DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39


RIN 2120–AA64

Airworthiness Directives; Cessna Aircraft Company 150 and 152 Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for Cessna Aircraft Company (Cessna) 150 and 152 series airplanes. This AD requires you to either install a placard prohibiting spins and other acrobatic maneuvers in the airplane or to replace the rudder stop, rudder stop bumper, and attachment hardware with a new rudder stop modification kit and replace the safety wire with jamnuts. This AD results from follow-on investigations of two accidents where the rudder was found in the over-travel position with the stop plate hooked over the stop bolt heads. While neither of the accident aircraft met type design, investigations revealed that aircraft in full conformity with type design can exceed the travel limits set by the rudder stops. We are issuing this AD to prevent the rudder from traveling past the normal travel limit. Operation in this non-certificated control position is unacceptable and could cause undesirable consequences, such as contact between the rudder and the elevator.

DATES: This AD becomes effective on June 17, 2009.

On June 17, 2009, the Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD.

ADDRESSES: To get the service information identified in this AD, contact Cessna Aircraft Company, Product Support, P.O. Box 7706, Wichita, KS 67277; telephone: (316) 517–5800; fax: (316) 517–7271; Internet: http://www.cessna.com.


FOR FURTHER INFORMATION CONTACT: Ann Johnson, Aerospace Engineer, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Wichita, Kansas 67209; telephone: (316) 946–4105; fax: (316) 946–4107.

SUPPLEMENTARY INFORMATION:

Discussion

On April 10, 2007, 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 Aircraft Company (Cessna) 150 and 152 series airplanes. This proposal was published in the Federal Register as a notice of proposed rulemaking (NPRM) on April 16, 2007 (72 FR 18925). The NPRM proposed to require replacement of the rudder stop, rudder stop bumper, and attachment hardware with a new rudder stop modification kit and replacement of the safety wire with jamnuts.

Comments

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: SAIB Instead of NPRM

Joseph Morales, Gary Iverson, Sr., Al Roesner, Gerald D. Clark, Al Dyer, Neal Trullson, McBride Aircraft Group, Matthew M. Gosslein, Samuel K. McCauley, Robert E. Hackman from the Aircraft Owners and Pilots Association (AOPA), and Tom Carr from the Cessna Pilots Association (CPA) comment that the FAA should withdraw the NPRM and issue a special airworthiness information bulletin (SAIB) instead of an AD.

The following presents the comments received on the proposal and FAA’s response to each comment:

Two service difficulty reports were filed on July 14, 2006, and on August 16, 2006, involving a Cessna Model 152, and improper maintenance was cited as the cause of the two previously mentioned accidents. The commenters state the airplanes have flown for 51 years and thousands of hours with no previous problems, and installing the original equipment manufacturer (OEM) kit on 17,090 domestic airplanes would put the airplanes at risk. We do not agree that this action should be an SAIB instead of an AD. While the two accident aircraft were not airworthy, the issue that needs to be corrected is a design issue, not a maintenance issue. Follow-on investigations did reveal that rudders on aircraft in full conformity with type design can exceed the travel limits set by the rudder stops. Operation in this non-certificated control position is unacceptable and could cause undesirable consequences. Markings on one accident aircraft correspond with previous contact between the rudder and elevator, and similar markings were noted on several in-service airplanes. We will change the final rule AD to provide another option in lieu of the actions in the proposed AD. For the new option, the limitations section in the airplane flight manual (AFM) and the pilots operating handbook (POH) must be changed to prohibit acrobatics. A placard would be displayed on the instrument panel in clear view of the pilot with the words “INTENTIONAL SPINS AND OTHER AEROBATIC/AEROBATIC MANEUVERS PROHIBITED PER AD 2009–10–09.”

We retain as an option the actions complying with the service information as specified in the proposed AD. After such action is done, the specified
operational limitations in the added option (if utilized) may be removed.

We are changing the final rule AD action by adding language to address the option of the operational limitations.

Comment Issue No. 2: How Is Change Justified

Cessna Aircraft Company states that the National Transportation Safety Board (NTSB) recommendation of mandating by AD the installation of the Cessna service kit would not have prevented the accidents. Cessna states that they have no data that indicates a flight or ground procedure can deflect the rudder stop to a position where the stop is behind the bolt. From the dirt in the accident photograph, Cessna believes forces generated in the accident moved the rudder relative to the rudder stop, and that is how it hooked behind the stop. Cessna states that in the Canadian accident the rudder was possibly pushed over the stop by hydrodynamic or inertia forces. Cessna notes that if both rudder pedals were pressed simultaneously, then the rudder stop would slip below the stop bolts and contact the fuselage skin without any tendency to jam; larger stops and bolts minimize this tendency. A Cessna service bulletin was issued in 2001 to minimize this tendency. A Cessna service bulletin was issued in 2001 to address this concern. Cessna has no objection to adoption of an AD mandating installation of the service kit.

