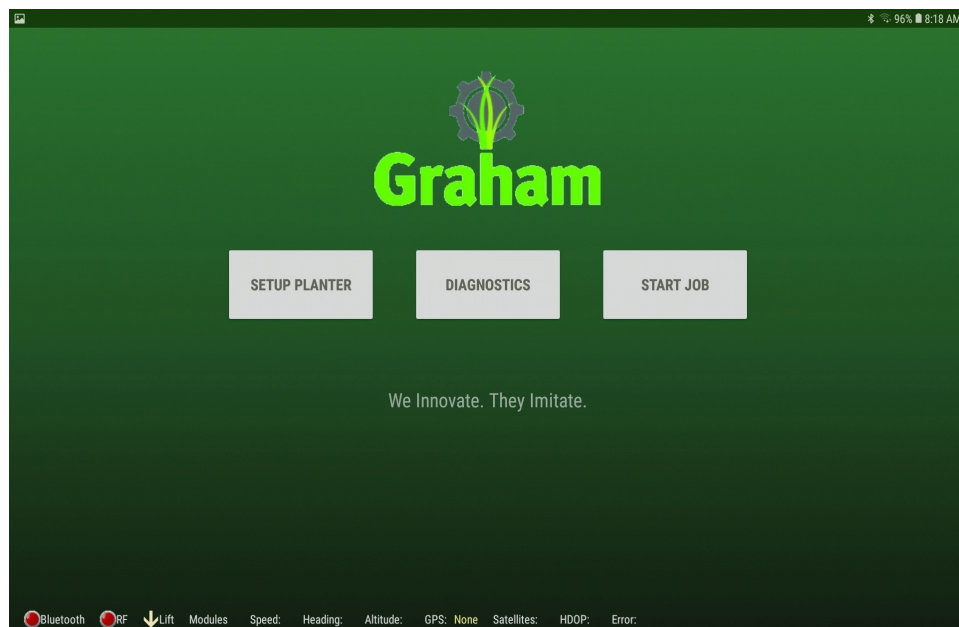




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# Electric Drive Manual for Planters



#644120-2020

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|                                          |
|------------------------------------------|
| This manual references Graham Equipment. |
|------------------------------------------|

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[www.grahamelectricplanter.com](http://www.grahamelectricplanter.com)

## Section 1: Getting Hooked to Tractor

**Step 1.** Install to battery of tractor. Connect implement to tractor. *(Figure 1)*



**Step 2.** Connect Anderson connector between implement and tractor. *(Figure 2)*





## Section 1: Getting Hooked to Tractor

**Step 3.** Connect 7 pin harness to 6 pin weather pack connector. *(Figure 3)*



**Step 4.** Connect 7 pin light to back of tractor.  
**Note:** Planter WILL NOT operate without 7 pin light harness being plugged in. *(Figure 4)*



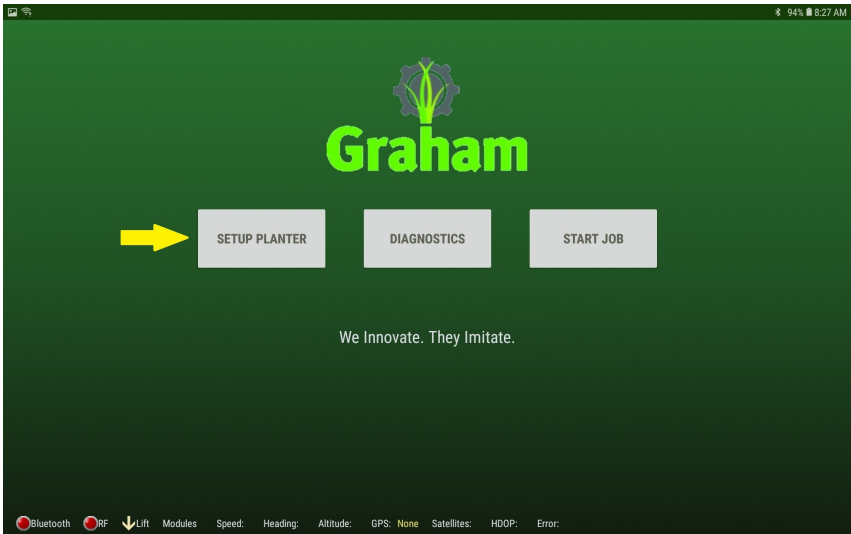


Section 2: Implement Setup  
System Setup

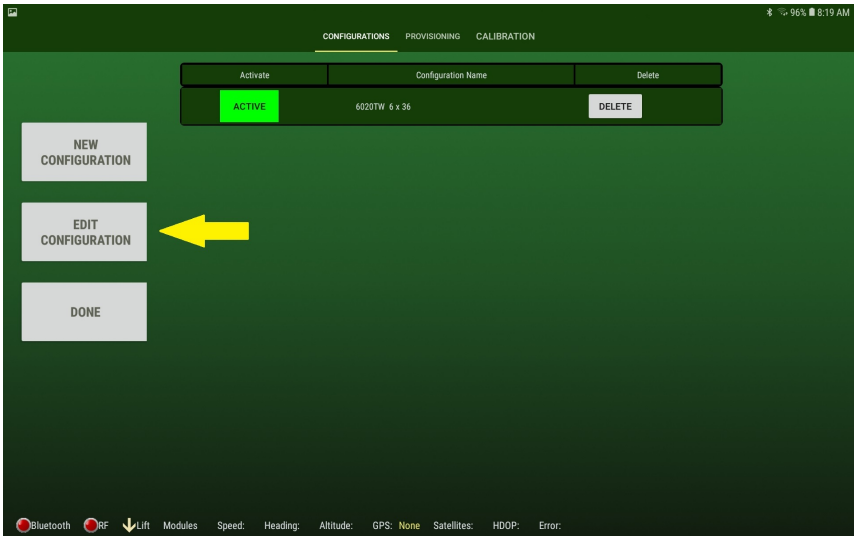
Step 1. To start Select Graham App. (Figure 5)



Step 2. Select setup planter. (Figure 6)



Step 3. Select edit configuration.  
**Note:** If wanting to create a new configuration-select New Configuration and follow steps 4-7. (Figure 7)

