Aviation Investigation Final Report

Location:	CHULA VISTA, California	**Accident Number:**	LAX00LA049
Date & Time:	December 5, 1999, 16:00 Local	**Registration:**	N192DC
Aircraft:	Corbin/King OSPREY 2	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane came to rest in a lake after witnesses heard a loud noise. They saw the airplane in a tight spiral and pieces of it were floating in trail. The engine sound changed from a loud to a softer tone as the airplane rotated. Earlier in the afternoon, the pilot had visited a retired FAA inspector in Ramona, California, where he had appeared to be in good health and spirits. The inspector looked at the airplane prior to departure and did not notice anything unusual. The engine sounded good and was running strong when it taxied away from his hangar. Both wings and the fuselage/tail assembly were found floating. The left wing and canopy were lightly damaged. The left wing fractured and separated near the fuselage in a downward direction. The rest of the airplane was highly damaged and fragmented. Investigators established flight control continuity. They established engine valve train and accessory gear continuity. The oil screen was clean and the spark plug color indicated normal operation. They discovered no discrepancies that would have precluded normal operation of the airframe or engine. Toxicological testing returned a positive result for amitriptyline and nortriptyline. Amitriptyline is one of the most sedating of the antidepressants, and is given almost exclusively in the evenings because of these effects. The levels found in the pilot's blood suggested regular use of a low dosage of the medication as he and his doctor had previously described in the application for his airman's medical certificate. It is unclear what effect, if any, such low levels would have on the pilot's performance. The nature of the accident does not suggest that the medication played a significant role. However, it is possible that the medication and/or the condition for which it was being taken resulted in less than optimum response to an evolving emergency condition.

Probable Cause and Findings

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

The pilot exceeded the design stress limits of the airplane resulting in wing overload and separation.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: MANEUVERING

Findings
1. (C) DESIGN STRESS LIMITS OF AIRCRAFT - EXCEEDED - PILOT IN COMMAND
2. WING - OVERLOAD
3. WING - SEPARATION

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
4. TERRAIN CONDITION - WATER

Factual Information

HISTORY OF FLIGHT

On December 5, 1999, about 1600 hours Pacific standard time, a Corbin/King Osprey 2, N192DC, was destroyed when it collided with Lower Otay Lake Reservoir near Chula Vista, California. The commercial pilot/owner, the sole occupant, was operating the airplane under the provisions of 14 CFR Part 91, and sustained fatal injuries. The personal flight departed its home base at Brown Field in San Diego, California, at 1537 on a local personal flight. Visual meteorological conditions prevailed and no flight plan had been filed.

A retired Federal Aviation Administration (FAA) inspector stated the pilot flew from Brown Field near Chula Vista to visit him at Ramona, California, and show him the recently purchased airplane. The pilot appeared in good health and spirits. The inspector looked at the airplane prior to departure and did not notice anything unusual. He said the engine sounded good and was running strong when it taxied away from his hangar about 1430.

An acquaintance told a coroner's investigator that he observed the pilot working in his hangar most of the day. They went flying in the acquaintance's airplane in the early afternoon. He said the pilot appeared to be in good spirits and expressed no complaints.

The FAA accident coordinator interviewed several witnesses. They reported hearing a loud noise, and then observed the airplane in a tight spiral with pieces floating in trail. The engine sound changed from a loud to a softer tone as the airplane rotated.

Sheriff deputies located the wreckage in Lower Otay Lake Reservoir. Some wreckage was floating, and some was at a depth of 45 feet down on the floor of the reservoir. Both wings and the fuselage/tail assembly were floating.

PERSONNEL INFORMATION

A review of Federal Aviation Administration (FAA) airman records revealed the pilot held a commercial pilot certificate with airplane single engine land and sea ratings. A limitation on the certificate prohibited the pilot from carrying passengers for hire at night and on cross-country flights of more than 50 nautical miles. The pilot held a second-class medical certificate that was issued on August 7, 1999. It had the limitations that the pilot must wear corrective lenses and noted that miscellaneous restrictions were assigned. An examination of the pilot's logbook indicated an estimated total flight time of 483 hours. He had an estimated 26 hours in this make and model. He logged about 6 hours in the last 90 days, 4 hours in the last 30 days, and 1 hour in the previous 24 hours.

AIRCRAFT INFORMATION

The airplane was a Corbin/King Osprey 2, serial number 192. A review of the airplane's logbooks revealed that the builder completed portions of the airplane in 1977. The airplane received approval for flight in 1989. The last condition inspection recorded in the logbooks on July 8, 1999, indicated a total airframe time of 75.7 hours. The airplane had a Textron Lycoming O-320-A2B engine, serial number L-4908-27, installed. The engine logbook indicated the engine had zero time since overhaul when the builders installed it on this airframe. The last entry in the engine logbook dated December 5, 1999, indicated a time of 108.3 hours.

