



Speed Sensor Diagnostic

(Coulter Type Speed Sensor Only.)

Symptoms include:

*SPEED light will not show green on the monitor when moving the tractor with ground coulter on the earth traveling at 3 + mph as indicated by the TRACTOR. This will also cause the **RPM** light to remain **RED**.*

Before starting the diagnostic process, please make sure the:
MONITOR IS ON, WINGS ARE SUSPENDING
THE COULTERS OFF OF THE EARTH
& **PTO IS OFF!**

Locate the light on the coulter speed sensor. (Right hand coulter with holes in the disc)

Amber light = 24vdc power to the sensor and signal being sent to comp.
(with the sensor plugged in, back probe the plug and test for 24vdc between the yellow and black at the 3pin connector)

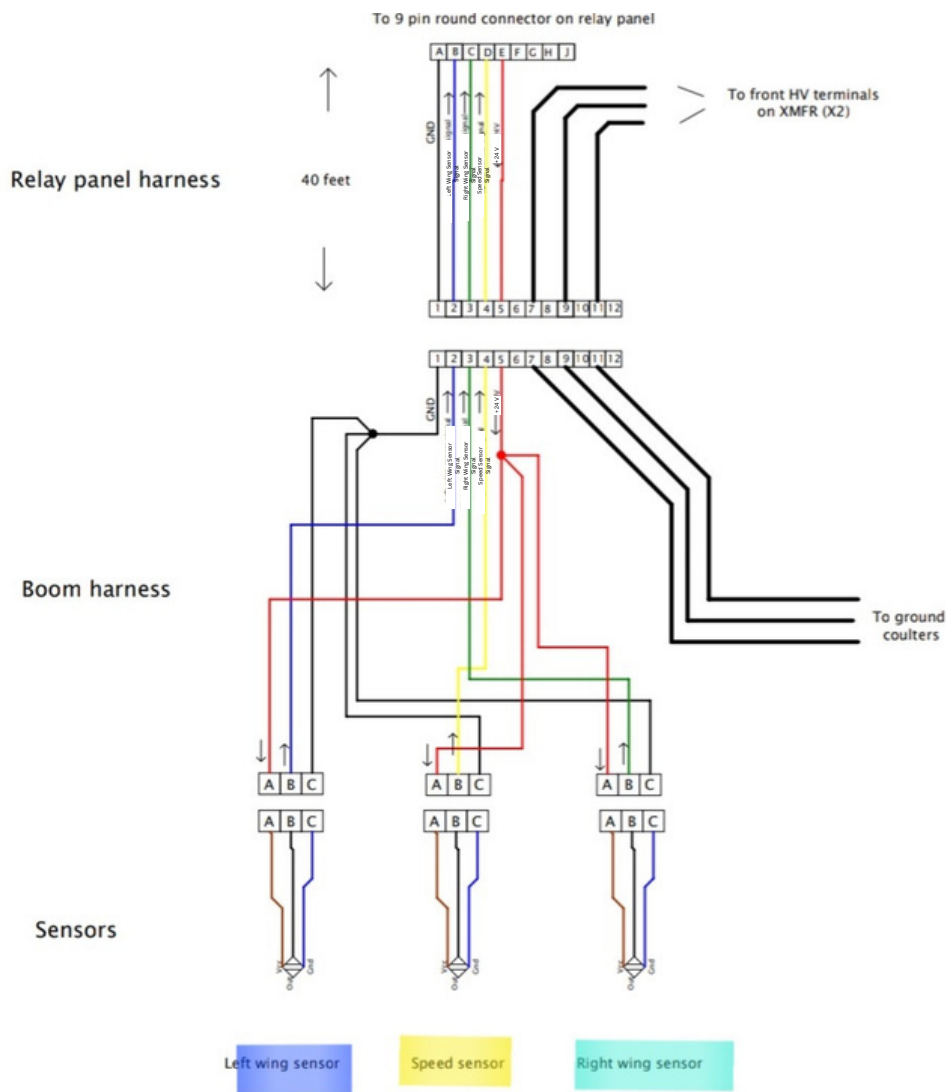
1. Look at the sensor, check to make sure the amber light is on when the solid part of the coulter disc is in front of the sensor face. Likewise make sure that the light is NOT on when the open part of the hole is in front of the sensor face.
2. If this is working correctly, then spin the disc at a speed of more than 4 holes per second and observe the lights flickering. NOTE: It is just as important for the light to completely turn off as it is for it to turn on.
3. With the solid part of the disc in front of the sensor, move the sensor away from the disc until the light shuts off, then move it back in only slightly until it turns back on. Set the sensor as far away as possible from the disc with the sensor still detecting the disc.

