# Aircraft Mishap Report
# Cessna Aircraft Company

Cessna
A Textron Company

Year: 1964 Model: 310I

Serial Number: 310I0145 Registration Number: N8145M

Mishap Location: San Dimas, CA Date: 07/04/02 Time: 1231 PDT

Registered Owner: Michael & Debbra Brand
[redacted]
Glendora, CA 91740

Operator: Same as Registered Owner

Cessna Investigator: Henry J. Soderlund
Cessna Report Number: 02-BAUK
Report Date: 01/30/03
Investigator's Signature: [redacted]

NTSB Investigator: Jason Ragogna
NTSB Report Number: LAX02FA214
Party Status: Yes

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## Summary of Investigation

Immediately after departure from Brackett Field, La Verne, CA, the pilot declared a mayday over the tower frequency. The aircraft remained airborne and over flew a reservoir where it was observed entering a descending left hand turn. The aircraft then contacted a tree on the shoreline with its left wing causing the aircraft to spin. A second tree contacted the aircraft at the leading edge of the right wing root. This tree entered the cabin and ejected the right seat passenger. The aircraft then came to rest in a picnic area. Both occupants and two people on the ground sustained fatal injuries. Eight other people on the ground were transported to area hospitals with minor to serious injuries. There was no fire. Both occupants were utilizing their lap belt only restraint systems. The aircraft was filled with 28.8 gallons of fuel 6 days before the mishap. It is not known into which tank it was added or how much fuel the aircraft departed with. The weather consisted of scattered clouds with light winds.

The pilot received his multiengine certificate on his second attempt in January 2002. His flight time in the mishap aircraft, which he purchased in February 2002 without engine logbooks, is unknown.

During the investigation it was determine that the left propeller was at low power and the right propeller was being operated with power at the time of the mishap. The left engine was successfully run after it was recovered. The right engine sustained substantial damage during its contact with the second tree. The right fuel selector was set to the right main tank. The left fuel selector was between the left main tank setting and the off position. There was no fire.

The aircraft engine's fuel pressure switches (one for each engine) had been removed at an undetermined time. The aircraft's wiring was not modified per Cessna MEB 88-3 to provide the pilot with the ability to manually select "high" boost pump pressure.

## Narrative

**History of Flight**

The pilot and passenger were planned on using the aircraft for a VFR sightseeing flight. Immediately after takeoff from Runway 26L at Brackett Field, La Verne, CA, two Air Traffic Controllers in the airport tower noticed the aircraft did not seem to be climbing well. Simultaneously, the pilot declared a mayday over the radio. Lifeguards on a boat on the Puddingstone Reservoir, less than 1 mile west of the airport, observed the aircraft approximately 30' above the shoreline with the left wing low. The aircraft continued flying until its left main fuel tank contacted a 5" diameter tree trunk 8' above the ground. The left main fuel tank then separated and contacted the ground. The aircraft continued forward, dragging the exposed left wing tip along the ground until contacting a second tree, 1.5' to 2' in diameter, 94' from the first tree. The aircraft contacted the tree at the leading edge of the right wing root. The tree passed through the fuselage and exited out of the fuselage at the trailing edge of the left wing root. The right engine and right main fuel tank separated from the aircraft. The right engine continued forward and came to rest 250' from the first tree contact. The fuselage pieces continued forward and came to rest in a picnic area.

The aircraft was reportedly fueled with 28.8 gallons of 100LL on 06/28/02 at Brackett Field. It is not known how much fuel was onboard the aircraft when it departed.

FAA radar data shows an aircraft departing the airport before the mishap aircraft takes off. The aircraft, identified as a Piper Cherokee N72C, then flies a traffic pattern around the airport. When the mishap pilot broadcasts his mayday and disappears from the sight of the controls the pilot of N72C volunteers to assist. He is cleared for a low approach over the airport and then locates the mishap site and provides it location to the tower while the aircraft circles the mishap site.

**Occupant Information**

PILOT:

The pilot, who was one of the listed owners of the mishap aircraft, held a Commercial Pilot certificate for single engine land airplanes and helicopters. He was also instrument rated in single engine airplanes and helicopters. His multiengine rating was on a Private Pilot certificate and was for Visual Flight Rules operations only. He also held a CFI, renewed in January 2002 for single engine land airplanes, rotorcraft and instrument helicopter. His last medical, a 2nd class, was issued on 10/12/01 with no limitations. On his medical application he listed 6,000 total hours.

An individual at Corona Aircraft, who sold the mishap aircraft to the pilot, introduced the pilot to a multiengine flight instructor, Mr. Dean Richard Sibley. Mr. Sibley then provided multiengine training to the pilot. In an interview with the FAA, Mr. Sibley provided details on the technique he uses for simulating engine failures. When between 0 and 50% Vmc, Mr. Sibley would retard the mixture control to simulate an engine failure. When above 50% Vmc and below 3000' AGL he would retard the throttle. If the aircraft was above 3000' AGL he would retard the mixture. The student is instructed to verify the inoperative engine by reducing the throttle. The student then retards the propeller lever of the identified engine aft one inch, to simulate feathering the propeller. Mr. Sibley then sets zero thrust on the inoperative engine.

