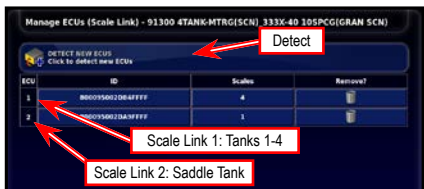


## 1. Weigh Scales Setup

- a. When the system is powered up there should be a Digi-Star UT app loaded for each Scale Link installed on the rear axle of the unit (2 UT apps for units with 2 Scale Links installed).



- b. After the implement profile for the specific unit is created and the Apollo ECU's are detected go to the **Implement/Seeder/Weigh Scales/ECU** tab on the Settings page



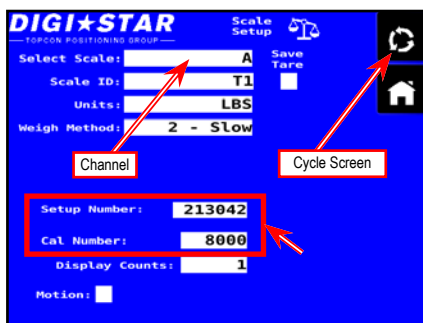
- i. If the unit is equipped with a 2nd Scale Link ECU for the Saddle tank it should be labelled "Scale Link 2 – Tank 5" and only has one scale extension cable going into Port A. Unplug the 6-pin Power/Comms cable from this Scale Link to ensure the Scale links will be detected in the correct order and assigned properly.
- ii. Press the Detect New ECU's button to detect the 1st Scale Link ECU for Tanks 1-4.
- iii. If equipped with a Saddle tank then plug the Power/Comms connector back in for the 2nd Scale Link ECU.
- iv. Press the Detect New ECU's button to detect the 2nd Scale Link ECU for Tank 5.

- v. If the scale values are displaying in the wrong order and you need to redetect them, press the delete button then leave the page and come back to be able to redetect the Scale Link ECU's.

- c. On the **Implement/Seeder/Weigh Scales/Weigh Scales** tab you need to confirm that the **Setup** and **Calibration** numbers are correct for each channel specific to your model.



- i. These values should already be set correctly from factory but if you get an alarm for "Mismatched Setup or Calibration Numbers" or the weights don't seem accurate then these values should be confirmed. Refer to the **Tables on Page 2**.
- ii. Simply by viewing this Scales tab on the X35 settings page and then switching to a different page it will send these values from the X35 to the Scale Link ECU.
- iii. If you still get this Mismatch alarm you can set the values on the Digi-Star UT app for each channel by pressing the Cycle screen button twice. Then you can set the appropriate values for each channel.





9000 Series Air Carts					
MODEL	TANK	IMPERIAL (LBS)		METRIC (KG)	
		SET-UP#	CAL#	SET-UP#	CAL#
91300	T1	213057	18000	613026	8165
	T2	213021	6000	613010	2722
	T3	223013	6000	623006	2722
	T4	213027	6000	613013	2722
	T5	211004	1000	611002	454
9950	T1	213042	8000	613020	3629
	T2	213015	4000	613007	1814
	T3	223009	4000	623005	1814
	T4	213020	4000	613010	1814
	T5	211004	1000	611002	454
L9950	T1	213020	6000	613010	2722
	T2	223009	6000	623005	2722
	T3	223015	6000	623007	2722
	T4	223042	18000	623020	8165
	T5	211004	1000	611002	454
9650 (2020)	T1	213024	6000	613011	2722
	T2	213016	3000	613008	1361
	T3	213013	3000	613006	1361
	T4	213020	4000	613009	1814
	T5	211004	1000	611002	454
9650 (2021 +)	T1	213024	6000	613011	2722
	T2	213016	4000	613008	1814
	T3	213013	4000	613006	1814
	T4	213020	4000	613009	1814
	T5	211004	1000	611002	454
L9650	T1	213024	6000	613011	2722
	T2	213016	4000	613008	1814
	T3	213013	4000	613006	1814
	T4	213020	6000	613009	2722
	T5	211004	1000	611002	454
FMS 9120	T1	223014	6000	623007	2722
	T2	213020	4000	613010	1814
	T3	221006	4000	621003	1814

7000 Series Air Carts				
	IMPERIAL (LBS)		METRIC (KG)	
MODEL	SET-UP#	CAL#	SET-UP#	CAL#
71300	147150	62135	546070	28184
7950	147110	58843	546050	26691
7700	147110	58843	546050	26691
L7800/L7700	147090	41691	546040	18911
7550	147060	62667	546030	28425
L7550	147060	44933	546030	20381
Saddle Tank	162005	1319	561003	598

d. On the **Implement/Seeder/Weigh Scales/Assignment** tab ensure the channels are assigned to the tanks properly.



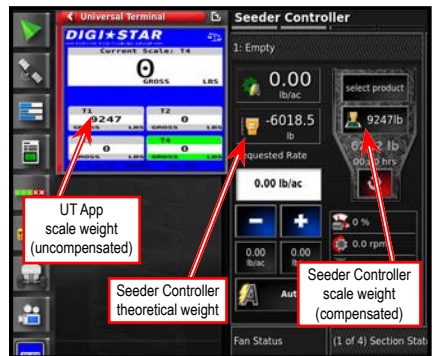
Tank	Name	Scale	Weight Remaining	Select
All	All	All	All	
1	12-53-00	Scale 1 - A	Measured	✓
2	12-53-00	Scale 1 - B	Calculated	✓
3	12-53-00	Scale 1 - C	Calculated	✓
4	12-53-00	Scale 1 - D	Calculated	✓

Tanks	9000 Series Air Cart	7000 Series Air Cart
1 - 4	Scale 1 - A to Scale 1 - D Set to Measured	Scale 1 - A Set to Calculated
5	Scale 2 - A Set to Measured	Scale 1 - B Set to Measured

e. On the **Implement/Seeder/Weigh Scales/Pressure Compensation** tab there is a compensation factor for each tank.

