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[Page 36005-36008]
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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2004-19837; Directorate Identifier 2004-CE-43-AD; Amendment 39-14149; AD 2005-13-12]

RIN 2120-AA64

Airworthiness Directives; Air Tractor, Inc. Models AT-300, AT-301, AT-302, AT-400, AT-400A, AT-401, AT-402, AT-602, AT-802, and AT-802A Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA adopts a new airworthiness directive (AD) for certain Air Tractor, Inc. (Air Tractor) Models AT-300, AT-301, AT-302, AT-400, AT-400A, AT-401, AT-402, AT-602, AT-802, and AT-802A airplanes. This AD requires you to repetitively tighten the four eyebolts that attach the front and rear spar of the horizontal stabilizer to the respective stabilizer strut to the specified torque, and repetitively replace at specified intervals any eyebolts that attach the front and rear spar of the horizontal stabilizer to the respective stabilizer strut. An option for replacing the steel brace assembly inside the stabilizer with a new steel brace assembly with larger bushings and stronger eyebolts that increases the interval for replacement of eyebolts for AT-602, AT-802, and AT-802A airplanes is also included in this AD. This AD results from reports of failures of the subject eyebolt. We are issuing this AD to detect, correct, and prevent future fatigue failure in any eyebolt that attaches the front and rear spar of the horizontal stabilizer to the respective stabilizer strut. Failure of the eyebolt could lead to an abrupt change or complete loss of pitch control and/or the airplane departing from controlled flight.

DATES: This AD becomes effective on August 5, 2005.

As of August 5, 2005, the Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulation.

ADDRESSES: To get the service information identified in this AD, contact Air Tractor, Incorporated, P.O. Box 485, Olney, Texas 76374.

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-2004-19837; Directorate Identifier 2004-CE-43-AD.

FOR FURTHER INFORMATION CONTACT: Andrew D. McAnaul, Aerospace Engineer, FAA, Fort Worth Airplane Certification Office (ACO), ASW-150, 2601 Meacham Boulevard, Fort Worth, Texas 76193-0150. Current duty station: San Antonio Manufacturing Inspection District Office (MIDO-43), 10100 Reunion Place, Suite 650, San Antonio, Texas 78216; telephone: (210) 308-3365; facsimile: (210) 308-3370.

SUPPLEMENTARY INFORMATION:

Discussion

What events have caused this AD? In December 1985, Snow Engineering Co. issued Service Letter 62 to recommend the inspection of eyebolts. This was in response to several reports of eyebolt failures on Models AT-301 and AT-400 airplanes.

In response to another failure of an eyebolt on an AT-400 airplane, Snow Engineering Co. issued Service Letter 129 in September 1994. This service letter recommended eyebolt replacement every 2,000 hours time-in-service (TIS) for Models AT-301 and AT-400 airplanes. After a report of an eyebolt failure on a Model AT-602 airplane, Snow Engineering Co. revised Service Letter 129 in November 2003 to recommend replacing eyebolts for Models AT-602, AT-802, and AT-802A airplanes every 1,350 hours TIS.

In December 2003, FAA issued Special Airworthiness Information Bulletin (SAIB) CE-04-23. This SAIB recommended periodic eyebolt replacement following Snow Engineering Co. Service Letter 129.

In April 2004, we received a report of both eyebolts that attach the left hand stabilizer failing in flight on a Model AT-602 airplane. These eyebolts had accumulated 1,675 hours TIS.

Engineering analysis concludes that the eyebolts failed as a result of high-cycle, low-nominal stress. This is most likely due to the loss of torque during service.

Air Tractor has since redesigned the horizontal stabilizer structure for Models AT-802 and AT-602 airplanes to accommodate a new, stronger eyebolt.

Snow Engineering Co. also revised Service Letter 129 with new eyebolt replacement intervals and issued Service Letter 129A to include procedures for optional replacement of the steel brace assembly inside the stabilizer with a new steel brace assembly with larger bushings to accommodate new stronger eyebolts on existing Models AT-602, AT-802, and AT-802A airplanes. This modification provides for increased safety and extends eyebolt replacement intervals.

What is the potential impact if FAA took no action? Failure of an eyebolt could lead to an abrupt change or complete loss of pitch control and/or aircraft departure from controlled flight.