According to Mr. Sibley the examiner who tested the pilot, Mr. Joseph Sheble III, lives in Kingman, AZ. Mr. Sibley and the pilot flew a Cessna 310, rented from Corona Aircraft, to Kingman, AZ on 01/29/01. During the flight Mr. Sibley gave the pilot a practice test. Upon arriving in Kingman the examiner stated he had another exam to give in Victorville, CA and he suggested that Mr. Sibley and the pilot fly him there and he would give the test en route. Mr. Sibley sat in the back seat, without a headset, while the pilot occupied the left front seat and the examiner sat in the right front seat. The flight subsequently landed at Barstow, CA and the examiner informed Mr. Sibley that the pilot had failed his check ride. According to Mr. Sibley, he assumed the pilot failed his emergency procedures but he was not sure

because the examiner did not make it clear. Mr. Sibley then flew with the pilot for .5 hour and landed. He then signed him off for another check ride. The three individuals then reentered the aircraft and continued on to Victorville during which time the examiner re-examined the pilot and issued a temporary Airman Certificate after landing at Victorville.

According to the FAA, the examiner failed the pilot for his emergency procedures. On his "Notice of Disapproval of Application" the reason for failure was listed as "Engine failure after liftoff, emergency descent. Feathered both engines."

On his application for his multiengine rating the pilot listed the following hours: Airplane: 468 Total Time, 103 Dual, 364 Solo, 364 PIC, 12 Cross-country dual, 28 Cross-country solo, 310 Cross-country PIC, 15 Instrument, 3 Night Dual, 10 Dual Night Landings, 100 Night PIC, 60 Night PIC Landings; Helicopter: 4396 Total Time, 131 Dual, 4265 Solo, 4134 PIC, 628 SIC, 20 Cross-country Dual, 6 Instrument, 20 Night Dual. He listed 13.3 hours dual in 310, and no PIC.

The FAA reportedly revoked Mr. Sheble's Designated Examiner status during the investigation of this mishap. He reportedly did not have permission from the Riverside FSDO to administer check rides within their jurisdiction. The check ride given to the mishap pilot occurred primarily within the jurisdiction of the Riverside FSDO.

It was also reported that the examiner was known for requiring applicants to bring two copies of their pilot application form because he would generally fail them on the first try and retest them the same day.

PASSENGER:
The passenger was born on [redacted] He had a third class medical issued on 11/29/01 with a limitation to wear corrective lenses. His private pilot single engine land certificate was issued 11/05/97. His total flight time was reported as 180 hours. His certificate number was [redacted]

**Medical and Injury Information**
Both aircraft occupants sustained fatal injuries. The passenger was ejected from the aircraft when the aircraft contacted the second tree and was found fatally injured at the mishap site. The pilot was transported to a local hospital where he succumbed to his injuries.

A toxicology study performed by the FAA on samples from the pilot found Bupropion Metabolite in his blood and urine. According to the WebMD website (www.webmd.com, viewed 10/18/02) Bupropion is the generic name for Wellbutrin. Bupropion is an antidepressant medication. The warnings for the drug include, "use caution when driving, operating machinery, or performing other hazardous activities. Bupropion may cause dizziness or drowsiness." It also states "Dizziness may be more likely to occur when you rise from a sitting or lying position."

A County of Los Angeles Fire Department letter indicates 19 people, including the aircraft occupants, received injuries during the mishap sequence. A County of Los Angeles Sheriff's Department letter, obtained by the NTSB, provided information about 12 people who were transported to hospitals, including the two aircraft occupants. According to the Sheriff's Department two people on the ground received fatal injuries and 8 other people were transported with minor to serious injuries. The following list details their name, age and injuries and was provided by the NTSB. No additional information concerning the status of those injured on the ground has been provided.

| Name | Age and gender | Injury status as of 07/10/02 |
|---|---|---|
| Jackie Ngo-Ton | 12 year old female | Fatally injured |
| Branden Truong | 16 month old male | Fatally injured |

| | | |
|---|---|---|
| Connie Kung | 11 year old female | Concussion, stable condition in hospital. Memory skills lagging. |
| Andy Ngo | 8 year old male | Severe head injury (bleeding on the brain) on life support and in ICU. No deterioration while on ventilator. Will require surgeries due to broken bones and extensive rehabilitation. |
| Duk Kang | 52 year old female | Spinal injury |
| Sin Yong | 51 year old male | Stable condition – has been released |
| Kyung Kang | 49 year old female | Treated and released |
| Richard Kang | 54 year old female | Treated and released |
| Ngek Prak | 37 year old female | Treated for pain to right shoulder and released |
| Nouth Prak | 66 year old male | Treated for lower back pain and released |

The Fire Department and Sheriff's Department letters are contained in the Attachment section of this report.

**Aircraft Information**

The aircraft was purchased by Michael & Debbra Brand on 02/13/02 according to a Bill of Sale. A ferry permit was issued to fly the aircraft to Corona with an expiration date of 02/22/02. The aircraft was ferried on 02/15/02. A registration certificate with the owner's name on it was dated 03/15/02. An insurance information sheet indicated the aircraft engines had no logbooks when the aircraft was purchased by the Brands. Engine logbooks were started when Corona Aircraft Services began work on the aircraft.

The aircraft's logbooks stop at 02/16/93 and then restart on 04/26/02. Corona Aircraft Services began work on the aircraft on 03/27/02. According to the aircraft logbooks, the aircraft's hour meter was replaced on 02/11/76 at a total time of 3108.5. A logbook entry dated 07/15/81 stated, "add 4101 to Hobbs – TT." The aircraft's static system was tested on 04/26/02. The aircraft received its last annual inspection on 05/07/02. This entry listed both aircraft total time and the hour meter (Hobbs) reading as 2052.0 hours.

The left engine time since major overhaul (TSMOH) was 1,050 hours with an unknown total time per the first entry in the engine logbook. The first annual inspection entry, on the next page of the logbook, engine and dated 05/07/02, lists the TSMOH as being 1061 hours.

