

YieldSense™

Installation Guide

CLAAS Lexion Combines with 9 inch Elevators

Precision Planting®

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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 (751009)		
Qty.	Part #	Description
1	751164	Flow Sensor Assembly
1	750135	YieldSense Module (YSM) Assembly
1	750293	Cab Harness
1	750411	Flow Sensor Harness
1	750197	Installation Hardware Kit
1	750168	Installation Bracket 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	751114	Lexion 9" Elevator Adjustment Kit
Chain & Paddle Kit		
1	750157	Chain Assembly with Paddles

Compatible Lexion Models with 9" Elevator

All 700 series

All 580R, 585R, 590R, and 595R models

570R and 575R models from 2006 and later



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.

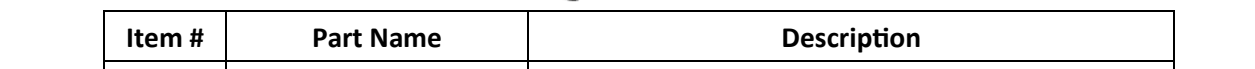
9. Ensure the 20/20 contains the correct Client, Farm, and Field List. Upon loading YieldSense Software, the field list from SeedSense will copy to YieldSense. If other fields exist in FieldView, they will transfer automatically to the 20/20 display.

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.

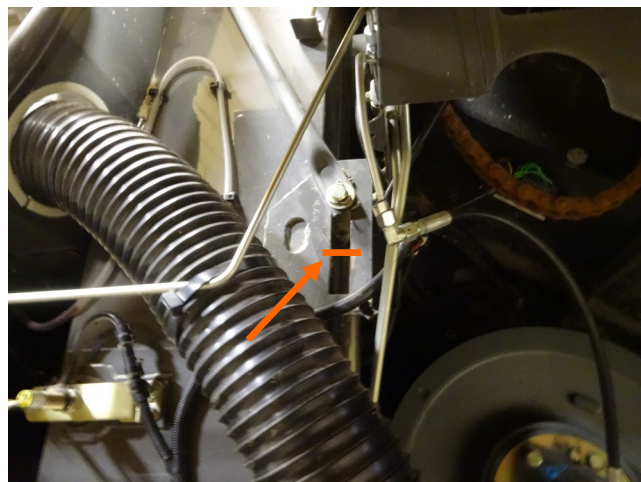


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Flow Sensor Installation (cont.)

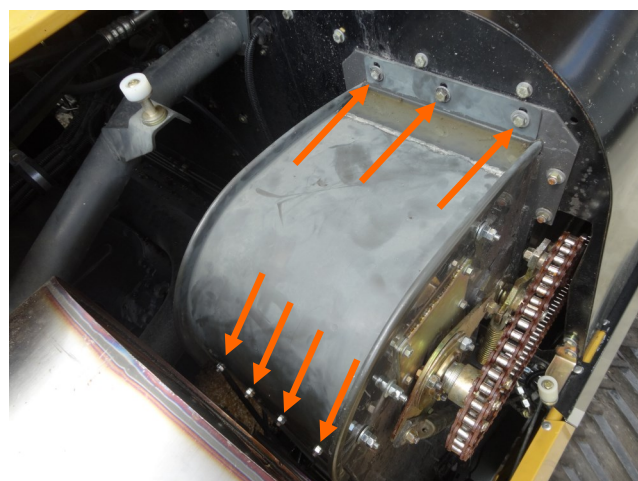
To help make the flow sensor install easier, begin by lowering the upper elevator adjustment half way down the available range (see image). This will give you more space between the flow sensor and the chain and paddle assembly.

Refer to the “Clean Grain Elevator Chain Installation Section” for more information on adjusting the upper bearing.

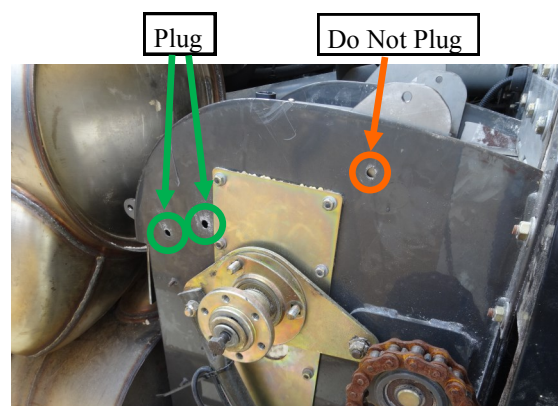


Step 1: Remove the stock cover. Remove the three bolts on the front of the cover using a 13 mm socket. Use a 10 mm ratcheting wrench to remove the 4 nuts on the rear of the elevator cover.

Note: The hardware removed in Step 1 will be reused during the flow sensor assembly install.



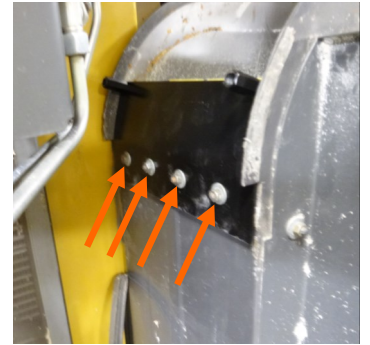
AgLeader Stiffener Brackets



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 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.

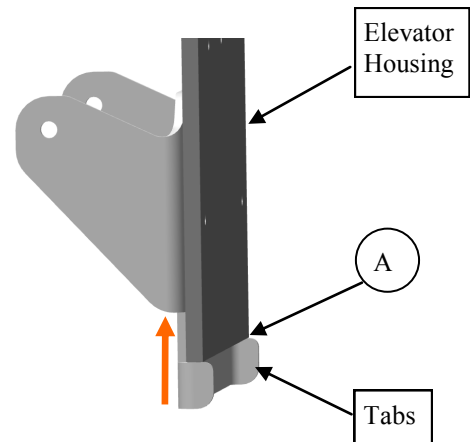
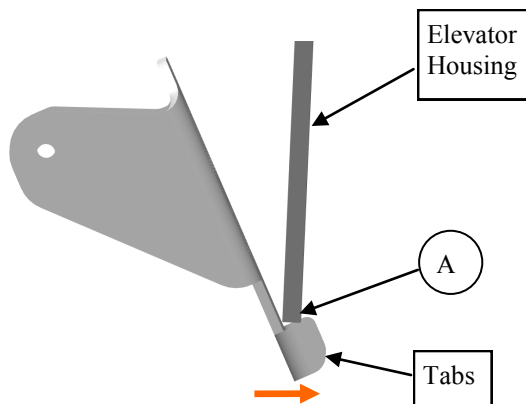
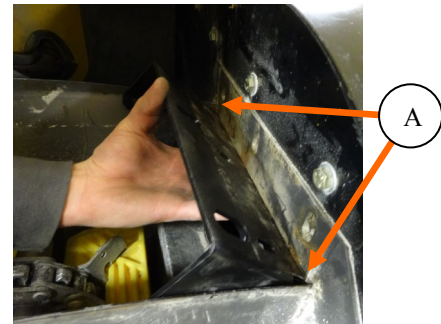
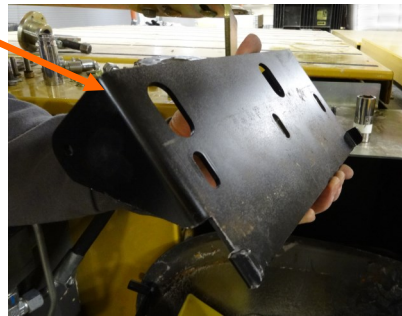
Flow Sensor Installation (cont.)

