

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2005-20513; Directorate Identifier 2005-CE-07-AD; Amendment 39-14022; AD 2005-05-52]

RIN 2120-AA64

Airworthiness Directives; the Cessna Aircraft Company Models 402C and 414A Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) to supersede emergency AD 2005-05-51 and AD 2000-23-01 for The Cessna Aircraft Company (Cessna) Models 402C and 414A airplanes. This AD contains the same information as emergency AD 2005-05-52 and publishes the action in the Federal Register. It requires you to eddy current inspect the forward wing spars and visually inspect the aft and auxiliary spars. This AD is the result of extensive cracks found on three wing spars of the affected airplanes. We are issuing this AD to detect and correct cracking in the wing spars before the cracks grow to failure. Such a wing failure could result in the wing separating from the airplane with consequent loss of control of the airplane.

DATES: This AD becomes effective on March 21, 2005, to all affected persons who did not receive emergency AD 2005-05-52, issued March 2, 2005. Emergency AD 2005-05-52 contained the requirements of this amendment and became effective immediately upon receipt. As of March 21, 2005, the Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations.

We must receive any comments on this AD by April 30, 2005.

ADDRESSES: Use one of the following to submit comments on this AD:

- DOT Docket Web site: Go to <http://dms.dot.gov> and follow the instructions for sending your comments electronically.
- Government-wide rulemaking Web site: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.
- Mail: Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-001.
- Fax: 1-202-493-2251.

- Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- To get the service information identified in this proposed AD, contact The Cessna Aircraft Company, Product Support P.O. Box 7706, Wichita, Kansas 67277; telephone: (316) 517-5800; facsimile: (316) 942-9006.

To view the comments to this AD, go to <http://dms.dot.gov>. The docket number is FAA-2005-20513; Directorate Identifier 2005-CE-07-AD.

FOR FURTHER INFORMATION CONTACT: Paul Nguyen, Aerospace Engineer, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Mid-Continent Airport, Wichita, Kansas 67209; telephone: (316) 946-4125; facsimile: (316) 946-4107; e-mail: paul.nguyen@faa.gov.

SUPPLEMENTARY INFORMATION: What events caused previous FAA AD action? The FAA has received reports of (and is analyzing data from) cracks found in the wings of two Cessna Model 402C airplanes.

On the first airplane, early information indicates the airplane had severe cracking on its left wing in the vicinity of the forward spar and outboard engine beam. The main lower spar cap had completely failed at about Wing Station (WS) 114. The airplane also had cracks in the lower wing skin and the web splice doubler. Also found were two popped rivets: one between the heat shield and the wing skin and another between the factory installed web splice doublers and web. The airplane had 20,355 total hours time-in-service (TIS).

During the airplane's most recent flights before the cracking was found, the pilot noticed that roll trim was required. The flights required the pilot to use aileron trim for level flight to keep the wings level. The airplane landed safely and inspection revealed the cracks.

On the second airplane, fatigue cracks were found at about WS 114 in the main lower spar cap of another Model 402C airplane that had over 20,000 total hours TIS. Fatigue analysis shows that similar fatigue cracks could also develop in the wings of the Model 414A airplanes.

Airworthiness Directive (AD) 2000-23-01, Amendment 39-11971 (65 FR 70645), required repetitive visual inspections of the forward, aft, and auxiliary wing spars for cracks on Cessna Model 402C airplanes. These inspections are at intervals not to exceed 110 hours TIS.

Logbook records indicated that both airplanes with cracked spars were in compliance with AD 2000-23-01.

The FAA's analysis of the incidents presented above showed that, in the interim, the inspections of AD 2000-23-01 should be done more frequently and particular attention paid to certain areas.

Therefore, FAA issued Emergency AD 2005-05-51 to detect and correct cracking in the wing spars of the Cessna Models 402C and 414A airplanes before the cracks grow to failure. Such a wing failure could result in the wing separating from the airplane with consequent loss of control of the airplane.

Emergency AD 2005-05-51 superseded AD 2000-23-01 and:

- Required the visual inspections of the forward, aft, and auxiliary wings spars for cracks more frequently on Model 402C airplanes including special emphasis areas;
- Added inspection requirements for the Model 414A airplanes; and
- Included provisions to position the airplane to a home base, hangar, maintenance facility, etc.

Emergency AD 2005-05-51 did not affect those airplanes that incorporate a spar strap modification on each wing following the original release of (or a later FAA-approved revision to) Cessna Service Bulletin MEB02-5 and Cessna Service Kit SK402-47 (currently at MEB02-5 Revision 2 and SK402-47B).

What has caused this particular AD action? Emergency AD 2005-05-51 was considered an interim action to immediately require visual inspection of the forward, aft, and auxiliary wing spars for cracks. The intent was to detect immediate and existing cracking before it grew to wing failure.

The FAA has also received a report of a third crack found at WS 112 on a Model 402C airplane.

Cessna has developed new inspection techniques (eddy current) for the forward spar that are more effective at detecting cracks before the structural integrity of the wing is compromised. These inspection techniques will allow for longer intervals between repetitive inspections than in emergency AD 2005-05-51.

