

[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [65 FR 70645 11/27/2000]

[Docket No. 99-CE-66-AD; Amendment 39-11971; AD 2000-23-01]

RIN 2120-AA64

Airworthiness Directives; Cessna Aircraft Company Model 402C Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment supersedes Airworthiness Directive (AD) 99-11-13, which currently requires inspecting (one-time) the forward, aft, and auxiliary wing spars for cracks on certain Cessna Aircraft Company (Cessna) Model 402C airplanes, and repairing any cracks found. AD 99-11-13 also requires reporting the results of the inspection to the Federal Aviation Administration (FAA) to provide data to help us determine whether the inspection should be repetitive. After re-evaluating the fatigue analysis for the wing spars on the affected airplanes, we have determined that spar cap cracking is not an isolated condition and could continue to develop over the life of the affected airplanes. This AD retains the inspection required in AD 99-11-13, and will make the inspection repetitive. The actions specified by this AD are intended to detect and correct any cracks in the forward, aft, and auxiliary wing spars, which could result in reduced or loss of control of the airplane.

DATES: This AD becomes effective on December 21, 2000.

The Director of the Federal Register previously approved the incorporation by reference of certain publications listed in the regulation as of June 21, 1999 (64 FR 29781, June 3, 1999).

ADDRESSES: You may get the service information referenced in this AD from the Cessna Aircraft Company, P. O. Box 7706, Wichita, Kansas 67277; telephone: (316) 941-7550, facsimile: (316) 942-9008. You may examine this information at FAA, Central Region, Office of the Regional Counsel, Attention: Rules Docket No. 99-CE-66-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: Eual Conditt, Aerospace Engineer, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Mid-Continent Airport, Wichita, Kansas 67209, telephone: (316) 946-4128; facsimile: (316) 946-4407.

SUPPLEMENTARY INFORMATION:

Discussion

What prior AD action did FAA take on this subject? We issued AD 99-11-13, Amendment 39-11184 (64 FR 29781, June 3, 1999), in order to detect and correct cracks in the forward, aft, and auxiliary spars of Cessna Model 402C airplanes. AD 99-11-13 currently requires you to accomplish the following on the affected airplanes:

- inspect the forward, aft, and auxiliary wing spars for cracks in accordance with Cessna Service Bulletin MEB99-3, dated May 6, 1999;
- repair any cracks found in accordance with an FAA-approved repair scheme; and
- report the results of the inspection to FAA.

AD 99-11-13 was the result of an accident of one of the affected airplanes where the right-hand wing failed just inboard of the nacelle at Wing Station (WS) 87. Investigation of this accident revealed fatigue cracking of the forward main spar that initiated at the edge of the front spar forward lower spar cap.

What has happened to necessitate further AD action? The reason for the reporting requirement of AD 99-11-13 was to provide data to FAA on the extent of cracking in the forward, aft, and auxiliary wing spars on the affected airplanes. After re-evaluating the fatigue analysis for the wing spars on the affected airplanes, we have determined that spar cap cracking is not an isolated condition and could continue to develop over the life of the affected airplanes.

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 402C airplanes. This proposal was published in the *Federal Register* as a notice of proposed rulemaking (NPRM) on June 21, 2000 (65 FR 38448). The NPRM proposed to supersede AD 99-11-13, Amendment 39-11184. The NPRM also proposed to retain the inspection requirements of AD 99-11-13, and proposed to make the inspection repetitive.

What is the potential impact if FAA took no action? These actions are necessary to continue to detect and correct any cracks in the forward, aft, and auxiliary wing spars, which could result in reduced or loss of control of the airplane.

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

Comment Disposition

What is the commenters' concerns? Two commenters request that FAA change the compliance time of the proposed AD based on their individual circumstances. Both commenters utilize the affected airplanes and accumulate over 1,000 hours time-in-service (TIS) per year. The commenters display concern over the safety problems that could occur with the frequency of inspections because of mechanic complacency. The commenters' recommendations are as follows:

- incorporate an hours TIS or calendar (whichever occurs later) compliance time, e.g., 110 hours TIS or 6 months, whichever occurs later; and
- allow the inspections at 360-hour TIS intervals instead of the proposed 100-hour TIS intervals for operators with FAA-approved inspection programs and who do not operate in accordance with the annual/100-hour inspection requirements.

What is FAA's response to the concern? While FAA recognizes mechanic complacency as a viable concern, results of damage tolerance analysis and testing support the 100-hour TIS repetitive inspection compliance time. Should a crack initiate through any means (manufacturing process, fatigue, corrosion, mechanical damage, etc.), the 100-hour TIS inspection interval provides at least two inspections between crack initiation and development to a critical crack length in order to detect and correct the condition.

We will consider individual extensions to the compliance times as alternative methods of compliance provided they:

- provide a level of safety that is acceptable to the FAA; and
- are submitted using the procedures in the AD.

We are not making any changes to the final rule as a result of these comments.

The FAA's Determination

What is FAA's final determination on this issue? We carefully reviewed all available information related to the subject presented above and determined that air safety and the public interest require the adoption of the rule as proposed except for minor editorial changes. These changes provide the intent that was proposed in the NPRM for correcting the unsafe condition and do not impose any additional burden than what was intended in the NPRM.

Is there a modification I can incorporate instead of repetitively inspecting the wing spars? The FAA has determined that long-term continued operational safety would be better assured by design changes that remove the source of the problem, rather than by repetitive inspections or other special procedures. With this in mind, FAA is working with Cessna in developing a strap installation that would have the capability of carrying airplane ultimate load if the spar cap was fractured. The intent is that this strap could be inspected and that the inspections of this strap would be incorporated into the operator's maintenance program, as a replacement for the repetitive inspections required by this AD.