Step 2: Install rear elevator bracket (11) on the back of the elevator. Reuse the four M6 flat washers and four M6 nuts that were previously removed from the stock cover.

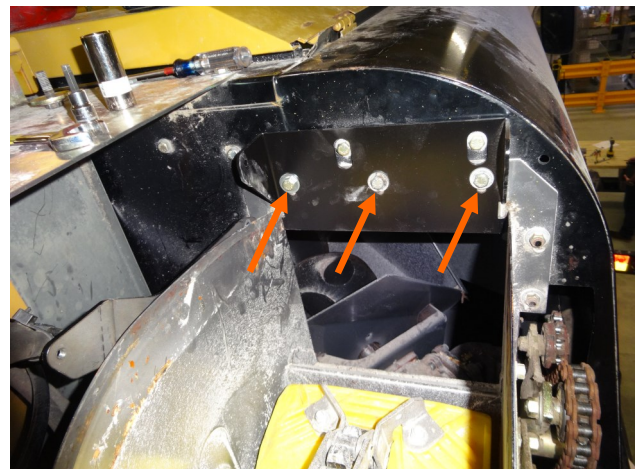


Step 3: Next, install swing mount (15) on the front of the elevator. Ensure the two tabs are under the elevator housing and held up tight against the lip of the elevator at points (A).

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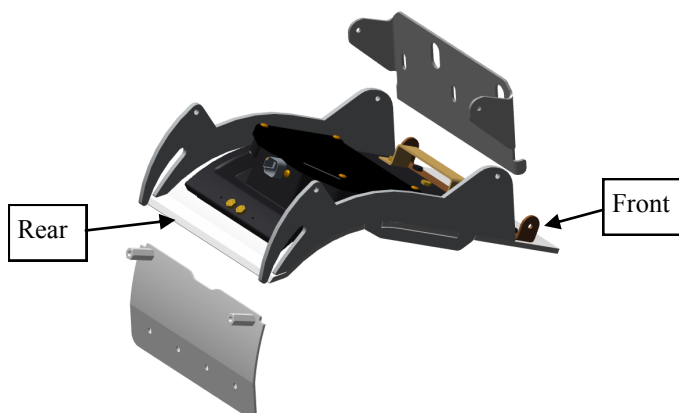


Step 4: Secure the bracket by reinstalling the three M8 bolts and washers which were previously removed in Step 1.



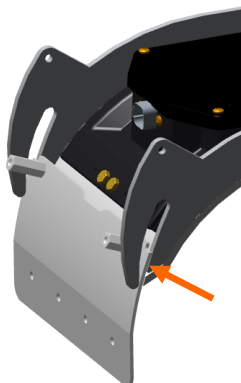
Flow Sensor Installation (cont.)

Step 5: The flow sensor assembly can now be installed. Begin by lowering the front of the assembly into the elevator housing.



Step 6: Next, slide the slots on the rear side of the flow sensor assembly over the rear bracket as shown.

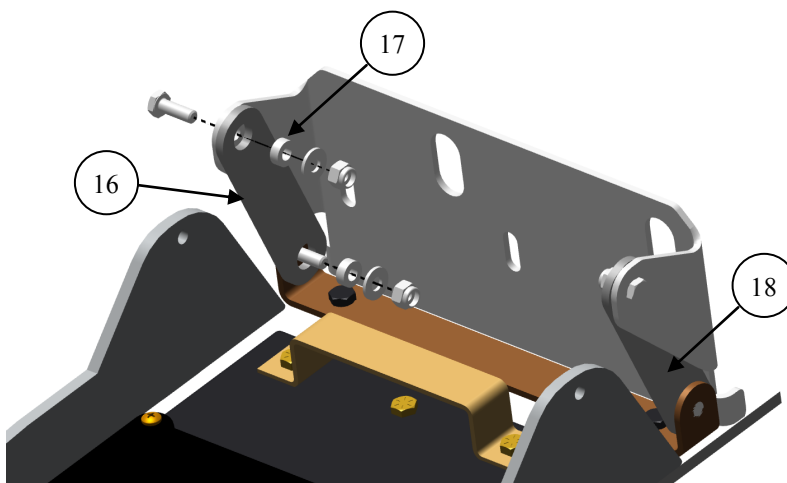
You will now be able to lift the front of the flow sensor assembly up into place.



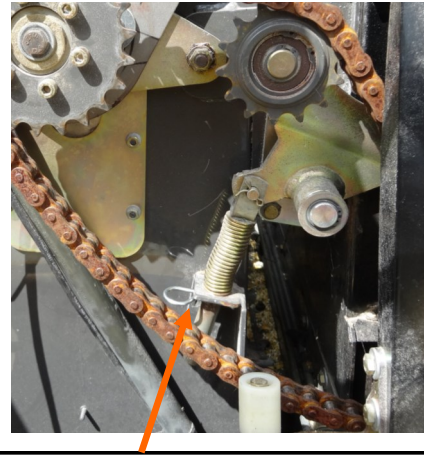
Step 7: Install swing arm (16) on the front of the flow sensor assembly. Insert 1/2 inch bushing (17) into arm (16). Use the 1/4" x 3/4" bolt and secure using the 1/4" flat washer and 1/4" nylon lock nut.

On the bottom of the swing arm install the 1/2" bushing, 1/4" flat washer and 1/4" nylon lock nut.

Step 8: Repeat Step 7 and install swing arm (18) on the right side of the elevator.

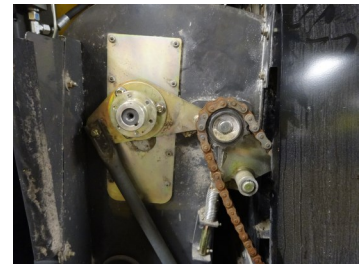
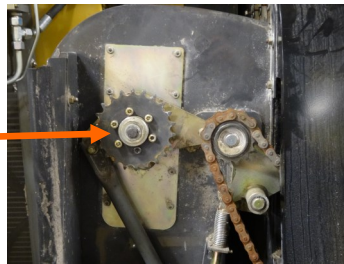


Flow Sensor Installation (cont.)



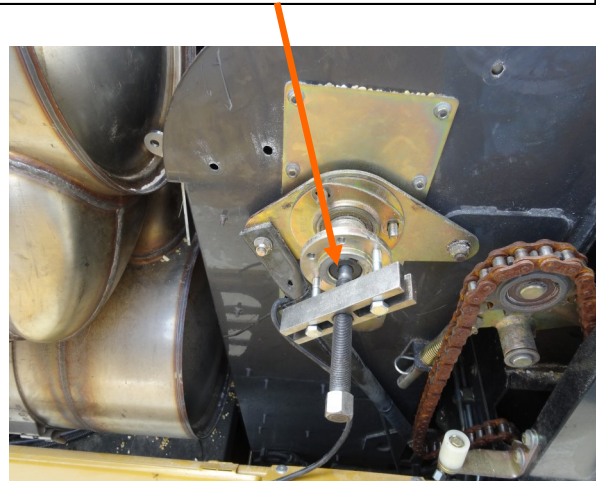
Step 9: Remove the elevator drive chain at the top of the elevator. Begin by pulling down on the chain which compresses the tensioning spring. Insert a pin to secure the tensioning spring in the locked position. The chain can now be removed from the elevator drive sprocket.

