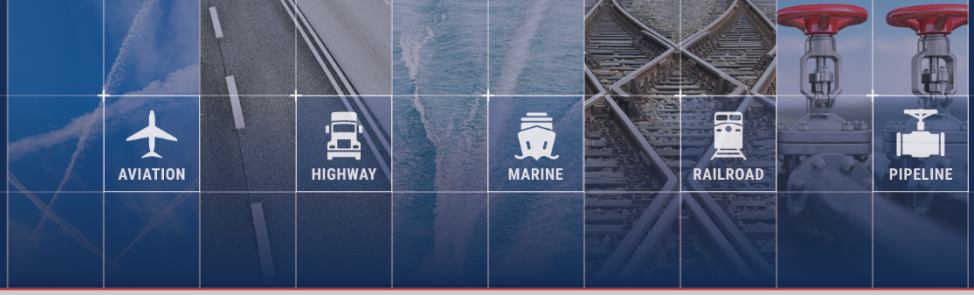

Aviation Investigation Final Report

Location:	Bulverde, Texas	**Accident Number:**	CEN22LA283
Date & Time:	June 24, 2022, 08:48 Local	**Registration:**	N10236
Aircraft:	Osprey II	**Aircraft Damage:**	Substantial
Defining Event:	Fuel starvation	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that the amphibious airplane's engine gradually lost partial power shortly after takeoff and he was unable to maintain altitude. He performed a forced landing in a field with the retractable landing gear in the retracted position. After touchdown on the hull, as the airplane slowed, the right wing settled to the ground and the right-wing sponson struck the ground. The airplane incurred substantial damage to the right wing and fuselage during the forced landing.

Postaccident examination of the airplane revealed that the fiberglass fuel tanks of the airplane had debris and deterioration. The resin used in construction of the fuel tanks was not compatible with automotive gasoline. The pilot/owner had never used automotive gasoline but could not attest to what previous owners had used. Further examination did not reveal any other preimpact anomalies with the engine that would have precluded normal operations.

Although there was a potential for carburetor icing at glide power, based on the available evidence and that the airplane was taking off at the time of the accident, the engine likely lost power due to fuel starvation caused by debris obstructing the fuel outlet port of the fuel tank.

Probable Cause and Findings

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

A loss of engine power due to fuel starvation due to a blockage of the fuel tank outlet port.

Findings

Aircraft	Fuel storage - Damaged/degraded

Factual Information

History of Flight

Initial climb	Fuel starvation (Defining event)
Initial climb	Loss of engine power (partial)
Emergency descent	Off-field or emergency landing

On June 24, 2022, about 0848 central daylight time, an Osprey II airplane, N10236, was substantially damaged when it was involved in an accident near Bulverde, Texas. There were no injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that the airplane was not fueled on the day of the accident and had last been fueled a week before. The fuel tanks were about ½ full with about 6 gallons in each of the 2 tanks. He sampled the fuel tanks and observed no contaminants. The engine start and run-up were normal, and he proceeded to runway 16 at the Bulverde Airpark (1TT8) for takeoff.

The engine operated normally during the takeoff roll. Shortly after rotation, the engine sounded quieter, and the rpms fluctuated between 2,300 - 2,500 rpm. An engine speed of 2,600 rpm was normal for takeoff. He retracted the landing gear, which helped the climb a little, but the engine power continued to deteriorate. No engine roughness was felt at this time. The airplane was placed at the best angle for climb, about 70 mph. As the airplane cleared the 35-ft-tall trees at the end of the runway, the engine rpm was about 2,100 - 2,300 rpm and some roughness was now felt. The airplane would not climb, and the pilot selected a field and landed the airplane with the retractable landing gear in the retracted position. Before touchdown, the mixture was leaned to shutoff and the throttle was closed. After touchdown on the hull, as the airplane slowed, the right wing settled to the ground and the right-wing sponson struck the ground. The airplane incurred substantial to the right wing and fuselage during the forced landing.

Postaccident examination of the airplane revealed that the fiberglass fuel tanks contained a considerable amount of contamination and the resin system appeared to be deteriorating. The resin system used in construction was believed to be polyester resin, which was not compatible with automotive fuel. The pilot/owner was not the original builder and had only used 100 low lead aviation gasoline since purchasing the airplane, but he could not say if previous owners had used automotive gasoline. The baffling in the tanks prevented visual inspection with the tanks mounted in the airplane and removal was not possible, requiring disassembly of the wings. The pilot noted that when he first purchased the airplane the gascolator had debris and after the accident it had some debris in it as well. Examination of the engine confirmed compression on all cylinders. Although ignition was not verified during

the examination, the pilot reported that during the accident flight the engine never stopped running, indicating that the ignition system was operating during the event.

The air temperature about the time of the accident was 80° F and the dew point was 70° F. The Federal Aviation Administration's Carburetor Icing Probability Graph indicates that, under those conditions, the airplane encountered a serious risk of carburetor icing at glide power.

Pilot Information

Certificate:	Commercial	**Age:**	31,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Unmanned (sUAS)	**Restraint Used:**	4-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	
Medical Certification:	Class 2 Without waivers/limitations	**Last FAA Medical Exam:**	January 1, 2022
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	2800 hours (Total, all aircraft), 89 hours (Total, this make and model), 2600 hours (Pilot In Command, all aircraft), 25 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Osprey	**Registration:**	N10236
Model/Series:	II	**Aircraft Category:**	Airplane
Year of Manufacture:	2006	**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	289
Landing Gear Type:	Retractable - Tricycle; Amphibian	**Seats:**	2
Date/Type of Last Inspection:	January 11, 2022 Condition	**Certified Max Gross Wt.:**	1560 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	140 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	C91A installed, not activated	**Engine Model/Series:**	O-320-E2D
Registered Owner:	On file	**Rated Power:**	150 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:	KSAT,799 ft msl	**Distance from Accident Site:**	16 Nautical Miles
Observation Time:	08:51 Local	**Direction from Accident Site:**	192°
Lowest Cloud Condition:	Few / 10000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	220°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.99 inches Hg	**Temperature/Dew Point:**	27°C / 21°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Bulverde, TX	**Type of Flight Plan Filed:**	None
Destination:	Bulverde, TX	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Class G

Airport Information

Airport:	BULVERDE AIRPARK 1T8	**Runway Surface Type:**	Asphalt
Airport Elevation:	1080 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	16	**IFR Approach:**	None
Runway Length/Width:	2890 ft / 40 ft	**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	29.7979,-98.4229

Administrative Information

Investigator In Charge (IIC):	Brannen, John
Additional Participating Persons:	Robert McGee; Houston FAA FSDO; Houston, TX
Original Publish Date:	November 15, 2023
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=105347