



Aviation Investigation Final Report

Location:	Chicago, Illinois	Accident Number:	CHI06FA224
Date & Time:	July 30, 2006, 16:12 Local	Registration:	N848LC
Aircraft:	American Legend AL11C	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Fatal, 1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane was ditched in Lake Michigan following a total loss of engine power due to fuel exhaustion. The private pilot on board drowned following the ditching. The private pilot just purchased the airplane and was relocating it to another airport near his home in Ohio when the accident occurred. The private pilot did not have a tailwheel sign-off or a current biennial flight review. Arrangements were made through the aircraft manufacturer for an airline transport/certified flight instructor (ATP/CFI) pilot who was a test and demonstration pilot for the company to fly the airplane back to Ohio with the new owner. Prior to takeoff, there was an aircraft accident on the airport involving another airplane and the airport was temporarily closed. During this delay, the ATP/CFI stepped up on the right wing step and looked over the wing trying to see the accident. He stated that when he got down off the wing the private pilot got up on the right wing step to look. The ATP/CFI stated that while the private pilot was up on the wing step they were informed that the first four airplanes to get to the engine start line would be able to depart. He stated that with the assistance of other pilots in the area, they were second in line at the start line and were able to takeoff. The ATP/CFI stated that when up on the wing step the only handhold available was the fuel cap, which both he and the private pilot held onto. The ATP/CFI stated the private pilot flew the airplane over the shoreline and out over the lake. He stated he commented to the private pilot about how far out over the water they were and after several comments the private pilot "reluctantly turned back closer to the shore line." The ATP/CFI stated that after flying for approximately two hours, he noticed the left fuel tank quantity indicator was indicating that the fuel tank was empty and the right fuel tank quantity indicator was showing about one inch of fuel. He stated the private pilot stated that the "fuel gauges must be malfunctioning as the E.I.S. [electronic information system] indicated that the rate of fuel burn was 5.8 G.P.H. with 8.3 gallons of fuel remaining." He stated the private pilot also told him the E.I.S. was indicating that there was 1 hour and 20 minutes of flying time remaining. He stated the private pilot then decided to divert to a closer airport. The ATP/CFI stated he suggested landing at the Gary-Chicago International Airport (GYY), Gary, Indiana. He stated that approximately 20 minutes later, while en route to GYY, he

noticed that both fuel gauges were indicating empty. He stated that the private pilot again reported the E.I.S. was showing a fuel flow of 5.8 G.P.H. with 6.1 gallons of fuel left. The ATP/CFI stated that approximately four minutes later, the engine lost power. The private pilot landed the airplane on the water. Both pilots exited the airplane unharmed, however, the private pilot who did not know how to swim subsequently drowned. The ATP/CFI was picked up by a Coast Guard Auxiliary boat approximately 40 minutes after the accident. The right fuel cap was missing from the airplane when it was recovered from the bottom of the lake. No mechanical failures/malfunctions were noted during the on scene examination of the airplane and engine.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure of both pilots to assure that the fuel cap was securely in place prior to takeoff which resulted in fuel siphoning and ultimately fuel exhaustion. An additional cause was the decision to fly over the lake outside of gliding distance to shore along with the delay in diverting to refuel the airplane.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL
Phase of Operation: CRUISE - NORMAL

Findings

1. (C) FUEL SYSTEM,CAP - MISSING
2. (C) AIRCRAFT PREFLIGHT - INADEQUATE - PILOT IN COMMAND
3. (C) AIRCRAFT PREFLIGHT - INADEQUATE - COPILOT/SECOND PILOT
4. (C) FLUID,FUEL - SIPHONING
5. (C) FLUID,FUEL - EXHAUSTION
6. (C) IN-FLIGHT PLANNING/DECISION - POOR - PILOT IN COMMAND
7. (C) IN-FLIGHT PLANNING/DECISION - POOR - COPILOT/SECOND PILOT

Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

8. TERRAIN CONDITION - WATER

Factual Information

HISTORY OF FLIGHT

On July 30, 2006, at 1612 central daylight time, an American Legend AL11C, N848LC, collided with the waters of Lake Michigan near Chicago, Illinois, following a loss of engine power during cruise flight. The airline transport pilot (ATP)/certified flight instructor (CFI) on board was not injured. A private pilot on board survived the impact, but drowned. The 14 Code of Federal Regulations (CFR) Part 91 personal flight was operating in visual meteorological conditions without a flight plan. The flight originated from Wittman Field (OSH), Oshkosh, Wisconsin, at about 1400, and was en route to the Wadsworth Municipal Airport (3G3), Wadsworth, Ohio, with an en route stop at an unidentified airport south of Gary, Indiana.