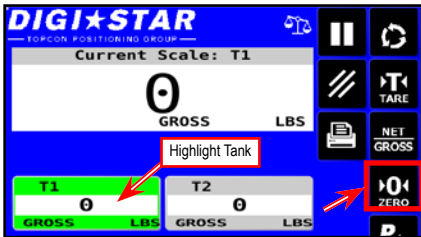
- There is a default value here that compensates for the slight decrease in weight of the tank caused by the pressurization.
- When the fans are turned on you will notice the weight on the UT app decrease but the weight in the Seeder Controller applies the compensation factor based on the pressure change and should stay fairly steady.
- If desired this compensation factor can be adjusted so the weight in the Seeder Controller remains closer to the value before the fans were engaged.

*Note: If the Seeder Controller weight increases when the fans are engaged then the compensation factor needs to be lowered. If the weight decreases when the fans are engaged then the compensation factor needs to be raised.*



## 2. Zeroing the Weigh Scales

- Make sure tanks are empty.
- In the UT app press to highlight the respective tank. Then press and hold the Zero button for 3 seconds to zero the weight. Repeat for each tank.



## 3. Verifying Weigh Scales

- The Seeder Controller weight for each tank should match the corresponding channel on the UT app. If it doesn't there could be some setup issues that will need to be reviewed.
- Confirm that each tank registers the correct weight by applying a load to each tank.

## 4. Operation of Weigh Scales

- There is a Measured weight displayed for each tank that will decrease as the actual weight in the tank decreases.
- There is also a Theoretical weight displayed that will decrease based on the cal factor and meter revolutions for each tank while operating.
- After filling tanks a DynaCal Reset window will automatically appear when it is detected that weight has been added to any of the tanks.
  - Once accepted, it will set the calculated theoretical weight to match the measured scale weight and reset the DynaCal alarm data for the tanks listed to restart the rate monitoring from this point.



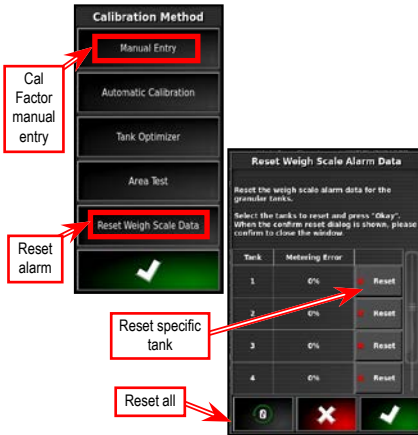
- These 2 weight values should stay consistent while the product is metered out.
- There is an alarm that monitors the rate of change in these values and will alert if the actual weight change is not in line with the requested rate.





- If the error is above 10% the alarm will suggest to inspect for a physical issue and recalibrate.
- If the error is below 10% the alarm will suggest a new calibration factor based on the actual weight change.
- This calibration factor can be entered on the Seeder Controller - Configuration Panel under Manual Entry for the indicated tank so the application rate will be adjusted for better accuracy.

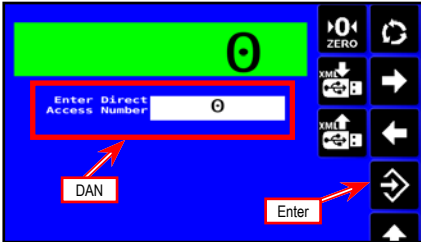
- iv. This error threshold will become lower for better accuracy the longer the product is metered out of the tanks as the sample size grows.
- v. Anytime a cal factor is adjusted this alarm will be reset to start the error calculation over.
- vi. Also anytime the product is changed or the theoretical weight is adjusted the alarm will be reset.
- vii. Alternatively there is a manual reset button on the Seeder Controller - Configuration Panel under Multi-Tank Calibration that can be used to reset the alarm if a physical problem has been found and has been corrected. This will start the error calculation over.

- f. The default Minimum Threshold for the alarm is set to 5% .
- g. The DynaCal Average Weight Difference alarm can be disabled temporarily if there are issues causing it to be triggered falsely.
  - i. To disable all alarms change the Alarm State to disabled.
  - ii. To disable a certain tank select the appropriate Scale channel and change the Rolling Average Alarm State to disabled.



**5. Extra Weigh Scale Settings**

- a. If there is a question of the performance of the weigh scales with erratic Weight Difference alarms some extra filtering settings can be verified in the Scale Links.
- b. These settings apply to each channel so you have to highlight each channel on the main page to check settings specific to each channel.
- c. On the UT app press the Cycle Screen button  then press the DAN button 
- d. Enter the DAN numbers listed below and confirm the values.
- e. If a value needs to change use the up/down arrows to change the digit. Use the over arrows to switch which digit you are adjusting. Alternatively you can press on the DAN window and type a value.
- f. Press Enter once set. Even if you don't change the value press the Enter button to save it before entering a new DAN.



- g. Model specific settings

DAN #	9000 Series Air Cart	7000 Series Air Cart
3006	99	30
3007	99	10
3008	1	4000

- h. Repeat for all other channels.