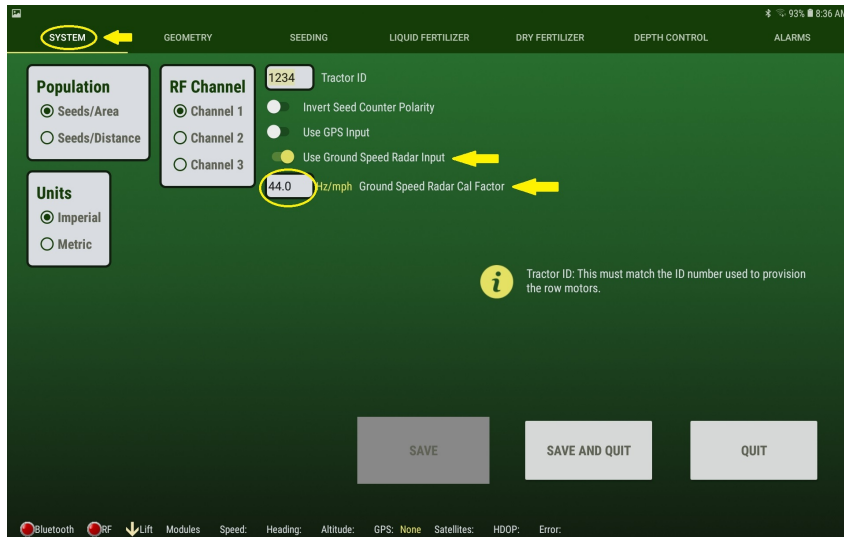


## Section 2: Implement Setup

**Step 4.** Unit supplied with radar unit pre-installed. Insure that user ground speed radar is selected and that the hz/mph is set at 44 hz/mph.

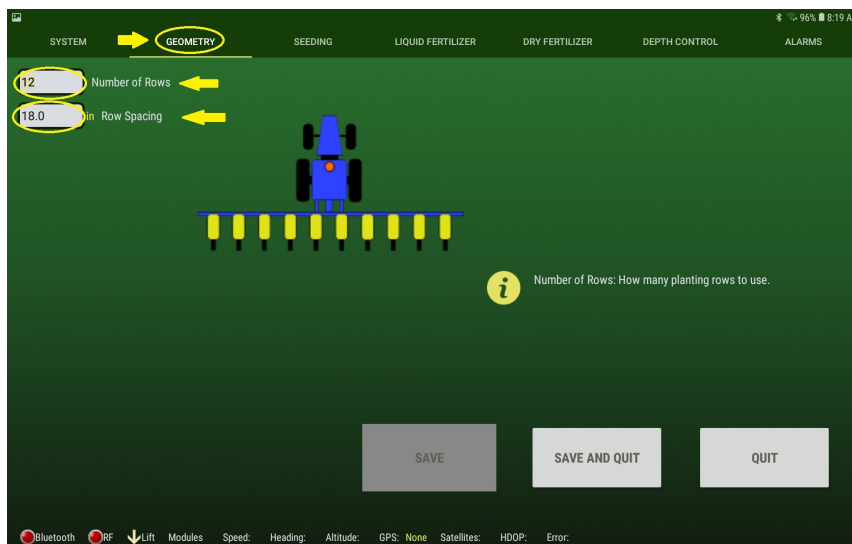
**Note:** This is a starting number. May have to adjust manually to match system speed with tractor speed. Should end up between 44hz to 58hz.

Hz/mph must be entered in whole numbers. No decimal points. (Figure 8)



### Geometry

**Step 5.** Enter the number of rows that are on your unit and average row spacing. (Example: 6 row 36" twin row, would be 12 rows 18" row spacing.) (Figure 9)





## Section 2: Implement Setup

### Seeding

**Step 6.** Ensure that meter plate count is set to the number of cells on plate that you have installed in your meters. Set population that you wish to apply in thousands of seed/acre. You can set up to 4 different populations and can select them while running thru the field . The population can also be adjusted up or down by 250 seeds per acre while running.(Figure 10)

SYSTEM GEOMETRY **SEEDING** LIQUID FERTILIZER DRY FERTILIZER DEPTH CONTROL ALARMS

47 Meter Plate Count

1.0 Gearing Ratio

5 mph Jump Speed

8094.0 Jump Population

5 sec Jump Time

**Product 1**

95000.0 Seeds/Acre Population 1

96000.0 Seeds/Acre Population 2

98000.0 Seeds/Acre Population 3

99000.0 Seeds/Acre Population 4

**Motor Type**

☐ Graham Lite

☒ Graham Pro

☐ Custom

**End Row Inset**

☒ Half Row

☐ Full Row

☐ Custom

**SAVE** **SAVE AND QUIT** **QUIT**

Bluetooth RF Lift Modules Speed: Heading: Altitude: GPS: None Satellites: HDOP: Error:

### Alarms

**Step 7.** Select your upper and lower limit for seed sensors by toggling up and down Population Alarms. This is the percentage of population being applied.

**Note:** Once all implement setup are complete, make sure to select “save and quit” before exiting.(Figure 11)

SYSTEM GEOMETRY SEEDING LIQUID FERTILIZER DRY FERTILIZER DEPTH CONTROL **ALARMS**

**Population Alarm**

39 40 41 %

**ON**

**Singulation Alarm**

19 20 21 %

**OFF**

**Pump Rate Alarm**

19 20 21 %

**OFF**

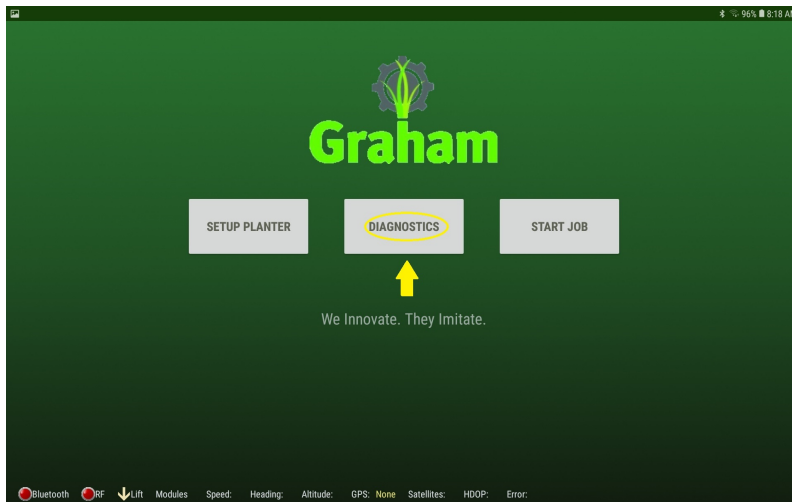
**SAVE** **SAVE AND QUIT** **QUIT**

Bluetooth RF Lift Modules Speed: Heading: Altitude: GPS: None Satellites: HDOP: Error:

