



# National Transportation Safety Board

Washington, D.C. 20594

## Safety Recommendation

Adopted 7-11-94  
log 2516

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Date: July 18, 1994

In reply refer to: A-94-131

Honorable David R. Hinson  
Administrator  
Federal Aviation Administration  
Washington, D.C. 20591

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On November 28, 1993, smoke began to come out of an overhead storage compartment in the passenger cabin of a Northwest Airlines Boeing 727-251. At the time, the airplane was being pushed back from the gate at Dorval International Airport, Montreal, Canada, to begin its scheduled flight from Montreal to Detroit, Michigan. Crewmembers extinguished the fire with two Halon fire extinguishers that were on board. During the subsequent emergency evacuation, 2 of the 60 passengers were slightly injured; these 2 passengers and 2 others, who were diabetic, were taken to a hospital where they were treated and released. None of the 6 crewmembers was injured. The airplane sustained minor heat and smoke damage to the storage compartment.

The incident was investigated by the Transportation Safety Board of Canada (TSBC) with assistance from the National Transportation Safety Board. The investigation determined that the fire originated in several blankets stored in the overhead compartment; the fire also burned part of a carry-on bag in the same compartment. No ignition sources were found in the overhead compartment. On the day after the fire, investigators found a fire-scorched paper towel in each of the two aft lavatories and a burned match beside each towel. The evidence strongly suggested that the fire in the overhead compartment had been deliberately set, most likely with a match. Police authorities in Montreal are conducting an arson investigation.

Blankets identical to those stored in the overhead compartment were examined following the incident. The fabric, 100-percent polyester, ignited easily with a match. Following ignition, the polyester melted and resulted in a molten polyester pool fire.

The flammability of aircraft interior materials is addressed by performance standards contained in Title 14 Code of Federal Regulations Part 25 (14 CFR 25). These standards were strengthened by the Federal Aviation Administration (FAA) in 1989 to reduce the flammability of interior materials. Data provided to the TSBC by the blanket manufacturer indicated that the blankets had been subjected to a vertical flame spread test that included a burning molten drip requirement described in Section 25.853, appendix F, part I. According to the results of the test,

the blankets met the test criteria. The Safety Board notes, however, that blankets supplied to aircraft operators are not required to meet FAA flammability standards. Fabrics used in aircraft seats and on other surfaces are required to meet the flame spread test and a heat release standard, described in Section 25.853, appendix F, part II.

The vertical flame spread test appears to be an inadequate method to measure the flammability of blankets, considering the ease with which folded blankets ignited and developed a molten polyester pool fire in the post-incident test. As demonstrated by the Montreal incident, the use of blankets that ignite and burn in such a manner increases the risk of a fire. The Safety Board believes that allowing the use of highly flammable blankets for passenger comfort is inconsistent with current FAA standards and requirements to reduce the flammability of interior cabin materials.

Therefore, as a result of the investigation of this incident, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Develop a fire performance test method and performance criteria (standard) for blankets supplied to commercial operators, then require operators to use only those blankets that meet the standard. (Class II, Priority Action) (A-94-131)

Because these actions will take some time, the Board has also issued a safety recommendation to the Air Transport Association of America. The recommendation asks the association to warn its members about the flammability of polyester blankets used for passenger comfort and to urge members to replace the blankets with blankets containing more fire-resistant materials.

Acting Chairman HALL, and Members LAUBER, HAMMERSCHMIDT, and VOGT concurred in this recommendation.

By:   
Jim Hall  
Acting Chairman