Step 10: Next, remove the elevator drive sprocket by removing the 6 allen head bolts.



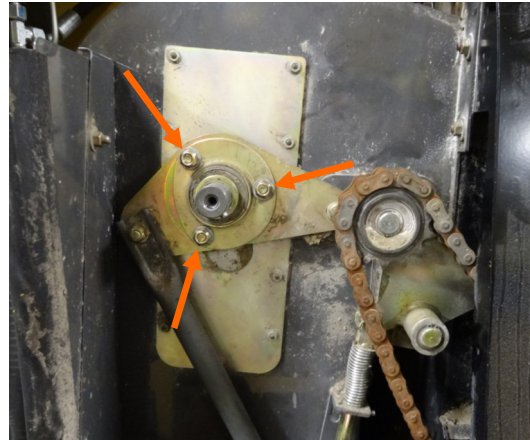
Step 11: Remove the sprocket drive hub. Begin by removing the bolt using a 16 mm socket. Once the bolt is removed, a bearing puller may be required to remove the hub from the shaft.

Note: If a bolt style puller is used, two 8 x 60 mm bolts are required to thread into the hub. A two or three jaw bearing puller can also be used.



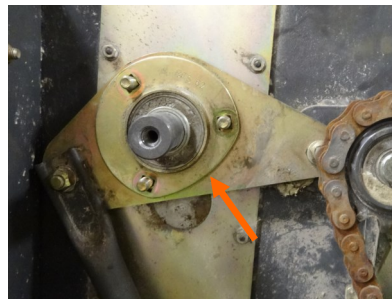
Flow Sensor Installation (cont.)

Step 12: Remove the three nuts on the bearing flange using a 16 mm socket.

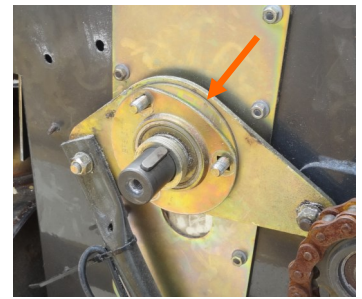


Step 13: Rotate the outer bearing flange one third of a turn. This step creates a round shoulder for the mounting bracket to sit on in the next step.

Note: Do not rotate the inner bearing flange.

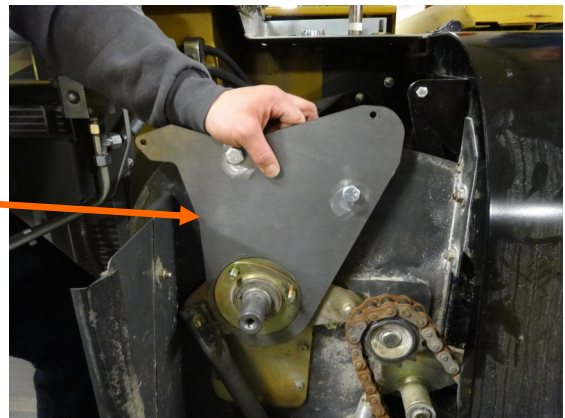


Incorrect



Correct

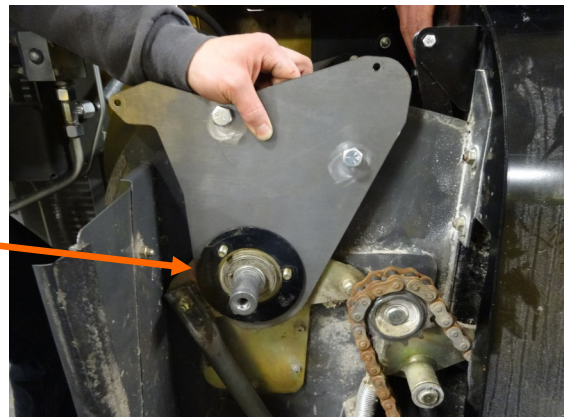
Step 14: Install mounting bracket (12) on the right side of the elevator. The mounting bracket will sit on the shoulder of the bearing flange.



Step 15: With the mounting bracket held in place, install flange (10) on the three studs.

Step 16: Reinstall the three nuts using a 16 mm socket. Only tighten the nuts enough to secure the mounting bracket in place. Ensure the mounting bracket can be rotated by hand which will help when bolting the flow sensor assembly to the bracket.

Step 17: Repeat Steps 12 through 16 for installing mounting bracket (13) and flange (10) on the left side of the elevator.

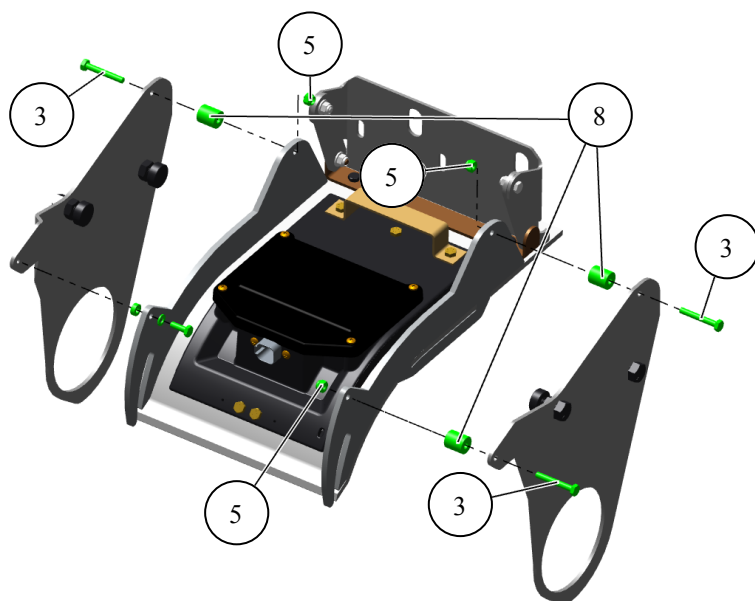


Flow Sensor Installation (cont.)

Step 18: Next, connect the flow sensor assembly to the mounting brackets. Insert bushings (8) between the flow sensor assembly and mounting brackets. Install the three 1/4" x 1.75" bolts (3) through the brackets, bushings, and flow sensor assembly. Install three 1/4" lock nuts (5) on the bolts but do not tighten.

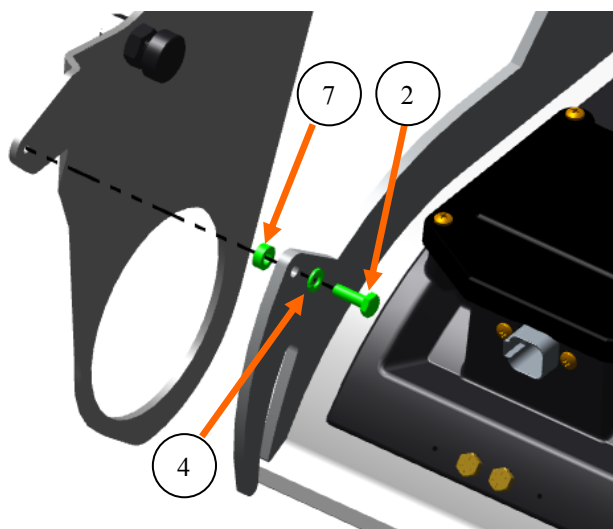
Note: Do not tighten the bolts until the fourth bolt is started in the next step. This will help with aligning the last bolt.

Note: If holes will not align you may need to adjust the shaft up or down in order to get into the working range for YieldSense.



