Aviation Investigation Final Report

Location:	Westport, New York	**Accident Number:**	NYC04LA178
Date & Time:	July 26, 2004, 16:50 Local	**Registration:**	N45KY
Aircraft:	Garrett Stephens Akro	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot had approximately 900 hours of total flight experience, and performed aerobatics often. He had been performing aerobatics throughout the day. During the aerobatic routines, the engine noise would cease during a dive, and then return during the recovery. The pilot had completed about 10 minutes of an approximate 15-minute aerobatic routine. The first 10 minutes seemed normal. However, the airplane then performed an unusual maneuver, never seen before, and descended in a spiraling nose down attitude. It did not appear that the pilot attempted to recover from the dive, or jettison the canopy. Witnesses reported that there was no engine noise during the last maneuver. Examination of the wreckage revealed fuel in the fuel tank. There was no forward travel at the accident site, or rotational signatures on the propeller. The pilot's autopsy report revealed that he had severe coronary artery disease, and may have suffered a momentary loss of consciousness, but blood at the scene was consistent with heart action continuing during impact.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's loss of aircraft control while maneuvering, due to incapacitation, which resulted in a collision with terrain.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: MANEUVERING

Findings
1. AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
2. (C) INCAPACITATION - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
3. TERRAIN CONDITION - GROUND

Factual Information

On July 26, 2004, about 1650 eastern daylight time, an amateur built Stephens Akro, N45KY, was substantially damaged during collision with terrain, while maneuvering near Westport, New York. The foreign certificated pilot was fatally injured. Visual meteorological conditions prevailed for the flight that departed Westport Airport (N25), Westport, New York, about 1630. No flight plan was filed for the local personal flight conducted under 14 CFR Part 91.

According to a Federal Aviation Administration (FAA) inspector, witnesses observed the accident airplane performing aerobatics over N25 throughout the day. One witness stated, "...I would hear the engine turn off, the plane would appear to go into a nose dive and at the last possible second I would hear the engine come back on..." The airplane had completed about 10 minutes of an approximate 15-minute aerobatic routine; and the first 10 minutes seemed normal. The airplane then performed an unusual maneuver, never seen before, and descended in a spiraling nose down attitude with no recovery. The witnesses further stated that the pilot performed aerobatics often.

The airplane impacted a field approximately 1/4-mile northwest of the airport. The airplane came to rest in a flat upright attitude, and the engine was imbedded in mud at an approximate 45-degree angle. The FAA inspector observed fuel in the fuel tank. He did not observe any evidence of forward travel at the accident site, or rotational signatures on the propeller. The witnesses reported a lack of engine noise during the spiral. Due to the impact damage to the engine, the inspector did not attempt to rotate the propeller. The inspector further stated that the pilot had been "belted in," and there was no evidence that the pilot attempted to jettison the canopy.

The pilot's autopsy report stated:

"....found was 90% stenosis of the left anterior descending coronary artery. There was cardiac hypertrophy and dilatation, in addition to minimal interstitial fibrosis. There was no evidence of acute myocardial damage, or recent or old myocardial infarction....Due to the changes in the heart, it is possible that the patient may have suffered some type of cardiac seizure or momentary blackout...However, given the amount of blood at the scene and the degree of hemorrhage encountered, it is apparent that heart action was continuing when the patient struck the ground. Findings indicate that the death the due to the accident, per se. The role played by the cardiac changes remain in the realm of speculation."

Review of the Airman's Information Manual revealed:

"Physiologically, humans progressively adapt to imposed strains and stress, and with practice, any maneuver will have decreasing effect. Tolerance to G forces is dependent on human

physiology and the individual pilot. These factors include the skeletal anatomy, the cardiovascular architecture, the nervous system, the quality of the blood, the general physical state, and experience and recency of exposure. The pilot should consult an Aviation Medical Examiner prior to aerobatic training and be aware that poor physical condition can reduce tolerance to accelerative forces."

The pilot had accumulated about 900 hours of total flight experience.

Toxicological testing, conducted on the pilot at the FAA Toxicology Accident Research Laboratory, Oklahoma City, Oklahoma, was negative.

Pilot Information

Certificate:	Private	**Age:**	61,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Single
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	July 31, 2003
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	900 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Garrett	**Registration:**	N45KY
Model/Series:	Stephens Akro	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	45
Landing Gear Type:	Tailwheel	**Seats:**	
Date/Type of Last Inspection:	November 17, 2003 Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:	10 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	478 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Not installed	**Engine Model/Series:**	IO-360
Registered Owner:	Dynavia Inc.	**Rated Power:**	180 Horsepower
Operator:	Jaroslav V Svoboda	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	BTV,335 ft msl	**Distance from Accident Site:**	22 Nautical Miles
Observation Time:	16:54 Local	**Direction from Accident Site:**	50°
Lowest Cloud Condition:	Few / 4000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	340°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.12 inches Hg	**Temperature/Dew Point:**	23°C / 15°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Westport, NY (N25)	**Type of Flight Plan Filed:**	None
Destination:	(N25)	**Type of Clearance:**	None
Departure Time:	16:30 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	Westport Airport N25	**Runway Surface Type:**	
Airport Elevation:	276 ft msl	**Runway Surface Condition:**	Unknown
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	44.158332,-73.432777

Administrative Information

Investigator In Charge (IIC):	Gretz, Robert
Additional Participating Persons:	Mark Valette; FAA FSDO-01; Latham, NY
Original Publish Date:	July 7, 2005
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=59743