Trouble Shooting Guide for Seed Manager ® SE
## Contents

- Explaning Error Codes: ................................................................. 1
- User Setup ............................................................................. 2
- Harness Failure Troubleshooting ........................................... 3
- Monitor Witt Not Power .............................................................. 4
- Incorrect System Voltage .......................................................... 5
- ERROR CODE E00: No Modules Detected ................................. 6
- ERROR CODE E01: Too Many Modules Connected To P1/P2 ........ 7
- ERROR CODE E10: Too Few Material Flow Modules Connected .. 8
- ERROR CODE E11: Too Many Seed Modules Connected ............... 9
- ERROR CODE E20: Too Few Shaft Modules Connected ............... 10
- ERROR CODE E21: Too Many Shaft Modules Connected ............. 11
- ERROR CODE E30_x: Too Few Seed Sensors Connect To Module X .. 12
- ERROR CODE E31_x: Too Many Seed Sensors Connect To Module X .. 13
- ERROR CODE E40: Too Few Hopper Sensors Connected .............. 14
- ERROR CODE E41: Too Many Hopper Sensors Connected ............ 15
- ERROR CODE E50: Too Few Pressure Sensors Connected ............ 16
- ERROR CODE E51: Too Many Pressure Sensors Connected .......... 17
- ERROR CODE E70_x: Module Sensor Supply (8 Volts) Is Too Low .. 18
- ERROR CODE E71_x: Module Sensor Supply (8 Volts) Is Too High ... 19
- ERROR CODE E98: Internal Console Error ................................. 20
- Ground Speed Sensor Fails While Planting ............................... 21
- Seed Sensor Fails While Planting .............................................. 22
- Shaft/Fan Sensor Fails While Planting ...................................... 23
- Monitor Cab Harness Pin Out Diagram ..................................... 24
- Module Harness 12 Row w/hopper Diagram ............................. 25
- Module Harness 18 Row w/out Hopper Diagram ....................... 26
Explaining Error Codes:
The monitor communicates any system failures that are detected through the use of various error codes. These error codes inform the user of specific failures and can be related to the entire system or limited to a specific module. The list of error codes, their descriptions, description of the error display, and most common cause(s) of the error are displayed below (note: Upper Display refers to the upper 5 digit display portion of the LCD, Lower Display refers to the lower 2 digit display of the LCD):

<table>
<thead>
<tr>
<th>ERROR CODE</th>
<th>DESCRIPTION</th>
<th>DISPLAY</th>
<th>MOST COMMON CAUSE(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E 00</td>
<td>No modules connected</td>
<td>E 00 on Upper Display, TEST, ROWS, FAILED displayed.</td>
<td>Disconnected/damaged harnessing, defective module(s), or monitor</td>
</tr>
<tr>
<td>E 01</td>
<td>Too many modules connected to either P1 or P2</td>
<td>E 01 on Upper Display, TEST, ROWS, FAILED displayed.</td>
<td>Incorrect installation or user entered constant, defective module.</td>
</tr>
<tr>
<td>E 10</td>
<td>Too few seed modules connected</td>
<td>E 10 on Upper Display. The number of modules detected on Lower display. NUM, TEST, FAILED displayed.</td>
<td>Incorrect installation or user entered constant, defective module.</td>
</tr>
<tr>
<td>E 11</td>
<td>Too many seed modules connected</td>
<td>E 11 on Upper Display. The number of modules detected on Lower display. NUM, TEST, FAILED displayed.</td>
<td>Incorrect installation or user entered constant, defective module.</td>
</tr>
<tr>
<td>E 20</td>
<td>Too few shaft modules connected</td>
<td>E 20 on Upper Display. The number of modules detected on Lower display. NUM, TEST, FAILED displayed.</td>
<td>Incorrect installation or user entered constant, defective module.</td>
</tr>
<tr>
<td>E 21</td>
<td>Too many shaft modules connected</td>
<td>E 21 on Upper Display. The number of modules detected on Lower display. NUM, TEST, FAILED displayed.</td>
<td>Incorrect installation or user entered constant, defective module.</td>
</tr>
<tr>
<td>E 30 X</td>
<td>Too few/Paied seed sensors detected on module X</td>
<td>E 30 with the number of the module affected on the Upper Display. The number of sensors detected on module X on the Lower Display. TEST, ROWS, FAILED are displayed.</td>
<td>Incorrect installation or user entered constant, defective module or module harness.</td>
</tr>
<tr>
<td>E 31 X</td>
<td>Too many seed sensors detected on module X</td>
<td>E 31 with the number of the module affected on the Upper Display. The number of sensors detected on module X on the Lower Display. TEST, NUM, FAILED are displayed.</td>
<td>Incorrect installation or user entered constant, defective module.</td>
</tr>
<tr>
<td>E 40</td>
<td>Too few/Paied hopper level sensors detected</td>
<td>E 40 on Upper Display. The number of sensors detected on Lower Display. HOPPER, NUM, TEST, FAILED are displayed.</td>
<td>Incorrect installation or user entered constant, defective module or module harness.</td>
</tr>
</tbody>
</table>