The right engine did not have a data plate. The serial number used to identify the engine was based on the number listed in the logbook. The engine had 850 hours TSMOH with an unknown total time per the first logbook entry. The annual inspection entry, on the next page of the logbook and dated 05/07/02, listed the TSMOH as being 861 hours.

A new left engine propeller governor cable was installed in early June 2002. The aircraft had a landing gear collapse on 6/6/02. No mention of either repair work was found in the aircraft logbooks. Adding the aircraft's hour meter reading at the mishap site to 4101, as instructed to in the logbook entry dated 07/15/81, provides an aircraft total time of 6158.1.

A large number of invoices and other maintenance related paperwork was obtained by the NTSB from Corona Aircraft Services and the pilot's wife. Few of the parts listed in the invoices are recorded as being installed on the aircraft in the aircraft logbooks.

Attachment 14 of this report contains copies of the aircraft logbooks. Attachment 13 contains copies of invoices, work orders and other paperwork related to the mishap aircraft provided by the NTSB.

**Witnesses**

Two Los Angeles County Life Guards, who were in a boat on the reservoir, observed the aircraft before the mishap occurred. Mr. Alan Taylor, a lifeguard, provided a statement. In his statement he said the aircraft's propellers were spinning, but he did not hear any noise, which he felt was unusual. The aircraft then began turning towards the shoreline and losing altitude. The aircraft's port side wing contacted the first tree and then aircraft cart wheeled into the second tree and came to rest in a picnic area.

Mr. Thomas Davis ([redacted], Covina, CA 91724; [redacted] contacted the Los Angeles Sheriff's Department on 07/05/02 and stated he was on the Puddingstone Reservoir at 1230 PDT and observed the mishap aircraft. Mr. Davis stated he was facing north and observed the aircraft flying west at approximately 100'. According to Mr. Davis it sounded like the engines were backfiring and the right propeller was not turning as fast as the left propeller. He observed the aircraft's landing gear to be down. He then stated the aircraft began to fly over the shore where the right propeller struck a tree, causing the plane to spin around. The aircraft then contacted the second tree and bounced into the air. The aircraft was then lost from sight.

The two Air Traffic Controllers on duty at the airport both provided statements. Mr. Gregery Leathley observed the aircraft depart. He stated the aircraft "did not appear to gain altitude normally." The pilot then broadcasted a mayday and the controller called 911. Mr. Ramin Panahi cleared the mishap aircraft for take off at approximately 1230 PDT. He then observed the aircraft descend instead of climb. Mr. Panahi then activated the crash klaxon and heard the pilot broadcast a mayday.

**Weather Information**

The weather at the departure airport at 1147 PDT was reported as: wind 250° at 7 knots; 5 SM visibility in haze; few clouds at 0', scattered clouds at 5000'; altimeter 29.96 inHG. The temperature and dew point were not recorded.

**Airframe Examination**

The NTSB, FAA and this writer examined the aircraft on site on 07/04/02 and 07/05/02. The recovery crew moved the aircraft the evening of 07/05/02. The NTSB, FAA, the engine manufacturer and this writer examined the aircraft on 07/06/02 at the recovery company's facilities. The FAA, the engine manufacturer and this writer reexamined the aircraft on 08/06/02. The engines were removed from the aircraft and shipped to the engine manufacturer's facilities where they were examined 09/04/02 through 09/06/02. The propellers were sent to their manufacturer and examined on 11/05/02 by the NTSB-IIC, this writer and the propeller manufacturer.

The aircraft separated into four major structural sections (left wing, right wing, fuselage from instrument panel forward and fuselage from instrument panel aft) after the second tree contact. Both main fuel tanks and the right engine separated from the aircraft.

A copy of the tower audio ATC tape was sent to the NTSB lab to see if engine speed could be determined from the background sounds on the tape. At the time of this writing, a report from the NTSB had not been received.

No evidence of fire was noted during the examination.

Fuselage
The second tree entered the cabin just forward of where the leading edge of the right wing meets the fuselage. The cabin floor was separated on a diagonal line starting at the point the tree entered the cabin and ending where the trailing edge of the left wing meets the fuselage. Both wing spars were separated. A charcoal grill ruptured the fuselage skin at fuselage station 132.00 on the right side of the aircraft.

The landing gear was in the extended position at the time of the mishap.

Flight Controls and Aerodynamic Surfaces
All control cable separations were either recovery cuts or tension overload. Control cable continuity was confirmed from each cockpit control through the recovery cuts and overloads to each flight control. The flight control lock was found lying in the wreckage. All of the flight controls remained attached to the primary structure.

Based on the position of the flap drive chains the flaps were retracted.

Seats/Restraint Systems/Cabin Environment
Five of the aircraft's six seats (1, 2, 3, 5 & 6) separated from their respective seat rails and mounting points. Seat number 4 remained in the aircraft and attached to its seat rails. The two rear seats (5 & 6) were identified based on their design, though their lateral position (left or right side) could not be determined. They are identified as Row 3, Seat "A" and Row 3, Seat "B" in the mishap photographs. The left middle row (3) seat was identified based on how its seat belt was attached. The two front seats (1 & 2) were identified based on a process of elimination. Their position in the aircraft (left or right side) could not be conclusively determined. The two-front seats are referred to as Row 1, Seat "A" and Row 1, Seat "B" in the mishap photographs.

