



Aviation Investigation Final Report

Location:	MARANA, Arizona	Accident Number:	LAX94LA160
Date & Time:	March 12, 1994, 10:35 Local	Registration:	N189AC
Aircraft:	American Champion (ACAC) 8KCAB	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The accident was witnessed by several International Aerobatic Club judges, who were grading the pilot's aerobatic routine. The pilot performed the 1994 Intermediate Known Sequence, which was to be followed by a hammerhead turn course reversal to include a 1/4 roll on the up line and a 1/4 roll on the down line. After the hammerhead turn, the aircraft was descending on the vertical line and the witnesses did not see the pilot attempt to pull out until very near the ground when a 10- to 15-degree attitude change was noted. The witnesses said the engine continued at near full power throughout the maneuver to ground impact. All of the aircraft components were accounted for in the wreckage path. The entire flight control system was documented, with no discrepancies noted.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's delayed pullout from a vertical aerobatic maneuver for undetermined reasons.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: MANEUVERING

Findings

1. MANEUVER - INITIATED - PILOT IN COMMAND

2. (C) PULL-UP - DELAYED - PILOT IN COMMAND
3. REASON FOR OCCURRENCE UNDETERMINED

Factual Information

On March 12, 1994, at 1035 mountain standard time, an American Champion 8KCAB, N189AC, collided with terrain while engaged in aerobatic maneuvers near Marana, Arizona. Visual meteorological conditions prevailed at the time and no flight plan was filed. The aircraft was destroyed in the ground collision sequence and the airline transport pilot, the sole occupant, sustained fatal injuries. The flight originated from the Avra Valley airport on the day of the accident at 1015 hours for a local area aerobatic flight.

The accident was witnessed by several International Aerobatic Club judges, who were grading the pilot's aerobatic routine. According to the witnesses, the pilot performed the 1994 Intermediate Known Sequence, which was to be followed by a hammerhead turn course reversal to include a 1/4 roll on the up line and a 1/4 roll on the down line. After the hammerhead turn, the aircraft was descending on the vertical line and the witnesses did not see the pilot attempt to pull out until very near the ground when a 10- to 15-degree attitude change was noted. The witnesses said the engine continued at near full power throughout the maneuver to ground impact.

According to a Federal Aviation Administration (FAA) inspector, ground scars and the extensively fragmented aircraft wreckage debris were found distributed on the flat desert terrain on a southeast to northwest line. A median bearing line through the ground scars and debris measured about 500 feet in length.

At the request of the National Transportation Safety Board, the aircraft was examined by the holder of an FAA airframe and powerplant mechanic's certificate, who also holds an inspection authorization. According to his written report of the examination, all of the aircraft components were accounted for in the wreckage path. The entire flight control system was documented, with no discrepancies noted.

An autopsy was performed by the Pima County Medical Examiner's Office, with specimens retained for toxicological analysis. The analysis was performed by the FAA Civil Aeromedical Institute, who reported negative results for alcohol and all screened drug substances.

Pilot Information

Certificate:	Airline transport; Commercial; Flight engineer; Flight instructor	Age:	53, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):	Glider	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	Yes
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim	Last FAA Medical Exam:	December 1, 1993
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	20000 hours (Total, all aircraft), 45 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	American Champion (ACAC)	Registration:	N189AC
Model/Series:	8KCAB 8KCAB	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Aerobatic	Serial Number:	721-93
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	October 14, 1993 Annual	Certified Max Gross Wt.:	1800 lbs
Time Since Last Inspection:	84 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	84 Hrs	Engine Manufacturer:	LYCOMING
ELT:	Installed	Engine Model/Series:	AEIO-360-H1A
Registered Owner:	PAUL E. SHEPLEY	Rated Power:	180 Horsepower
Operator:	MICHAEL P. ILYIN	Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	TUS ,2641 ft msl	Distance from Accident Site:	22 Nautical Miles
Observation Time:	10:55 Local	Direction from Accident Site:	124°
Lowest Cloud Condition:	Scattered / 6000 ft AGL	Visibility	40 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	360°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	17°C / 2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	AVRA VALLEY , AZ (E14)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	10:15 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	32.449787,-111.290802(est)

Administrative Information

Investigator In Charge (IIC):	Rich, Jeff
Additional Participating Persons:	MARYELLEN CLINKINGBEARD; SCOTTSDALE , AZ
Original Publish Date:	November 14, 1994
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=28694

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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](#).