

# Yield Accuracy

Harvest Optimization

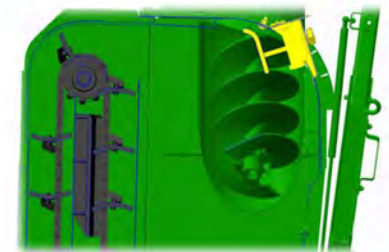
## How it Works



Clean grain travels up the clean grain elevator via a paddle chain. Before reaching the grain tank, a small amount of grain is diverted to the Moisture Sensor (shown on the right). This grain then reenters the elevator before the Mass Flow Sensor. The Moisture Sensor uses a grain proximity sensor to trigger the moisture reading. The moisture sensor depends on the temperature calibration to ensure accuracy. Verify that the moisture sensor's temperature is reading close to the ambient temperature and adjust as needed. Grain is then continuously augured across the moisture sensor.



At the top of the elevator grain is delivered to the grain tank via an impact plate on the mass flow sensor. This plate measures the force of the incoming grain and combines it with measurements from the clean grain elevator and calibrations to calculate a grain flow rate. In order for the force of grain measurements to be correct the natural vibration of the running machine needs to be removed from the calculation. This is done with a Mass Flow Vibration Calibration. This calibration should be performed with the machine sitting still with everything running at harvesting speeds.



Once a second, the grain flow rate, moisture and GPS data are recorded. These then generate data points on the yield map.

## Inspecting System Components

### Clean Grain Elevator Chain

1. Loosen the clean grain elevator drive belt idler.
2. Open the clean grain elevator lower boot door.
3. Slowly pull on the drive belt or elevator chain to rotate.
4. As the chain rotates, look at the paddles and chain links.

For further assistance please contact your local KFG location or your account manager.

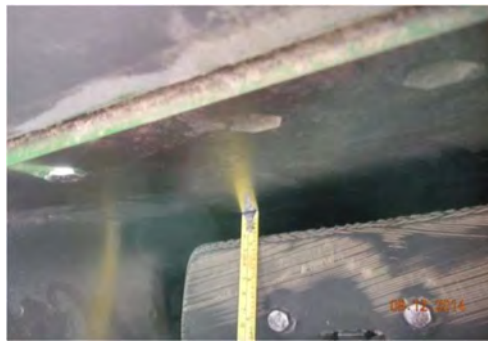
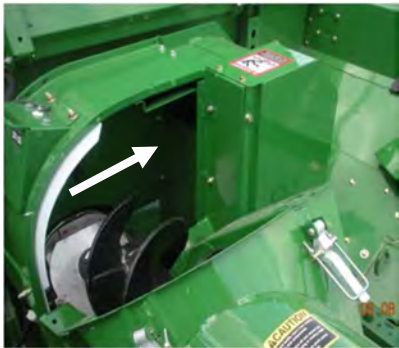
- a. Look for any interference or rubbing of paddles on the housing or bearing flanges
- b. Check for cracked linkage parts
- c. Ensure there are no missing, loose or frayed paddles.



- d.
5. Check chain tension weekly. A loose chain will cause paddle damage, ineffectively move grain and cause inaccurate readings.

### Paddle Tip Clearance

1. Rotate clean grain elevator until a chain paddle is vertical at the top of the elevator housing in the grain tank.
2. Measure the distance from the tip of the paddle to the elevator housing on every paddle. Always measure at the same location for each paddle.
3. If the distance between the paddle and the housing consistently more than 1/2" on multiple paddles, install KXE10374 Paddle Tip Clearance Kit.



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## Moisture Sensor

Use glass cleaner and a damp cloth to clean the moisture sensor. Use the wing nuts to remove the sensor from the housing. This should be done seasonally at a minimum. Start here if your moisture readings become erratic.



Within the same area, there is also a proximity sensor that tells the moisture sensor when it is covered in grain reading. Clean this sensor at the same time that you clean your moisture sensor. If you are not getting any moisture reading. The proximity sensor's placement may need adjusted.



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## Harness and Connections

If yield data is reporting intermittently or not at all, check all of your electrical connections around the components described in this document. Look for loose connections or corroded pins and sockets.

## Display Setup

1. Verify that header width and type is correct.
2. Ensure that the recording start/stop height is set correctly for your crop.
3. Confirm that receiver height is correct. This is measured from where the green and yellow components meet.
4. Confirm machine measurements are correct.
5. Verify crop type details and characteristics
6. If running multiple combines in the same field, do not reuse calibration numbers between the two as there is machine variability and wear differences that need to be accounted for.

## Calibration Check List

### Engine Running – No Crop

- Mass Flow Vibration
- Moisture Sensor Temperature
- Header Height Calibration (if using height sensors)

### In Field with Crop Flow

- Yield or ActiveYield

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