



Aviation Investigation Final Report

Location:	Post Oak, Missouri	Accident Number:	CEN16LA355
Date & Time:	August 30, 2016, 08:55 Local	Registration:	N6490K
Aircraft:	Republic RC3	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (partial)	Injuries:	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The private pilot was conducting a local flight when the airplane's engine started to lose power. The pilot attempted a forced landing to a field; however, the airplane collided with trees. Examination of the airplane's engine noted that compression was low in all cylinders, and rust was present inside the cylinders. The airplane was not operated for about 4 years and had flown about 2 hours since being returned to service. The partial loss of engine power is consistent with a degradation in cylinder compression, and it is likely that rust formed in the engine during the time the airplane was not being used.

Probable Cause and Findings

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

A partial loss of engine power due to low cylinder compression. Contributing to the loss of engine power was rust formation in the cylinders due to inactivity.

Findings

Aircraft	(general) - Fatigue/wear/corrosion
Personnel issues	Scheduled/routine maintenance - Not specified

Factual Information

History of Flight

Enroute	Loss of engine power (partial) (Defining event)
Enroute	Off-field or emergency landing
Emergency descent	Collision with terr/obj (non-CFIT)

On August 30, 2016, about 0855 central daylight time, a Republic RC3 amphibian airplane, N6490K, conducted a forced landing near Post Oak, Missouri. The private rated pilot received serious injuries and the airplane was substantially damaged during the accident. The airplane was registered to and operated by a private individual, under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed at the time.

The pilot reported to the Federal Aviation Administration (FAA) inspector that the flight had just departed from a private airfield. During the flight, he felt the engine had lost power in a cylinder and tried to return to the airfield; however, he could not maintain altitude and elected to conduct a forced landing in a field. During the approach to the field, the airplane lost altitude and impacted trees, coming to rest nose low among several trees.

An on-site examination of the airplane revealed substantial damage to the airplane's fuselage and wings, and fuel was present on site.

An examination of the airplane's engine was conducted by the FAA inspector. The inspector noted that during a cylinder compression check of the engine, the No. 1, cylinder exhaust valve was not seating, and air was leaking past the piston rings on the other cylinders. He noted that the compressions on all the engine cylinders were low. He added that the cylinders appeared to have rust in them. He also reported that the pilot said the airplane sat for about 4 years before the airplane was returned service. The airplane had flown about two hours after being returned to service, before the accident flight.

Pilot Information

Certificate:	Private	Age:	87
Airplane Rating(s):	Single-engine land; Single-engine sea	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	January 7, 2016
Occupational Pilot:	No	Last Flight Review or Equivalent:	September 15, 2015
Flight Time:	2730 hours (Total, all aircraft), 109.4 hours (Total, this make and model), 10 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Republic	Registration:	N6490K
Model/Series:	RC3	Aircraft Category:	Airplane
Year of Manufacture:	1947	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	752
Landing Gear Type:	Tailwheel; Amphibian	Seats:	
Date/Type of Last Inspection:	August 10, 2016 Annual	Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	Reciprocating
Airframe Total Time:		Engine Manufacturer:	Franklin
ELT:		Engine Model/Series:	
Registered Owner:		Rated Power:	215 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:	KGLY	Distance from Accident Site:	
Observation Time:	08:55 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	70°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.14 inches Hg	Temperature/Dew Point:	24°C / 22°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Post Oak, MO	Type of Flight Plan Filed:	None
Destination:	Post Oak, MO	Type of Clearance:	None
Departure Time:		Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	38.569168,-93.746948

Administrative Information

Investigator In Charge (IIC):	Hatch, Craig
Additional Participating Persons:	Rod McLaughlin; FAA FSDO; Kansas City, MO
Original Publish Date:	March 6, 2017
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=93957

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](#).