

AUGER SPREADER STARTUP PROCEDURE

Main Calibration Procedure:

1. Tare (zero out) scale
2. Fill spreader
 - a. Close gate
 - b. Turn on baghouse
3. Calibrate scale with weigh ticket from bulk tanker driver
4. Calibrate main augers (lbs/pulse)

Spreading:

1. Start spreading (use quick start guide)
2. Adjust auger openings to get a level pattern
3. Spot check spread rate using tarp and scale



General Screen Navigation: Use the right/left arrow keys to navigate between the Auto, Manual, Auto Mode Setup, Calibration, and System Settings screens. Use the up/down arrow keys to access additional menus under the Calibration and System Settings screens. Use the buttons on either side of the display to turn functions on or off, or to adjust values. Throughout the rest of this manual, buttons 1 through 8 on the above picture will refer to the above picture. Generally when a function is activated, the text on the screen will turn from black to grey.

MAIN CALIBRATION PROCEDURE

CALIBRATING THE SCALES

Scale Calibration: Refer to the Vulcan scale manual for calibration and operation instructions. For your convenience, the instructions are summarized here.

Tare (zero out) the scale:

1. With the meter turned on, press the TARE button once. The “Tare”, “Lock”, and Channel “A” lights should be lit.
2. Use UP or DOWN arrows to zero out the tare weight.
3. Press the TARE button to record the TARE number to memory.

Calibrating the scale with weigh ticket from bulk tanker driver after loading:

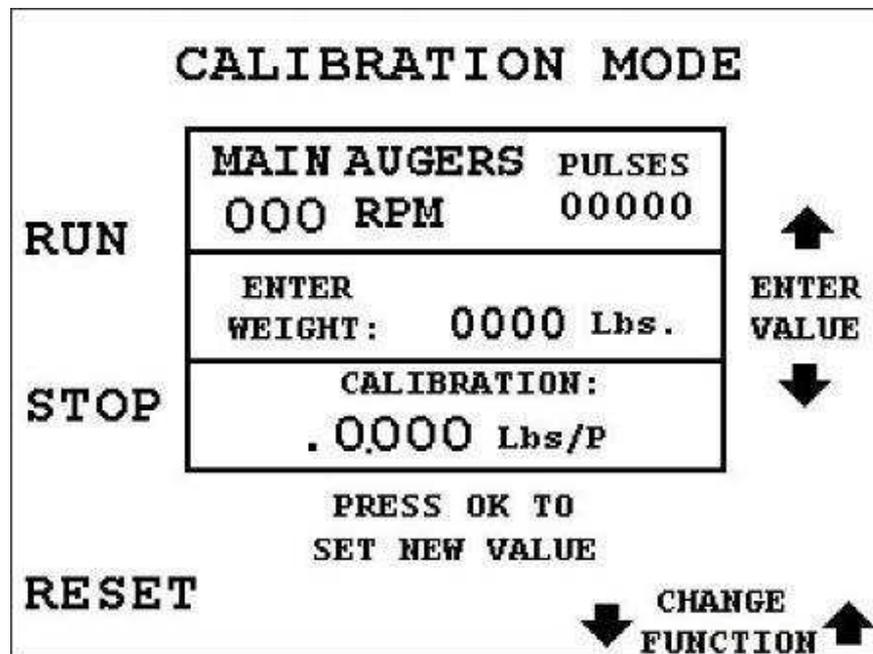
1. With the spreader loaded and the meter turned on, press the CAL button once. The “Cal”, “Lock”, and Channel “A” lights should be lit.
2. The screen should show the initial calibration number of 2050.
3. Press the CAL button again.
4. Use UP or DOWN arrows to adjust the display to the known weight.
5. Press the CAL button to automatically adjust the CAL number and exit.

CALIBRATING MAIN AUGERS (LBS/PULSE)

Calibration Mode is accessed by pressing the right arrow three times after turning on the console. Use the up/down arrows to switch between displaying the auger calibration screen and the radar gun calibration screen.

