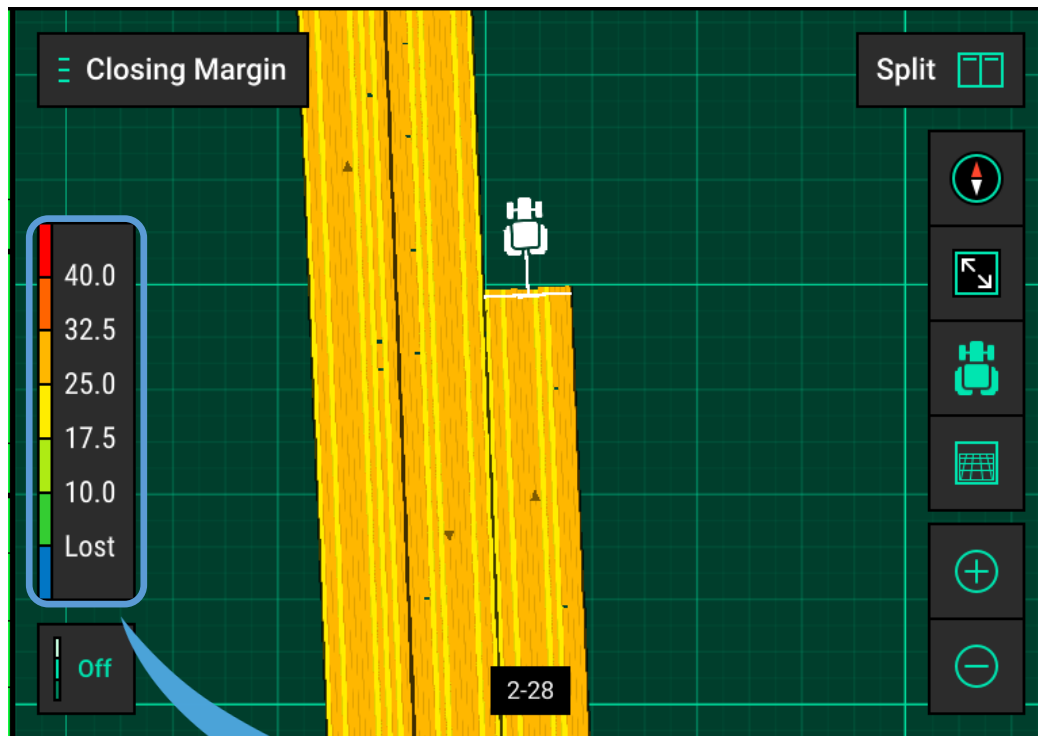


# QUICK REFERENCE GUIDE—20|20 GEN 3—FURROWFORCE HOME SCREEN



## FurrowForce Maps and Operation

The following maps are available on the 20|20 for FurrowForce:

**Closing Margin** – Displays the weight (lbs) on the second stage wheels for each row.

**Closing Act. Pressure** – Displays the pressure (psi) in the airbag for each row.

## Reading the Closing Margin Map

A blue dot on the **Closing Margin** map indicates potential loss of closing. If blue dots are appearing regularly for multiple rows and the **Good Closing** value in the **Closing** widget is dropping below 100%, the **Closing Target** should be increased.

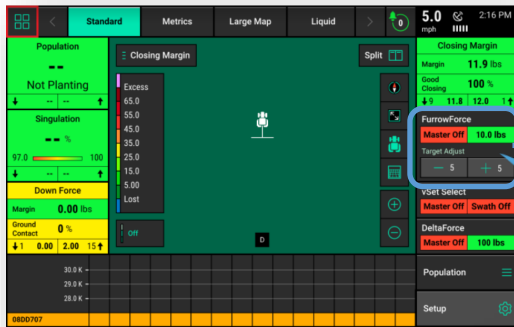
A red or dark orange dot on the **Closing Margin** map indicates excess closing weight. If the majority of the **Closing Margin** map is reading heavy with possible compaction from **FurrowForce**, the **Closing Target** should be decreased.

## **Note:**

**30-40 lbs.** of **Closing Margin** is generally ideal for most conditions. Adjust the **Closing Target** or manual regulator pressure as needed, based off **FurrowForce** maps/metrics and closing performance investigation in-field.

Ensure the legend is displaying a representative operating range before making adjustments. Press legend to open dialog window allowing you to set the low and high limits, as well as the number of steps in the legend.