10031-1221-2020211 Dickey John SEED MANAGER SE Trouble Shooting Guide
<table>
<thead>
<tr>
<th>ERROR CODE</th>
<th>DESCRIPTION</th>
<th>DISPLAY</th>
<th>STATE COMMON</th>
</tr>
</thead>
<tbody>
<tr>
<td>E 01</td>
<td>Not acceptable</td>
<td>E 01 on Upper Display</td>
<td>Test program or error message</td>
</tr>
<tr>
<td>E 02</td>
<td>User error</td>
<td>E 02 on Upper Display</td>
<td>Test program or error message</td>
</tr>
<tr>
<td>E 03</td>
<td>User error</td>
<td>E 02 on Upper Display</td>
<td>Test program or error message</td>
</tr>
<tr>
<td>E 04</td>
<td>User error</td>
<td>E 02 on Upper Display</td>
<td>Test program or error message</td>
</tr>
<tr>
<td>E 05</td>
<td>User error</td>
<td>E 02 on Upper Display</td>
<td>Test program or error message</td>
</tr>
<tr>
<td>E 06</td>
<td>User error</td>
<td>E 02 on Upper Display</td>
<td>Test program or error message</td>
</tr>
<tr>
<td>E 07</td>
<td>User error</td>
<td>E 02 on Upper Display</td>
<td>Test program or error message</td>
</tr>
<tr>
<td>E 08</td>
<td>User error</td>
<td>E 02 on Upper Display</td>
<td>Test program or error message</td>
</tr>
<tr>
<td>E 09</td>
<td>User error</td>
<td>E 02 on Upper Display</td>
<td>Test program or error message</td>
</tr>
</tbody>
</table>

**USER SETUP**

Proper operation is dependent upon the user setup and calibration. Common areas where setup and calibration errors occur are:

1. **Number of sensors per module.** Make sure that the constant agrees with the number of sensors connected to the applicable module. Better yet, use the Auto Config feature to have the system automatically detect the number of modules and sensors connected. When connecting sensors to modules, make sure to follow the procedures outlined in the Operator’s Manual, section C of System Installation.
2. **When applicable, make sure to connect the correct shaft/rpm sensor into the correctly identified connection of the shaft module harness.**
3. **Use the setup record sheet to record all of the constants that describe the planter.** Having this record available will save time in the event that a constant is lost. Even though setup constants are retained during normal system power off, it is advisable to have a record of the current constants readily available.
4. **Proper operation, displayed readings, planter error warnings are dependent on correct user constants being entered.** For the system to operate properly, accurate ground speed calibration, row width, hop width, etc. must be entered. If incorrect population, speed, area, values are being displayed, the first check is to make sure that the user constants have not been changed or lost.
HARNESS FAILURE TROUBLESHOOTING

Many system failures can be traced back to system harnessing. Observe the following precautions when troubleshooting harnessing on your planter:

1. Carefully observe the harnessing for damage. The majority of harness failures are visible. Pay particular attention to areas of the planter/seeder that pivot, fold, flex, etc. Also, check in the area of chain drives to planter units and planter drive shafts.

2. If there is no visible damage evident, disconnect and inspect the connectors and terminals for corrosion or bent/damaged terminals. Harness to module connectors have a plastic insert that may be removed by a pair of needle-nosed pliers. Simply pull the insert straight out. Corroded terminals are a sign of moisture entering the connector which is usually caused by the connectors not being fully mated. If no damage or corrosion is detected, use a small screwdriver or similar device to gently push on each terminal to ensure that it is fully seated in the connector housing.

3. If there is no terminal/connector damage, continuity measurements can be made with an ohmmeter to ensure that the harness wires are not cut or damaged. With the ohmmeter, measure the resistance between the ends of connected terminals as designated by the harness diagrams. Any resistance measured that is greater than 1Ω indicates a faulty wire.

   If continuity measurements pass, isolation measurements can be made to verify that harness wires are not shorted to any other wires in the harness. To do this, measure with an ohmmeter pin 1 of the grey module connector to each of the other 23 pins of both the grey and black module connectors in succession. Then measure pin 2 of the grey module connector to each of the other 22 (there is no need to probe pin 1 again) plus in both.

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MONITOR WILL NOT POWER

Check first.

Possible poor power connections. If connected to battery, check for corrosion on the terminals. If system is frame-grounded, verify good metal to battery ground connection. If connected to auxiliary power source, verify that full battery voltage is present. Use a multimeter and compare battery voltage to auxiliary voltage.

Possible defective monitor or monitor harness. With a multimeter, measure the voltage between pins 3 and 4 of the monitor harness.

Connections OK or proper voltage at auxiliary connection.

Class battery connection. Inspect auxiliary power source connection to battery.

Defective monitor harness. Inspect for damage and repair or replace harness.

Does measured voltage equal battery voltage?

Defective monitor. Have monitor checked/repair by authorized servicer.

Replace with 7.5A AOC type fuse. DO NOT USE ANY OTHER VALUE OTHER THAN 7.5A.
INCORRECT SYSTEM VOLTAGE:
Use this troubleshooting chart when system voltage is lost, or is less than 11.0VDC and there is no battery warning alarm on the monitor. Result of incorrect system voltage will be an E00 error code on power up. Likely causes of lost system voltage are the relay, monitor harness, or monitor. Likely causes for low system voltage are the relay, or modules.

