



# Aviation Investigation Final Report

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<b>Location:</b>	CARTAGO, California	<b>Accident Number:</b>	LAX95LA201
<b>Date &amp; Time:</b>	June 3, 1995, 11:00 Local	<b>Registration:</b>	N2198Z
<b>Aircraft:</b>	CESSNA 180F	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 Serious
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

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## Analysis

WHILE FLYING OVER THE SIERRA NEVADA MOUNTAINS, THE PILOT AND PASSENGER NOTED THAT THE SNOW HAD MELTED FROM THE TEMPLETON MEADOWS AIRSTRIP AND THE PILOT DECIDED TO DO A LOW PASS TO CHECK THE SURFACE OF THE AIRSTRIP FOR A POTENTIAL CAMPING TRIP THE NEXT WEEK. THE FOREST SERVICE ACCESS DIRT AIRSTRIP IS IN A MOUNTAIN MEADOW AT 8,700 FEET MSL AND SURROUNDED BY RISING MOUNTAINOUS TERRAIN. THE DENSITY ALTITUDE WAS CALCULATED TO BE ABOUT 10,700 FEET. THE PILOT SAID THAT DURING THE LOW PASS OVER THE UNIMPROVED FIELD HE EXPERIENCED A DOWNDRAFT THAT RESULTED IN A 300 FOOT PER MINUTE DESCENT. THE PILOT SAID HE ADJUSTED THE AIRPLANE TO MAXIMUM CLIMB ANGLE TO TRY AND GET A POSITIVE CLIMB RATE AND CLEAR THE RISING TERRAIN IN HIS FLIGHT PATH. AT 300 FEET AGL, THE PILOT DID NOT THINK HE WAS GOING TO BE ABLE TO CLEAR THE MOUNTAINS AHEAD, SO HE ELECTED TO TURN TOWARD AN OPEN AREA TOWARD LOWER GROUND. WHILE EXECUTING THE MANEUVER, THE AIRPLANE COLLIDED WITH A TREE, IMPACTED THE GROUND, AND CAME TO REST INVERTED. ON-SITE EXAMINATION OF THE AIRCRAFT BY A TECHNICAL REP FROM CESSNA AND THE US FOREST SERVICE FOUND THE FLAPS EXTENDED TO 40 DEGREES. THE AIRFRAME AND ENGINE WERE EXAMINED AND NO MECHANICAL FAILURES WERE FOUND.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's inflight decision to attempt a low pass over a mountain airstrip at a high density altitude atmospheric condition, and, his failure to retract the flaps during the climb-out from the pass. The rising mountainous terrain surrounding the landing strip, downdrafts, and the high density altitude condition were factors in the accident.

## Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: MANEUVERING

### Findings

1. (F) TERRAIN CONDITION - MOUNTAINOUS/HILLY
2. (F) WEATHER CONDITION - HIGH DENSITY ALTITUDE
3. (F) WEATHER CONDITION - DOWNDRAFT
4. (C) IN-FLIGHT PLANNING/DECISION - INADEQUATE - PILOT IN COMMAND
5. AIRCRAFT PERFORMANCE, CLIMB CAPABILITY - EXCEEDED
6. (C) FLAPS - IMPROPER USE OF - PILOT IN COMMAND
7. OBJECT - TREE(S)

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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

## Factual Information

On June 3, 1995, at 1100 hours Pacific daylight time, a Cessna 180F, N2198Z, collided with a tree after a low pass at Templeton Meadows Airstrip, 10.5 statute miles west of Cartago, California. The aircraft was owned and operated by the pilot and was on a personal flight. The aircraft was substantially damaged. The certificated airline transport pilot and his passenger were seriously injured. The flight originated at Saline Valley Hot Springs private airstrip, 21.5 statute miles northeast of Lone Pine, California, at 1000 hours for a destination of Hanford Municipal Airport, Hanford, California. Visual meteorological conditions prevailed.