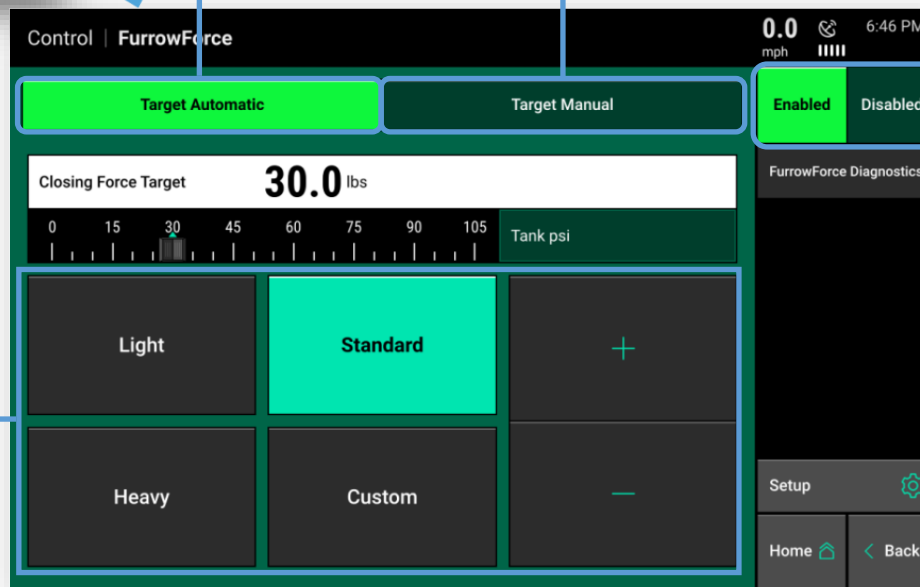
# QUICK REFERENCE GUIDE—20|20 GEN 3—FURROWFORCE CONTROL



**FurrowForce** control button will open the **FurrowForce Control Page**. If button is not present on **Homescreen** it will need to be added.

**Target Automatic** should be selected as default. The system will automatically adjust airbag pressure to maintain the **Closing Target** setting.

If **Target Manual** is selected, the system will maintain a static airbag pressure set by the operator. **Warning:** this should only be used in unique situations, such as planting plots, as it only applies a single force to all rows and will make no adjustments based on sensor readings.



**System** must be enabled to function.

**Note:** When **FurrowForce** is disabled, bag pressure will release and go to 0 psi. If **FurrowForce** remains enabled and the **Master Plant** switch is shut off, the current pressure will remain in the airbags.

When **Target Automatic** is selected, there are four **Closing Target** settings:

**Light** – Closing Target is set to **15 lbs.**

**Standard** – Closing Target is set to **35 lbs.**

**Heavy** – Closing Target is set to **55 lbs.**

**Custom** – This setting is user defined and allows for target adjustments of 5 lbs. using the “+” and “-” buttons. The slider under the Closing Target value can also be used for even finer adjustments if needed.

**Note:** start with **Standard** set as the **Closing Target**. Generally 30-40 lbs. of closing margin is ideal, but always check closing performance in-field and on available maps. Adjust the **Closing Target** as needed.

# QUICK REFERENCE GUIDE—20|20 GEN 3—FURROWFORCE DIAGNOSE

**START HERE**

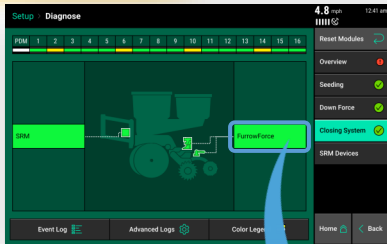
Diagnose

1

Button Press

2

Button Press



3



Press **Diagnose** button or **Setup > Diagnose** on **Home Screen**, Press the **Closing System** button on the row unit schematic and then select **FurrowForce** to open the **FurrowForce Diagnose Page**.

**Zero Furrowforce** button is used to zero the load cells. This should be done with the planter raised and is recommended to do at the start of the day.

**Supply Volts Sensor** – Displays the supply voltage for the FurrowForce Load Sensor

**Supply Volts Control** – Displays the supply voltage for the FurrowForce Control Module

**Reading (lbs.)** – Weight being carried on second stage wheels as measured by the FurrowForce Load Sensor.

**Status** – Sensor status (Active, Faulted, Ignored)

**Reference Value** – Baseline for each sensor

**Pressure Cmd (psi)** - Commanded pressure to achieve closing force target based on sensor reading.

**Pressure Actual (psi)** – Individual airbag pressure as measured by the FurrowForce Control Module

Row	Supply Volts Sensor	Supply Volts Control	Reading (lbs)	Status	Reference Value	Pressure Cmd (psi)	Pressure Actual (psi)
1	11.4	11.7	24.6	Active	90.0	5.0	7.0
2	11.4	11.6	27.1	Active	96.0	5.0	8.0
3	11.4	11.6	30.5	Active	80.0	5.0	8.0
4	11.4	11.6	22.3	Active	74.0	7.0	9.0
5	11.4	11.7	31.7	Active	80.0	5.0	6.0
6	11.4	11.6	28.9	Active	78.0	5.0	10.0
7	11.4	11.6	32.2	Active	74.0	5.0	6.0
8	11.4	11.7	29.0	Active	68.0	5.0	9.0
9	11.4	11.6	26.8	Active	88.0	5.0	6.0
10	11.4	11.6	22.9	Active	84.0	5.0	6.0
11	11.3	11.6	26.7	Active	86.0	5.0	6.0
12	11.3	11.6	24.0	Active	104.0	5.0	8.0

**Note:** If a **FurrowForce Load Sensor** is ignored, that row will control **FurrowForce** to the average of all other properly operating rows.

FurrowForce