Verify proper battery connections. Measure voltage at the end of module harness.

- No battery voltage measured
  - Low battery voltage measured
    - Modules may be at fault. While measuring system voltage, disconnect modules one at a time. If system voltage returns to a normal level, the module that was just disconnected is faulty. Replace module.

- Low battery still voltage measured
  - Relay clicks when system is powered
    - Yes
      - Most likely failed relay. Replace relay.
    - No
      - Likely failed monitor. Have monitor checked/repairred by authorized service.

Failure is in the relay. Replace relay.
ERROR CODE E00: NO MODULES DETECTED

This error is generated whenever the monitor detects no modules connected. Likely causes of this error are loss of module power, defective modules, defective module harness, defective extension harness, defective monitor harness, or defective monitor.

Note: Verify proper system voltage before proceeding. If the low system voltage alarm is displayed by the monitor (battery symbol), refer to flowchart BATTERY SYMBOL APPEARS ON DISPLAY. If the low voltage alarm is not displayed and there is no or low system voltage measured, refer to flowchart: INCORRECT SYSTEM VOLTAGE.
ERROR CODE E01: TOO MANY MODULES CONNECTED TO P1/P2
This error is generated whenever there are more than three Material Flow Modules connected to either P1 or P2 (see page 9 of Operators Manual). The only cause of this error is greater than three Material Flow Modules connected to either P1 or P2.

Identify the total number of Material Flow Modules connected to system.

# of modules > 3?

NO

Current setup exceeds system capacity.

YES

Identify the number of Material Flow Modules connected to P1.

# of modules > 3?

NO

Identify the number of Material Flow Modules connected to P2.

YES

Move extra module(s) to P2.

Move extra module(s) to P1.

NO

NO

Defective module. Have module checked/inspected by an authorized Dickey-john service.

11201-1231-200211

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ERROR CODE E10: TOO FEW MATERIAL FLOW MODULES CONNECTED

This error is generated when the monitor detects fewer Material Flow Modules than what the setup configuration specifies. The value displayed in the lower 2 digit display represents the number of Seed Modules that were detected (if the value 5 is displayed and the system is setup for 6 modules, the monitor detected only 5 modules). Likely causes are: Incorrect setup constants, module harnessing, or modules. **NOTE:** Material Flow Module and Seed Module describe the same module type.

- **Setup correct?**
  - **YES**
  - Possible defective module. Disconnect all modules from their harnesses. In turn, connect each module to the module harness connected directly to P1. Cycle power when each module is connected.
  - **NO**
    - Enter correct constant value or connect correct number of modules to system.
    - Monitor has detected every module connected. Failure is in a module harness. Re-connect modules to their harnesses and disconnect harnesses from the bus. In turn, connect P1 harness into the E5-411 in connector of each module harness. Cycle power when each is connected. The module/harness that displays the E10 error is the defective harness. Inspect for damage and repair or replace harness.

- **Error code displayed for each module connected?**
  - **E10-1 Displayed**
    - Currently connected module is defective. Replace module.
  - **E00 Displayed**
    - Harness damage found?
      - **NO**
        - Defective module. Have monitor checked/repaird by an authorized DICKEY® John service.
ERROR CODE E11: TOO MANY SEED MODULES CONNECTED

This error is generated when the monitor detects more Material Flow Modules than what the setup configuration specifies. The value displayed in the lower 2 digit display represents the number of Seed Modules that were detected (if the value 6 is displayed and the system is setup for 5 modules, the monitor detected 6 modules). Likely causes are incorrect setup constants or incorrect system configuration. NOTE: Material Flow Module and Seed Module describe the same module type.

Check number of Material Flow modules connected with the value entered for the Number Of Seed Modules constant.

Setup correct?

YES

NO

Detective monitor. Have monitor checked/ repaired by an authorized Dickey John servicer.

Either correct constant value or advise correct number of modules to system.
ERROR CODE E20: TOO FEW SHAFT MODULES CONNECTED

This error is generated when the monitor detects few shaft modules than what the setup configuration specifies. The value displayed in the lower 2 digit display represents the number of shaft modules that were detected (which will usually be 0). Likely causes are: Incorrect setup constants, module harnessing, or modules.

Check the configuration of the system and make sure a shaft module is installed.

Configuration correct?

YES

Possible defective shaft module or harness. Disconnect shaft module and connect it to another module's harness. Cycle power.

NO

Install a shaft module into the system.

Is shaft module detected?

YES

Defective shaft module harness. Inspect for damage and repair or replace.

NO

Defective shaft module. Replace module.

Defective harness. Have harness checked/repaired by an authorized DICKEY-john service center.
ERROR CODE E21: TOO MANY SHAFT MODULES CONNECTED
This error is generated when the monitor detects few shaft modules than what the setup configuration specifies. The value displayed in the lower 2 digit display represents the number of shaft modules that were detected. Likely causes are: Incorrect system configuration. Only one shaft module can be installed in a system (see page 9 of Operators Manual).

Check the configuration of the system. Verify that only 1 shaft module is installed.

Configuration correct?

YES

Defective module.
Have module checked/repaired by an authorized DICKEY john service.