Recent fatigue analysis that Cessna did (and the FAA reviewed) reveals that eddy current inspections of the forward wing spars combined with visual inspections of the aft and auxiliary spars will address the unsafe condition of these airplanes until long-term continued operational safety is assured through the Cessna-developed and FAA-approved spar strap modifications. Specifically:

- The eddy current inspection will replace the visual inspection of the forward spar that emergency AD 2005-05-51 currently requires; and
- The visual inspections of the aft and auxiliary spars will be maintained from emergency AD 2005-05-51, but will only be required repetitively every 100 hours TIS instead of every 15 hours TIS.

Cessna has issued the following service information to include procedures to eddy current inspect the Models 402C and 414A airplanes:

- Cessna Service Bulletin MEB99-3, Revision 2, dated February 28, 2005 (Model 402C); or
- Cessna Service Bulletin MEB00-7, Revision 2, dated February 28, 2005 (Model 414A).

The FAA's Determination

After careful review of all available information related to the subject presented above, including the above-referenced service bulletins, FAA has determined that:

- The forward wings spars should be inspected using eddy current methods on Cessna Models 402C and 414A airplanes;
- The visual inspections of the aft and auxiliary spars should be maintained from emergency AD 2005-05-51 (but not inspected as often); and
- AD action should be taken to detect and correct cracking in the wing spars before the cracks grow to failure. Such a wing failure could result in the wing separating from the airplane with consequent loss of control of the airplane.

Consequently, we issued emergency AD 2005-05-52 to supersede emergency AD 2005-05-51.

Why is it important to publish this AD? The FAA found that immediate corrective action was required, that notice and opportunity for prior public comment were impracticable and contrary to the public interest, and that good cause existed to make the AD effective immediately by individual letters issued on March 2, 2005, to all known U.S. operators of Cessna Models 402C and 414A airplanes. These conditions still exist, and the AD is published in the Federal Register as an amendment to section 39.13 of the Federal Aviation Regulations (14 CFR 39.13) to make it effective to all persons.

Comments Invited

Will I have the opportunity to comment before you issue the rule? This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment; however, we invite you to submit any written relevant data, views, or arguments regarding this AD. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2005-20513; Directorate Identifier 2005-CE-07-AD" in the subject line of your comments. If you want us to acknowledge receipt of your mailed comments, send us a self-addressed, stamped postcard with the docket number written on it; we will date-stamp your postcard and mail it back to you. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify it. If a person contacts us through a nonwritten communication, and that contact relates to a substantive part of this AD, we will summarize the contact and place the summary in the docket. We will consider all comments received by the closing date and may amend the AD in light of those comments.

Authority for This Rulemaking

What authority does FAA have for issuing this rulemaking action? Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106 describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority.

We are issuing this rulemaking under the authority described in subtitle VII, part A, subpart III, section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this AD.

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 "Docket No. FAA-2005-20513; Directorate Identifier 2005-CE-07-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) 2000-23-01, Amendment 39-11971 (65 FR 70645), and adding the following new AD:

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).

2005-05-52 The Cessna Aircraft Company: Amendment 39-14022; Docket No. FAA-2005-20513; Directorate Identifier 2005-CE-07-AD.

When Does This AD Become Effective?

(a) This AD becomes effective on March 21, 2005, to all affected persons who did not receive emergency AD 2005-05-52, issued March 2, 2005. Emergency AD 2005-05-52 contained the requirements of this amendment and became effective immediately upon receipt.

Are Any Other ADs Affected by This Action?

- (b) This AD supersedes the following:
- (1) Emergency AD 2005-05-51, issued February 20, 2005; and
 - (2) AD 2000-23-01, Amendment 39-11971.

What Airplanes Are Affected by This AD?

- (c) This AD affects Model 402C and 414A airplanes, all serial numbers, that:
- (1) are certificated in any category; and
 - (2) do not incorporate a spar strap modification on each wing spar following the original release of (or a later FAA-approved revision to) Cessna Service Bulletin MEB02-5 and Cessna Service Kit SK402-47 (currently at MEB02-5 Revision 2 and SK402-47B).

What Is the Unsafe Condition Presented in This AD?

(d) This AD is the result of extensive cracks found on three wing spars of the affected airplanes. We are issuing this AD to detect and correct cracking in the wing spars before the cracks grow to failure. Such a wing failure could result in the wing separating from the airplane with consequent loss of control of the airplane.

What Must I Do to Address This Problem?

(e) Visual Inspections for all Model 402C airplanes With Fewer than 15,000 Hours Total Time-in-service (TIS): Initially inspect upon accumulating 10,000 hours TIS on the airplane or at the next inspection that would have been required by AD 2000-23-01 or emergency AD 2005-05-51, whichever occurs later. Repetitively inspect thereafter at intervals not to exceed 110 hours TIS until accumulating 15,000 hours TIS:

- (1) Perform both a visual external and internal inspection of the forward, aft, and auxiliary wing spars for cracks.

(2) Do these visual inspections following the Accomplishment Instructions section of Cessna Service Bulletin MEB99-3 (Model 402C), Revision 2, dated February 28, 2005.

