

Important change in AHRS version 57

The Altimeter Calibration function in Adaptive AHRS and Mini AHRS versions 51 through 56 contained a programming error that caused internal doubling of the Bias near sea level. This could result in altimeter inaccuracy below 5000 feet. This inaccuracy would be noticed during altimeter testing, in some cases preventing a successful altimeter calibration. After upgrading to version 57, the Altimeter Calibration should be repeated, or the Altimeter Calibration values can be adjusted using the worksheet below.

Systems that may be affected

Hardware and software	Recommended action
Adaptive AHRS versions 51 through 56	Upgrade recommended to fix this issue. Altimeter calibration may need to be adjusted.
Mini AHRS versions 51 through 56	Upgrade recommended to fix this issue. Altimeter calibration may need to be adjusted.
Adaptive AHRS versions 50 and older	Not affected by this issue. Upgrade recommended to improve performance. No change to altimeter calibration.
Mini AHRS versions 50 and older	Not affected by this issue. Upgrade recommended to improve performance. No change to altimeter calibration.
Original Horizon or Sport AHRS versions 44 and older (all public release versions)	Not affected by this issue. Upgrade does not apply to this hardware.

Upgrade Worksheet

1. This worksheet is valid only with the Adaptive AHRS or Mini AHRS version 57 and newer. Install the update, and confirm the display reports the current AHRS software version is 57 for each AHRS in the system before continuing.
2. If the Bias setting on the Altimeter Calibration page is negative, the calibration data is not affected by this problem and no adjustment needs to be made. Skip this worksheet for a negative Bias.
3. If the Bias setting was the only setting calibrated, known as a Partial Altimeter Calibration, then repeat the normal Partial Altimeter Calibration procedure in the manual by adjusting the Bias to the field elevation or other known altitude at the correct altimeter setting. Skip the rest of this worksheet if Partial Altimeter Calibration is being used. Do not use this worksheet to adjust a Partial Altimeter Calibration.
4. If an altimeter test set is available, the Full Altimeter Calibration from the manual can be

performed on the Bias and all altitude set points. Repeating the calibration sequence multiple times for the Bias and altitude set points will improve accuracy. Skip the rest of this worksheet if a Full Altimeter Calibration is performed.

5. The rest of this worksheet can be used to mathematically adjust the values obtained from a Full Altimeter Calibration that was performed using AHRS software 51 through 56 with a positive Bias value at sea level (0 feet). **If you are not sure, this worksheet can't be used. Adjusting the values this way in a unit that was not affected during calibration, or a unit that has already been adjusted, would decrease the accuracy of the altimeter.**
6. Record the Bias value before adjustment. This will be referred to as the Old Bias.
7. Multiply the Old Bias value by 2. This will be the New Bias value.
8. Record the altitude calibration values before adjustment. These will be referred to as the Old Altitude Values.
9. Subtract the Old Bias from each of the Old Altitude Values. These are the New Altitude Values.
10. Change the numbers on the Altimeter Calibration page to match the New Bias and New Altitude Values.
11. The procedure must be repeated for each AHRS. If this is a Dual AHRS with a single Air Data connection, the values should be the same. The Bias may be slightly different.
12. Confirm the accuracy of the altimeter with a known altitude and altimeter setting. If there is any doubt about the accuracy of the altimeter, a Full Altimeter Calibration must be performed using a test set.

Old Bias	New Bias (Multiply Old Bias by 2)

Altitude Set Point	Old Altitude Values	New Altitude Values (Subtract Old Bias from each Old Altitude Value)
5000		
10000		
15000		
20000		
25000		
30000		
35000		