

Instruments and Automatic Pilots

AD/INST/56 Amdt 2 (continued)

- Requirement:
1. If not previously accomplished in accordance with either the original issue or Amdt 1 of this Directive, carry out a logbook check of aeroplane maintenance records to determine if any PFD (P/Ns 700-00006-000, 700-00006-001, 700-00006-002, 700-00006-003 or 700-00006-100) with any serial number listed in SB 601-00006-096 Revision 1 is installed. If, as a result of this check, it can be positively identified that the PFD installed does not have a serial number affected by this Directive, then no further action, other than the Requirement 4 installation restriction, is required.

Note 3: The Requirement 1 determination may be accomplished by the registered operator/owner of the aeroplane, provided that he/she holds at least a private pilot's licence and makes an entry showing compliance with the relevant requirement of this Directive in the aircraft records.

2. If, as a result of the Requirement 1 check, any PFD with an affected serial number is found to be installed or the serial number of the PFD cannot be positively identified, visually inspect any PFD for any affected serial number listed in SB 601-00006-096, Revision 1. If, as a result of this check, it can be positively identified that the installed PFD does not have a serial number affected by this Directive, then no further action, other than the Requirement 4 installation restriction, is required.
3. If, as a result of the Requirement 2 visual inspection, a installed PDF is found to have a serial number affected by this Directive, carry out the following:
 - a. Incorporate the operational limitations below by accomplishing whichever of the following applies:
 - (i) For aeroplanes with an aircraft flight manual (AFM), pilots operating handbook (POH) or aircraft flight manual supplement (AFMS), incorporate the language in the Appendix to this Directive into the Limitations section.

Note 4: This may be accomplished by inserting a copy of the Appendix into the AFM/POH/AFMS.

- (ii) For aeroplanes without an AFM, POH or AFMS:
 - (A) Incorporate the language in the Appendix of this Directive into the aeroplanes aircraft maintenance records; and
 - (B) Fabricate a placard using letters at least 3mm (0.125 inches) high with the following words and install the placard on the instrument panel within the pilot's clear view:

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“AD/INST/56 Amdt 2 CONTAINS LIMITATIONS REGARDING AVIDYNE PRIMARY FLIGHT DISPLAYS (PFD) AND REQUIRED INCORPORATION OF THESE LIMITATIONS INTO THE AIRCRAFT RECORDS. YOU MUST FOLLOW THESE LIMITATIONS.”

Note 5: The insertion of limitations into AFM, POH, AFMS or maintenance records and the fabrication of the placard in accordance with Requirement 3.a. may be accomplished by the registered operator/owner of the aeroplane, provided that he/she holds at least a private pilot’s licence and makes an entry showing compliance with the relevant requirements of this Directive in the aircraft records.

- b. Inspect for a label marked “Deviation 08-19A” on the exterior of the PFD near the TSO label or a “MOD 52” marking in accordance with Section 3.2 of SB 601-00006-096, Revision 1.
 - (i) If the label marked “Deviation 08-19A” or “MOD 52” marking is present, then the PFD has received the factory modification. Remove the Requirement 3.a. limitations (Requirement 2 of AD/INST/56 original issue or Amdt 1). When this is accomplished no further action, other than the Requirement 4 installation restriction, is required.
 - (ii) If the label or marking is not present, carry out the PFD air data system performance verification test in Section 3.3 SB 601-00006-096, Revision 1.
- c. If the PFD passes the Requirement 3.b.(ii) test, remove the Requirement 3.a. limitations (Requirement 2 of AD/INST/56 original issue or Amdt 1). When this is accomplished no further action, other than the Requirement 4 installation restriction, is required.
- d. If the PFD does not pass the Requirement 3.b.(ii) test, accomplish the following:
 - (i) Remove the PFD, install a PFD that has passed the air data system performance verification test, has been factory modified (PFD bears a label marked “Deviation 08-19A” on the exterior of the PFD near the TSO label or a “MOD 52” marking), or is not one of the affected serial number PFDs;
 - (ii) Remove the Requirement 3.a. limitations (Requirement 2 of AD/INST/56 original issue or Amdt 1). When this is accomplished no further action, other than the Requirement 4 installation restriction, is required.

