

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: August 26, 1981

Forwarded to:

Honorable J. Lynn Helms  
Administrator  
Federal Aviation Administration  
800 Independence Avenue, S.W.  
Washington, D.C. 20591

SAFETY RECOMMENDATION(S)

A-81-92

On February 11, 1981, a Lockheed JetStar Model 1329, operating as a corporate flight for the Texasgulf Aviation, Inc., from Toronto, Canada, to Westchester County Airport crashed on an instrument landing system (ILS) approach to runway 16 at Westchester County Airport, near White Plains, New York. The aircraft crashed about 6,000 feet from the approach end of runway 16 and about 2,300 feet to the right of the ILS centerline. The aircraft was about 360 feet below the glide slope when it first hit trees. The aircraft was destroyed, and the eight occupants were killed.

During the flight from Toronto to Westchester County, the flightcrew reported that they had lost a navigational radio and that they had difficulty with the landing gear after takeoff. They did not report any other problems during the flight.

During the investigation, the Safety Board learned that the aircraft electrical system had been modified by incorporation of Federal Aviation Administration Supplemental Type Certificate (STC) No. SA 1596 CE on January 30, 1981. This modification consisted of wiring changes and replacement of the generator control units (GCU) with new, solid state units manufactured by the Phoenix Aerospace, Inc., Phoenix, Arizona.

Following installation of the STC by AiResearch Aviation, Inc., the aircraft was ground checked to verify operation of the electrical systems. The No. 4 generator system malfunctioned and was repaired. Test flights were performed on January 31, to check out the engines and the electrical systems operations. During those test flights, the No. 2 generator tripped in flight and was reset; shortly thereafter, Nos. 1, 2, and 3 generators tripped and were reset; before the flight landed, all four generators tripped. AiResearch personnel found a problem in the aircraft wiring and repaired it. Another test flight was conducted and the No. 2 generator tripped; the generator was reset and operated satisfactorily for the rest of the flight. No maintenance was performed as a result of this malfunction.

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On February 1, 1981, the aircraft was dispatched on a company flight to Chicago, Illinois, during which the No. 2 generator tripped twice. On the return flight at night from Chicago to Westchester County Airport, the Nos. 1, 2, and 3 generators tripped at the same time; they were reset but they tripped again about 10 minutes later. The crew reset Nos. 1 and 4 generators and they continued to operate for the remainder of the flight. Colt Electronics and Phoenix Air Space personnel inspected and repaired the system. A subsequent test flight was conducted and when the speed brakes were extended No. 2 generator dropped off the line. It was reset and operated normally. No maintenance was performed after this flight.

On February 11, 1981, the morning of the accident, the aircraft was dispatched to Toronto, Canada. En route, the No. 2 generator tripped, was reset and tripped again. Later in the flight, all the generators tripped and were off for 9 minutes before they reset. The aircraft landed safely at Toronto and the copilot, who was a certificated mechanic, discussed the problem with the director of maintenance for Texasgulf. The Safety Board could not determine what, if any, maintenance was performed on the aircraft before the return flight to Westchester County.

Our investigation indicated that both d.c. and a.c. electrical power were available for systems operation during the approach to Westchester County Airport down to about 1,000 feet m.s.l. and when the aircraft struck the ground. The Safety Board has not been able to determine the cause of the loss of the navigational radio. We also have not been able to determine whether there was an interruption in electrical power during the approach that was corrected by the crew before impact.

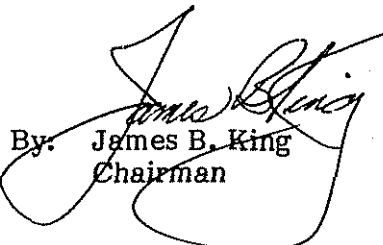
A sister aircraft owned by Texasgulf was similarly modified and had similar problems. After the accident on February 11, 1981, the STC was removed from this aircraft and the wiring was restored to its original configuration.

The Safety Board is aware that modifications similar to STC SA1596 CE were made to two other Lockheed Model 1329 aircraft using similar components. The operators of these aircraft reported that they had problems with the electrical systems similar to those described above. They have subsequently had the systems corrected and they are now working satisfactorily.

In view of the problems associated with the installation of this STC in N520S and its sister aircraft, and in view of the possibility that an electrical malfunction may have been a causal factor in this accident, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Review the approval of Supplemental Type Certificate SA 1596 CE and the effect of the installation of the STC in Lockheed JetStar Model 1329 aircraft. (Class II, Priority Action) (A-81-92)

McADAMS, GOLDMAN, and BURSLEY, Members, concurred in this recommendation. KING, Chairman, and DRIVER, Vice Chairman, did not participate.

By:   
James B. King  
Chairman