



National Transportation Safety Board Aviation Accident Final Report

Location:	Goodyear, AZ	Accident Number:	LAX04LA111
Date & Time:	02/01/2004, 1100 MST	Registration:	N2234S
Aircraft:	Cessna T210L	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 Serious, 1 Minor, 1 None
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The airplane experienced a forced landing after a loss of power due to fuel exhaustion. The pilot stated that they had departed Burbank, California, en route to Gila Bend, Arizona, where they were going to refuel. The pilot reported to FAA inspectors that he had fueled the airplane to its 90-gallon capacity the day before the accident and had flown the airplane for 1 hour after that. During the accident flight, the pilot had used a richer mixture to aid in cooling one cylinder. He told the inspector that this may have led to a miscalculation of the fuel consumption during the flight. As the flight neared the vicinity of Gila Bend, the pilot contacted Albuquerque Air Route Traffic Control Center (ARTCC) and reported a low fuel situation and that he was going to land at Gila Bend for fuel. The controller contacted the Gila Bend airport and determined that there was no fuel available there and suggested that the pilot should divert to another airport. They then headed towards Buckeye Municipal Airport, but were later notified by ARTCC that Buckeye also did not have fuel. At this time they diverted to the Phoenix Goodyear Airport and advised the tower that they were low on fuel and coming in to land. As they approached the airport, the pilot switched fuel tanks but the airplane exhibited signs of fuel exhaustion. The engine lost power, and the pilot landed in a plowed field about 1 mile from the airport. Post accident inspection by FAA inspectors found no fuel onboard the airplane. All fuel lines and tanks were intact. The inspectors found no evidence of a fuel leak. According to the Pilot's Operating Handbook, the Cessna T210L has a fuel capacity of 90 gallons; .5 gallons are unusable on each side. According to the engine's manufacturer, the average fuel burn is about 18 gallons per hour at 75 percent horsepower.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate fuel consumption calculations and in-flight planning/decision, which resulted in fuel exhaustion.

Findings

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

Findings

1. (C) FLUID,FUEL - EXHAUSTION
2. (C) FUEL CONSUMPTION CALCULATIONS - INADEQUATE - PILOT IN COMMAND
3. (C) IN-FLIGHT PLANNING/DECISION - INADEQUATE - PILOT IN COMMAND

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

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

Findings

4. TERRAIN CONDITION - GROUND

Factual Information

On February 1, 2004, about 1100 mountain standard time, a Cessna T210L, N2234S, landed off airport near the Phoenix Goodyear Airport, Goodyear, Arizona, following a loss of engine power. The pilot/owner was operating the airplane under the provisions of 14 CFR Part 91. The private pilot and one passenger sustained serious injuries, one passenger sustained minor injuries, and one passenger was uninjured. The airplane sustained substantial damage. The personal cross-country flight departed Bob Hope Airport, Burbank, California, at an undetermined time en route to Gila Bend Municipal Airport, Gila Bend, Arizona. Visual meteorological conditions prevailed, and no flight plan had been filed.

A sheriff's deputy interviewed the pilot and the front seat passenger after the accident. The pilot stated that they departed Burbank in the morning for a sightseeing flight in Arizona. They had decided to stop at Gila Bend for fuel. The passenger reported that they had enough fuel to fly from Burbank to Gila Bend.

In a statement to a Federal Aviation Administration (FAA) inspector, the pilot reported that he had fueled the airplane to its 90-gallon capacity the day before the accident and had flown the airplane for 1 hour after that. During the accident flight, the pilot had used a richer mixture to aid in cooling one cylinder. He told the inspector that this may have led to a miscalculation of the fuel consumption during the flight.

As the flight neared the vicinity of Gila Bend, the pilot contacted Albuquerque Air Route Traffic Control Center (ARTCC) and reported a low fuel situation and that he was going to land at Gila Bend for fuel. The controller contacted the Gila Bend airport and determined that there was no fuel available there and suggested that the pilot should divert to another airport. They then headed towards Buckeye Municipal Airport, but were later notified by center that Buckeye also did not have fuel. At this time they diverted to the Phoenix Goodyear Airport and advised the tower that they were low on fuel and coming in to land.

As they approached the airport, they switched to the other fuel tank. It went from 1/8 tank to empty in 15 minutes. They decreased their speed in an effort to conserve fuel. Near the airport, the airplane exhibited signs of fuel exhaustion. The pilot did not believe he was going to make the runway. The airplane lost power, and the pilot landed in a plowed field about 1 mile from the Phoenix Goodyear airport. The airplane sustained damage to the main landing gear and to the fuselage.

Post accident inspection by FAA inspectors found no fuel onboard the airplane. All fuel lines and tanks were intact. The inspectors found no evidence of a fuel leak.

According to the Pilot's Operating Handbook, the Cessna T210L has a fuel capacity of 90 gallons; .5 gallons are unusable on each side. According to the engine's manufacturer, the average fuel burn is about 18 gallons per hour at 75 percent horsepower.

Pilot Information

Certificate:	Private	Age:	54, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	12/12/2001
Occupational Pilot:		Last Flight Review or Equivalent:	01/02/2002
Flight Time:	1425 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N2234S
Model/Series:	T210L	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	21061179
Landing Gear Type:	Retractable - Tricycle	Seats:	
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	3800 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	2406 Hours at time of accident	Engine Manufacturer:	Continental
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	TSIO-520-H
Registered Owner:	Thomas J. Frith-Smith	Rated Power:	285 hp
Operator:	Thomas J. Frith-Smith	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	PHX, 1103 ft msl	Distance from Accident Site:	18 Nautical Miles
Observation Time:	1056 MST	Direction from Accident Site:	90°
Lowest Cloud Condition:	Scattered / 25000 ft agl	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	Calm /	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.05 inches Hg	Temperature/Dew Point:	12° C / -8° C
Precipitation and Obscuration:			
Departure Point:	Burbank, CA (BUR)	Type of Flight Plan Filed:	None
Destination:	Goodyear, AZ (GYR)	Type of Clearance:	VFR
Departure Time:	PST	Type of Airspace:	Class D

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	1 Serious, 1 Minor, 1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Serious, 1 Minor, 1 None	Latitude, Longitude:	33.416667, -112.366667

Administrative Information

Investigator In Charge (IIC):	HOWARD D PLAGENS	Report Date:	12/28/2004
Additional Participating Persons:	Bruce Bessette; Federal Aviation Administration; Scottsdale, AZ Greg W Schmidt; Cessna Aircraft Company; Wichita, KS		
Publish Date:			
Investigation Docket:	NTSB accident and incident docket 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 pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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