



# Aviation Investigation Final Report

<b>Location:</b>	FULLERTON, California	<b>Accident Number:</b>	LAX87LA046
<b>Date &amp; Time:</b>	November 21, 1986, 15:33 Local	<b>Registration:</b>	N4520D
<b>Aircraft:</b>	GULFSTREAM AA-5B	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 Serious
<b>Flight Conducted Under:</b>	Part 91: General aviation - Instructional		

## Analysis

A GULFSTREAM AMERICAN AA-5B LOST POWER AND COLLIDED WITH A TREE SHORT OF THE RUNWAY WHILE ON AN IFR TRAINING FLIGHT. THE FLIGHT INSTRUCTOR HAD JUST SWITCHED FUEL TANKS WHEN THE ENGINE BEGAN TO RUN ROUGH AND THEN QUIT RUNNING. HE WAS UNABLE TO RESTART THE ENGINE. THE PRIVATE PILOT UNDERGOING INSTRUMENT TRAINING CONDUCTED THE PREFLIGHT INSPECTION WITHOUT THE AID OF THE AIRCRAFT OPERATORS MANUAL. HE DID NOT CHECK THE LEFT AND RIGHT WING FUEL SUMP DRAINS. AIRCRAFT FUEL SAMPLES WERE TAKEN FROM THE RIGHT AND LEFT WING TANK FUEL SUMPS AND FUEL LINE FROM THE FUEL PUMP TO THE CARBURETOR. LABRATORY TEST RESULTS INDICATED THE FUEL SAMPLE TAKEN FROM THE FUEL LINE FROM THE FUEL PUMP TO THE CARBURETOR CONTAINED 12.6 % WATER BY VOLUME. THE RIGHT FUEL SUMP ALSO CONTAINED TRACES OF WATER. EXAMINATION OF THE REFUELING TRUCK SAMPLE DID NOT REVEAL ANY IMPURITIES.

## 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) - NONMECHANICAL  
Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings

1. (C) PREFLIGHT PLANNING/PREPARATION - POOR - FLIGHT INSTRUCTOR(ON GROUND)
2. (F) FUEL SYSTEM,STRAINER - CONTAMINATION
3. (C) AIRCRAFT PREFLIGHT - IMPROPER - DUAL STUDENT
4. (F) FUEL SYSTEM,TANK - WATER
5. (C) FLIGHT MANUALS - NOT USED - FLIGHT INSTRUCTOR(ON GROUND)
6. (F) FUEL SYSTEM,STRAINER - WATER
7. (C) FLIGHT MANUALS - NOT USED - DUAL STUDENT
8. (C) SUPERVISION - INADEQUATE - FLIGHT INSTRUCTOR(ON GROUND)

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Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

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Occurrence #3: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

9. OBJECT - TREE(S)

## Factual Information

### Pilot Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	23,U
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane single-engine	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	October 23, 1986
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	1398 hours (Total, all aircraft), 4 hours (Total, this make and model), 1258 hours (Pilot In Command, all aircraft), 278 hours (Last 90 days, all aircraft), 76 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	GULFSTREAM	<b>Registration:</b>	N4520D
<b>Model/Series:</b>	AA-5B AA-5B	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	AA5B-1061
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	October 1, 1986 Annual	<b>Certified Max Gross Wt.:</b>	1360 lbs
<b>Time Since Last Inspection:</b>	15 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	1693 Hrs	<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	O-360-A4K
<b>Registered Owner:</b>	WINGS EXPRESS AVIATION, INC.	<b>Rated Power:</b>	180 Horsepower
<b>Operator:</b>		<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>	FUL ,96 ft msl	<b>Distance from Accident Site:</b>	1 Nautical Miles
<b>Observation Time:</b>	15:33 Local	<b>Direction from Accident Site:</b>	60°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	4 miles
<b>Lowest Ceiling:</b>	Overcast / 3800 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	5 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	210°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30 inches Hg	<b>Temperature/Dew Point:</b>	
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	LONG BEACH , CA (LGB )	<b>Type of Flight Plan Filed:</b>	IFR
<b>Destination:</b>	FULLERTON , CA (FUL )	<b>Type of Clearance:</b>	IFR
<b>Departure Time:</b>	14:40 Local	<b>Type of Airspace:</b>	Class D

## Airport Information

<b>Airport:</b>	FULLERTON FUL	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	96 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	24	<b>IFR Approach:</b>	Circling;VOR
<b>Runway Length/Width:</b>	3121 ft / 75 ft	<b>VFR Approach/Landing:</b>	Forced landing;Traffic pattern

## Wreckage and Impact Information

<b>Crew Injuries:</b>	2 Serious	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 Serious	<b>Latitude, Longitude:</b>	

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Wilcox, Thomas
<b>Additional Participating Persons:</b>	LINDA E SILVERTOOTH; LONG BEACH , CA
<b>Original Publish Date:</b>	March 10, 1988
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=25475">https://data.ntsb.gov/Docket?ProjectID=25475</a>

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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](#).