We agree with Cessna that the rudder stop can slip below the stop bolts and contact the fuselage skin but will not jam. This slippage below the stop bolt is not acceptable, and we agree that the Cessna kits will prevent this from occurring. In addition (and more central to this AD), installing the kits will prevent the rudder from exceeding its travel limits, which will prevent contact between the rudder and the elevator. One of the options for addressing the unsafe condition in this AD is the installation of such kits.

We are not changing the final rule AD action based on this comment.

Comment Issue No. 3: Cost Is Excessive

Joseph Morales, Al Roesner, Gerald D. Clark, and Al Dyer comment that the expenses stated in the Cessna service bulletin and in the NPRM are excessive.

We disagree. We received an estimated parts cost of $90 (as of January 2009) from the manufacturer with 4 hours of labor. At $80 per hour, the total cost to install a kit would be about $410 per airplane. The added operation limitation option, as described in Comment Issue No. 1, would permit compliance with the AD with minimal cost. Since we expect most operators will comply by simply installing the placard, the cost to the entire fleet would be greatly reduced.

We are not changing the final rule AD action based on this comment.

Comment Issue No. 4: Rush to Judgment

Joseph Morales comments that the FAA rushed to judgment taking AD action for a condition that could be discovered during routine maintenance by the operator or mechanic. The commenter believes that the amount of actual accidents because of this condition proves this point.

We agree that some problems with the rudder system can be determined visually during routine maintenance. However, the issue that needs to be corrected is a design issue, not a maintenance issue. We disagree that this is a rush to judgment. By installing the kits, aircraft performing acrobatics/aerobatics will be protected from the rudder exceeding its travel limits. Operation in this non-certificated control position is unacceptable and could cause undesirable consequences, such as rudder and elevator contact. Since the NPRM was published, even more thought was given to this AD by giving non-acrobatic/aerobatic operators the option of installing a placard, prohibiting acrobatic/aerobatics instead of installing the modification kit. We are not changing the final rule AD action based on this comment.

Conclusion

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 previously discussed and 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.

Costs of Compliance

We estimate that this AD affects 17,090 airplanes in the U.S. registry. We estimate the following costs to insert the operational limitation:

<table>
<thead>
<tr>
<th>Labor cost</th>
<th>Parts cost</th>
<th>Total cost per airplane</th>
<th>Total cost on U.S. operators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 work-hour × $80 per hour = $80</td>
<td>Not applicable</td>
<td>$80</td>
<td>$1,367,200</td>
</tr>
</tbody>
</table>

We estimate the following costs to do the modification:

<table>
<thead>
<tr>
<th>Labor cost</th>
<th>Parts cost</th>
<th>Total cost per airplane</th>
<th>Total cost on U.S. operators</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 work-hours × $80 per hour = $320</td>
<td>$90</td>
<td>$410</td>
<td>$7,006,900</td>
</tr>
</tbody>
</table>

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.
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:

   2009–10–09 Cessna Aircraft Company:

Effective Date
   (a) This AD becomes effective on June 17, 2009.

Affected ADs
   (b) None.

Applicability
   (c) This AD applies to the following airplane models and serial numbers that are certified in any category:

<table>
<thead>
<tr>
<th>Models</th>
<th>Serial Nos.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) F150F ......</td>
<td>F150–0001 through F150–0067.</td>
</tr>
<tr>
<td>(2) F150G ......</td>
<td>F150–0068 through F150–0219.</td>
</tr>
<tr>
<td>(3) F150H ......</td>
<td>F150–0220 through F150–0389.</td>
</tr>
<tr>
<td>(4) F150J ......</td>
<td>F150–0390 through F150–0529.</td>
</tr>
<tr>
<td>(5) F150K ......</td>
<td>F15000530 through F15000658.</td>
</tr>
<tr>
<td>(6) F150L ......</td>
<td>F15000659 through F150001143.</td>
</tr>
<tr>
<td>(7) F150M ......</td>
<td>F150001144 through F150001428.</td>
</tr>
<tr>
<td>(8) FA150K ......</td>
<td>FA1500001 through FA1500081.</td>
</tr>
<tr>
<td>(9) FA150L ......</td>
<td>FA1500082 through FA1500261.</td>
</tr>
<tr>
<td>(10) FA150M ......</td>
<td>FA1500262 through FA1500336.</td>
</tr>
<tr>
<td>(11) FA152 ......</td>
<td>15279406 through 15286033.</td>
</tr>
<tr>
<td>(12) A152 ......</td>
<td>A1520735 through A1521049, A1500433, and 681.</td>
</tr>
<tr>
<td>(13) F152 ......</td>
<td>F15201429 through F15201980.</td>
</tr>
<tr>
<td>(14) FA152 ......</td>
<td>FA1520337 through FA1520425.</td>
</tr>
</tbody>
</table>

Unsafe Condition
   (d) Aircraft in full conformity with type design can exceed the travel limits set by the rudder stops. We are issuing this AD to prevent the rudder from traveling past the normal travel limit. Operation in this non-certificated control position is unacceptable and could cause undesirable consequences, such as contact between the rudder and the elevator.