The seat back of Row 1, Seat "A" remained attached to the seat base. The seat base and pan assembly separated from the floor of the aircraft. The seat back was in a relatively undamaged condition. The seat base exhibited deformation to the left. The front, right corner of the base was bent slightly up.

The left seat back to seat base attach point of Row 1, Seat "B" had separated. The right attach point remained intact. The seat base exhibited heavy lateral deformation to the left and was slightly bent.

Fuel System
Both main fuel tanks were ruptured during the mishap sequence. Thirteen gallons of fuel were drained from the right auxiliary tank. Fuel found in the right engine fuel strainer was blue in color and appeared clear of foreign material. The left auxiliary fuel tank was approximately half full. The right fuel selector was set to the right main tank. The left fuel selector was position between the left main tank and the off setting, though it was closer to the left main tank detent. The fuel selector settings were checked by visually inspecting the fuel valve located on each engine firewall. The left fuel metering unit screen was clear of debris.

Both cockpit fuel boost pump switches were in the "ON" or up position.

The original fuel boost pump system is designed with each side being independent. The system consists of the following components and is the same for each side:

- A switch in the cockpit labeled "On" (up position), "Off" (middle position) and "Norm" down position.
- A push button primer switch in the cockpit.
- An oil pressure switch located in the leading edge of the wing root.
- A fuel pressure switch attached to the throttle body.
- A 5 ohm, 25 watt dropping resistor located in the trailing edge of the wing.

- A relay located in the trailing edge of the wing.
- A boost pump.
- Various wires and connectors.

When taking off the pilot is to place the two boost pump switches in the "On" position. This provided power through the dropping resistor and the boost pump would run at a reduced speed, producing less pressure. If the fuel pressure switch detected a drop in fuel pressure it would provide power to a solenoid in the relay that would allow power to the boost pump to bypass the dropping resistor so the boost pump would run at full speed. The relay was self-locking and would remain engaged until the boost pump switch was moved to the "Off" position. After takeoff the boost pump switches were to be moved to either "Off" or "Low" as necessary. A boost pump working at normal speed could cause the engine to be flooded at a power setting other then full throttle. The oil pressure switch inhibits the use of the boost pump operation when there is no oil pressure in the engine. The primer switch bypasses the oil pressure switch and allows the pilot to run the boost pump on high for engine priming. When the pilot releases the prime switch the boost pump is shut off.

Cessna Aircraft Company Service Bulletin ME88-3 Revision 3 (Dated 01/28/91) with Service Kit SK310-104B (Dated 02/10/89) provided a method to remove the fuel pressure switch and to change the cockpit boost pump switch. The new cockpit switch was labeled "High" (up position), "Off" (middle position) and "Low" down position. An extra wire was added to the circuit to provide the pilot with direct control of the speed of the boost pump. The solenoid and resister remained in the aircraft. In the "Low" position power was still routed through the dropping resister. To move the boost pump switch to the "High" position the switch had to be pulled out and then moved up past a lock. In this position power was sent to the boost pump through the added wire that bypassed the dropping resistor allowing the boost pump to run at full speed.

It was found that neither engine was equipped with a fuel pressure switch. No logbook record of the accomplishment of this Service Kit was found. While the fuel pressure switches in the engine nacelles had been removed, the wires had been cut but not capped; the boost pump switches in the cockpit had not been modified per the Service Kit. No additional wiring was found. This would have caused the fuel boost pumps to stay in "Low" mode whenever the boost pump switch was not in the "Off" position.

When the boost pump switches were removed from the cockpit a jumper wire was discovered between the two switches. Normal aircraft wiring prohibits the running of the boost pump with the boost pump switch if the engine does not have oil pressure. This wire would have allowed the boost pump on a non-running engine to be run if the opposite engine was running. Two of the six terminals on each boost pump switches were loose.

**Power Plant Examination**

The left engine controls were still attached from the throttle quadrant to the left engine. When first examined on site by the FAA, the engine controls of the left engine were similar to the position used by the pilot's flight instructor to simulate an engine failure: throttle half way back, propeller control aft approximately 1 inch, mixture full rich. The three engine controls for the right engine were full forward.

When examined the day after the mishap the right engine's top spark plugs appeared normal. The left engine's top spark plugs appeared dark in color. The fuel hoses going to the throttle bodies on both engines appeared new.

The left engine was successfully run the day after the mishap at the recovery facility with a new propeller installed. The left engine also ran at all power settings tested with no noticeable problems during its examination at the engine manufacturer's facility.

The right engine sustained a heavy contact from the second tree along the wreckage path. The front of the engine exhibited multiple cracks and heavy impact damage.

