



Aviation Investigation Final Report

Location:	STARKE, Florida	Accident Number:	MIA89LA058
Date & Time:	December 24, 1988, 11:50 Local	Registration:	N9373B
Aircraft:	CESSNA 175	Aircraft Damage:	Substantial
Defining Event:		Injuries:	3 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

FLT WAS 3 MILES EAST OF ARPT RETURNING TO LAND AT ALT OF APRX 2,000 FT, WHEN THE ENG QUIT. PLT WAS UNABLE TO RESTART & ELECTED TO LAND IN SMALL TREES AS A NEARBY HIGHWAY WAS CONGESTED. ACFT COLLIDED WITH TREES & FELL TO THE GROUND. EXAMINATION OF THE ENG REVEALED THE CRANKSHAFT FAILED AT THE REAR CRANKSHAFT CHEEK BETWEEN #1 & #2 CYLINDER CONNECTING RODS. METALLURGICAL EXAMINATION OF THE FAILED CRANKSHAFT REVEALED LOW & HIGH CYCLE FATIGUE. EVIDENCE INDICATED THAT THIS WAS CAUSED BY VIBRATIONS OF THE CRANKSHAFT DURING CONTACT OF THE THREE DYNAMIC COUNTERWEIGHTS TO THE ADJACENT CAMSHAFT LOBES. COUNTERWEIGHT CONTACT WAS CAUSED BY WORN COUNTERWEIGHT BUSHING. REVIEW OF THE ENG LOGBOOKS REVEALED A MAJOR OVERHAUL WAS PERFORMED IN 1969, APRX 793 HRS PRIOR TO THE FAILURE. THREE TOP OVERHAULS WERE PERFORMED. THE FIRST & SECOND PERFORMED AT ONE YEAR INTERVALS AFTER THE MAJOR. THE THIRD WAS PERFORMED 10 YEARS AFTER THE SECOND.

Probable Cause and Findings

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

Findings

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

Findings

1. (C) ENG ASSEMBLY, CRANKSHAFT COUNTERWEIGHTS/VIB DAMPER - LOOSE
2. (C) ENGINE ASSEMBLY, CAMSHAFT - WORN
3. (C) ENGINE ASSEMBLY, CRANKSHAFT - FATIGUE
4. (C) ENGINE ASSEMBLY, CRANKSHAFT - FAILURE, TOTAL

Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: LANDING

Findings

5. (F) OBJECT - TREE(S)
6. (F) TERRAIN CONDITION - NONE SUITABLE

Factual Information

Pilot Information

Certificate:	Private	Age:	55, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	August 4, 1987
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	127 hours (Total, all aircraft), 20 hours (Total, this make and model), 15 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	Registration:	N9373B
Model/Series:	175 175	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	55173
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	August 30, 1988 Annual	Certified Max Gross Wt.:	2350 lbs
Time Since Last Inspection:	29 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	2901 Hrs	Engine Manufacturer:	CONTINENTAL
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	GO-300A
Registered Owner:	JOLLEY, VENOY J	Rated Power:	175 Horsepower
Operator:		Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	GNV ,152 ft msl	Distance from Accident Site:	17 Nautical Miles
Observation Time:	11:49 Local	Direction from Accident Site:	202°
Lowest Cloud Condition:	Scattered / 2000 ft AGL	Visibility	7 miles
Lowest Ceiling:	Broken / 3500 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	170°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	23°C / 18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	KEYSTONE HEIGHT, FL (42J)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	11:30 Local	Type of Airspace:	Class E

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:	0 ft msl	Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:	0 ft / 0 ft	VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	2 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 None	Latitude, Longitude:	29.939411,-82.109367(est)

Administrative Information

Investigator In Charge (IIC): Unknown, N

Additional Participating Persons:

Original Publish Date: November 24, 1989

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=32376>

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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](#).