NO

Disconnect extra shaft module from the system.
ERROR CODE E30_X: TOO FEW SEED SENSORS CONNECT TO MODULE X

This error is generated whenever a particular module detects fewer sensors than the setup configuration specifies. This can be caused by an incorrect Number of Sensors constant, failed sensors, incorrect number of sensors installed, or defective module harness. The 'X' represents the number of the module where the failed condition was detected.

Check the configuration of the system. Verify that the correct Number of Sensors value is entered for the applicable module, and that the correct number of sensors are connected in the correct fashion. See pages 11-12 of Operators Manual.

Configuration correct?  YES

Possible defective sensor(s). Swap suspect sensor with a known working sensor on module. Cycle power.

NO

Enter correct value for Number of Sensors constant for applicable module, or properly connect sensors to module.

Suspect sensor detected?  YES

Possible defective module or module harness. Swap module with another module on the machine. Be sure to edit the setup configurations if necessary. Cycle power.

NO

Replace sensor

Suspect sensor detected?  NO

Replace sensor

Defective module. Replace module.

Defective module harness. Inspect for damage and repair or replace.
ERROR CODE E31_X: TOO MANY SEED SENSORS CONNECT TO MODULE X

This error is generated whenever a particular module detects more sensors than the setup configuration specifies. This can be caused by an incorrect Number of Sensors constant, incorrect number of sensors installed, or defective module. The 'X' represents the number of the module where the failed condition was detected.

1. Check the configuration of the system. Verify that the current Number of Sensors value is attained for the applicable module, and that the correct number of sensors are connected in the current session. See pages 11-12 of Operators Manual.

2. Configuration correct? [YES/NO]

   YES

   Proceed, detect one module. Swap module with another module on the machine. Be sure to edit the set up configurations if necessary. Cycle power.

   NO

3. Enter correct value for Number of Sensors connect for applicable module, or connect the correct number of sensors to module.

4. Configuration correct? [YES/NO]

   YES

   Replace module.

   NO

5. Define module Lumen, repeat for damaged or repair or replace.
ERROR CODE E40: TOO FEW HOPPER SENSORS CONNECTED

This error is generated whenever fewer hopper level sensors are detected by the modules in the system than what the setup configuration specifies. This can be caused by an incorrect setup constant, defective hopper sensor, defective module, or defective harnessing. The value associated with the error code represents the total number of hopper level sensors detected by the modules in the system.

1. **Configuration correct?**
   - **YES:**
     - Check the configuration of the system. Verify that the correct number of hopper sensor values is entered, and that the correct number of sensors are connected in the correct fashion. See pages 13-14 of Operators Manual.
   - **NO:**
     - Enter correct value for Number of Hopper Sensors constant, or properly connect the correct number of sensors.

2. **Possible defective sensor or harness. Disconnect all sensors except for the 1st sensor and cycle power. Observe display and note number of sensors detected. If sensor is properly detected, continue connecting the other sensors and cycle power until the number of sensors detected does not equal the number of sensors connected. Last sensor connected prior to this will be the location of the fault.**
   - **YES:**
     - **Possible defective harness or module. Connect hopper sensor to origination harness connection. Swap this module with another on the machine and cycle power.**
   - **NO:**
     - **Defective sensor: Replace sensor.**

3. **Is sensor detected?**
   - **YES:**
     - **Defective module: Replace module.**
   - **NO:**
     - **Defective module harness. Replace harness and repair or replace.**
ERROR CODE E41: TOO MANY HOPPER SENSORS CONNECTED

This error is generated whenever more hopper-level sensors are detected by the modules in the system than what the setup configuration specifies. This can be caused by an incorrect setup constant, defective module harness, or a defective module. The value associated with the error code represents the total number of hopper-level sensors detected by the modules in the system.

Check the configuration of the system. Verify that the correct number of Hopper Sensors value is entered, and that the correct number of sensors are connected to the correct modules. See pages 13-14 of Operator Manual.

Configuration correct? [YES/NO]

Enter correct value for Number of Hopper Sensors constant, or properly connect the correct number of sensors.

Possible defective module or harness. Disconnect all sensors. In turn, connect 1 sensor to a module and cycle power. If 1 sensor is detected, connect it to the second connection on the same module and cycle power. If 1 sensor is detected, perform this same procedure with all of the modules on the bus. When the system detects more than 1 sensor on any module, that is the location of the fault. When fault location is found, swap this module with another on the same bus and cycle power.

More than 1 sensor detected? [YES/NO]

Defective module harness. Inspect for damage and repair or replace.

Defective module. Replace module.
ERROR CODE E50: TOO FEW PRESSURE SENSORS CONNECTED.

This error is generated whenever fewer pressure sensors are detected by the modules in the system than what the setup configuration specifies. This can be caused by an incorrect setup constant, defective hopper sensor, defective module, or defective harnessing. The value associated with the error code represents the total number of hopper level sensors detected by the modules in the system.

Check the configuration of the system. Verify that the correct Number of Pressure Sensors value is entered, and that the correct number of sensors are connected in the correct fashion. See page 14 of Operators Manual.

Configuration correct? YES

Possible defective sensor, harness, or module. Connect suspect sensor into the other sensor connection (if using only 1 sensor, set Number of Pressure Sensors constant to 2 to enable the 2nd connection. If using 2 sensors, swap the suspect sensor with the other sensor).

