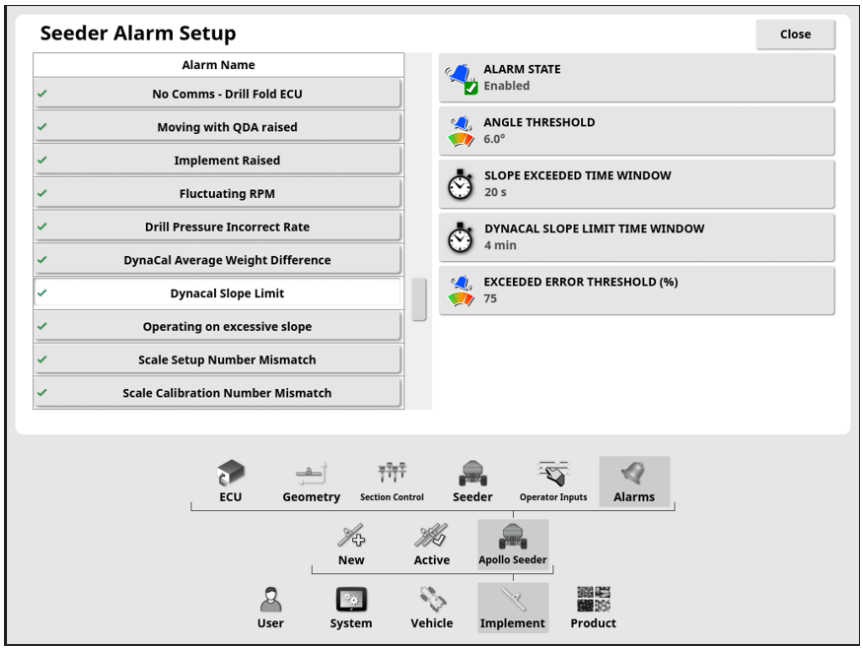
2025 Software Related Changes (5.25) R00

New Version 5.25 Software Changes

1. **DynaCal improvements:**

    a. Increased time to 16 minutes (from 5 minutes) before any DynaCal rate alarms will reappear if cleared/ignored to give more time to collect further data and become more confident in the next recommendation.

    b. Added a DynaCal Slope Limit alarm to make use of the Scale Link angle values to help with seeding scenarios in more significant hills that can be a challenge to maintain accurate live weight monitoring due to the slope effect on the load cell readings.



    i. This feature will be defaulted to disabled for now but should be enabled for units that will be operating in these conditions with more significant hills that report getting false DynaCal alarms.

    ii. When this is enabled it will mute any DynaCal alarms/recommendations when the slope limit is exceeded for long enough over a set period.

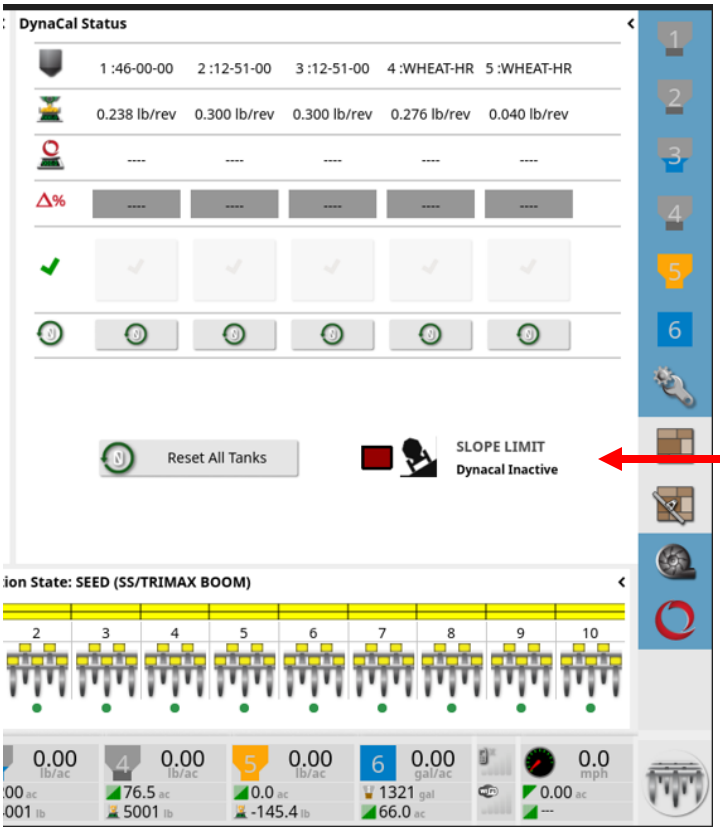
    iii. The following default settings can be adjusted if needed in Technician access level.

