

YieldSense™

Installation Guide

CLAAS Lexion Combines with 6 inch Elevators

Precision Planting®

Table of Contents

System Overview	3
Quick Start Guide	5
Clean Grain Elevator Chain Installation	6
Flow Sensor Installation	9
500 Series Lexion Electrical System Overview	13
500 Series YieldSense Module (YSM) Installation	14
500 Series Flow Sensor Harness Installation	15
400 Series Lexion Electrical System Overview	16
400 Series YieldSense Module (YSM) Installation	17
400 Series Flow Sensor Harness Installation	18
400 Series Secondary YSM Harness Installation	19
500 Series Cab Harness Installation	22
400 Series Cab Harness Installation	25
20/20 and iPad Installation	28
GPS Connection	29

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>.

System Overview

YieldSense Base Kit (750010)		
Qty.	Part #	Description
1	751153	Flow Sensor Assembly
1	750135	YieldSense Module (YSM) Assembly, Lexion
1	750293	Cab Harness
1	750411	Flow Sensor Harness
1	751110	Installation Hardware Kit
1	751111	Parts 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	750098	Lexion 6" Flow Sensor Mounting Assembly
Chain & Paddle Kit		
1	750085	Chain Assembly with Paddles

Secondary YSM Kit (751108) - 400 Series Only		
1	750034	Wheel Speed Sensor Harness
1	750035	Head Position Sensor Harness
1	750036	Elevator Speed Sensor Harness
1	750410	YieldSense Module (YSM) Assembly, Lexion
1	750819	Secondary YSM Base Harness
1	750850	YSM 1+1 Harness
1	751118	Hardware Kit

System Overview

Compatible Lexion Models with 6" Elevator
2004—2005 570R Combines
All 560R Combines
All 400 Series Combines



6 Inch Elevator



9 Inch Elevator

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.

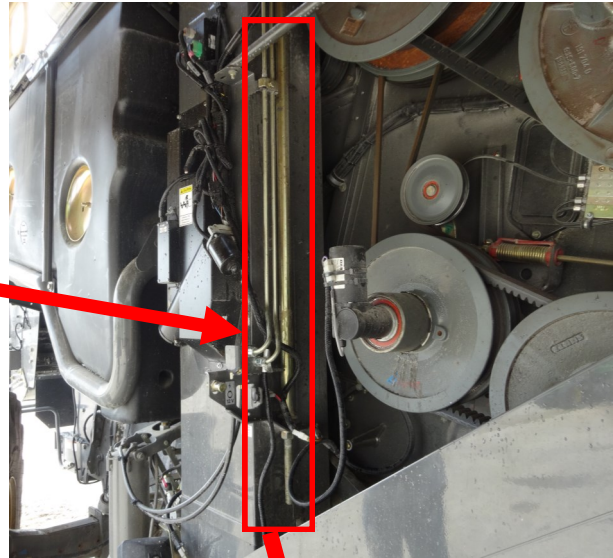
11. Complete Crop Setup. After opening the first field, follow the on screen instructions to continue harvesting while waiting for actual elevator scale weight. Enter actual weight to complete crop setup. Remember that the setup load must be at least 25,000 pounds.

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.

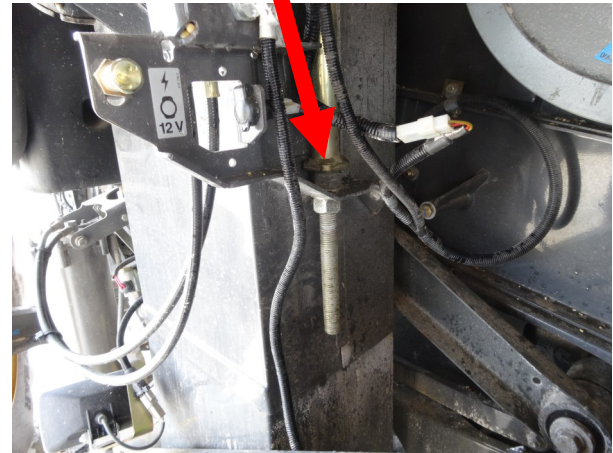
13. GPS Setup Guides. These can be found in the Cloud under Tech Docs—2020 Products—GPS Setup Guides.

Clean Grain Elevator Chain Installation

Step 1: Locate the tensioning rod for the clean grain elevator chain on the front of the elevator.



Step 2: Locate the jam nut and adjustment nut towards the bottom of the tensioning rod. Use a wrench to loosen the two nuts and adjust the tensioning rod downward. This will lower the upper bearing shaft and loosen the chain.



Step 3: From the bottom, rotate the OEM chain to find the master link and remove it. The elevator drive belt will need to be removed from the left side of the combine. Refer to Illustration B.

Tech Tip: Tie a rope to one end of the OEM chain at the bottom. This may be helpful later when removing the chain from the top of the elevator.



Illustration A



Illustration B

Clean Grain Elevator Chain Installation (Cont.)

Step 4: Remove the stock cover or AgLeader flow sensor from the top of the elevator. Remove the two bolts on the bottom of the plate.



Step 5: Next pull the AgLeader sensor/stock cover out away from the elevator.



Step 6: Remove the top cover plate temporarily as it will need modification. Save the hardware as it will be reused to reinstall the plate later.



Clean Grain Elevator Chain Installation (Cont.)

Step 7: With the AgLeader flow sensor/stock cover removed, the elevator chain can be pulled out from the top of the elevator. It may be necessary to feed the chain down the front side of the elevator until you can grab the other end to pull it out.

Note: A lower elevator adjustment is required. If one is not present, refer to the detailed order guide to order the correct kit for your combine. Refer to Lexion elevator lower adjustment guide 955642 for the installation procedure.



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 8: Feed the new chain in from the top of the elevator, one side of the elevator at a time. Once complete, install the master link to connect both end of the chain assembly together at the clean out door of the lower elevator boot.

