



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Long Beach, California	Accident Number:	LAX06FA113
Date & Time:	February 12, 2006, 16:16 Local	Registration:	N6895B
Aircraft:	Cessna 210M	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane collided with shipping containers while attempting to make a precautionary landing at a pier due to a pilot perceived low fuel state. The pilot passed away several months after the accident and was never able to provide a statement. A witness, who saw the crash and responded to the site to render aid, asked the pilot what had happened. The pilot told the witness that he was trying to land due to low fuel state. First responders observed large amounts of fuel leaking out of the damaged wing tanks and from the lower forward fuselage where the header tanks and fuel lines are located. Fuel was still leaking from the airplane when Safety Board investigators arrived 2 hours after the accident. The airframe and engine were examined with no mechanical anomalies noted that would have precluded normal operation. Investigators were not able to establish at what time the pilot departed from Compton or when the pilot had last refueled the airplane. Investigators found that the alternator circuit breaker was tripped. An alternator was found in the wreckage of the cabin and examination revealed that it had a shorted internal diode. The alternator attached to the engine was missing the grounding post and the associated ground wire. The ground strap between the engine and the airframe had been disconnected, with the disconnected end weathered and worn. The airplane manufacturer's technical representative indicated that the fuel level for this airplane is sensed from a variable resistance float assembly that can indicate lower fuel levels than actual as the electrical system voltage drops. Due to the poor condition of the alternator, it is highly likely that the battery was discharging and the voltage level dropping. If that were the case, then the variable resistance float assembly for the fuel gage level would have started to show a lower than expected fuel level indication inside the cockpit leading the pilot to believe that the airplane was experiencing a low fuel state situation. Only partial maintenance records were recovered and the recent maintenance that may have been performed, if any, on the electrical system could not be determined.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: an erroneous low fuel quantity indication that led the pilot to attempt a precautionary landing in a congested and less than ideal location. The erroneous fuel level indication was due to multiple anomalies with the alternator installation that precipitated a low system voltage and adversely affected the accuracy of the fuel indicating system. The alternator anomalies were the result of inadequate maintenance by unknown persons or institutions.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION

Phase of Operation: CRUISE

Findings

1. (C) ELECTRICAL SYSTEM,ALTERNATOR - OUTPUT LOW
2. (C) MAINTENANCE,INSTALLATION - INADEQUATE - UNKNOWN
3. (C) ELECTRICAL SYSTEM,BATTERY - DISCHARGED
4. (C) ENGINE INSTRUMENTS,FUEL FLOW GAGE - UNRELIABLE
5. PRECAUTIONARY LANDING - ATTEMPTED - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: EMERGENCY LANDING

Findings

6. TERRAIN CONDITION - NONE SUITABLE
7. OBJECT - OTHER

Factual Information

HISTORY OF FLIGHT

On February 12, 2006, at 1616 Pacific standard time, a Cessna 210M, N6895B, collided with shipping containers during a forced landing on Pier J Berth 266 at the Port of Long Beach, Long Beach, California. The pilot/owner operated the airplane under the provisions of 14 CFR Part 91. The airplane was destroyed. The private pilot, the sole occupant, was seriously injured. Visual meteorological conditions prevailed for the local area flight that departed Compton/Woodley Airport (CPM), Compton, California, at an unknown time. A flight plan had not been filed.

According to witnesses, the airplane was traveling in a westbound direction near the water's edge. The airplane made a turn back towards the east, and then made a slight left turn northbound. While in the turn, the airplane flew between two shipping containers, struck the ground in a nose low attitude, and came to rest against a shipping container. The witnesses reported that they did not notice any sound coming from the engine, nor did they notice the propeller or whether it was turning or not.

A witness stated that the pilot remained secured in his seat, but was lying partially out of the airplane. Witnesses released the seat belt, and removed the pilot from the airplane. They observed fuel leaking out of the forward part of the cockpit area, as well as the wings, and put sawdust down on the fuel to soak it up. They were not able to quantify the amount of fuel, but did report, "There was a lot of fuel coming out of the airplane." A witness also reported that the pilot indicated that there was a fuel problem, but did not elaborate as to what it was.

An officer from the Long Beach Police Department interviewed a witness at the pier who heard the airplane crash, and responded to the site to render aid. The witness asked the pilot what happened. The pilot replied, 'fuel was low and I tried to land.' Two additional witness on a pilot boat traveling in a southbound direction observed the accident airplane flying low about 200 feet above ground level. They estimated the airplane's speed to be about 60 miles per hour, and it was flying in a northeast direction, approaching Pier J. The airplane struck a container and impacted the ground.

Reported weather at Long Beach Daugherty Field Airport, Long Beach, California, were winds from 290 degrees at 7 knots; visibility 10 statute miles, clear sky conditions; temperature 29 degrees Celsius; dew point minus 11 degrees Celsius; altimeter setting 30.05 inches of mercury.

The pilot succumbed to his injuries a few months following the accident and was not interviewed by the National Transportation Safety Board investigator-in-charge (IIC).

PERSONNEL INFORMATION

A review of Federal Aviation Administration (FAA) airmen records revealed that the pilot held a private pilot certificate with an airplane single engine land rating.

The pilot held a third-class medical certificate that was issued on November 24, 2004. It had the limitation that the pilot must wear corrective lenses.

No personal flight records were located for the pilot, and the aeronautical experience listed in this report was obtained from a review of the airmen FAA records on file in the Airman and Medical Records Center located in Oklahoma City, Oklahoma. These records indicated a total time of 4,500 hours.