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 Air Tractor, Inc. (Air Tractor) Models AT-300, AT-301, AT-302, AT-400, AT-400A, AT-401, AT-402, AT-602, AT-802, and AT-802A airplanes. This proposal was published in the Federal Register as a notice of proposed rulemaking (NPRM) on March 4, 2005 (70 FR 10513). The NPRM proposed to require you to repetitively tighten the four eyebolts that attach the front and rear spar of the horizontal stabilizer to the respective stabilizer strut to the specified torque, and repetitively replace at specified intervals any eyebolts that attach the front and rear spar of the horizontal stabilizer to the respective stabilizer strut. An option for replacing the steel brace assembly inside the stabilizer with a new steel brace assembly with larger bushings and stronger eyebolts that increases the interval for replacement of eyebolts for AT-602, AT-802, and AT-802A airplanes was also included in this proposed AD.

Comments

Was the public invited to comment? We provided the public the opportunity to participate in developing this AD. The following presents the comments received on the proposal and FAA's response to each comment:

Comment Issue No. 1: Correct the Date for Service Letter 129 in Discussion

What is the commenter's concern? One commenter writes that the original date of Snow Engineering Co. Service Letter 129 is September 1994 (not September 1995) and requests use of the correct date in the Discussion section.

What is FAA's response to the concern? We concur. We will correct all reference in the final rule of the service letter to read, "Snow Engineering Co. issued Service Letter 129 in September 1994."

Comment Issue No. 2: Cases of Cracks in Model AT-802 Airplane Eyebolts

What is the commenter's concern? Mr. Leland Snow, Air Tractor, Inc., writes that the Discussion section of the NPRM is incorrect in reporting, "The FAA also received two service difficulty reports (SDRs) in November 2003. Both SDRs referenced Model AT-802 airplane eyebolt cracks." Also, Mr. Snow notes that Air Tractor inspected eyebolts that were reported to be cracked and found that the eyebolts were not cracked but instead had a groove caused by washer edge contact.

What is FAA's response to the concern? The FAA is not able to verify with certainty that the eyebolts that Air Tractor inspected are the same or not as those eyebolts identified in the two SDRs. However, both the eyebolts Air Tractor inspected and the eyebolts reported to FAA were from the same sources, making Air Tractor's claim a strong possibility.

We have deleted the reference to the two SDRs from the Discussion section of the final rule.

Comment Issue No. 3: Initial and Repetitive Tightening of the Eyebolts

What is the commenter's concern? Mr. Leland Snow, Air Tractor, requests that the compliance times for initial and repetitive tightening of the eyebolts follow the times required in Snow Engineering Service Letter 129, initial inspection and tightening of the eyebolts within 100 hours TIS, and repetitively tighten the eyebolts every 12 calendar months thereafter.

What is FAA's response to the concern? We agree to add the requirement to initially inspect within 100 hours TIS after the effective date of the AD. However, we will retain the initial 12 calendar months requirement with whichever occurs first as the prevalent time. We agree the repetitive inspections should remain every 12 calendar months thereafter.

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 the changes discussed above and minor editorial corrections. We have determined that these changes and 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 1,011 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 do the tightening of the four eyebolt nuts to the specified torque:

Labor cost	Parts cost	Total cost per airplane	Total cost on U.S. operators
1 workhour × \$65 per hour = \$65	No parts required	\$65	\$65 × 1,011 = \$65,715

We estimate the following costs to do any necessary replacement of the four eyebolts for the Models AT-300, AT-301, AT-302, AT-400, AT-400A, AT-401, AT-402 AT-602, AT-802, and AT-802A airplanes:

Average labor cost	Average parts cost	Average total cost per airplane	Average total cost on U.S. operators
1 workhour × \$65 per hour = \$65	\$186.30	\$251.30	1,011 × \$251.30 = \$254,064.30

We estimate the following costs to do any necessary replacement of the steel brace assembly inside the stabilizer with a new steel brace assembly with larger bushings on existing Models AT-602, AT-802, and AT-802A airplanes:

Average labor cost	Average parts cost	Average total cost per airplane	Average total cost on U.S. operators
22 workhours × \$65 per hour = \$1,430	\$901.65	\$2,331.65	312 × \$2,331.65 = \$727,474.80

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 other information as included in the Regulatory Evaluation) 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-2004-19837; Directorate Identifier 2004-CE-43-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. FAA amends § 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.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).

2005-13-12 Air Tractor, Inc.: Amendment 39-14149; Docket No. FAA-2004-19837; Directorate Identifier 2004-CE-43-AD.

When Does This AD Become Effective?

- (a) This AD becomes effective on August 5, 2005.

What Other ADs Are Affected by This Action?

- (b) None.

What Airplanes Are Affected by This AD?

