

[Federal Register: July 15, 2002 (Volume 67, Number 135)]
[Rules and Regulations]
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From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr15jy02-2]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2000-CE-14-AD; Amendment 39-12819; AD 2002-14-19]

RIN 2120-AA64

Airworthiness Directives; Rockwell Collins, Inc. ADC-85, ADC-85A, ADC-850D, and ADC-850F Air Data Computers

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that applies to certain Rockwell Collins, Inc. (Rockwell Collins) ADC-85, ADC-85A, ADC-850D, and ADC-850F air data computers that are installed on airplanes. This AD requires you to replace any affected air data computer (ADC) with one that has a reprogrammed and tested central processing unit (CPU) circuit card and circuit card assembly. This AD is the result of a flight test that showed that these ADC's could display an unwarranted ADC flag in response to the airplane's "Normal/Alternate Air" static source selection capability. The actions specified by this AD are intended to prevent an unwarranted display of the ADC flag when switching static air sources. This could cause the flight crew to react to this incorrect flight information and possibly result in an unsafe operating condition.

DATES: This AD becomes effective on August 23, 2002.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of August 23, 2002.

ADDRESSES: You may get the service information referenced in this AD from Rockwell Collins, Business and Regional Systems, 400 Collins Road Northeast, Cedar Rapids, Iowa 52498; telephone: (319) 295-2512; facsimile: (319) 295-5064. You may view this information at the Federal Aviation Administration (FAA), Central Region, Office of the Regional Counsel, Attention: Rules Docket No. 2000-CE-14-AD, 901 Locust, Room 506, Kansas City, Missouri 64106; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Roger A. Souter, FAA, Wichita Aircraft Certification Office (ACO), 1801 Airport Road, Room 100, Wichita, Kansas 67209; telephone: (316) 946-4134; facsimile: (316) 946-4407. E-mail address: Roger.Souter@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

What Events Have Caused This AD?

The air data computer (ADC), as part of its monitoring process, tests for errant sensor behavior such as unreasonable jumps in altitude and unreasonably high vertical speed. When the ADC detects an errant sensor behavior, the ADC displays a flag for 5.5 seconds plus the time it takes for the sensor to settle within the limits for another 5.5-second period. This results in a minimum ADC flag display of 11 seconds.

Testing of certain Rockwell Collins ADCs reveals the ADC could display unwarranted flags on aircraft where you can select the "Normal/Alternate Air" static source. When there is a significant difference between normal and alternate/revisionary static air sources, you can exceed the ADC monitor thresholds and the ADC would display flags.

If the flight crew used the undesirable ADC flag displays to deselect the alternate static air source before the initial 11-second display period, a valid air source may have been deselected. Confusion could result when the previously unflagged normal static air source is reselected. This may also result in the ADC displaying a flag for the first 11 seconds. The affected ADC's include:

Unit	Part No.	Applicable to Serial No.
ADC-85 (Incorporating Rockwell Collins Service Bulletin No. 58)	622-8051-002 622-8051-003	All units.
ADC-85A (Incorporating Rockwell Collins Service Bulletin No. 58)	822-0370-113 822-0370-123 822-0370-139 822-0370-404 822-0370-408	All units.
ADC-850D (Incorporating Rockwell Collins Service Bulletin No. 58) ...	822-0389-133	All up to and including 3DGW (except for 1P6D, 22RC-22RF, and 23WK-3DGP).
ADC-850F	822-1036-406 822-1036-418	All Units.

What Is the Potential Impact If FAA Took No action?

If these situations were to occur while the flight crew was making critical flight decisions, this unwarranted ADC flag could distract the crew and the lack of attention to the critical actions could result in an unsafe operating condition.

Has FAA Taken Any Action to This Point?

We issued a proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that would apply to certain Rockwell Collins ADC-85, ADC-85A, ADC-850D, and ADC-850F air data computers that are installed on airplanes. This proposal was published in the Federal Register as a supplemental notice of proposed rulemaking (NPRM) on March 30, 2002 (67 FR 12910). The supplemental NPRM proposed to require you to replace any affected ADC with one that has a reprogrammed and tested CPU circuit card and circuit card assembly.

Was the Public Invited to Comment?

The FAA encouraged interested persons to participate in the making of this amendment. The following presents the comment received on the proposal and FAA's response to the comment:

Comment Issue: Remove Saab Model 340 from the Applicable Airplane Model List

What Is the Commenter's Concern?

A commenter states that, even though fitted with the subject ADC, the Saab 340 is not designed with the ability to use alternate static sources.

What Is FAA's Response to the Concern?

We concur that the airplane is not designed with the ability to use alternate static sources. Therefore, we are removing the Saab 340 from the applicable airplane model list.

FAA's Determination

What Is FAA's Final Determination on This Issue?

After careful review of all available information related to the subject presented above, we have determined that air safety and the public interest require the adoption of the rule as proposed except for minor editorial corrections. We have determined that these minor corrections:

- Provide the intent that was proposed in the supplemental NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the supplemental NPRM.

Cost Impact

How Many Airplanes Does This AD Impact?

We estimate that this AD affects more than 329 airplanes in the U.S. registry.

What Is the Cost Impact of This AD on Owners/operators of the Affected Airplanes?

We estimate the following costs to accomplish the removal, installation, reprogramming, and testing of the ADC in each airplane:

Labor cost	Parts cost	Total cost per airplane
6 workhours x \$60 per hour = \$360	\$680	\$1040

For units that are still under warranty, Rockwell Collins will provide the parts and labor at no charge.

Regulatory Impact

Does This AD Impact Various Entities?

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

Does This AD Involve a Significant Rule or Regulatory Action?