Step 19: Next, secure the back left corner of the flow assembly. Insert spacer (7) between the flow sensor assembly and the left hand mounting bracket. Using the 1/4" lock washer (4) and the 1/4" x 3/4" bolt (2), thread the bolt into the mounting bracket.

Step 20: You can now tighten all four bolts to secure the flow sensor assembly in place.

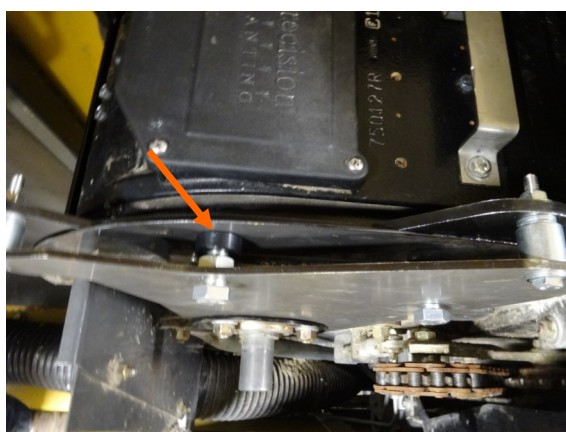
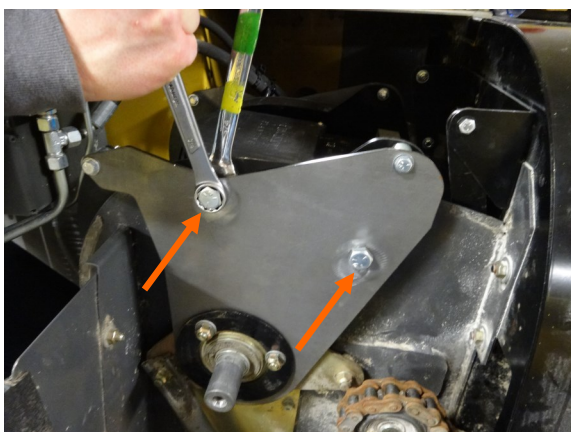


Flow Sensor Installation (cont.)

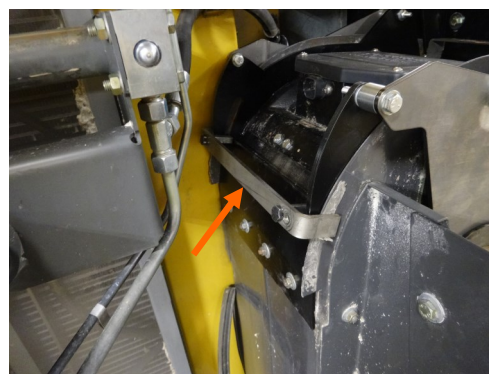
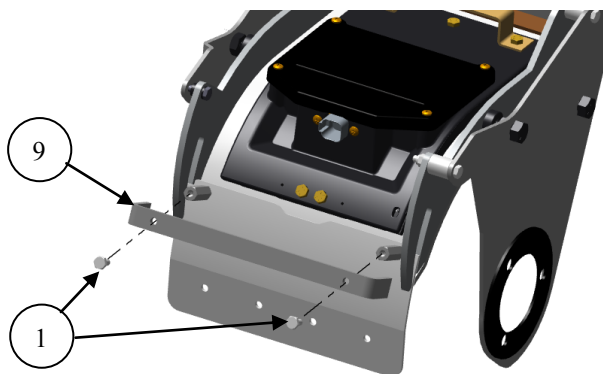
Step 21: Next, adjust the two elevator support pads on the right hand and left hand brackets. Use a 3/4" wrench and hold the inside jam nut. Turn the outside bolt until the support pad is finger tight against the side of the elevator housing. Once the pad is adjusted and finger tight against the elevator housing use a second 3/4" wrench and tighten the jam nut.

Note: Do not overtighten the support pads.

Repeat this step for the two support pads on the left hand bracket.



Step 22: Next, install support bracket (9) on the backside of the elevator. Bolt the support bracket to the studs using two 1/4" x 1/2" bolts (1).



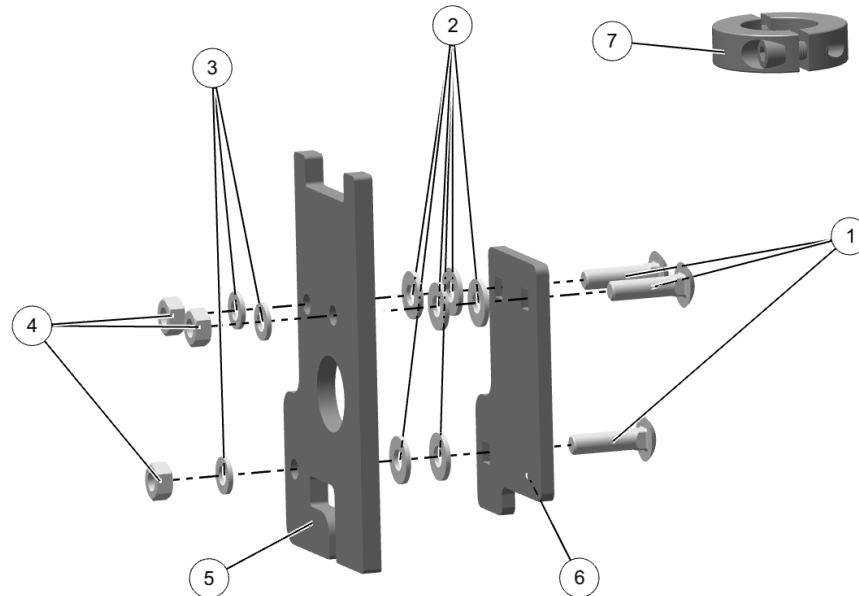
Step 23: With the flow sensor assembly now installed, tighten the six nuts on the left and right flanges to secure the mounting brackets.

Step 24: Reinstall the sprocket hub and sprocket on the right side of the elevator.



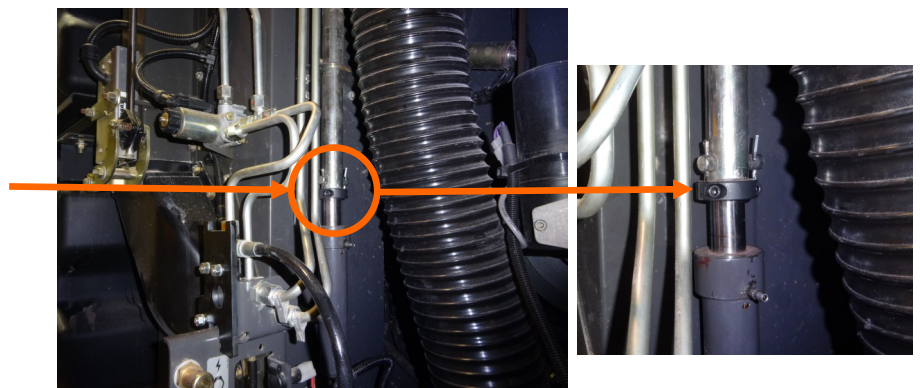
Hydraulic Elevator Adjustment Kit Installation

This kit is used on Lexion combines with the hydraulic chain tensioning option. The kit is designed to help assist the hydraulic cylinder with a pry bar while setting the elevator chain tension. If equipped with a manual chain adjuster move onto the “Elevator Stiffener Bracket Installation” section.



