USA Position on Detection of Means of Propulsion

Soaring Society of America
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Summary

Following the publication of the Tech Spec for Flight Recorders, USA has formed the opinion that an important question has been skipped. The purpose of this position paper is to raise that question. This is not a proposal or a recommendation, and no action is being requested of the Plenary.

Background

On 20 December 2010, the FAI publication *Technical Specification for GNSS Flight Recorders to IGC Standards, Second Edition* (TS2) became effective. This edition features a major editorial reorganization and an elaboration of methods for detecting means of propulsion (MoP). The document specifies new "MOP-enhanced" flight recorder systems that will enable the detection of powerplant use in cases in which extant flight recorders have been shown to fail.

In the material accompanying TS2, and in the document itself, GFAC have made these statements:

1. So far, in tests by the IGC GNSS Flight Recorder Approval Committee (GFAC) no motor glider with an electric or jet engine has produced high enough ENL values on the primary IGC file used for a claim with the recorder mounted in the cockpit, to differentiate between low engine power and other conditions of climbing in lift without the engine.

2. For types of MoP where GFAC assesses the ENL values as being too low to differentiate between engine-on flight and some conditions in normal soaring flight, an additional sensor system shall be required that operates under the Three-Letter Code MOP.

3. …in the GFAC report for the Agenda of the IGC Plenary in March 2011, a revised Chapter 1 for SC3B will be proposed that includes references to the MOP code and to non-IGC FRs, amongst other things from the Tech Spec.

The important question that has been skipped

It is clear, thanks to testing by GFAC, that certain combinations of airframe, powerplant, and FR installation result in flight logs that fail to provide satisfactory evidence of MoP use. Also thanks to GFAC, a solution has been presented in the specification of MOP-enhanced flight recorders.

All that remains is to determine the situations in which use of such flight recorders is required.

The important question that has been skipped is this:

> *Should the proper functioning of MoP detection in motorgliders be controlled centrally (by IGC) or in the field (by Official Observers)?*

USA's position

It is the USA's position that the determination of acceptable installations of Flight Recorders, including proper sensing of MoP, should be made by Official Observers. In support of this position, we offer the following statements:

1. IGC already require that the acceptability and installation of a FR be under the control of the Official Observer. Adding a requirement that the OO assert that the FR, as installed, provides valid evidence of powerplant use is merely an extension of – not a departure from – existing duties.

2. The conjecture that jet-powered and electric-powered motorgliders, as a class, have a problem, and that piston-powered motorgliders do not have that problem, is not conclusively supported by the evidence. Rules based on that conjecture would be unfair.

3. While it is true that certain combinations of airframe, powerplant and FR installation have proven to be unsatisfactory, it does not follow that other combinations would also fail. Comprehensive flight-testing in USA and elsewhere have produced reliable ENL data using quiet motorgliders and current flight recorders.

4. Because the quality of ENL data depends on the particular airframe, powerplant, and FR installation (all three), every proposed combination should be tested. The testing of all combinations by GFAC, or any central authority, is infeasible.

5. Central control of the rules regarding required MOP installations is likely to involve the maintenance of a list of gliders. The effective date, completeness, errors, and differences of opinion regarding the list must be handled. Our experience with the Handicap List has demonstrated how difficult this can be.

6. We already have a precedent for acceptability testing in the field: Annex A requires a demonstration of MoP detection before flight logs will be accepted. This precedent should be extended into SC3 and SC3B, providing the same guidance to Observers that we have already been providing to contest officials.

Conclusion

USA welcomes the introduction of MOP-enhanced flight recorders and foresees situations in which they will be necessary. The determination of whether a particular combination of airframe/powerplant/FR provides acceptable MoP detection should be the responsibility of the Official Observers, as it is already for Competition Organizers.