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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-1330; Directorate Identifier 2012-CE-006-AD; Amendment 39-17470; AD 2013-11-10]

RIN 2120-AA64

Airworthiness Directives; Cessna Aircraft Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Cessna Aircraft Company (Cessna) (previously COLUMBIA or LANCAIR) Models LC40-550FG, LC41-550FG, and LC42-550FG airplanes. This AD was prompted by reports that during maximum braking, if the brakes lock up and a skid occurs, a severe oscillatory yawing motion or "wheel walk" may develop, which could result in further significant structural damage to the airplane. This AD requires insertions into the pilot's operating handbook (POH) and the airplane maintenance manuals (AMM) regarding proper use of the brakes and inspection of the aft fuselage. We are issuing this AD to correct the unsafe condition on these products.

DATES: This AD is effective July 26, 2013.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of July 26, 2013.

ADDRESSES: For service information identified in this AD, contact Cessna Aircraft Company, Customer Service, P.O. Box 7706, Wichita, Kansas 67277; telephone: (316) 517-5800; fax (316) 517-7271; Internet: www.cessnasupport.com. You may review copies of the referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document

Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Gary Park, Aerospace Engineer, Wichita Aircraft Certification Office (ACO), FAA, 1801 Airport Road, Wichita, KS 67209; phone: (316) 946-4123; fax: (316) 946-4107; email: gary.park@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM published in the Federal Register on December 21, 2012 (77 FR 75590). That NPRM proposed to require insertions into the pilot's operating handbook (POH) and the airplane maintenance manuals (AMM) regarding proper use of the brakes and inspection of the aft fuselage.

Comments

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

Request To Modify the Landing Gear

Paul Rene LaChance stated that while supportive of the AD, he believes it to be too late and does not go far enough. He commented that he had experienced such an incident himself. Maximum braking had occurred. Afterward, the airplane was flown for a short flight with the pilot unaware of the severe tail damage, and the tail almost came off. The commenter states we should require modification of the airplane with the main landing gear oriented vertical rather than the current forward tilt.

We do not agree with this comment. The controllability of the aircraft is not in question if the pilot reduces brake pressure in the event of a wheel walking event. The procedures in the AD will ensure pilots are aware of appropriate actions and what inspections are required if such an event occurs. The commenter may provide substantiating data and apply for an alternative method of compliance (AMOC) following the procedures in paragraph (i) of this AD to implement a design modification.

AD Is Not Necessary and Should Be Withdrawn

Darryl James Taylor, Steven Masters, William Paul Boyd, Paul Harrington, George Richard Wilhelmsen, Todd Thompson, Larry D. Fenwick, and Thomas Clare who is President of the Cessna Advanced Aircraft Club (CAAC), requested we withdraw the NPRM (77 FR 75590, December 21, 2012) because it is unnecessary, does not add to safety, and is ineffective. The AD would affect 726 airplanes, and there have only been five occurrences out of thousands of landings over the past nine years. The commenters do not feel this is statistically significant. Since the AD comes several years after an isolated incident, the AD addresses no real safety concern. Appropriate notices have already been incorporated in POH manuals per Cessna Service Bulletin SB 10-11-01, dated August 17, 2010. The commenters feel it is unlikely that additional notes to the POH or placards will be an effective solution.

We do not agree with this comment. The wheel walking characteristics are highly unusual. We are unaware of any other airplane model that has experienced such an event. Currently, the events are relatively well publicized, but they may be forgotten or unknown to future pilots without previous

knowledge about the airplane. Adding the changes to the POH and maintenance manual and mandating the aft fuselage inspection will assure that someone does not take off again after an event without having the airplane inspected. The added changes will also help the pilot better know how to handle the airplane if the wheel walk event does occur. The AD process is the only means where the FAA can require all owner/operators to incorporate all the necessary changes and conduct the required inspection. However, owner/operators that have already incorporated the POH changes per the Cessna service bulletin may receive credit for certain actions required by this AD.