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



Flow Sensor Installation

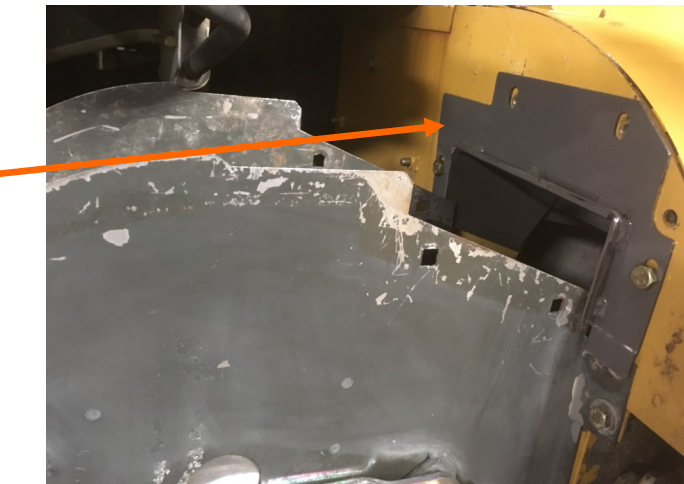
The flow sensor install starts with the top cover which was previously removed during the clean grain elevator chain installation.

Step 1: Mark the plate as close to the lip as possible without interfering with the welds. With a cut off wheel cut a straight line across the plate and down the sides.

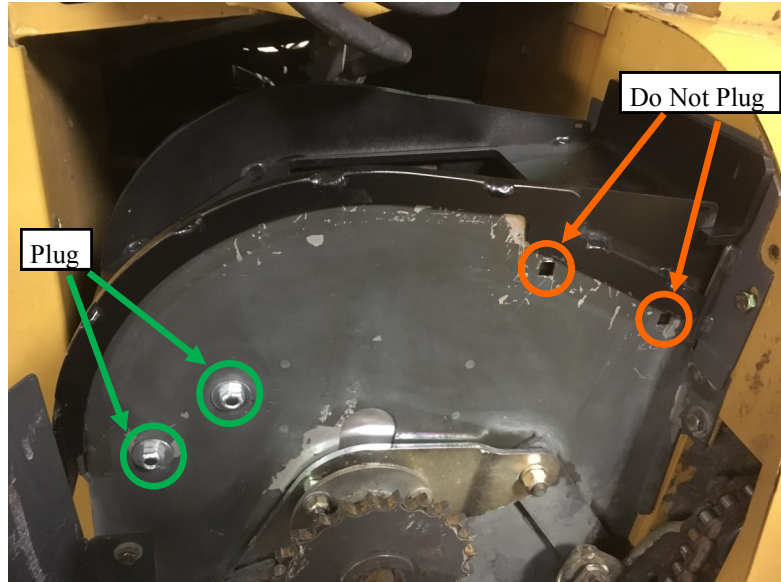


Step 2: Next, reinstall the plate with the original 4 bolts.

Note: Ensure the front of the plate is properly slid in between the joint inside the elevator.



Flow Sensor Installation (cont.)



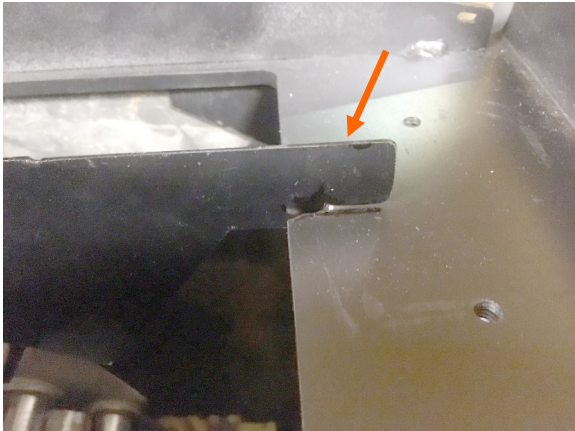
Note: If equipped with the AgLeader system, remove their upper elevator stiffener brackets at this time. Plug the holes using (4) 5/16" hex drive round head bolts, 5/16" washers, and 5/16" locknuts found in the hardware kit. The top two holes will not need bolts as the flow sensor will cover them completely. The bolts must be installed with the head on the inside of the elevator. The washers and nuts will be on the outside of the elevator.



Step 3: Install the flow sensor mount before installing the flow sensor in the mount. Start at the front of the elevator and work towards the rear. Ensure the sides of the elevator are being set in the proper slot on the mount.

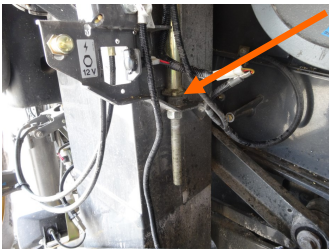
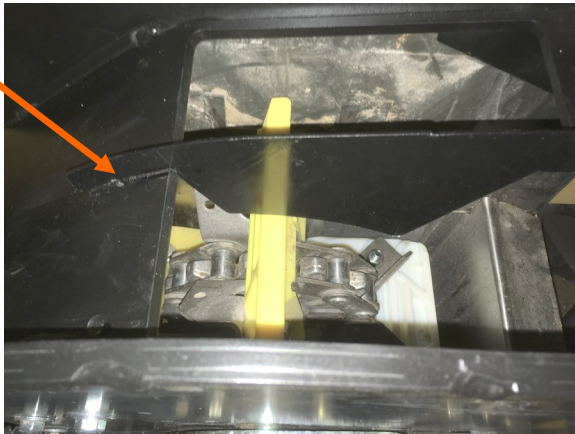
Flow Sensor Installation (cont.)

Step 4: Set the upper bearing height using the provided gauge. Place the front of the gauge in the groove on the front of the flow sensor mount. Place the rear portion of the gauge over the rear center hole.



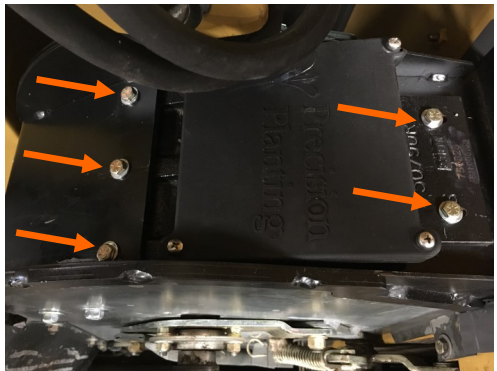
Step 5: Adjust the upper shaft up until the paddles just make contact with the gauge. Refer to Table 1 for the approximate number of adjustment screw turns based on the paddle & gauge gap.

Note: Once the bearing height has been set DO NOT adjust the chain by moving the top shaft adjustment rod. Only adjust the chain tension from the lower adjustment.



Upper Shaft Adjuster

Step 6: Next, install the flow sensor to the mount. The back of the flow sensor mounts under the bracket and the front of the flow sensor mounts on top of the bracket. Secure the flow sensor by using three 1/4 x 5/8" bolts on the rear of the flow sensor. Use two 1/4 x 1" bolts in the front of the flow sensor. Also, use five 1/4" washers found in the hardware kit with the bolts. Torque the bolts to 6 ft-lbs.



