Bi-Directional error in T3RRA.

Symptoms:

The implement consistently cuts when heading in one direction and fills in the other direction. Final grade is never achieved. If T3RRA software is halted and iGrade is run in 'Plane Control' only the problem goes away.

Cause:

There is a slight time lag from when a GPS location is measured to when the blade actually actuates to seek the desired target elevation. If the look-ahead time is set incorrectly, when going up a slope this causes the cutting edge to be consistently low, and when going down a slope it causes the cutting edge to be consistently high.

The key to understanding this problem is to realize there is a slight time delay from when iGrade first sends the T3RRA software a position, and when the T3RRA software returns a target elevation value to iGrade. In this time the tractor has moved a certain distance and the target elevation is technically out of date. It is intended for a position in the field that is now some distance behind the cutting blade. If the tractor is traveling down a slope this will result in the blade being higher than it should be. If the tractor is traveling up a slope this will result in

the blade being lower than it should be. The problem is repeatable and the vertical offset is always in the same direction (relative to whether you are going uphill or downhill). If you understand why the problem occurs it is normally quite simple to adjust for this time delay and nullify the issue.

Solutions:

Refer to the Machine tab section of the Setting chapter of the Operator's manual for more information.