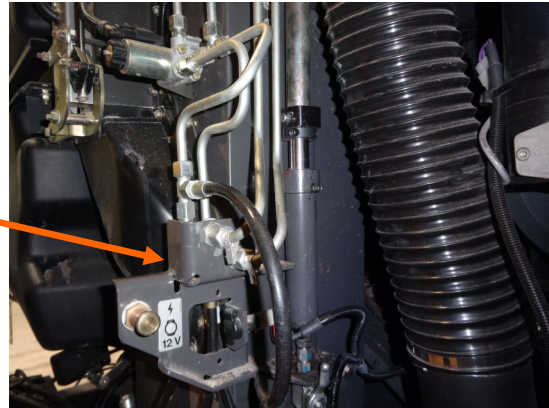
Elevator Adjustment Kit (751114)		
Item #	Qty.	Description
1	3	1/4" – 20 x 1" Carriage Bolt
2	6	1/4" Flat Washer
3	3	1/4" Lock Washer
4	3	1/4" Nuts
5	1	Outer Bracket
6	1	Inner Bracket
7	1	Collar

Step 1: Install collar (7) on the hydraulic cylinder using the two allen head bolts. The collar should sit just below the existing lip or pin on the rod end of the cylinder.



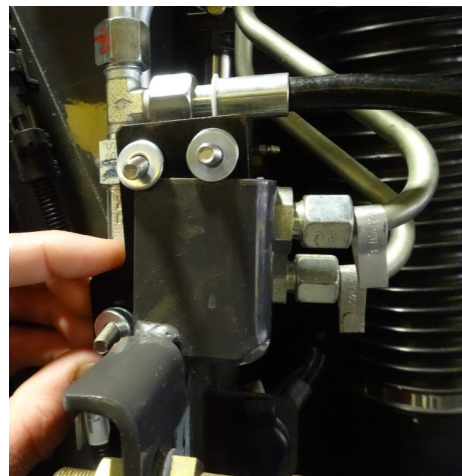
Hydraulic Elevator Adjustment Kit Install (Cont.)

Step 2: Next, locate the bracket which has the door latch pin attached to it.



Step 3: Insert three carriage bolts (1) into inner bracket (6) and slide it into place as shown.

Next, install two flat washers (2) on each carriage bolt.

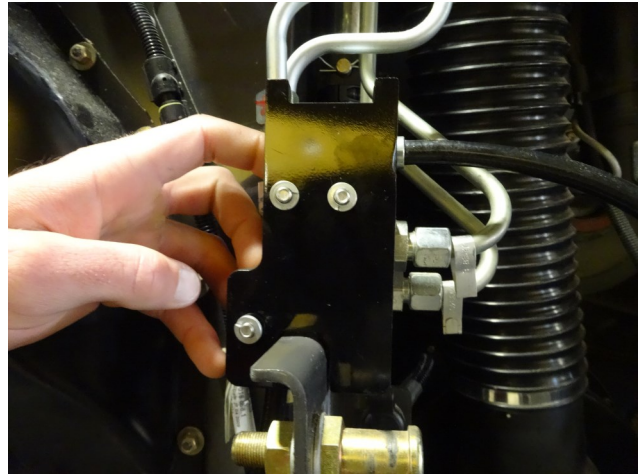


Step 4: Slide outer bracket (5) onto the door latch bracket while feeding the carriage bolts through the three holes.



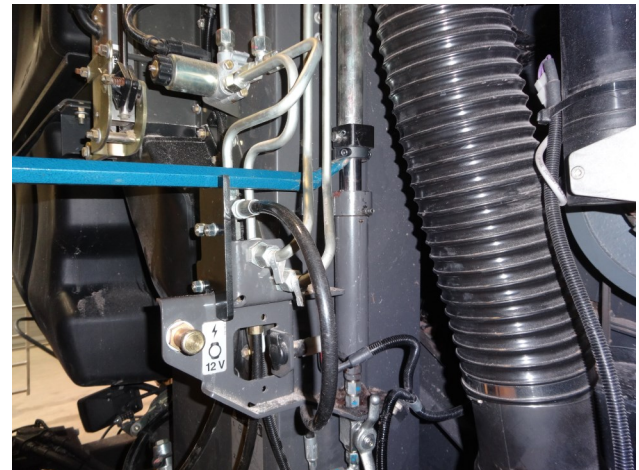
Hydraulic Elevator Adjustment Kit Install (Cont.)

Step 5: Install lock washers (3) on each carriage bolt and tighten using 1/4" nuts (4).



Step 6: Do not tighten the chain at this time. You now have the ability to use a crow bar or similar tool to assist the hydraulic cylinder when setting the elevator chain tension.

Note: This should only be used in conjunction with the OEM chain tensioning procedure.



Elevator Stiffener Bracket Installation

The elevator stiffener bracket will be installed where the lower boot and elevator housing connect together.



Step 1: Use the provided center punch and letter H drill bit to drill four 1/4" holes on the front of the elevator and one on each side. Use the stiffener brackets as your guide to mark the hole locations.

A right angle drill is recommended to drill the inner hole.

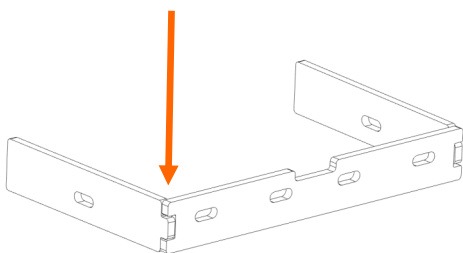


Step 2: Insert the (6) 1/4" slotted track bolts from the inside of the elevator. The chain will need to be partially fed up the elevator in order to gain access to insert the bolts.



Step 3: Install the three stiffeners brackets using 1/4" flat washers and 1/4" lock nuts. After tightening check inside the elevator to ensure the track bolt heads are flush with the inner wall.

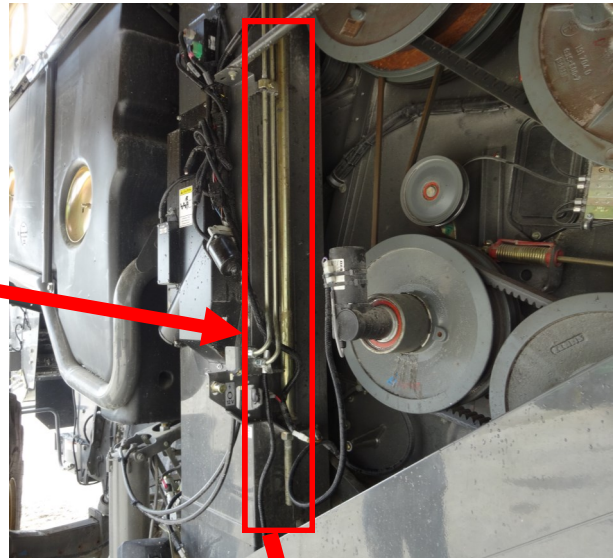
Ensure the stiffener bracket tabs are properly aligned.



