



U.S. Department of Transportation

Federal Aviation Administration

Airworthiness Concern Sheet

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Reply to: Name: Gary D Park Title: Aerospace Engineer Office: Wichita Aircraft Certification Office Department: ACE-118W Street Address: 1801 Airport Road City, State, ZIP: Wichita, KS 67209 Telephone: 316-946-4123 Electronic Mail: gary.park@faa.gov	Make: Cessna Aircraft Company Model / Series: 180, 185, A185 all series Serial Numbers: Model 180 s/n 604, 614, 624, 645, 30000 thru 32999, 50001 thru 50911, 18050912 thru 18053167; Model 185 s/n 185-0513 thru 185-1149, 185-1448 thru 18504138; Model A185 s/n 185-0968 thru 18504138 Reason for Airworthiness Concern: Cracked or broken tailcone reinforcement and stabilizer hinge brackets have been reported
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Federal Aviation Administration (FAA) Description of Airworthiness Concern

An airworthiness concern was identified during inspection of a Cessna 185 equipped with floats. The horizontal tail section was observed to move up and down excessively. During a detailed inspection, the tailcone reinforcements (part numbers or p/n 0712048-7,-8 and 0712207-1,-2) were found to be broken on one side and cracked at the same location on the opposite side. Our review of SDRs identified other reports of similar failures of these tailcone reinforcements. In addition, cracks were also found in the stabilizer hinge brackets (p/n 0712042-1,-2 and 0712302-1,-2) near the bulkhead at FS 230. Textron Aviation has updated their Cessna supplemental inspection documents (SIDs) 53-10-01 and 53-10-11 to address these concerns. The FAA published SAIB CE-16-16 to alert mechanics and inspectors of the tailcone reinforcement failures. For airplanes on floats, water impinging on the horizontal stabilizer appears to be a cause of these cracks and breaks. We are also aware that these cracks may be initiated on airplanes with a tail wheel due to deterioration of the two rubber bushings at the aft end of the tailcone. Our risk analyses indicate excessive risk in the short term and high risk in the long term.

[The tailcone reinforcements are angles that extend aft from the bulkhead at FS176, bend at the FS209 bulkhead and extend aft to the aft bulkhead (FS 230) where the crack and break were discovered. See the schematics in the SIDs for the locations to inspect.]

Other parts of interest have been found during our search of SDRs that need to be inspected in the area of the tailcone. The part descriptions and (p/n's) include stabilizer hinge reinforcement (0732101-4); triangular reinforcement (0732106-1; horizontal tail ribs (0732611-X); rear spar (0732600-22); rear spar reinforcement (0732606-1,-2); and stabilizer attach point (0732600-4).

Request for Information (For example: Proposed alternate inspection or repair procedures, cost impact, etc. Your comments or replies to the FAA need to be as specific as possible. Please provide specific examples to illustrate your comments or concerns.)

The FAA is interested in receiving feedback regarding the results of inspections outlined in the Cessna SIDs specified in SAIB CE-16-16 including current flight hours on Cessna 180/185/A185 airplanes that have accomplished these inspections.

We are also interested in receiving feedback related to the ease and time required to complete these inspections.

This Airworthiness Concern Sheet (ACS) is intended as a means for FAA Aviation Safety Engineers to coordinate airworthiness concerns with aircraft owners/operators through associations and type clubs. At this time, the FAA has not made a determination on what type of corrective action (if any) should be taken. The resolution of this airworthiness concern could involve Airworthiness Directive (AD) action or a Special Airworthiness Information Bulletin (SAIB), or the FAA could determine that no action is needed at this time. The FAA's final determination will depend in part on the information received in response to this ACS.

The FAA endorses dissemination of this technical information to all manufacturers and requests association and type club comments.

Attachments: <input type="checkbox"/> Service Difficulty Report <input type="checkbox"/> Accident/Incident Data System <input type="checkbox"/> Service Letter / Bulletin <input checked="" type="checkbox"/> Special Airworthiness Information Bulletin <input type="checkbox"/> Federal Aviation Administration or National Transportation Safety Board Safety Recommendation <input type="checkbox"/> Airworthiness Directive <input type="checkbox"/> Alternate Means of Compliance <input type="checkbox"/> Risk Analysis	Transmittal: <input checked="" type="checkbox"/> Federal Aviation Administration <input checked="" type="checkbox"/> Airplane Owners and Pilots Association <input checked="" type="checkbox"/> Experimental Aircraft Association <input checked="" type="checkbox"/> Type Club <input checked="" type="checkbox"/> Type Certificate Holder <input checked="" type="checkbox"/> Other:	Response Requested By: <input type="checkbox"/> Emergency (10 days) <input type="checkbox"/> Alert (30 days) <input checked="" type="checkbox"/> Information (90 days)
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SUBJ: Inspections of the tailcone reinforcement for airplanes in “severe usage environments” with floats or skis

SAIB: CE-16-16
Date: May 4, 2016

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin is to alert owners, operators, maintenance technicians, and inspectors of an airworthiness concern, specifically the potential for cracks and corrosion in the stabilizer hinge brackets and tailcone reinforcement brackets on **Textron Aviation Inc. (Cessna) Models 180 and 185** airplanes that are equipped with floats or skis. Airplanes equipped with floats or skis are identified as “severe usage environments” in Cessna service manuals.

At this time, the airworthiness concern is not an unsafe condition that would warrant airworthiness directive (AD) action under Title 14 of the Code of Federal Regulations (14 CFR) part 39.

Background

A recent inspection of a Cessna Model 185 airplane revealed excessive up and down movement of the horizontal tail section. Upon further inspection, the stabilizer hinge brackets and tailcone reinforcement brackets were found cracked.

Textron Aviation has updated the Cessna supplemental inspection documents (SID) as follows to address this concern:

Model-Series Service Man. (Years)	SID Number	Manual Revision	SID Rev. Date
180/185 (1963-68)	53-10-01	10	May 18, 2015
180/185 (1969-80)	53-10-01	9	May 18, 2015
180/185 (1981-85)	53-10-01	9	May 1, 2016

The manuals state: “Airplanes which are equipped with floats or skis must use the SEVERE time limits”. Section 2A-30-01 provides “Corrosion” information that is unchanged from the previous manual revision. This reference to corrosion is included because corrosion may be a contributing factor in crack development.

Recommendations

For Cessna Models 180 and 185 airplanes that are equipped with floats or skis, we recommend adherence to the Cessna Service Manuals because of the “severe usage environments” as a result of these installations.

For Further Information Contact

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For Related Service Information Contact

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