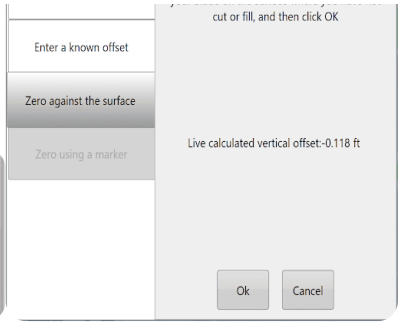
9. Implementing

Starting Implementation

T3RRA Software implementation startup instructions for UCC1

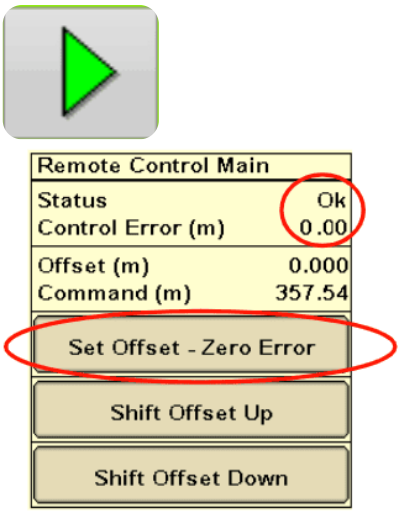
1. Drive to a zero cut/fill area and place the scraper cutting edge on the ground. Drop a marker for future reference. (when zeroing on drains ensure that the position indicator is on the drain surface)

2. Select the '**Set Zero**' button to zero the T3RRA Cutta then choose '**Zero against the surface**'. Select the Set Zero button to zero the T3RRA then choose "Zero against the surface" then OK……...



3. Select the '**Start**' button in your T3RRA software, to begin implementation t hen press the Set Offset – Zero Error on the iGrade*…..

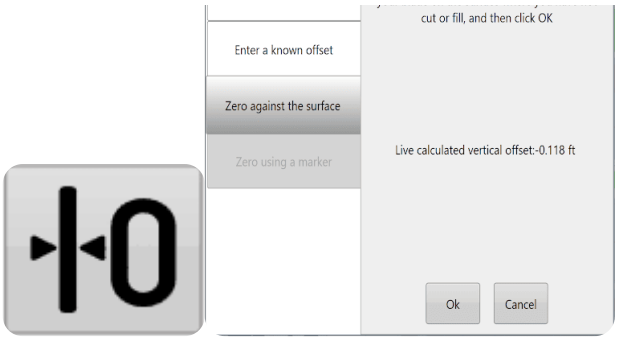
4. Place the applicable SCV's in the "Detent" position, **not float**, to set iGrade™ to automatic control.



T3RRA Software implementation startup instructions for UCC2

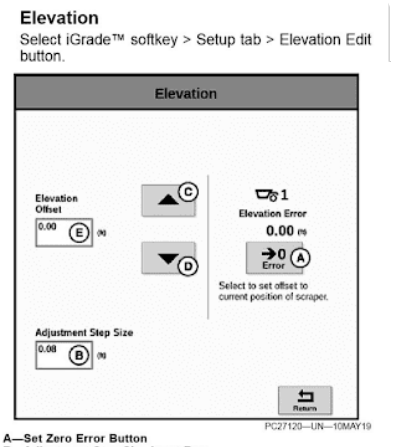
1. Drive to a zero cut/fill area and place the scraper cutting edge on the ground. Drop a marker for future reference. (when zeroing on drains ensure that the position indicator is on the drain surface)

2. Select the Set Zero button to zero the T3RRA then choose “Zero against the surface” then OK.



3. Select the Start button, to start sending commands to iGrade.

4. Verify Elevation Error remains 0.00. If not, then press the Set Zero Error Button on the iGrade*



NOTES:

- After placing the scraper cutting edge on the ground, verify the selected SCV(s) (1 and/or 3) is/are in Auto.
- **Manually adjusting blade height with SCV disables Automatic Control. Returning SCV to detent automates control.**

Understanding how "As-applied" works

When moving earth there are three states:

1. **What you started with.**
2. **What you intended to do.**
3. **What you actually did.**

You start with the original field surface. You intend to end up with the field surface matching your design. An “As-applied” (or “As-built”) map is a record of what you actually did.