## Section 3: Diagnostics

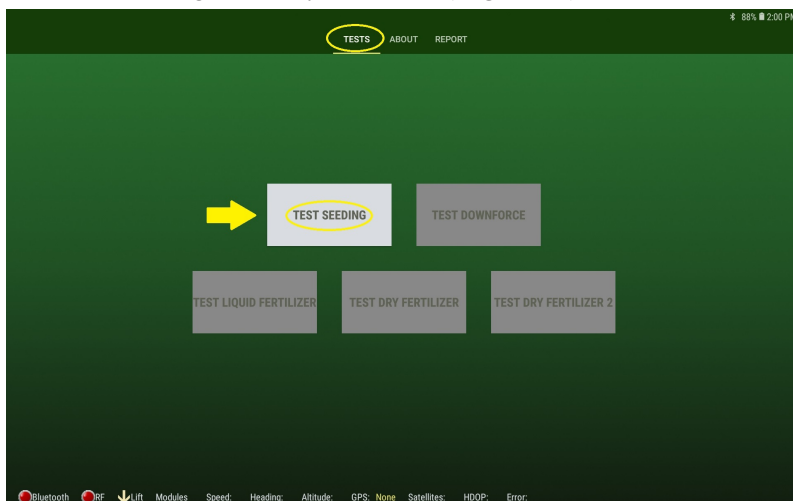
### Test Motors

Step 1. Tap Diagnostics. (Figure 12)

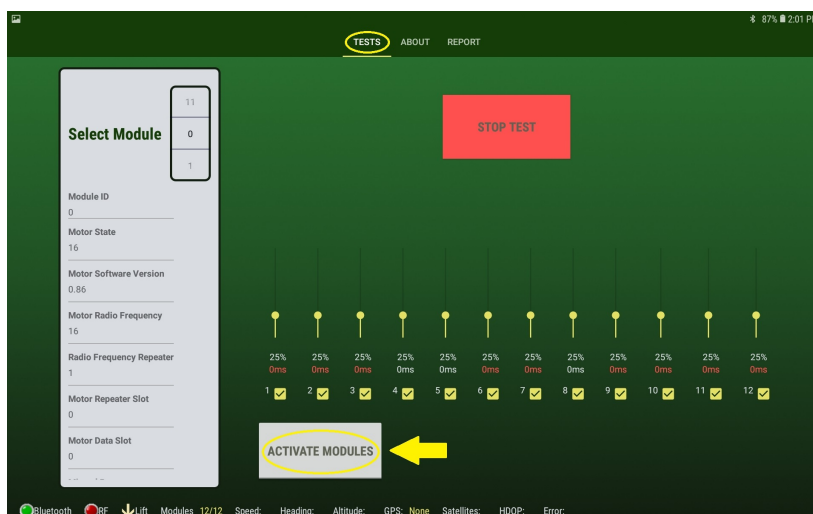


Step 2. Test Seeding

**Note:** This setup will connect to motors, and boards and go through a self diagnostic before allowing you to continue. If there are any errors, refer to trouble shooting section of the manual. If still not running contact your dealer.(Figure 13)

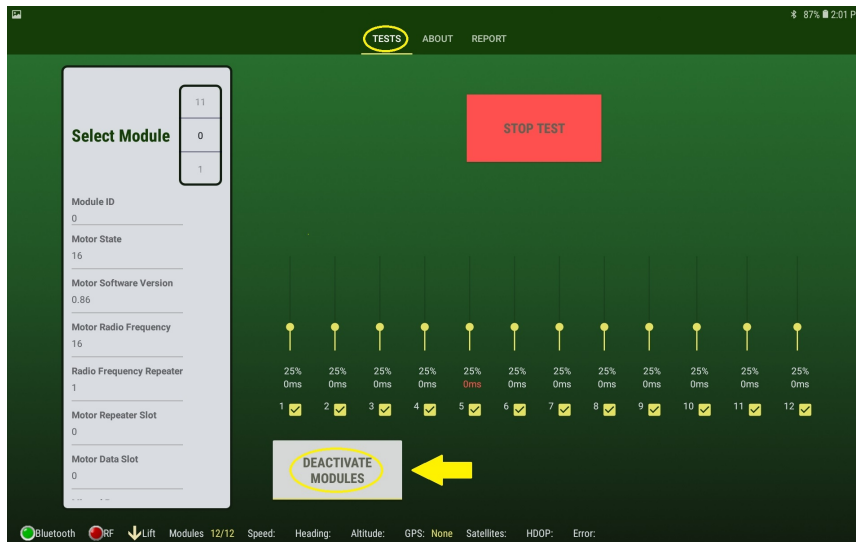


Step 3. To begin self test, select activate modules. Once activated motors should be operating. Each individual motor can be turned on/off by selecting box under each row. Also each motor can be sped up and down by moving selector up or down for each row.(Figure 14)