Paddle & Gauge Gap (inch)	Approximate Adjustment Screw Turns
1/16	1/2
1/8	1-1/4
3/16	1-3/4
1/4	2-1/2
5/16	3
3/8	3-3/4
7/16	4-1/4
1/2	5
5/8	6-1/4
3/4	7-1/2
7/8	8-3/4
1	10
1-1/8	11-1/4
1-1/4	12-1/2
1-3/8	13-3/4
1-1/2	15-1/4
1-5/8	16-1/2
1-3/4	17-3/4
1-7/8	19
2	20-1/4

Table 1

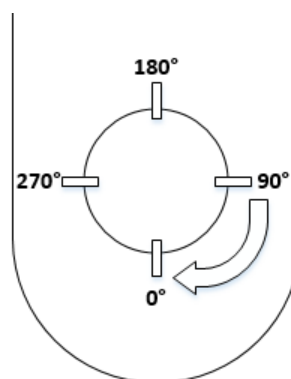
Flow Sensor Installation (cont.)

Step 7: Tighten the clean grain elevator chain using the lower elevator chain adjustment.

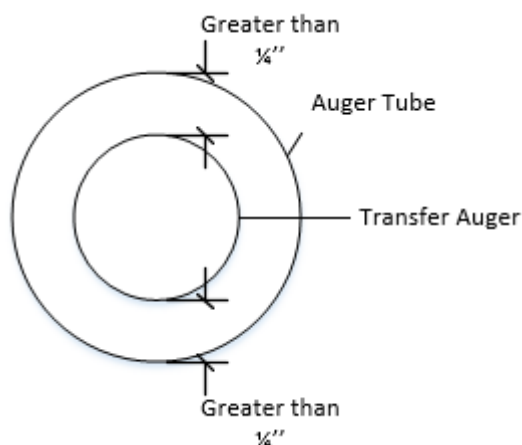
Note: The chain is properly tightened when it cannot be pulled away from the bottom sprocket but can still be slid back and forth across the sprocket.



Step 8: 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.



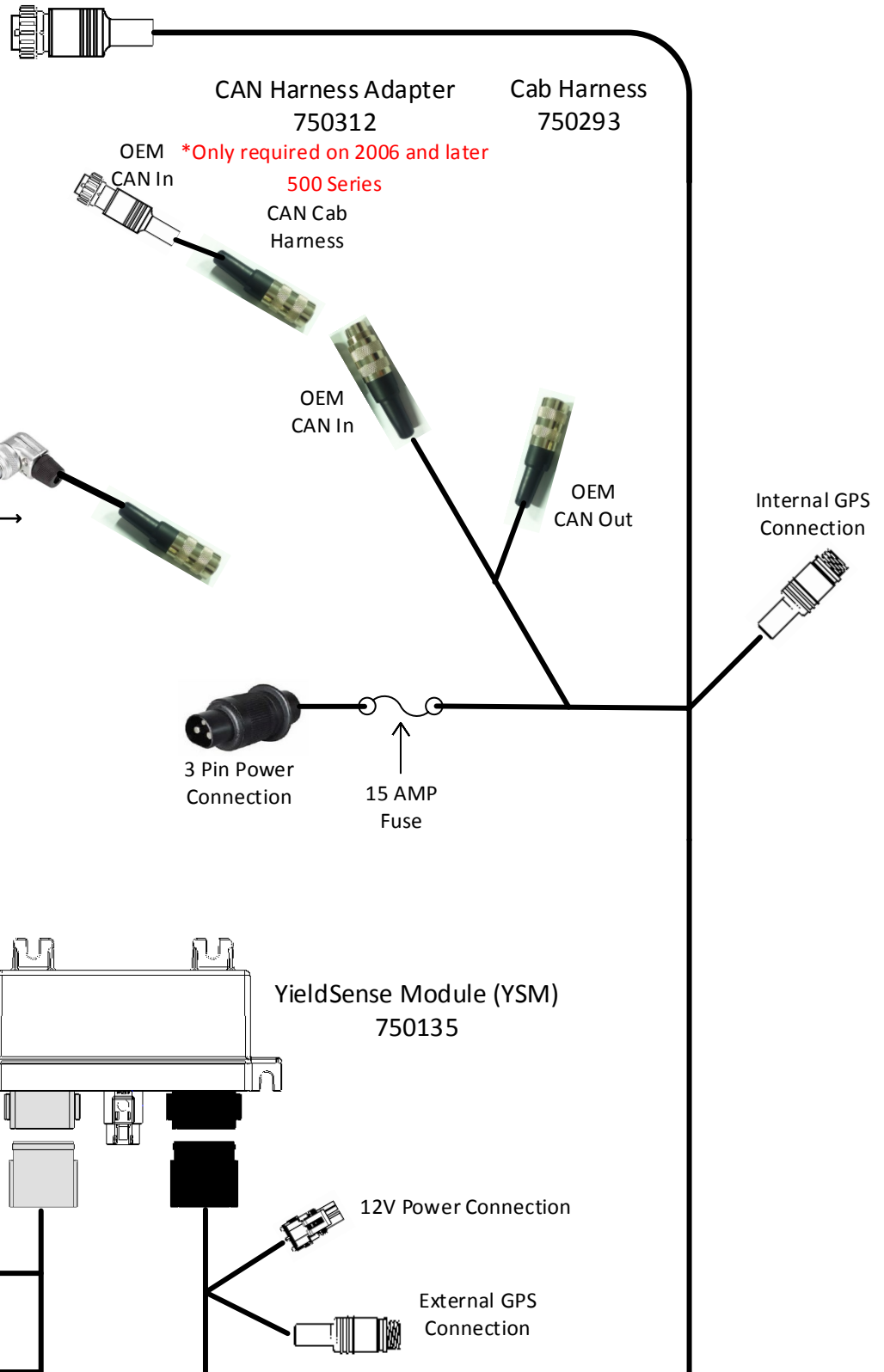
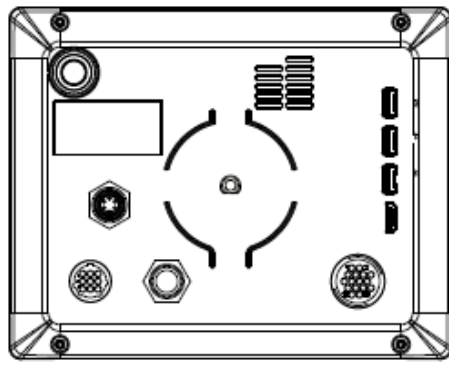
Step 9: Check clearance between the auger and the bottom of the tube. If clearance between transfer auger and auger tube is less than 1/4", remove a half link and adjust the bearing up. Check to make sure you have at least 1/4" of clearance to the top of the tube as well.