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A copy of the final evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

Sec. 39.13 [Amended]

2. FAA amends Sec. 39.13 by adding a new AD to read as follows:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.airweb.faa.gov/rgl"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2002-14-19 Rockwell Collins, Inc.: Amendment 39-12819; Docket No. 2000-CE-14-AD.

(a) *What airplanes are affected by this AD?* This AD affects the following Rockwell Collins air data computers (ADC) that are installed in, but not limited to the airplanes that are listed below:

(1) Affected ADC's:

Unit	Collins part no. (CPN)	Applicable to serial no.
ADC-85 (Incorporating Rockwell Collins Service Bulletin No. 58)	622-8051-002 622-8051-003	All units.
ADC-85A (Incorporating Rockwell Collins Service Bulletin No. 58)	822-0370-113 822-0370-123 822-0370-139 822-0370-404 822-0370-408	All units.
ADC-850D (Incorporating Rockwell Collins Service Bulletin No. 58) ...	822-0389-133	All up to and including 3DGW (except for 1P6D, 22RC-22RF, and 23WK-3DGP).
ADC-850F	822-1036-406 822-1036-418	All Units.

(2) List of airplanes where the affected ADC could be installed. This is not a comprehensive list and airplanes not on this list that have the ADC installed through field approval or other methods are still affected by this AD:

Unit	Airplane model
ADC-85/ADC-85A	Astra AIA.
	Chinese Y7 and Y8.
	Czech LET-610.
	DC-8.
	Falcon 20F.
	Piaggio P-180.
	Raytheon B200, B300, C90A and 1900D.
ADC-850D	Lear 60.
ADC-850F	Falcon 20, 50, and 50EX.

(b) *Who must comply with this AD?* Anyone who wishes to operate any airplane that uses one of the above referenced Rockwell Collins air data computers must comply with this AD.

(c) *What problem does this AD address?* The actions specified by this AD are intended to prevent an unwarranted display of the ADC flag when switching static air sources. This could cause the flight crew to react to this incorrect flight information and possibly result in an unsafe operating condition.

(d) *What actions must I accomplish to address this problem?* To address this problem, you must accomplish the following:

Actions	Compliance	Procedures
(1) Perform the following, unless already accomplished: (i) Remove any affected ADC from the airplanes. (ii) As applicable, replace or reprogram parts or circuit card assemblies on central processing unit (CPU) circuit cards. (iii) Test the ADC. (iv) Install the modified ADC in the airplanes.	Within the next 12 calendar months after August 23, 2002 (the effective date of this AD).	In accordance with Rockwell Collins Service Bulletin No. 62, Revision No. 2, ADC-85/85A/850C/850D/850E/850F-34-62), Revision No. 2, dated March 7, 2000, or Service Bulletin No. 62, dated October 25, 1999, as applicable, the applicable Collins Computer Component Maintenance Manual, and Collins Avionics Standard Shop Practices Instruction Manual.
(2) Do not install on any airplane one of the affected ADCs unless the modification and test required by paragraphs (d)(1)(ii) and (d)(1)(iii) of this AD are accomplished	As of August 23, 2002 (the Service date of this AD).	In accordance with Rockwell Collins Service Bulletin No. 62, Revision No. 2, ADC-85/85A/850C/850D/850E/850F-34-62, dated arch 7, 2000, or Service Bulletin No. 62, dated October 25, 1999, as applicable.

Note 1: Rockwell Collins Operator Bulletin 99-7, dated August 1999, contains information about an operational placard to install until accomplishment of the actions of this AD. While not necessary to address the unsafe condition in this AD, FAA highly recommends that you incorporate this placard.

(e) *Can I comply with this AD in any other way?* You may use an alternative method of compliance or adjust the compliance time if:

- (1) Your alternative method of compliance provides an equivalent level of safety; and
- (2) The Manager, Wichita Aircraft Certification Office (ACO), approves your alternative.

Submit your request through an FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Wichita ACO.

Note 2: This AD applies to each airplane identified in paragraph (a) of this AD, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (e) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if you have not eliminated the unsafe condition, specific actions you propose to address it.

(f) *Where can I get information about any already-approved alternative methods of compliance?* Contact Roger A. Souter, FAA, Wichita Aircraft Certification Office (ACO), 1801 Airport Road, Room 100, Wichita, Kansas 67209; telephone: (316) 946-4134; facsimile: (316) 946-4407, E-mail: Roger.Souter@faa.gov.

(g) *What if I need to fly the airplane to another location to comply with this AD?* The FAA can issue a special flight permit under sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate your airplane to a location where you can accomplish the requirements of this AD.

(h) *Are any service bulletins incorporated into this AD by reference?* Actions required by this AD must be done in accordance with Rockwell Collins Service Bulletin No. 62, Revision No. 2, ADC-85/85A/850C/850D/850E/850F-34-62, dated March 7, 2000, or Rockwell Collins Service Bulletin No. 62, ADC-85/85A/850C/850F-34-62, dated October 25, 1999. The Director of the Federal Register approved this incorporation by reference under 5 U.S.C. 552(a) and 1 CFR part 51. You may get copies from Rockwell Collins, Business and Regional Systems, 400 Collins Road Northeast, Cedar Rapids, Iowa 52498. You may view copies at the FAA, Central Region, Office of the Regional Counsel, 901 Locust, Room 506, Kansas City, Missouri, or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(i) *When does this amendment become effective ?* This amendment becomes effective on August 23, 2002.

Issued in Kansas City, Missouri, on July 3, 2002.

Dorenda D. Baker,
Acting Manager, Small Airplane Directorate, Aircraft Certification Service.
[FR Doc. 02-17306 Filed 7-12-02; 8:45 am]
BILLING CODE 4910-13-P