



# Aviation Investigation Final Report

<b>Location:</b>	RESERVE, Louisiana	<b>Accident Number:</b>	FTW92LA181
<b>Date &amp; Time:</b>	July 19, 1992, 18:00 Local	<b>Registration:</b>	N89970
<b>Aircraft:</b>	CESSNA 120	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

THE PILOT EXPERIENCED A COMPLETE ENGINE FAILURE AFTER TAKEOFF WHILE PASSING THROUGH 200 FEET AGL. THE AIRPLANE SUBSEQUENTLY LANDED IN A ROUGH OPEN FIELD AS THERE WAS NO OTHER SUITABLE TERRAIN. INVESTIGATION REVEALED THAT THE NO. 1 CYLINDER EXHAUST VALVE HAD SEPARATED AND THE STEM WAS INGESTED INTO THE ENGINE. THE VALVE HEAD WAS FOUND IMBEDDED IN THE PISTON HEAD. DUE TO THE LEVEL OF DAMAGE SUSTAINED BY THE VALVE PARTS, THE EXACT FAILURE MODE COULD NOT BE DETERMINED.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE LOSS OF ENGINE POWER DUE TO THE VALVE FAILURE. A FACTOR WAS THE LACK OF SUITABLE TERRAIN FOR THE FORCED LANDING.

## Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF  
Phase of Operation: TAKEOFF - INITIAL CLIMB

### Findings

1. (C) ENGINE ASSEMBLY, VALVE, EXHAUST - FAILURE, TOTAL

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Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

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Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER

Phase of Operation: LANDING - ROLL

Findings

2. (F) TERRAIN CONDITION - NONE SUITABLE
3. TERRAIN CONDITION - ROUGH/UNEVEN
4. TERRAIN CONDITION - HIGH VEGETATION

## Factual Information

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	28, 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 Valid Medical--w/ waivers/lim	<b>Last FAA Medical Exam:</b>	February 19, 1992
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	175 hours (Total, all aircraft), 54 hours (Total, this make and model), 112 hours (Pilot In Command, all aircraft), 44 hours (Last 90 days, all aircraft), 26 hours (Last 30 days, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	CESSNA	<b>Registration:</b>	N89970
<b>Model/Series:</b>	120 120	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	9088
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	February 19, 1992 Annual	<b>Certified Max Gross Wt.:</b>	1450 lbs
<b>Time Since Last Inspection:</b>	60 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	CONTINENTAL
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	C-85-12
<b>Registered Owner:</b>	HICKS, TIMOTHY J.	<b>Rated Power:</b>	85 Horsepower
<b>Operator:</b>	HICKS, TIMOTHY J.	<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	MSY ,4 ft msl	<b>Distance from Accident Site:</b>	20 Nautical Miles
<b>Observation Time:</b>	17:50 Local	<b>Direction from Accident Site:</b>	115°
<b>Lowest Cloud Condition:</b>	Scattered / 4000 ft AGL	<b>Visibility</b>	15 miles
<b>Lowest Ceiling:</b>	Broken / 25000 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	8 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	150°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30 inches Hg	<b>Temperature/Dew Point:</b>	31°C / 22°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	(0LA4)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	(0LA4)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	18:00 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	ST. JOHN 0LA4	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	9 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	18	<b>IFR Approach:</b>	
<b>Runway Length/Width:</b>	4000 ft / 50 ft	<b>VFR Approach/Landing:</b>	Forced landing

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	1 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 None	<b>Latitude, Longitude:</b>	30.059207,-90.64035(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Wandel, Warren
<b>Additional Participating Persons:</b>	WILLIAM SMITH; BATON ROUGE , LA
<b>Original Publish Date:</b>	June 11, 1993
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=18533">https://data.nts.gov/Docket?ProjectID=18533</a>

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