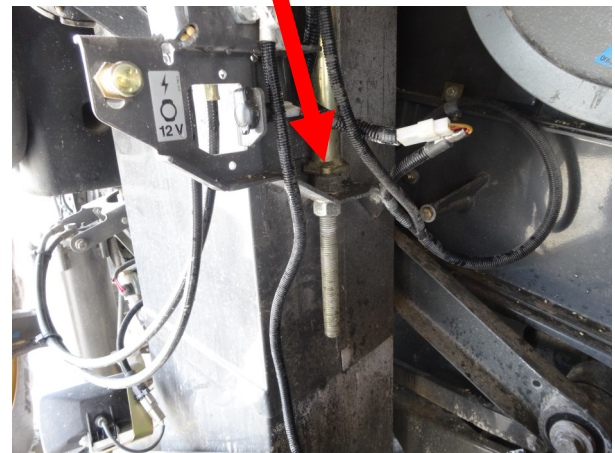
Clean Grain Elevator Chain Installation

There are two types of elevator chain adjusters. A manual chain adjuster witch uses a threaded rod and jam nuts, and an optional hydraulic chain tensioner. If equipped with the hydraulic elevator chain tensioning system, elevator adjustment kit (751114) will need to be installed (included in the base kit). This kit is used to help properly tension the elevator chain. Refer to page 13 for the installation instructions.

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.



Clean Grain Elevator Chain Installation (Cont.)

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. If damaged, order divider plate repair kit (750030) in order to repair the elevator.

Step 4: 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.

Step 5: 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 in the picture below.

Step 6: 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 7: 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 ensure that no paddles are making contact with anything in the elevator.

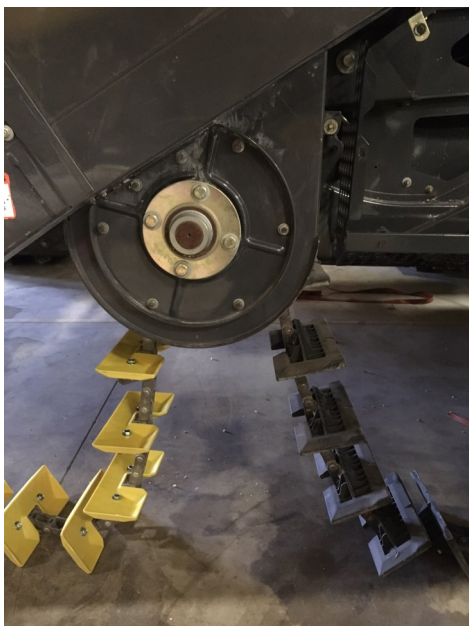


Illustration A

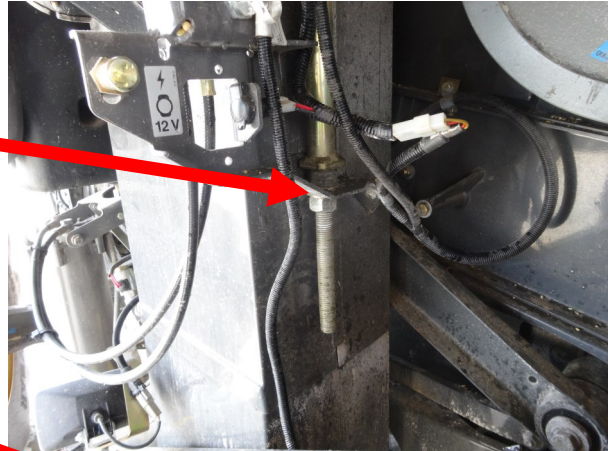


Illustration B

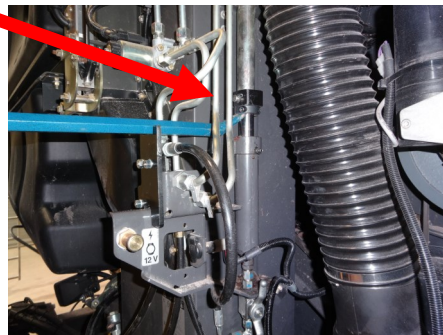
Clean Grain Elevator Chain Installation (Cont.)

Step 5: Tighten the clean grain elevator chain using the adjustment nuts on the front of the elevator.

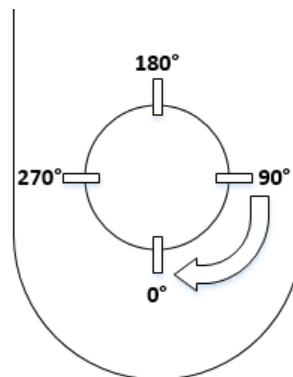
If equipped with the hydraulic chain adjuster, use a crow bar or similar tool to properly set the chain tension while following the OEM chain adjustment procedure.



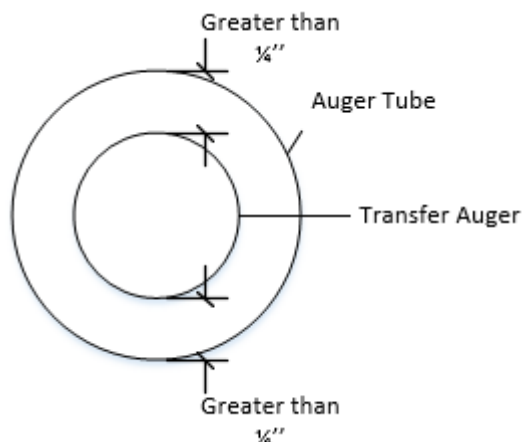
Note: The chain is properly tightened when it cannot be pulled away from the bottom sprocket but can still be slid back and forth across the sprocket.



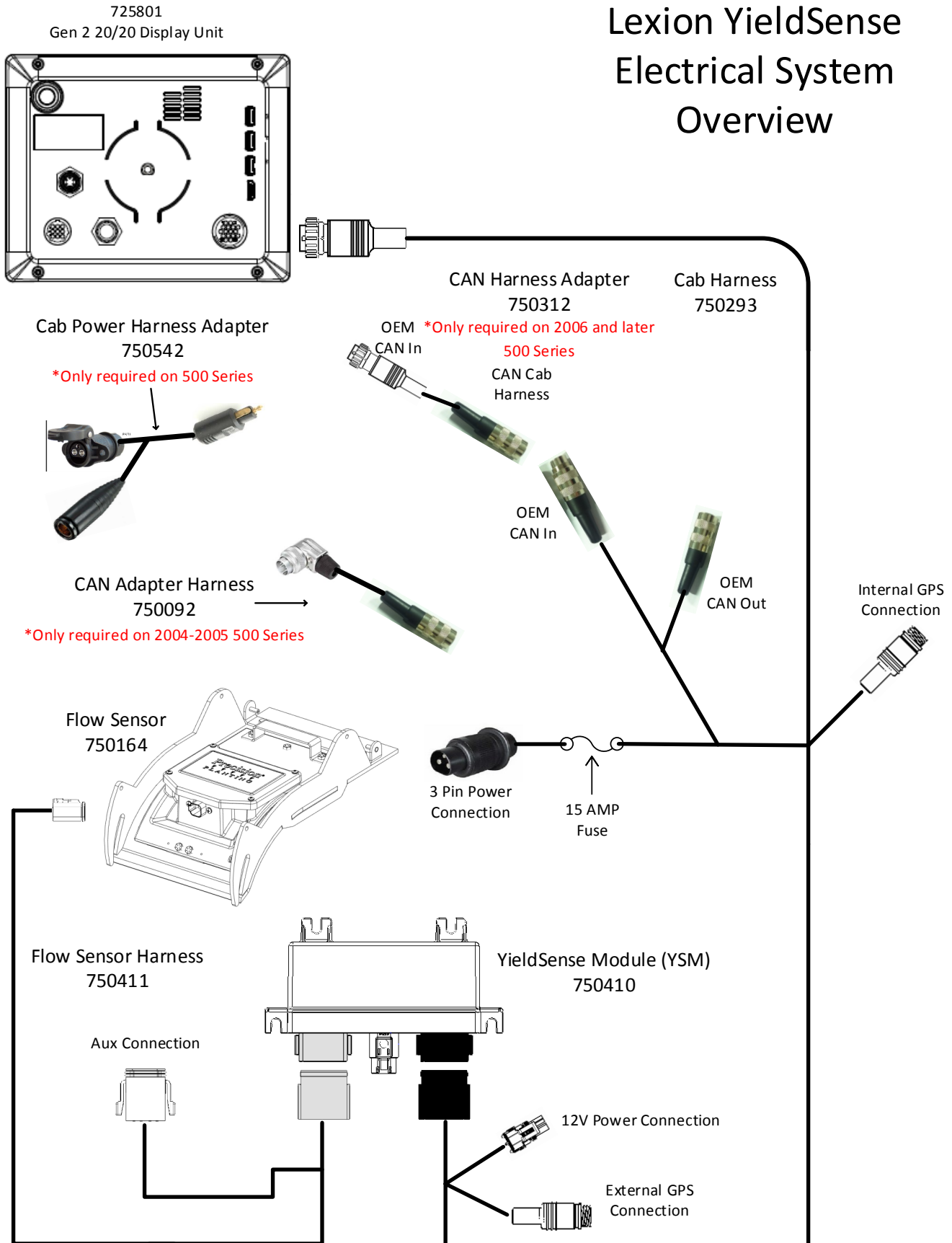
Step 6: Next mark the location you are at on the sprocket. Rotate to 90°, 180°, and 270° making sure at each point you are still able to slide the chain side to side and not pull it away from the sprocket at any point.



