

Magnetic Heading Errors Trouble Shooting

The EFIS AHRS uses the external Magnetometer for magnetic compass headings. When the aircraft is turning the EFIS Heading DG is being displayed from the AHRS gyros, not the Magnetometer. The AHRS DG heading is very slowly updated using data from the Magnetometer. If you turn the aircraft 90 degrees and then over the next 2-3 minutes the Heading DG rotates to a new heading it is a sign that you have magnetic interference. If you are having difficulty getting the AHRS to pass the Magnetometer calibration it is a sign that you have magnetic interference. The acceptable heading errors are +/- 4 degrees.

1. **Verify that the Magnetometer is mounted at the same angle as the top of the EFIS screen.** If the EFIS is mounted in the panel with a 7 degree forward tilt the Magnetometer must be mounted with a 7 degree forward tilt. You can use a digital level on the top of the EFIS case and the top of the Magnetometer to verify the installation.
2. **Verify that the Magnetometer is mounted in a location that is free from magnetic interference.** You should be able to use a hand held compass to locate an acceptable location.

Do Not mount the magnetometer in the following locations:

Near the landing gear
Near steel wing strut bolts
Near steel tail bolts
Near the baggage compartment if you ever plan on carrying anything metal.
Behind the instrument panel
On the EFIS
Near the tail wheel spring
In the belly where it will get wet
Near heavy current carrying wires

The best place to mount the Magnetometer is in the wing or in the rear empennage.



Magnetometer location in our RV-10 that has worked well.

3. **Verify that the Magnetometer is communicating with the EFIS.** The 10 degree tick marks on EFIS DG will be white if the Magnetometer is communicating with the EFIS and **RED** if not. If the DG is red you need to double check your magnetometer wiring (verify that you have not reversed the plug wiring!).



4. **When using two Magnetometers verify that they are at least 6" apart.**
5. **Verify that the Magnetometer is mounted with brass screws and nuts.**
6. **If you are still having problems record the following data on a compass rose:**

Compass Rose Heading	Immediately after turning aircraft	After 3 Minutes
Aircraft Pointed	EFIS Heading	EFIS Heading
360		
090		
180		
270		
360		

EFIS S/N: _____

EFIS Software Version: _____

Customer Name: _____

Phone Number: _____

Aircraft Type: _____

Magnetometer Location: _____

Picture of the Magnetometer Location _____

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