The private pilot purchased the airplane and had taken delivery of it during Experimental Aircraft Association AirVenture 2006. The private pilot was relocating the airplane back to his home airport when the accident occurred.

According to the private pilot's family he was going to OSH to pick up N848LC. They stated that pilot's flight instructor was supposed to fly the airplane back to Wadsworth, Ohio, but due to a schedule conflict the instructor was not able to make the trip. The private pilot's family stated he then contacted American Legend and arrangements were made for another pilot to fly the airplane back to Ohio with him.

An employee of American Legend stated the private pilot/aircraft owner contacted him and stated that the person who was going to fly the airplane back to Ohio was not going to be able to, and that he was not comfortable flying the airplane by himself. The employee stated arrangements were then made for the ATP/CFI to fly the airplane back with the owner.

The ATP/CFI reported that he went to the Experimental Aircraft Association AirVenture Fly-In as he had for the last several years. He reported that on the day of the accident, he was attempting to find a ride to an airport that had commercial service so he could fly back to Dallas. He reported that at approximately 1000 he was at the American Legend aircraft display when he was approached by the private pilot who informed him that he had just taken delivery of a Legend Cub. He reported the private pilot stated he was flying the airplane back to his home near Cleveland and that the employee of American Legend had given the private pilot his name as being someone who might want to ride along. He stated he accepted the offer to fly along on the flight to Ohio. He stated that he was not acting as a CFI on the flight, nor was he compensated for the flight.

He stated that he observed while the private pilot and an American Legend employee performed the aircraft preflight inspection. He stated he then helped the private pilot push the

airplane out to the engine start line after which time he got into the back seat of the airplane. He stated that while they were waiting to takeoff, they were informed that the airport was closed and they were instructed to return to the tie down area. He stated he helped the private pilot push the airplane back to the tie down area where they waited for further instructions.

The ATP/CFI stated that as they waited, they were told there was an accident on the taxiway, which was why the airport was closed. He stated he was curious as to what was going on so he stepped up on the right wing step and looked over the wing trying to see the accident. He stated that when he got down off the wing the private pilot got up on the right wing step to look. The ATP/CFI stated that while the private pilot was up on the wing step they were informed that the first four airplanes to get to the engine start line would be able to depart. He stated that with the assistance of other pilots in area, they were second in line at the start line and were able to takeoff. The ATP/CFI stated that when up on the wing step the only handhold available was the fuel cap, which both he and the private pilot held onto.

The ATP/CFI stated they departed OSH and headed south to Fond du Lac before turning southeast toward Lake Michigan. The ATP/CFI stated the private pilot flew the airplane over the shoreline and out over the lake. He stated he commented to the private pilot about how far out over the water they were and after several comments the private pilot "...reluctantly turned back closer to the shore line."

The ATP/CFI stated that after flying for approximately two hours, he noticed the left fuel tank quantity indicator was indicating that the fuel tank was empty and the right fuel tank quantity indicator was showing about one inch of fuel. He stated the private pilot stated that the "fuel gauges must be malfunctioning as the E.I.S. [electronic information system] indicated that the rate of fuel burn was 5.8 G.P.H. with 8.3 gallons of fuel remaining." He stated the private pilot also told him the E.I.S. was indicating that there was 1 hour and 20 minutes of flying time remaining. He stated the private pilot then decided to divert to a closer airport. The ATP/CFI stated he suggested landing at the Gary-Chicago International Airport (GYY), Gary, Indiana. He stated that approximately 20 minutes later, while en route to GYY, he noticed that both fuel gauges were indicating empty. He stated that the private pilot again reported the E.I.S. was showing a fuel flow of 5.8 G.P.H. with 6.1 gallons of fuel left. The ATP/CFI stated that approximately four minutes later, the engine lost power.

The ATP/CFI stated he spotted a boat off to their right and that the private pilot established a glide toward the boat. He stated he made a "Mayday" call to GYY, opened the side doors, and secured the baggage while the private pilot continued to fly the airplane. He stated the private pilot slowed the airplane to stall speed and landed flat in the water. The ATP/CFI stated that both he and the private pilot were able to exit the airplane unharmed. He stated the private pilot held onto the outside of the airplane until it sank at which time he drowned. The ATP/CFI stated he began to swim toward a structure out in the lake and was picked up by a Coast Guard Auxiliary boat approximately 40 minutes after the accident.