        - Angle Threshold (6°) - angle that needs to be exceeded to trigger this slope limit.

- Slope Exceeded Time Window (20 s) - length of time required to be above the angle threshold for the slope limit to be triggered.
- DynaCal Slope Limit Time Window (4 min) - length of time the slope limit will be activated for after triggering. The unit will need to operate this long without triggered the angle threshold again for DynaCal to become active again.
- Exceeded Error Threshold (75%) – DynaCal will still alarm for errors above this value to still allow it to alert for large weight discrepancies.

iv. There is an added icon on the DynaCal status window that will indicate whether the slope limit is triggered and DynaCal is inactive.

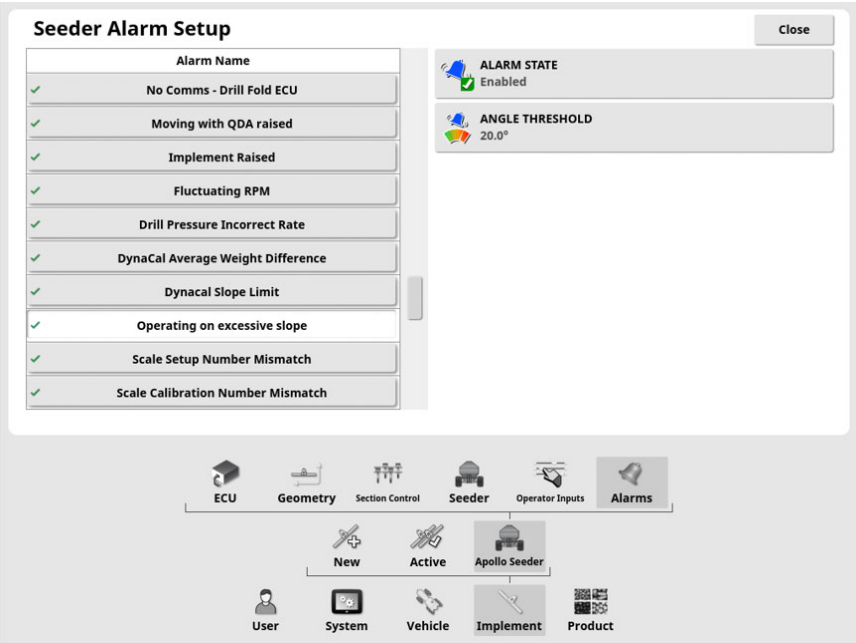
- Red – DynaCal inactive (slope limit in effect)
- Green – DynaCal active (slope limit not triggered)



v. There will be an alarm if the slope limit is triggered (DynaCal is inactive) for longer than 30 minutes to prompt to do a manual stationary check along the way to confirm the application rates in these extreme conditions.

c. Added an Operating on Excessive Slope alarm to monitor the Scale Link angle values and alert if the tank is operating over the safe threshold (default of 20°).

    i. This will also alert for any odd issues with the Scale Link accelerometers giving false angle readings (e.g. vibration effect without rubber isolator mounts).

