

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2003-CE-54-AD; Amendment 39-13729; AD 2004-14-20]

RIN 2120-AA64

Airworthiness Directives; The Cessna Aircraft Company Model 525 Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA supersedes Airworthiness Directive (AD) 2003-21-07, which applies to certain The Cessna Aircraft Company (Cessna) Model 525 airplanes. AD 2003-21-07 currently requires you to disengage the pitch trim circuit breaker and AP servo circuit breaker and then tie strap each of them to prevent them from being engaged. Not utilizing this equipment prevents a single-point failure. This AD is the result of Cessna having now developed and made changes in the design of the affected trim printed circuit board (PCB) assembly to allow the use of the assembly and the prevention of the single-point failure, and identification of additional airplanes that have the same unsafe condition. Consequently, this AD requires you to remove and replace an old trim PCB assembly with a new design assembly or modify an old trim PCB assembly to the new design. We are issuing this AD to correct this single-point failure in the electric pitch trim system, which will result in a runaway pitch trim condition where the pilot could not disconnect using the control wheel autopilot/trim disconnect switch. Failure of the electric trim system would result in a large pitch mistrim and would cause excessive control forces that the pilot could not overcome.

DATES: This AD becomes effective on August 23, 2004.

As of August 23, 2004, the Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulation.

ADDRESSES: You may get the service information identified in this AD from The Cessna Aircraft Company, Product Support, P.O. Box 7706, Wichita, Kansas 67277; telephone: (316) 517-6000; facsimile: (316) 517-8500.

You may view the AD docket at FAA, Central Region, Office of the Regional Counsel, Attention: Rules Docket No. 2003-CE-54-AD, 901 Locust, Room 506, Kansas City, Missouri 64106. Office hours are 8 a.m. to 4 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Dan Withers, Aerospace Engineer, Wichita Aircraft Certification Office, FAA, 1801 Airport Road, Wichita, Kansas 67209; telephone: (316) 946-4196; facsimile: (316) 946-4107.

SUPPLEMENTARY INFORMATION:

Discussion

What events have caused this AD? A report of an accident involving a Cessna Model 525 airplane where the pilot reported a problem with the pitch trim system, and later Cessna and FAA analysis that revealed the potential for a single-wire shorting caused us to issue AD 2003-21-07, Amendment 39-13342 (68 FR 60028, October 21, 2003). AD 2003-21-07 currently requires you to do the following on Cessna Model 525 airplanes:

- Disengage the pitch trim circuit breaker and AP servo circuit breaker; and
- Tie strap each of them to prevent them from being engaged.

What has happened since AD 2003-21-07 to initiate this action? AD 2003-21-07 is considered an interim action since compliance corrected the condition where the control wheel autopilot/trim disconnect switch did not stop the runaway condition. However, AD 2003-21-07 did not correct the issue of the single-point failure while still utilizing the desired equipment. Cessna has now developed and made changes in the design of the affected trim printed circuit board (PCB) assembly to eliminate the single-point failure while allowing the use of the equipment, and identified additional airplanes that have the same unsafe condition.

What is the potential impact if FAA took no action? Failure of the electric trim system would result in a large pitch mistrim and would cause excessive control forces that the pilot could not overcome.

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 Cessna Model 525 airplanes. This proposal was published in the Federal Register as a notice of proposed rulemaking (NPRM) on February 11, 2004 (69 FR 6585). The NPRM proposed to supersede AD 2003-21-07 with a new AD that would require you to:

- Remove any 6518351-3 or 6518351-5 trim PCB assembly and replace with a 6518351-10 (EX) trim PCB assembly; or
- Modify the 6518351-8 trim PCB assembly to a 6518351-10 trim PCB assembly.

Comments

Was the public invited to comment? We provided the public the opportunity to participate in developing this AD. We received no comments on the proposal or on the determination of the cost to the public.

Conclusion

What is FAA's final determination on this issue? We have carefully reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed except for minor editorial corrections. We have determined that these minor corrections:

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

Changes to 14 CFR Part 39–Effect on the AD

How does the revision to 14 CFR part 39 affect this AD? On July 10, 2002, the FAA published a new version of 14 CFR part 39 (67 FR 47997, July 22, 2002), which governs the FAA's AD system. This regulation now includes material that relates to altered products, special flight permits, and alternative methods of compliance. This material previously was included in each individual AD. Since this material is included in 14 CFR part 39, we will not include it in future AD actions.