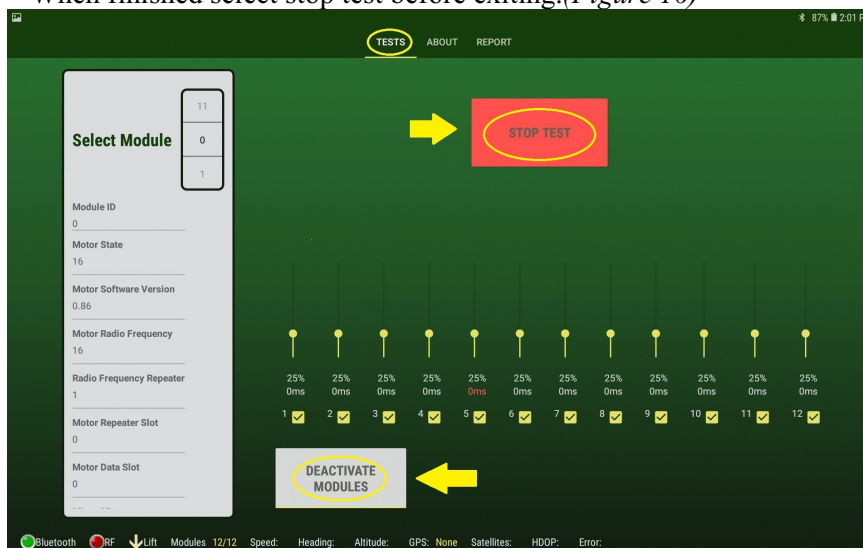


## Section 3: Diagnostics

**Step 4.** Select deactivate modules to turn all motors off.(Figure 15)

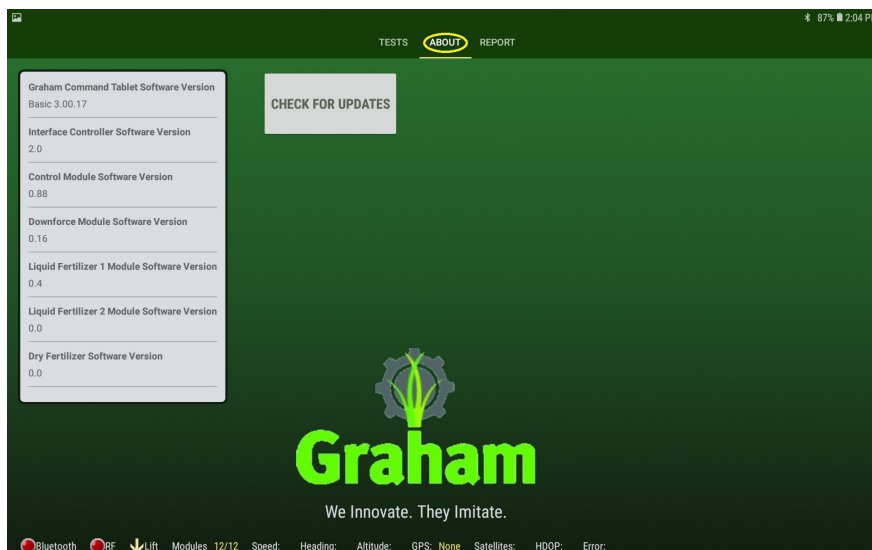


**Step 5.** When finished select stop test before exiting.(Figure 16)



## About (Software Versions)

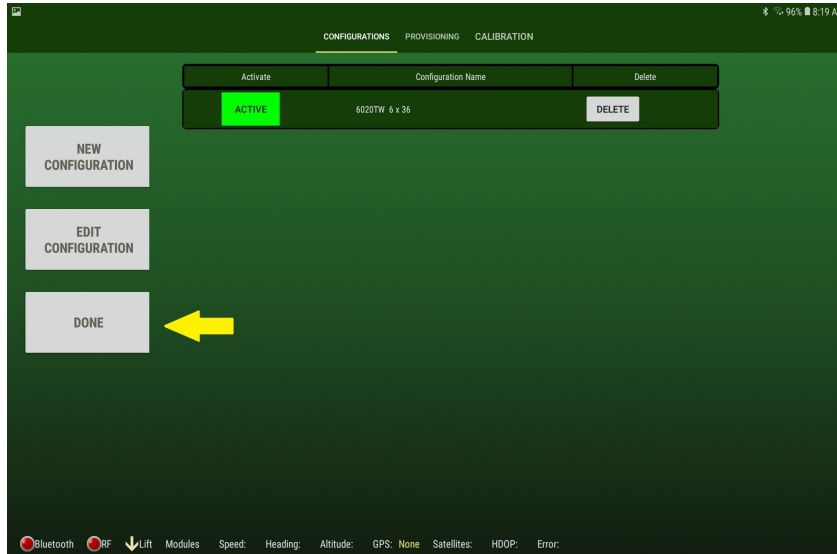
**Step 6.** This is where you would check version of software.(Figure 17)





## Section 3: Diagnostics

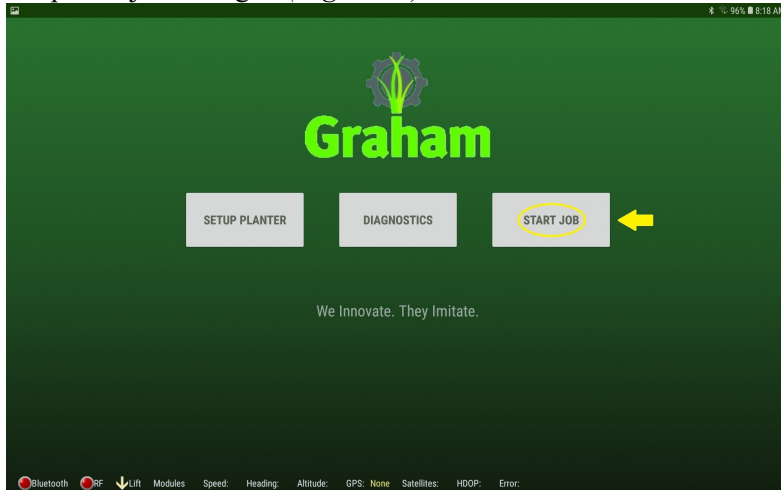
**Step 7.** To get back to main menu, press done. *(Figure 18)*



## Section 4: Start Job

### Functions of Run Screen

Step 1. Tap start job to begin. (Figure 19)



Step 2. Selecting seed rate by selecting yellow circle beside the seeds/acre you wish to apply.  
**Note:** These were set in (Figure 10) of the Implement Setup and when exiting job, population **will default** back to population #1 when starting job again. (Figure 20)



Step 3. Increase rate on the go by selecting the +.25k button. (Figure 21)  
**Note:** When increasing or decreasing population, once you exit job and start job again, population **will default** back to population which is set in step 6 of section 2.



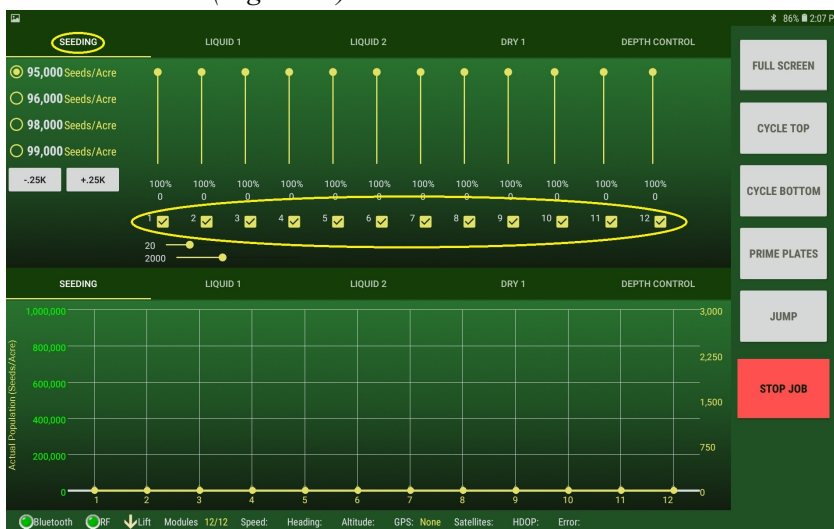
## Section 4: Start Job

### Functions of Run Screen

**Step 4.** Decrease rate on the go by selecting the -.25k button.(Figure 22)



**Step 5.** Each individual motor can be shut off by removing the check mark that corresponds with motor you wish to turn off.(Figure 23)

