



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Alexander City, Alabama	Accident Number:	ERA18LA177
Date & Time:	June 24, 2018, 09:20 Local	Registration:	N19MM
Aircraft:	CRAWFORD RV-7	Aircraft Damage:	Destroyed
Defining Event:	Loss of engine power (total)	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airline transport pilot reported that the accident flight was the first flight in the airplane since he thought the condition inspection was completed. He found out after the accident that the mechanic had not completed the condition inspection nor signed off the maintenance logbook. The mechanic reported that he still had several questions that needed to be answered.

The pilot stated that he took off for the personal, cross-country flight and then flew the airplane for 45 minutes. He added that, when the airplane reached 2,000 ft above ground level and he reduced the throttle, the engine “popped” twice and then lost all power. He looked at the fuel gauges, verified that sufficient fuel was onboard, and switched the selector valve to the other tank. The pilot did not believe that the airplane could glide to the runway at the destination airport, so he chose to land the airplane in a field. During the approach, the airplane impacted tree tops and power lines and then terrain. A postcrash fire ensued, which consumed most of the cockpit and forward portion of the airframe.

Examination of the engine, which exhibited fire damage but was intact, revealed no evidence of any preimpact mechanical malfunctions or failures that would have precluded normal operation. The reason for the loss of engine power 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 because examination of the engine revealed no evidence of any preimpact mechanical malfunctions or failures that would have precluded normal operation.

Findings

Not determined	(general) - Unknown/Not determined
Environmental issues	Tree(s) - Contributed to outcome
Environmental issues	Wire - Contributed to outcome

Factual Information

History of Flight

Prior to flight	Miscellaneous/other
Enroute-descent	Loss of engine power (total) (Defining event)
Enroute-descent	Attempted remediation/recovery
Emergency descent	Off-field or emergency landing
Emergency descent	Collision with terr/obj (non-CFIT)
Post-impact	Fire/smoke (post-impact)

On June 24, 2018, about 0920 central daylight time, an experimental amateur-built RV-7A, N19MM, was destroyed when it impacted trees and power lines during a forced landing in Alexander City, Alabama. The airline transport pilot and passenger were not injured. Visual meteorological conditions prevailed, and no flight plan was filed for the flight that originated from Atlanta Regional Airport-Falcon Field (FFC), Atlanta, Georgia, destined for Thomas C Russell Field (ALX), Alexander City, Alabama. The personal flight was conducted under the provisions of Title 14 *Code of Federal Regulations* Part 91.

According to the pilot, the accident flight was the first flight since he had taken the airplane to have a condition inspection performed. The mechanic performing the condition inspection advised the pilot that he needed his hangar space and asked the pilot to remove his airplane. The pilot assumed that the condition inspection was completed. During the preflight inspection, the pilot examined the engine, put the engine cowling back on, added 1 qt. of oil, and secured the oil cap. He flew for about 45 minutes and everything "was working correctly." The airplane was at 2,000 ft above ground level when the pilot reduced the throttle and the engine "popped" twice and then experienced a total loss of engine power. He noted the fuel gauges indicated 21 gallons of fuel remaining, switched the fuel selector valve position and turned towards ALX. At that time, the airplane was about 4 miles from runway 18.

The pilot did not think the airplane would glide to the runway, so he turned to the right and tried to land in a field. During the approach, the airplane contacted tree tops and power lines that the pilot did not see. The airplane then impacted terrain and the occupants egressed through the tip-up canopy. The pilot further stated that the power lines started a fire, which then consumed the airplane. Additionally, the maintenance logbooks were destroyed in the fire. After the accident, the pilot learned that the condition inspection was not completed by the mechanic, and nor had the mechanic endorsed the airplane's logbooks .

Examination of the wreckage by a Federal Aviation Administration (FAA) inspector revealed that the fire consumed a majority of the center of the airplane. The propeller blades exhibited thermal damage and there was no evidence of impact damage. The electrical cable that the airplane impacted was draped over the spinner and there were no signs that the propeller was rotating upon impact with the wires or trees. A small quantity of unburned fuel was noted the ground.

Examination of the wreckage by a National Transportation Safety Board investigator revealed that the engine was intact but fire damaged. The accessory case was melted, and all accessories were missing. The top spark plugs were removed for examination. The propeller was still attached to the engine and would not rotate by hand. A lighted borescope was used to examine the cylinders, pistons and valves. No anomalies were noted.

The two-seat, single-engine, low-wing airplane was built in 2017, and equipped with a Lycoming YIO-360-series engine. The most recent condition inspection could not be verified since the logbooks were destroyed in the fire. The pilot reported that the airframe and engine had 76 hours of total time.

In an interview with the mechanic, he stated that he had not completed the condition inspection and still had several questions that needed to be answered before he could conclude the inspection. He further stated that the engine inspection was complete, but he did not have a chance to look at the fuel filter or the fuel system.

The pilot held an airline transport pilot certificate and a flight instructor certificate, each with ratings for airplane single-engine land and multi-engine land. His most-recent FAA first class medical certificate was issued on April 18, 2018. He reported 13,465 total hours of flight experience of which 75 hours were in the RV-7A.

At 0815, the weather recorded at ALX included broken clouds at 1,100 ft, winds from 240° at 3 knots. The temperature was 26°C, the dew point was 26°C and the altimeter setting was 30.06 inches of mercury.

Pilot Information

Certificate:	Airline transport	Age:	60, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	5-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	April 18, 2018
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	June 10, 2018
Flight Time:	13465 hours (Total, all aircraft), 75 hours (Total, this make and model), 123 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Passenger Information

Certificate:		Age:	Male
Airplane Rating(s):		Seat Occupied:	Right
Other Aircraft Rating(s):		Restraint Used:	5-point
Instrument Rating(s):		Second Pilot Present:	No
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:		Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	CRAWFORD	Registration:	N19MM
Model/Series:	RV-7 A	Aircraft Category:	Airplane
Year of Manufacture:	2017	Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	72545
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	Condition	Certified Max Gross Wt.:	1800 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	at time of accident	Engine Manufacturer:	Lycoming
ELT:	C126 installed, activated, did not aid in locating accident	Engine Model/Series:	YIO-360-M1B
Registered Owner:		Rated Power:	180 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:	KALX,686 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	13:15 Local	Direction from Accident Site:	159°
Lowest Cloud Condition:		Visibility	10 miles
Lowest Ceiling:	Broken / 1100 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	240°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.05 inches Hg	Temperature/Dew Point:	26°C / 26°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Atlanta, GA (FFC)	Type of Flight Plan Filed:	None
Destination:	ALEXANDER CITY, AL (ALX)	Type of Clearance:	None
Departure Time:	09:43 Local	Type of Airspace:	Class E

Airport Information

Airport:	THOMAS C RUSSELL FLD ALX	Runway Surface Type:	Asphalt
Airport Elevation:	685 ft msl	Runway Surface Condition:	Dry
Runway Used:	18	IFR Approach:	None
Runway Length/Width:	5422 ft / 96 ft	VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Destroyed
Passenger Injuries:	1 None	Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	32.92889,-85.969444(est)

Administrative Information

Investigator In Charge (IIC):	Boggs, Daniel
Additional Participating Persons:	Dale White; FAA FSDO; Vestavia, AL
Original Publish Date:	April 30, 2019
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=97563

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).