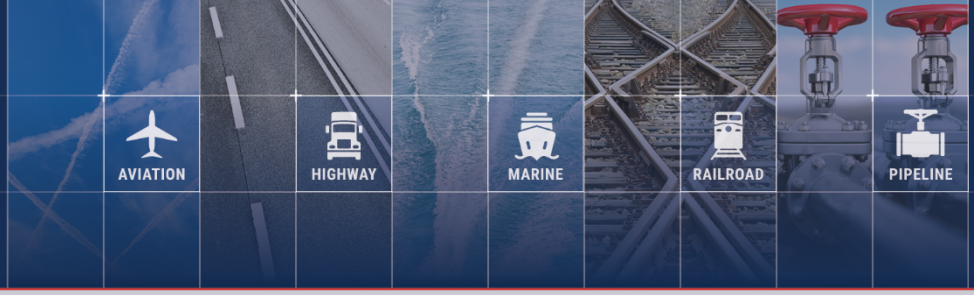

Aviation Investigation Final Report

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.ntsb.gov/Docket?ProjectID=32376