Main Auger Calibration:

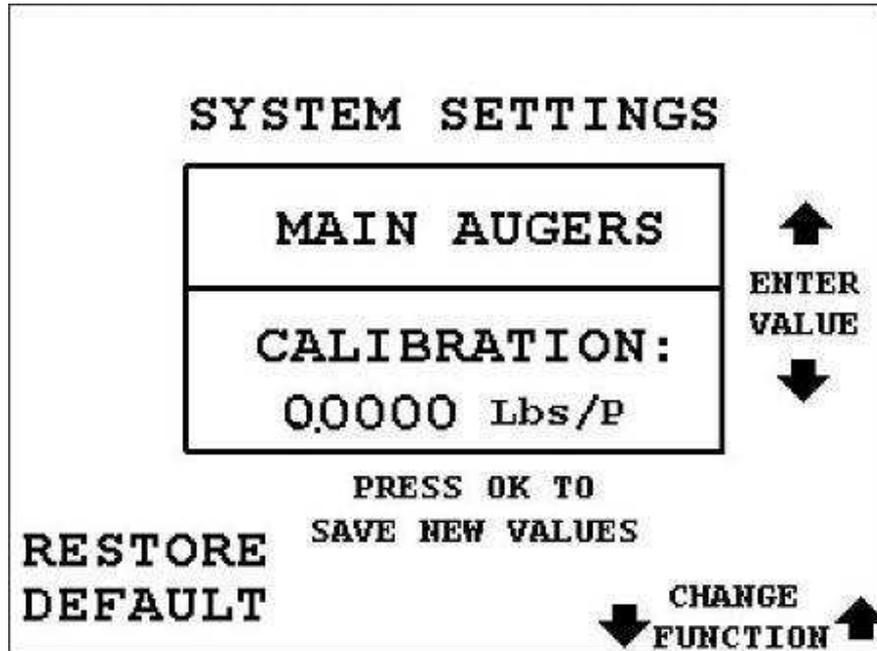
The main augers should be calibrated at initial startup, and then every year thereafter. Calibration is done by discharging the spreader for a brief period of time as the controller counts the number of pulses it receives (60 pulses per revolution). Then the discharged material is weighed, and that weight is entered into the controller. The controller then calculates the auger calibration number, in pounds per pulse. This number is temporarily stored, and then entered into the System Settings screen, where it is used to calculate the spreader application rate.



Calibration Procedure (when equipped with onboard scales):

1. Make sure the slide gate is opened. This can be done in either the Auto or Manual Mode screens.
2. Press the Run button (Button 2), and allow the spreader to run for several seconds.
3. Press the Stop button (Button 3). This “primes” the augers, making sure material will start to discharge as soon as the augers restart.
4. Hold the Reset button (Button 4) for a second or two to reset the pulse count to zero.
5. Record the weight displayed on the scales.
6. Press the Run button (Button 2), and allow the spreader to run for a period of time. The longer the spreader can discharge, the more accurate the calibration number will be. 6,000-8,000 lbs would be best, but don't exceed 10,000 lbs as that is the largest number that can be used in the next step. You can drive forwards during this procedure so the material won't be in a large pile.

7. Press the Stop button (Button 3).
8. Record the weight displayed on the scales. Subtract this number from the number found in step 5. This will be the weight of the discharged material.
9. Use Buttons 6 & 7 to enter the weight of the discharged material. The controller will calculate the new calibration number. The expected value for this number would be between 1 and 1.5.
10. Press the OK button to save the calibration number into temporary memory.
11. Press the right arrow key to access the System Settings screens.