Costs of Compliance

How many airplanes does this AD impact? We estimate that this AD affects 251 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 modification of the 6518351-8 trim PCB assembly to a 6518351-10 trim PCB assembly. We have no way of determining the number of airplanes that may need this modification:

Labor cost	Parts cost	Total cost per airplane
4 workhours × \$65 per hour = \$260	\$2,995	\$2,995 + \$260 = \$3,255.

We estimate the following costs to accomplish the replacement of any 6518351-3 or 6518351-5 trim PCB assembly with a 6518351-10 (EX) trim PCB assembly. We have no way of determining the number of airplanes that may need this replacement:

Labor cost	Parts cost	Total cost per airplane
2 workhours × \$65 per hour = \$130	\$2,995	\$2,995 + \$130 = \$3,125.

What is the difference between the cost impact of this AD and the cost impact of AD 2003-21-07? The estimated cost impact of AD 2003-21-07 on each of the 116 airplanes in the U.S. registry affected by AD 2003-21-07 is \$65. This is to disengage the pitch trim circuit breaker and AP servo circuit breaker and then tie strap each of them to prevent them from being engaged.

The estimated cost of this AD is \$3,125 or \$3,255 on each of 251 airplanes in the U.S. registry to do the replacement or modification of the trim PCB assembly.

Compliance Time of This AD

What is the compliance time of this AD? The compliance time of this AD is "within the next 24 calendar months after the effective date of this AD or within 300 hours time-in-service (TIS) after the effective date of this AD, whichever occurs first."

Why is the compliance time of this AD presented in both hours TIS and calendar time? A single-wire shorting to 28 volts or a failure of a relay that results in the relay contacts remaining closed is a direct result of airplane operation. For example, either failure could occur on an affected airplane within a short period of airplane operation while you could operate another affected airplane for a considerable amount of time without experiencing either failure. Therefore, to assure that either failure is detected and corrected in a timely manner without inadvertently grounding any of the affected airplanes, we are using a compliance time based upon both hours TIS and calendar time.

Regulatory Findings

Will this AD impact various entities? We have determined that this AD will not have federalism implications under Executive Order 13132. This AD 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.

Will this AD involve a significant rule or regulatory action? For the reasons discussed above, I certify that this AD:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the 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.

We prepared a summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary by sending a request to us at the address listed under ADDRESSES. Include "AD Docket No. 2003-CE-54-AD" in your request.

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.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 2003-21-07, Amendment 39-13342 (68 FR 60028, October 21, 2003), and 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.faa.gov"

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).

CORRECTION: There is a mistake in the Federal Register, pg 41922, col 2, compliance table (1), of AD 2004-14-20. It should read: "Within 5 calendar days or 10 hours time-in-service after October 22, 2003 (the effective date of AD 2003-21-07), whichever occurs first." The FR will issue a correction. We've corrected this copy.

2004-14-20 The Cessna Aircraft Company: Amendment 39-13729; Docket No. 2003-CE-54-AD; Supersedes AD 2003-21-07; Amendment 39-13342.

When Does This AD Become Effective?

- (a) This AD becomes effective on August 23, 2004.

What Other ADs Are Affected by This Action?

- (b) This AD supersedes AD 2003-21-07.

What Airplanes Are Affected by This AD?

(c) This AD affects Model 525 airplanes with the following serial numbers that are certificated in any category:

- (1) Group 1 (maintains the actions from AD 2003-21-07): 525-0001, 525-0002, and 525-0004 through 525-0159.
- (2) Group 2: 525-0160 through 525-0359.

What Is the Unsafe Condition Presented in This AD?

(d) This AD is the result of Cessna having now developed and made changes in the design of the affected trim printed circuit board (PCB) assembly to allow the use of the assembly and the prevention of the single-point failure, and identification of additional airplanes that have the same unsafe condition. The actions specified in this AD are intended to correct this single-point failure in the electric pitch trim system, which will result in a runaway pitch trim condition where the pilot could not disconnect using the control wheel autopilot/trim disconnect switch. Failure of the electric trim system would result in a large pitch mistrim and would cause excessive control forces that the pilot could not overcome.

What Must I Do To Address This Problem?