Enter correct value for Number of Pressure Sensors constant, or properly connect the correct number of sensors.

Defective sensor, Replace sensor.

Defective harness or module. Use a multimeter and measure the following voltages: Red to Black = 6 volts, Green to Black = greater than 10 volts. Then swap the module with another on the machine (NOTE: It is OK to swap a Seed Module for the Shaft Module for this test). Again, measure the following voltages: Red to Black = 8 volts, Green to Black = greater than 10 volts.

Defective harness or module. Repair harness or replace.

Voltages the same between Modules?

Defective module, Replace module.
ERROR CODE E51: TOO MANY PRESSURE SENSORS CONNECTED

This error is generated whenever more pressure sensors are detected by the modules in the system than what the setup configuration specifies. This can be caused by an incorrect setup constant, defective module, or a defective module.

The value associated with the error code represents the total number of pressure sensors detected by the modules in the system.

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Check the configuration of the system. Verify that the correct Number of Pressure Sensors value is entered, and that the correct number of sensors are connected in the correct position. See page 14 of the Operators Manual.

Configuration correct? YES

Enter correct value for Number of Pressure Sensors constant, or properly connect the correct number of sensors.

Configuration correct? NO

Possible defective module or harness. Disconnect all sensors. With a multimeter set to measure resistance, measure between the Green wire of Pressure 1 and the Green wire of Pressure 2. There should be no continuity between the Green wires (no resistance).

Continuity between Green wires? YES

Defective module. Replace module.

Continuity between Green wires? NO

Defective module. Replace module.
ERROR CODE E70_X: MODULE SENSOR SUPPLY (8 VOLTS) IS TOO LOW

This error is generated whenever a module senses that the 8 volt sensor supply (seed, hopper, pressure sensors) is below a preset threshold. Likely causes of this error are a damaged harness, defective module, or defective sensor. The 'X' represents the number of the module where the failed condition was detected.

1. Locate module specified by the display. Disconnect all sensors connected to the suspect module, then cycle power.

2. E70_X still displayed? (YES/NO)
   - YES: Possible defective module or harness. Swap module with another on the machine and cycle power. NOTE: It is OK to swap a seed module with a shell module for this test.
   - NO: Defective sensor connected to module. To locate defective sensor, re-connect sensors one at a time, observing display. When the defective sensor is connected, error E70 will be generated. Replace sensor.

3. E70_X still displayed? (YES/NO)
   - YES: Defective module. Replace module.
   - NO: Defective module harness. Inspect for damage and repair or replace.
ERROR CODE E71_X: MODULE SENSOR SUPPLY (8 VOLS) IS TOO HIGH

This error is generated whenever a module senses that the 8 volt sensor supply (seed, hopper, pressure sensor) is greater than a preset threshold. Likely causes of this error are a damaged harness, defective module, or defective sensor. The 'X' represents the number of the module where the failed condition was detected.

1. Locate module specified by the display. Disconnect all sensors connected to the suspect module, then cycle power.

2. E71_X still displayed? YES
   NO

   a. Defective sensor connected to module. To locate defective sensor, re-connect sensors one at a time, observing display. When the defective sensor is connected, error E71 will be generated. Replace sensor.

   b. E71_X still displayed? YES
      NO

      1. Defective module. Replace module.

     2. Defective harness. Inspect for damage and repair or replace.

DICKEY John SEED MANAGER SE Trouble Shooting Guide
ERROR CODE E98: INTERNAL CONSOLE ERROR

These error codes are generated whenever the monitor has experienced an internal error. There is no troubleshooting for these errors. If these errors occur, contact DICKEY-john Technical Support for further assistance.
GROUND SPEED SENSOR FAILS WHILE PLANTING:

- Radar, Hall Effect, or UDS:
  - Use a multimeter and check the following voltages:
    - Pin 1 to 2 = greater than 10V
    - Pin 1 to 3 = 12V

- Voltage OK:
  - Yes: Set the ground speed constant to 230°. With a small wire or paper clip, repeatedly short Pin 1 to Pin 3 to simulate sensor noise. Observe the ground speed display on the monitor.
  - No: Damaged harness or defective sensor: Inspect harness for damage and repair or replace. If no harness damage found, have monitor checked by an authorized servicer.

- Ground speed present:
  - Yes: Replace sensor.
  - No: Defective monitor. Have monitor checked by an authorized servicer.

- Resistance sensor:
  - Check mounting distance between sensor face and sprocket. Must be within .076”.

- Mounting OK:
  - Yes: Check harness for damage. If none found, replace sensor.
  - No: Move sensor face closer to target sprocket.
Possible dirty seed sensor. Clean sensor with soap and water. If sensor has excessive dirt or gum, use a clean brush or a plastic card. Use a kitchen type cleaner.

Sensor begins to operate

Possible defective sensor(s). Swap suspect sensor with a known working sensor on module. Cycle power.

Suspect sensor operates?

YES

Suspect sensor operates?

NO

Replace sensor

Possibly defective module or circuit harness. Swap module with another module on the module board. Be sure to edit the setup configurations if necessary. Cycle power.

