



# National Transportation Safety Board Aviation Accident Factual Report

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<b>Location:</b>	Stonewall, MS	<b>Accident Number:</b>	ERA19LA008
<b>Date &amp; Time:</b>	10/05/2018, 1445 CDT	<b>Registration:</b>	N969TR
<b>Aircraft:</b>	North American NAVION A	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of engine power (total)	<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

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On October 5, 2018, about 1445 central daylight time, a North American Navion A, N969TR, was substantially damaged during a forced landing near Stonewall, Mississippi. The private pilot was not injured. The airplane was registered to the pilot and was being operated as Title 14 *Code of Federal Regulations* Part 91 personal flight. Visual meteorological conditions prevailed, and no flight plan was filed for the flight that departed Key Field Airport (MEI), Meridian, Mississippi, at 1438, and was destined for Jack Edwards National Airport (JKA), Gulf Shores, Alabama.

The pilot stated that he was flying at 3,500 ft when the engine sputtered. He informed air traffic control that he wanted to return to MEI and turned back toward the airport, but the engine stopped producing power. The pilot realized that he was not going to be able to reach MEI or any other airport and made a forced landing to a highway. The pilot said he bled off airspeed to avoid hitting cars and landed hard. The airplane's landing gear collapsed, and the airplane slid about 200 ft and came to rest upright on the road, which resulted in substantial damage to the fuselage.

A postaccident examination of the engine revealed the No. 3 cylinder exhaust valve fractured where the stem transitioned to the valve head. The valve head was found lodged between the crankcase and the camshaft, and the camshaft was fractured between the No. 3 intake and exhaust lobes. Metallurgical examination of the liberated valve head and the valve stem revealed that the valve head was damaged from repeated contact with the piston and the valve stem exhibited fracture surfaces consistent with fatigue. The fatigue cracking propagated through the valve stem, initiating at multiple crack initiation sites on the stem surface. The valve stem also exhibited tapering near the fracture surface, and surface oxidation and deposits of lead-based compounds which were also present on the exterior of the stem adjacent to the fracture surface. A small depressed area was also noted on the top face of the valve stem, which was consistent with repeated contact with the adjacent rocker.

The last annual inspection of the airplane and engine was on August 1, 2018. At the time of the accident, the engine had accrued a total of 1,705.0 hours and 641.5 hours since overhaul. Further review of the engine maintenance logbook revealed that on May 4, 2014, at an engine

total time of 1,390.4 hours and 322.1 hours since overhaul, a mechanic "removed and reinstalled all six cylinders with new base seals, push rod tubes seals, intake tube seals, exhaust gaskets and rocker gaskets after resurfacing valves and seats."

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	48, 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>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 With Waivers/Limitations	<b>Last FAA Medical Exam:</b>	10/08/2018
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	04/30/2017
<b>Flight Time:</b>	568.1 hours (Total, all aircraft), 264 hours (Total, this make and model), 439.2 hours (Pilot In Command, all aircraft), 11 hours (Last 90 days, all aircraft), 8.3 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	North American	<b>Registration:</b>	N969TR
<b>Model/Series:</b>	NAVION A No Series	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1946	<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	NAV-4-342
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	08/01/2018, Annual	<b>Certified Max Gross Wt.:</b>	2769 lbs
<b>Time Since Last Inspection:</b>	11 Hours	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	3336 Hours at time of accident	<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>	C91A installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	E-225-4
<b>Registered Owner:</b>	On file	<b>Rated Power:</b>	205 hp
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	MEI, 298 ft msl	Distance from Accident Site:	15 Nautical Miles
Observation Time:	1458 CDT	Direction from Accident Site:	20°
Lowest Cloud Condition:	Scattered / 4800 ft agl	Visibility	10 Miles
Lowest Ceiling:	Broken / 8000 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	180°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.02 inches Hg	Temperature/Dew Point:	33° C / 20° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Meridian, MS (MEI)	Type of Flight Plan Filed:	None
Destination:	Gulf Shores, AL (JKA)	Type of Clearance:	VFR Flight Following
Departure Time:	1438 CDT	Type of Airspace:	Unknown

## 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:	32.131667, -88.793333 (est)

## Administrative Information

Investigator In Charge (IIC):	Leah D Read
Additional Participating Persons:	Joseph Bozeman; FAA/FSDO; Jackson, MS Mike Council; Continental Motors; Mobile, AL
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	<a href="http://dms.ntsb.gov/pubdms/search/dockList.cfm?mKey=98454">http://dms.ntsb.gov/pubdms/search/dockList.cfm?mKey=98454</a>