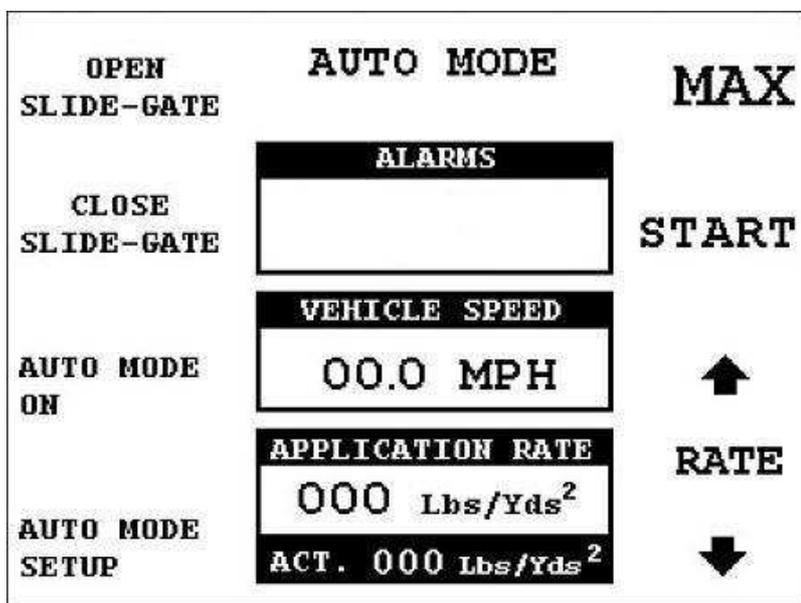


12. Use the up/down arrows to find the Main Augers System Settings screen. The temporary calibration value previously found should display on the System Setting screen. If not, press the left arrow to cycle back to the calibration number, press the OK button, and press the right arrow to return to the Main Augers System Settings screen.
13. Press the OK button to save the new value to permanent memory. This value will not change if the controller is turned off.
14. Record the value in case the default value is accidentally restored.

SPREADING

QUICK START GUIDE

To Begin Spreading in Automatic Mode:



Auto Mode is the default screen when you turn on the console.

1. Set your desired spreading rate (Buttons 7 & 8).
2. Hold the Open Slide-Gate button until the "GATE CLOSED" alarm disappears (Button 1).
3. Turn on Auto Mode (Button 3).
4. Press Start (Button 6). The cross auger will turn on automatically.
5. Start driving. The hopper augers will start spreading when the truck starts moving.
6. Press Stop (Button 6) when done spreading.

After spreading, visually check to see if the depth of material is uniform from edge to edge. Adjust the openings in the cross auger to achieve a uniform spread pattern.



Openings should be wider at the outside of the auger

Spot Checking the Spread Rate:

Once the Main Augers have been calibrated and the spreader is discharging evenly from the cross auger, the application can be double checked. This is done using the calibration kit that came with the spreader. Place the 1 sq.yd. tarp about 30 feet in front of the spreader, and spread over it while in Auto Mode. Weigh the loaded tarp with the hanging scale.

If the dust curtains are dragging on the ground, be sure to remove the rear curtain before testing as it tends to scrape the material off of the tarp.

If possible, place the test tarp slightly off center.

If the application rate is not correct, change the Material Density calibration number according to the following formula:

$$\text{New Material Density} = \text{Current Mat'l Density} \times \frac{\text{Actual Application Rate (Amount on Tarp)}}{\text{Desired Application Rate}}$$

Note that the Material Density setting is found in one of the System Settings screens. The System Settings screens are accessed by pressing the right arrow four times after turning on the console. Use the up/down arrows to cycle between screens for auger calibration, radar calibration, cross auger width and speed, and material density.

Alternatively, if you have measured out how far you expect your load to spread, you can use the following formula:

$$\text{New Material Density} = \text{Current Mat'l Density} \times \frac{\text{Expected Distance}}{\text{Actual Distance Spread}}$$

Note: You could also adjust the Main Auger calibration number using the formulas below but it is easier to adjust the Material Density:

$$\text{New Cal Number} = \text{Current Cal Number} \times \frac{\text{Actual Application Rate (Amount on Tarp)}}{\text{Desired Application Rate}}$$

or

$$\text{New Cal Number} = \text{Current Cal Number} \times \frac{\text{Expected Distance}}{\text{Actual Distance Spread}}$$