



Aviation Investigation Final Report

Location:	West Palm Beach, Florida	Accident Number:	ERA23LA206
Date & Time:	April 24, 2023, 10:30 Local	Registration:	N7555X
Aircraft:	Thatcher CX4	Aircraft Damage:	Substantial
Defining Event:	Fuel exhaustion	Injuries:	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot was flying the airplane on a cross-country flight, and reported that while approaching the destination airport the engine lost power during the final descent. The airplane subsequently collided with trees during a forced landing to a golf course. No evidence of any preimpact mechanical malfunctions or failures of the automotive conversion engine were noted during the postaccident examination. The examination also showed that the airplane's fuel tank was intact and was void of fuel. Additionally, while the engine was separated from the firewall (thus compromising the integrity of the fuel system), there were no indications of fuel spillage around the airplane during the on-scene examination. While the pilot stated that he had fuel the airplane during a fuel stop near the mid-point of the planned route he did not provide any of the requested fueling records, and therefore the airplane's fuel state prior to the flight leg could not be confirmed. Based on the available information, it is most likely that the loss of engine power was the result of fuel exhaustion due to the pilot's inadequate fuel planning.

Probable Cause and Findings

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

The loss of engine power due to fuel exhaustion.

Findings

Personnel issues	Fuel planning - Pilot
Aircraft	Fuel - Fluid level

Factual Information

History of Flight

Approach	Fuel exhaustion (Defining event)
Emergency descent	Collision with terr/obj (non-CFIT)

On April 24, 2023, at 1030 eastern daylight time, an experimental amateur-built, Thatcher CX4 was substantially damaged during a forced landing near West Palm Beach, Florida. The pilot was seriously injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that the flight originated from Valdosta, Georgia (VLD), with Palm Beach County Park, Florida (LNA) as the destination. He scheduled a fuel stop at Marion County Airport, Florida (X35), where he stated the airplane was “topped off” with fuel before departing on the flight with 12 gallons onboard. After departing X35 around 0811, the pilot continued the planned route of flight, which overflew Sebring Regional Airport (SEF), Sebring, Florida. The pilot stated that the engine lost power during the final descent to LNA and that he subsequently performed a forced landing to a golf course during which the airplane impacted several palm trees.

The pilot did not provide requested maintenance of fueling records, and therefore it’s fuel state at the time of departure could not be confirmed. Additionally, no fueling information from X35 was available for review.

A postaccident examination of the airframe and the automotive conversion engine confirmed valvetrain and ignition continuity. No flight control anomalies were noted that would have prevented normal operation. Examination of the fuel tank revealed that it was void of fuel. The fuel tank was not breached, and less than 8 ounces of fuel were drained from the fuel system. The engine was found separated from the firewall, but there were no signs of fuel spillage around the airplane during the on-scene examination.

Pilot Information

Certificate:	Commercial	Age:	39,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Center
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	March 9, 2022
Occupational Pilot:	No	Last Flight Review or Equivalent:	December 2, 2022
Flight Time:	1577 hours (Total, all aircraft), 326 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Thatcher	Registration:	N7555X
Model/Series:	CX4 No Series Exists	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental light sport (Special)	Serial Number:	162
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	Condition	Certified Max Gross Wt.:	850 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Volkswagen
ELT:	Not installed	Engine Model/Series:	1915CC
Registered Owner:	On file	Rated Power:	
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:	KPBI	Distance from Accident Site:	5 Nautical Miles
Observation Time:	10:23 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Scattered / 4200 ft AGL	Visibility	10 miles
Lowest Ceiling:	Broken / 5500 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	140°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.98 inches Hg	Temperature/Dew Point:	28°C / 21°C
Precipitation and Obscuration:			
Departure Point:	Marion County, FL (X35)	Type of Flight Plan Filed:	None
Destination:	West Palm Beach, FL (LNA)	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	26.658611,-80.194167(est)

Administrative Information

Investigator In Charge (IIC):	Alleyne, Eric
Additional Participating Persons:	Juan Garcia; FAA/FSDO; Miramar, FL
Original Publish Date:	June 5, 2024
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=107112

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