

ORDER: 8300.10

APPENDIX: 4

BULLETIN TYPE: Flight Standards Information Bulletin
(FSIB) for Airworthiness

BULLETIN NUMBER: FSAW 94-41 (Extended)

BULLETIN TITLE: Global Positioning System/Differential
Global Positioning System SPECIAL USE
APPLICATIONS

EFFECTIVE DATE: 10-08-96

1. PURPOSE. This FSIB provides guidance to Federal Aviation Administration (FAA) inspectors concerning Global Positioning System (GPS)/Differential Global Positioning System (DGPS) to be installed in aircraft used in special applications.

2. BACKGROUND.

A. GPS/DGPS technology has been made available for aircraft used in specialized applications, such as agricultural, aerial photography, mapping, fire fighting, search and rescue, etc. The only purpose of these installations is for the accurate sighting of the aircraft. These types of installations are considered non-essential and for special purpose use, therefore, the criteria for equipment performance is to be determined by the GPS/DGPS equipment manufacturers. The flightcrews are not to predicate navigation on the GPS/DGPS equipment.

B. FAA inspectors presented with a request for approval of installation data should consider the following during the data approval process:

3. INSTALLATION. GPS/DGPS and optional features, such as data logging, must be installed in accordance with approved data. Approved data may be obtained by Type Certification (TC), Supplemental Type Certification (STC), or through the field approval process by the FAA Form 337.

4. FIELD APPROVALS.

A. Installers requesting field approvals and inspectors evaluating the data package must ensure that all information and/or referenced documents fully describe how the AIRCRAFT has

been modified. The data package will include the installation, post-installation, and ground and flight tests. For example, references to Advisory Circular AC 43.13-1A and/or 43.13-2A 2 and/or equivalent manufacturer's manuals must be specific and directly relevant.

B. Should the data not support any part of the installation, post-installation, and ground and flight tests, the installer could use the services of a Designated Engineering Representative or an FAA Aircraft Certification Office to obtain approval for the data in question.

5. THE FLIGHT TEST. The aerodynamic flight test for externally mounted equipment may be conducted by the installer or operator in accordance with data provided by the GPS/DGPS manufacturer. The flight test shall evaluate the aircraft performance throughout the speed ranges and maneuvers normally conducted during the specific application. The signature of the person performing the flight test, the date of the flight test, and the certificate number of the person who performed the flight test shall be documented on the FAA Form 337.

6. EVALUATION OF DATA. Inspectors are encouraged to examine data packages and to perform a conformity inspection in sufficient detail to establish confidence in the installing agency's ability to accurately duplicate the initial installation. If the inspector determines that the data is capable of being used for other similar make and model installations, then the inspector should authorize Block 3 of the FAA Form 337 for duplication for similar make and model aircraft. For those GPS systems that have been a part of a TC or STC, follow-on approvals may be implemented on similar aircraft. Care should be taken to ensure that any limitations included in the TC or STC are implemented into the follow-on approval.

7. BLOCK 8. Block 8 of the FAA Form 337 shall include a record entry outlining the post-installation ground test and flight test results. Duplication of previous approved data for an identical installation in a similar make and model aircraft is authorized, provided the submitted FAA Form 337 contains a reference in Block 8 identifying the FAA Form 337 it is basing its approval on. A copy also must accompany the FAA Form 337. These similar installations are limited to the same installer. Block 8 of FAA Form 337 must also contain the statement that the aircraft has been placarded "GPS/DGPS not to be used for navigation." This required placard must be placed in plain view of the pilot in the cockpit.

NOTE: In the event the data package is insufficient to determine compliance with the Federal Aviation Regulations (FAR), the inspector will return FAA Form 337 with a statement describing the reason for the rejection to the installer. The inspector will also send a copy of the rejected FAA Form 337 with a statement describing the reason for rejection to the owner/operator of the aircraft.

8. ACTION. None.

9. INQUIRIES. This FSIB was developed by AFS-300. Direct any questions or comments to AFS-350 at (202) 267-8203.

10. EXPIRATION DATE. This FSIB will expire on 05-31-01.

/s/
Frederick J. Leonelli

For Reference Only