



# Tri - Flo ® Bin Site Quick Reference Sheets



TD - 09 - 06 - 2007 Revision: A

Software Release: U-TREAT v2.1.0

## LOADING SEED INTO BINS

Before seed is pulled out of the bins and run through the Tri - Flo ® System, all the applicable information about the seed that was loaded into each individual bin must first be entered into the Tri - Flo ® System. If the same seed was loaded into multiple bins the same information still needs to be loaded into each individual bin separately. The following is a list of steps to perform to enter the bin information for each bin once seed has been loaded into that bin.

1. Load the seed into bins. If you are using a USC Treater with a Seed Wheel, take a seed sample for the cup weight for each bin. Note the seed type, seed variety, lot number, seed weight and total inventory weight. The seed weight can be defined in either pounds, seed count units or seed weight units.
2. Press the UTILITIES button in the lower left corner of the bin site main screen.
3. Press the SECURITY button on the bottom of the UTILITIES screen.
4. Press the PASSWORD box, then from the pop-up keyboard enter the letters USC and press enter.
5. Press the TOOLS & OPTIONS button in the lower left hand corner of the SECURITY screen
6. Press the BIN INFO button on the TOOLS & OPTIONS screen.
7. Select the bin you want to enter information into from the Select Bin list.
8. Enter the seed type, seed variety, lot number, seed measurement (Pounds - SCU - SWU) into their respective box in the Current Bin Info section.
9. Add the total weight of seed that was added to the bin into the bin inventory section on the lower right portion of the screen. The system will automatically subtract inventory after each run. Press the save button after the information is entered.
10. When finished exit back to the Main Screen.

SELECT BIN		BIN INFO		CURRENT BIN INFO	
1	BIN #1	BIN NAME	BIN #1		
2	BIN #2	SEED TYPE	SOYBEANS		
3	BIN #3	SEED VARIETY	ABCDEF		
4	BIN #4	LOT NUMBER	123456		
5	BIN #5	SEEDS / LB:	2800	SAVE	
6	BIN #6	CUP WEIGHT:	3.65	LBS	CANCEL
7	BIN #7	FLOW RATE:	1800	LBS/MIN	
8	BIN #8	TRAVEL TIME:	15.0	SEC	
10	MANUAL HOPPER	GATE TIME ADJ.:	2.00	SEC	
		AMOUNT TO ADJUST INVENTORY	0.00	Press & Hold for 3 sec.	CURRENT INVENTORY
		+ -	0 LBS	0.00 SCU	0.00 SWU

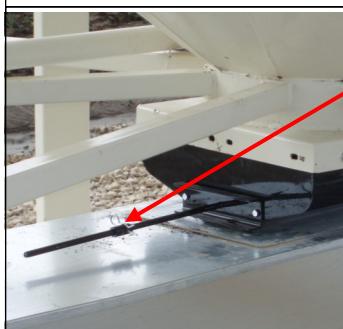
## SETTING THE SEED FLOW RATE

The following is a list of steps for setting the seed flow rate. This must be completed before running the Tri - Flo ® system. Repeat steps 1 & 2 for each bin.

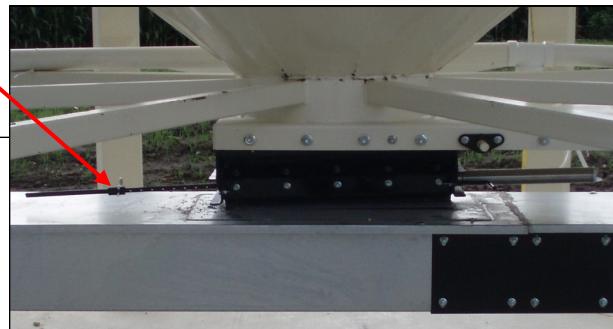
1. Set the manual gate on the bin to the fully open position. Once opened, this gate should be set in place and not moved through out the entire season. If this gate is adjusted during a run or between runs then it will effect the calibration of the system and the system will need to be re-calibrated.
2. Set the stop for the air actuated slide gate on the bin. This stop controls how far the slide gate will open and the flow rate at which seed can exit the bin. To set the stop, adjust the position of the collar on the rod that exits the slide gate opposite of the air valve (below). Placing the collar closer to the slide gate will restrict flow and farther away from the slide gate will increase seed flow for the system. Once a collar location has been selected, use the hitch pin to lock the collar in place. If the stop is adjusted between runs then it will effect the calibration of the system and the system will need to be re-calibrated.