Suspect sensor operates?

NO

Defective module harness. Inspect for damage and repair or replace.

YES

Defective module. Replace module.
SHAFT/FAN SENSOR FAILS WHILE PLANTING

The Shaft/Fan sensor failures can be caused by incorrect Number of Shaft-Number of Fan Sensors constant, defective/missing sensors, defective module harness, or defective Shaft Module. The Shaft/Fan sensor failure has no associated error code.

Check the configuration of the system. Verify that the correct Number of Shaft/Fan Sensors value is entered for the applicable module, and that the correct number of sensors are connected in the correct fashion. See page 14 of Operators Manual.

Configuration correct? NO

Enter correct values for Number of Shaft/Fan Sensors constant or properly connect sensors to module.

Sensor mis-aligned? YES

Correct mis-alignment.

NO

Defective sensor. Replace sensor.

Voltage the same between Module? NO

Defective harness. Repair harness or replace.

YES

Defective module. Replace module.

Possible mis-aligned sensor. Verify sensor installation per the installation instructions. Make sure that the proper gap between sensor and sprocket is correct and that the sensor is positioned square to the sprocket.

Possible defective sensor, harness, or module. Connect suspect sensor into the other sensor connection (if using only 1 sensor, set sensor type Number of Sensors constant to max value to enable all of the sensor connections.

Is suspect sensor missesense? NO

Defective harness or module. Use a multimeter and measure the following voltages: Red to Black =12 volts. Green to Black = greater than 10 volts. Then swap the module with another on the machine (NOTE: It is OK to swap a Seed Module for the Shaft Module for this test). Again, measure the following voltages: Red to Black = 8 volts, Green to Black = greater than 10 volts.
PRESSURE SENSOR FAILS WHILE PLANTING:

Verify that pressure sensing tube has not dislodged from its mounting location or become damaged. Make sure sensor has not become disconnected.

Possible defective sensor, harness, or module. Connect suspect sensor into the other sensor connection (if using only 1 sensor, set Number of Pressure Sensors constant to 2 to enable the 2nd connection, if using 2 sensors, swap the suspect sensor with the other sensor).

Enter correct value for Number of Pressure Sensors constant, or properly connect the correct number of sensors.

Defective sensor. Replace sensor. NO

Is suspect sensor working? YES

Defective harness or module. Use a multimeter and measure the following voltages: Red to Black = 8 volts, Green to Black = greater than 10 volts. Then swap the module with another on the machine (NOTE: It is OK to swap a Feed Module for the Shift Module for this setup. Again, measure the following voltages: Red to Black = 8 volts, Green to Black = greater than 10 volts.

Defective harness. Repair harness or replace. NO

Voltages are the same between Modules. YES

Defective module. Replace module.
Check fuse.

Possible poor power connections. If connected to battery, check for corrosion on the terminals. If system is frame-grounded, verify good metal to battery ground connection. If connected to auxiliary power source, verify that full battery voltage is present. Use a multimeter and compare battery voltage to auxiliary voltage.

Fuse OK

YES

NO

Replace with 7.5A AGC type fuse. DO NOT USE ANY OTHER VALUE OTHER THAN 7.5A.

Connections OK or proper voltage at auxiliary connection

YES

Clean battery connections. Inspect auxiliary power source connection to battery.

NO

Defective monitor harness. Inspect for damage and repair or replace harness.

Possible defective monitor or monitor harness. With a multimeter, measure the voltage between pins 3 and 4 of the monitor harness.

Does measured voltage equal battery voltage?

YES

Defective monitor. Have monitor checked/repaired by authorized servicer.
### Connector P in Module USB Connector

<table>
<thead>
<tr>
<th>PIN No.</th>
<th>Color</th>
<th>Function / Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>GN</td>
<td>MOD 485 COM / SERIAL</td>
</tr>
<tr>
<td>B</td>
<td>WH</td>
<td>MOD 485 COM / SERIAL</td>
</tr>
<tr>
<td>C</td>
<td>OR</td>
<td>PROGRAM OUT / TO +5VDC</td>
</tr>
<tr>
<td>D</td>
<td>N/A</td>
<td>NOT USED</td>
</tr>
<tr>
<td>E</td>
<td>RD</td>
<td>MOD PWR SWITCHED / TO +12VDC</td>
</tr>
<tr>
<td>F</td>
<td>BK</td>
<td>GND</td>
</tr>
</tbody>
</table>

### Connector 6 in Seed Sensor Connectors

<table>
<thead>
<tr>
<th>PIN No.</th>
<th>Color</th>
<th>Function / Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>GN</td>
<td>SIGNAL / TO +5 TO +12VDC PULSE</td>
</tr>
<tr>
<td>B</td>
<td>BK</td>
<td>GND</td>
</tr>
<tr>
<td>C</td>
<td>RD</td>
<td>PWR / +12VDC</td>
</tr>
</tbody>
</table>

