

Brief of Accident (Continued)

WPR15FA121
File No. 34277

03/05/2015

Santa Monica ,CA

Aircraft Reg No. N53178

Time (Local): 14:22 PST

The carburetor maintenance instruction manual contained no pertinent instructions for the installation of the jet assemblies. Further, no maintenance entries in the engine logbook regarding carburetor maintenance were found. Had the carburetor maintenance instruction manual identified a means to ensure the security of the main metering jet, it is unlikely that the jet would have become unseated. There was no record of maintenance personnel inspecting the carburetor jets during the previous 17 years nor was there a requirement to do so.

The front and rear seats of the airplane were equipped with non-factory-installed shoulder harnesses. The pilot's shoulder harness was installed by mounting the end of the restraint to the lower portion of the seatback assembly, which was made of thin aluminum. No reinforcement material or doublers were installed at or around the attachment bolt hole in the seatback. The lack of reinforcement allowed the attachment bolt, washers, and stop nut to be pulled upward and through the seatback structure during the impact sequence, which resulted in the pilot's loss of shoulder harness restraint. It is likely that the improperly installed shoulder harness contributed to the severity of the pilot's injuries.

As a result of this investigation, the NTSB is working with the pilot community to inform them of the lessons learned from this accident: the security of the carburetor's main metering jet and the security of the shoulder harness are both critical aspects of aviation safety.
Updated at Aug 6 2015 11:58AM

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OCCURRENCES

Initial climb - Loss of engine power (total)
Approach - Collision with terr/obj (non-CFIT)
Landing-flare/touchdown - Off-field or emergency landing

FINDINGS

Aircraft-Aircraft power plant-Engine fuel and control-Fuel control/carburetor-Failure - C
Aircraft-Aircraft structures-Fuselage-Seat/cargo attach fitting-Capability exceeded - F
Aircraft-Fluids/misc hardware-Misc hardware-Fasteners-Incorrect service/maintenance - F
Organizational issues-Support/oversight/monitoring-Documentation/record keeping-Maintenance records-Manufacturer - F
Aircraft-Aircraft handling/service-Maintenance/inspections-(general)-Not specified - F
Personnel issues-Task performance-Maintenance-Installation-Other/unknown - F
Environmental issues-Physical environment-Object/animal/substance-Tree(s)-Not specified

Findings Legend: (C) = Cause, (F) = Factor

The National Transportation Safety Board determines the probable cause(s) of this accident as follows:

A total loss of engine power during initial climb when the carburetor main metering jet became unseated, which led to an extremely rich fuel-to-air ratio. Contributing to the accident was the lack of adequate carburetor maintenance instructions. Contributing to the severity of the pilot's injuries was the improperly installed shoulder harness.