Final Checks

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

500 Series Lexion YieldSense Electrical System Overview



500 Series YieldSense Module (YSM) Installation

Step 1: Identify the mounting location for the YSM below the right side of the cab.

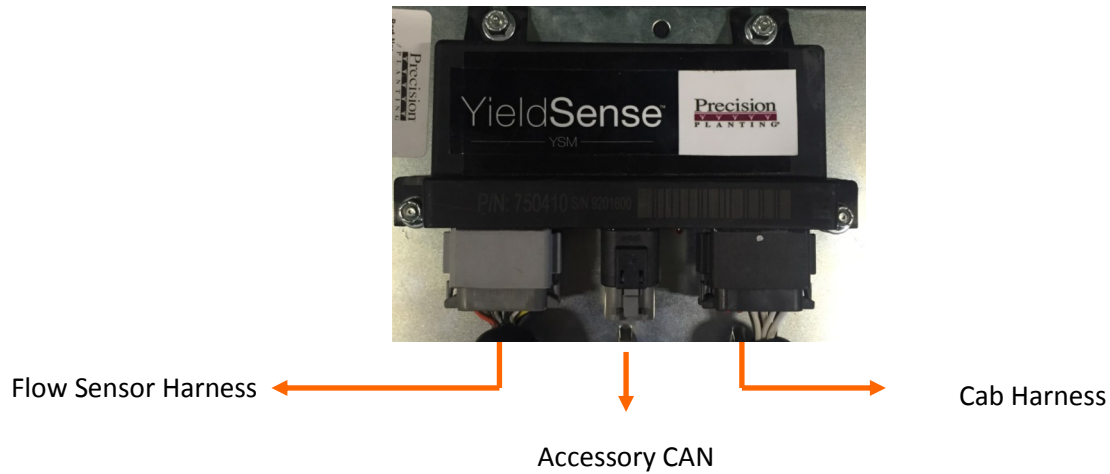


Step 2: Mount the YSM using the two U-bolts found in the hardware kit. The YSM will need to be level or $\pm 5^\circ$ once bolted in place.

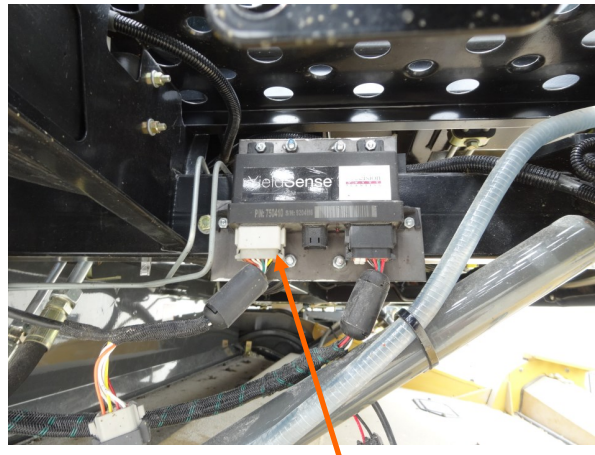
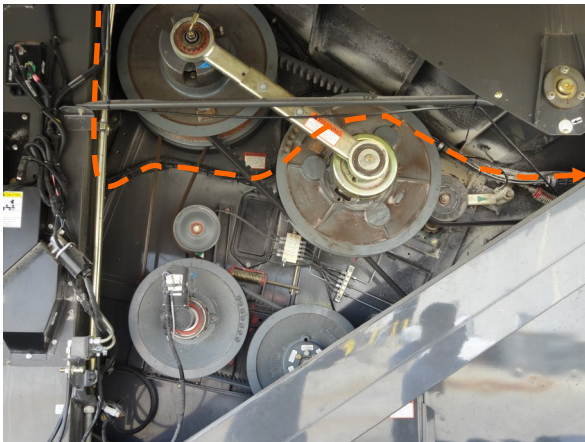
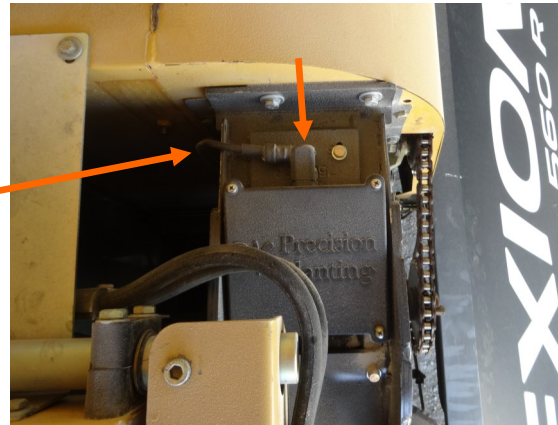
Step 3: Use the provided 1/4"-20 nylock nuts and washers to secure the YSM mounting plate to the U-bolts.