METEOROLOGICAL INFORMATION

A routine aviation weather report (METAR) for Brown Field was issued at 1556. It stated: skies clear; visibility 10 miles; winds from 280 degrees at 6 knots; temperature 61 degrees Fahrenheit; dew point 28 degrees Fahrenheit; altimeter 30.14 InHg.

MEDICAL AND PATHOLOGICAL INFORMATION

The San Diego County Coroner completed an autopsy. The FAA Toxicology and Accident Research Laboratory performed toxicological testing of specimens of the pilot. The results of analysis of the specimens were negative for carbon monoxide, cyanide, and volatiles. The analysis returned a positive result for amitriptyline. It detected 0.023 (ug/ml, ug/g) in blood and 0.069 (ug/ml, ug/g) in liver fluid. The analysis returned a positive result for nortriptyline. It detected 0.044 (ug/ml, ug/g) in blood and 0.289 (ug/ml, ug/g) in liver fluid.

The Safety Board's Medical Officer extracted the following information from records supplied by the pilot's family.

An FAA Regional Flight Surgeon informed the pilot by a letter dated October 8, 1998, that the pilot did not meet the medical standards required for certification because of his use of the drug Elavil. Elavil is the trade name for amitriptyline and nortriptyline is its active metabolite. His doctor had prescribed a 25 mg dose of Elavil prior to bedtime for relief of foot pain.

FAA Aviation Medical Examiners are instructed (1996 Guide for Aviation Medical Examiners, page 21) to defer certification to the FAA Aeromedical Certification division for any airman on "mood-ameliorating" medication. Correspondence from the pilot and his Aviation Medical Examiner indicated the pilot stopped taking the drug on September 28, 1998. The manager of the Aeromedical Certification Division informed the pilot by letter in February 1999 that he was ineligible for certification. However, the letter stated the pilot may be granted authorization for special issuance of his certificate. The letter continued that the operation of aircraft was prohibited if new symptoms or changes occurred that required a change in medication.

TESTS AND RESEARCH

An investigator from Textron Lycoming conducted an examination of the engine under the supervision of the FAA accident coordinator at Aviation Consulting International Corporation at Brown Field on December 13, 1999. The FAA inspector also examined the airframe and a summarization of the inspection results follows.

The engine and its pylon separated and exhibited damage to the left pylon struts and left engine rocker covers. The left side exhaust system was missing; the right side exhaust system exhibited severe damage. The carburetor and intake tubes were not recovered. The investigators established mechanical continuity for the valves, crankshaft, and accessory gears. The spark plugs displayed coloration for normal operation. The oil screen was clean.

The left wing separated from the fuselage at the forward left engine mount attach point. Its landing gear assembly was intact. The wing structure, upper and lower wing surfaces, and aileron with its control points exhibited very little damage. The inspector observed a tensile fracture on the upper surface and a compression fracture on the lower surface.

The right wing exhibited much more extensive damage than the left wing. Most of the wing was destroyed. Fragments of the wing's leading edge contained aft crush damage. Deputies recovered fragments of the aileron, but the main landing gear remained missing.

The canopy appeared undamaged. Deputies did not recover any instruments. The cockpit engine controls, rudder pedals, and nose wheel remained attached to their respective control cables.

The aft fuselage and empennage were fragmented. The vertical stabilizer and rudder assembly remained attached, but bent to the right. The rudder control cables remained connected. The horizontal stabilizers and elevators fragmented; the remaining portions exhibited crush damage.

Pilot Information

Certificate:	Commercial	**Age:**	62,Male
Airplane Rating(s):	Single-engine land; Single-engine sea	**Seat Occupied:**	Unknown
Other Aircraft Rating(s):		**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	September 7, 1999
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	483 hours (Total, all aircraft), 26 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Corbin/King	**Registration:**	N192DC
Model/Series:	OSPREY 2 OSPREY 2	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	192
Landing Gear Type:	Amphibian	**Seats:**	2
Date/Type of Last Inspection:	June 8, 1999 Annual	**Certified Max Gross Wt.:**	1560 lbs
Time Since Last Inspection:	33 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	108 Hrs	**Engine Manufacturer:**	Lycoming
ELT:		**Engine Model/Series:**	O-320-A2B
Registered Owner:	LEONARD AINSWORTH	**Rated Power:**	150 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:	SDM ,526 ft msl	**Distance from Accident Site:**	5 Nautical Miles
Observation Time:	15:56 Local	**Direction from Accident Site:**	190°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	240°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	61°C / 28°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	SAN DIEGO , CA (SDM)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	15:37 Local	**Type of Airspace:**	Class D

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	
Runway Length/Width:		**VFR Approach/Landing:**	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	32.66016,-116.94017(est)

Administrative Information

Investigator In Charge (IIC):	Plagens, Howard
Additional Participating Persons:	SWEDE GAMBLE; SAN DIEGO , CA MARK PLATT; VAN NUYS , CA
Original Publish Date:	August 21, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=47883

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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.