The private pilot's family stated that he did not know how to swim.

PERSONNEL INFORMATION

The ATP/CFI held an ATP certificate with an airplane multiengine land rating. He also held a commercial pilot certificate with airplane single-engine land and airplane single-engine sea ratings. In addition, this pilot also held a CFI certificate with a single-engine land rating. This pilot held a first class medical certificate issued October 13, 2005, with the restriction, "Not valid for any class after." On the application for this medical certificate, the pilot reported having 12,000 hours of flight time.

Although not a paid employee of American Legend, the ATP/CFI pilot served as one of the company's test pilots and also flew demonstration flights for the company.

The pilot/aircraft owner held a private pilot certificate with a single-engine land rating. He also held a third class medical certificate dated August 16, 2005. The medical certificate contained the limitation that he must wear glasses for distant vision and possess glasses for near vision.

According to this pilot's logbooks, family, and his CFI, the pilot began flying in 1969 and received his private pilot certificate in October 1969. He continued to fly until 1973 at which time he stopped flying until 1990. According to his logbook, he flew 4 times during 1990 and 1991. The next flight logged was dated July 13, 2005. The logbook showed he had flown a total of 148.1 hours of which 3.5 hours were in an American Legend AL3C. In May 2006, the pilot began receiving flight instruction in tailwheel airplanes. The pilot's logbook did not contain a biennial flight review sign off nor did it contain a tailwheel sign off. The pilot's CFI confirmed that the pilot did not have a current flight review and had not been signed off to fly tailwheel airplanes.

AIRCRAFT INFORMATION

The accident airplane, N848LC, serial number AL-1047, was a two-place tandem seating, fabric covered, tailwheel airplane. The airplane was equipped with a Continental O-200A engine, serial number 256212.

The airplane was issued a Special Airworthiness Certificate classifying it as Light-Sport Category airplane on July 25, 2006. The pilot purchased the airplane from the manufacturer on July 28, 2006.

According to the manufacturer, the airplane had a total time of 10 -13 hours prior to the accident flight.

METEOROLOGICAL INFORMATION

The local weather reported at GYY, located 10 miles south of the accident site, at 1545 was: Wind 150 degrees at 10 knots; 10 statute miles visibility; broken ceiling at 25,000 feet;

temperature 28 degrees Celsius; dew point 24 degrees Celsius; and altimeter 29.84 inches-of-mercury.

WRECKAGE AND IMPACT INFORMATION

The airplane was recovered from Lake Michigan on August 7, 2006. The wreckage was located approximately 1 mile east of the 68th street Crib (water intake plant) at a water depth of 38 feet. The surface water temperature at the time of the recovery was 68 degrees Fahrenheit. The wreckage was recovered with assistance from the Chicago Police Department Dive Unit. The wreckage was loaded onto a barge and transported to the Calumet Harbor where it was taken off the barge and transported to a secured hangar at the Porter County Airport, Valparaiso, Indiana.

As the wreckage was lifted from the water it was noted that the right wing fuel cap was missing. The divers searched the bottom of the lake where the wreckage was found and did not locate the cap. The bottom and forward sides of the engine cowling were crushed, and the propeller was cracked. The fabric skin on the top outboard section of the right wing toward the leading edge was torn. Additional crush damage to the wings and entry doors occurred during the recovery process.

Blue streaks were noted on the right wing. These streaks began aft of the fuel filler neck area and continued to the trailing edge of the wing. Blue streaks were also visible on the horizontal tail surfaces on the right side of the airplane. The fuel caps installed on the airplane were twist-on non-locking type caps.

Both the engine and airframe were examined. There were no mechanical failures/malfunctions identified which would have precluded normal operation of the flight prior to the loss of engine power.

Residual fuel was found in the left fuel tank, which primarily contained water. The right fuel tank contained only water. A mixture of fuel and water was found inside the carburetor float bowl. The fuel tanks held a total fuel quantity of 22 gallons of which 20 gallons were considered usable fuel. The airplane was equipped with a sight gauge for each fuel tank. The airplane was equipped with a fuel totalizer, which consisted of a fuel flow meter connected to the fuel inlet at the engine. The totalizer did not measure the amount of fuel in the fuel tanks. The totalizer measured fuel flow into the engine and calculated the fuel remaining based on the fuel quantity entered into the totalizer by the pilot prior to the flight.