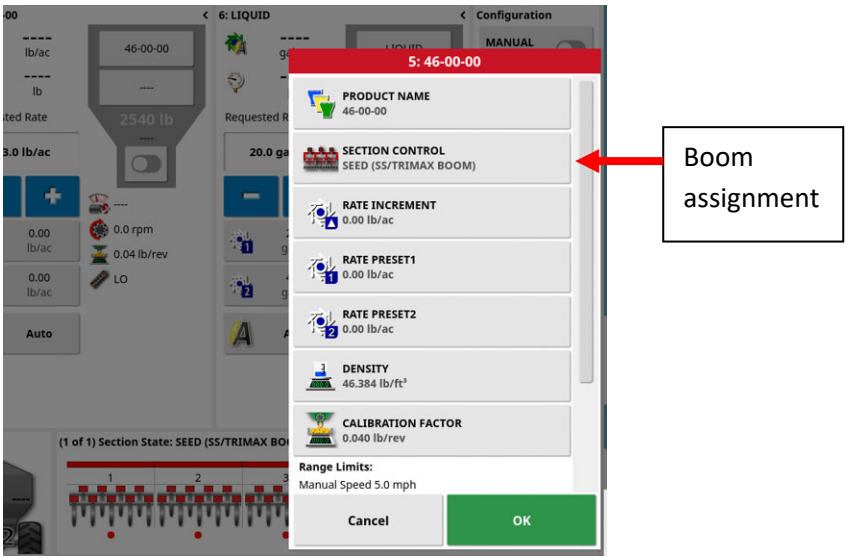


d. Removed older Weight Difference alarm from the list to avoid confusion with which alarm is intended to be used for the 9000 series and since that older alarm did not function well for the 7000 series.

    i. Corrected the functionality of the older 7000 configurations to remove any reference to measured scale weights and prevent false communication alarms when the Weigh Scales feature is set to disabled.

2. Tank Optimizer/Boom assignment improvements:

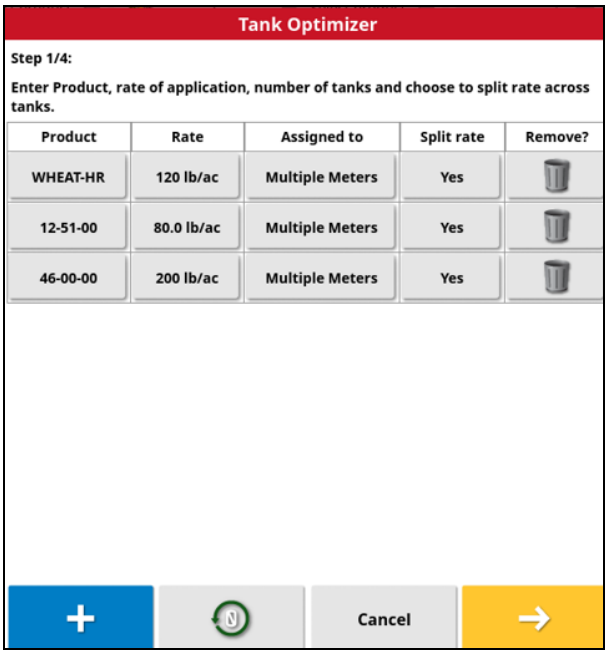
a. In order to make the ASC boom assignment selections easier and promote setting this appropriately before starting a task this selection has been added to the Product selection menu.



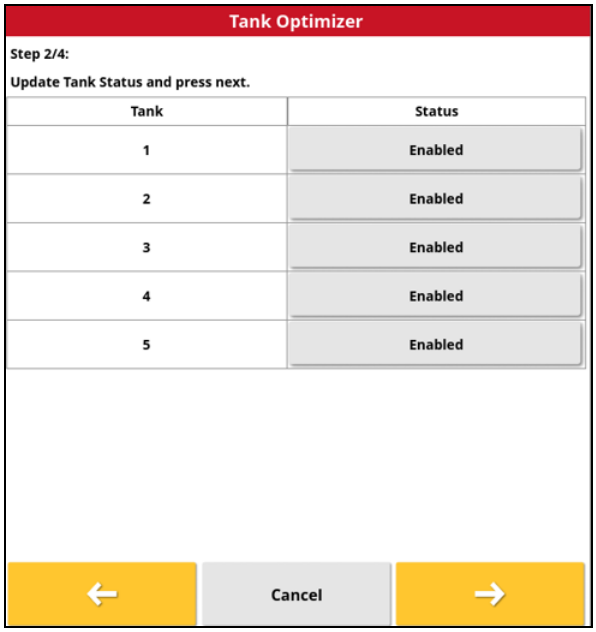
b. The Tank Optimiuzer has also been revamped to have the ability to disable/enable any tanks and set the Boom assignment appropriately so this tool is strongly recommended to use for a simple way to reconfgure the seeder for each particular seeding scenario.

i. Step 1 is unchanged to set what products and repective rates wil be applied as well as select the Assigned to/Split rate preferences for each product.