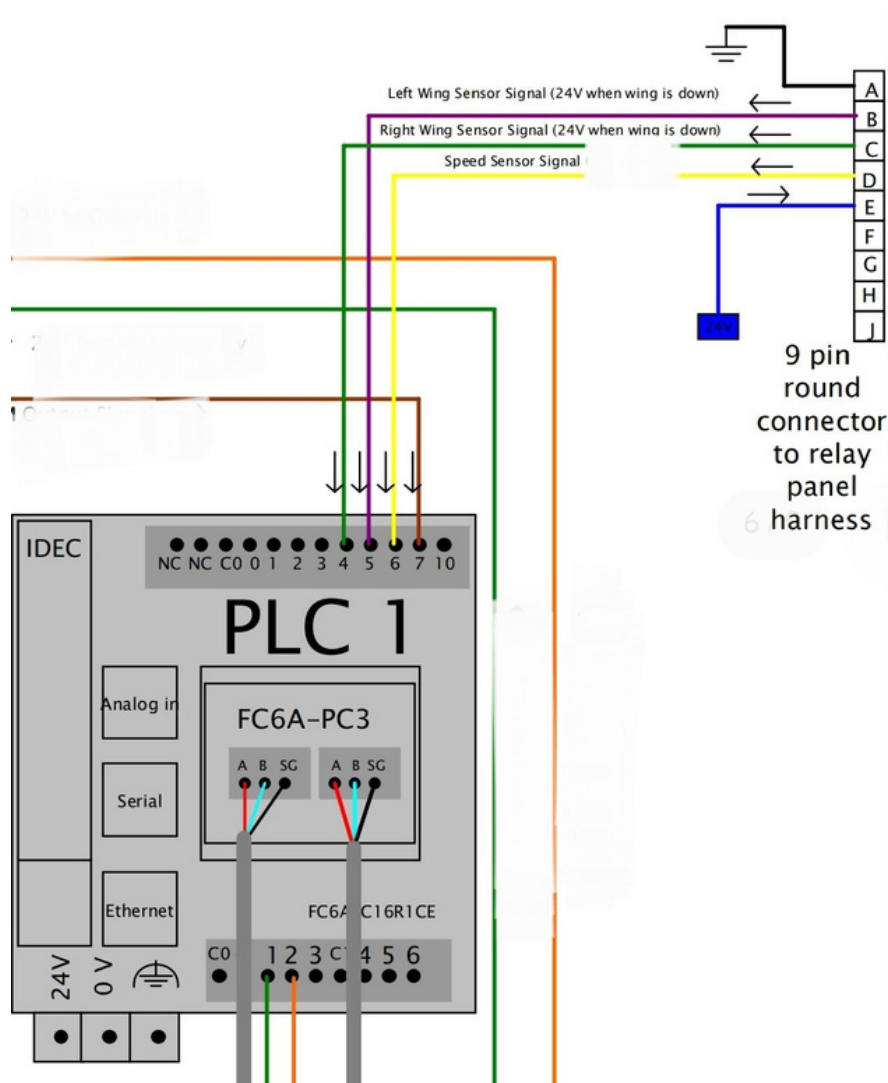
Speed Sensor Adjustments:

1. Look at the sensor; the light will be located on either side of the wire going into the back of the sensor body. This light should ONLY turn on when the solid part of the disc is in front of the sensor or when a tool/steel is in front of the sensor face.
2. If the light never turns off remove the sensor from its mount and hold away from all objects. If the light still does not turn off, replace the sensor.
3. A good starting point for the sensor gap is about 1/2" between the sensor face and the closest face of the coultter disc.
4. We recommend that you keep the sensor as far away from the disc face as possible. Of course, each sensor is slightly different so fine tuning the adjustment is done by watching the light flicker.
5. Start by placing the solid part of the disc in front of the sensor face, adjust the sensor closer until the light turns on.
6. Now rotate the disc until a hole is in front of the sensor, if the light turns off finger tighten the jamb nuts.
7. Notice the sharp edges, now spin the disc quickly (4 holes per second) and make sure the light flickers on and off CONSISTENTLY as the solids and holes pass the sensor. If they do tighten the jamb nuts. Have someone watch the monitor, this will cause the SPEED light on the Zapper monitor to turn Green. If it's not, see the wiring portion.

Wiring diagnostics:

1. The **red** and black wires bring power to ALL the sensors on the boom. To test for 24vdc power at the sensor, unplug the sensor from the BOOM HARNESS 3pin connector.
2. Test for 24vdc power between the **red** and the black wire. If there is no voltage check for voltage at a wing sensor port on the boom harness. If there is voltage at that wing sensor port, call tech svc for additional support.
3. If there is no voltage at either port, follow those 2 colored wires (black & **red**) all the way back to the side of the control panel in the cart. Unplug each connector and test between the red and black wires for 24vdc.
4. The **yellow** wire takes signal back to the control panel and that signal is sent to the monitor with communication.
5. To test for signal being sent from the sensor hook the sensor up and make sure the amber light is glowing on the correct wing sensor. (Place the solid part of the disc in front of it)
6. Test for 24vdc on top row of terminals on the primary computer that is inside of the control panel.
7. Terminal #6 is 24vdc signal from the speed sensor.
8. If there is not a 24 volt signal at the #6 terminal on the computer, begin back probing the plugs and test for voltage on each side of the plug all the way to the sensor itself. This signal comes from the sensor to the computer, so you CAN NOT unplug the plugs for testing.





Additional diagnostic:

1. Remove the speed sensor and its 30" long harness from its mounting position
2. Go to the center of the boom and unplug the right wing sensor (located below the right hyd cylinder) at the 3 PIN CONNECTOR.
3. Plug the speed sensor harnesses 3 pin connector into the right wing port
4. Set the sensor face against the steel tube/framing.
5. Get in the tractor and look at the RIGHT wing that is displayed on the RUN SCREEN. It should be **GREEN**. If it is not **green** the sensor is bad
6. Move the sensor away from the tube/framing and allow it to hang from the harness below the bar.
7. Get in the tractor and look at the RIGHT wing that is displayed on the RUN SCREEN. It should be **RED**. If it is not **red** the sensor is bad