MEDICAL AND PATHOLOGICAL INFORMATION

The body of the private pilot was located and retrieved from Lake Michigan on August 2, 2007. An autopsy was performed by the Office of the Medical Examiner, County of Cook, Illinois, on August 3, 2006.

A Forensic Toxicology Fatal Accident Report was prepared for the deceased pilot by the FAA Civil Aeromedical Institute, Oklahoma City, Oklahoma.

The results of the tests were negative with the exception of Ephedrine and Pseudoephedrine, which were both detected in the blood.

Ephedrine was sold as a stimulant, weight loss product, or decongestant in many nutritional supplements and is an asthma medication available over the counter in tablet form. Its sale was prohibited in nutritional supplements beginning in April 2004 because of side effects including high blood pressure and cardiovascular stress, which are linked with increased risk of heart attack and stroke.

Pseudoephedrine is a decongestant often known by the trade name Sudafed and is found in many multi-symptom over-the-counter preparations.

ADDITIONAL INFORMATION

CFR Part 61.56 Flight Review states:

(c) Except as provided in paragraphs (d), (e), and (g), of this section, no person may act as pilot in command of an aircraft unless, since the beginning of the 24th calendar month before the month in which the pilot acts as pilot in command, that person has -

(1) Accomplished a flight review given in an aircraft for which that pilot is rated by an authorized instructor; and

(2) A logbook endorsed from an authorized instructor who gave the review certifying that the person has satisfactorily completed the review.

CFR Part 61.31 Type rating requirements, additional training, and authorization requirements states:

(i) Additional training required for operating tailwheel airplanes.

(1) Except as provided in paragraph (i) (2) of this section, no person may act a pilot in command of a tailwheel airplane unless that person had received and logged flight training from an authorized instructor in a tailwheel airplane and received an endorsement in the person's logbook from an authorized instructor who found the person proficient in the operation of a tailwheel airplane.

A party to the investigation was the FAA.

The wreckage was released to a representative of the owner on August 11, 2006.

Pilot Information

Certificate:	Airline transport; Commercial; Flight instructor	Age:	49, Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Rear
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane single-engine	Toxicology Performed:	No
Medical Certification:	Class 1	Last FAA Medical Exam:	October 1, 2005
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	12000 hours (Total, all aircraft)		

Other flight crew Information

Certificate:	Private	Age:	57, Male
Airplane Rating(s):		Seat Occupied:	Front
Other Aircraft Rating(s):		Restraint Used:	
Instrument Rating(s):		Second Pilot Present:	Yes
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:		Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	150 hours (Total, all aircraft), 5 hours (Total, this make and model), 96 hours (Pilot In Command, all aircraft), 12 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	American Legend	Registration:	N848LC
Model/Series:	AL11C	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Special light-sport (Special)	Serial Number:	AL-1047
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	July 1, 2006	Certified Max Gross Wt.:	1320 lbs
Time Since Last Inspection:	12 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	12 Hrs	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	O-200A
Registered Owner:	Lima Charlie LLC	Rated Power:	100
Operator:	John P. Gonas	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	GYG, 591 ft msl	Distance from Accident Site:	10 Nautical Miles
Observation Time:	15:45 Local	Direction from Accident Site:	350°
Lowest Cloud Condition:		Visibility:	10 miles
Lowest Ceiling:	Broken / 25000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	150°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.84 inches Hg	Temperature/Dew Point:	28°C / 24°C
Precipitation and Obscuration:			
Departure Point:	Oshkosh, WI (OSH)	Type of Flight Plan Filed:	None
Destination:	Gary, IN	Type of Clearance:	None
Departure Time:	14:00 Local	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 Fatal, 1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal, 1 None	Latitude, Longitude:	41.776111,-87.505554

Administrative Information

Investigator In Charge (IIC):	Sullivan, Pamela
Additional Participating Persons:	Robert Donahue; FAA; West Chicago, IL Eric Thomas; Teledyne Continental Motors; Mobile, AL Kurt Sehnert; American Legend Aircraft; Sulphur Springs, TX
Original Publish Date:	November 29, 2007
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=64304

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](#).