500 Series Flow Sensor Harness Installation

Illustration A



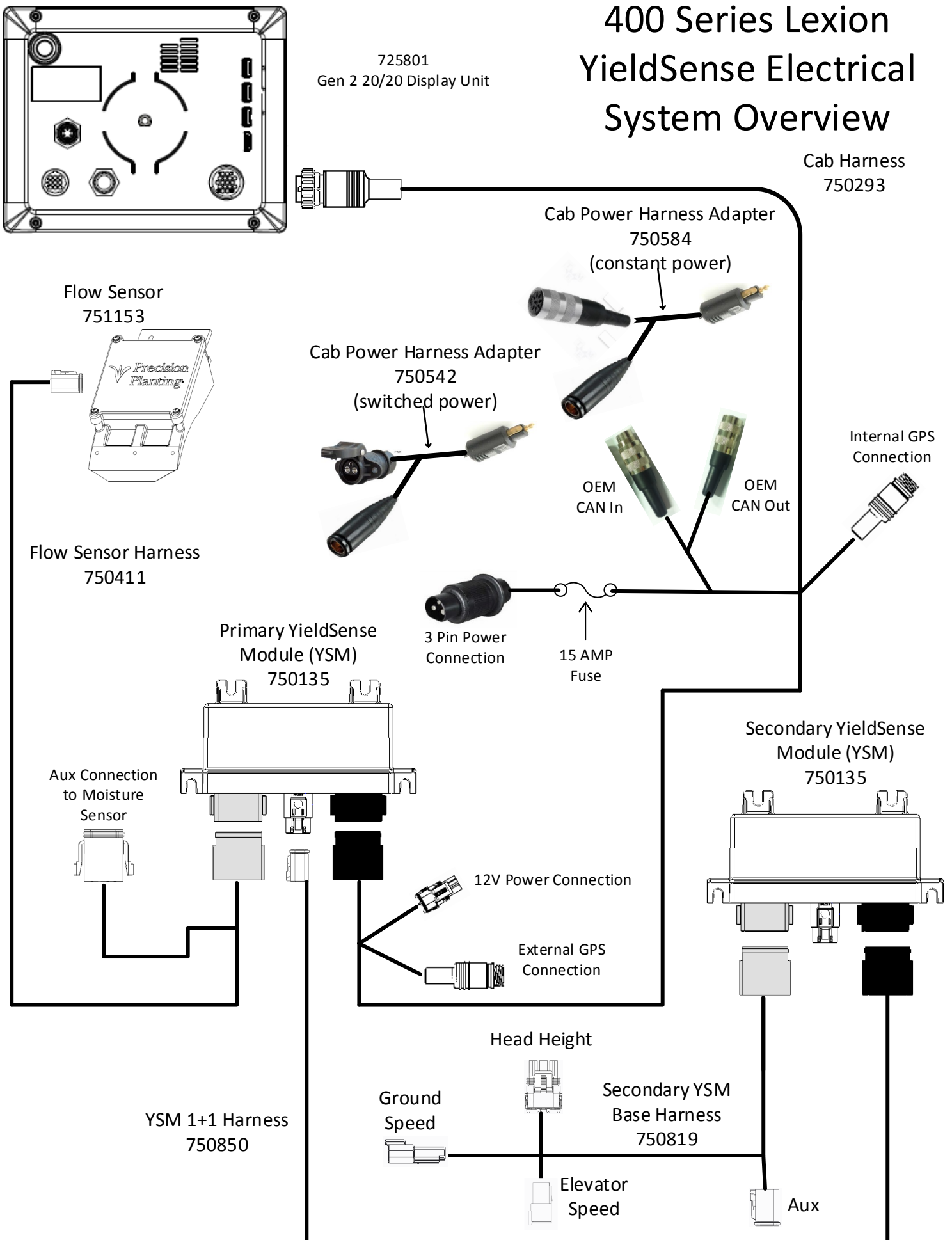
Step 1: Plug the 6-pin Deutsch connector of the Flow Sensor Harness (750411) into the Flow Sensor Assembly at the top of the elevator. Route the harness down the inside (left) side of the elevator.



Step 2: Route the flow sensor harness down the front side of the elevator, along the OEM harnessing to the YSM. Secure the harness with zip ties about every 12 inches. Tighten the zip ties so that they are just snug.

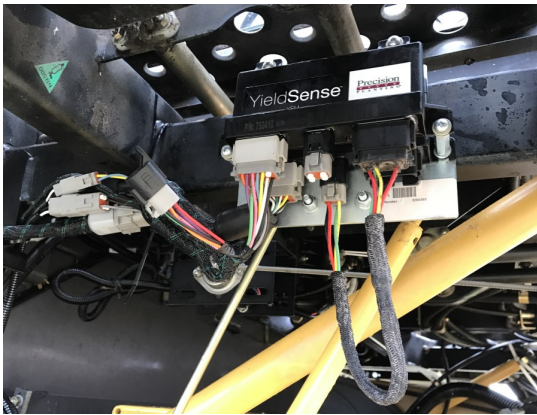
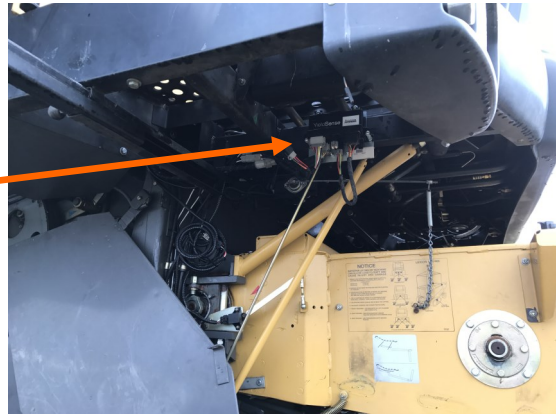
Warning: Do not route the flow sensor harness next to any large power or CB radio cables. Doing so may result in a noisy sensor signal.

400 Series Lexion YieldSense Electrical System Overview



400 Series YieldSense Module (YSM) Installation

Step 1: Identify the mounting location for the YSM below the right side of the cab.



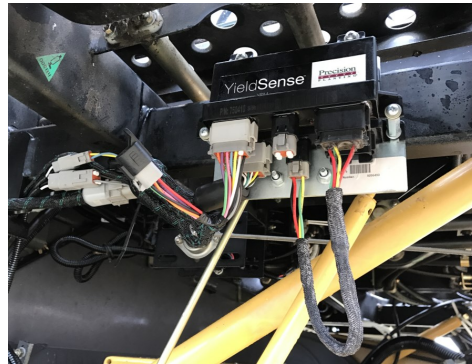
Step 2: Mount the YSM using the two U-bolts found in the hardware kit. The YSM will need to be level or $\pm 5^\circ$ once bolted in place.

Step 3: Use the provided 1/4"-20 nylock nuts and washers to secure the YSM mounting plate to the U-bolts.

Step 4: Use the provided hardware in kit 751118 to mount the secondary YSM to the outside of the primary YSM.