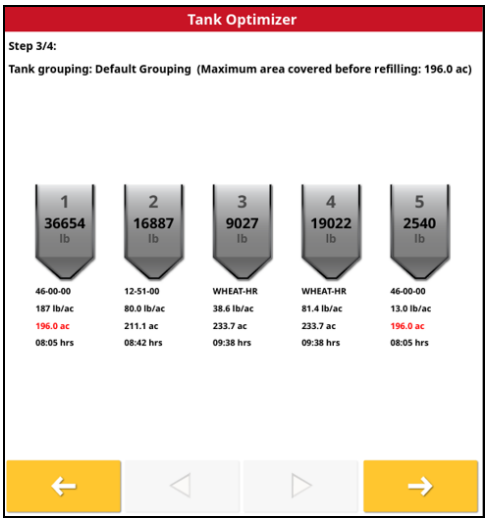
- The same product can be added mulitple times for scenarios where you will want to apply it out of both booms.



ii. Step 2 is added to set the status to disabled for tanks that will not be used so you don't have to go into the settings manually.

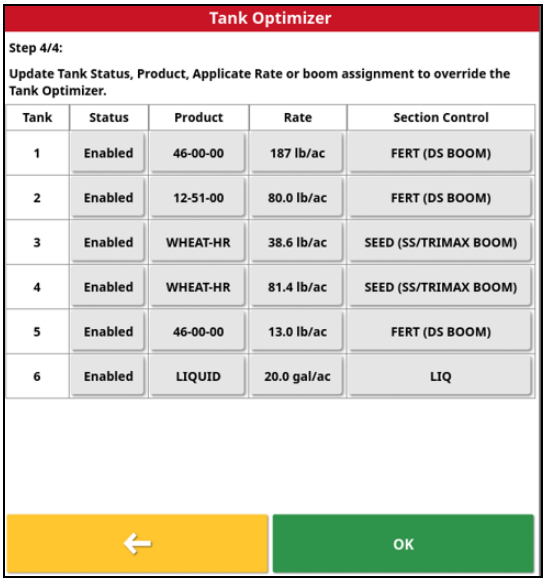


iii. Step 3 is unchanged to select the appropriate tank grouping if applicable for interconnected tanks.



iv. Step 4 is added to review the particular seeding scenario and adjust as needed.

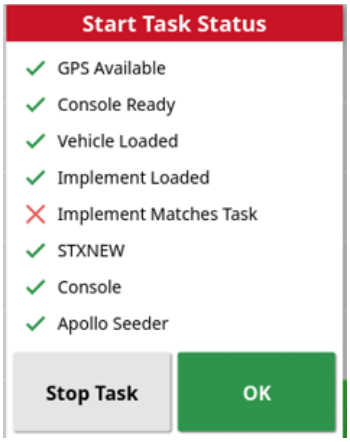
- Select the appropriate Section Control Boom for each tank aligning with how it will be applied.
- You can also overwrite any of the previous selections to disable tanks, change products and set rates.
- Liquid/NH3 tanks will also show up here for simple way to enable/disable the tank and set the rate.
- This last step can be used as a single window to configure the seeding scenario if you just leave the tanks enabled in the ealrier step and skip to this last step to manually input selections/values.



c. Version 5 software requires that the Section Control Boom assignments are set properly for each tank before the task is started and this cannot be changed within a task. In order to prevent tasks from being corrupted; if a user tries to complete a task then go and change the boom assignment and then try to reload the task; there is now a limit preventing this. This limit is added since doing this and reloading the task would corrupt the task and prevent sectional control and VRC from working properly.

   i. The task status popup will show this Implement Matches Task criteria not met preventing the task from being reloaded if something has changed that is not allowed within a task.

   ii. The Implement settings will need to be set back to the way they were configured for the task to be able to reload it.



3. Scale Link integration/improvements:

Commonly used functions of the Scale Links have been integrated into the Seeder application to be able to remove the need for the Scale Links showing up on the UT screen and causing confusion with multiple locations to see the tank weights.

a. On the Weigh Scales/ECU page:

   i. There will be the firmware version shown to confirm the Scale Links are up to date.

      - **Note: It is not essential to update this Scale Link firmware version when performing a monitor upgrade unless there is a particular fix required if you have very old firmware.**

   ii. There is the option to enable the ISOBUS UT for each Scale Link if you need access for certain functions that are not accessible in the Seeder application.

