



National Transportation Safety Board

Washington, D.C. 20594
Safety Recommendation

Log 2573

Date: October 17, 1995

In reply refer to: A-95-79

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

On December 14, 1994, about 1146:23 pacific standard time (PST), a Phoenix Air Group, Inc. (Phoenix Air) Learjet 35A, registration N521PA, crashed in Fresno, California. Operating under the call sign Dart 21, the flightcrew had declared an emergency inbound to Fresno Air Terminal due to engine fire indications. They flew the airplane toward a right base for their requested runway, but the airplane continued past the airport. The flightcrew was heard on Fresno tower frequency attempting to diagnose the emergency conditions and control the airplane until it crashed, with landing gear down, on an avenue in Fresno. Both pilots were fatally injured. Twenty-one persons on the ground were injured, and 12 apartment units in 2 buildings were destroyed or substantially damaged by impact and fire.¹

The National Transportation Safety Board has determined that the probable causes of this accident were: 1) improperly installed electrical wiring for special mission operations that led to an in-flight fire that caused airplane systems and structural damage and subsequent airplane control difficulties; 2) improper maintenance and inspection procedures followed by the operator; and, 3) inadequate

¹For more detailed information, read Aircraft Accident Report -- "Crash During Emergency Landing, Phoenix Air, Learjet 35A, N521PA, Fresno, California, December 14, 1994" (NTSB/AAR-95/04)

oversight and approval of the maintenance and inspection practice by the operator in the installation of the special mission systems.

N521PA was a public use aircraft,² under contract to the United States Air Force (USAF) to provide training for Air National Guard (ANG) F-16 fighters. The airplane had been modified with electronic equipment to satisfy the mission requirements.

The investigation revealed that the USAF and ANG did not play a direct role in the circumstances that led to the accident because they were not responsible for the actual installation of the special mission wiring or for the inspection of the installation.

In accordance with the USAF contract for services, the contractor specified that the airplane be maintained in accordance with Federal Aviation Administration (FAA) regulations. It is understandable that the USAF and ANG would rely on the FAA-approved maintenance program and the FAA-approved Form 337 installation of the special mission wiring.

Although the USAF did have oversight authority and responsibilities under the contract, it would not necessarily inspect FAA-approved installations. Rather, the USAF inspections involved broader matters related to the maintenance and operation of the contract airplanes. Nevertheless, the USAF's inspection program for this operator was less comprehensive than FAA oversight of 14 Code of Federal Regulations Part 135 aircraft operators. Although the USAF had specified that the operator must use an FAA-approved maintenance program, this did not diminish the fact that the airplane was being operated as a public use aircraft requiring USAF oversight. The Safety Board believes that the Department of Defense should have provided audits of contractor maintenance actions on specific aircraft.

Because the operation was considered public use, technically, the operator did not have to comply with FAA regulations; however, the operator did maintain the airplane in accordance with such regulations. Consequently, when the special mission equipment was installed, it was supposed to be installed in accordance with the provisions of FAA Form 337. The original Form 337 was reviewed and

²The Independent Safety Board Act Amendments of 1994, which became effective on April 23, 1995, altered the division between public and civil aircraft. Nevertheless, under either the former or current definition, N521PA was a public use aircraft.

approved by an FAA avionics inspector in 1989. Consequently, when the installation took place on N521PA, a new Form 337 was created without the need for FAA approval because it was based on the originally approved document.

The use of the FAA Form 337 for approval of the installation of the special mission equipment, and the fact that a Phoenix Air mechanic holding Inspection Authorization (IA)³ privileges signed off on the installation procedures, placed the responsibility for quality and oversight of the installation on the operator. The operator failed in these responsibilities.

The Safety Board believes that a qualified mechanic should not have overlooked basic electrical power wire installation practices, such as ensuring proper current overload protection for the entire system. Similarly, the failure of the FAA-certified avionics inspector to compare the actual installation with the specified installation instructions is inexcusable. The instructions for the work specified the proper installation; however, it was not followed by the mechanic, and the IA did not meet his inspection responsibilities. These failures, coupled with the fact that 14 additional airplanes had been modified incorrectly, reflects on the competence of the individuals involved and a lack of adequate oversight by the operator's maintenance management personnel.

Subsequent to the operator's grounding and inspection of the other airplanes, the ANG temporarily halted the mission. After a new Form 337 was written and approved that included more detailed instructions on the proper installation, and the airplanes were modified correctly, the ANG mission was reinstated.

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

Publish an FAA Special Airworthiness Information Bulletin that describes the circumstances of this accident, including the consequences of improper installation of the special mission wiring, where electrical power wires were unprotected by current limiters. In addition, emphasize that all major aircraft repairs and alterations

³An IA is obtained from the FAA after meeting prerequisites, which include the following: 1) The individual must have been an active A&P [airframe and powerplant mechanic] for the previous 2 years; and 2) must have completed a written examination and an oral evaluation. An IA is renewed yearly.

requiring FAA Form 337 must be performed in strict accordance with the technical data contained in the FAA Form 337, and that it is unacceptable to use similar work done on another aircraft as a technical guide in lieu of the information on the FAA Form 337. (Class II, Priority Action) (A-95-79)

Also, the Safety Board issued Safety Recommendation A-95-80 to Phoenix Air.

Chairman HALL, Vice Chairman FRANCIS, and Member HAMMERSCHMIDT concurred in this recommendation.

By: 
Jim Hall
Chairman