

DEPARTMENT OF TRANSPORTATION
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20591

July 14, 1967

IN REPLY
REFER TO: SB-1-96

- Honorable William F. McKee
Administrator
Federal Aviation Administration
Department of Transportation
Washington, D. C. 20590

Dear General McKee:

Our investigation of the accident involving a Beech King Air aircraft, Model 90, N827T, which occurred on April 12, 1967, near Casper, Wyoming, produced evidence of icing in the air induction system of the United Aircraft of Canada, Ltd., PT6A engine. Near simultaneous engine flame-out was experienced while operating in close proximity to visible moisture at outside air temperatures of approximately -15°C . No engine relight or successful air start could be effected.

The investigation further disclosed that the engine anti-icing system, an alcohol spray system utilized in the Model 90 aircraft, in our judgment, does not provide adequate anti-icing for safe all-weather operation of the subject model aircraft.

Service experience and testing of the advanced inertial separation anti-icing system utilized in the Model 90A aircraft has disclosed that further refinements of this system were likewise indicated to ensure safe all-weather operation of the aircraft.

Both United Aircraft of Canada, Ltd., and Beech Aircraft Corporation have completed extensive studies pertinent to the icing characteristics and, as a result of these studies, have presently initiated incorporation of U. A. C. L. Service Bulletins Nos. 84 and 90 and Beech Modification Kits 90-9018 and 90-9017S. Incorporation of these modifications would greatly reduce, if not eliminate, the probability of a recurrence of accidents associated with engine induction icing.

In view of the cited potential hazard in continuing operation of the subject model aircraft under unrestricted all-weather conditions, consideration should be given to the initiation of mandatory regulatory action which will ensure maximum possible utilization of the available improvements by all operators of Beech King Air Models 90 and 90A aircraft. Further, in view of the air start difficulties

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Honorable William F. McKee (2)

encountered, consideration should be given to a re-evaluation of electrical power availability and starter torque requirements as they may relate to inflight restarting capability.

Mr. Kapustin of our Bureau of Aviation Safety staff has discussed this subject with Messrs. George Wells, Charles Hughes, L. Smith and R. Carp of your Flight Standards Service, CE-210 and EA-210 respectively, and will be available for further discussions, if desired.

Sincerely yours,

~~/s/ Joseph J. O'Connell, Jr.~~

Joseph J. O'Connell, Jr.
Chairman