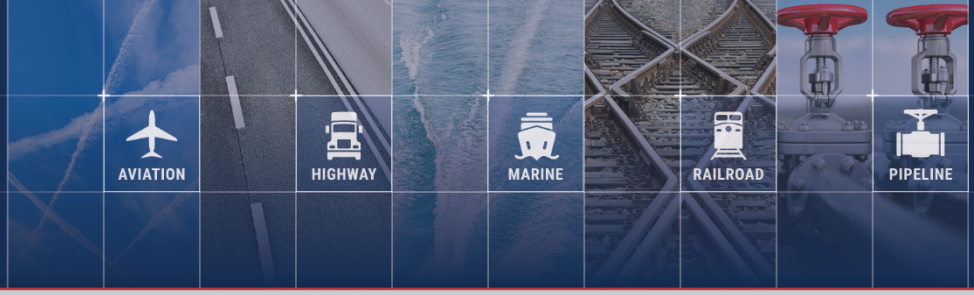


# Aviation Investigation Factual Report

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| **Location:** | Boyd, Texas | **Accident Number:** | CEN12FA311 |
| **Date & Time:** | May 20, 2012, 19:30 Local | **Registration:** | N29112 |
| **Aircraft:** | Cessna T210L | **Aircraft Damage:** | Substantial |
| **Defining Event:** | Controlled flight into terr/obj (CFIT) | **Injuries:** | 1 Fatal, 3 Serious |
| **Flight Conducted Under:** | Part 91: General aviation - Personal | | |

On May 20, 2012, at 1930 central daylight time a Cessna T210L, N29112, registered to and owned by the pilot, was substantially damaged when it impacted trees and the ground during a go-around maneuver at a private grass airstrip near Boyd, Texas. There were 4 occupants onboard. The private pilot sustained fatal injuries and 3 passengers sustained serious injuries. Visual meteorological conditions prevailed in the vicinity and no flight plan was filed for the 14 Code of Federal Regulations Part 91 flight. The personal cross-country flight originated at 1800 from the Shreveport Downtown Airport (DTN), Shreveport, Louisiana, and the private airstrip was its final destination.

Several residents of the area located in the vicinity of the airstrip saw the airplane on what seemed to be a normal approach toward the airstrip before the airplane was no longer visible behind tree lines. One passenger who survived, who occupied the right front seat, stated that the wind was calm during the approach and that the airplane had not touched by about mid-field, at which time the pilot decided to initiate a go-around. The passenger stated that during the go-around climb out, the pilot retracted the flaps.The airplane collided with the top of a tree line located perpendicular to the departure end of the runway. After the collision, the airplane rolled to the left, struck more trees and impacted the ground. A post-impact fire ensued. The three passengers were able to exit the airplane and were transported to a local hospital. The seat belt restrained pilot succumbed to injuries at the accident site.

## Pilot Information

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| **Certificate:** | Private | **Age:** | 46 |
| **Airplane Rating(s):** | Single-engine land | **Seat Occupied:** | Left |
| **Other Aircraft Rating(s):** | None | **Restraint Used:** | 3-point |
| **Instrument Rating(s):** | None | **Second Pilot Present:** | Yes |
| **Instructor Rating(s):** | None | **Toxicology Performed:** | Yes |
| **Medical Certification:** | Class 3 Without waivers/limitations | **Last FAA Medical Exam:** | November 2, 2010 |
| **Occupational Pilot:** | No | **Last Flight Review or Equivalent:** | September 18, 2011 |
| **Flight Time:** | (Estimated) 417 hours (Total, all aircraft), 60 hours (Total, this make and model), 3 hours (Last 24 hours, all aircraft) | | |

The pilot had recently transitioned from a 1960 Cessna 210 to the 1973 Cessna T210 accident airplane. He held a private pilot certificate (Airplane Single Engine Land), and had a valid FAA third class medical certificate dated November 2, 2010. At the time of the November 2nd medical application, the pilot reported 335 total hours of flight time. A review of the pilot's logbooks and interviews with his associates showed that he had a total of about 416 hours of flight time at the time of the accident. Family and friends of the pilot reported that he was a conscientious and meticulous pilot and was proficient in flying the T210.

## Aircraft and Owner/Operator Information

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| **Aircraft Make:** | Cessna | **Registration:** | N29112 |
| **Model/Series:** | T210L | **Aircraft Category:** | Airplane |
| **Year of Manufacture:** | | **Amateur Built:** | |
| **Airworthiness Certificate:** | Normal | **Serial Number:** | 21059805 |
| **Landing Gear Type:** | Retractable - Tricycle | **Seats:** | 6 |
| **Date/Type of Last Inspection:** | April 21, 2011 Annual | **Certified Max Gross Wt.:** | 3800 lbs |
| **Time Since Last Inspection:** | | **Engines:** | 1 Reciprocating |
| **Airframe Total Time:** | 3698.7 Hrs at time of accident | **Engine Manufacturer:** | CONT MOTOR |
| **ELT:** | Installed, not activated | **Engine Model/Series:** | TSIO-520 SER |
| **Registered Owner:** | Steven Dauenhauer | **Rated Power:** | 300 Horsepower |
| **Operator:** | Steven Dauenhauer | **Operating Certificate(s) Held:** | None |

The airplane, a 1973 model Cessna T210 was purchased by the pilot on April 2, 2012. The airplane's most recent annual inspection was completed on April 21, 2011. A review of the airplane's logbooks showed that it had about 3,698 hours total time. The engine, a Continental TSIO-520-H4B, had about 1,441 hours since it's most recent major overhaul. No uncorrected mechanical anomalies were found in the airframe or engine records.