It is recommended to initially place the collar closer to the slide gate and then move it farther away from the slide gate one hole at a time to increase the flow rate of the system. This will protect against overloading the underbin conveyor with seed.

**Note: A minimum of 1500 pounds is recommended but not necessarily needed to calibrate flow rate for the first time. The system needs roughly that amount to enter its real time calibration (depending on the distance of the bin, it may be far less) but at the end of any alarm/pause free run of seed the system will do a calibration. If the run is long enough, then no initial calibration is needed as the system will set its calibration during the run. If running a small batch there may not be enough seed run to have the flow rate updating in real time during the run. As long as there have been no pauses or alarms the system will re-calculate and update the flow rate display at the end of the run.**



Move the position of the collar along this rod to adjust the flow of seed through the bin slide





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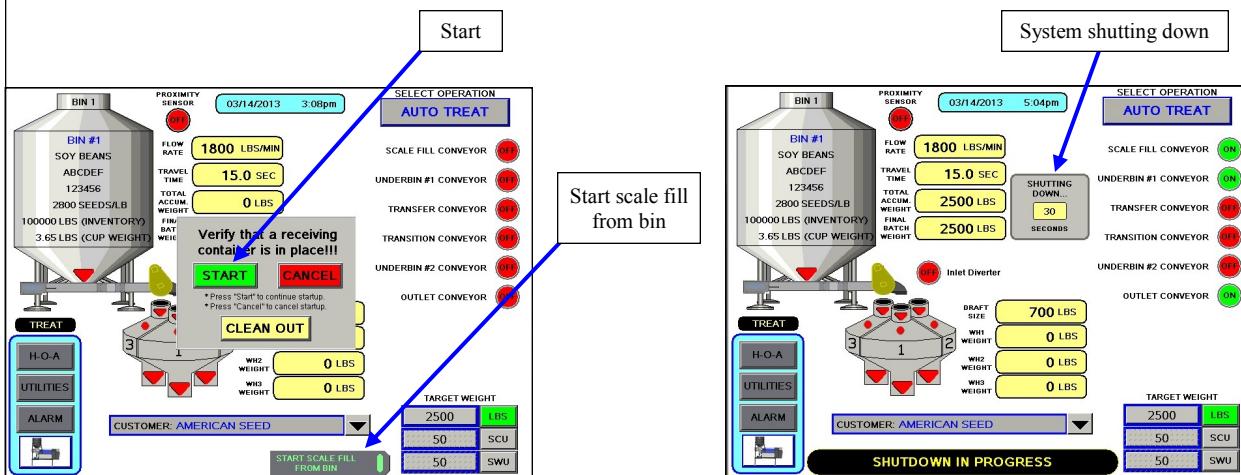
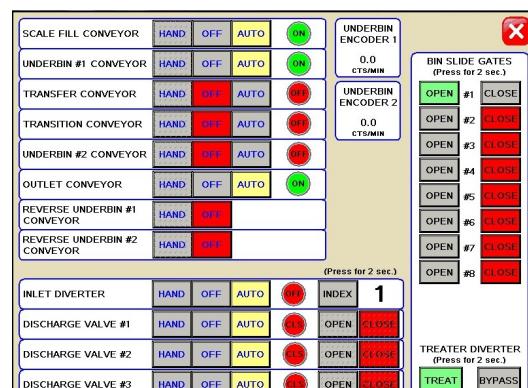
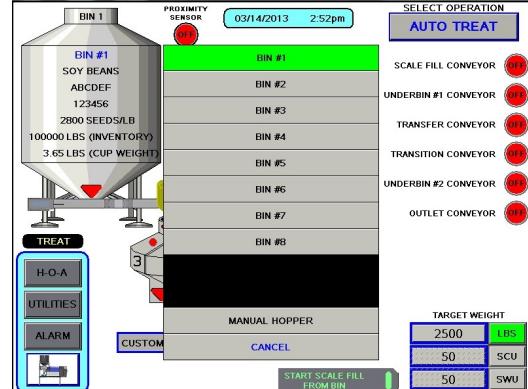
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## SCALE FILL FROM BINS