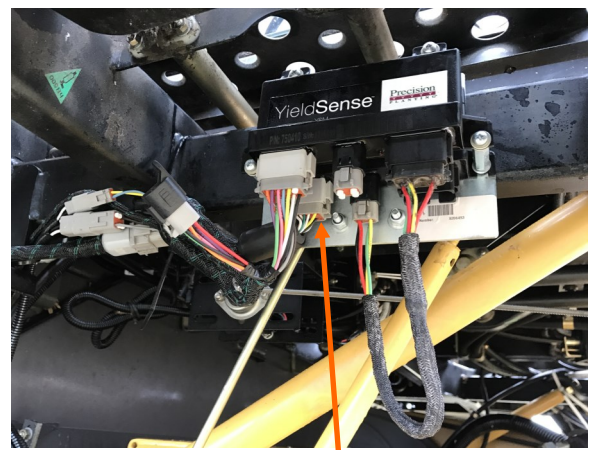
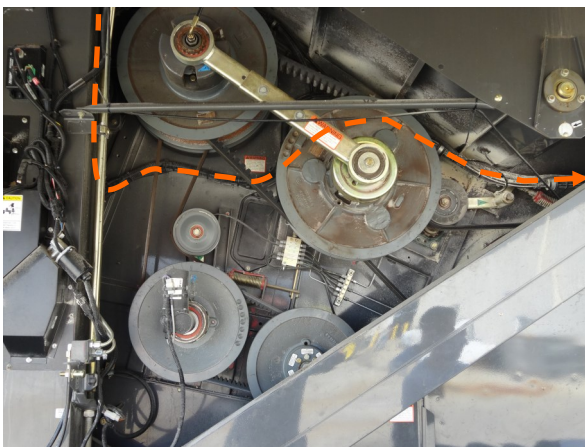
400 Series Flow Sensor Harness Installation

Illustration A



Back YSM is Primary
Front YSM is Secondary

Step 1: Plug the 6-pin Deutsch connector of the Flow Sensor Harness (750411) into the Flow Sensor Assembly at the top of the elevator. Route the harness down the inside (left) side of the elevator.



Step 2: Route the flow sensor harness down the front side of the elevator, along the OEM harnessing to the YSM. Secure the harness with zip ties about every 12 inches. Tighten the zip ties so that they are just snug. Plug the flow sensor harness into the gray connector on the back or primary YSM (closest to the frame).

Warning: Do not route the flow sensor harness next to any large power or CB radio cables. Doing so may result in a noisy sensor signal.

400 Series Secondary YSM Harness Installation

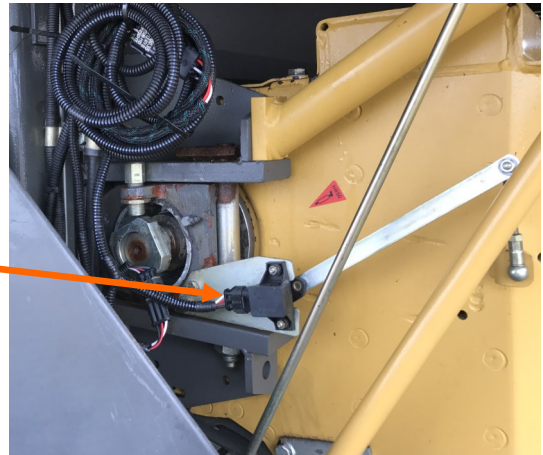
400 Series secondary YSM requires header height position input, elevator speed input, and ground speed input. Secondary YSM base harness 750819 will be installed to “Y” into the existing sensors on the combine.

Header Height Position

Step 1: Locate the header height position sensor on the right side of the feeder house.

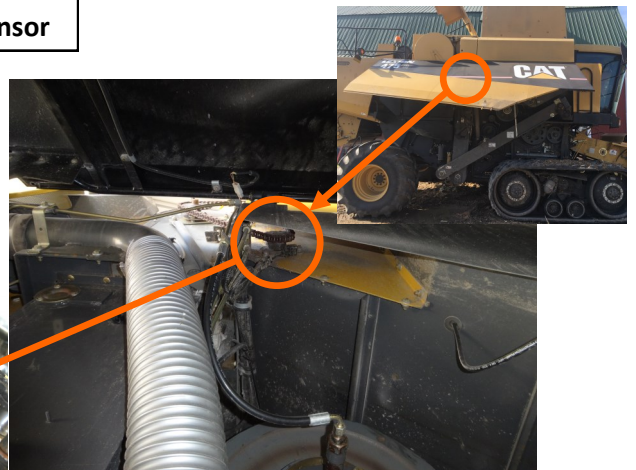


Step 2: Unplug the connector on the header height position sensor. Plug the 3 pin connector on the PP harness into the position sensor. Plug the OEM 3 pin connector into the other 3 pin connector on the PP harness. Route the harness up to the YSM and plug into the secondary base harness.



Elevator Speed Sensor

Step 3: Locate the elevator speed sensor. The speed sensor should be located on the shaft that drives the elevator chain.



400 Series Secondary YSM Harness Installation

Step 4: Unplug the spade connections on the elevator speed sensor. Y in the PP harness and route the harness towards the YSM. Plug the harness into the secondary base harness.



Ground Speed Sensor

Step 5: Raise the feeder house all the way up in order to gain access to the differential housing on the front axle.

Note: Use the hydraulic cylinder lock before going under the feeder house.

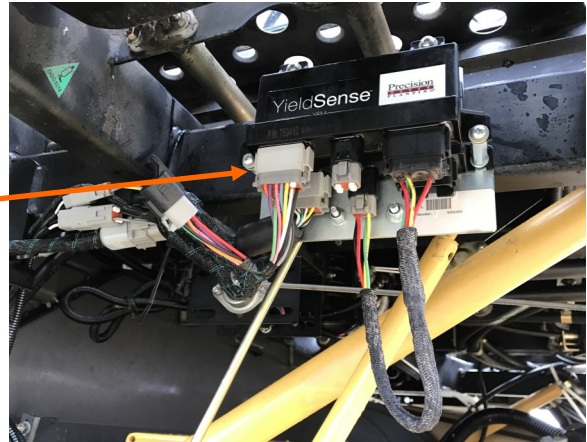


Step 6: Locate the differential speed sensor on top of the differential. Unplug the spade connections on the speed sensor. Y in the PP harness and route the harness towards the YSM. Plug the harness into the secondary base harness.



400 Series Secondary YSM Harness Installation

Step 7: Finally, plug the grey connector on the secondary base harness into the secondary YSM grey connector as shown.



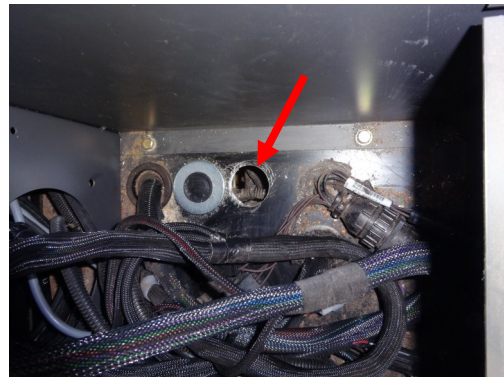
500 Series Cab Harness Installation



Step 1: Begin the 500 series cab install by removing the storage compartment towards the rear of the control panel on the right side of the seat.