## Meteorological Information and Flight Plan

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| **Conditions at Accident Site:** | Visual (VMC) | **Condition of Light:** | Day |
| **Observation Facility, Elevation:** | LUD,1047 ft msl | **Distance from Accident Site:** | 18 Nautical Miles |
| **Observation Time:** | 19:35 Local | **Direction from Accident Site:** | 350° |
| **Lowest Cloud Condition:** | Clear | **Visibility** | 10 miles |
| **Lowest Ceiling:** | None | **Visibility (RVR):** | |
| **Wind Speed/Gusts:** | 3 knots / None | **Turbulence Type Forecast/Actual:** | / |
| **Wind Direction:** | 130° | **Turbulence Severity Forecast/Actual:** | / |
| **Altimeter Setting:** | 30.07 inches Hg | **Temperature/Dew Point:** | 28°C / 10°C |
| **Precipitation and Obscuration:** | | | |
| **Departure Point:** | Shreveport, LA (DTN ) | **Type of Flight Plan Filed:** | None |
| **Destination:** | Boyd, TX (0000) | **Type of Clearance:** | None |
| **Departure Time:** | 18:00 Local | **Type of Airspace:** | Class G |

The nearest weather reporting station was located at Decatur, Texas, about 10 miles north of the accident site. Visual meteorological conditions prevailed throughout the area. Winds were reported as light from 130 degrees at 3 knots. Skies were clear and visibility was 10 miles.

## Airport Information

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| **Airport:** | Dauenhauer Field (Private) 0000 | **Runway Surface Type:** | Grass/turf |
| **Airport Elevation:** | 906 ft msl | **Runway Surface Condition:** | Dry |
| **Runway Used:** | 35 | **IFR Approach:** | None |
| **Runway Length/Width:** | 1800 ft / 50 ft | **VFR Approach/Landing:** | Go around;Straight-in |

## Wreckage and Impact Information

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| **Crew Injuries:** | 1 Fatal | **Aircraft Damage:** | Substantial |
| **Passenger Injuries:** | 3 Serious | **Aircraft Fire:** | On-ground |
| **Ground Injuries:** | N/A | **Aircraft Explosion:** | None |
| **Total Injuries:** | 1 Fatal, 3 Serious | **Latitude, Longitude:** | 33.022499,-97.636665(est) |

Several broken/damaged tree branches atop two 30-foot tall trees were found beyond the departure end of the 1,800-foot grass runway near the extended runway centerline, consistent with the airplane's flight path. The airplane wreckage was found beyond the damaged trees and appeared to impact the ground inverted. Evidence at the accident site showed that the airplane had contacted three separate trees before coming to rest inverted on top of a small wooden well house structure. The left outboard balance weight and fiberglass tip fairing were found near the second tree along the right side of the energy path. The post-impact fire consumed a majority of the cabin, fuselage and inboard wing sections. Primary flight control continuity was established from the cockpit to the flight control surfaces. The elevator trim cable continuity was established from the cabin floor area to the actuator. The elevator trim tab was observed approximately 5degrees tab down (nose up) position. The flaps and flap actuator were in the retracted position. The ailerons, elevators, and rudder were attached to their respective fixed attachment points. The fuel tanks were compromised and the fuel selector valve was found in the right tank position. The right tank finger screen was found not obstructed. The post-impact fire damage prevented investigators from documenting cockpit switch positions. No pre-impact anomalies were discovered during the airframe examinations.

The engine and propeller assemblies were transported to a secured facility for examination. The engine was intact with severe fire damage. All of the accessories were separated during the impact with the exception of the propeller governor, fuel pump, starter, and alternator. The vacuum pump was also still attached to the engine. The number two cylinder head was separated and the number four and six rocker covers were burned away. Part of the oil sump was burned away and a hole was burned in the crankcase halves below the magneto attachment points. The top spark plugs and rocker arms were removed, but the crankshaft could not be rotated due to thermal and impact damage. The cylinders were examined using a lighted borescope. With the exception of the number two cylinder, normal combustion deposits were observed on the heads and the cylinder domes. The valves were in place and not damaged. Other than the severe thermal and impact damage, no pre-impact anomalies were discovered during the engine examination.

The three bladed propeller assembly and propeller spinner showed evidence of rotation at impact.

## Tests and Research

The pilot had recently purchased the 1973 Cessna T210L. He had previously flown a 1960 Cessna 210. The passenger reported that the pilot had retracted the flaps after he initiated the go-around, about midfield of the 1,800 foot long runway. The 1960 Cessna 210 hydraulic flaps may be stopped in any intermediate position between retracted and extended. This is done by releasing the flap control handle which is spring-loaded to return to its center (off) position. The 'After Takeoff' (or go-around) procedure in the 1960 Cessna 210 is: Retract the wings flaps at a safe altitude and airspeed. The 1973 Cessna T210L electric flap control lever detent determines the stopping position of the flaps. 1973 Cessna T210L Go-Around procedure is: The wing flap setting should be reduced to 20 degrees immediately after full power is applied. After all obstacles are cleared and a safe altitude and airspeed are obtained, the wing flaps should be retracted.

Estimated weight and balance calculations showed that the airplane was within limits for takeoff from

Shreveport and landing at Boyd.

## Additional Information

The wreckage was released to the owner's representative.

## Administrative Information

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| **Investigator In Charge (IIC):** | Lemishko, Alexander |
| **Additional Participating Persons:** | Gary Weeks; FAA FSDO Fort Worth; Fort Worth, TX<br>Jan Smith; Cessna ; Wichita, KS |
| **Report Date:** | September 9, 2014 |
| **Last Revision Date:** | |
| **Investigation Class:** | Class |
| **Note:** | The NTSB traveled to the scene of this accident. |
| **Investigation Docket:** | https://data.ntsb.gov/Docket?ProjectID=83719 |