- This will be defaulted to disabled as we recommend not having this view open and solely relying on the weights integrated into the Seeder application.

- This should be enabled to perform updates to the Scale Link or save/load settings files to configure the Scale Link.

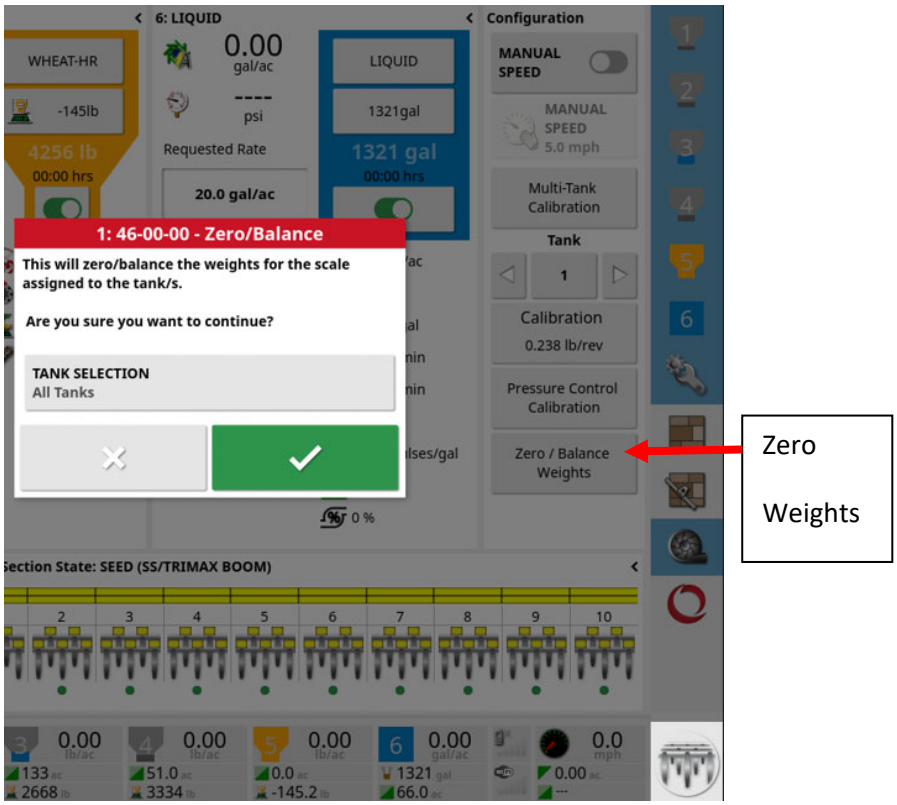
iii. There is the option to enable or disable the Angle Compensation for each Scale Link.

- This will be defaulted to enabled to compensate for hill angles but it can be disabled for cases where the accelerometer may be acting up and causing false weight readings. Turning this off would allow DynaCal to continue to operate but without angle compensation so hills may give false alarms.

b. Zeroing the weights:

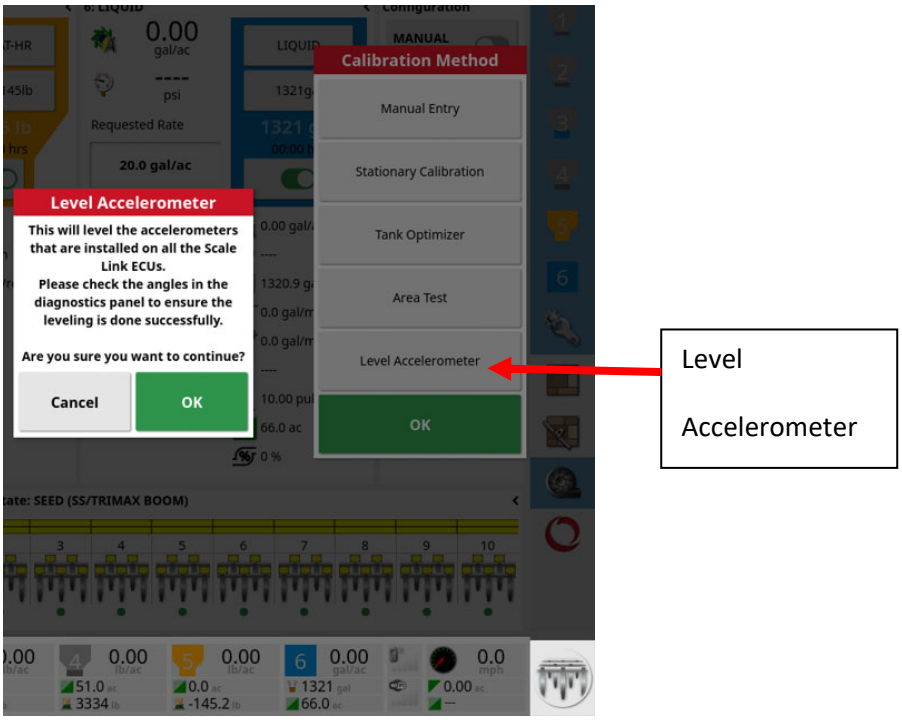
i. There is a Zero/Balance Weights tool to zero the weights for each tank on the Configuration panel in the Seeder window.