Step 7: 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.



Lexion Electrical System Overview



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.

Flow Sensor Harness Installation

Illustration A

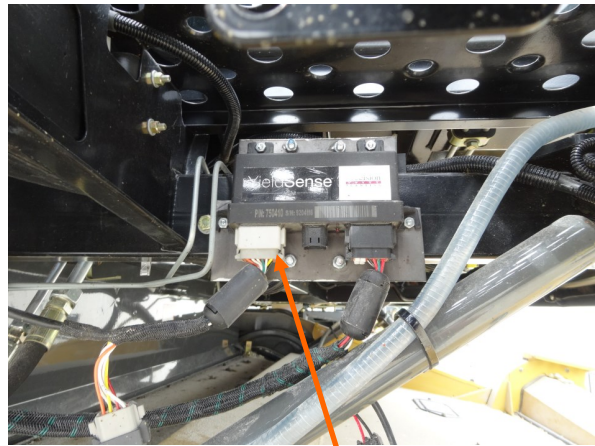
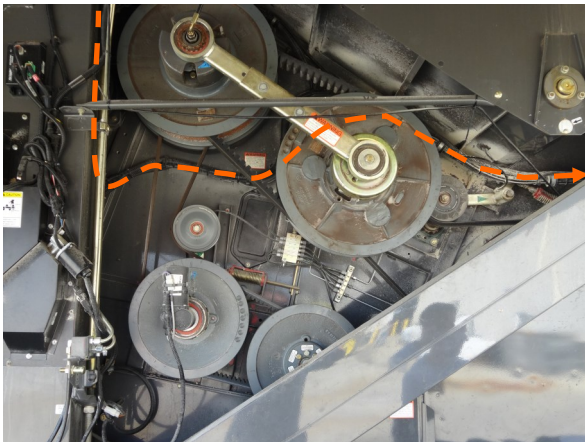
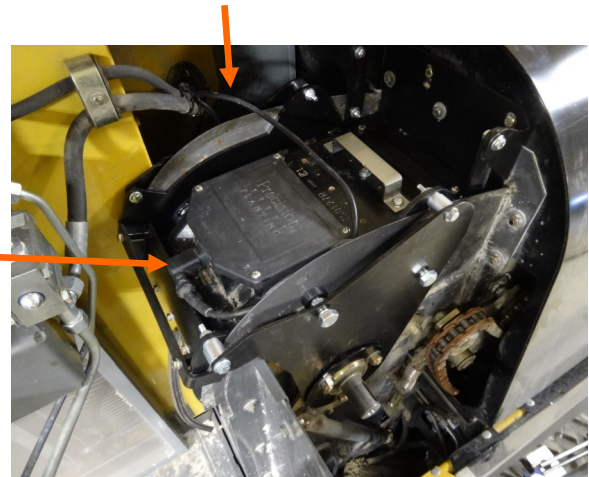


Flow Sensor Harness

Accessory CAN

Cab Harness

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.

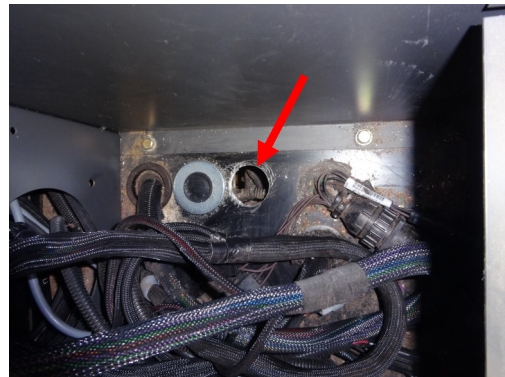
500 Series Cab Harness Installation



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.

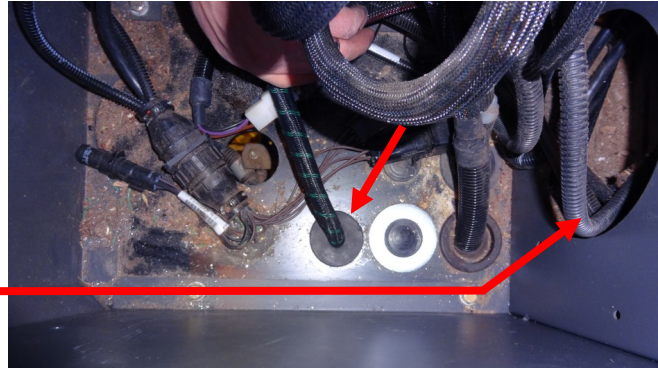


Step 3: With the operators panel removed, select a location to drill a 1 3/4" hole in the bottom of the compartment. This hole will be used to route the cab harness from inside the cab out to the YSM.

500 Series Cab Harness Install (Cont.)

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

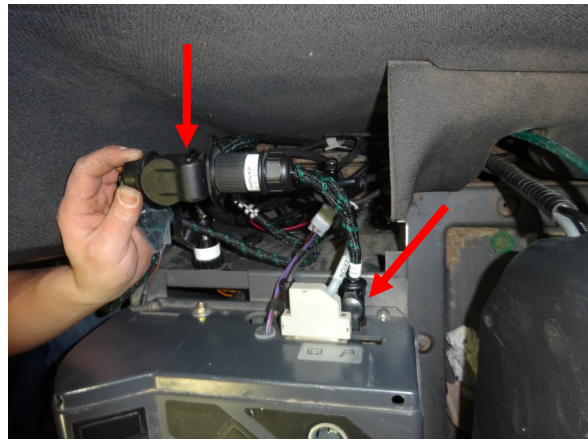
Route the other end of the harness through the access hole on the backside of the compartment.