Engineering Solution Needed

Darryl James Taylor, William Paul Boyd, Paul Herrington, George Richard Wilhelmsen, and Larry D. Fenwick commented that maximum braking is considered panic braking where the pilot instinctively reacts to an adverse condition, and they feel the real issue is proper maintenance training. The braking issue occurs only when the gear bushings have slipped completely out, and maintenance shops do not know what they are looking at. In which case, the solutions in the AD will be ineffective. Probably, the landings were not made under ideal or normal conditions, and the pilots may have exceeded operational specifications during landing. This issue should have an engineering solution such as anti-lock brakes, which could prevent brake lock-up and avoid the adverse condition. It would address maximum braking, no matter what the cause. The anti-lock system would include slotted wheels and Hall sensors and change the current braking system. The cost would be justified because of the reduced risk of structural damage.

We do not agree with this comment. Although we would consider a design change as an AMOC, we have determined that the requirements in this AD are sufficient to address the unsafe condition. The commenters may provide substantiating data and apply for an AMOC following the procedures in paragraph (i) of this AD to implement a modification as an acceptable level of safety to address the unsafe condition.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the AD as proposed except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (77 FR 75590, December 21, 2012) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (77 FR 75590, December 21, 2012).

Costs of Compliance

We estimate that this AD affects 726 airplanes of U.S. registry.
 We estimate the following costs to comply with this AD:

Estimated Costs				
Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Insertion into the POH and the maintenance manuals, and inspection of aft fuselage.	4.5 work-hours × \$85 per hour = \$382.50	Not applicable	\$382.50	\$277,695

Authority for This Rulemaking

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 rulemaking action.

Regulatory Findings

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.

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 DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) 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.

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 FAA amends 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 adding the following new airworthiness directive (AD):



2013-11-10 Cessna Aircraft Company: Amendment 39-17470 ; Docket No. FAA-2012-1330; Directorate Identifier 2012-CE-006-AD.

(a) Effective Date

This AD is effective July 26, 2013.

(b) Affected ADs

None.

(c) Applicability

(1) This AD applies to the following Cessna Aircraft Company (previously COLUMBIA or LANCAIR) Models LC40-550FG, LC41-550FG, and LC42-550FG airplanes that are certificated in any category:

- (i) LC40-550FG (Model 300), serial numbers 40001 through 40079;
- (ii) LC41-550FG (Model 400), serial numbers 41001 through 41108, 41501 through 41533, 41563 through 41800, and 411001 through 411161; and
- (iii) LC42-550FG (Model 350), serial numbers 42001 through 42084, 42501 through 42569, and 421001 through 421020.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 5300, Fuselage Structure (General).

(e) Unsafe Condition

This AD was prompted by reports that during maximum braking, if the brakes lock up and a skid occurs, a severe oscillatory yawing motion or "wheel walk" may develop, which could result in significant structural damage to the airplane. We are proposing this AD to correct the unsafe condition on these products.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) Within the next 50 hours time-in-service (TIS) after July 26, 2013 (the effective date of this AD) or within the next 3 months after July 26, 2013 (the effective date of this AD), whichever occurs first, incorporate figure 1 of paragraph (g)(1) of this AD into the applicable Pilot's Operating Handbook (POH)/FAA-approved Airplane Flight Manual (AFM), Section 2, Limitations (Other Limitations). This may also be done by inserting a copy of this AD into the POH/AFM.

AFT FUSELAGE INSPECTION

If tire skidding occurs and a severe oscillatory yawing motion, "wheel walking" occurs, an Aft Fuselage Inspection must be performed in accordance with the airplane maintenance manual by an appropriately rated mechanic prior to further flight.

Figure 1 of paragraph (g)(1)

(2) Within the next 50 hours TIS after July 26, 2013 (the effective date of this AD) or within the next 3 months after July 26, 2013 (the effective date of this AD), whichever occurs first, insert a copy of this AD into the POH/AFM or incorporate figure 2 of paragraph (g)(2) of this AD into the applicable POH/AFM at the end of each of the following sections:

- (i) Section 4, Normal Procedures (Amplified Procedures): Landings, Normal Landings; and
- (ii) Section 4, end of paragraph: Short Field Landings.

WARNING

IF TIRE SKIDDING OCCURS, IMMEDIATELY REDUCE BRAKE PEDAL PRESSURE. IF TIRE SKIDDING IS ALLOWED TO CONTINUE, A SEVERE OSCILLATORY YAWING MOTION, "WHEEL WALKING," COULD DEVELOP. IF THIS SEVERE OSCILLATORY YAWING MOTION OCCURS, AN AFT FUSELAGE INSPECTION MUST BE PERFORMED IN ACCORDANCE WITH THE AIRPLANE MAINTENANCE MANUAL BY AN APPROPRIATELY RATED MECHANIC PRIOR TO FURTHER FLIGHT.