### Connector Mod A Module Connector (Grey)

<table>
<thead>
<tr>
<th>PIN No.</th>
<th>Color</th>
<th>Function</th>
<th>To/from</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GN</td>
<td>SEED SENSOR 1</td>
<td>FROM 5 ROW 1 PIN A</td>
</tr>
<tr>
<td>2</td>
<td>BL</td>
<td>SEED SENSOR 2</td>
<td>FROM 5 ROW 2 PIN A</td>
</tr>
<tr>
<td>3</td>
<td>OR</td>
<td>SEED SENSOR 3</td>
<td>FROM 5 ROW 3 PIN A</td>
</tr>
<tr>
<td>4</td>
<td>VL</td>
<td>SEED SENSOR 4</td>
<td>FROM 5 ROW 4 PIN A</td>
</tr>
<tr>
<td>5</td>
<td>VI</td>
<td>SEED SENSOR 5</td>
<td>FROM 5 ROW 5 PIN A</td>
</tr>
<tr>
<td>6</td>
<td>GY</td>
<td>SEED SENSOR 6</td>
<td>FROM 5 ROW 6 PIN A</td>
</tr>
<tr>
<td>7</td>
<td>PK</td>
<td>SEED SENSOR 7</td>
<td>FROM 5 ROW 7 PIN A</td>
</tr>
<tr>
<td>8</td>
<td>TN</td>
<td>SEED SENSOR 8</td>
<td>FROM 5 ROW 8 PIN A</td>
</tr>
<tr>
<td>9</td>
<td>VA-RK</td>
<td>SEED SENSOR 9</td>
<td>FROM 5 ROW 9 PIN A</td>
</tr>
<tr>
<td>10</td>
<td>RO-BK</td>
<td>SEED SENSOR 10</td>
<td>FROM 5 ROW 10 PIN A</td>
</tr>
<tr>
<td>11</td>
<td>RO-BK</td>
<td>SEED SENSOR 11</td>
<td>FROM 5 ROW 11 PIN A</td>
</tr>
<tr>
<td>12</td>
<td>SN-RK</td>
<td>SEED SENSOR 12</td>
<td>FROM 5 ROW 12 PIN A</td>
</tr>
</tbody>
</table>

### Connector Mod B Module Connector (Black)

<table>
<thead>
<tr>
<th>PIN No.</th>
<th>Color</th>
<th>Function</th>
<th>To/from</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>OR</td>
<td>PROGRAM IN</td>
<td>FROM P IN PIN C</td>
</tr>
<tr>
<td>2</td>
<td>WH</td>
<td>PROGRAM OUT</td>
<td>FROM P OUT PIN C</td>
</tr>
<tr>
<td>3</td>
<td>GN</td>
<td>MOD 485 COM</td>
<td>FROM P IN OUT PIN A</td>
</tr>
<tr>
<td>4</td>
<td>YH</td>
<td>MOD 485 COM</td>
<td>FROM P OUT PIN B</td>
</tr>
<tr>
<td>5</td>
<td>GN</td>
<td>HOPPER SENS 1</td>
<td>FROM H SENS 1 GND</td>
</tr>
<tr>
<td>6</td>
<td>BN</td>
<td>HOPPER SENS 2</td>
<td>FROM H SENS 2 GND</td>
</tr>
<tr>
<td>7</td>
<td>NOT</td>
<td>NOT USED</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>GND</td>
<td>NOT USED</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>RD</td>
<td>SENSOR PWR</td>
<td>TO 5 PIN C &amp; RD ALL SENSORS</td>
</tr>
<tr>
<td>10</td>
<td>BK</td>
<td>SENSOR GND</td>
<td>TO 5 PIN B &amp; BK ALL SENSORS</td>
</tr>
<tr>
<td>11</td>
<td>RD</td>
<td>MOD PWR SWITCHED</td>
<td>FROM P IN OUT PIN E</td>
</tr>
<tr>
<td>12</td>
<td>BK</td>
<td>MOD GND</td>
<td>FROM P IN OUT PIN F</td>
</tr>
</tbody>
</table>

### Connector H, Hopper Sensor 1-2 Connectors

<table>
<thead>
<tr>
<th>Color</th>
<th>Function / Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>BK</td>
<td>GND</td>
</tr>
<tr>
<td>GN</td>
<td>SIGNAL / TO +5 TO +12VDC PULSE</td>
</tr>
<tr>
<td>RD</td>
<td>PWR / +12VDC</td>
</tr>
</tbody>
</table>

---

NOTE:
ALL POSITIONS IN CONNECTORS MOD A AND MOD B MUST BE FILLED WITH WIRES OR WITH CAVITY PLUGS.

11001-1231-200211 DICKEY john SEED MANAGER SE Trouble Shooting Guide

27
### CONNECTOR P. IN MOD. BUS CONNECTOR (GREY)

<table>
<thead>
<tr>
<th>PIN NO.</th>
<th>COLOR</th>
<th>FUNCTION / LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>GN</td>
<td>MOD-485 COM / SERIAL</td>
</tr>
<tr>
<td>B</td>
<td>VN</td>
<td>MOD-485 COM / SERIAL</td>
</tr>
<tr>
<td>C</td>
<td>OR</td>
<td>PROGRAM IN (\rightarrow) 1 TO +5VOC</td>
</tr>
<tr>
<td>D</td>
<td>N/A</td>
<td>NOT USED</td>
</tr>
<tr>
<td>E</td>
<td>RD</td>
<td>MOD PWR SWITCHED / +12VOC</td>
</tr>
<tr>
<td>F</td>
<td>BK</td>
<td>GND</td>
</tr>
</tbody>
</table>