- Select all tanks before acknowledging the message to zero all tanks at once.



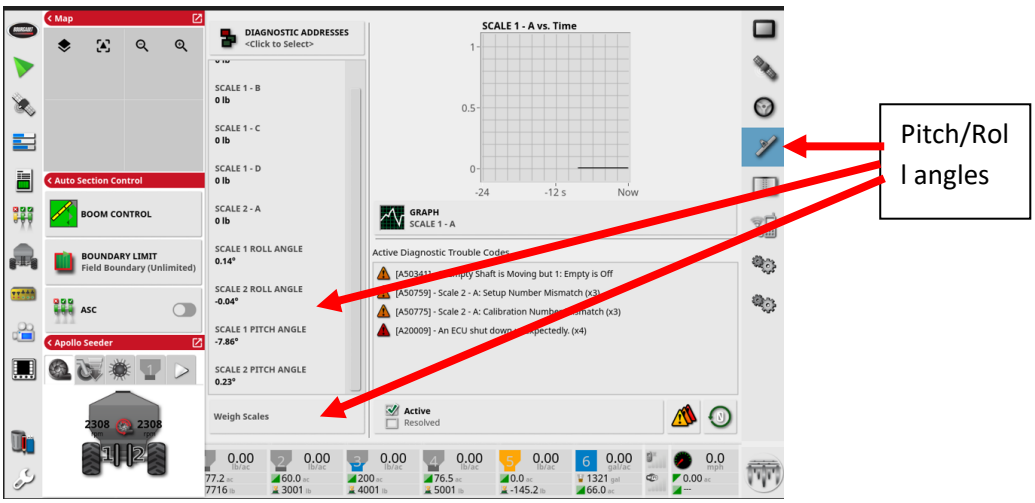
c. Leveling accelerometer:

i. There is a Level Accelerometer tool in the Multi-Tank Calibration menu to level the pitch/roll angle values if they are not correct when the unit is sitting level.



d. Viewing pitch/roll angle values:

i. In the Diagnostics panel you can display the pitch/roll angle values for each Scale Link for troubleshooting.



4. **Xtend improvement:**

    a. To prevent nuisance issues caused when the wireless connection is lost between the console and the device running Xtend; the limit to turn the master off for this case has been removed.

        i. So if using Xtend as a 2nd display in the cab it won't cause the system to stop seeding if the tablet loses connection. It will just continue seeding while you try to regain connection to the tablet.

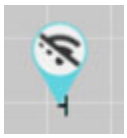
        ii. As well for calibrating it won't stop the calibration from continuing and will retain the accumulated data on the console. You can just continue the calibration from the keypad and enter info into the console or the device if connection is regained.

5. **I-to-I improvements:**

    a. Minor improvements made to some I-to-I joining task scenarios that could happen and cause confusion related to merging already started tasks with multiple units working together.