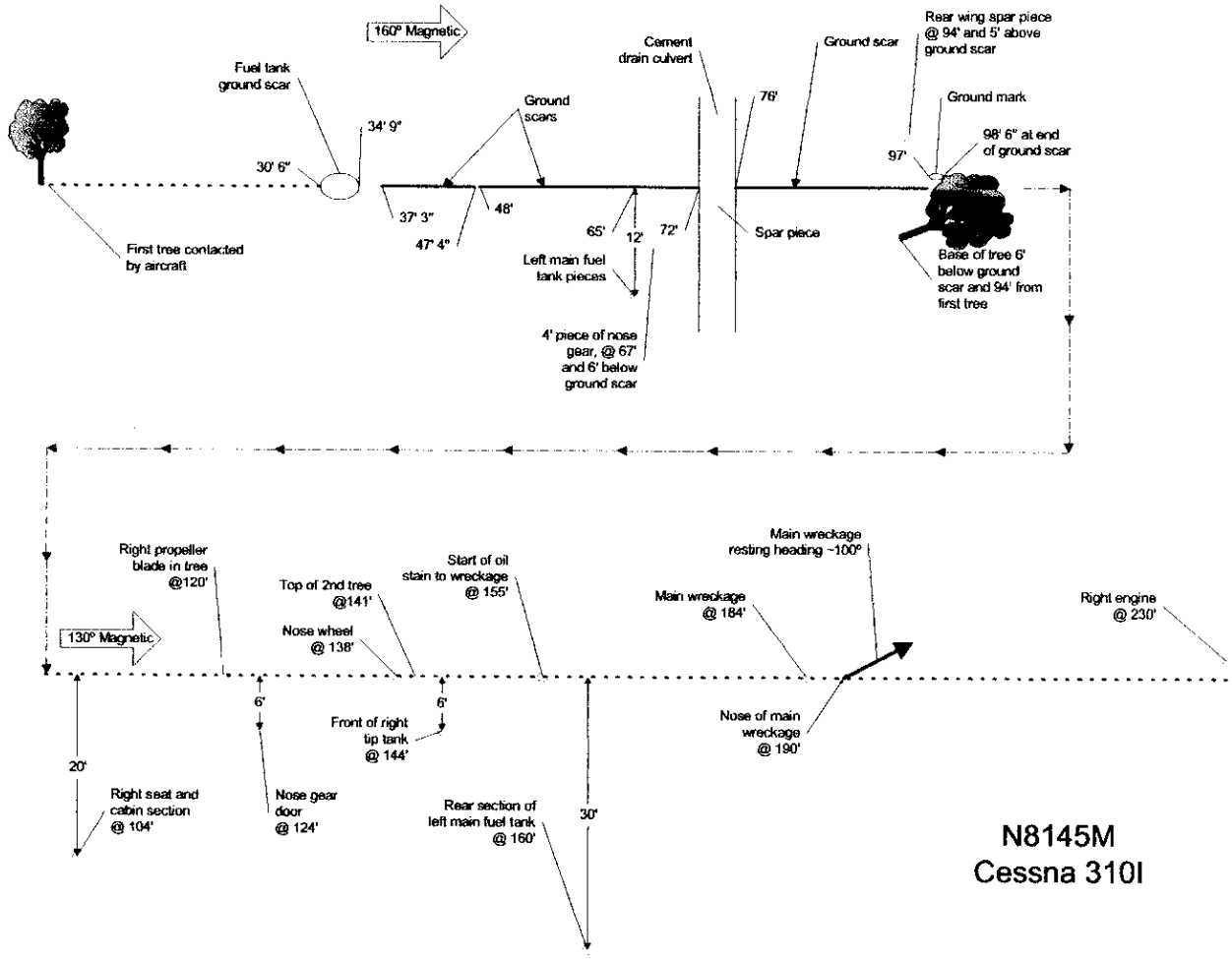
During the engine examination the right engine was dissembled and the left engine was placed in a test cell and ran. During the examination of the right engine it was noted the engine was equipped with D12D fuel injection nozzles. The correct nozzle is D12C. The fuel manifold, lines and nozzles were removed from the engine and tested on a TCM production flow bench. The observed inlet pressure was slightly high for all 4 test flows. The right engine's mixture control was missing the full rich stop pin when it was received at the manufacturer. The hole was oval shaped and the engine manufacturer felt the pin had been missing for a while. The unit was removed from the damaged throttle body and installed on a slave unit and then placed on a production flow bench. During testing it was noted that the observed fuel flow was higher then target at all throttle angle settings, except full power. During the test, leakage was noted around the mixture shaft. A new "O" ring was installed and the test was redone. During the second test, all observed flows were within limits except for full power and 0 throttle angle, which were both low. There were no fuel stains noted on the mixture shaft. The right engine fuel pump, metering unit, manifold, fuel lines and fuel nozzles were installed on the left engine, which was then run. The engine was successfully run twice.

The left propeller remained attached to the engine. Both left blades were bent aft. No rotational marks were noted on the left propeller dome. The right propeller hub separated into multiple pieces that were found in the area of the second tree contact. One blade from the right propeller was found in the tree, the other blade was not recovered. The water area and ground areas immediately adjacent to the mishap site was search, but the other right propeller blade was not found. The root threads of the recovered right propeller blade were intact as were the threads in the right propeller hub.

During the propeller examination it was observed that both propellers were rotating at the time of the mishap and that all damage to the propellers was the results of impact. The left propeller was operating under conditions of low power at impact. The right propeller was operating with power at impact. Both propellers were operating at or near the low pitch range at impact.

## Mishap Site Information

Location: Off Airport  Latitude: N 34° 5.0590' (GPS)
Elevation: 920 Ft. MSL  Longitude: W 117° 48.400' (GPS)
Obstacles Struck Before Principal Impact: Trees
Terrain Features: Wooded Level  Shoreline
Terrain Conditions: Dry Soft
Light Conditions: Day
Flight Path: Vertical Angle: Level °  Magnetic Heading: 160° to 130°
Approx. Attitude at Impact: Roll: Left °  Pitch: Level °  Yaw: Left °



## Crew Information

**Seat:** 1 Name: Michael A. Brand DOB: [redacted] Status: Pilot-In-Command
Address: [redacted] Glendora, CA 91740-6104

**Certificate Information:**
Number: [redacted]
Date Issued: 01/29/02

**Ratings:** Commercial Airplane SEL Instrument
Commercial Rotorcraft Helicopter Instrument
Private Airplane MEL

**Flight Time:**

| | | | | | |
|---|---|---|---|---|---|
| Total Time: | 468 | SE: | | PIC: | 364 |
| Actual Instrument: | | ME: | 13.3 | Dual: | 103 |
| Simul. Instrument: | | This Model: | | Last 30 Days: | |
| Day: | | Night: | | Last Flt. Review: | 01/29/02 |