The following is a list of steps to use when running the Tri - Flo ® system in the Scale Fill From Bin mode of operation. This allows the operator to automatically fill the scale from the bin.

1. Select the bin that you wish to call seed from by pressing the image of the bin on the Main screen and then select the bin from the pop-up menu.
2. Press SELECT PROCESS in the upper right hand corner of the screen and then select either AUTO TREAT or MANUAL TREAT / BYPASS mode of operation depending upon what you plan to do with the seed once it has been pulled from the bin and weighed by the Tri - Flo ® system.
3. On the Main screen, in the box labeled TARGET WEIGHT enter the amount of weight that is to be brought into the Tri - Flo ® hoppers on this run. (top)
4. Press the box labeled CUSTOMER at the bottom of the Main screen and enter in the current customer's name.
5. Under the H-O-A screen place all necessary conveyors into the AUTO mode of operation. (middle) Ensure that the diverter is in the appropriate position as well.
6. Under the Utilities screen, ensure that all settings are appropriate.
7. Return to the Main screen and press the START SCALE FILL FROM BIN button at the bottom of the screen. Then press START from the pop-up screen. This toggles the button to CANCEL SCALE FILL FROM BIN and activates the PAUSE button. The system will first turn on the scale fill conveyor and then the underbin conveyor. Once all needed conveyors are running, the slide gate for the selected bin will open and seed will flow through the conveyors to the Tri - Flo ® hoppers. (bottom left)
8. As the Tri - Flo ® system is running, the main screen will display the total pounds of seed in each of the three weight hoppers, and the status of the conveyor motors.
9. The slide gate on the bin will automatically close once the target weight in seed passes through the slide gate. Once the gate closes, a window will appear notifying the operator that the batch is finishing. It will then be replaced with another window indicating amount of time before the system shuts down. If operating in the Manual Treat mode the treater will have to be turned on and off separately. The system will then shutdown the conveyors in reverse order of startup. This will ensure the conveyors have an opportunity to clean out any product from them. (bottom right)





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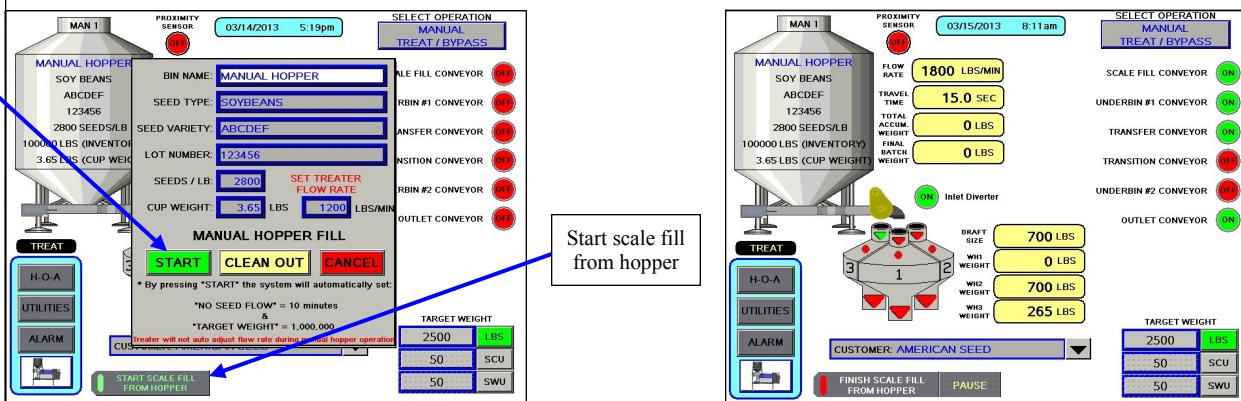


