



# Aviation Investigation Final Report

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|--------------------------------|--------------------------------------|-------------------------|-------------|
| <b>Location:</b>               | COMPTON, California                  | <b>Accident Number:</b> | LAX98LA067  |
| <b>Date &amp; Time:</b>        | January 3, 1998, 16:35 Local         | <b>Registration:</b>    | N9406X      |
| <b>Aircraft:</b>               | Cessna 210                           | <b>Aircraft Damage:</b> | Substantial |
| <b>Defining Event:</b>         |                                      | <b>Injuries:</b>        | 2 Minor     |
| <b>Flight Conducted Under:</b> | Part 91: General aviation - Personal |                         |             |

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## Analysis

Following loss of engine power, an emergency off-airport landing was made on a city street. Examination of the aircraft revealed an abraded solid aluminum fuel line between the fuel selector valve and the engine. When the fuel selector valve was turned on, a knife-shaped stream of fuel emanated from the line. When viewed with an inspection mirror, the abraded area appeared V-shaped (grooved) and there was a hole approximately 1/16-inch diameter through the wall of the tube at the deepest part of the groove. Dried, crusty fuel stains were present on the fuel line over a distance of approximately 2 inches. Adjacent to the area of the leak there was a BNC-type antenna connector on an unused marker beacon antenna mounted on the lower fuselage. An annual and pre-buy inspection was performed on the aircraft 2.6 months prior to the accident. The hangar proprietor reported that the aircraft had leaked fuel onto the hangar floor since some time before the inspection, and the aircraft's previous owner had turned off the fuel selector to stop the leaking. The aircraft had flown approximately 10 hours since the inspection.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure of maintenance personnel to adequately inspect the aircraft during an annual inspection to detect a chafed and leaking engine fuel supply line.

## Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF

Phase of Operation: APPROACH

### Findings

1. (C) FLUID,FUEL - STARVATION
  2. (C) FUEL SYSTEM,LINE - CHAFED
  3. (C) FUEL SYSTEM,LINE - LEAK
  4. (C) MAINTENANCE,INSPECTION - INADEQUATE - OTHER MAINTENANCE PERSONNEL
  5. (C) MAINTENANCE,ANNUAL INSPECTION - INADEQUATE - OTHER MAINTENANCE PERSONNEL
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Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

### Findings

6. TERRAIN CONDITION - RESIDENTIAL AREA
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Occurrence #3: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: EMERGENCY DESCENT/LANDING

### Findings

7. OBJECT - UTILITY POLE
  8. OBJECT - WIRE,TRANSMISSION
- 

Occurrence #4: ON GROUND/WATER COLLISION WITH OBJECT

Phase of Operation: EMERGENCY LANDING

### Findings

9. OBJECT - WALL/BARRICADE

## Factual Information

On January 3, 1998, at 1635 hours Pacific standard time, a Cessna 210, N9406X, was substantially damaged when it collided with a telephone pole and two cars during an off-airport, emergency landing at Compton, California. The private pilot and one passenger received minor injuries. Visual meteorological conditions prevailed for the personal flight which originated at Long Beach at 1627.

The pilot reported that the engine started "popping" and lost power while at 1,500 feet agl on approach to the Compton airport. He did not have sufficient engine power to reach the runway and landed on the city street about 2 miles east of the airport.

Examination of the aircraft by the Safety Board revealed an abraded solid aluminum fuel line between the fuel selector valve and the engine. When the fuel selector valve was turned on, a knife-shaped stream of fuel emanated from the line. When viewed with an inspection mirror, the abraded area appeared V-shaped (grooved) and there was a hole approximately 1/16-inch diameter through the wall of the tube at the deepest part of the groove. Dried, crusty fuel stains were present on the fuel line over a distance of approximately 2 inches. The line was under the floor of the cabin, forward of the right front passenger seat, and aft of the firewall. Adjacent to the area of the leak there was a BNC-type antenna connector on an unused marker beacon antenna mounted on the lower fuselage.

The pilot involved in the accident had recently purchased the aircraft. An annual and pre-buy inspection was performed on the aircraft 2.6 months prior to the accident. According to the hangar proprietor, the aircraft had leaked fuel onto the hangar floor since some time before the inspection. The previous owner of the aircraft turned the fuel off at the fuel selector valve to stop the leak.

## Pilot Information

|                                  |  |  |                  |
|----------------------------------|--|--|------------------|
| <b>Certificate:</b>              | Private  | <b>Age:</b>                              | 50, Male         |
| <b>Airplane Rating(s):</b>       | Single-engine land   | <b>Seat Occupied:</b>                    | Left             |
| <b>Other Aircraft Rating(s):</b> | None   | <b>Restraint Used:</b>                   |                  |
| <b>Instrument Rating(s):</b>     | None   | <b>Second Pilot Present:</b>             | No               |
| <b>Instructor Rating(s):</b>     | None   | <b>Toxicology Performed:</b>             | No               |
| <b>Medical Certification:</b>    | Class 3 Valid Medical-w/<br>waivers/lim  | <b>Last FAA Medical Exam:</b>            | October 10, 1996 |
| <b>Occupational Pilot:</b>       | No   | <b>Last Flight Review or Equivalent:</b> |                  |
| <b>Flight Time:</b>              | 157 hours (Total, all aircraft), 10 hours (Total, this make and model), 74 hours (Pilot In Command, all aircraft), 27 hours (Last 90 days, all aircraft), 18 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft) |  |                  |