**Injury and Medical Certificate Information:**

| | | | |
|---|---|---|---|
| Injury Severity: | Fatal | Class: | II |
| Toxicology Performed? | Yes | Date Issued: | 10/12/01 |
| Autopsy Performed? | Yes | Limitations: | None |
| Source(s) of Information: | NTSB | | |

**Seat:** ____ Name: ____ DOB: ____ Status: ____
Address: ____

**Certificate Information:**
Number: ____
Date Issued: ____

**Ratings:** ____

**Flight Time:**

| | | | | | |
|---|---|---|---|---|---|
| Total Time: | | SE: | | PIC: | |
| Actual Instrument: | | ME: | | Dual: | |
| Simul. Instrument: | | This Model: | | Last 30 Days: | |
| Day: | | Night: | | Last Flt. Review: | |

**Injury and Medical Certificate Information:**

| | | | |
|---|---|---|---|
| Injury Severity: | | Class: | |
| Toxicology Performed? | | Date Issued: | |
| Autopsy Performed? | | Limitations: | |
| Source(s) of Information: | | | |

## Other Occupant Information

| Seat | Name | Address | Status | Age | Injury |
|---|---|---|---|---|---|
| 2 | Michael Reed Alder | [redacted] Glendora, CA | Passenger | 49 | Fatal |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

## Flight Data

Type of Flight: Local PIC | Flight Plan Filed? No
Purpose: Pleasure | Type of Flight Plan:
Departure Point: San Dimas, CA | Date: 07/04/02 | Time: 1229 PDT
Destination: San Dimas, CA | ETA: | ETE:
Routing: | Altitude: ' MSL
Weather Briefing Prior to Takeoff? No | Method Of Briefing: | After Takeoff? No

Last Known Fueling Location: Brackett Airport | Date: 06/28/02
Amount of Fuel Added: 28.8 gal | Type of Fuel Added: 100LL
Amount of Fuel at Takeoff: Unknown | Est. Amount of Fuel at Occurrence: Unknown

| | | | | |
|---|---|---|---|---|
| Center of Gravity Within Limits? | At Takeoff: | Yes | Estimated | Inches |
| | At Occurrence: | Yes | Estimated | Inches |
| Gross Weight Within Limits? | At Takeoff: | Yes | Estimated | Pounds |
| | At Occurrence: | Yes | Estimated | Pounds |

Number and Description of Cargo Items:
Aircraft Weight According to Aircraft Paperwork: _____ Pounds Arm: _____ Inches

## Aircraft Data

Initial Delivery Date: 07/13/64 | Date Purchased by Current Owner: 02/13/02
Total Time at Occurrence: 6158.1
Date of Last Annual: 05/07/02 | Date of Last 100-hour:
Hours at Last Annual: 5160.5 | Hours at Last 100-hour:
Last Pitot/Static Check: 04/26/02
Flight Manual On Board? Yes | Aircraft Logbooks On Board? No
Source(s) of Information: Logbooks NTSB
Modifications and STC's:

## Power Plant Data

| | Manufacturer: | Model: | Serial Number: | TTSMO: | TTSN: |
|---|---|---|---|---|---|
| Engine #1 | Continental | IO-470-U | 115276-4-U | >1061 | |
| Engine #2 | Continental | IO-470-U | 118267-70-U-R | >850 | |
| Propeller #1 | McCauley | D2AF34C52-N/S-80GF-0 | 736121 | | |
| Propeller #2 | McCauley | D2AF34C52-NM/S80GF-0 | 685847 | | |

| | | | | |
|---|---|---|---|---|
| Propeller #1 Blade Serial Numbers: | Blade #1 | B21439YS | Blade #2 | B21435YS |
| | | | | |
| Propeller #2 Blade Serial Numbers: | Blade #1 | E494YS | Blade #2 | |
| | | | | |

## Weather Data

Weather at Nearest Reporting Point:
Location: Brackett Field, La Verne, CA Time: 1147 PDT
Wind Direction: 250° Cloud Cover: Few 00, Scattered 50
Wind Velocity: 7 knots Temperature: Missing °C
Visibility: 5 SM in haze Dew Point: Missing °C
Significant Weather: Altimeter Setting: 29.96 inHG.
Remarks:
Reporting Point Weather Data Source: WeatherData, Inc. of Wichita, KS and ATC reports.

Weather at Mishap Site:
Location: Time:
Wind Direction: ° Cloud Cover:
Wind Velocity: Temperature: °C
Visibility: Dew Point: °C
Significant Weather: Altimeter Setting: inHG.
Remarks:
Mishap Site Weather Data Source:

## Wreckage Documentation

**Seats**

| Seat # | Seat Feet Intact? | Seat Back Intact? | Seat Base Intact? | Seat Rail Intact? |
|---|---|---|---|---|
| 1 | No | Yes | No | No |
| 2 | No | No | No | No |
| 3 | No | Yes | Yes | No |
| 4 | Yes | Yes | Yes | Yes |
| 5 | Yes | No | Yes | No |
| 6 | Yes | No | Yes | Yes |
| | | | | |

| **Lap Belts** | | | **Shoulder Harnesses** | | |
|---|---|---|---|---|---|
| Seat # | Used? | Intact? | Installed? | Used? | Intact? |
| 1 | Yes | No | No | | |
| 2 | Yes | No | No | | |
| 3 | N/A | Yes | No | | |
| 4 | N/A | Yes | No | | |
| 5 | N/A | N/O | No | | |
| 6 | N/A | N/O | No | | |
| | | | | | |