Step 2: Next, remove the nut under the front on the display unit using a 13 mm wrench. Move the operator control panel out of the way so you can access the compartment below.

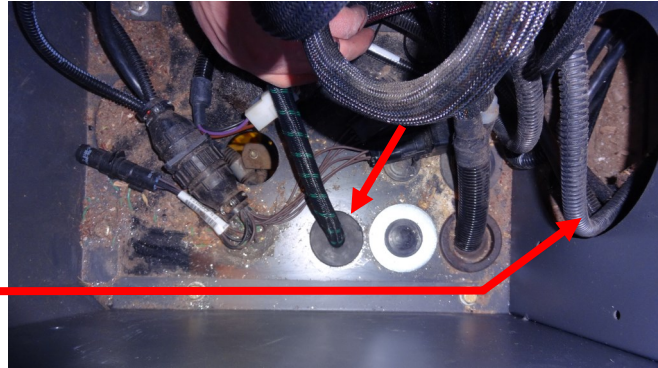


Step 3: With the operators panel removed, select a location to drill a 1 3/4" hole in the bottom of the compartment. This hole will be used to route the cab harness from inside the cab out to the YSM.

500 Series Cab Harness Install (Cont.)

Step 4: Route the cab harness out to the YSM. Install the grommet found on the cab harness.

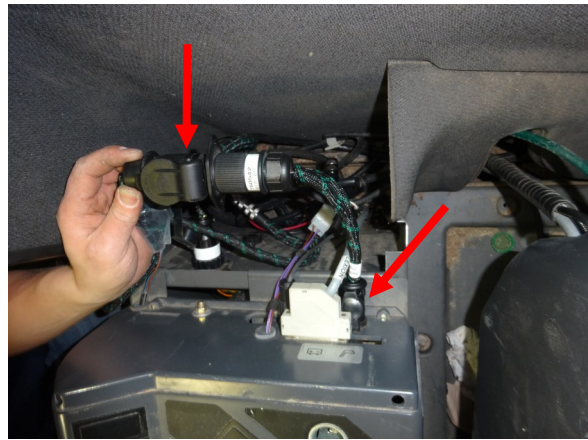
Route the other end of the harness through the access hole on the backside of the compartment.



Step 5: With the operators panel reinstalled, use the 750542 power adapter between the 3 pin power connector on the cab harness and the 12 volt power supply on the rear of the operators panel. This provides the YieldSense system with key switch power.



750542 Power Adapter

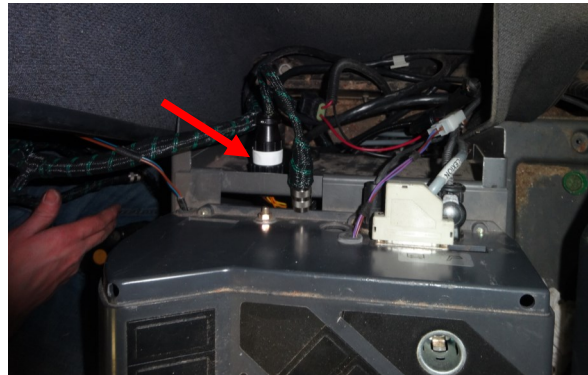


Note: 2006 and later 500 Series requires CAN adapter harness (750312) between the cab harness and the OEM CAN port. For model years 2004 and 2005, CAN adapter 750312 will NOT be used. Model years 2004 and 2005 will use CAN adapter harness 750092. For 750092 CAN adapter harness install skip to Step 7.

Step 6: Next, connect the cab harness to the OEM diagnostic port. Use 750312 CAN adapter harness to adapt from the 8 pin to the 9 pin diagnostic port on the back of the operators panel.



750312 CAN Adapter Harness



500 Series Cab Harness Install (Cont.)



750092 CAN Adapter Harness

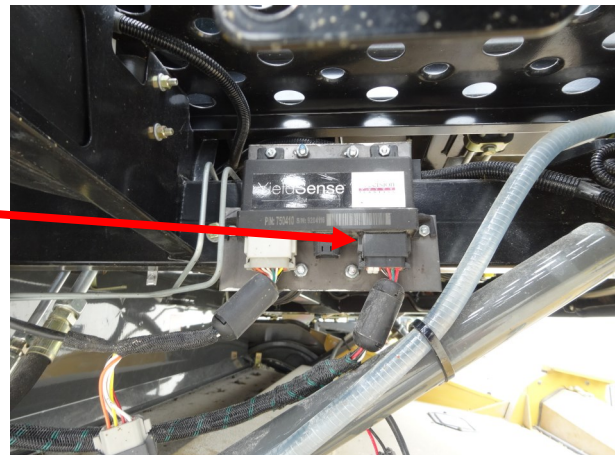


Step 7: For 2004 and 2005 500 Series combines that do not have the 9 pin diagnostic port on the back of operators panel, CAN adapter Harness 750092 must be used. Connect the straight CAN connector to the cab harness.

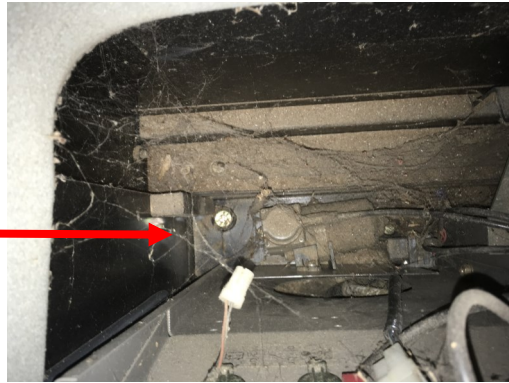
Step 8: Route the adapter harness up to the diagnostic port located next to the display unit. Connect the 90 degree CAN connector to the diagnostic port as shown.



