



Aviation Investigation Final Report

Location:	Summerville, South Carolina	Accident Number:	ATL05CA122
Date & Time:	July 4, 2005, 14:30 Local	Registration:	N14532
Aircraft:	Aeronca C3	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Approximately 25 minutes into the flight the pilot reported a smooth engine RPM drop from 2400 to 1000. The pilot selected an area for an emergency landing. During the emergency landing attempt, the pilot was forced to land in the canopy of a near by stand of trees. The post-accident examination of the engine revealed that the clearance between the rocker arm and valve stem was excessive. The jam nut backed off due to maintenance personnel failure to secure the jam nut. A review of the airplane maintenance log revealed that the valve assembly was last adjusted on November 24, 2004.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The maintenance personnel failure to secure the intake valve adjustment jam nut which resulted in excessive valve clearance, and the subsequent loss of engine power.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: CRUISE

Findings

1. (C) ENGINE ASSEMBLY, VALVE, INTAKE - CLEARANCE
2. (C) MAINTENANCE, ADJUSTMENT - IMPROPER - OTHER MAINTENANCE PERSONNEL
3. ENGINE ASSEMBLY, VALVE, INTAKE - EXCEEDED
4. (C) MISCELLANEOUS, ENGINE - NOT SECURED

Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: LANDING

Findings

5. OBJECT - TREE(S)

6. STALL - INTENTIONAL - PILOT IN COMMAND

Factual Information

On July 4, 2005, at 1430 eastern daylight time, an Aeronca C3, N14532, registered to and operated by a private owner, collided with trees and subsequently the ground five miles south of Summerville Airport, Summerville, South Carolina. The flight was operated under provisions of Title 14 CFR Part 91. Visual meteorological conditions prevailed at the time of the accident and a flight plan was not filed. The airplane sustained substantial damage, the private pilot and passenger received serious injuries. The flight originated from Summerville Airport, Summerville, South Carolina, on July 4, 2005 at approximately 1400.

According to the pilot, he and his wife were taking their restored 1935 Aeronca C-3 for a pleasure flight. Approximately 25 minutes into the flight the pilot reported a smooth engine RPM drop from 2400 to 1000. The pilot selected "Jedburg Airport (old Summerville airport)" for an emergency landing. The pilot entered the traffic pattern at 500 feet, but another airplane was on the runway. The pilot began to make a 360 degree turn for spacing, but decide that he did not have enough altitude to complete the turn. The pilot elected to make an off airport landing onto the canopy of a near by stand of trees. Before hitting the trees the pilot stated that he intentionally stalled the airplane.

The post-accident examination of the airplane revealed left and right wing circular crush damage. Post-accident examination of the engine revealed that the intake valve clearance was out of adjustment. The clearance between the rocker arm and valve stem exhibited excess clearance. Further investigation revealed that the intake valve would not open because the mechanical pushrod lifter was out of adjustment. The intake lifter adjustment jam nut was loose and the lifter adjustment had bottom out. The intake lifter would not allow proper travel of the pushrod and rocker arm. The rocker arm could not compress/open the intake valve. A review of the airplane maintenance log revealed that the valve assembly was last adjusted on November 24, 2004.

Pilot Information

Certificate:	Private	Age:	54, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Glider	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	April 1, 2004
Occupational Pilot:	No	Last Flight Review or Equivalent:	May 1, 2004
Flight Time:	950 hours (Total, all aircraft), 10 hours (Total, this make and model), 950 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Aeronca	Registration:	N14532
Model/Series:	C3	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	A-441
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	June 1, 2005 Annual	Certified Max Gross Wt.:	1006 lbs
Time Since Last Inspection:	1.6 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	600 Hrs at time of accident	Engine Manufacturer:	Aeronca
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	E-113B
Registered Owner:	Anthony J Chipas	Rated Power:	36 Horsepower
Operator:	Anthony J. Chipas	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	CHS,45 ft msl	Distance from Accident Site:	15 Nautical Miles
Observation Time:	14:56 Local	Direction from Accident Site:	315°
Lowest Cloud Condition:	Scattered / 3300 ft AGL	Visibility	6 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	9 knots / 0 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	230°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.06 inches Hg	Temperature/Dew Point:	32°C / 25°C
Precipitation and Obscuration:			
Departure Point:	SUMMERVILLE, SC	Type of Flight Plan Filed:	Unknown
Destination:	Summerville, SC	Type of Clearance:	Unknown
Departure Time:		Type of Airspace:	

Airport Information

Airport:	DORCHESTER COUNTY DYB	Runway Surface Type:	Asphalt
Airport Elevation:	56 ft msl	Runway Surface Condition:	Dry
Runway Used:	24	IFR Approach:	None
Runway Length/Width:	3701 ft / 75 ft	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:	33.060832,-80.223609

Administrative Information

Investigator In Charge (IIC):	Powell, Phillip
Additional Participating Persons:	Bill Robert; FSDO 13 Columbia
Original Publish Date:	October 27, 2005
Last Revision Date:	
Investigation Class:	Class
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=61859

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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](#).