### CONNECTOR MOD A, MODULE CONNECTOR (GREY)

<table>
<thead>
<tr>
<th>PIN NO.</th>
<th>COLOR</th>
<th>FUNCTION / LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GN</td>
<td>SEED SENSOR 1 (\text{FROM} , 9 , \text{ROW} , 1 , \text{PIN A})</td>
</tr>
<tr>
<td>2</td>
<td>BN</td>
<td>SEED SENSOR 2 (\text{FROM} , 9 , \text{ROW} , 2 , \text{PIN A})</td>
</tr>
<tr>
<td>3</td>
<td>BL</td>
<td>SEED SENSOR 3 (\text{FROM} , 9 , \text{ROW} , 3 , \text{PIN A})</td>
</tr>
<tr>
<td>4</td>
<td>OR</td>
<td>SEED SENSOR 4 (\text{FROM} , 9 , \text{ROW} , 4 , \text{PIN A})</td>
</tr>
<tr>
<td>5</td>
<td>YL</td>
<td>SEED SENSOR 5 (\text{FROM} , 9 , \text{ROW} , 5 , \text{PIN A})</td>
</tr>
<tr>
<td>6</td>
<td>YI</td>
<td>SEED SENSOR 6 (\text{FROM} , 9 , \text{ROW} , 6 , \text{PIN A})</td>
</tr>
<tr>
<td>7</td>
<td>GY</td>
<td>SEED SENSOR 7 (\text{FROM} , 9 , \text{ROW} , 7 , \text{PIN A})</td>
</tr>
<tr>
<td>8</td>
<td>BK</td>
<td>SEED SENSOR 8 (\text{FROM} , 9 , \text{ROW} , 8 , \text{PIN A})</td>
</tr>
<tr>
<td>9</td>
<td>TN</td>
<td>SEED SENSOR 9 (\text{FROM} , 9 , \text{ROW} , 9 , \text{PIN A})</td>
</tr>
<tr>
<td>10</td>
<td>WH/SK</td>
<td>SEED SENSOR 10 (\text{FROM} , 9 , \text{ROW} , 10 , \text{PIN A})</td>
</tr>
<tr>
<td>11</td>
<td>RD/SK</td>
<td>SEED SENSOR 11 (\text{FROM} , 9 , \text{ROW} , 11 , \text{PIN A})</td>
</tr>
<tr>
<td>12</td>
<td>GN/SK</td>
<td>SEED SENSOR 12 (\text{FROM} , 9 , \text{ROW} , 12 , \text{PIN A})</td>
</tr>
</tbody>
</table>

### CONNECTOR MOD B, MODULE CONNECTOR (BLACK)

<table>
<thead>
<tr>
<th>PIN NO.</th>
<th>COLOR</th>
<th>FUNCTION / LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>OR</td>
<td>PROGRAM IN (\text{FROM} , P , \text{IN} , \text{PIN} , C)</td>
</tr>
<tr>
<td>2</td>
<td>VN</td>
<td>PROGRAM OUT (\text{FROM} , P , \text{OUT} , \text{PIN} , C)</td>
</tr>
<tr>
<td>3</td>
<td>GN</td>
<td>MOD-485 COM (\text{FROM} , P , \text{INOUT} , \text{PIN} , A)</td>
</tr>
<tr>
<td>4</td>
<td>YL</td>
<td>MOD-485 COM (\text{FROM} , P , \text{OUT} , \text{PIN} , B)</td>
</tr>
<tr>
<td>5</td>
<td>YI</td>
<td>SEED SENSOR 13 (\text{FROM} , 9 , \text{ROW} , 13 , \text{PIN A})</td>
</tr>
<tr>
<td>6</td>
<td>BK</td>
<td>SEED SENSOR 14 (\text{FROM} , 9 , \text{ROW} , 14 , \text{PIN A})</td>
</tr>
<tr>
<td>7</td>
<td>GN</td>
<td>SEED SENSOR 15 (\text{FROM} , 9 , \text{ROW} , 15 , \text{PIN A})</td>
</tr>
<tr>
<td>8</td>
<td>YL</td>
<td>SEED SENSOR 16 (\text{FROM} , 9 , \text{ROW} , 16 , \text{PIN A})</td>
</tr>
<tr>
<td>9</td>
<td>RD</td>
<td>SENSOR PWR (\text{TO} , 5 , \text{PIN} , C , \text{ALL SENSORS})</td>
</tr>
<tr>
<td>10</td>
<td>BK</td>
<td>SENSOR GND (\text{TO} , 5 , \text{PIN} , B , \text{ALL SENSORS})</td>
</tr>
<tr>
<td>11</td>
<td>RD</td>
<td>MOD PWR SWITCHED (\text{FROM} , P , \text{INOUT} , \text{PIN} , E)</td>
</tr>
<tr>
<td>12</td>
<td>BK</td>
<td>MOD GND (\text{FROM} , P , \text{INOUT} , \text{PIN} , F)</td>
</tr>
</tbody>
</table>

### NOTE

All positions in Connectors MOD A and MOD B must be filled with wires or with cavity plugs.

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11001-1231-200211