



Aviation Investigation Final Report

Location:	Newnan, Georgia	Accident Number:	ERA14LA360
Date & Time:	July 26, 2014, 15:45 Local	Registration:	N59418
Aircraft:	RYAN AERONAUTICAL ST3KR	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (total)	Injuries:	2 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

A review of the airplane's maintenance records revealed that the accident flight was the airplane's first flight following an annual inspection. The private pilot and passenger departed on the personal flight and flew about 35 nautical miles to a private airstrip. A witness reported seeing the airplane conduct a low pass over the runway and then enter a climb. As the airplane climbed through about 200 ft above ground level, the engine experienced a sudden loss of power, and the airplane subsequently descended into trees. Video footage from the witness's cell phone corroborated his statement.

Postaccident examination revealed that the engine turned freely by hand when the propeller was rotated, and compression was established on the Nos. 1, 4, and 5 cylinders. No compression was established on the Nos. 2 and 3 cylinders. The No. 3 cylinder was impact-damaged. Examination of the No. 2 cylinder revealed an improperly adjusted intake valve set screw, which prevented the intake valve from closing completely. The No. 2 cylinder set screw was readjusted, and the intake valve subsequently closed normally, and compression was established. However, if the set screw had been set improperly before the flight, the engine problem should have been present throughout the flight rather than developing later in the flight; therefore, the effect of the improperly set screw on the engine performance could not be determined.

Probable Cause and Findings

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

A total loss of engine power for reasons that could not be determined based on the available information.

Findings

Not determined	(general) - Unknown/Not determined
Aircraft	(general) - Incorrect service/maintenance
Environmental issues	Tree(s) - Contributed to outcome

Factual Information

History of Flight

Maneuvering-low-alt flying	Loss of engine power (total) (Defining event)
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On July 26, 2014, about 1545 eastern daylight time, a Ryan Aeronautical ST3KR, N59418, was substantially damaged when it impacted trees and terrain following a total loss of engine power while maneuvering near Panther Creek Airport (17GA), Newnan, Georgia. The private pilot and passenger were seriously injured. Visual meteorological conditions prevailed, and no flight plan was filed for the flight, which departed Cobb County International Airport-McCollum Field (RYY), Atlanta, Georgia, at an unknown time. The personal flight was operated under the provisions of Title 14 *Code of Federal Regulations* Part 91.

A witness stated that the pilot was conducting a "low pass" when the accident occurred. Video footage of the accident obtained from the witness's cell phone showed the accident airplane flying over the runway at 17GA. As it neared the end of the runway and began to climb, a sudden loss of engine power could be heard, and the airplane subsequently descended into the trees from an altitude about 200 feet above ground level.

The pilot held a private pilot certificate with ratings for airplane single engine land, instrument airplane, rotorcraft – helicopter, and glider. His most recent FAA first-class medical certificate was issued in August 2012. His most recent flight review was conducted in April 2014. Neither the pilot's total flight time, nor his time in the accident airplane, was determined.

The airplane was manufactured in 1942 and registered to the pilot in 1989. It was equipped with a Kinner R5 series, 160-hp, reciprocating, radial engine. The most recent annual inspection, the first since 1996, was completed on June 1, 2014. The accident flight was the first flight after the inspection.

The 1555 weather observation at Newnan Coweta County Airport (CCO), located about 10 miles southeast of the accident site, included scattered clouds at 4,500 ft, wind from 260° at 7 knots, temperature 32° C, dew point 22° C, and an altimeter setting of 30.05 inches of mercury.

Postaccident examination revealed that both left and right wing fuel tanks had been breached during the accident and contained no fuel. The throttle and mixture controls were found in a mid-range position. The fuel selector was on the "both" position. The wooden propeller hub remained attached to the crankshaft. Both blades were splintered; one blade was separated.

The engine turned freely when the propeller was rotated by hand. One spark plug was removed from each of the 5 cylinders, and the plugs exhibited normal wear. Cylinder compression was established using the thumb method on the No. 1, 4, and 5 cylinders. The No. 3 cylinder was impact-damaged.

The No. 2 cylinder was intact and undamaged. The valve covers were removed, and it was observed that as the engine was rotated, the intake valve failed to completely close. The valve set screw was observed

in an excessively tight position; after readjusting the screw, the intake valve subsequently closed normally and compression was established on the No. 2 cylinder.

Pilot Information

Certificate:	Private	Age:	68, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	
Other Aircraft Rating(s):	Glider; Helicopter	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	August 1, 2012
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	RYAN AERONAUTICAL	Registration:	N59418
Model/Series:	ST3KR	Aircraft Category:	Airplane
Year of Manufacture:	1942	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	2168
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	June 1, 2014 Annual	Certified Max Gross Wt.:	1600 lbs
Time Since Last Inspection:	1 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	1800 Hrs	Engine Manufacturer:	KINNER
ELT:	C91 installed, activated, did not aid in locating accident	Engine Model/Series:	R5 SERIES
Registered Owner:	On file	Rated Power:	160 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	CCO,970 ft msl	Distance from Accident Site:	10 Nautical Miles
Observation Time:	15:55 Local	Direction from Accident Site:	120°
Lowest Cloud Condition:	Scattered / 4500 ft AGL	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/ None
Wind Direction:	260°	Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	30.04 inches Hg	Temperature/Dew Point:	32°C / 22°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Atlanta, GA (RYY)	Type of Flight Plan Filed:	None
Destination:	Newnan, GA (17GA)	Type of Clearance:	Unknown
Departure Time:		Type of Airspace:	

Airport Information

Airport:	Panther Creek Airport 17GA	Runway Surface Type:	
Airport Elevation:	750 ft msl	Runway Surface Condition:	
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	1 Serious	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Serious	Latitude, Longitude:	33.466667,-84.865554(est)

Administrative Information

Investigator In Charge (IIC):	Diaz, Allison
Additional Participating Persons:	Andre Cummings; FAA/FSDO; Atlanta, GA
Original Publish Date:	December 14, 2017
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=89743

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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](#).