller, connect the GPS Adapter Harness to the cab harness inside the cab and then connect to the diagnostic port on the NAV II Controller. In most **2013 or newer** combines, the diagnostic port will be located behind the panel just behind the key. In **early 2013 and older** combines, it will be underneath the seat.



Figure 2a: Later 2013 and newer

Step 3: If you do not have a NAV II Controller, connect the GPS adapter harness to the cab harness either inside or outside of the cab and then to the GPS receiver. If the combine is not providing power to the receiver, plug the adapter harness into the outside GPS connector and then connect the adapter harness to the 2-pin weather pack on the cab harness.

WARNING: If the GPS is being powered by the combine **DO NOT** connect the 2 - pin weather pack. If connected improperly, the harness will back feed battery power to the switched power circuit.



Figure 2b: Early 2013 and older

GPS Setup—NAV II Controllers

Step 1: If connected to a NAV II Controller for GPS, navigate to the NAV tab on the Pro 600/700 by pressing the BACK button in the lower left hand corner and pressing the *right* arrow until you see the NAV tab. Select the NAV tab and press EDIT under NMEA Output Setup.

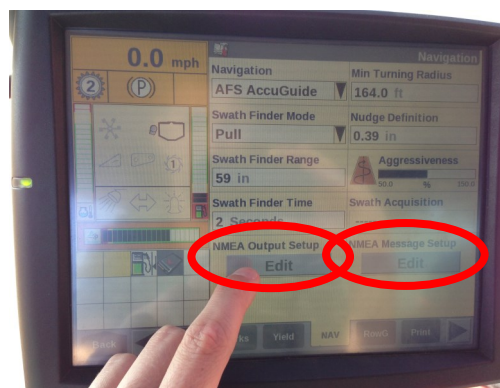


Figure 1

Step 2: Make sure that NMEA Output is set to “On”. Set Baud Rate to 38400. Press OK.

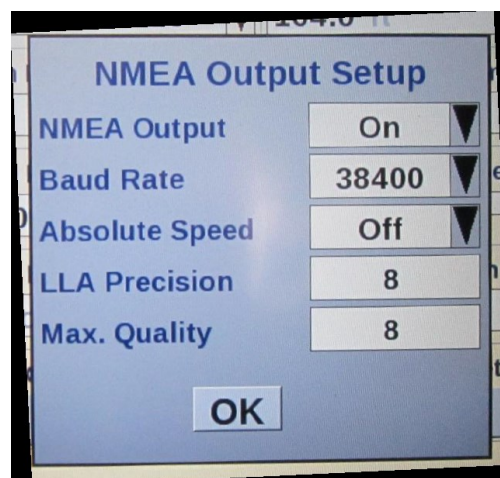


Figure 2

Step 3: Press EDIT under NMEA Message Setup. Set GGA, RMC, and VTG to 200ms (this is the same as 5Hz). Turn the other messages to OFF. Press OK to save. GPS setup is now complete.

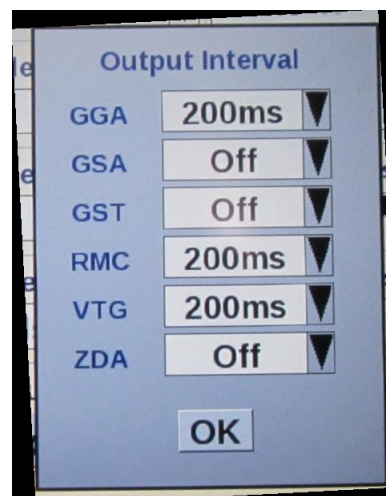


Figure 3

Note: If your combine does not have a NAV II Controller and you connect the 727131 GPS adapter harness to the receiver, configure the Pro 600/700 display like you would for planting.