**Aircraft and Occupant Configuration**

| Seat # | Occupied? | Seat Orientation? | Comments |
|---|---|---|---|
| 1, 2 | Yes | Forward Facing | |
| 3 - 6 | No | Forward Facing | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

**Landing Gear Positions**

| | Up | Down |
|---|---|---|
| Nose Gear | | X |
| Left Gear | | X |
| Right Gear | | X |
| Gear Selector | | X |
| Gear Actuator(s) | | |

**Flap Positions**

| | |
|---|---|
| Flap Actuator | |
| Flap Indicator | Off scale |
| Flap Selector | Neutral |
| Left Flap | |
| Right Flap | |

**Trim Tab Positions**

| | |
|---|---|
| Aileron Tab | 11° |
| Rudder Tab | 3/8" left of trailing edge |
| Elevator Tab | 0° |
| Aileron Indicator | Destroyed |
| Rudder Indicator | |
| Elevator Indicator | Destroyed |

**Flight Control Continuity**

| | Established? |
|---|---|
| Ailerons | Yes |
| Rudder | Yes |
| Elevator | Yes |
| Flaps | Yes |
| Aileron Tab | Yes |
| Rudder Tab | Yes |
| Elevator Tab | Yes |

**Pressurization Controls**

| | |
|---|---|
| Cabin VSI | |
| Cabin Altitude | |
| Differential Pressure | |
| Pressurization Safety Valve | |
| Pressurization Dump Valve | |
| Source Selector Knob | |

**Fuel Management**

| | Position Left | Right |
|---|---|---|
| Fuel Quantity Gauge Selector | | |
| Fuel Selector Handles | Main | |
| Fuel Selector Valves | Left to Off | Right |
| Fuel Boost Pumps | See | Narrative |
| | Left Side | Right Side |
| Fuel Gage Reading (Main) | | |
| Fuel Gage Reading (Aux.) | | |

**Emergency Locator Transmitter (ELT) Information**

| | |
|---|---|
| ELT Installed | Yes |
| ELT Type | DM ELT 6.1 |
| ELT Serial Number | 7197 |
| ELT Battery Due Date | May 2004 |
| ELT Armed? | Unk |
| ELT Activated? | No |

**Miscellaneous Information**

| | |
|---|---|
| Dual Controls Installed? | Yes |
| Oxygen Installed? | No |
| Alternate Static Source | Unk |

**Icing Equipment**

| | | |
|---|---|---|
| Certified into Known Icing? | No | |
| De-Ice Boots Installed? | No | |
| | On | Off |
| Surface De-Ice | | |
| Surface Anti-Ice | | |
| Windshield De-Ice | | |
| Windshield Anti-Ice | | |
| Propeller De-Ice | | |
| Propeller Anti-Ice | | |

**Environmental Controls**

| | On | Off |
|---|---|---|
| Cabin Heater | | |
| Air Conditioner | | |
| Cabin Vent | | |
| Defrost Control | | |

**Flight Instruments**

| | Single | |
|---|---|---|
| Airspeed Indicator | 0 | |
| Altimeter | 920 | |
| Altimeter Setting | 29.93 | |
| Heading Indicator | 244 | |
| Heading Bug | | |
| Vertical Speed Indicator | D 20 | |
| Attitude Indicator (pitch) | Up | |
| Attitude Indicator (roll) | Level | |
| Turn Coordinator (Airplane) | 1/4 R | |
| Turn Coordinator (Ball) | | |
| Magnetic Compass | | |
| NAV #1 OBS | 018 | |
| NAV #2 OBS | 017 | |
| RNAV Bearing | 244 | |
| RNAV Distance | | |
| Clock | | |

**Communication and Navigational Aids**

| | On | Off | Freq | Mode |
|---|---|---|---|---|
| COM #1 | | | | |
| COM #2 | | | | |
| NAV #1 | | | | |
| NAV #2 | | | | |
| DME | | | | |
| ADF | | | 397 | |
| RNAV | | | | |
| Loran | | | | |
| GPS | | | | |
| Autopilot | | | | |
| Transponder | | | 1200 | |

**Engine Instruments**

| | Engine #1 | Engine #2 |
|---|---|---|
| Hourmeter | 2057.1 | |
| Tachometer - RPM | 0 | 0 |
| Tachometer - Hours | | |
| Manifold Pressure | 29 | 28 |
| Cylinder Head Temp. | 0 | 0 |
| Oil Pressure | 0 | 0 |
| Oil Temperature | 0 | 0 |
| Fuel Pressure | 0 | 0 |
| Exhaust Gas Temperature | | |
| Turbine Inlet Temperature | | |
| Ammeter | | |
| Voltmeter | 0 | |
| Instrument Suction Gage | | |
| Fuel Flow | 0 | 0 |
| Torquemeter | | |
| N1 Tachometer | | |
| N2 Tachometer | | |

**Electrical and Ignition Switches**

| | On | Off |
|---|---|---|
| Master Switch | X | |
| Avionics Switch #1 | | |
| Avionics Switch #2 | | |
| Inverter Switch #1 | | |
| Inverter Switch #2 | | |
| Pitot Heat | X | |
| Navigation Lights | | X |
| Rotating Beacon(s) | | |
| Landing Light(s) | X | |
| Taxi Light(s) | X | |
| Strobe Light(s) | X | |
| Instrument Lights | | |
| Stall Heat | | |

| | Engine #1 | | | |
|---|---|---|---|---|
| | On | Off | On | Off |
| Left Magneto | X | | X | |
| Right Magneto | X | | X | |
| Ignition | | | | |
| Alternator/Generator | X | | X | |

