



Aviation Investigation Factual Report

Location:	Watrous, New Mexico	Accident Number:	DEN07LA148
Date & Time:	August 27, 2007, 16:10 Local	Registration:	N60GE
Aircraft:	Elliott Cirrus VK30	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Factual Information

HISTORY OF FLIGHT

On August 27, 2007, approximately 1610 mountain daylight time, an Elliott Cirrus VK30, N60GE, piloted by a private pilot, was destroyed when it impacted terrain near Watrous, New Mexico. Visual meteorological conditions prevailed at the time of the accident. The personal flight was being conducted under the provisions of Title 14 Code of Federal Regulations Part 91 without a flight plan. The pilot, who was also the owner and co-builder of the airplane, and a pilot-rated passenger (spouse) on board the airplane were fatally injured. The cross-country flight originated in Liberal (LBL), Kansas, at 1544 central daylight time, and was en route to Double Eagle II Airport (AEG), Albuquerque, New Mexico.

According to the New Mexico State Police report, witnesses reported seeing the airplane "flying at an odd angle" and trailing smoke. A FAA aviation safety inspector and a Teledyne Continental Motors (TCM) air safety investigator who went to the accident site described it as an open field and suitable for a forced landing. They reported finding impressions in the ground consistent with the landing gear being down. There were 3 propeller strike marks in the earth at the point of touchdown. Using a side-view scale drawing of the airplane, it was determined that the airplane had at least an 11 to 12 degree nose-up angle at the point of touchdown.

The wreckage path, from initial impact point to the final resting point, was strewn with airplane parts that had been exposed to fire. Several airplane pieces, mostly from the engine area, were scattered near and prior to the initial impact point. They had also been exposed to fire. On-scene photographs depicted a heat-blistered right intake scoop. According to the construction plans, the scoop covers the right side of the engine and the right turbocharger.

AIRCRAFT INFORMATION

The airplane, model VK30 (s/n 121), was built by the owner and his son from a kit manufactured by Cirrus Design in 1993. It was a low-wing, cabin-class, composite-built airplane, powered by a Continental TSIO-550-E3B (converted from a TSIO-550-C6B) engine (s/n 802614), rated at 550 horsepower.

METEOROLOGICAL INFORMATION

Visual meteorological conditions were reported by the Las Vegas, New Mexico, AWOS (Automatic Weather Observation Station), located approximately 14 miles southwest of the

accident site. Visibility was reported as 10 statute miles (or greater), with winds varying from 210 to 240 degrees at 10 to 15 knots, with gusts to 19 knots. The sky condition varied from a few clouds at 11,000 feet, to a broken deck at 9,000 feet. Temperature was between 28 and 30 degrees Celsius (C.), and dew point was between 3 and 5 degrees C. The altimeter setting was 30.15 inches of Mercury.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot by the New Mexico Medical Examiner's Office. According to its report, "No soot [was found] in the mouth, pharynx, or airways, indicating that the decedent was most likely not alive at the time of the fire. Therefore, it is most likely that death was caused by trauma (multiple blunt force injuries) before the fire." Both the State of New Mexico and FAA's Civil Aeromedical Institute performed a toxicological screen, but insufficient hemoglobin in the blood precluded testing for carbon monoxide and cyanide.

TESTS AND RESEARCH

On September 27, 2007, the engine was disassembled and examined at the facilities of Beegles Aircraft Service, Greeley, Colorado. No anomalies were noted that would have prevented normal operation and production of rated power.

The left turbocharger was separated from the engine. The compressor shaft retaining nut was loose and the shaft could be rotated by hand. The right turbocharger remained attached to the engine. The wastegate was in the open position. The compressor/turbine shaft was undamaged but could not be rotated by hand.

The turbochargers were shipped to NTSB's Materials Laboratory for examination. According to the metallurgist's report, both turbochargers showed "no evidence of cracks, punctures, or holes that would allow any exhaust gas to escape, and the mechanical damage was determined to be impact related." The right turbocharger, however, exhibited "a black flame impingement pattern on the outboard side of the wastegate actuator. The rear face of the actuator mounting bracket displayed a similar impingement pattern and the forward face of the bracket displayed a deposit consistent with flame contact. The impingement pattern was consistent with a flame directed forward. To the rear of the actuator are two oil lines, one is an oil pressure line from the engine and the other is connected to the density controller (the density controller is operated by the discharge air pressure from the turbocharger and adjusts the bleed rate of the oil pressure thereby controlling the wastegate actuator). A portion of the upper oil line was still attached to the actuator and an examination revealed that only the wire braiding remained. The wire braiding was discolored, consistent with it being overheated." The airplane's co-builder supplied photographs that showed "there was no other flame source to the rear of the oil line and the actuator. It is therefore probable that a leak in the oil line sprayed oil forward onto the wastegate actuator and the oil spray was ignited by the hot turbine section

of the turbocharger to which the actuator is connected, and initiated the in-flight fire."

Pilot Information

Certificate:	Private	Age:	75,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	August 1, 2007
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	4450 hours (Total, all aircraft), 15 hours (Last 90 days, all aircraft)		

Information

Certificate:	Student	Age:	74,Female
Airplane Rating(s):		Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 None	Last FAA Medical Exam:	July 1, 2004
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	30 hours (Total, all aircraft), 7 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Elliott Cirrus	Registration:	N60GE
Model/Series:	VK30	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	121
Landing Gear Type:	Retractable - Tricycle	Seats:	5
Date/Type of Last Inspection:		Certified Max Gross Wt.:	3600 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Continental
ELT:		Engine Model/Series:	TSIO-550-E3B
Registered Owner:	Glenn R. Elliott	Rated Power:	350 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	LVS,6877 ft msl	Distance from Accident Site:	14 Nautical Miles
Observation Time:	15:53 Local	Direction from Accident Site:	225°
Lowest Cloud Condition:	Few / 11000 ft AGL	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	10 knots / 19 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	240°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.14 inches Hg	Temperature/Dew Point:	30°C / 3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Liberal, KS (LBL)	Type of Flight Plan Filed:	VFR
Destination:	Albuquerque, NM (AEG)	Type of Clearance:	None
Departure Time:	15:44 Local	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	In-flight
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	35.723056,-104.995002

Administrative Information

Investigator In Charge (IIC):	Scott, Arnold
Additional Participating Persons:	Richard S Cramer; FAA Flight Standards District Office; Albuquerque, NM
Report Date:	March 26, 2008
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=66531

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).