



Aviation Investigation Final Report

Location:	Fort Pierce, Florida	Accident Number:	ERA23LA388
Date & Time:	September 6, 2023, 14:37 Local	Registration:	N81GX
Aircraft:	Remos GX	Aircraft Damage:	Substantial
Defining Event:	Fuel exhaustion	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that the airplane had not flown for about 1 year, and he was told 5 gallons of automobile gasoline remained in it during that time. The pilot further stated that he added an additional 10 gallons of automobile gasoline before the accident flight; however, he was unable to provide a receipt for that fuel. About 30 minutes into a cross-country flight to another airport to purchase more fuel, the engine exhibited a decrease in rpm followed by a total loss of engine power. The pilot managed to restart the engine but it lost all power again. He was unable to glide the airplane to the nearest airport and subsequently performed a forced landing to a field.

Postaccident examination of the wreckage revealed that the single 22-gallon fuselage fuel tank remained intact and contained no fuel. Additionally, the engine-driven fuel pump, fuel lines, and carburetors contained no fuel. Once fuel was added, the engine started normally and ran continuously. Based on this information, it is likely that during the flight, the airplane's fuel supply was exhausted, which resulted in the total loss of engine power.

Probable Cause and Findings

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

The pilot's inadequate fuel planning, which resulted in a total loss of engine power during cruise flight due to fuel exhaustion.

Findings

Personnel issues	Fuel planning - Pilot
Aircraft	Fuel - Fluid level

Factual Information

History of Flight

Enroute-cruise	Fuel exhaustion (Defining event)
Emergency descent	Off-field or emergency landing
Landing	Landing gear collapse

On September 6, 2023, about 1437 eastern daylight time, a special light sport Remos GX airplane, N81GX, was substantially damaged when it was involved in an accident near Fort Pierce, Florida. The private pilot was not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The airplane was equipped with one 22-gallon fuel tank, which was located in the aft fuselage. The pilot reported that the airplane had not flown for about 1 year, and he was told 5 gallons of automobile gasoline remained in it during that time. The pilot further stated that he added an additional 10 gallons of automobile gasoline before the accident flight; however, he unable to provide a receipt for that fuel. He completed a preflight inspection and no anomalies were noted. He then departed from Aero Acres Airport (FD88), Fort Pierce, Florida, and flew in the airport traffic pattern uneventfully for several minutes before proceeding on course to Kissimmee Gateway Airport (ISM), Orlando, Florida, to purchase more fuel.

About 30 minutes after departure, at 3,000 ft mean sea level, the engine exhibited a decrease in rpm followed by a total loss of engine power. The pilot managed to restart the engine but it lost all power again. He then declared an emergency to air traffic control; however, he was unable to glide the airplane to the nearest airport. The pilot subsequently performed a forced landing to a field. During the landing, the landing gear collapsed, and the airplane came to rest upright.

Examination of the wreckage by a Federal Aviation Administration inspector revealed substantial damage to the composite structure of the lower fuselage.

The wreckage was further examined following its transport to a recovery facility. Recovery and maintenance personnel reported that the fuel tank remained intact and contained no fuel. Additionally, the engine-driven fuel pump, fuel lines, and carburetors contained no fuel. A mechanic installed a temporary magneto switch as the ignition key was lost during the accident. He then attached a 16-oz bottle of gasoline to the inlet side of the engine-driven fuel pump via a clean fuel hose. After operating for a few seconds, the pump filled the carburetors and the engine started and ran normally.

Pilot Information

Certificate:	Private	Age:	28, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	August 8, 2023
Occupational Pilot:	No	Last Flight Review or Equivalent:	November 10, 2021
Flight Time:	214 hours (Total, all aircraft), 85 hours (Total, this make and model), 96 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Remos	Registration:	N81GX
Model/Series:	GX No Series Exists	Aircraft Category:	Airplane
Year of Manufacture:	2009	Amateur Built:	
Airworthiness Certificate:	Special light-sport (Special)	Serial Number:	304
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	July 28, 2023 Condition	Certified Max Gross Wt.:	1320 lbs
Time Since Last Inspection:	5 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	2500 Hrs as of last inspection	Engine Manufacturer:	Rotax
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	912ULS
Registered Owner:	On file	Rated Power:	100 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:	FPR,23 ft msl	Distance from Accident Site:	8 Nautical Miles
Observation Time:	14:53 Local	Direction from Accident Site:	90°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	110°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.98 inches Hg	Temperature/Dew Point:	31°C / 21°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Fort Pierce, FL	Type of Flight Plan Filed:	VFR
Destination:	Kissimmee, FL (ISM)	Type of Clearance:	VFR flight following
Departure Time:		Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	27.47899,-80.53301

Administrative Information

Investigator In Charge (IIC):	Gretz, Robert
Additional Participating Persons:	Cheryl King; FAA/FSDO; Orlando, FL Roger Knoll; BFU; Braunschweig Jordan Paskevich; Rotech; Vancouver
Original Publish Date:	July 24, 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=193280

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).