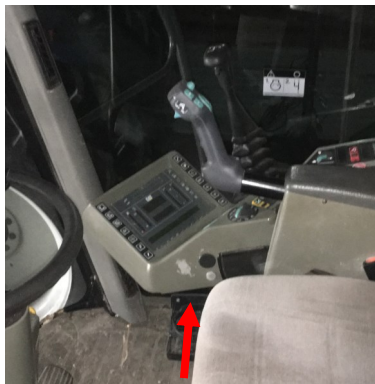
Step 9: Finally, route the other end of the cab harness to the YSM. Secure with zip ties about every 12 inches, pulling the zip ties just snug. Connect the 12-pin deutsch connector on the cab harness to the YSM.



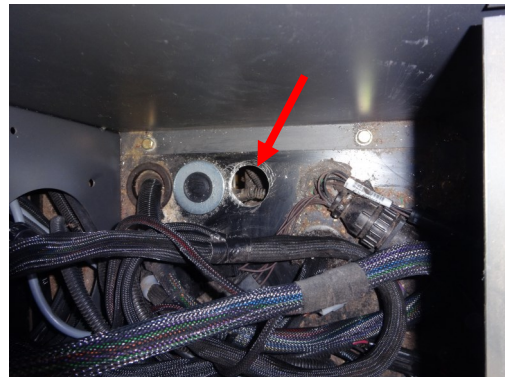
400 Series Cab Harness Installation



Step 1: Begin the 400 series cab install by removing the storage compartment towards the rear of the control panel on the right side of the seat.



Step 2: Next, remove the nut under the front on the display unit using a 13 mm wrench. Move the operator control panel out of the way so you can access the compartment below.

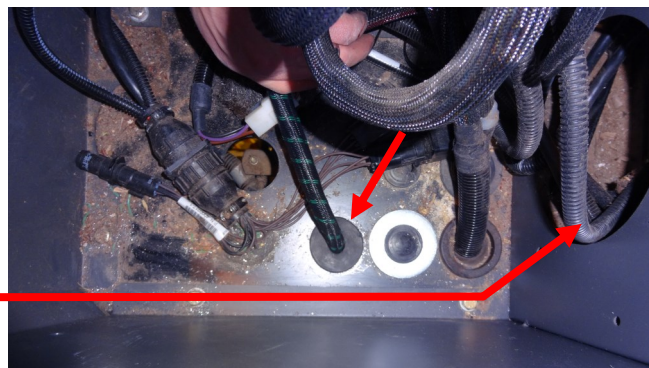


Step 3: With the operators panel removed, select a location to drill a 1 3/4" hole in the bottom of the compartment. This hole will be used to route the cab harness from inside the cab out to the YSM.

400 Series Cab Harness Install (Cont.)

Step 4: Route the cab harness out to the YSM. Install the grommet found on the cab harness.

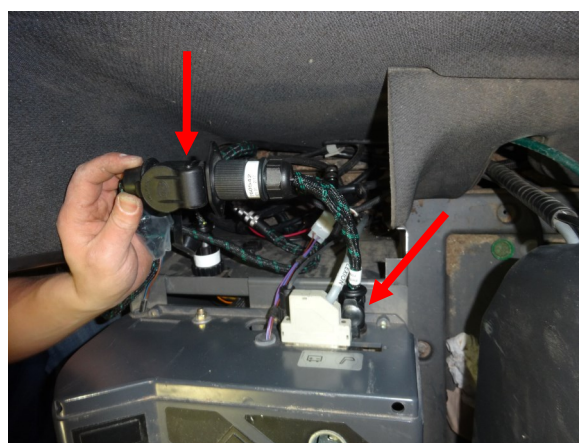
Route the other end of the harness through the access hole on the backside of the compartment.



Step 5: With the operators panel reinstalled, use the 750542 power adapter between the 3 pin power connector on the cab harness and the 12 volt power supply on the rear of the operators panel. This provides the YieldSense system with key switch power.



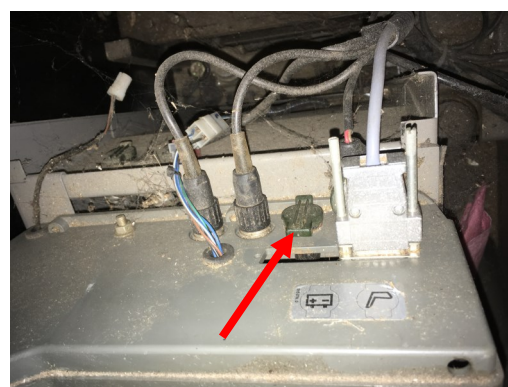
750542 Power Adapter



Step 6: Next, connect the CAN IN connector on the cab harness to the 750584 cab power harness adapter. Connect the 12v power connector on 750584 into the constant power port on the back of the operator console. This provides the YieldSense system with a constant power supply.

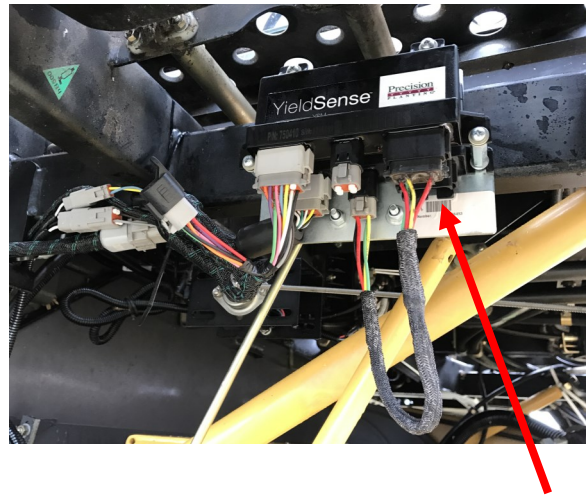


750584 Cab Power Adapter Harness



400 Series Cab Harness Install (Cont.)

Step 7: Finally, route the other end of the cab harness to the primary 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 black connector on the primary YSM (back YSM).



20/20 and iPad Installation

Mount the 20/20 display and the iPad RAM mount in the cab as you desire. A display mounting bracket can be ordered to provide a ridged mounting option in the cab. For the 400/500 series cab order the 751125 bracket kit.

400/500 Series Bracket Install



Step 1: Install the Ram mount on the bracket using the provided hardware.

Step 2: Pick a location to mount the bracket on the front right A pillar. Using the provided letter H drill bit, drill three holes. Use the bracket as a guide to mark the hole locations.

Note: A right angle drill may be required.

Step 3: Use the three self tapping bolts to secure the bracket to the A pillar.

Step 4: Mount the 20/20 to the Ram mount as desired. 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.



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.

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

Inside the cab



Figure 1a – Typical Example

Outside the cab



Figure 1b