SpeedTube™

SpeedTube Operator's Guide
For Gen 2 20/20 Displays

Precision Planting®

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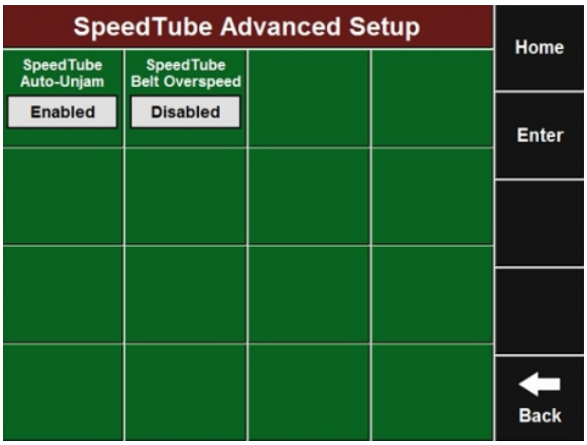
Contents

SpeedTube Setup

SpeedTube is automatically detected by the 20/20 Seedsense monitor and requires no specific setup. Simply plug the Speedtube harness into the Speedtube module and the SpeedTube will be ready for operation.

To view the SpeedTube setup page select: Setup — Systems — vDrive — Advanced Setup.

The available settings for SpeedTube are "SpeedTube Auto — Unjam" and "SpeedTube Belt Overspeed". The default setting for Auto-Unjam is "Enabled". When enabled, Speedtubes will automatically reverse belt direction to clear a detected jam/obstruction. The defualt setting for Speedtube Belt Overspeed" is "Disabled". This valve should not be changed unless directed by Product Support.

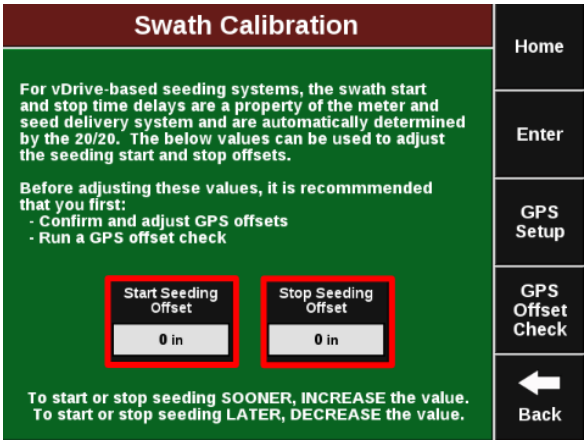


Refer to the SeedSense Operators Manual for general planter configurations/setup and vDrive Operators Manual for vDrive system setup.

Swath Calibration

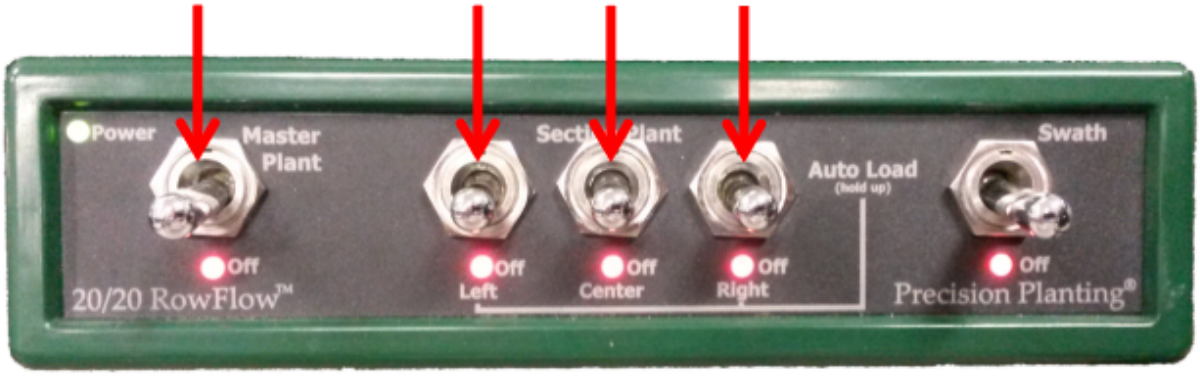
"Start and Stop Seeding Offsets" can be accessed by selecting: Setup-Systems-vDrive-Calibration State.

vDrive swath calibration can still be adjusted when the SpeedTube is installed. Start with the default value for "Start Seeding Offset" and "Stop Seeding Offset". The operator should dig for seeds, and make manual adjustments to the offset values if needed. Confirm GPS offsets are correct before adjusting the "Start and Stop Seeding Offset" values.