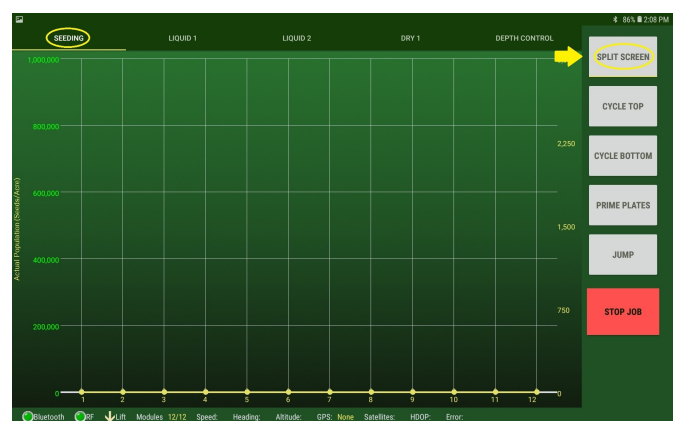


**Step 6.** Press full screen to display full screen, and press split screen to display the screen split.

(Figure 24)

**Split Screen**

**Full Screen**



## Section 4: Start Job

### Functions of Run Screen

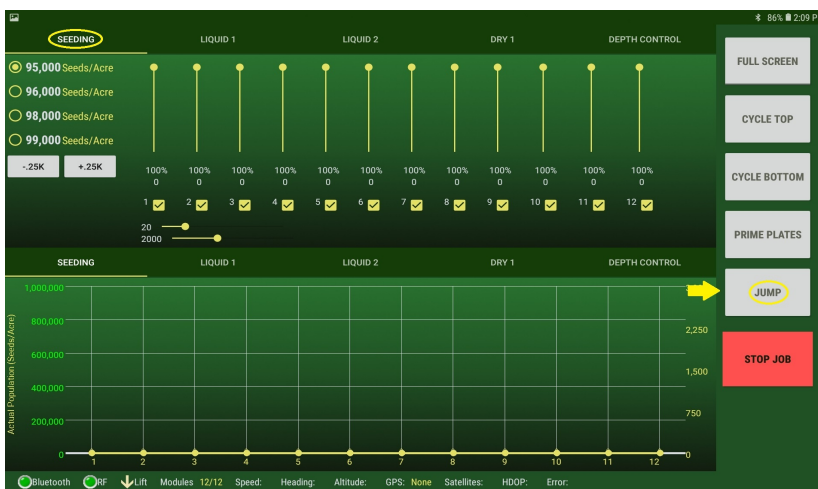
**Step 7.** To cycle split screen top to bottom or bottom to top, press cycle top or cycle bottom buttons.  
(Figure 25)



**Step 8.** Press prime plates to fill your disk prior to planting.  
**Note:** Implement MUST be raised. (Figure 26)



**Step 9.** The optional jump button is used to speed up the planter for a-set mph/set population/time-refer to (Figure 10) in Implement Setup for setting fields for Jump. (Figure 27)





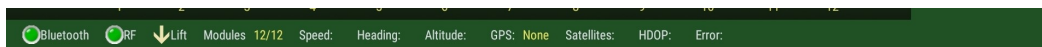
## Section 4: Start Job

### Functions of Run Screen

Step 8. Always stop job before exiting run screen.(Figure 28)



Step 9. Explanation of each tab at the bottom of the screen.(Figure 29)



**Bluetooth** = Green bluetooth connected

Red bluetooth not connected

**RF** = Green module connected

Red module not connected

**Lift** = Implement down

Implement up

**Modules 12/12** = 12 motors responding out of 12

**Speed** = Implement MPH

**Heading** = Graham Pro only

**Altitude** = Graham Pro only

**GPS** = Not used with radar

**Satellites** = Graham Pro only

**HDOP** = Graham Pro only

**Error** = Graham Pro only

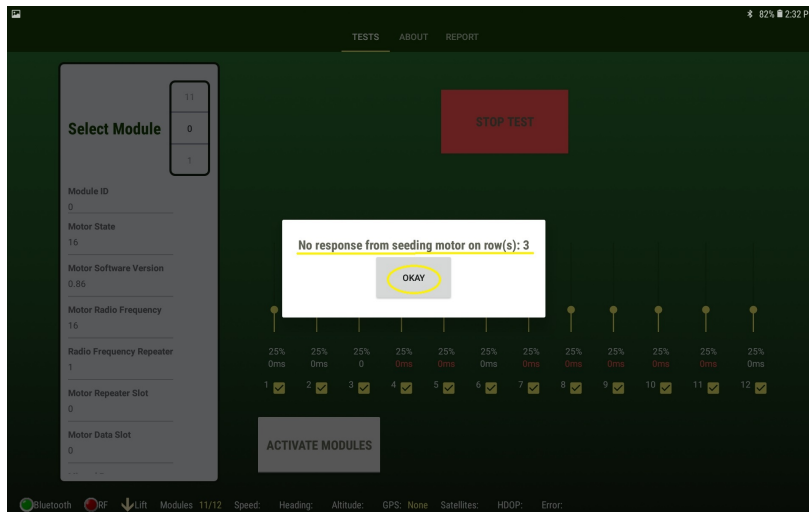
## Section 5: Troubleshooting

(Figure 30)

