

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: September 10, 1981

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Forwarded to:

Honorable J. Lynn Helms  
Administrator  
Federal Aviation Administration  
Washington, D.C. 20591

SAFETY RECOMMENDATION(S)

A-81-96

On September 3, 1980, the nose landing gear on a Piper PA-32R, N2252Q, slowly collapsed during rollout after a normal landing at Raeford, North Carolina. The pilot stated that just before touchdown he saw three green landing gear light indications.

Examination of the nose landing gear assembly revealed that the nose landing gear downlock retaining screw, P/N 410011, was loose, worn, and bent. The retaining nut, P/N 404887, had backed off but was still on the threads. This looseness in the retaining nut allowed the eccentric bushing, P/N 35662-02, to rotate and slide. This would randomly result in misalignment of the nose gear downlock, P/N 38078-02, and the downlock bearing (fixed). Although the microswitch could engage and illuminate the green nose gear landing light on the instrument panel, the mechanical downlock would not necessarily be positively engaged.

The aircraft records indicated the last annual inspection was accomplished in November 1979 (total aircraft time was 1550.0 hours). The last 100-hour inspection was accomplished on February 23, 1980 (total aircraft time was 1650.0 hours). The total time on the aircraft at the time of the incident was 1,673.84 hours.

On April 10, 1981, a Federal Aviation Administration (FAA) Systems Analysis and Summary Report was issued which pointed out that a review of Service Difficulty Reports indicated an upward trend in nose landing gear downlock failures in PA-32R aircraft. There were 18 reports over a 4-year period ending March 5, 1981. Nine of these reports were received during the period April 21, 1980, through March 5, 1981.

In addition, a review of FAA accident/incident reports shows that there have been nine incidents in which the nose landing gear has collapsed due to a failure of the nose landing gear downlock, P/N 38078-02. One incident occurred in 1978, six occurred in 1980, and two occurred in 1981. The cutoff date for these data was March 13, 1981.

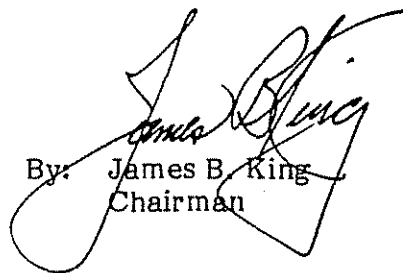
Examination of the Safety Board's briefs of accidents involving Piper PA-32 aircraft where landing gear was a cause/factor (1975-1979) shows no incidents or accidents resulting from failure of the nose landing gear downlock assembly.

The Safety Board is aware that the FAA is currently evaluating a draft of Piper Aircraft Corporation's Service Bulletin No. 720. This draft would announce the availability of a Nose Landing Gear Modification Kit, P/N 764-135V, that when installed will maintain the designed structural integrity and proper function of the nose landing gear downlock system. Compliance with this modification is proposed at the next regularly scheduled inspection event but not to exceed the next 100 hours of operation after the bulletin is issued.

Since the unsafe conditions found on the incident aircraft might be present on other PA-32R aircraft, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Issue an Airworthiness Directive making the provisions of Piper Aircraft Corporation Service Bulletin No. 720 mandatory for all PA-32R series aircraft. (Class II, Priority Action) (A-81-96)

KING, Chairman, DRIVER, Vice Chairman, McADAMS, GOLDMAN, and BURSLEY, Members, concurred in this recommendation.

  
By: James B. King  
Chairman