- (e) To address this problem, you must do the following:

Actions	Compliance	Procedures
(1) <i>For Group 1 airplanes only:</i> Disengage the PITCH TRIM circuit breaker located on the left circuit breaker panel. Install a tie strap (part number (P/N) MS3367-1-4 or equivalent part number) on the shaft of the PITCH TRIM circuit breaker to prevent the circuit breaker from being engaged.	Within 5 calendar days or 10 hours time-in-service after October 22, 2003 (the effective date of AD 2003-21-07), whichever occurs first.	Not Applicable.
(2) <i>For Group 1 airplanes only:</i> Disengage the AP SERVOS circuit breaker located in the right circuit breaker panel. Install a tie strap (P/N MS3367-1-4 or equivalent part number) on the shaft of the AP SERVOS circuit breaker from being engaged.	Within 5 calendar days or 10 hours time-in-service after October 22, 2003 (the effective date of AD 2003-21-07), whichever occurs first.	Not Applicable.
(3) The Minimum Crew portion of Section II—Operating Limitations of the Airplane Flight Manual (AFM) provides information on applicable operating limitations with the autopilot inoperable.	Not Applicable	Not Applicable.
(4) All affected airplanes were originally equipped with a P/N 6518351-3 or P/N 6518351-5 Trim PCB Assembly. If a P/N 6518351-8 Trim PCB Assembly is installed, contact the Wichita Aircraft Certification Office at the address in paragraph (f) of this AD to determine if the installed P/N 6518351-8 Trim PCB assembly is an alternative method of compliance to this AD.	Not Applicable	Not Applicable.
(5) Cessna Citation Alert Service Letter ASL525-27-02, dated October 10, 2003, contains information related to this subject.	Not Applicable	Not Applicable.
(6) <i>For both Group 1 and Group 2 airplanes:</i> Do the trim PCB assembly change as follows: (i) Modify the 6518351-8 trim PCB assembly to a 6518351-10 trim PCB assembly; or (ii) Replace any 6518351-3 or 6518351-5 trim PCB assembly with a 6518351-10 (EX) trim PCB assembly.	Within the next 24 calendar months after August 23, 2004 (the effective date of this AD) or within 300 hours time-in-service (TIS) after August 23, 2004 (the effective date of this AD), whichever occurs first, unless already done.	Follow the ACCOMPLISHMENT INSTRUCTIONS paragraph of Cessna Citation Service Bulletin No. SB525-27-17, dated December 9, 2003.
(7) <i>For both Group 1 and Group 2 airplanes:</i> Remove any tie strap (P/N MS3367-1-4 or equivalent part number) on the AP SERVOS and PITCH TRIM circuit breakers. (Required by AD 2003-21-07.).	Before further flight after the modification or replacement of the trim PCB assembly required by paragraph (e)(6)(i) or (e)(6)(ii) of this AD.	Follow the ACCOMPLISHMENT INSTRUCTIONS paragraph of Cessna Citation Service Bulletin No. SB525-27-17, dated December 9, 2003.

May I Request an Alternative Method of Compliance?

(f) You may request a different method of compliance or a different compliance time for this AD by following the procedures in 14 CFR 39.19. Unless FAA authorizes otherwise, send your request to your principal inspector. The principal inspector may add comments and will send your request to the Manager, Wichita Aircraft Certification Office (ACO), FAA.

(1) For information on any already approved alternative methods of compliance, contact Dan Withers, Aerospace Engineer, Wichita ACO, FAA, 1801 Airport Road, Wichita, Kansas 67209; telephone: (316) 946-4196; facsimile: (316) 946-4107.

(2) Alternative methods of compliance approved for AD 2003-21-07 are not approved as alternative methods of compliance for this AD.

Does This AD Incorporate Any Material by Reference?

(g) You must do the actions required by this AD following the instructions in Cessna Citation Service Bulletin No. SB525-27-17, dated December 9, 2003. The Director of the Federal Register approved the incorporation by reference of this service bulletin in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may get a copy from The Cessna Aircraft Company, Product Support, P.O. Box 7706, Wichita, Kansas 67277; telephone: (316) 517-6000; facsimile: (316) 517-8500. You may review copies at FAA, Central Region, Office of the Regional Counsel, 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.

Issued in Kansas City, Missouri, on July 1, 2004.

David R. Showers,

Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. 04-15666 Filed 7-12-04; 8:45 am]

BILLING CODE 4910-13-P