Aviation Investigation Final Report

Location:	Alton, Virginia	**Accident Number:**	ERA14FA445
Date & Time:	September 19, 2014, 17:10 Local	**Registration:**	N531KG
Aircraft:	North American T 28C	**Aircraft Damage:**	Destroyed
Defining Event:	Abrupt maneuver	**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

A witness, who was a friend of the pilot, was at an automobile racing facility and received a text message from the pilot that the airplane would fly over in 6 minutes. The accident airplane then performed a low pass over the area, reversed direction, and initiated a barrel roll during the second pass. Although the airplane started to climb before the barrel roll, video evidence indicates that it was only 100 feet above ground level, which was not high enough to complete the maneuver. The airplane subsequently collided with trees and terrain. Examination of the wreckage did not reveal any preimpact mechanical malfunctions that would have precluded normal operation.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's failure to maintain altitude while performing low-level aerobatic maneuvers, which resulted in collision with terrain. Contributing to the accident was the pilot's improper decision to attempt aerobatics at such a low altitude.

Findings

Personnel issues	Incorrect action performance - Pilot
Aircraft	Altitude - Not attained/maintained
Personnel issues	Decision making/judgment - Pilot

Factual Information

History of Flight

Maneuvering-low-alt flying	Abrupt maneuver (Defining event)
Maneuvering-aerobatics	Collision with terr/obj (non-CFIT)

On September 19, 2014, about 1710 eastern daylight time, an experimental North American T-28C, N531KG, operated by a private individual, was destroyed when it impacted a kudzu field, while performing aerobatics near Alton, Virginia. The private pilot and passenger were fatally injured. The personal flight was conducted under the provisions of 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed for the flight that departed Easton Airport (ESN), Easton Maryland, about 1600. No flight plan was filed for the planned flight to Danville Regional Airport (DAN), Danville, Virginia.

A witness, who was a friend of the pilot, was at a racing facility with a motorcycle racing team that the pilot owned. The witness added that he received a text message from the pilot that the pilot would be there in 6 minutes. The accident airplane then performed a low pass over the area, reversed direction, and initiated a barrel roll during the second pass. The witness stated that the airplane started to climb before the barrel roll, but it wasn't enough and he knew the airplane would not have enough altitude to complete the maneuver. The airplane subsequently collided with trees and terrain. A second witness recorded a video of the maneuver, which was forwarded to the NTSB Vehicle Recorder Laboratory, Washington, D.C. The video confirmed the witnesses' statements and revealed that the airplane attempted a barrel roll about 100 feet above ground level and then disappeared behind a treeline.

Pilot Information

Certificate:	Private	**Age:**	46
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):	None	**Restraint Used:**	5-point
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	October 5, 2011
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	1410 hours (Total, all aircraft), 999999 hours (Total, this make and model)		

The pilot held a private pilot certificate with ratings for airplane single-engine land and airplane multiengine land. His most recent Federal Aviation Administration (FAA) third-class medical certificate was issued on October 5, 2011. At that time, he reported a total flight experience of 1,410 hours. The pilot's logbook was not recovered.

Aircraft and Owner/Operator Information

Aircraft Make:	North American	**Registration:**	N531KG
Model/Series:	T 28C	**Aircraft Category:**	Airplane
Year of Manufacture:	1954	**Amateur Built:**	
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	140531
Landing Gear Type:	Retractable - Tricycle	**Seats:**	2
Date/Type of Last Inspection:	December 6, 2013 Annual	**Certified Max Gross Wt.:**	8501 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	WRIGHT
ELT:		**Engine Model/Series:**	R-1820
Registered Owner:	COUCH JON	**Rated Power:**	1425 Horsepower
Operator:	COUCH JON	**Operating Certificate(s) Held:**	None

The two-seat tandem, low-wing, retractable tricycle gear airplane, serial number 140531, was manufactured in 1954. It was equipped with a Wright R-1820, 1,425-horsepower engine and a three-blade constant speed propeller. The airplane maintenance logbooks were not recovered; however, an invoice revealed that an annual inspection was completed on the airplane on December 6, 2013.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	DAN,571 ft msl	**Distance from Accident Site:**	6 Nautical Miles
Observation Time:	16:53 Local	**Direction from Accident Site:**	275°
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Broken / 11000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:	40°	**Turbulence Severity Forecast/Actual:**	/ N/A
Altimeter Setting:	30.21 inches Hg	**Temperature/Dew Point:**	21°C / 17°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Easton, MD (ESN)	**Type of Flight Plan Filed:**	None
Destination:	Danville, VA (DAN)	**Type of Clearance:**	None
Departure Time:	16:00 Local	**Type of Airspace:**	

The accident site was located about 6 miles east of DAN. The recorded weather at DAN, at 1653, was: wind 040 degrees at 8 knots; visibility 10 miles; broken ceiling at 11,000 feet; temperature 21 degrees C; dewpoint 17 degrees C; altimeter 30.22 inches Hg.

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	36.558612,-79.207496

A debris path was observed, initiating with the propeller, and extending approximately 300 feet on a magnetic heading about 320 degrees. The three propeller blades remained attached to the hub and the hub had separated from the engine. The blades were twisted and bent aft, with one blade exhibiting leading edge gouges. A flight control cable was located about 200 feet along the debris path and it exhibited damage consistent with overload. The left flap was located about 250 feet along the debris path. An aileron cable was separated consistent with overload and resting on top of the left flap The right elevator was located about 275 feet along the debris path and the right flap was located about 290 feet along the debris path. An aileron cable was separated consistent with overload and resting on top of the right flap.

The left wing and engine were located at the end of the debris path, to the left of the cockpit. The left wing and cockpit sustained heat damage from a postcrash fire. The left wing also exhibited impact damage and the left aileron remained attached. The landing gear had separated from the left wing. The engine was resting on the propeller flange and several of the cylinders sustained impact damage. The cockpit and empennage were resting on the right wing. The left horizontal stabilizer, left elevator, and rudder remained attached to the empennage. Elevator, elevator trim, and rudder control cable continuity were confirmed from the control surfaces to the mid-cockpit area. Aileron control continuity could not be confirmed due to the fragmentation and disposition of the wreckage. Review of the cockpit revealed that the propeller and mixture control were in the full forward position. The throttle lever was midrange. The pilot's five-point harness remained buckled and the belts were cut by rescue personnel.

Medical and Pathological Information

An autopsy was performed on the pilot on September 20, 2014, by the State of Virginia Office of the Chief Medical Examiner, Richmond, Virginia. The cause of death was noted as "Blunt force injuries of head."

Toxicological testing was performed on the pilot by the FAA Bioaeronautical Science Research Laboratory, Oklahoma City, Oklahoma. The results were negative for carbon monoxide, alcohol, and drugs.

Additional Information

Review of Federal Aviation Regulation 91.303 revealed: "No person may operate an aircraft in aerobatic flight - …

(b) Over an open air assembly of persons…
(e) Below an altitude of 1,500 feet above the surface…"

Administrative Information

Investigator In Charge (IIC):	Gretz, Robert
Additional Participating Persons:	Jay Venerable; FAA/FSDO; Richmond, VA
Original Publish Date:	November 17, 2014
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=90107