



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	OCHOPEE, FL	<b>Accident Number:</b>	MIA98LA066
<b>Date &amp; Time:</b>	02/01/1998, 1413 EST	<b>Registration:</b>	N94929
<b>Aircraft:</b>	Cessna 152	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 Serious
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

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## Analysis

The pilot reported that at an altitude of about 2,000', the engine lost power & ran rough. He elected to land on a road that was perpendicular to a highway. The airplane was seen touching down on the road, but was heading towards the intersection of the road & highway, where the Sheriff's Department was working a motor vehicle accident. As the airplane approached the activity at the highway intersection, the pilot attempted to take off to avoid hitting vehicles & people. He entered a steep climb to avoid a power line, then the airplane descended nose first into trees. The pilot stated that where the airplane touched down on the road, it was 'slippery' which made it 'hard to stop.' As the airplane moved towards the highway, the pilot noticed that people were still on the road, so he tried to avoid hitting them by taking off & flying over the highway. The pilot said, '...unfortunately since we lost speed in the landing, we didn't have enough power and we stalled into the trees.' The engine was examined & partially torn down. The examination of the engine revealed that the #4 cylinder exhaust valve was broken off at the base of the stem & was found in the combustion chamber. The bottom part of the valve was retrieved from inside the muffler, along with pieces of the valve seat. Damage from the valve was found on the cylinder head & piston top. A hole was found in the top of the piston. Further examination of the broken valve stem revealed that it was pitted & corroded. In addition, the engine showed signs of having been operated at high temperatures for a considerable length of time. An external examination of the engine revealed corrosion on the exterior of the steel cylinder barrels. Paint on the cylinder heads was blistered & peeled. The ignition system harness was found worn & tattered. The engine log books revealed that the engine had been operated about 700 hours past the manufacture's recommended overhaul time.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: partial loss of engine power due to a fractured number 4 exhaust valve, which resulted in a forced landing; and the lack of sufficient airspeed to maneuver over power lines during an attempt to abort (go around from) an emergency landing, which resulted in an inadvertent stall and subsequent impact with trees. Factors relating to the accident were: the owner/operator's failure to perform the engine manufacture's recommended overhaul at the recommended time,

and high obstructions in the emergency landing area.

## Findings

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Occurrence #1: LOSS OF ENGINE POWER(PARTIAL) - MECH FAILURE/MALF

Phase of Operation: CRUISE - NORMAL

### Findings

1. (C) ENGINE ASSEMBLY, VALVE, EXHAUST - FRACTURED
2. (F) MAINTENANCE, OVERHAUL, MAJOR - NOT PERFORMED - COMPANY MAINTENANCE PERSONNEL

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Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

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Occurrence #3: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: LANDING - ABORTED

### Findings

3. (F) TERRAIN CONDITION - HIGH OBSTRUCTION(S)
4. EVASIVE MANEUVER - INITIATED - PILOT IN COMMAND
5. (C) AIRSPEED - INADEQUATE
6. (C) STALL - INADVERTENT

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Occurrence #4: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: DESCENT - UNCONTROLLED

### Findings

7. OBJECT - TREE(S)

## Factual Information

On February 1, 1998, about 1413 eastern standard time, a Cessna 152, N94929, owned by Gateway Aviation Inc., operating as a Title 14 CFR Part 91 personal flight, impacted with trees near Ochopee, Florida. Visual meteorological conditions prevailed and no flight plan was filed. The airplane was substantially damaged. The private pilot was seriously injured and one passenger received minor injuries. The flight had originated from Opa Locka, Florida, at 1330.

The pilot had refueled at Everglades City, Florida, and was en route back to Opa Locka. At an altitude of about 2,000 feet, the pilot reported that the engine lost power and ran rough. He elected to land on a road that was perpendicular to Highway 41. The airplane was seen touching down on the road, but was heading towards the intersection of the road and the highway where the Sheriff's Department was working a motor vehicle accident. As the airplane approached the activity at the highway intersection, the pilot attempted to take off to avoid hitting the vehicles and people. The airplane went nose high, turned 90 degrees to the left, and descended nose first into the trees.

The pilot stated that at first he "...couldn't determine the cause of the engine roughness...we reached US41, but I noticed it was crowded...I tried to avoid US41...[and] I suddenly realized a small road. We tried to land there." In addition, he stated that when the airplane touched down on the road, it was "slippery" which made it "hard to stop." As the airplane moved towards the highway, the pilot noticed that the people were still on the road, so he tried to avoid hitting them by "lift[ing] the plane and over flew US41." The pilot said, "...unfortunately since we lost speed in the landing, we didn't have enough power and we stalled into the trees."

The engine was examined on February 12, 1998, at a hanger at the Fort Lauderdale Executive Airport, Fort Lauderdale, Florida, under the supervision of the NTSB investigator in charge. An examination and partial teardown of the engine revealed that the No. 4 cylinder exhaust valve was broken off at the base of the stem and was found in the combustion chamber. The bottom part of the valve was retrieved from inside the muffler, along with pieces of the valve seat. Damage from the valve was found on the cylinder head and piston top. A hole was found in the top of the piston. Further examination of the broken valve stem revealed that it was pitted and corroded.

According to the FAA inspector's statement, the engine showed "signs of having been operated at high temperatures for a considerable length of time." The external examination of the engine revealed corrosion on the exterior of the steel cylinder barrels. The paint on the cylinder heads was blistered and peeled. The ignition system harness was found worn and tattered. The engine log books revealed that the engine had been operated about 840 hours past the manufacture's recommended overhaul time. The manufacture's recommended time before overhaul was 2,400 hours

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	24, 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>	Seatbelt, Shoulder harness
<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 2 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	12/28/1997
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	82 hours (Total, all aircraft), 82 hours (Total, this make and model), 32 hours (Pilot In Command, all aircraft), 14 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N94929
<b>Model/Series:</b>	152 152	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	15285814
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	01/13/1998, 100 Hour	<b>Certified Max Gross Wt.:</b>	1675 lbs
<b>Time Since Last Inspection:</b>	17 Hours	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	7445 Hours	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	O-235-N2C
<b>Registered Owner:</b>	GATEWAY AVIATION INC	<b>Rated Power:</b>	108 hp
<b>Operator:</b>	GATEWAY AVIATION INC	<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:	APF, 9 ft msl	Distance from Accident Site:	10 Nautical Miles
Observation Time:	1420 EST	Direction from Accident Site:	270°
Lowest Cloud Condition:	Scattered / 4000 ft agl	Visibility	10 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	11 knots / 18 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	90°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	24° C / 13° C
Precipitation and Obscuration:			
Departure Point:	EVERGLADES CITY, FL (X01)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	1345 EST	Type of Airspace:	Class D

## Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	1 Serious	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Serious	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	ALAN J YURMAN	Report Date:	02/15/2001
Additional Participating Persons:	BILL EVERETT; MIAMI, FL LEAH D RIDDLE; WICHITA, KS EDWARD ROGALSKI; BELLEVIEW, FL		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).