



# Aviation Investigation Final Report

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

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## Analysis

The pilot reported that, after a night cross-country flight, he overflow 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

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**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

<b>Certificate:</b>	Private	<b>Age:</b>	60, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Unknown
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 2 With waivers/limitations	<b>Last FAA Medical Exam:</b>	July 11, 2022
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	October 26, 2022
<b>Flight Time:</b>	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

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

## Meteorological Information and Flight Plan

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

## Airport Information

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

## Wreckage and Impact Information

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

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Williams, David
<b>Additional Participating Persons:</b>	Jeff Hayes; FAA
<b>Original Publish Date:</b>	September 27, 2023
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class 3</a>
<b>Note:</b>	The NTSB did not travel to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=107047">https://data.nts.gov/Docket?ProjectID=107047</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).