



National Transportation Safety Board Aviation Accident Final Report

Location:	Fountain, FL	Accident Number:	MIA07LA050
Date & Time:	02/17/2007, 1350 CST	Registration:	N6641V
Aircraft:	Bellanca 17-30A	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	2 Serious
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The airplane experienced an electrical short and total loss of engine power during cruise flight. Examination of the wreckage revealed that the airplane's left engine exhaust muffler fractured resulting in an exhaust leak. The nacelle electrical wiring run was proximate to the leak, resulting in a nose landing gear indication discrepancy and the magneto "P" leads to ground out. The total loss of engine power forced an off airport landing into trees. The inspection procedures in the Airworthiness Directive for the exhaust system were inadequate to detect the crack in the aft section of the muffler.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A loss of engine power due to a cracked engine exhaust muffler. Contributing to the accident were the inadequate inspection procedures of the muffler system and the routing of the "P" leads wiring for the magnetos.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF
Phase of Operation: CRUISE

Findings

1. EXHAUST SYSTEM,MUFFLER - CRACKED
2. (F) PROCEDURE INADEQUATE - FAA(OTHER/ORGANIZATION)
3. (F) IGNITION SYSTEM,MAGNETO GROUNDING LEAD (P-LEAD) - OTHER
4. EXHAUST SYSTEM,MUFFLER - SEPARATION
5. ELECTRICAL SYSTEM,ELECTRIC WIRING - BURNED

Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: EMERGENCY LANDING

Findings

6. OBJECT - TREE(S)
7. (C) MISCELLANEOUS

Factual Information

On February 17, 2007, about 1350 central standard time, a Bellanca 17-30A, N6641V, registered to and operated by a private individual, impacted trees during a forced landing in Fountain, Florida. Visual meteorological conditions prevailed at the time and a visual flight rules (VFR) flight plan was filed for the 14 Code of Federal Regulations (CFR) Part 91 personal flight from Tallahassee, Florida, to Fairhope, Alabama. The certificated private pilot and the passenger were seriously injured, and the airplane was destroyed from a postcrash fire. The flight originated from the Tallahassee Commercial Airport, earlier that day, about 1245.

The pilot stated that during cruise flight, at 4,500 feet mean sea level, he noticed the nose landing gear position light illuminate. He advised the air traffic controller at the Tyndall Approach Control, which was giving him VFR advisories at the time. The controller arranged for another airplane in the area to rendezvous with the accident airplane for a visual inspection of the nose gear. As the pilot was waiting for the second airplane to arrive, he lowered the gear and observed three green lights. Upon retracting the gear, all three lights extinguished. The nose gear light immediately illuminated again and the pilot saw smoke coming from the vicinity of the electrical master switch. The switch was turned off and the smoke dissipated. A few seconds later, the engine lost power, but the propeller was still windmilling. The pilot switched fuel tanks but did not elect a restart due to the suspected short in the electrical system. The pilot observed an open field and attempted to land in the open area; however, he was not able to reach the area and landed in trees. A postcrash fire ensued; he and the passenger were able to get out of the airplane before the fire destroyed it.

The postrecovery wreckage examination conducted by the National Transportation Safety Board revealed the aft one-third of the left muffler was crushed. The ball joint was separated from the muffler at the weld and remained attached to the tailpipe/ resonator. The clamp remained in place on the left ball joint with its associated hardware. The ball joint was not damaged. The amphenol connector/cannon plug located on the left side of the firewall, which houses the electrical wiring for the nose landing gear indication and the "P" leads for the engine's magnetos, was fire damaged. The routing of those wires was in the proximity of the separated muffler ball joint. The left muffler and the ball joint assembly were sent to the Safety Board Office of Research and Engineering Materials Laboratory Division. The examination revealed, among additional findings, a fracture from the 1:30 o'clock to 5:30 o'clock position on the circumferential weld of the muffler aft tube, which was completely covered with oxidation and edges of the fracture were rounded consistent with the presence of a preexisting crack or through-the-wall corrosion.

The last annual inspection to the accident airplane was September 20, 2006, at a total airframe time of 2,639.7 hours, which was about 11 hours before the accident flight. Airworthiness Directive (AD) 76-23-03R1, dated November 7, 1986, which calls for an inspection of the muffler and tailpipe areas, was complied. The mentioned AD states "To prevent exhaust system failures which could result in cabin air contamination and heat damage to components in the nacelle. Visually inspect the muffler and tailpipe assemblies for cracks paying particular attention to the ball joint welds and the outlets of the muffler and resonator."

Pilot Information

Certificate:	Private	Age:	61, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
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:	08/01/2005
Occupational Pilot:		Last Flight Review or Equivalent:	02/01/2004
Flight Time:	400 hours (Total, all aircraft), 200 hours (Total, this make and model), 400 hours (Pilot In Command, all aircraft), 8 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bellanca	Registration:	N6641V
Model/Series:	17-30A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	30313
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	11/01/2006, Annual	Certified Max Gross Wt.:	3325 lbs
Time Since Last Inspection:	11 Hours	Engines:	1 Reciprocating
Airframe Total Time:	2650 Hours as of last inspection	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	520-K
Registered Owner:	On file	Rated Power:	300 hp
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	PAM, 17 ft msl	Distance from Accident Site:	49 Nautical Miles
Observation Time:	1355 EDT	Direction from Accident Site:	162°
Lowest Cloud Condition:	Scattered / 3500 ft agl	Visibility	7 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	10 knots / 18 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	260°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.04 inches Hg	Temperature/Dew Point:	14° C / 3° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Tallahassee, FL (68J)	Type of Flight Plan Filed:	VFR
Destination:	Fairhope, AL (4R4)	Type of Clearance:	VFR Flight Following
Departure Time:	1245 CST	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Serious	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Serious	Latitude, Longitude:	30.756667, -85.821944

Administrative Information

Investigator In Charge (IIC):	Jose Obregon	Report Date:	08/28/2008
Additional Participating Persons:	Emil A Cirone; FAA/FSDO; Birmingham, AL John Kent; Teledyne Continental Motors, Inc.; Mobile, AL Andrew Vano; Alexandria Aircraft LLC; Alexandria, MN		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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