

Service Letter

UPS Aviation Technologies



Service Letter No. SL0203-01B

March 20, 2002

Revision Date 3/27/02

To: *Users of
Apollo GX50 430-6050-400 with any of the following mods: Mod (H);(N);(P);(T);or (U);
Apollo GX50 430-6050-401; 430-6050-402;
Apollo GX55 430-6050-200 or -201 with any of the following mods: Mod (E);(J);(K);(M);or (N);
Apollo GX55 430-6050-202; 430-6050-203;
Apollo GX60 430-6050-600 or -601 with any of the following mods: Mod (H);(N);(S);(AB);or (AC)
Apollo GX60 430-6050-602; 430-6050-603; 430-6050-604
Apollo GX65 430-6050-800 or -801 with any of the following mods: Mod (F);(L);(P);(Y);(AA)
Apollo GX65 430-6050-802; 430-6050-803; 430-6050-804*

Attention: *FAA, Engineering, Maintenance Managers, Service Managers*

Subject: *Crosstrack error on GX Series GPS Navigation units running software version 3.0 to 3.4*

References:

Based on analysis of data from a recent field reported problem, it has been determined that there exists a potential scenario in which Apollo GX50/55/60/65 TSO-C129a GPS navigation units with software versions 3.0 to 3.4 inclusive could provide erroneous cross-track deviation information to the pilot. The problem is caused by the turn-anticipation function in conjunction with a direct-to waypoint. It is most likely to appear as an erroneous cross-track deviation immediately after initiating a direct-to which may persist for several seconds; however, it can also occur at one other point along a direct-to leg without pilot intervention. The improper CDI deflection is accompanied by an improper bearing-to-station. The error does not affect the GPS reported position, or the situational awareness provided by the moving map display.

The affected software, starting with version 3.0, first shipped in February 1999. From that time, our records through March 15, 2002 indicate only two instances of this problem have been reported to us. We believe that the problem occurs with greater frequency than has been reported. Our review of field data shows most occurrences to last a duration of 2 seconds with the longest being 6 seconds. It is probable that the usual short duration of this problem when it occurs together with the fact that it often happens during a change of the active "to" waypoint provides explanation for the lack of field reports of this problem. Our safety analysis indicates that in a worst case scenario, this condition can extend to longer periods that we believe could lead to hazardously misleading displayed information.

Based on this, we have reported this problem to the FAA and are notifying owners of the GX series product of this situation. UPS-AT has corrected the software and is in the process of testing the fix and working with the FAA to receive approval. At such time UPS-AT will issue a Service Bulletin, which we will recommend the FAA make mandatory, requiring affected units to upgrade to the latest approved software.

Users of GX-series navigation equipment should be aware of this issue and should be alert to the possibility of temporary course deviation anomalies after entering and selecting "Direct To" waypoints. This issue will be eliminated with the installation of the approved software change to be outlined in our Service Bulletin, which we anticipate will be available in early April. Information will be posted on the "Product Support" page of our web site at <http://www.upsat.com> to help keep you informed of current developments.

UPS-AT will provide replacement operating software for affected units under extended warranty regardless of the age of the unit.