



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	KAILUA-KONA, HI	<b>Accident Number:</b>	LAX89FA307
<b>Date &amp; Time:</b>	09/10/1989, 1518 HST	<b>Registration:</b>	N22LR
<b>Aircraft:</b>	AERO COMMANDER 680FLP	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	1 Fatal, 1 Serious

**Flight Conducted Under:** Part 91: General Aviation - Personal

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## Analysis

AS THE ACFT WAS DEPG FM RWY 17, SMOKE WAS OBSERVED COMING FM THE RGT ENG. THE PLT CONFIRMED A LOSS OF PWR & MADE A RGT TURN BACK TOWARD THE RWY, THEN RPRTD HE HAD 'LOST BOTH ENGINES.' THE ACFT WAS EXTENSIVELY DMGD DURING A LNDG ON ROUGH, ROCKY TRRN ABT 1/4 MI SW OF THE RWY THRESHOLD. INVESTIGATION REVEALED THE ACFT HAD JUST CHANGED OWNERSHIP. DURING PRE- PURCHASE INSPN IN FLORIDA, METAL PARTICLES WERE FND IN THE OIL SCREENS OF BOTH ENGS. OIL WAS CHGD & FLUSHED, BUT METAL PARTICLES WERE FND AFTER ANOTHER ENG RUN. IN MAY 1989, THE RGT ENG WAS REPLACED WITH AN ENG FM ANOTHER ACFT. THE ACFT WAS FLOWN TO OAKLAND, CA, WHERE IT WAS PAINTED & NEW INTERIOR WAS INSTALLED. A LCL MECH NOTED METAL PARTICLES IN BOTH ENG OIL SCREENS & RCMNDD OIL ANALYSIS, BUT FERRYING PLT REFUSED. AFTER FLT TO HAWAII, NO OIL STAIN NOTED ON FUSELAGE BFRFLT ON 9/9/89. EXAM OF WRECKAGE REVEALED BOTH ENGS FAILED FM DETONATION. HVY OIL STREAKS FND BHND RGT ENG, SOME STREAKS OF OIL FND BHND LEFT ENG. RGT ENG CRANKSHAFT/ROD BRG SURFACE WAS 0.010' UNDER STANDARD, BUT ROD BRGS WERE STANDARD SIZE.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: INADEQUATE MAINTENANCE, AND OPERATION BY THE PILOT WITH KNOWN DEFICIENCIES IN THE AIRCRAFT. FACTORS RELATED TO THE ACCIDENT WERE: EXCESSIVE WEAR IN BOTH ENGINES, IMPROPER USE OF POWERPLANT CONTROLS BY THE PILOT, SUBSEQUENT OVERTEMPERATURE/DETONATION IN BOTH ENGINES, IMPROPER EMERGENCY PROCEDURES BY THE PILOT (INCLUDING PREMATURE GEAR EXTENSION AND/OR FAILURE TO PROPERLY REDUCE DRAG ON THE AIRCRAFT AFTER LOSS OF ENGINE POWER), AND THE PILOT'S LACK OF EXPERIENCE IN MULTI-ENGINE AND THIS MAKE AND MODEL OF AIRCRAFT.

## Findings

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

### Findings

1. 1 ENGINE
2. (F) ENGINE ASSEMBLY - WORN
3. FLUID,OIL - CONTAMINATION
4. (C) MAINTENANCE - INADEQUATE - OTHER MAINTENANCE PERSONNEL
5. (C) OPERATION WITH KNOWN DEFICIENCIES IN EQUIPMENT - PERFORMED - PILOT IN COMMAND
6. (F) ENGINE ASSEMBLY - OVERTEMPERATURE
7. (F) ENGINE ASSEMBLY,PISTON - FAILURE,TOTAL

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Occurrence #2: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF  
Phase of Operation: MANEUVERING - TURN TO LANDING AREA (EMERGENCY)

### Findings

8. ALL ENGINES
9. PRECAUTIONARY LANDING - INITIATED - PILOT IN COMMAND
10. (F) GEAR EXTENSION - PREMATURE - PILOT IN COMMAND
11. (F) POWERPLANT CONTROLS - IMPROPER USE OF - PILOT IN COMMAND
12. (F) ENGINE ASSEMBLY,PISTON - OVERTEMPERATURE
13. (F) ENGINE ASSEMBLY,PISTON - FAILURE,TOTAL

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Occurrence #3: FORCED LANDING  
Phase of Operation: MANEUVERING - TURN TO LANDING AREA (EMERGENCY)

### Findings

14. (F) EMERGENCY PROCEDURE - IMPROPER - PILOT IN COMMAND
15. (F) LACK OF TOTAL EXPERIENCE IN TYPE OF AIRCRAFT - PILOT IN COMMAND

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Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: LANDING

### Findings

16. (F) TERRAIN CONDITION - ROUGH/UNEVEN

## Factual Information

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	30, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 3 Valid Medical--w/ waivers/lim.	<b>Last FAA Medical Exam:</b>	07/11/1988
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	203 hours (Total, all aircraft), 23 hours (Total, this make and model), 148 hours (Pilot In Command, all aircraft), 34 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	AERO COMMANDER	<b>Registration:</b>	N22LR
<b>Model/Series:</b>	680FLP 680FLP	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	1503-18
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	8
<b>Date/Type of Last Inspection:</b>	09/02/1988, Annual	<b>Certified Max Gross Wt.:</b>	8500 lbs
<b>Time Since Last Inspection:</b>	72 Hours	<b>Engines:</b>	2 Reciprocating
<b>Airframe Total Time:</b>	4790 Hours	<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	IGSO-540-B1A
<b>Registered Owner:</b>	PETER M. MAVEAL	<b>Rated Power:</b>	380 hp
<b>Operator:</b>	PETER M. MAVEAL	<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:	KOA, 0 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	1550 HST	Direction from Accident Site:	0°
Lowest Cloud Condition:	Scattered / 1500 ft agl	Visibility	15 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	160°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	23° C / -18° C
Precipitation and Obscuration:			
Departure Point:	(KOA)	Type of Flight Plan Filed:	VFR
Destination:	HONOLULU, HI (HNL)	Type of Clearance:	VFR
Departure Time:	1514 HST	Type of Airspace:	Class D

## Airport Information

Airport:	KEAHOLE (KOA)	Runway Surface Type:	Asphalt
Airport Elevation:	43 ft	Runway Surface Condition:	Dry
Runway Used:	17	IFR Approach:	None
Runway Length/Width:	6500 ft / 150 ft	VFR Approach/Landing:	Forced Landing

## Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Serious	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal, 1 Serious	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	A. D LLORENTE	Report Date:	09/05/1991
Additional Participating Persons:	STEVEN DAHLEN; HONOLULU, HI		
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](#).