Figure 2 of paragraph (g)(2)

(3) Within the next 50 hours TIS after July 26, 2013 (the effective date of this AD) or within the next 3 months after July 26, 2013 (the effective date of this AD), whichever occurs first, incorporate the following Cessna Aircraft Company maintenance manual revisions for the appropriate model airplane as specified in paragraphs (g)(3)(i) through (g)(3)(iii) of this AD into your maintenance program (maintenance manual).

(i) For Model LC40-550FG (Model 300): Pages 1 through 5, Subject 20-95-00, "Tap Testing—Description and Operation"; pages 1 through 2, Subject 20-95-02, "Structural Inspections—Description and Operation"; and pages 501 through 503, Subject 53-70-00, "Fuselage Components—Adjustment/Test"; of Cessna Aircraft Company Maintenance Manual, Model LC40-550FG, 300MM02, Revision 2, dated July 1, 2012.

(ii) For Model LC41-550FG (Model 400): Pages 1 through 5, Subject 20-90-00, "Tap Testing—Description and Operation"; pages 1 through 2, Subject 20-95-00, "Structural Inspections—Description and Operation"; and pages 501 through 503, Subject 53-70-00, "Fuselage Components—Adjustment/Test"; of Cessna Aircraft Company Maintenance Manual, Model LC41-550FG/T240, 400MM02, Revision 2, dated July 1, 2012.

(iii) For Model LC42-550FG (Model 350): Pages 1 through 5, Subject 20-95-00, "Tap Testing—Description and Operation"; pages 1 through 2, Subject 20-95-02, "Structural Inspections—Description and Operation"; and pages 501 through 503, Subject 53-70-00, "Fuselage Components—Adjustment/Test"; of Cessna Aircraft Company Maintenance Manual, Model LC42-550FG, 350MM02, Revision 2, dated July 1, 2012.

Note 1 for paragraph (g)(3) of this AD: We recommend you replace your current maintenance manual in its entirety with the updated Cessna Aircraft Company Maintenance Manual applicable to your model airplane, 300MM02, 350MM02, or 400MM02, all Revision 2, all dated July 1, 2012.

(4) The actions required by paragraphs (g)(1), (g)(2), and (g)(3) of this AD may be performed by the owner/operator (pilot) holding at least a private pilot certificate and must be entered into the aircraft records showing compliance with this AD in accordance with 14 CFR 43.9 (a)(1)-(4) and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR 91.417, 121.380, or 135.439.

(5) At the next annual inspection after July 26, 2013 (the effective date of this AD) or within the next 50 hours TIS after July 26, 2013 (the effective date of this AD), whichever occurs later, and before further flight if a severe oscillatory yawing motion as described in figure 1 of paragraph (g)(1) of this AD has occurred, inspect the aft fuselage following the aft fuselage inspection procedures for the appropriate model of airplane as specified in paragraphs (g)(5)(i) through (g)(5)(iii) of this AD.

(i) For Model LC40-550FG (Model 300): Pages 1 through 5, Subject 20-95-00, "Tap Testing—Description and Operation"; pages 1 through 2, Subject 20-95-02, "Structural Inspections—Description and Operation"; and pages 501 through 503, Subject 53-70-00, "Fuselage Components—Adjustment/Test"; of Cessna Aircraft Company Maintenance Manual, Model LC40-550FG, 300MM02, Revision 2, dated July 1, 2012.

(ii) For Model LC41-550FG (Model 400): Pages 1 through 5, Subject 20-90-00, "Tap Testing—Description and Operation"; pages 1 through 2, Subject 20-95-00, "Structural Inspections—Description and Operation"; and pages 501 through 503, Subject 53-70-00, "Fuselage Components—Adjustment/Test"; of Cessna Aircraft Company Maintenance Manual Model LC41-550FG/T240, 400MM02, Revision 2, dated July 1, 2012.

(iii) For Model LC42-550FG (Model 350): Pages 1 through 5, Subject 20-95-00, "Tap Testing—Description and Operation"; pages 1 through 2, Subject 20-95-02, "Structural Inspections—Description and Operation"; and pages 501 through 503, Subject 53-70-00, "Fuselage Components—Adjustment/Test"; of Cessna Aircraft Company Maintenance Manual, Model LC42-550FG, 350MM02, Revision 2, dated July 1, 2012.