## Aircraft and Owner/Operator Information

|                                      |  |                                       |                 |
|--------------------------------------|--|---------------------------------------|-----------------|
| <b>Aircraft Make:</b>                | Cessna   | <b>Registration:</b>                  | N9406X          |
| <b>Model/Series:</b>                 | 210 210  | <b>Aircraft Category:</b>             | Airplane        |
| <b>Year of Manufacture:</b>          |  | <b>Amateur Built:</b>                 |                 |
| <b>Airworthiness Certificate:</b>    | Normal   | <b>Serial Number:</b>                 | 21057706        |
| <b>Landing Gear Type:</b>            | Retractable - Tricycle                                 | <b>Seats:</b>                         | 4               |
| <b>Date/Type of Last Inspection:</b> | October 15, 1997 Annual                                | <b>Certified Max Gross Wt.:</b>       | 2900 lbs        |
| <b>Time Since Last Inspection:</b>   | 14 Hrs   | <b>Engines:</b>                       | 1 Reciprocating |
| <b>Airframe Total Time:</b>          | 2359 Hrs   | <b>Engine Manufacturer:</b>           | Continental     |
| <b>ELT:</b>                          | Installed, activated, did not aid in locating accident | <b>Engine Model/Series:</b>           | IO-470-E        |
| <b>Registered Owner:</b>             | EDWARD G. MARTELL                                      | <b>Rated Power:</b>                   | 260 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>                  | Dusk             |
| <b>Observation Facility, Elevation:</b> | LGB ,57 ft msl                   | <b>Distance from Accident Site:</b>         | 6 Nautical Miles |
| <b>Observation Time:</b>                | 16:56 Local                      | <b>Direction from Accident Site:</b>        | 150°             |
| <b>Lowest Cloud Condition:</b>          | Scattered / 4200 ft AGL          | <b>Visibility</b>                           | 10 miles         |
| <b>Lowest Ceiling:</b>                  | None                             | <b>Visibility (RVR):</b>                    |                  |
| <b>Wind Speed/Gusts:</b>                | 6 knots /                        | <b>Turbulence Type Forecast/Actual:</b>     | /                |
| <b>Wind Direction:</b>                  | 180°                             | <b>Turbulence Severity Forecast/Actual:</b> | /                |
| <b>Altimeter Setting:</b>               | 29 inches Hg                     | <b>Temperature/Dew Point:</b>               | 16°C / 13°C      |
| <b>Precipitation and Obscuration:</b>   | No Obscuration; No Precipitation |   |                  |
| <b>Departure Point:</b>                 | LONG BEACH , CA (LGB )           | <b>Type of Flight Plan Filed:</b>           | None             |
| <b>Destination:</b>                     | (CPM )                           | <b>Type of Clearance:</b>                   | None             |
| <b>Departure Time:</b>                  | 16:27 Local                      | <b>Type of Airspace:</b>                    | Class E          |

## Airport Information

|                             |                 |                                  |                            |
|-----------------------------|-----------------|----------------------------------|----------------------------|
| <b>Airport:</b>             | COMPTON CPM     | <b>Runway Surface Type:</b>      | Asphalt                    |
| <b>Airport Elevation:</b>   | 97 ft msl       | <b>Runway Surface Condition:</b> | Dry                        |
| <b>Runway Used:</b>         | 25L             | <b>IFR Approach:</b>             | None                       |
| <b>Runway Length/Width:</b> | 3670 ft / 60 ft | <b>VFR Approach/Landing:</b>     | Forced landing;Straight-in |

## Wreckage and Impact Information

|                            |         |                             |                            |
|----------------------------|---------|-----------------------------|----------------------------|
| <b>Crew Injuries:</b>      | 1 Minor | <b>Aircraft Damage:</b>     | Substantial                |
| <b>Passenger Injuries:</b> | 1 Minor | <b>Aircraft Fire:</b>       | None                       |
| <b>Ground Injuries:</b>    | N/A     | <b>Aircraft Explosion:</b>  | None                       |
| <b>Total Injuries:</b>     | 2 Minor | <b>Latitude, Longitude:</b> | 33.870883,-118.210823(est) |

## Administrative Information

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|--|---|
| <b>Investigator In Charge (IIC):</b>     | Parker, Richard   |
| <b>Additional Participating Persons:</b> | CLAIR MELTON; LOS ANGELES , CA<br>MICHAEL J GRIMES; MOBILE , AL                                       |
| <b>Original Publish Date:</b>            | February 15, 2001   |
| <b>Last Revision Date:</b>               |   |
| <b>Investigation Class:</b>              | <a href="#">Class</a>   |
| <b>Note:</b>                             |   |
| <b>Investigation Docket:</b>             | <a href="https://data.nts.gov/Docket?ProjectID=30017">https://data.nts.gov/Docket?ProjectID=30017</a> |

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](#).