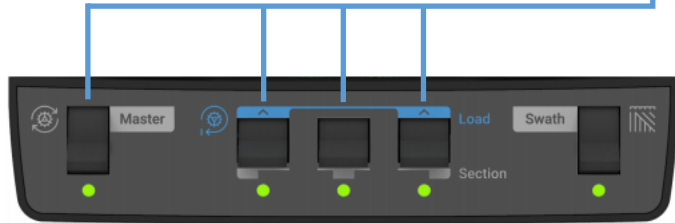
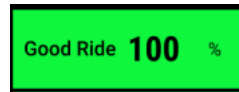


# 20|20 GEN 3—SPEEDTUBE CONTROL [2020.0.X SOFTWARE]

**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.



**Ride Quality** is of limited significance when **SpeedTube** is installed across the whole planter. As long as other planting metrics (**SRI**, **ground contact**, etc.) are acceptable, "poor" **Ride Quality** will not impact performance. Operators should not limit speed based solely on **Ride Quality**. The "**Smooth Ride Limit**" can be adjusted as needed by going to **Setup>Crops >Limit> Adjustments**.

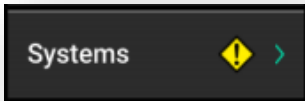


Increased **Vacuum** is sometimes necessary when operating **SpeedTube** at higher speeds. This will help limit seeds from dropping off the disk (due to increased rough ride) before reaching the feeder wheels.

**Start Here**

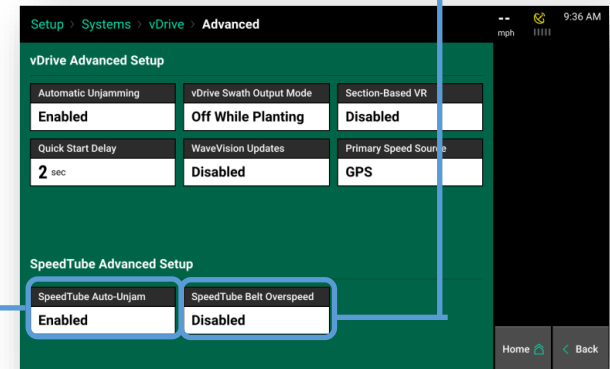
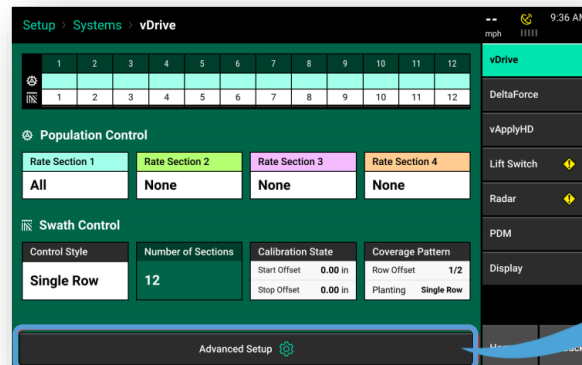


The available settings for **SpeedTube** are found on the **vDrive System Page>Advanced Setup**.



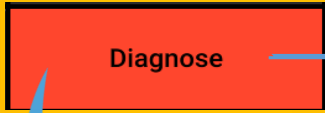
The default setting for **Auto-Unjam** is "**Enabled**". When enabled, **SpeedTubes** will automatically reverse belt direction to clear a detected jam/obstruction.

The default setting for "**SpeedTube Belt Overspeed**" is "**Disabled**". This value should not be changed unless directed by Product Support.



# 20|20 GEN 3—SPEEDTUBE CONTROL [2020.0.X SOFTWARE]

**START HERE**



1

Press **Diagnose** button on **Home Screen** to access **Diagnose Page** (button can be added if not present). Or navigate to **Setup>Diagnose**.

Button Press



2

**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.

**Total Seeds**– Seeds detected on each row.

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The following are the failure

**Voltage**–

<10 Volts

**Amperage**–

30 FPS Test: >0.5 A  
80 FPS Test >4.0 A

**Duty Cycle**–

30 FPS Test: >30%  
80 FPS Test: >95%

**Stability**–

30 FPS Test: +/-6%  
80 FPS Test +/-3.5%

The results page will be red for rows which no information was received and yellow for any values 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 **SpeedTube**.
- **Duty Cycle Failure:** Check for obstructions or misaligned parts in **SpeedTube**.

The **Healthcheck** will perform tests at two different speeds. During the first portion, the **SpeedTubes** will run at a FPS equivalent to 0.5 MPH. The second portion of the health check will operate the **SpeedTubes** at a FPS equivalent to 10 MPH. Data is collected during the 0.5MPH and 10 MPH portions and displayed on the subsequent results page.

Row	Pass/Fail	Volts		Amps	Speed Test at 30 FPS		Stability	Speed Test at 80 FPS		Stability	
		Min	Avg		DC Min	DC Max		Amps	DC Min		DC Max
1	Failed	9.2	12.1	0.33	26.0	27.9	96.6	1.46	84.0	89.9	99.5
2	Passed	10.8	11.9	0.34	23.9	26.0	97.4	1.64	81.0	88.0	98.9
3	Passed	11.1	12.1	0.31	23.9	27.0	96.6	1.59	81.9	88.0	99.5
4	Passed	11.2	12.2	0.32	26.0	27.9	97.4	1.65	82.9	89.0	98.9
5	Passed	11.0	12.0	0.29	23.9	26.0	97.4	1.54	80.0	85.9	99.5
6	Passed	11.0	12.1	0.27	22.9	25.0	96.6	1.41	80.0	85.9	99.5
7	Passed	10.7	12.1	0.32	22.9	25.0	97.4	1.69	77.0	82.9	98.9
8	Failed	9.9	12.1	0.26	23.9	27.0	96.6	1.36	81.0	86.9	98.9
9	Failed	10.6	11.9	0.50	27.0	28.9	96.6	2.32	85.0	90.9	96.0
10	Failed	8.6	11.9	0.29	23.9	26.0	96.6	1.41	81.0	88.0	98.9
11	Passed	11.2	12.3	0.30	22.9	25.0	97.4	1.56	80.0	85.0	99.5
12	Passed	10.7	12.2	0.32	26.0	27.9	96.6	1.55	81.9	88.0	99.5

Press **SpeedTube Health Checks** to run the **Voltage/Current No Load** test, a results page will be generated after the test.

Row	Flights per Second Act	Flights per Second Cmd	Stability	Supply Volts	Drive Amps	Duty Cycle	Total Seeds
1	0.0	0.0	0%	13.40	0.00	0%	0
2	0.0	0.0	0%	13.32	0.00	0%	0
3	0.0	0.0	0%	13.32	0.00	0%	0
4	0.0	0.0	0%	13.43	0.00	0%	0
5	0.0	0.0	0%	13.30	0.00	0%	0
6	0.0	0.0	0%	13.35	0.00	0%	0
7	0.0	0.0	0%	13.28	0.00	0%	0
8	0.0	0.0	0%	13.35	0.00	0%	0
9	0.0	0.0	0%	13.35	0.00	0%	0
10	0.0	0.0	0%	13.25	0.00	0%	0
11	0.0	0.0	0%	13.45	0.00	0%	0
12	0.0	0.0	0%	13.38	0.00	0%	0

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