SpeedTube Operation

SpeedTubes will operate anytime the Master Plant or a single Section Plant switch is active on the Cab Control Module. If the planter is not moving (lifted or lowered), SpeedTubes will operate at a minimum belt speed. To deactivate SpeedTube operation, the Master Plant and all three Section Plant switches must be off.



Vacuum Setting

Increased vacuum is sometimes necessary when operating SpeedTube at higher speeds. This will help limit seeds from dropping off the disk (due to increased rough ride) before reaching the feeder wheels.

Good Ride Metric

Good Ride is of limited significance when SpeedTube™ is installed across the whole planter. As long as other planting metrics (spacing, SRI, ground contact, etc.) look ok, “poor” good ride will not impact performance. Operators should not limit speed based solely on Good Ride.

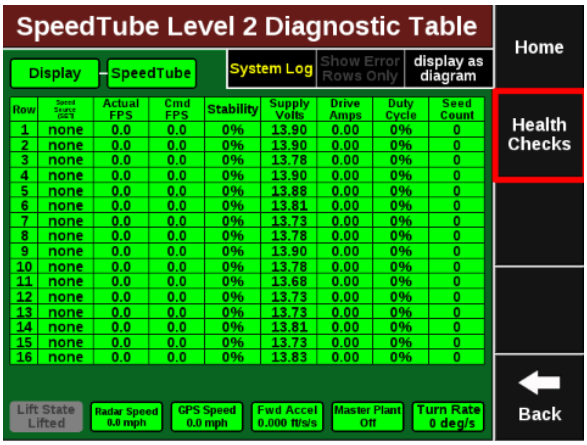
The “Smooth Ride Limit” on the 20/20 and the Good Ride legend in FieldView can be adjusted as needed.

SpeedTube Diagnostics

When components are powered and communicating properly with the 20/20 SeedSense Monitor, modules will be green on the diagnose page.

Navigate to the SpeedTube Diagnose page by selecting “Setup”,”Diagnose”,”SpeedTube”.

The SpeedTube Diagnostic page displays the following information for each row:



Speed Source–Will display current speed source “GPS”, “Radar”, or “none”.

Actual FPS (Flights per Second)–Measure of SpeedTube belt speed and is the number of belt flights per second as detected by seed sensors.

Command FPS (Flights per Second)–SpeedTube belt speed or flights per second as commanded.

Stability–Displays stability of SpeedTube motor.

Supply Volts–Voltage at SpeedTube Module.

Drive Amps– SpeedTube current draw in amps.

Duty Cycle–Displays SpeedTube motor output over the operating range.

Seed Count–Seeds detected on each row.

SpeedTube Health Checks

After all components are detected and communicating properly, SpeedTube Health Checks should be performed. The Health Check page can be accessed from the SpeedTube Diagnostic page.

Select “Voltage Current” and follow the on - screen prompts for test requirements and to begin the test.

The health check will operate through three different sections. The initial section is a warm - up period in which the SpeedTubes will operate at a FPS (or RPM) equivalent to travelling at 11 MPH. During the second section, the SpeedTubes will run at a FPS equivalent to 2.5 MPH. The final portion of the health check will operate the SpeedTubes at a FPS equivalent to 10 MPH. Data is collected during the 2.5 MPH and 10 MPH portions.

Below are the failure thresholds for the health check:

Voltage < 10 volts

Amperage

3.5 MPH Test: >0.5 Amps

11 MPH Test: >4.0 Amps

Duty Cycle

3.5 MPH Test: >30%

11 MPH Test: >95%

Stability

3.5 MPH Test: +/- 6%

11 MPH Test: +/- 3.5%

The results page will be red for rows which no information was received. The results page will be yellow for any value out of range.

In the event of a failed Health Check, reference the instructions listed below.

Voltage Failure: There is low supply voltage. Check harnessing for damage and ensure alternator is operating.

Amperage Failure: Ensure voltage is within range. Check for obstructions or misaligned parts in the SpeedTube.

Duty Cycle Failure: Check for obstructions or misaligned in the SpeedTube.

Note: If problems persist, refer to the SpeedTube Troubleshooting guide for more detailed information.