## CALLING IN SEED FROM PRO BOXES

The following is a list of steps to use when running the Tri - Flo ® system using the START SCALE FILL FROM HOPPER button. This button will automatically move seed from the manual hopper, via the transfer conveyor, to the scale. The START SCALE FILL FROM HOPPER button is only available if the Tri - Flo ® system has a manual hopper.

- Under the H-O-A screen place all necessary conveyors into the AUTO mode of operation. Depending upon the setup of the equipment, some bin sites will require only the transfer conveyor or the scale fill conveyor to be in AUTO mode and some sites will require the transfer, underbin and scale fill conveyors to all be in the AUTO mode. Ensure that the diverter is in the appropriate position as well.
- Under the Utilities screen, ensure that all settings are appropriate.
- Press the image of the bin and select MANUAL HOPPER from the pop-up screen.
- Press SELECT PROCESS and then select either AUTO TREAT or MANUAL TREAT / BYPASS mode of operation depending upon what you plan to do with the seed once it has been pulled from the Pro Box and weighed by the Tri - Flo ® system.
- Press START SCALE FILL FROM HOPPER button at the bottom of the screen. Then press START from the pop-up screen. This toggles the button to FINISH SCALE FILL FROM HOPPER and activates the PAUSE button. The system will first turn on the scale fill conveyor, the underbin conveyor, then the transfer conveyor if applicable and the outlet conveyor if applicable. (left)
- As the Tri - Flo ® system is running, the Main screen will display the total pounds of seed in each of the three Tri - Flo ® weigh hoppers. If the system needs to be stopped for a moment because of a problem, the PAUSE button can be pressed to halt the process. When ready to begin again, the CONTINUE button is pressed.
- Once all of the seed has passed from the manual hopper, through the conveyors and through the weigh hoppers, press the FINISH SCALE FILL FROM HOPPER button. At this point, the conveyors will shutdown in reverse order of startup. (right)
- The system will automatically print the report for the run from the scale head printer

Start



## TRI - FLO ® CALIBRATION

Once the initial calibration is established, the system continuously updates the seed flow rate. The calibration is based upon time and weight. The system first calculates the amount of time it takes for the seed to travel from the bin slide gate to the first Tri - Flo ® weigh hopper. This is called the travel time. Then the system calculates how long it takes to fill the first weigh hopper. This allows the system to calculate the seed flow rate of pounds per minute. Finally, the system uses the travel time and seed flow rate to calculate the amount of seed in the conveyors at any given time. Once this weight is known, it will automatically close the bin gate at the appropriate time to reach the target weight of seed that the operator has entered.

Initial calibration procedure:

- Set the bin collar in the fourth hole from the end of the rod in. This sets the Flow Rate at approximately 1200 pounds. Adjust as needed (each hole adjusts up or down by approximately 200 pounds). These figures are based on Soybeans.

