



# VM-1600

## Troubleshooting and Tips for VM-1600 Planter and Drill Monitors

The following information is provided to assist in troubleshooting the Vanguard VM-1600 Monitor console. The information is also useful for all DICKEY-john built monitors including the PM-3000, Kinze KM-3000, White-Agco SM-3000. Many of the tips also apply to Deere and Case monitors.

### Setup

#### Speed Setup

There are three numbers which must be entered into the console, the number of rows, the row spacing and the distance calibration number. When the monitor powers up and runs through the self-test mode, it will stop on the "speed set up" position. This is where the distance sensor calibration number goes. It should be represented by 4 digits and NO DECIMAL POINT. If a decimal point is showing, your distance sensor is not being recognized. Check connections for proper hook-up. It is VERY important to run the 400 foot distance calibration procedure. DO NOT enter a calibration from another instrument or a digital dash. Only the number generated by your monitor will be accurate. It is also important that only 400 ft. be used for the distance. No other distance will work. It is suggested that the course be run under field conditions, not on a driveway or blacktop road.

When using a universal distance sensor, all 60 magnets must be in place, and the proper clearance maintained on the sensing device. On larger diameter wheels, it may be necessary to install a second set of magnets (Part # 45910-0190). When using a sprocket proximity speed sensor, failure may occur if the sensor is not mounted close enough to the teeth of the sprocket, or if the shaft is rotating too slowly.

#### Row Spacing

Row spacing is entered in inches and tenths. For example, a 30 inch spacing planter would be entered as 030.0 and for grain drills, it is important that row spacing be entered and not sensor spacing. An example for drills would be 007.5 for 7 1/2" rows.

## Number of Rows

Enter the number of rows on your planter or drill up to a maximum of 32, regardless of how many sensors you are using. If you are using a drill with more than 32 openers, use a fraction of the number of rows... for example, 48 rows could be entered as 24 or 16. In those cases, you would multiply your acre count by the factor, that is, double the acres on 24 or triple the acres in the case of 16. When you enter the row spacing correctly as noted above, population will always read correctly. Once the three setup numbers have been entered, your monitor is ready to function. Shift into "operate" mode, and begin to plant.

## Troubleshooting

### Monitor will not shift out of "Setup Mode"

There are two main causes for this problem. The most likely is that you do not have your implement harness attached to the monitor, and you have set it up for the number of rows on your planter or drill. If the monitor does not see this implement harness, it will not shift. To test out the monitor or to run the speed setup course without the implement, change the number of rows to 1 and proceed. The second cause of this lock up is the wrong implement harness. Most likely, you have a John Deere configured harness hooked to the DICKEY-john built monitor. Changing the harness or pin configuration will solve this problem. (Adapters are available when using mixed harness and monitors.... part # **37D37J** when using a Dj monitor on a Deere harness, and part # **37J37D** when using a Deere monitor on a Dj harness).

### No Population Reading, or No Population Update

The DICKEY-john built monitors use an area based population sample, and must load up that data before displaying it. As a result, when using narrow row spacing such as are used on grain drills, a considerable distance must be traveled before a reading appears. You must continue running until this population number comes up. If you stop or raise the implement, the monitor resets to 0 and the count begins over. If you are working in a small area, or testing the unit on very short rows, enter a row spacing 10 times actual for a **quick calibration**. For example, 8.0" would become 80.0" . Your population will appear very quickly, and will change quite often. It will read out 1/10th of actual population (210,000 will read as 21.0) You will see some wider variations in population because of the small sample size, but this is often reflecting inconsistencies in your planting rate, magnified.

### Suspected Sensor Malfunction

If you are having a problem with a row, and suspect a sensor problem, move that sensor to another row, and take note of whether the problem moves ... if so, the sensor is the problem, if the problem stays the same, the trouble is in the wiring or the monitor. Battery operated Sensor Testers are available (part # ST-100) and can often be used in troubleshooting problems in the field.

## Using the Monitor For Speed and Area Only

If you want to observe speed and acre readings on a Dj built monitor without a drill or planter attached, enter 01 for the number of rows and the total implement width for the row spacing. If you desire to cut off acre count at the ends, a remote acre shut off switch may be ordered. (Part # 45841-0660S1 for the cable and 45632-1070 for the switch). **No shut off is necessary on planters and drills as the monitor stops counting when seed flow stops.**

## Bypassing Speed Sensor

In the event your radar or wheel sensor fails, you can enter a manual speed. Disconnect the speed sensor from the distance sensor wiring connector (4 pin plug) and go to speed setup. Your monitor will have a decimal showing. Enter your intended working speed.....example: **005.5** mph. The monitor will now function manually, calculating population based upon the expected 5.5 mph.

Thank you for visiting our web page... we hope the above information is helpful. Contact us for DICKEY-john repair parts, Vanguard Drill Monitoring Systems, and a full line of Radar "Y" and interface cables.