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4. PFD (P/Ns 700-00006-000, 700-00006-001, 700-00006-002, 700-00006-003, or 700-00006-100) with any affected serial number listed in SB 601-00006-096, Revision 1 may not be installed on any aeroplane either as an initial fitment or as a replacement part, unless it has passed the air data system performance verification test or has been factory modified (PFD bears a label marked “Deviation 08-19A” on the exterior of the PFD near the TSO label or a “MOD 52” marking).

Note 6: Alternate methods of compliance (AMOC) approved by the FAA for AD 2008-06-28 R1 are acceptable for compliance with this Amendment.

Note 7: Later revisions of SB 601-00006-096, approved by the FAA as an (AMOC) to FAA AD 2009-05-05, are considered acceptable for compliance with the equivalent Requirements of this Amendment.

Note 8: FAA AD 2009-05-05 Amdt 39-15829 refers.

Compliance: For Requirement 1 and 2 - Within five days after the effective date of this Amendment.

For Requirement 3.a. - Within five days after the effective date of this Amendment.

For Requirement 3.b., 3.c. and 3.d. - Within 15 days after the effective date of this Amendment.

For Requirement 4 - After the effective date of this Amendment.

This Amendment becomes effective on 3 April 2009.

Background: The initial issue of this Directive required a check of the maintenance records and inspection of the PFD (if necessary) to determine if an affected serial number PFD is installed. If an affected serial number PFD was installed, the Directive required the incorporation of information that limits operation when certain conditions for the PFD or backup instruments exist. The Directive resulted from the FAA receiving several field reports of PFDs displaying incorrect altitude and airspeed information.

The Directive was issued to prevent certain conditions from existing when PFDs display incorrect attitude, altitude, and airspeed information. This could result in airspeed/altitude mismanagement or spatial disorientation of the pilot with consequent loss of aeroplane control, inadequate traffic separation or controlled flight into terrain.

Amendment 1 corrected a typographical error in the FAA AD number.

The Amendment introduces a terminating action to the operating limitations introduced by the earlier versions of this Directive.

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The original issue of this Directive became effective on 10 April 2008.

A handwritten signature in black ink, appearing to read 'James Coyne', with a stylized flourish at the end.

James Coyne
Delegate of the Civil Aviation Safety Authority

10 March 2009

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Appendix - Limitations Regarding Avidyne Primary Flight Displays (PFDs)

Before conducting flight operations, pilots must review and be familiar with the Crosscheck Monitor section of the Avidyne Primary Flight Display Pilot's Guide and all limitations contained in the aircraft operating handbook.

As a normal practice, all pilots should be vigilant in conducting proper preflight and in-flight checks of instrument accuracy, including:

- Preflight check of the accuracy of both the primary and backup altimeter against known airfield elevation and against each other.
- Verification of airspeed indications consistent with prevailing conditions at startup, during taxi, and prior to takeoff.
- "Airspeed alive" check and reasonable indications during takeoff roll.
- Maintenance of current altimeter setting in both primary and backup altimeters.
- Cross-check of primary and backup altimeters at each change of altimeter setting and prior to entering instrument meteorological conditions (IMC).
- Cross-check of primary and backup altimeters and validation against other available data, such as glideslope intercept altitude, prior to conducting any instrument approach.
- Periodic cross-checks of primary and backup airspeed indicators, preferably in combination with altimeter cross-checks.

For flight operations under instrument flight rules (IFR) or in conditions in which visual reference to the horizon cannot be reliably maintained (that is IMC, night operations, flight operations over water, in haze or smoke) and the pilot has reasons to suspect that any source (PFD or back-up instruments) of attitude, airspeed, or altitude is not functioning properly, flight under IFR or in these conditions must not be initiated (when condition is determined on the ground) and further flight under IFR or in these conditions is prohibited until equipment is serviced and functioning properly.

Operation of aircraft not equipped with operating backup (or standby) attitude, altimeter, and airspeed indicators that are located where they are readily visible to the pilot is prohibited.

Pilots must frequently scan and crosscheck flight instruments to make sure the information depicted on the PFD correlates and agrees with the information depicted on the backup instruments.