(6) If any damaged or suspect areas are found during any aft fuselage inspection required by paragraph (g)(5) of this AD, before further flight, contact Cessna Customer Service by phone at (316) 517-5800 or fax at (316) 517-7271 for an FAA-approved repair and perform the repair.

(h) Credit for Actions Accomplished in Accordance With Previous Service Information

Cessna Aircraft Company released the following POH/AFM Temporary Revisions via Cessna Service Bulletin SB 10-11-01, dated August 17, 2010. Incorporation of the applicable document specified in paragraphs (h)(i) through (h)(iii) of this AD is considered compliance with the POH/AFM change requirements in paragraphs (g)(1) and (g)(2) of this AD. The applicable POH/AFM Temporary Revisions are:

(i) Cessna Corvalis 300: RA050001-O TR03-06, dated August 13, 2010;

(ii) Cessna Corvalis 350: RB050005-I TR08-11 (Garmin G1000-equipped) and RB050000-R TR02-05 (Avidyne Entegra-equipped), dated August 13, 2010; and

(iii) Cessna Corvalis 400: RC050005-I TR10-13 (Garmin G1000-equipped) and RC050002-G TR02-05 (Avidyne Entegra-equipped), dated August 13, 2010.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Wichita Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight

Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in the Related Information section of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Related Information

(1) For more information about this AD, contact Gary Park, Aerospace Engineer, Wichita ACO, FAA, 1801 Airport Road, Wichita, KS 67209; phone: (316) 946-4123; fax: (316) 946-4107; email: gary.park@faa.gov.

(2) Cessna Service Bulletin SB 10-11-01, dated August 17, 2010.

(k) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Pages 1 through 5, Subject 20-95-00, "Tap Testing—Description and Operation"; of Cessna Aircraft Company Maintenance Manual, Model LC40-550FG, 300MM02, Revision 2, dated July 1, 2012.

(ii) Pages 1 through 2, Subject 20-95-02, "Structural Inspections—Description and Operation"; of Cessna Aircraft Company Maintenance Manual, Model LC40-550FG, 300MM02, Revision 2, dated July 1, 2012.

(iii) Pages 501 through 503, Subject 53-70-00, "Fuselage Components—Adjustment/Test"; of Cessna Aircraft Company Maintenance Manual, Model LC40-550FG, 300MM02, Revision 2, dated July 1, 2012.

(iv) Pages 1 through 5, Subject 20-90-00, "Tap Testing—Description and Operation"; of Cessna Aircraft Company Maintenance Manual, Model LC41-550FG/T240, 400MM02, Revision 2, dated July 1, 2012.

(v) Pages 1 through 2, Subject 20-95-00, "Structural Inspections—Description and Operation"; of Cessna Aircraft Company Maintenance Manual, Model LC41-550FG/T240, 400MM02, Revision 2, dated July 1, 2012.

(vi) Pages 501 through 503, Subject 53-70-00, "Fuselage Components—Adjustment/Test"; of Cessna Aircraft Company Maintenance Manual, Model LC41-550FG/T240, 400MM02, Revision 2, dated July 1, 2012.

(vii) Pages 1 through 5, Subject 20-95-00, "Tap Testing—Description and Operation"; of Cessna Aircraft Company Maintenance Manual, Model LC42-550FG, 350MM02, Revision 2, dated July 1, 2012.

(viii) Pages 1 through 2, Subject 20-95-02, "Structural Inspections—Description and Operation"; of Cessna Aircraft Company Maintenance Manual, Model LC42-550FG, 350MM02, Revision 2, dated July 1, 2012.

(ix) Pages 501 through 503, Subject 53-70-00, "Fuselage Components—Adjustment/Test"; of Cessna Aircraft Company Maintenance Manual, Model LC42-550FG, 350MM02, Revision 2, dated July 1, 2012.

(3) For Cessna Aircraft Company service information identified in this AD, contact Cessna Aircraft Company, Customer Service, P.O. Box 7706, Wichita, Kansas 67277; telephone: (316) 517-5800; fax (316) 517-7271; Internet: www.cessnasupport.com.

(4) You may view this service information at FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Kansas City, Missouri, on May 23, 2013.
Earl Lawrence,
Manager, Small Airplane Directorate,
Aircraft Certification Service.