**Optional/Owner installed avionics and systems**

| | On | Off |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

**Engine Control Positions (Cockpit)**

| | Engine #1 | | Engine #2 | |
|---|---|---|---|---|
| Throttle | Mid | | Forward | |
| Emer. Power Lever | | | | |
| Mixture Control | Forward | | Forward | |
| Fuel Cond. Lever | | | | |
| Propeller Control | 1" aft | | Forward | |
| Cowl Flaps | | | | |
| Alternate Air | Cold | | Cold | |
| Primer | | | | |
| Inertial Separator | | | | |
| | On | Off | On | Off |
| Prop. Sync/Phase | | | | |
| Autofeather | | | | |

**Engine Control Positions (Engine)**

| | Engine #1 | |
|---|---|---|
| Throttle | | |
| Emer. Power Lever | | |
| Mixture Control | | |
| Fuel Cond. Lever | | |
| Propeller Control | | |
| Cowl Flaps | | |
| Carburetor Heat | | |
| Primer | | |
| Inertial Separator | | |

**Aircraft Wreckage Disposition**

| | |
|---|---|
| Engine #1 | Observed |
| Engine #2 | Observed |
| Propeller #1 | Observed |
| Propeller #2 | Observed |
| Fuselage | Observed |
| Wing Center Section | Observed |
| Tailcone | Observed |
| Left Wing | Observed |
| Right Wing | Observed |
| Left Flap | Observed |
| Right Flap | Observed |
| Left Aileron | Observed |
| Right Aileron | Observed |
| Left Horizontal Stabilizer | Observed |
| Right Horizontal Stabilizer | Observed |
| Left Elevator | Observed |
| Right Elevator | Observed |
| Vertical Stabilizer | Observed |
| Rudder | Observed |
| Aileron Tab | Observed |
| Rudder Tab | Observed |
| Elevator Tab | Observed |
| Nose Wheel | Observed |
| Left Main Gear | Observed |
| Right Main Gear | Observed |

The following are the definitions of the words used in the Aircraft Wreckage Disposition:

| | |
|---|---|
| Not Located: | The part was not located |
| Not Retrieved: | The part was located but was not, or could not be retrieved |
| Consumed By Fire: | The part sustained fire damage, consuming all or part of it |
| Observed: | The part was located, partially or completely retrieved, and observed by a member of the investigating party |

The following abbreviations are used in this report:

| | |
|---|---|
| Unk | Unknown |
| N/A | Not Applicable |
| N/O | Not Obtained |
| N/R | Not Reliable |
| Digi | Digital Display |

## Participants

| Name and Address | Telephone | Organization |
|---|---|---|
| Jason A. Ragogna<br>Arlington, TX | [redacted] | NTSB - South Central Regional Office |
| Erik R. Grosof<br>Washington DC | | NTSB - Office of Family Affairs |
| Brad Howard<br>Riverside, CA | | FAA - Riverside FSDO |
| Ted Nelson<br>Riverside, CA | | FAA - Riverside FSDO |
| Mike Grimes<br>Lancaster, CA | | Teledyne Continental Motors |
| Tom Knopp<br>Dayton, OH | | McCauley Propellers |
| Fred Fihe<br>Mobile, AL | | Teledyne Continental Motors |
| Henry Soderlund<br>Wichita, KS | | Cessna Aircraft Company |

Insurance: Jerry Wallace
AVEMCO (Lad Aviation Inc.)
16501 Sherman Way, Suite 200
Van Nuys, CA 91406
[redacted]

Salvage: Eastman Aircraft
1965 Aviation Drive, Unit C
Corona, CA 91720

## Attachments

| | | |
|---|---|---|
| 1. | Delivery Documents | 9 pages |
| 2. | Maps of mishap area | 5 pages |
| 3. | Weather information from WeatherData, Inc. of Wichita, KS | 1 page |
| 4. | Party Statement | 4 pages |
| 5. | Los Angeles Sheriff's Department Incident Report | 12 pages |
| 6. | Los Angeles Sheriff's Department letter with injury information | 2 pages |
| 7. | Los Angeles Fire Department letter with response information | 3 pages |
| 8. | Mr. Thomas Davis witness statement to Sheriff's Department | 1 page |
| 9. | Life guard witness statements | 2 pages |
| 10. | ATC transcripts and accident report | 11 pages |
| 11. | Aircraft paperwork | 3 pages |
| 12. | Accident/Incident database search results | 2 pages |
| 13. | Maintenance invoices | 73 pages |
| 14. | Aircraft and engine logbooks | 108 pages |
| 15. | Checklists found in aircraft | 17 pages |
| 16. | Teledyne Continental Motors engine examination reports | 17 pages |
| 17. | McCauley Propeller examination reports | 2 pages |
| 18. | Mishap pilot's flight instructor's logbook and interview from FAA | 11 pages |
| 19. | Pilot paperwork and logbook | 17 pages |
| 20. | Pilot toxicology report from FAA | 2 pages |
| 21. | Passenger logbook | 42 pages |
| 22. | Copy of fuel receipt | 1 pages |
| 23. | News stories | 20 pages |
| 24. | Mishap Photographs BAUK-001 through BAUK-204 | |