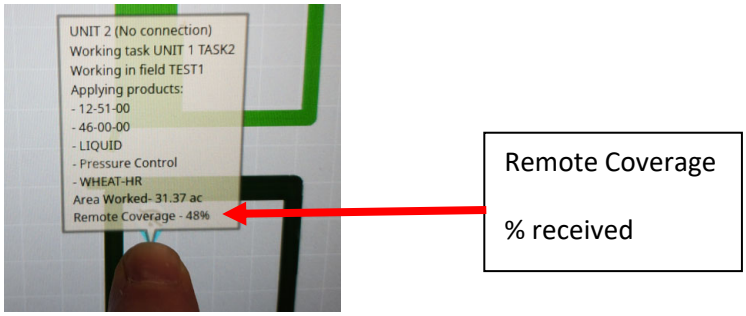
    b. Added connection status indicator to help troubleshoot if coverage isn't being loaded.

        i. No connection with unit (line through connection icon).



        ii. Connected but shared coverage only partially received (orange connection icon).

- If you press and hold on the remote unit icon it will popup an info box and the Shared Coverage line will display the % received.
- Or it will display N/A if there is no remote coverage to send yet.

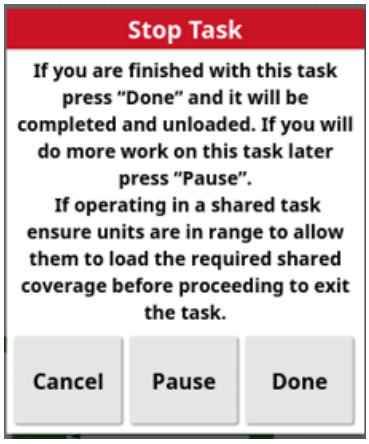


        iii. Connected and coverage is greater than 95% loaded (black connection icon).

- When reloading a large amount of shared coverage (e.g. after a restart in a large field) the cached coverage may be loaded quickly and it will display 100% but the image rendering on the console to display the actual coverage may be slower to load.

c. Added text to the Stop Task message if using I-to-I indicating to ensure all shared coverage is shared to other machines before exiting the task to ensure they will receive it.

    i. If no other unit is in range and hasn't loaded the shared coverage it will not be able to be loaded once the unit exits the task.

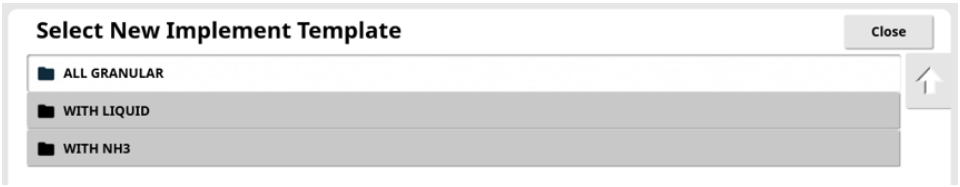


6. X40 performance improvements:

a. Improvements to eliminate odd performance behavior with the newer X40 console experienced in previous software.
    i. Blank screen
    ii. Low resources

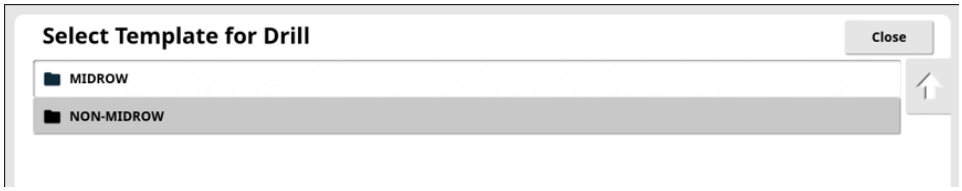
7. Implement profile additions/adjustments:

a. Cart profiles:
    i. Added Granular/Liquid/NH3 folder selections added to clean up the menu selection for the particular configuration.



    ii. Added Liquid/NH3 configurations for the FMS models.
    iii. Added profile selections for the 9000 series between the existing SADDLE TANK5 configuration and the new larger WING TANK5 option.
    iv. Added 9650/L9650 STREAMLINER configurations for Australian models.

b. Drill profiles:
    i. MIDROW/NON-MIDROW profile selection created to have the geometry entered accordingly for each configuration to reduce setup steps.
        - Note: For Liquid/NH3 configured units the geometry will still need to be adjusted appropriately for the Liquid/NH3 booms depending if it is applied through the Openers or the Midrow.



    ii. Hi-FLOTATION/STANDARD folder selections added to clean up the menu selection for the particular configuration.

    iii. 3545 model added.
    iv. 4420 model added for Australia.
    v. 3725 model designation combined with 3720.
    vi. Corrected 5810 model geometry