(3) When doing the inspections, pay particular attention to the following areas:

(i) Just Outboard of the Engine Beam

(A) The main lower spar cap at Wing Station (WS) 114.

(B) The three rivets on both the inboard and outboard sides of WS 114 (total of six rivets) in the main lower spar cap as viewed from the access hole.

(C) The main spar web at WS 112.5.

(ii) Just Inboard of the Inboard Engine Beam

(A) The main lower spar cap between WS 80 and WS 89.

(B) The two attach bolts on the main spar just inboard of the WS 89.18 rib.

(f) Eddy Current and Visual Inspections: Perform eddy current inspections of the forward wing spars combined with visual inspections of the aft and auxiliary spars. Do these inspections following the Accomplishment Instructions section of Cessna Service Bulletin MEB99-3 (Model 402C) or Cessna Service Bulletin MEB00-7 (Model 414A), both at Revision 2 and both dated February 28, 2005.

Affected airplanes	Eddy current and visual inspections	Repetitive Eddy current and visual inspection interval
(1) For Model 414A airplanes, serial numbers 414A001 through 414A0047 and 414A0049 through 414A0200.	At whichever of the following occurs later: <ul style="list-style-type: none">• Upon accumulating 8,500 hours TIS on the airplanes;• At the next inspection that would have been required by emergency AD 2005-05-51 (required at intervals not to exceed 15 hours TIS); or• Within the next 2 days after the effective date of this AD (2 days after receipt for those who received emergency AD 200505-52).	Thereafter at intervals not to exceed 100 hours TIS.
(2) For the following airplanes that have 15,000 hours or more TIS or upon accumulating 15,000 hours TIS: (i) All Model 402C airplanes. (ii) Model 414A airplanes, serial numbers 414A0201 through 414A1212.	At whichever of the following occurs later: <ul style="list-style-type: none">• Upon accumulating 15,000 hours TIS on the airplane;• At the next inspection that would have been required by emergency AD 2005-05-51 (required at intervals not to exceed 15 hours TIS); or• Within the next 2 days after effective date of this AD (2 days after receipt for those who received emergency AD 2005-05-52).	Thereafter at intervals not to exceed 100 hours TIS.

Note: The Cessna service bulletins allow for either a visual inspection or eddy current inspection of the forward spars on all airplanes affected by this AD. Visual inspections of the forward spars do not satisfy the requirements of this AD for the airplanes referenced in paragraphs (f)(1) and (f)(2) of this AD. These airplanes must have the forward spars inspected using the eddy current methods specified in the Cessna service bulletins.

(g) Cracks Found: If you find any crack on any forward, aft, or auxiliary wing spar; or in surrounding structure such as spar webs or skins during any inspection required by this AD, before further flight do the following:

(1) Obtain an FAA-approved repair scheme from the Cessna Aircraft Company, P.O. Box 7706, Wichita, Kansas 67277; telephone: (316) 517-5800, facsimile: (316) 942-9006; and

(2) Incorporate this repair scheme.

(h) Reporting Requirement: As soon as possible, but no later than 24 hours after any inspection required by this AD and as defined below:

(1) Submit a report of inspection findings to the Manager, Wichita Aircraft Certification Office (ACO), by fax: (316) 946-4107.

(i) Include a report for "cracks found" or "no cracks found" on the initial inspection; and

(ii) Include a report only for "cracks found" on the repetitive inspections.

(2) The report must include your name and a contact phone number, the results of the findings, a description of any cracking found, the airplane serial number, and the total number of hours TIS on the airplane. The "Lower Wing Spars and Skin Inspection Report" included in Cessna Service Bulletin MEB99-3 and MEB00-7 may be utilized for this reporting requirement.

May I Request an Alternative Method of Compliance?

(i) 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 or for further information about this AD, contact Paul Nguyen, Aerospace Engineer, FAA, Wichita ACO, 1801 Airport Road, Mid-Continent Airport, Wichita, Kansas 67209; telephone: (316) 946-4125; facsimile: (316) 946-4107; e-mail: paul.nguyen@faa.gov.

(2) Alternative methods of compliance that were approved for AD 2000-23-01 or emergency AD 2005-05-51 are not approved for this emergency AD.

Does This AD Incorporate Any Material by Reference?

(j) You must do the actions required by this AD following the instructions in Cessna Service Bulletin MEB99-3 (Model 402C) or Cessna Service Bulletin MEB00-7 (Model 414A), both at Revision 2 and both dated February 28, 2005. 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. To get a copy of this service information, contact Cessna Aircraft Company, Product Support P.O. Box 7706, Wichita, Kansas 67277; telephone: (316) 517-5800; facsimile: (316) 942-9006. To review copies of this service information, go to the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, go to:

http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html or call (202) 741-6030. To view the AD docket, go to the Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-001 or on the Internet at <http://dms.dot.gov>. The docket number is FAA-2005-20513.

Issued in Kansas City, Missouri, on March 11, 2005.

Nancy C. Lane,

Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. 05-5382 Filed 3-18-05; 8:45 am]

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