The aircraft was examined by the Forest Service area division chief. He reported the elevation of Templeton Meadows Airstrip is about 8,500 feet msl. The aircraft's right wing collided with a tree branch at a height of about 30 feet agl. The propeller broke off at engine crankshaft flange and was observed to have symmetrical damage. The throttle and propeller control were full forward. The mixture control was 1 inch out. The flaps were set at 40 degrees and the trim pitch was 1 inch nose up. The division chief stated his opinion that the aircraft collided with a tree while executing a low pass over a high-altitude remote dirt strip in mountainous terrain.

The pilot was interviewed by telephone on June 8. He reported that they passed over the Strawberry Meadows area of the Sierra Nevada Mountains and noted that the snow had melted around the Templeton Airstrip. The pilot and his passenger intended to return to the area in the next several weeks and the pilot decided to make a low pass over the airstrip to check for general condition of the runway. While performing the low pass at an altitude he said was 500 feet agl, he "encountered a downdraft or thermal which was greater than the ability of the aircraft to climb at that density altitude." The aircraft could not outclimb the rising terrain and the right wing collided with a tree. The pilot reported that the winds were generally calm and the temperature was warm. The pilot stated that there were no mechanical malfunctions or failures of the engine.

On June 21, 1995, the engine was examined at a storage facility in Santa Paula, California, with the assistance of a technical representative of Teledyne Continental Motors. A portion of the number 5 cylinder head was broken off by impact forces in the area of the intake port and the associated rocker cover was broken open. The crankshaft was rotated by hand and mechanical continuity was established throughout the engine. Cylinders number 1 through 4 and 6 produced compression when the crankshaft was rotated. The engine manufacturer's technical representative stated that cylinder number 5 did not produce compression because of the previously described impact damage. Both magnetos produced spark in proper sequence when the crankshaft was rotated. Fuel was present, and its appearance and odor was consistent with 80/87 Avgas. No evidence of any preimpact malfunction was noted.

## Pilot Information

<b>Certificate:</b>	Airline transport	<b>Age:</b>	35, Male
<b>Airplane Rating(s):</b>	Single-engine land; Single-engine sea; Multi-engine land; Multi-engine sea	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	Glider; Helicopter	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane; Helicopter	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	Helicopter	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	March 31, 1995
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	4200 hours (Total, all aircraft), 500 hours (Total, this make and model), 3900 hours (Pilot In Command, all aircraft), 25 hours (Last 90 days, all aircraft), 8 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	CESSNA	<b>Registration:</b>	N2198Z
<b>Model/Series:</b>	180F 180F	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	51298
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	August 7, 1994 Annual	<b>Certified Max Gross Wt.:</b>	2650 lbs
<b>Time Since Last Inspection:</b>	154 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	3876 Hrs	<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>	Installed, activated, aided in locating accident	<b>Engine Model/Series:</b>	O-470-R
<b>Registered Owner:</b>	CHARLES ALFRED LEES	<b>Rated Power:</b>	230 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>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>		<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	60 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	0°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>		<b>Temperature/Dew Point:</b>	16°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	LONE PINE , CA	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	HANFORD , CA (O18 )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	10:00 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	TEMPLETON MEADOWS STRIP	<b>Runway Surface Type:</b>	Dirt
<b>Airport Elevation:</b>	8700 ft msl	<b>Runway Surface Condition:</b>	Wet
<b>Runway Used:</b>	0	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	None

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Serious	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	1 Serious	<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

**Investigator In Charge (IIC):** Rich, Jeff

**Additional Participating Persons:** LARRY A DE COSTA; FRESNO , CA  
MICHAEL J GRIMES; MOBILE , AL  
JOSEPH A HUTTERER; WICHITA , KS

**Original Publish Date:** November 30, 1995

**Last Revision Date:**

**Investigation Class:** [Class](#)

**Note:**

**Investigation Docket:** <https://data.nts.gov/Docket?ProjectID=29108>

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