



National Transportation Safety Board Aviation Accident Final Report

Location:	Holbrook, NY	Accident Number:	NYC04LA041
Date & Time:	12/02/2003, 0830 EST	Registration:	N238CZ
Aircraft:	Russell Cozy MK III	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Minor
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The pilot performed a preflight inspection on the airplane during which he determined there was about 15 gallons of fuel in both the right and left fuel tank. He selected the right tank for takeoff, flew for 24 miles, and then switched to the left fuel tank for the 36-mile return flight. When he was about 20 miles from the airport, the pilot began a descent and selected the right fuel tank again. At this time he believed that the right fuel tank had 15 gallons of fuel remaining, and the left tank had 12 gallons of fuel. While descending, the pilot turned on the fuel boost pump, noticed a slight engine vibration, followed by a loss of engine power. The pilot then performed a forced landing to a road, during which the airplane impacted two homes. Examination of the airplane by a Federal Aviation Administration inspector revealed approximately 15 gallons of fuel in the right tank, and 2 gallons of fuel in the left tank; however, both fuel tanks were compromised. The engine was test run on the airframe, using the original fuel system. The engine started without hesitation and ran continuously through a variety of power settings, with no abnormalities noted. The pilot reported that the airplane was last fueled about 2 months prior to the accident, which filled the tanks to their 52-gallon capacity. Since then, he flew one 25 minute flight, and performed about 80 minutes of ground runs prior to the accident flight. According to the Lycoming O-360 Operator's Manual, the fuel burn at 75 percent power was approximately 10.5 gallons per hour, and at 65 percent power was approximately 9 gallons per hour.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's improper fuel management, which resulted in fuel starvation and subsequent loss of engine power.

Findings

Occurrence #1: LOSS OF ENGINE POWER

Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings

1. FLUID,FUEL - STARVATION
2. (C) FUEL MANAGEMENT - IMPROPER - PILOT IN COMMAND

Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY LANDING

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: EMERGENCY LANDING

Findings

3. OBJECT - RESIDENCE

Factual Information

On December 2, 2003, at 0830 eastern standard time, a homebuilt Cozy MK III, N238CZ, was substantially damaged when it impacted several residences during a forced landing, following a loss of power while on approach to the Long Island Mac Arthur Airport (ISP), Islip, New York. The certificated private pilot received minor injuries. Visual meteorological conditions prevailed and no flight plan had been filed for the personal local flight conducted under 14 CFR Part 91.

According to the pilot, he performed a preflight inspection on the airplane during which he determined there was about 15 gallons of fuel in both the right and left fuel tank. He sumped the tanks and determined there was no water or contamination. He selected the right tank for takeoff, and departed from ISP about 0730, flying east toward Montauk, New York. The pilot stated that as he flew over the Gabreski Airport (about 24 miles from ISP), he switched to the left fuel tank, and as he passed the Hampton Airport (39 miles from ISP), he decided to turn around and fly back to ISP. Approximately 20 miles from ISP, the pilot began a descent and selected the right fuel tank. At this time he believed that the right fuel tank had 15 gallons of fuel remaining, and the left tank had 12 gallons of fuel.

At an altitude of 1,500 feet, the pilot reduced the throttle and was cleared to land on runway 33L at ISP. Realizing the wind was from 290 degrees, he requested and was given clearance to land on runway 28. While still descending, the pilot turned on the fuel boost pump, noticed a slight engine vibration, and then turned the boost pump off. The pilot increased the throttle; however, he did not observe an increase in the engine RPMs. He increased the throttle further to the full forward position, and again noticed no reaction from the engine. The pilot then prepared for a forced landing to a road, during which he impacted two homes.

Examination of the airplane by a Federal Aviation Administration inspector revealed approximately 15 gallons of fuel in the right tank, and 2 gallons of fuel in the left tank; however, both fuel tanks were compromised. A sample of the fuel contained no water or contamination. The fuel selector was observed in the "off" position. The spark plugs were removed from the engine and the number 1 and number 3 plugs were coated in oil. The number 2 and number 4 plugs were light gray in color. An initial compression check revealed that the number 2 and number 4 cylinders had "strong" compression, and the number 1 and number 3 cylinders had "weaker" compression. Functional checks were performed on the fuel boost pump and the magnetos, and no abnormalities were noted.

The engine was test run on the airframe, using the original fuel system. The engine started without hesitation and ran continuously through a variety of power settings, for approximately 5-7 minutes. After completion of the test run, the propeller was rotated and a second compression check revealed all cylinders had "tight" compressions. Additionally, no external leaks of oil or fuel were observed during the run up.

The pilot reported that on September 20, 2003, he removed the number 3 cylinder due to a broken ring, and reinstalled the chrome cylinder with chrome rings. After performing a compression check and speaking with other pilots, he learned that chrome rings could not be installed with chrome cylinders. He then replaced the engine oil, cleaned the filters and screens, rewired the starter cables, and replaced the number 3 cylinder with a Mattituck serviceable cylinder and rings. He then conducted a high-speed taxi test and performed several touch-and-gos, noticing no abnormalities.

The pilot additionally reported that the airplane was last fueled on September 20, 2003, which filled the tanks to their 52-gallon capacity. Since then, he flew one flight on November 29, 2003, which was approximately 25 minutes in duration. He also performed about 80 minutes of ground runs prior to the accident flight. The pilot stated that the airplane's fuel burn rate was about 8 gallons per hour. He additionally stated that he had accumulated about 340 hours of total flight experience, 125 of which were in the accident airplane.

According to the Lycoming O-360 Operator's Manual, the fuel burn at 75 percent power was approximately 10.5 gallons per hour, and at 65 percent power was approximately 9 gallons per hour.

Pilot Information

Certificate:	Private	Age:	38, 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 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	12/11/2000
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	350 hours (Total, all aircraft), 150 hours (Total, this make and model), 350 hours (Pilot In Command, all aircraft), 11 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Russell	Registration:	N238CZ
Model/Series:	Cozy MK III	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental	Serial Number:	505
Landing Gear Type:	Retractable - Tricycle	Seats:	3
Date/Type of Last Inspection:	01/05/2003, Condition	Certified Max Gross Wt.:	2000 lbs
Time Since Last Inspection:	150 Hours	Engines:	1 Reciprocating
Airframe Total Time:	490 Hours at time of accident	Engine Manufacturer:	Lycoming
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	O-360 A4K
Registered Owner:	Richard Hughes	Rated Power:	180
Operator:	Richard Hughes	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	ISP, 99 ft msl	Distance from Accident Site:	2 Nautical Miles
Observation Time:	0856 EST	Direction from Accident Site:	280°
Lowest Cloud Condition:	Clear	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	16 knots / 21 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	280°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.11 inches Hg	Temperature/Dew Point:	2°C / -10°C
Precipitation and Obscuration:			
Departure Point:	Islip, NY (ISP)	Type of Flight Plan Filed:	None
Destination:	(ISP)	Type of Clearance:	VFR
Departure Time:	0730 EST	Type of Airspace:	Class C

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	40.799722, -73.675833

Administrative Information

Investigator In Charge (IIC): Jill M Andrews **Report Date:** 01/24/2005

Additional Participating Persons: Anthony Muro; FAA/FSDO; Farmingdale, NY

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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