



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

June 13, 2017

WRECKAGE EXAMINATION SUMMARY

WPR17LA118

This document contains 9 embedded images.

A. ACCIDENT

Location:	Banning, CA
Date:	June 2, 2017
Aircraft:	N66117; Cessna 150M
NTSB Investigator-in-Charge:	Andrew Swick

B. PARTICIPANTS

Andrew Swick-NTSB IIC
Ron Allen-FAA IIC (onsite)
Michael Baudoux-FAA-FSDO (wreckage exam)
Ricardo Asensio-Textron Aviation
Mike Council-Continental Motors Group

C. SUMMARY

On June 2, 2017, about 1130 Pacific daylight time, a Cessna 150M, N66117, collided with trees and the ground shortly after departing from Banning Municipal Airport, Banning, California. The certified flight instructor (CFI) was fatally injured and the student pilot sustained serious injuries. The airplane sustained substantial damage to both wings and fuselage. The airplane was registered and operated by Aerotech Academy Inc. under the provisions of *14 Code of Federal Regulations Part 91* as an instructional flight. Visual meteorological conditions prevailed and a flight plan was not filed. The flight originated from Redlands Municipal Airport (REI), Redlands, California about 1045.

According to the student pilot, during the flight the CFI instructed him to turn left and to continue to Banning Municipal Airport (BNG), Banning, California, where they would perform a touch-and-go landing. The student pilot entered the right traffic pattern for runway 26, and during the landing, touched down hard on the runway. He recalls the winds at the time as gusty, and expected them to be at BNG. The flaps were retracted and power was applied during the rollout to continue the touch-and-go. After departing the runway, the student pilot realized that the airplane was not climbing and it was veering to the right side of the runway. He had the CFI take control of the airplane. The last of the student pilot's memories of the accident flight was seeing the I-10 interstate freeway approaching and soon after impacting trees near the freeway.

The initial examination of the airplane by a Federal Aviation Administration inspector, revealed that the airplane came to rest between a row of trees and an onramp from the eastbound side of the freeway. The airplane was on its left side and the left wing was partially attached. The empennage remained attached and buckling was noted near the aft fuselage. The propeller assembly had impact damage to one blade and the other was unremarkable. The flaps were found in the retracted position. According to first responders, fuel leaked from the airplane but shortly after had stopped on its own.

D. Wreckage Examination



Figure 1-Main Wreckage

Examination of the recovered wreckage was conducted on June 13, 2017 at the facilities of South West Aircraft Transportation and Recovery, in Chino, California, by the National Transportation Safety Board (NTSB) investigator-in-charge (IIC), Federal Aviation Administration (FAA), Textron Aviation and Continental Motors Group. The examination revealed no evidence of any preimpact mechanical malfunctions or failures that would have precluded normal operation.



Figure 2. Wreckage Layout, Left Wing

The wings were removed from the airplane during the wreckage recovery. The right wing had impact damage from the midsection to the tip. The fuel tank was found empty prior to the recovery efforts and the fuel tank cap was secured and was undamaged. Cable control continuity was established from the cut cables at the wing root to the control surfaces.

The left wing had impact damage consistent with tree strikes to the leading edge from the midsection to the wing root. The wing separated from the fuselage at the wing spar by impact forces, and the control cables remained attached. The wing strut had impact damage consistent with a tree strike near the fuselage attachment. The fuel tank was found empty prior to the recovery efforts and the fuel tank cap was secured and was undamaged. Cable control continuity was established from the cut cables at the wing root to the control surfaces.

The cabin flap switch was found in the 'UP' position and the flaps were found in the retracted position.



Figure 3-Empennage

The left elevator was removed during the wreckage recovery. Both horizontal stabilizers and elevators revealed impact damage. The rudder and vertical stabilizer were buckled. Cable control continuity was established from the flight control surfaces to the cabin controls.



Figure 4-Cabin Area

The aft fuselage had impact damage and was buckled. The forward fuselage was torn open exposing the forward left side of the instrument panel. The left forward window post separated from the fuselage.

The seats remained attached to the floor rails and the seat belts remained attached to their mounts. The left seat belts were unbuckled. The left seats belt webbing was cut by first responders and the shoulder harness remained attached to the latch bushing. The right seat belts were unbuckled. The right seat belt webbing was undamaged and the shoulder harness was not attached to the latch bushing.

The nose landing gear was bent rearward and remained attached to the fuselage.

The firewall was buckled and engine mounting assembly was bent aft.



Figure 5-Instrument Panel

The left control yoke, left forward cabin structure and left side instrument panel had impact damage. The right control yoke was bent downward and to the right.

The fuel selector valve was found in the 'ON' position, and the detents of the valve felt normal when operated by hand.

The fuel strainer was disassembled and the screen was undamaged. The pickup tube had tooling marks near the lower side. No fuel or contaminants were noted.



Figure 6-Engine

The engine was undamaged and remained attached to the mounting assembly. Cable control continuity was attained from the cockpit controls to the engine components with exception to the carburetor heat control due to impact damage. The upper spark plugs and valve covers were removed and cylinder compression, gear and valve train continuity was established. The lower spark plugs were removed and all spark plug electrodes had (Worn out-Normal) wear conditions when compared to a Champion AV-27 chart. The electrode areas had a light amount of dark combustion deposits. The magnetos were not removed from the engine and spark was produced at each ignition lead when the crankshaft was rotated by hand. The vacuum pump was removed from the engine and disassembled. The drive coupler, rotor and blades were undamaged. The vacuum pump rotor housing had chatter marks on the interior surface. The air induction assembly and the carburetor was removed from the engine. The carburetor accelerator pump was actuated by hand and fuel flowed freely from the nozzle. The carburetor was disassembled and fuel was found in the bowl. Water detection paste was used in the remaining fuel and was negative for contaminants. The carburetor revealed no mechanical anomalies.



Figure 7-Blade 2

The propeller assembly remained attached to the engine crankshaft flange and had impact damage to the number 2 blade. The blade surface had multidirectional scratching and the leading edge had scuffing and polishing. The blade was bent aft near the midsection, consistent with a tree strike, and slight s-type bending to the tip. The number 1 blade had light scratches on the leading edge.



Figure 8-Blade 1



Figure 9-ELT

The ELT was found in the armed position by the FAA inspector during the initial accident site examination. During the wreckage recovery, the ELT was removed from its mount and the antenna cable was disconnected from its plug. During the wreckage examination, the ELT switch was turned to the 'ON' position and the transmitting light did not turn on during testing. A radio, tuned to 121.5 MHz did not detect a signal. The unit was opened and no anomalies noted. The D-cell batteries were replaced with new batteries, and the indicating light illuminated when the switch was turned to the 'ON' position. The radio did not detect a signal during the second test. Original batteries were reinstalled in the ELT and the indicator light illuminated when the switch was turned to the 'ON' position. The radio did not detect a signal during the third test. The identification tag was not legible and faded. The ELT was obtained by the NTSB for further testing.

Submitted by: Andrew Swick