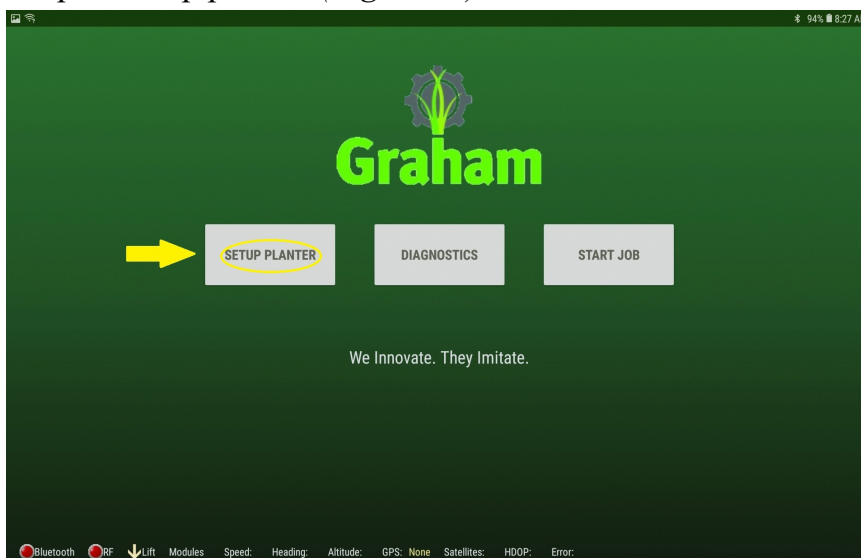
| PROBLEM                                                | CORRECTIVE ACTION                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bluetooth Not Connecting                               | <ol style="list-style-type: none"><li>1. Check that Bluetooth on tablet is on.</li><li>2. Close app and try again.</li><li>3. Shutoff power to planter, wait 10 seconds.</li><li>4. Turn on power and try again.</li><li>5. If still not working properly, contact dealer.</li></ol>                                         |
| Board Not Running                                      | <ol style="list-style-type: none"><li>1. Close app and try again.</li><li>2. Shutoff power to planter, wait 10 seconds.</li><li>3. Turn on power and try again.</li><li>4. If still not working properly, contact dealer.</li></ol>                                                                                          |
| Motors Not Responding                                  | <ol style="list-style-type: none"><li>1. Close app and try again.</li><li>2. Shutoff power to planter, wait 10 seconds.</li><li>3. Turn on power and try again.</li><li>4. If still not working properly, contact dealer.</li></ol>                                                                                          |
| Individual Motor Not Responding                        | <ol style="list-style-type: none"><li>1. Shutoff power to planter, wait 10 seconds.</li><li>2. Turn on power and try again.</li><li>3. See Re-provisioning Motor in Troubleshooting Section of the manual.</li><li>4. Check wiring to motor.</li><li>5. Check system voltage.</li></ol>                                      |
| Module will not Connect-<br>Bluetooth will not Connect | <ol style="list-style-type: none"><li>1. Make sure tractor key is on.</li><li>2. Make sure voltage is showing on outer blocks.</li><li>3. Check power on center pin of 7pin light connector.</li><li>4. If still not working properly, contact dealer.</li><li>5. Check bluetooth settings in your Samsung Tablet.</li></ol> |

## Section 6: Re-Provisioning Motors

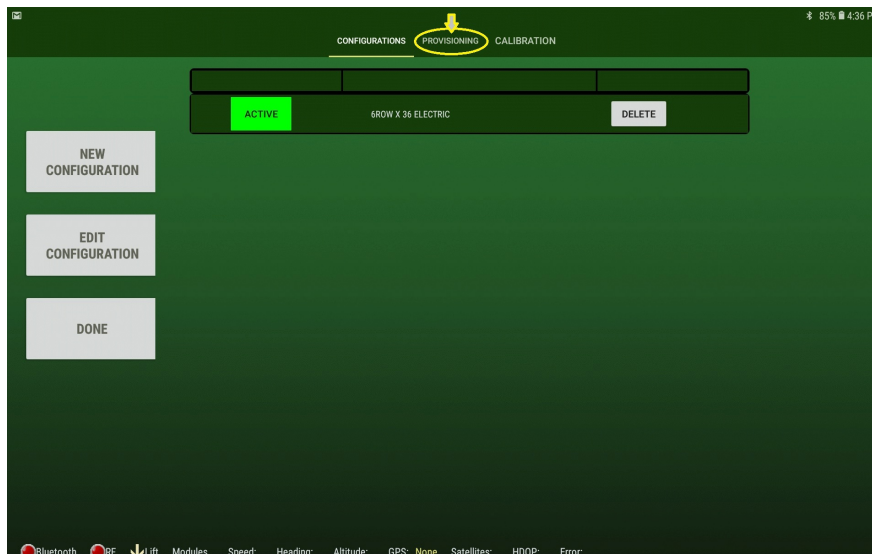
**Note:** Implement is delivered with motors provisioned. Possible reasons for provisioning. No response from a motor or replaced a motor. You do not have to provision all the motors, you can just do the ones that give you trouble.(Figure 31)