AIRCRAFT INFORMATION

The airplane was a Cessna 210M, serial number 21062851. Current airframe and engine logbooks were not recovered for the airplane. The Safety Board IIC reviewed an airframe logbook with the number 2 written on it. An annual inspection was completed on April 20, 2005, with a total airframe time of 4,614.6 hours.

The airplane was equipped with a Teledyne Continental Motors IO-520-L8B engine, serial number 294788-R.

No fueling records were located for the airplane at either the Compton or Long Beach airports for the month of February.

WRECKAGE AND IMPACT INFORMATION

The Safety Board IIC responded to and examined the airplane at the accident site. The airplane came to rest on a magnetic heading of 030 degrees in a nose down attitude against a shipping container, about 67 feet from the first identified point of contact (FIPC), which was two shipping containers. The airplane came to rest at global positioning coordinates of 33 degrees 43.31 minutes north latitude and 118 degrees 11.14 minutes west longitude. The tail, the left landing gear, and a seat bottom separated from the airplane and were about 30 feet south of the main wreckage. The wings remained connected to the fuselage. The left wing tip fairing separated from the wing, but was lying near the wing edge in its normal location. The navigation light remained attached and intact on the wing tip. The right wing was bent about midspan, with the wing tip and navigation light remaining attached and intact. The engine remained attached to the engine mounts and firewall, with the firewall partially separated from the cockpit area. There was no visible external damage to the engine. The 3-bladed propeller remained attached to the propeller assembly, which remained connected to the engine. One propeller blade had chordwise scratching at the tip. The other two propeller blades were not visibly damaged.

The FIPC was two 17-foot shipping containers that witnesses said the airplane had flown between. The shipping containers were oriented along an east-west direction. The shipping container on the east side was gray with COSCO written on it. The other shipping container was on the west side and red. Both containers, towards the edges, contained smaller identifying markings. A 24-foot space separated the two containers. The Safety Board IIC examined both shipping containers for impact damage. The gray container showed no evidence of impact damage. The red shipping container, on the southerly facing side, showed evidence of impact damage. A black transfer mark was located on the shipping container about midspan of the container, and 4 feet down from the top of the container. The mark went up and towards the outer east side edge of the shipping container and measured 76 inches at a 10-degree angle in an upward direction. The top corner portion, about 2 feet inboard from the edge of the container, had a semicircular impression in it, and the adjacent top corner of the shipping container contained white paint transfer.

The left horizontal stabilizer's leading edge had a black rubber boot. A red paint transfer mark was on the black rubber section. The airplane's fuselage was torn open from the pilot's side door to the empennage. A red paint transfer mark similar in color to the red shipping container was along the length of the fuselage.

During the recovery, fuel was leaking out of multiple areas of both the left and right wings.

TESTS AND RESEARCH

The Safety Board IIC and the Cessna Aircraft Company manufacturer's representative, a party to the investigation, examined the wreckage in detail at Aircraft Recovery Service, Littlerock, California, on July 18, 2006. Investigators noted a tachometer time of 4,666.3 hours.

A visual examination of the airframe and engine revealed no obvious mechanical failures or malfunctions. The airframe manufacturer reported that the airplane had a fully equipped instrument flight rules (IFR) panel. Investigators established flight control continuity. The fuel selector was selected to the right fuel tank. The fuel lines from the cockpit to the engine were open and clear of debris. Investigators were also able to manually actuate the throttle, mixture, and propeller arms in the cockpit. Investigators noted corresponding movement at the engine.

Investigators found that the alternator circuit breaker had been tripped. A spare alternator had been found in the wreckage and examination revealed that it had a shorted internal diode. The alternator attached to the engine was missing the grounding post and the associated ground wire. The ground strap between the engine and the airframe had been disconnected, with the disconnected end showing as weathered. The airplane manufacturer indicated that the fuel level for this airplane is sensed from a variable resistance float assembly that can indicate lower fuel levels than actual as battery voltage drops.

The Safety Board IIC established valve train and mechanical continuity through manual rotation of the crankshaft. There were no mechanical malfunctions that would have precluded normal operation.

ADDITIONAL INFORMATION

The IIC released the wreckage to the owner's representative.

Pilot Information

Certificate:	Private	Age:	75,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Unknown
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	Last FAA Medical Exam:	November 1, 2004
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	4500 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N6895B
Model/Series:	210M	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	21062851
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	April 1, 2004 Annual	Certified Max Gross Wt.:	3800 lbs
Time Since Last Inspection:	50 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	4666.3 Hrs at time of accident	Engine Manufacturer:	Teledyne Continental
ELT:	Installed, not activated	Engine Model/Series:	IO-520-L
Registered Owner:	Antonio M. Smith	Rated Power:	300 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Dusk
Observation Facility, Elevation:	LGB,60 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	15:53 Local	Direction from Accident Site:	200°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	9 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	290°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.04 inches Hg	Temperature/Dew Point:	29°C / -11°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	COMPTON, CA (CPM)	Type of Flight Plan Filed:	None
Destination:	(CPM)	Type of Clearance:	None
Departure Time:		Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	33.731109,-118.18972

Administrative Information

Investigator In Charge (IIC): Cornejo, Tealeye

Additional Participating Persons: Bob Woods; Federal Aviation Administration; Long Beach, CA
Mike Koonce; Cessna Aircraft Company; Wichita, KS
Eric Thomas; Teledyne Continental Motors; Mobile, AL

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Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=63228>

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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](#).