

Log 864

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: September 9, 1977

Forwarded to:

Honorable Langhorne M. Bond
Administrator
Federal Aviation Administration
Washington, D. C. 20591

SAFETY RECOMMENDATION(S)

A-77-56 through 58

The National Transportation Safety Board has become aware of a serious problem involving supplemental oxygen masks for general aviation aircraft. The Safety Board believes that the problem has potentially disastrous consequences and requires immediate action by the Federal Aviation Administration (FAA).

On August 3, 1977, a Piper Aztec (PA-23), N62816, was en route from Bozeman, Montana, to Salt Lake City, Utah, with two pilots aboard. The flight was a return trip of an air taxi flight for which the passengers deplaned at Bozeman. Immediately after the pilots donned their oxygen masks, the copilot began to choke because an object had lodged in his throat. He managed to dislodge and swallow the object with great difficulty. The pilot-in-command removed his mask and found a circular filter that had been partially dislodged. This diluter valve filter was missing from the copilot's mask and obviously was the object on which he had choked. Had this flight been a single-pilot operation, aircraft control might have been lost.

These oxygen masks were manufactured by the Scott Aviation Division of A-T-O, Inc., as "Sky Mask," Part No. 28314-17. The masks were supplied by Piper Aircraft Corporation as part of the aircraft oxygen system. According to Scott Aviation personnel, this type of mask is used in all types of general aviation aircraft for pilot and passenger supplemental oxygen. Other masks manufactured with the same dilution valve filter as the filter involved in this incident are manufactured under Part Nos. 28314, 28315, and 28317.

Our inspection of the "Sky Mask" revealed that the filter can be dislodged easily by squeezing the pliable face piece of the mask as one might do when donning the mask or adjusting it to the facial contours. An inspection of the container in which this oxygen mask is sold revealed the following legend on the container in large print: "FAA Proven to 34,000 feet." While this legend implies that the mask was FAA approved, it was not. Since the mask is a continuous-flow, restricted-phase dilution mask, it does not have to conform to Technical Standard Order (TSO) requirements.

The Safety Board found that the FAA's Civil Aeromedical Institute (CAMI) had tested this mask along with other dilution-type masks from a biomedical standpoint. No engineering design evaluations were made by CAMI. Since there are no definitive requirements for oxygen masks in 14 CFR 23, an FAA inspector would have no basis on which to approve a mask as part of an aircraft's installed oxygen system. FAA approval also is not required when the mask is bought and used by an individual aircraft operator. The Board believes that equipment so closely related to the safety of flight should be more closely controlled by appropriate technical standards.

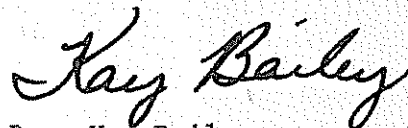
Therefore, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Issue an Airworthiness Directive to require that all Scott Aviation "Sky Masks" be modified so that the dilution valve filter is positively retained. (Class I - Urgent Followup) (A-77-56)

Issue a Telert Maintenance Bulletin to alert all operators of aircraft equipped with Scott Aviation "Sky Masks" to check visually the security of the dilution valve filter before each use of the mask until the mask is modified. (Class I - Urgent Followup) (A-77-57)

Develop a Technical Standard Order (TSO) for continuous flow oxygen masks. (Class II - Priority Followup) (A-77-58)

TODD, Chairman, BAILEY, Vice Chairman, McADAMS and HOGUE, Members, concurred in the above recommendations; HALEY, Member, did not participate.



By: Kay Bailey
Acting Chairman