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**AIRWORTHINESS DIRECTIVE**

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For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (AD) under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

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**AMD Falcon 50 and 900 Series Aeroplanes****AD/AMD 50/36****Segregation of ADS/IRS Wiring****8/2006**

**Applicability:** Falcon 900EX EASy S/N 97, 120 and subsequent (including S/N 601 & subsequent, also known as "DX" aeroplanes)

- Requirement:**
- 1. For F900EX EASy aeroplanes in the applicability range and without modification M5143** - Incorporate IRS 2 wiring modification M5143 and test the GP bus IRS entry in accordance with the accomplishment instructions of Service Bulletin SB-F900EX-274 or later revisions approved by the European Aviation Safety Agency (EASA).
  - 2. For all F900EX EASy aeroplanes in the applicability range** - Amend the Falcon 900EX EASy Maintenance Manual to introduce MP 34-209 "test of general purpose bus IRS entry" at 5000 FH intervals by inserting Revision 2 of Chapter 5.40 into the manual.
  - 3. For all F900EX EASy aeroplanes in the applicability range** - Amend the Minimum Equipment List (MEL) to reflect the dispatch conditions for 'one IRS failure' contained in the Dassault Aviation Master Minimum Equipment List temporary change TC 3.

*Note: EASA AD 2006-0157 refers.*

**Compliance:** For Requirements 1, 2 and 3 - At the earliest opportunity but no later than three months after the effective date of this Directive.

This Airworthiness Directive becomes effective on 3 August 2006.

**Background:** During a flight test performed on an EASy aircraft, and subsequent to an air data probe failure, the crew realized that the Flight path vectors and the Vertical speeds that were displayed on pilot's and co-pilot's PDU were identically wrong.

A review of the EASy architecture reveals that the current wiring of Air Data System (ADS) and IRS units is not compliant with the certified safety objectives.

All IRS primary inputs are wired to the same General Purpose (GP) Bus and thus the basic requirements for ADS segregation are not met. One single ADS unflagged air data error may lead to the computation and display on both pilot's and co-pilot's display units of unnoticed and misleading flight information.

**AMD Falcon 50 and 900 Series Aeroplanes**

AD/AMD 50/36 (continued)

At take-off or during go-around this situation might considerably reduce flight safety.

This Directive mandates a wiring modification of IRS 2 and a test of General Purpose bus IRS entry. Furthermore in order to maintain ADS parameter segregation against possible failures, the Directive also requires operators to comply with the amendments made to Chapter 5.40 of Aircraft Maintenance Manuals that contain an additional periodic functional test of the IRS GP Bus I/O.

Dispatch conditions under MMEL in case of an IRS2 failure are modified after implementation of the wiring change.



James Coyne  
Delegate of the Civil Aviation Safety Authority

22 June 2006