8. VRC improvements:

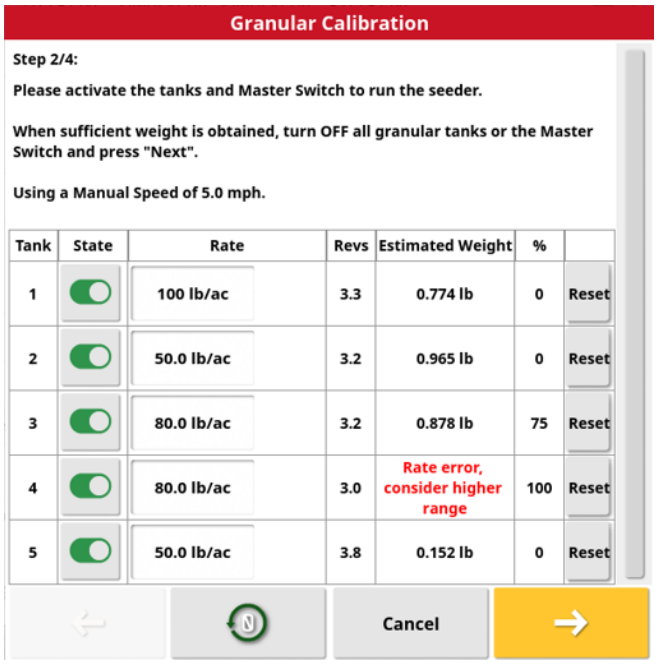
a. Topcon has added the ability to configure ISOXML VRC files.

b. General improvements to the VRC configuration wizard.

9. **General improvements:**

   a. Calibration error range recommendation.

      i. Text added to indicate changing drive range based on the min/max PWM being exceeded preventing the meter speed reaching the target.



   b. Added slight filtering for the as-applied rate mapping to make actual performance concerns more visible.

   c. Show the Boom1 Area values in dashboard when there is no Guidance view displayed isntead of showing 0.

   d. Corrected or added some default settings to the custom profile creation process to prevent missing some important settings.

      i. Also moved some settings from Technician level to Expert level so they are veiwable to set for custom profiles.

   e. A running alarm log is recorded and able to be exported from the console with the diagnostic tools to see past alarm history to help with troubleshooting issues.

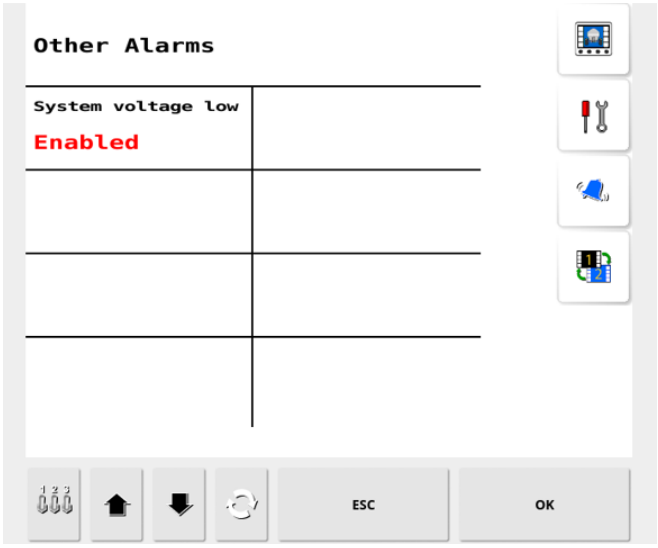
      i. Fan speed and ground speed recorded at set intervals has been added to this log to be able to reference.

ISO Seeder Application changes (10.09.01,3.3.7)

1. **System voltage monitoring:**

    a. Added the Apollo system voltage low alarm to alert if the voltage drops below 11.5V like the X35/X40 Seeder application had added previously. This is mainly to accommodate the addition of onboard power option to alert if the alternator isn't running or if there are any charging issues but it also applies to units configured with power from the tractor.

        i. Any earlier model that won't have this in the harnessing will need to disable the alarm as it will be defaulted to enabled.



    b. Changed the alarm text and fixed logic to be more clear when the Transport Mode saftey switch is what is preventing the master switch from being engaged.