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NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

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Forwarded to:

Honorable John L. McLucas  
Administrator  
Federal Aviation Administration  
Washington, D. C. 20591  
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SAFETY RECOMMENDATION(S)

A-76-93 and 94

On January 9, 1976, the National Transportation Safety Board investigated an incident involving a Ransome Airlines Nord 262 aircraft at Dulles International Airport. The aircraft was being operated as Allegheny Commuter Flight 110 from Philadelphia, Pennsylvania, to Washington National Airport. There were eleven passengers and three crewmembers aboard.

During the approach to Washington National Airport the right main landing gear could not be extended. The flight diverted to Dulles International Airport and landed with the landing gears retracted. The underside of the aircraft and the main landing gear were damaged slightly. The passengers and crew were not injured.

At Dulles, the aircraft was raised on jacks and the nose and left main landing gear were extended; however, the right main landing gear could not be extended. After the right main landing actuating cylinder was disconnected, the gear extended freely.

Subsequent bench testing of the actuator revealed that the actuator functioned normally. As the actuator was disassembled after the removal of the closure nut, approximately 13 milliliters of moisture was found in the interior of the actuator. Since the flight from Philadelphia to Washington had operated in ambient temperatures below freezing, the moisture was replaced in the actuator and the closure nut reinstalled. The actuating cylinder was then placed vertically in the extended position (gear retracted) and subjected to freezing temperatures. The actuating cylinder was then connected to the test bench and it would not operate. After the actuator thawed, it functioned normally. The actuator was disassembled, and no internal mechanical faults were found.

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As a result of this incident, Ransome Airlines inspected the main gear actuator cylinders on their fleet of Nord 262 aircraft. Their inspection revealed either moisture or indications of moisture in all of the actuating cylinders of all aircraft. The moisture probably entered the actuating cylinders through the piston rod scraper seal during cleaning of the main landing gear pods or during operations on wet runways, or both.

The Safety Board is concerned that incidents of this type could result in serious accidents. In view of the above, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Review the design of the main landing gear actuators to determine corrective actions to prevent the entry or the accumulation of moisture in the main landing gear actuators on Nord 262 aircraft. (Class II--Priority Followup). (A-76-93)

In the interim, issue an Airworthiness Directive to require repeated inspections, at appropriate intervals, of the main landing gear actuators to detect moisture. (Class II--Priority Followup). (A-76-94)

TODD, Chairman, McADAMS, HOGUE, BURGESS, and HALEY, Members, concur in the above recommendations.

*Kay Bailey*  
*for*

By: Webster B. Todd, Jr.  
Chairman

THESE RECOMMENDATIONS WILL BE RELEASED TO THE PUBLIC ON THE ISSUE DATE SHOWN ABOVE. NO PUBLIC DISSEMINATION OF THE CONTENTS OF THIS DOCUMENT SHOULD BE MADE PRIOR TO THAT DATE.