

Recommendation Report

Tuesday, December 03, 2002

Log Number 2787

Issue Date 03/16/2001

DELTA JUNCTION AK

09/14/1999

ON 9/14/99, A CESSNA 185, N85LC, OPERATED BY TAMARACK AIR LTD., FAIRBANKS, ALASKA, SUSTAINED SUBSTANTIAL DAMAGE WHILE LANDING AT A REMOTE DIRT AIRSTRIP NEAR DELTA JUNCTION, ALASKA. NEAR THE END OF THE LANDING ROLL, THE LEFT MLG COLLAPSED AND DUG INTO THE GROUND, CAUSING THE AIRPLANE TO NOSE OVER. THE PILOT AND ONE PASSENGER SUFFERED MINOR INJURIES; THE REMAINING PASSENGER WAS UNINJURED. THE FLIGHT WAS AN ON-DEMAND PASSENGER FLIGHT OPERATING UNDER 14 CFR PART 135. AT THE TIME OF THE ACCIDENT, THE AIRPLANE WAS 24 YEARS OLD AND HAD ACCUMULATED 5,892 FLIGHT HOURS.

Recommendation # A-01-001

Overall Status
CR

Priority

THE NTSB RECOMMENDS THAT THE FAA: ISSUE AN AIRWORTHINESS DIRECTIVE TO REQUIRE AN INITIAL INSPECTION OF CESSNA 170, 180, 185, 190, AND 195 SERIES AIRPLANE MAIN LANDING GEAR SPRING STRUTS, INVOLVING THE REMOVAL OF THE SPRING STRUTS FROM THE FUSELAGE ATTACHMENT CLAMP AND AXLE ASSEMBLY AND THE USE OF NONDESTRUCTIVE INSPECTION TECHNIQUES TO EXAMINE THE UPPER AND LOWER ENDS OF THE SPRING STRUTS FOR CORROSION AND CRACKS, AT THE NEXT 100-HOUR OR ANNUAL INSPECTION, WHICHEVER OCCURS FIRST.

FAA

CLOSED - RECONSIDERED

03/25/2002

04/24/2001 Addressee Letter Mail Controlled 05/01/2001 6:06:01 PM MC# 2010366 The Federal Aviation Administration (FAA) is reviewing these safety recommendations with the Cessna Aircraft Company to determine what action may need to be taken. The Board's letter cited 16 accident reports and 9 service difficulty reports (SDR) that involved corrosion and fatigue cracking of the main landing gear. However, the FAA was unable to duplicate this information so that it could include these data in its evaluation. Consequently, on April 17, 2001, the FAA requested and received from the Board's staff copies of the accident reports and SDR's. The FAA will also include these data in its evaluation of these recommendations. I will inform the Board of the FAA's action to address these safety recommendations within 90 days.

07/06/2001 NTSB Pending notification of the results of the evaluation by the FAA and Cessna, Safety Recommendations A-01-1 and -2 are classified "Open-Acceptable Response."

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08/31/2001 Addressee Letter Mail Controlled 09/10/2001 6:55:43 PM MC# 2010718: The Federal Aviation Administration's (FAA) plan to address these recommendations was to first issue an Airworthiness Concern Sheet on May 23, 2001, to gather more information on this safety issue. The second action was to review the history of the approximately 9,300 Cessna airplanes registered in the United States that incorporate main landing gears that have a tapered, spring-steel cantilever strut supporting each main wheel. The FAA reviewed the service history of these airplanes, along with the accident reports provided by the Board's staff, and has concluded that main landing gear spring struts may become damaged at the upper end due to hard landings or other abuse, which overstress the landing gear. The review revealed that airplanes that acquire damage at the lower end of the spring struts have had skis or oversized wheels installed. Skis cause a twisting motion that over time can initiate cracks. If the cracks are not detected, failures can occur. In any case, proper maintenance is essential, especially for airplanes that operate in harsh environments or experience hard landings. The Airworthiness Concern Sheet issued by the FAA's Wichita Aircraft Certification Office generated nine responses from Government and industry sources. Transport Canada reported 16 similar types of accidents (none fatal) from over 4,000 Cessna 180 and 185 airplanes. Ten of the 16 accidents occurred on aircraft equipped with skis. Transport Canada concluded that not enough evidence was found in the data to support issuing an Airworthiness Directive for initial and repetitive nondestructive inspections. None of the other responders to the Airworthiness Concern Sheet concurred that airworthiness directive action was warranted. The Cessna Maintenance Manual specifies that the main landing gear spring struts be inspected every 50 hours and during annual inspections. The inspections are especially important for airplanes operating in harsh environments because they would detect surface damage. The FAA has determined that these inspections are adequate to detect cracks in the main landing gear struts and that additional airworthiness action is not warranted. Consequently, the FAA published a General Aviation Alert in Advisory Circular 43-16 to reiterate that visual inspections of the spring strut should be performed every 50 hours and during annual inspections as required by the maintenance manuals. I have enclosed a copy of the alert for the Board's information. I believe that the FAA's alternate action addresses the full intent of these safety recommendations, and I consider the FAA's action to be completed.

03/25/2002 NTSB The Safety Board appreciates the extensive analysis performed by the FAA on the service histories of the 9,300 Cessna aircraft registered in the United States with landing gear that could be affected by this recommendation. Likewise, the actions by Transport Canada in reviewing the history of over 4,000 Cessna 180 and 185 aircraft operated in Canada demonstrate the attention to possible safety issues that both agencies have consistently promoted. The Safety Board continues to believe that visual inspection alone will not detect cracks in the Cessna main landing gear spring struts. However, the Safety Board acknowledges that the statistical evidence does not warrant the issuance of ADs at this time as called for in the Board's recommendation; therefore, Safety Recommendations A-01-01 and A-01-02 are classified "Closed--Reconsidered."