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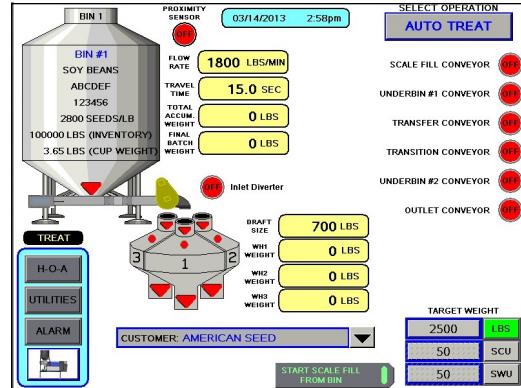
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## TRI - FLO ® CALIBRATION

- From the main screen check the Flow Rate to verify it is at the default setting of 1800 lbs/min and the Travel Time is at its default of 15.0 sec. Then set your Target Weight at 2000 pounds. At the end of the run the Final Batch Weight must be 1500 pounds. These values are recommended but not necessary depending on the setup. For the system to be able to record the calibration the first two Tri - Flo ® hoppers must be weighed full and the third is in the process of filling with no alarm faults. After the run, check to see if the Flow Rate and Travel Time have changed from the default settings. If they have the system has been successfully calibrated. Each bin must be individually calibrated. If running a small batch there may not be enough seed run to have the flow rate updating in real time during the run. As long as there have been no pauses or alarms the system will re-calculate and update the flow rate display after the run is complete.

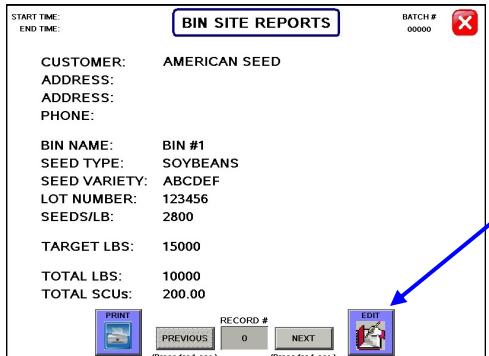


**NOTE:** If you change the location of the bin collar or the bin runs out of seed before the Target Weight is reached the system will need to be re-calibrated.

## EDITING & PRINTING REPORTS

The following steps explain how reports are entered after a run has been completed.

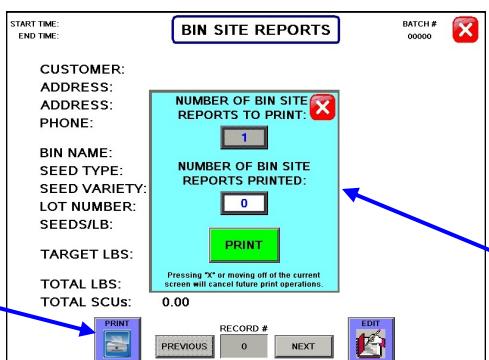
- After the SHUTDOWN button has been pressed a dialog box will appear, notifying the operator that the data from the run is being saved.
- Once the data has been saved, the operator may access it from the BIN SITE REPORTS screen (top). Under the reports screen, the customers information and seed information can be recorded and saved for later use. Press the EDIT button and go to the EDIT BIN SITE REPORTS screen (middle). From this screen you may change the customer name. Pressing the customer name will bring up a keypad to enter the name with. Or you may select the arrow to the right of the name to scroll to the customers name. When finished the operator can press the OK button to save the data.
- Press the PRINT button and a popup print verification window appears. From this screen you can enter the number of reports to print for the customers records. Then press the X in the top right corner of the screen to exit back to the main screen. (bottom)
- If the Auto Print Bin Site Report has been activated on the Print Set-up screen steps 2 and 3 will not be required. The print verification screen will appear and automatically print the number of reports specified. (bottom)
- Once the data has been saved, the reports can be accessed later by pressing the REPORTS button on the UTILITIES screen. If you would like to erase the reports, press the SECURITY button under the UTILITIES screen to advance to the security screen. Enter the password USC and then press the TOOLS & OPTIONS button. From this screen press the CLEAR ALL REPORTS button. A confirmation window will appear allowing the operator to erase all saved reports.



Edit Button



Edit Button



Print Verification Window

Print Button