**Step 1.** Tap on setup planner.(Figure 32)

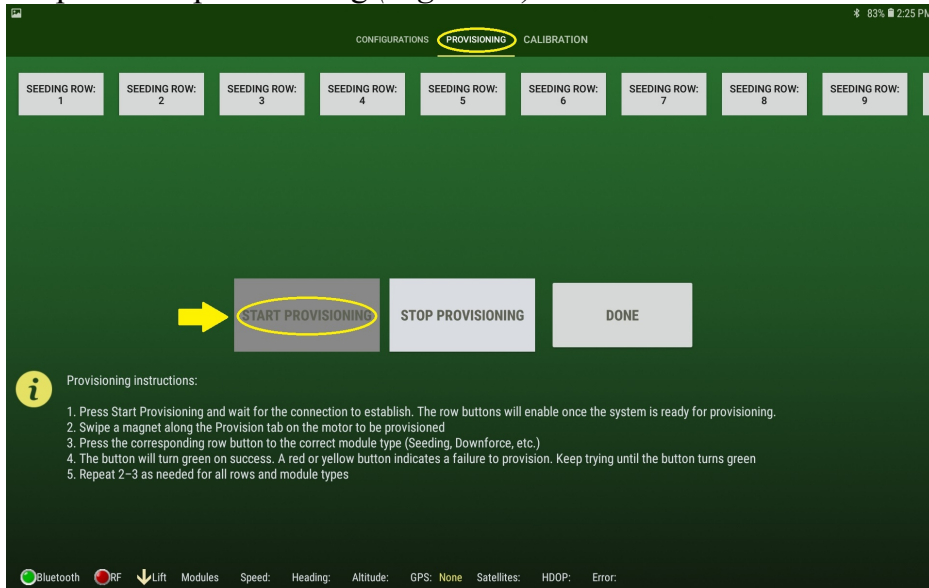


**Step 2.** Tap on provisioning at the top of the page.(Figure 33)



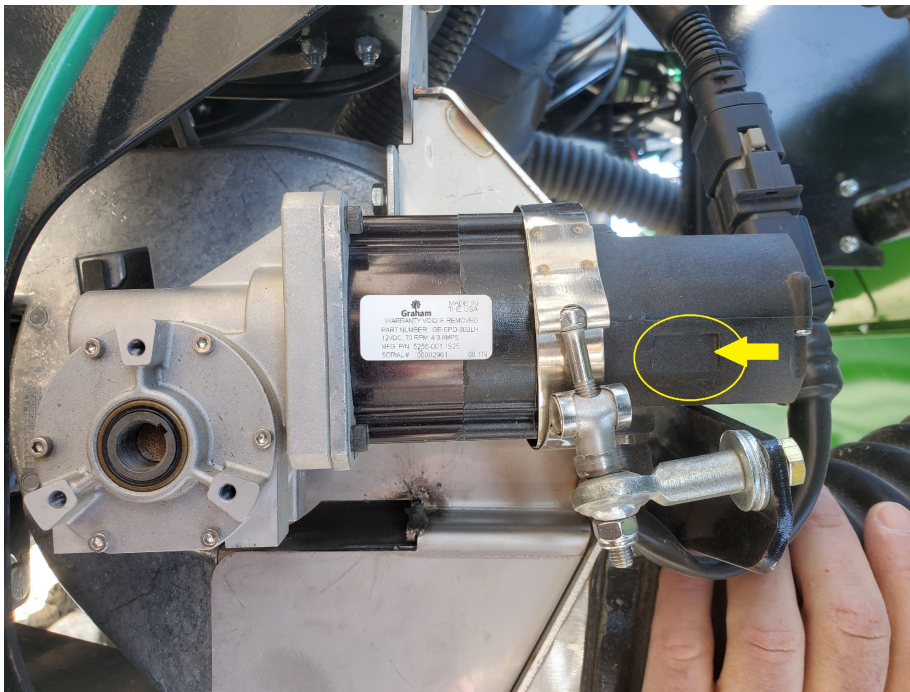
## Section 6: Re-Provisioning Motors

**Step 3.** Tap on start provisioning.(Figure 34)



**Step 4.** Wait for the connection to establish.

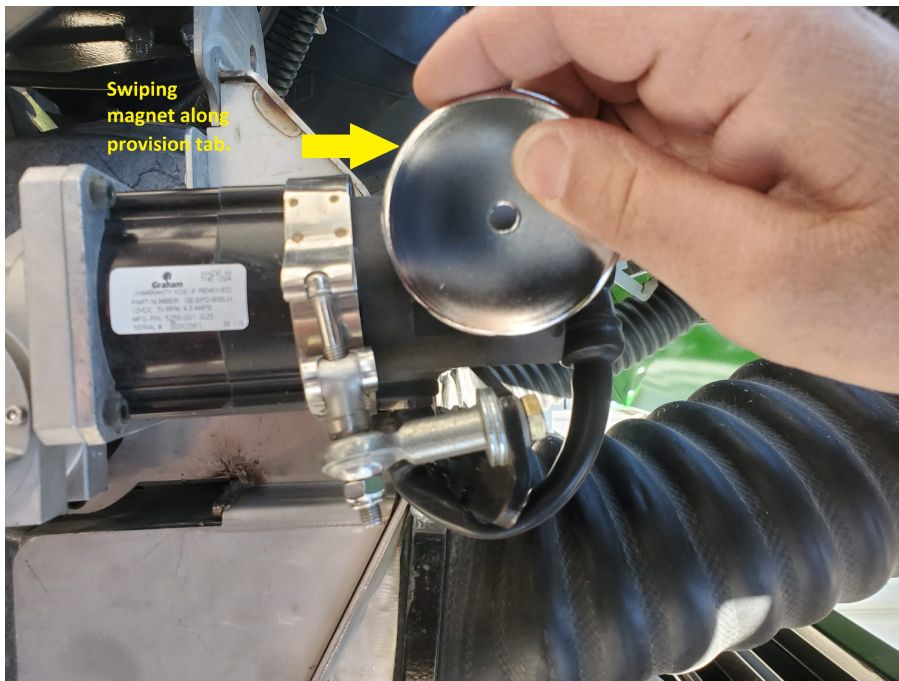
**Step 5.** Locate the Provision tab on the left side of motor. This tab will not be labeled on the motor, as it is an indentation on the motor.(Figure 35)



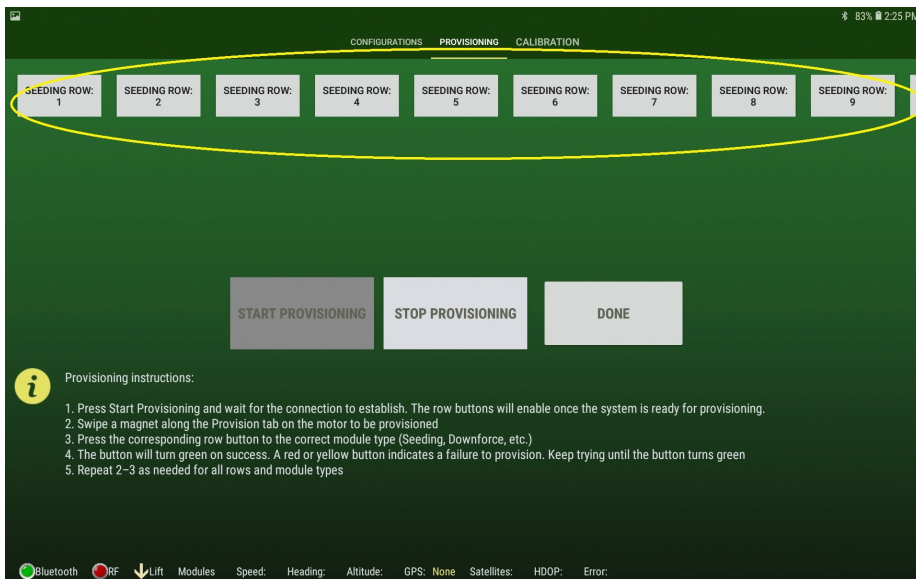


## Section 6: Re-Provisioning Motors

**Step 6.** Swipe a magnet along the Provision tab to be provisioned 2-3 times.(Figure 36)



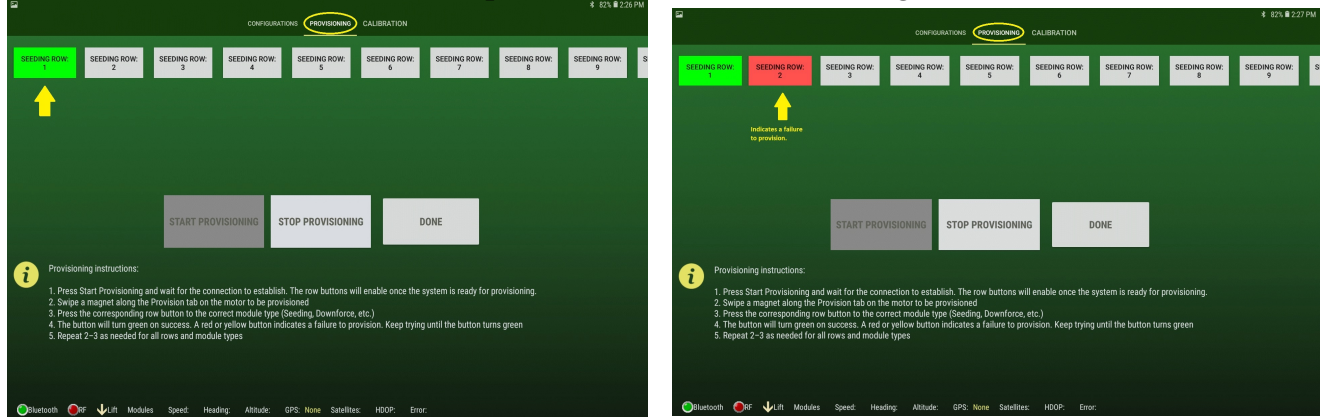
**Step 7.** Wait 4-5 seconds then press the corresponding row button to the correct module type.(Figure 37)