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

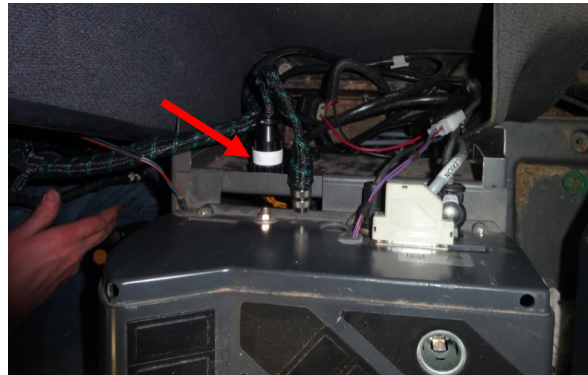


Note: The 500 Series requires CAN adapter harness (750312) between the cab harness and the OEM CAN port. For model years 2004 and 2005, CAN adapter 750312 will NOT be used. Model years 2004 and 2005 will use CAN adapter harness 750092. For 750092 CAN adapter harness install skip to Step 7.

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

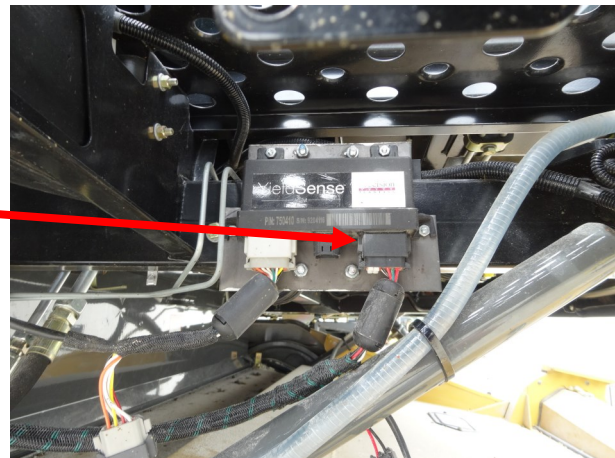


Step 7: For 2004 and 2005 500 Series combines that do not have the 9 pin diagnostic port on the back of operators panel, CAN adapter Harness 750092 must be used. Connect the straight CAN connector to the cab harness.

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.

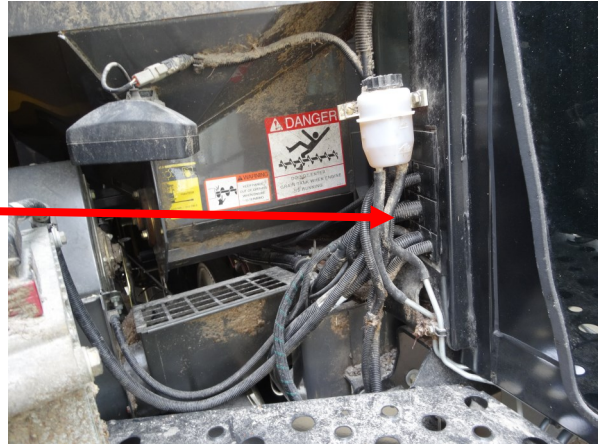


Step 9: Finally, route the other end of the cab harness to the YSM. Secure with zip ties about every 12 inches, pulling the zip ties just snug. Connect the 12-pin deutsch connector on the cab harness to the YSM.

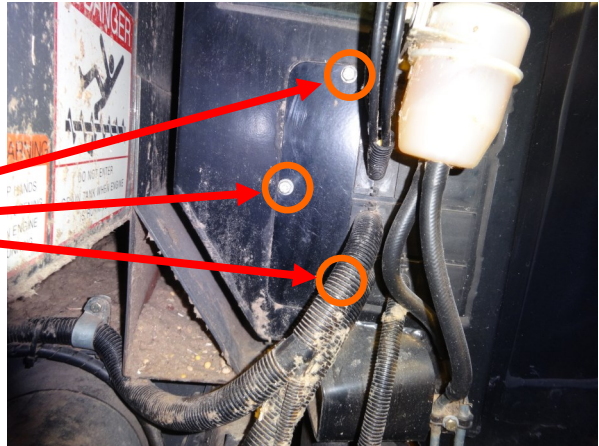


700 Series Cab Harness Installation

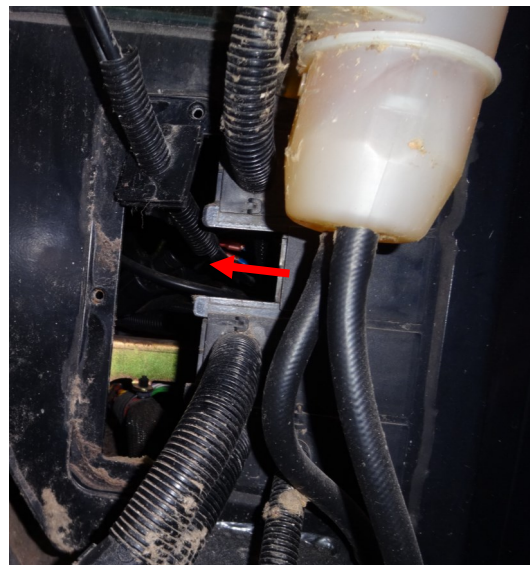
Step 1: Start the cab harness install at the bulk head located outside of the cab on the right side.



Step 2: Remove the three bolts from the bulk head plate using a 10 mm wrench.



Step 3: With the bulk head plate removed, you can now remove the plugs by sliding them towards the rear of the cab.



700 Series Cab Harness Install (Cont.)

Step 4: With the bulkhead plug remove, drill a 5/8" hole in the center of it. Once the hole is drilled out cut the plug in half as shown.

Alternately, you could purchase Claas part number 0148720.



Step 5: Route cab harness 750293 through the bulkhead. Insert one half of the plug in the desired location.

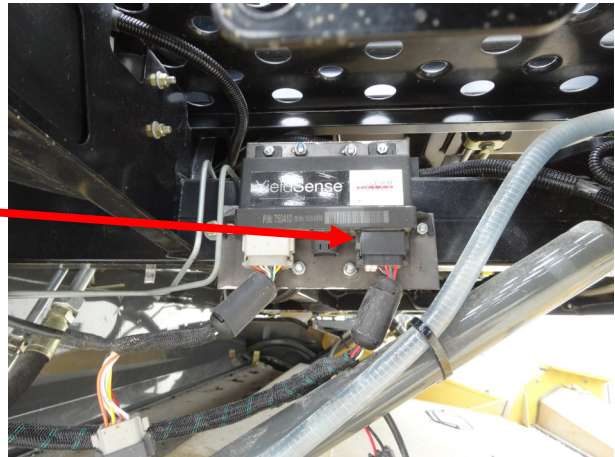


Step 6: Slide the second half of the plug in place and reinstall the bulk head plate as shown.



700 Series Cab Harness Install (Cont.)

Step 7: 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 8: Inside the cab, remove the panel below the right hand side of the seat. This allows access to route the harness into the cab from the bulkhead.

Plug the cab harness into the 3 pin power connector and the OEM diagnostic port.



Right rear corner of the cab, behind the seat

Step 9: Finally, route the 16 pin connector to the back of the 20/20 and plug in.

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 and for the 700 series cab order the 751122 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.

700 Series Bracket Install



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

Step 2: Mount the bracket on the top right corner of the cab. Using the provided letter H drill bit, drill four holes. Use the bracket as a guide to mark the hole locations.

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

20/20 and iPad Installation (Cont.)

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

Outside the cab



Figure 1b