- (c) This AD affects the following airplane models and serial numbers that are certificated in any category:

Models	Serial Nos.
AT-300, AT-301, AT-302, AT-400, and AT-400A.	All serial numbers.
AT-401/AT-402	All through 401-0700.
AT-602	All through 602-0695 that have any 7/16-inch eyebolt (part number (P/N) AN47-22A) installed; all beginning with 602-0703; and all that have any 9/16-inch eyebolt (P/N 30774-1) installed.
AT-802 and AT-802A	All through 802A-0188 that have any 7/16-inch eyebolt (P/N AN47-30A) installed; all beginning with 802A-0189; and all that have any 9/16-inch eyebolt (P/N 30775-1) installed.

What Is the Unsafe Condition Presented in This AD?

- (d) This AD is the result of reports of failures of the subject eyebolt. The actions specified in this AD are intended to detect, correct, and prevent future fatigue failure in any eyebolt that attaches the front and rear spar of the horizontal stabilizer to the respective stabilizer strut. Failure of the eyebolt could lead to an abrupt change or complete loss of pitch control and/or the airplane departing from controlled flight.

What Must I Do To Address This Problem?

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

Actions	Compliance	Procedures
(1) Tighten the four eyebolts that attach the front and rear spar of the horizontal stabilizer to the respective stabilizer strut using the torque values referenced in Snow Engineering Co. Service Letter #129, revised October 21, 2004.	Within the next 100 hours time-in-service (TIS) or 12 calendar months after August 5, 2005 (the effective date of this AD), whichever occurs first, unless already done. Repetitively tighten thereafter at every 12 calendar months after the date of the initial tightening to the specified torque.	Follow Snow Engineering Co. Service Letter #129, Issued September 26, 1994, Revised October 21, 2004.
(2) Repetitively replace any eyebolts that attach the front and rear spar of the horizontal stabilizer to the respective stabilizer strut.	Initially replace upon accumulating the applicable number of hours TIS referenced in Snow Engineering Co. Service Letter #129, revised October 21, 2004, or within 50 hours TIS after August 5, 2005 (the effective date of this AD), whichever occurs later. Replace repetitively thereafter at the intervals referenced in Snow Engineering Co. Service Letter #129, revised October 21, 2004.	Follow Snow Engineering Co. Service Letter #129, Issued September 26, 1994, Revised October 21, 2004.
(3) <i>For Model AT-602 airplanes through serial number 602-0695 and AT-802, and 802A airplanes through serial number 802A-0188:</i> As an alternative in order to use the increased replacement compliance times in paragraph (e)(2) of this AD, you may replace the steel brace assembly inside the stabilizer with a new steel brace assembly with larger bushings, and (i) <i>For the Model AT-602 airplane:</i> replace any 7/16-inch eyebolt with the 9/16-inch eyebolt (P/N 30774-1) (ii) <i>For the Model AT-802 and AT-802A airplanes:</i> replace any 7/16-inch eyebolt with the 9/16-inch eyebolt (P/N 30775-1)	At any time after August 5, 2005 (the effective of this AD). Use the applicable time in Snow Engineering Co. Service Letter #129A, dated August 7, 2004. The repetitive replacement of paragraph (e)(2) of this AD is still required.	Follow Snow Engineering Co. Service Letter #129A, Dated August 7, 2004.
(4) Do not install any 5/16-inch eyebolt (P/N AN44-17A or AN44-21A), 7/16-inch eyebolt (AN47-22A or AN47-30A), or 9/16-inch eyebolt (P/N 30774-1 or 30775-1) that exceeds the corresponding cumulative hours TIS specified in paragraphs (e)(2) or (e)(3) of this AD.	As of August 5, 2005 (the effective date of this AD).	Not Applicable.

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, Fort Worth Airplane Certification Office (ACO), FAA. For information on any already

approved alternative methods of compliance, contact Andrew D. McAnaul, Aerospace Engineer, FAA, Fort Worth ACO, ASW-150, 2601 Meacham Boulevard, Fort Worth, Texas 76193-0150. Current duty station: San Antonio Manufacturing Inspection District Office (MIDO-43), 10100 Reunion Place, Suite 650, San Antonio, Texas 78216; telephone: (210) 308-3365; facsimile: (210) 308-3370.

Does This AD Incorporate Any Material by Reference?

(g) You must do the actions required by this AD following the instructions in Snow Engineering Co. Service Letter 129, Issued September 26, 1994, Revised October 21, 2004, and Snow Engineering Co. Service Letter 129A, dated August 7, 2004. 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 Air Tractor, Incorporated, P.O. Box 485, Olney, Texas 76374. 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-2004-19837; Directorate Identifier 2004-CE-43-AD.

Issued in Kansas City, Missouri, on June 14, 2005.

John R. Colomy,
Acting Manager, Small Airplane Directorate, Aircraft Certification Service.
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