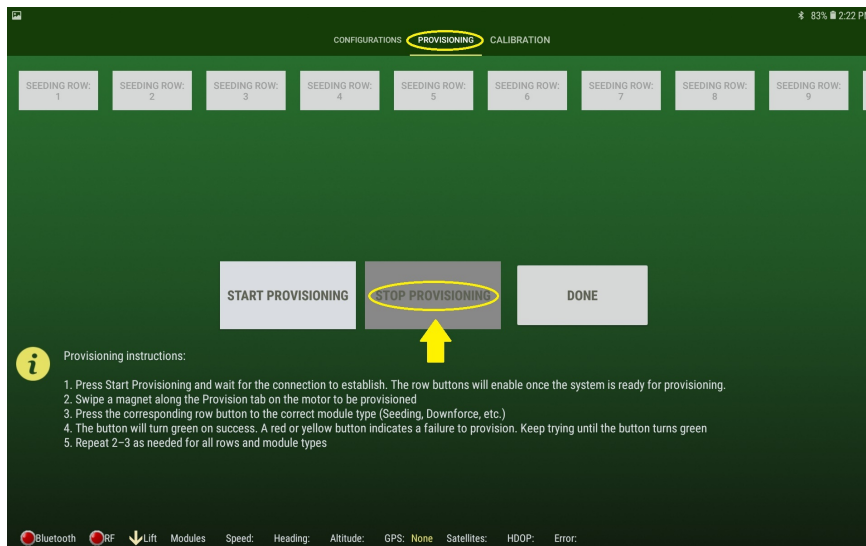
## Section 6: Re-Provisioning Motors

**Step 8.** The button will turn green on success. A red or yellow button indicates a failure to provision. Repeat steps 5-7.(Figure 38)

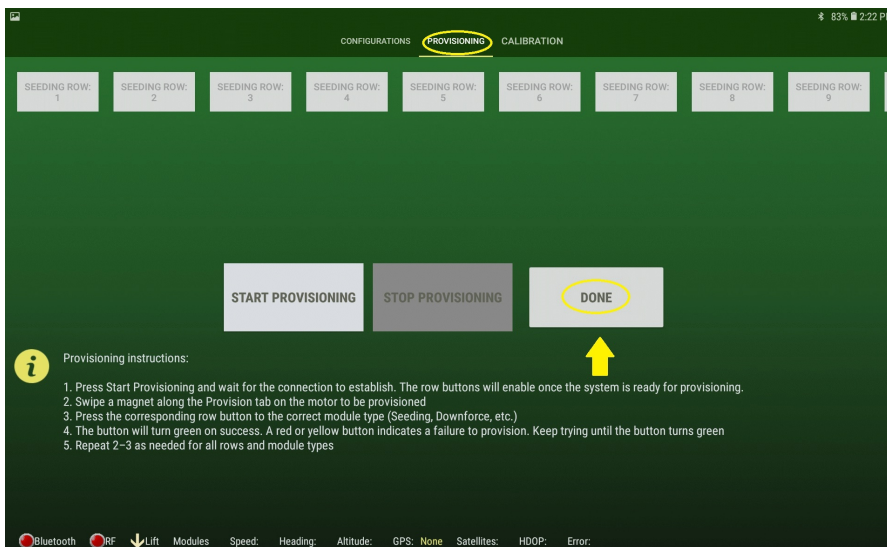
**Note:** If still unsuccessful, inspect motor and wire for damage and contact dealer.



**Step 9.** Once all motors have been provisioned tap the stop provisioning button.(Figure 39)



**Step 10.** Press done button to exit provisioning screen.(Figure 40)



## Section 7: Replacement Parts

(Figure 39)

| Description                | CrustBuster # | Graham #         |
|----------------------------|---------------|------------------|
| Power Block Left           | 04588000      | PB-LT-14-CB      |
| Power Block Right          | 04589800      | PB-RT-14-CB      |
| Power Block Main           | 04590600      | PB-MN-14-CB      |
| Motor                      | 04507000      | MTR-80-HS-BL     |
| Interface Board            | 04545000      | BD-INT-GCP       |
| Power Block Ext            |               | HAR-PC-06-CB     |
| Power Block Hitch Ext      |               | HAR-PC-05        |
| Tractor Harness            | 04546800      | HAR-TP-12        |
| Row/Motor Y Harness        | 04549200      | HAR-CTL-P-238-CB |
| 312 Clamps                 |               | KT-MT-PARTS      |
| DRVS-JDCS W/Cotter Pins    |               | KT-MT-PARTS      |
| HEIM Joints W/Fasteners    |               | KT-MT-PARTS      |
| Row/Motor Control Harness  | 04550000      | HAR-P-PS-CB      |
| Interface Module Harness   | 04591400      | HAR-INT-GCB-CB   |
| Ground Radar W/out Bracket | 616680        |                  |

| Item | Qty. | Part No.     | Description           | Item | Qty. | Part No.    | Description               |
|------|------|--------------|-----------------------|------|------|-------------|---------------------------|
| 1    | 1    | 04588000     | Power Block Left      | 9    | 6    | 04549200    | Row/Motor Y Harness       |
| 2    | 1    | 04589800     | Power Block Right     | 10   | 12   | KT-MT-PARTS | 312 Clamps                |
| 3    | 1    | 04590600     | Power Block Main      | 11   | 12   | KT-MT-PARTS | DRVS-JDCS W/Cotter Pins   |
| 4    | 1    | 04507000     | Motor                 | 12   | 12   | KT-MT-PARTS | HEIM Joints W/Fasteners   |
| 5    | 1    | 04545000     | Interface Board       | 13   | 12   | 04550000    | Row/Motor Control Harness |
| 6    | 2    | HAR-PC-06-CB | Power Block Ext       | 14   | 1    | 04591400    | Interface Module          |
| 7    | 1    | HAR-PC-05    | Power Block Hitch Ext |      |      |             | Harness                   |
| 8    | 1    | 04546800     | Tractor Harness       |      |      |             |                           |









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