More than that, the “As applied” map is a constantly updating record of what you have done, and what still remains to be done. At the start of a job no work has been done. Therefore the “As-applied” map will be exactly the same as the original surface. At the end of a job the field surface will match the design surface. At this point the “As-applied” map should match the design map. Between starting and ending the job the “As-applied” map will be somewhere between the original and the design surfaces (as will the actual real world field surface).

The “As-applied” map is constantly updated by keeping track of cuts and fills as they occur. The software tracks the blade constantly. At the beginning of a job all it knows is that the field matches the original surface map. Any time the blade goes below this surface it knows that a cut has taken place. It tracks this cut

and updates the “As-applied” map accordingly. At this point the “As-applied” map is no longer the same as the original surface map. As the blade continues to cut lower and lower the map will continue to be updated.

The nice thing about cuts is that there is no way for the blade to go lower than a previous cut without the new cut level being the new true earth surface. So our cut measurements will tend to be quite accurate. But what about fills? Just because the blade is above the surface does not mean any dirt is actually coming out of the scraper pan. The implement could be simply moving from one location in the field to another location. So measuring the fills using blade height is a bit problematic. We deal with this in a number of clever ways, taking into account whether or not the design calls for a cut (or a fill) and where the blade is relative to the design height. But fill measurements *will not be perfect.*

It is important to understand that the T3RRA software tracks activity over time. It is constantly surveying the current status of the job surface.

Important**: T3RRA software has no way of knowing what other equipment is doing. If another machine is operating in the same work area as you, your “As-applied” map will not be accurate. You can only track your own activities.**

Important**: T3RRA software has no way of knowing what work has been done in a field prior to your arrival. If the original surface map is not representative of the true state of the terrain when**

you arrive (because another operator has already done part of the job) then the “As-applied” map will not be accurate. If you want to make it accurate you will need to drive over the entire surface again to calibrate the as-applied map. It only knows what it has surveyed.

Understanding the relationship between the "As-applied" surface and the Dynamic Blade Limit.

The Dynamic Blade Limit (See the section of “Static Blade Limit” in the Limits Tab for disambiguation) relies totally on “As-applied” functionality to work properly. If this is not activated, or is not working properly, the blade limit will not work.

T3RRA software knows where the cutting edge currently is (courtesy of GPS). It also knows where the original surface is. When “As-applied” functionality is turned on the T3RRA software keeps track of changes to the current (“As-applied”) surface. So anywhere you are in the field it will know what the actual surface height is. Using this information it is easy for the T3RRA software to limit the target elevation of the cutting edge to be a certain amount below (or above) the “As-applied” surface.

If the T3RRA software loses track of the current surface then the Blade Limit will no longer work. For instance, if you have not done any work on part of a field that is calling for 6 inches of cut, and you have a 2 inch blade limit set you would expect that it will take 3 passes to cut down to the final grade. However, if another operator has already removed the top 4 inches you may expect that it will only take one pass for you to complete the work. The

problem in this scenario is that the T3RRA software has no way of knowing that the top 4 inches are no longer present. When you go to cut, the blade limit will keep the edge two inches off the current surface on the first pass, and on the second pass it will only skim the surface. It will only be on the 3rd pass that the blade will enter the ground.

It is critical to understand that the T3RRA software surveys as it goes, and keeps track of blade heights to understand where the surface is. Anything that alters the surface since the last time it was surveyed by the T3RRA software will cause the Blade Limit to have errors. Blade Limit guides the blade relative to where it *thinks* **the dirt surface is, not where it** *actually* **is. As long as <u>you alone</u> are making changes to the field then the place it** *thinks* **the dirt surface is and where it** *actually* **is will be the same thing. If someone else is making changes then all bets are off!**

Do NOT expect Dynamic Blade Limit to work properly if anyone other than you is working in a field OR if the job has been worked on by anyone else since the original surface was surveyed.