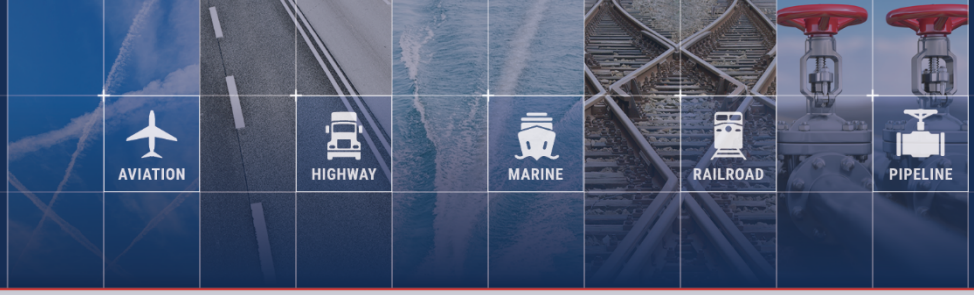

Aviation Investigation Final Report

Location:	New Waverly, Texas	**Accident Number:**	CEN23LA153
Date & Time:	April 11, 2023, 21:13 Local	**Registration:**	N4229K
Aircraft:	Ryan NAVION A	**Aircraft Damage:**	Substantial
Defining Event:	Fuel contamination	**Injuries:**	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that, after a night cross-country flight, he overflew his private airport to see if the solar lights were working. Unable to see the lights, he began a climb and initiated a left turn towards an alternate airport. He stated that while in the turn, “the engine started to cut out,” and he initiated the emergency procedures checklist. Unable to restore the engine power, he initiated a forced landing. The airplane impacted several trees during the approach before impacting the ground, which resulted in substantial damage to the fuselage, empennage, and both wings.

During a postaccident examination, sediment was found in fuel that was drained from the fuel tanks and the fuel manifold distributor. The amount of sediment in the distributor likely reduced the fuel flow to the engine, which resulted in a total loss of engine power.

Probable Cause and Findings

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

A total loss of engine power as a result of fuel contamination.

Findings

Aircraft	Fuel - Fluid condition

Factual Information

History of Flight

Enroute	Fuel contamination (Defining event)
Enroute	Collision with terr/obj (non-CFIT)

On April 11, 2023, about 2113 central daylight time, a Ryan Navion A airplane, N4229K, sustained substantial damage when it was involved in an accident near New Waverly, Texas. The pilot sustained minor injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that, after a night cross-country flight, he overflew his private airport at 1,500 ft above mean sea level (msl) to see if the solar lights were working. Unable to see the lights, he climbed to 2,000 ft msl and turned left towards Conroe. He stated that while in the turn, "the engine started to cut out," and he initiated the emergency procedures checklist. Unable to get the engine power restored, he initiated a forced landing. He lowered the landing gear at 500 ft msl and turned on the landing lights, but at 400 ft msl, a tree appeared in front of his right wing. The airplane impacted several trees before impacting the ground, which resulted in substantial damage to the fuselage, empennage, and both wings.

The pilot stated that on the flight before the accident leg, the airplane had about 89.5 gallons of fuel distributed between a main tank (39.5 gallons), tip tanks (40 gallons), and an auxiliary baggage compartment tank (10 gallons). At the conclusion of that flight, about 45 gallons of fuel remained. He stated that before the accident flight, he added 52 additional gallons, which brought the total fuel on board to about 100 gallons.

When the airplane was recovered from the wreckage location, the fuel tanks were drained and a small fuel sample was captured in a clear glass jar. After allowing time for any particulates to settle, it was discovered that a dark green sediment was present in the fuel sample.

During a postaccident examination, a material consistent with the sediment from the jar was located in the fuel manifold distributor. No other preimpact mechanical malfunctions or failures were noted that would have precluded normal operation.

Pilot Information

Certificate:	Private	**Age:**	60,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Unknown
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	July 11, 2022
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	October 26, 2022
Flight Time:	1385 hours (Total, all aircraft), 80 hours (Total, this make and model), 1307 hours (Pilot In Command, all aircraft), 19 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Ryan	**Registration:**	N4229K
Model/Series:	NAVION A	**Aircraft Category:**	Airplane
Year of Manufacture:	1948	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	NAV-4-1229
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:	11 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Continental
ELT:	Installed	**Engine Model/Series:**	TSIO-550B
Registered Owner:	Lead and Brass Racing LLC	**Rated Power:**	350 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Night
Observation Facility, Elevation:	KCXO,228 ft msl	**Distance from Accident Site:**	12 Nautical Miles
Observation Time:	20:53 Local	**Direction from Accident Site:**	177°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.14 inches Hg	**Temperature/Dew Point:**	16°C / 13°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Scottsboro, AL (4A6)	**Type of Flight Plan Filed:**	VFR
Destination:	Conroe, TX (KCXO)	**Type of Clearance:**	VFR
Departure Time:	18:16 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	Estates Airpark XS09	**Runway Surface Type:**	
Airport Elevation:	326 ft msl	**Runway Surface Condition:**	Unknown
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	1 Minor	**Latitude, Longitude:**	30.560531,-95.429906(est)

Administrative Information

Investigator In Charge (IIC):	Williams, David
Additional Participating Persons:	Jeff Hayes; FAA
Original Publish Date:	September 27, 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=107047