The FAA may consider additional rulemaking action if this modification is developed and subsequently FAA-approved.

Cost Impact

How many airplanes does this AD impact? We estimate that this AD affects 225 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 initial inspection:

Labor Cost	Parts Cost	Total Cost Per Airplane	Total Cost on U.S. Airplane Operators
3 workhours X \$60 per hour = \$180.	No parts required for the inspection.	\$180 per airplane.	\$40,500.

What about the cost of repetitive inspections? The FAA has no method of determining the number of repetitive inspections each owner/operator will incur over the life of each of the affected airplanes so the cost impact is based on the initial inspection.

What is the difference between the cost impact of this AD and the cost impact of AD 99-11-13?

The cost impact of this AD is the same as is currently required by AD 99-11-13. The only difference between this AD and AD 99-11-13 is the repetitive inspections of each affected airplane owner/operator. As discussed above, FAA has no way of determining the repetitive inspection costs.

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.

§ 39.13 [Amended]

2. FAA amends § 39.13 by removing Airworthiness Directive (AD) 99-11-13, Amendment 39-11184 (64 FR 29781, June 3, 1999), 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 "av-info.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).

2000-23-01 CESSNA AIRCRAFT COMPANY: Amendment 39-11971; Docket No. 99-CE-66-AD; Supersedes AD 99-11-13, Amendment 39-11184.

(a) What airplanes are affected by this AD? Any Model 402C airplane, certificated in any category, that has a serial number that falls within one of the following ranges:

- (1) 689;
- (2) 402C0001 through 402C0125;
- (3) 402C0201 through 402C0355;
- (4) 402C0401 through 402C0528;
- (5) 402C0601 through 402C0653; and
- (6) 402C0801 through 402C1020.

(b) Who must comply with this AD? Anyone who wishes to operate any of the above airplanes must comply with this AD.

(c) What problem does this AD address? The actions specified by this AD are intended to detect and correct any cracks in the forward, aft, and auxiliary wing spars, which could result in reduced or loss of control of the airplane.

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

Actions	Compliance Times	Procedures
(1) Accomplish both an external and internal inspection of the forward, aft, and auxiliary wing spars for cracks.	Initially inspect upon accumulating 10,000 hours total time-in-service (TIS) on the airplane or within the next 25 hours TIS after June 21, 1999 (the effective date of AD 99-11-13), whichever occurs later. Repetitively inspect thereafter within 110 hours TIS after the last inspection required by this AD or AD 99-11-13, whichever is applicable, and thereafter at intervals not to exceed 110 hours TIS.	Accomplish these inspections in accordance with the ACCOMPLISHMENT INSTRUCTIONS section of Cessna Service Bulletin MEB99-3, dated May 6, 1999.

Actions	Compliance Times	Procedures
<p>(2) If any crack is found on any forward, aft, or auxiliary wing spar during any inspection required by this AD, accomplish the following:</p> <p>(i) Obtain an FAA-approved repair scheme from the Cessna Aircraft Company, P.O. Box 7706, Wichita, Kansas 67277; telephone: (316) 941-7550, facsimile: (316) 942-9008; and</p> <p>(ii) Incorporate this repair scheme.</p>	<p>Prior to further flight after the inspection where the crack is found.</p>	<p>Not Applicable.</p>

Note 1: The 110-hour TIS interval repetitive inspection time is established to allow this action to be accomplished with regular maintenance. The FAA initially determined that 100-hour TIS intervals would provide the safety intent, but has since determined that the 110-hour TIS intervals would provide the same safety intent while providing a 10-percent time flexibility in scheduling to coincide with regular maintenance.

Note 2: The compliance times specified in Cessna Service Bulletin MEB99-3, dated May 6, 1999, are different than those required by this AD. The times in this AD take precedence over those in the service bulletin.

(e) Can I comply with this AD in any other way?

(1) You may use an alternative method of compliance or adjust the compliance time if:

(i) Your alternative method of compliance provides an equivalent level of safety; and

(ii) 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, 1801 Airport Road, Room 100, Mid-Continent Airport, Wichita, Kansas 67209.

(2) Alternative methods of compliance that were approved in accordance with AD 99-11-13 are considered approved as alternative methods of compliance for this AD.

Note 3: 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 Eual Conditt, Aerospace Engineer, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Mid-Continent Airport, Wichita, Kansas 67209, telephone: (316) 946-4128; facsimile: (316) 946-4407.

(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 Cessna Service Bulletin MEB99-3, dated May 6, 1999. The Director of the Federal Register previously approved this incorporation by reference under 5 U.S.C. 552(a) and 1 CFR part 51, as of June 21, 1999 (64 FR 29781, June 3, 1999). You can get copies from the Cessna Aircraft Company, P. O. Box 7706, Wichita, Kansas 67277. You can look at 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) Does this AD action affect any existing AD actions? This amendment supersedes AD 99-11-13, Amendment 39-11184.

(j) When does this amendment become effective ? This amendment becomes effective on December 21, 2000.

FOR FURTHER INFORMATION CONTACT: Eual Conditt, Aerospace Engineer, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Mid-Continent Airport, Wichita, Kansas 67209, telephone: (316) 946-4128; facsimile: (316) 946-4407.

Issued in Kansas City, Missouri, on November 2, 2000.

Michael K. Dahl, Acting Manager, Small Airplane Directorate, Aircraft Certification Service.