Compliance
   (e) To address this problem, you must do either the actions in option 1 or option 2 of this AD, unless already done:

<table>
<thead>
<tr>
<th>Action</th>
<th>Compliance</th>
<th>Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1: For all airplanes that do not have modification kits part number (P/N) SK152–25A or P/N SK152–24A installed, do the following:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| (i) Insert the following text into the Limitations section of the FAA-approved airplane flight manual (AFM), and pilots operating handbook (POH): “INTENTIONAL SPINS AND OTHER ACROBATIC/AEROBATIC MANEUVERS PROHIBITED PER AD 2009–10–09."
   **NOTE:** THIS AD DOES NOT PROHIBIT PERFORMING INTENTIONAL STALLS."; | | |
| (ii) Fabricate a placard (using at least 1/8–inch letters) with the following words and install the placard on the instrument panel within the pilot’s clear view: “INTENTIONAL SPINS AND OTHER ACROBATIC/AEROBATIC MANEUVERS PROHIBITED PER AD 2009–10–09.” | | |
| (iii) The AFM and POH limitations in paragraph (e)(1)(i) of the AD and the placard in paragraph (e)(1)(ii) of this AD may be removed after either paragraph (e)(2)(i) or paragraph (e)(2)(ii) of this AD is done. | Within the next 100 hours time-in-service (TIS) after June 17, 2009 (the effective date of this AD), or within the next 12 months after June 17, 2009 (the effective date of this AD), whichever occurs first. | A person authorized to perform maintenance as specified in 14 CFR section 43.3 of the Federal Aviation Administration Regulations (14 CFR 43.3) is required to make the AFM and POH changes, fabricate the placard required in paragraph (e)(1)(i) of this AD, and make an entry into the aircraft logbook showing compliance with the portion of the AD per compliance with 14 CFR 43.9. |
(2) Option 2: Install a rudder stop modification kit:

(i) For airplanes with a forged bulkhead:

(A) Replace the rudder stops, rudder stop bumpers, and attachment hardware with the new rudder stop modification kit P/N SK152–25A; and

(B) Replace safety wire with jamnuts

(ii) For airplanes with a sheet metal bulkhead:

(A) Replace the rudder stops, rudder stop bumpers, and attachment hardware with the new rudder stop modification kit P/N SK152–24A; and

(B) Replace safety wire with jamnuts

Within the next 100 hours TIS June 17, 2009 (the effective date of this AD), or within the next 12 months after June 17, 2009 (the effective date of this AD), whichever occurs first.


(f) Kit P/Ns SK152–24 and SK152–25, which are listed in SEB01–1, were superseded by kit P/Ns SK152–24A and SK152–25A. Cessna has not revised the service bulletin to reflect the new P/Ns. The kit P/Ns SK152–24 and SK152–25 would automatically be filled with P/Ns SK152–24A and SK152–25A, respectively.

(1) The P/N SK 152–24 kit does not address the unsafe condition because the nutplate in the kit can not be used due to rivet spacing on the aft bulkhead. In addition, a note was added to kit P/N SK 152–24A stating “some airplanes in this serial range may have a forged bulkhead installed after leaving the factory. Service Kit SK 152–25A or later revision must be used to modify these airplanes.” The kit P/N SK152–25 does not address the unsafe condition because there was an error in a washer P/N. This error was corrected in the kit P/N SK152–25A kit. Therefore, Kit P/Ns SK152–24 and SK152–25 are not allowed for installation for this AD.

(2) If you previously had a kit P/N SK152–24 or SK152–25 installed and you choose to use the kit installation option, the kit P/N SK152–24A or SK152–25A, as applicable, must be installed.

Alternative Methods of Compliance (AMOCs)

(g) The Manager, FAA, ATTN: Ann Johnson, Aerospace Engineer, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Wichita, Kansas 67209; telephone: (316) 946–4105; fax: (316) 946–4107, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

Material Incorporated by Reference

(h) If you choose to comply with this AD using paragraph (e)(2) of this AD, you must use Cessna Aircraft Company Service Bulletin SEB01–1, dated January 22, 2001; and, as applicable, either Cessna Aircraft Company Service Kit SK152–25A, Revision A, dated February 9, 2001; or Cessna Aircraft Company Service Kit SK152–24A, Revision A, dated March 9, 2001.

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39


RIN 2120–AA64

Airworthiness Directives; Bombardier Model CL–600–2B19 (Regional Jet Series 100 and 440) Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule; request for comments.

SUMMARY: We are adopting a new airworthiness directive (AD) for the products listed above. This AD results from mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as:

A number of Flap Actuators with P/N [part number] 601R93101–21 and 601R93101–25 were identified as having pinion gears that did not have acceptable certificates of conformance from the supplier. This condition could result in flap failure. * * *

Endurance testing conducted at Eaton Aerospace with representative discrepant gears predicted a 3,000 flight cycle life limit for the affected actuators. Fleet leaders with suspect installed actuators are rapidly approaching this threshold. Failure of the flap actuator pinion gear set could cause the right or left inboard panel to disconnect, which could result in flap asymmetry and...