



# Aviation Investigation Final Report

<b>Location:</b>	CLOVIS, New Mexico	<b>Incident Number:</b>	DEN991A033
<b>Date &amp; Time:</b>	January 18, 1999, 12:10 Local	<b>Registration:</b>	N16NM
<b>Aircraft:</b>	Beech E90	<b>Aircraft Damage:</b>	None
<b>Defining Event:</b>		<b>Injuries:</b>	3 None
<b>Flight Conducted Under:</b>	Part 135: Air taxi & commuter - Non-scheduled - Air Medical (Discretionary)		

## Analysis

The air ambulance flight was transporting a male infant in an incubator to Clovis, New Mexico. During the descent into Clovis, the control yoke moved to the full forward position. The pilot eased back on the yoke and the nose pitched up. The pilot was able to maintain control by the use of power and elevator trim, and elected to return to Albuquerque, where an uneventful landing was made. Postincident examination disclosed a drooping wire bundle beneath the pilot's seat, at F.S. 122. The insulation around the H16A10 wire (copilot's windshield heat) had chafed against the elevator down cable (part number 50-524439-31), causing a short circuit. Although the pilot did not detect the odor of smoke, the elevator cable was burnt through and had separated. No circuit breakers were opened nor were any fuses blown.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be: Total failure of the elevator control cable due to a short circuit from chafing against an adjoining electrical cable, and failure of maintenance personnel to detect the problem during an AAIP phase inspection.

## Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION  
Phase of Operation: DESCENT - NORMAL

Findings

1. (C) FLT CONTROL SYST,ELEVATOR CONTROL - FAILURE,TOTAL
2. (C) ELECTRICAL SYSTEM,ELECTRIC WIRING - CHAFED
3. (C) ELECTRICAL SYSTEM,ELECTRIC WIRING - SHORTED
4. (C) MAINTENANCE,AAIP/PROGRESSIVE PROGRAM - INADEQUATE - COMPANY MAINTENANCE PERSONNEL

## Factual Information

On January 18, 1999, approximately 1210 mountain standard time, a Beech E90, N16NM, being operated by Seven Bar Flying Service of Albuquerque, New Mexico, was not damaged when the elevator control cable failed during initial descent into Clovis, New Mexico. The airline transport rated pilot, flight nurse, and patient were not injured. Visual meteorological conditions prevailed, and an IFR flight plan had been filed for the nonscheduled domestic passenger air taxi flight being conducted under Title 14 CFR Part 135. The flight originated in Albuquerque, New Mexico, at 1112.

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Seven Bar Flying Service then grounded its remaining fleet of four E90s for an inspection. No discrepancies were found in three of the airplanes (serial numbers were above LW-156), but some chafing of the electrical cables were noted on a fourth airplane, N14NM (s.n. LW-35).

## Pilot Information

<b>Certificate:</b>	Airline transport; Commercial	<b>Age:</b>	32, Male
<b>Airplane Rating(s):</b>	Single-engine land; Single-engine sea; Multi-engine land; Multi-engine sea	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	May 12, 1998
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	5300 hours (Total, all aircraft), 65 hours (Total, this make and model), 4010 hours (Pilot In Command, all aircraft), 40 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Beech	<b>Registration:</b>	N16NM
<b>Model/Series:</b>	E90 E90	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	LW-62
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	6
<b>Date/Type of Last Inspection:</b>	October 9, 1998 AAIP	<b>Certified Max Gross Wt.:</b>	10100 lbs
<b>Time Since Last Inspection:</b>	69 Hrs	<b>Engines:</b>	2 Turbo prop
<b>Airframe Total Time:</b>	10468 Hrs	<b>Engine Manufacturer:</b>	P&W
<b>ELT:</b>	Installed	<b>Engine Model/Series:</b>	PT6A-28
<b>Registered Owner:</b>	SEVEN BAR FLYING SERVICE	<b>Rated Power:</b>	550 Horsepower
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	On-demand air taxi (135)
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	GNLA

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	CVN ,4295 ft msl	<b>Distance from Accident Site:</b>	50 Nautical Miles
<b>Observation Time:</b>	12:15 Local	<b>Direction from Accident Site:</b>	135°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	21 knots / 25 knots	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	240°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30 inches Hg	<b>Temperature/Dew Point:</b>	16°C / -5°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	ALBUQUERQUE , NM (ABQ )	<b>Type of Flight Plan Filed:</b>	IFR
<b>Destination:</b>	(CVN )	<b>Type of Clearance:</b>	IFR
<b>Departure Time:</b>	11:12 Local	<b>Type of Airspace:</b>	Class E

## Airport Information

<b>Airport:</b>		<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>		<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>	0	<b>IFR Approach:</b>	
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	None
<b>Passenger Injuries:</b>	2 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	3 None	<b>Latitude, Longitude:</b>	

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Scott, Arnold
<b>Additional Participating Persons:</b>	JAMES L MALARSIE; ALBUQUERQUE , NM PAUL E YOOS; WICHITA , KS
<b>Original Publish Date:</b>	August 13, 2001
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=45619">https://data.nts.gov/Docket?ProjectID=45619</a>

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