



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

February 6-7, 2018
February 8, 2018

AIRFRAME AND ENGINE EXAMINATION

WPR18FA084

This document contains 04 embedded photos.

A. ACCIDENT

Location: Santee, California

Date: February 06, 2018

Aircraft: Airplane Cessna 182T, Registration Number: N3525T, Serial #: 18280965

NTSB IIC: Tealeye Cornejo

B. EXAMINATION PARTICIPANTS:

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C. SUMMARY

Examination of the recovered airframe and engine was conducted on February 8, 2018, at the facilities of Air Transport, Phoenix, Arizona. No evidence of preimpact mechanical malfunction was noted during the examination of the recovered airframe and engine.

D. DETAILS OF THE INVESTIGATION

1.0 Airframe Examination

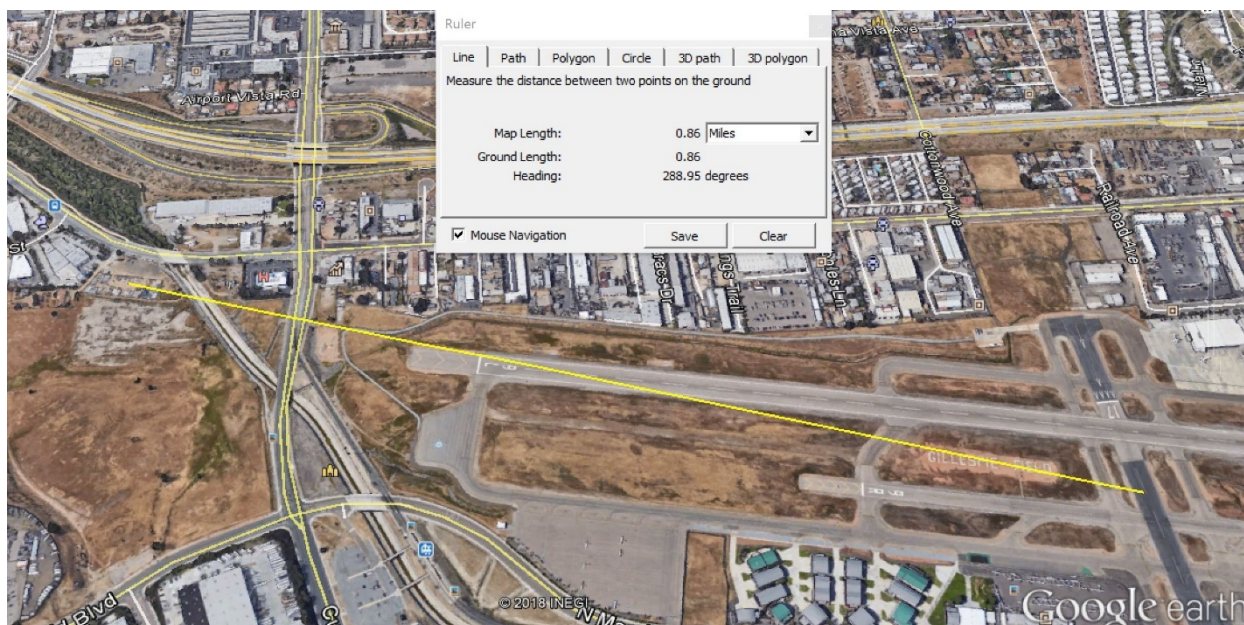


Photo 01 – Overview of accident location (GoogleEarth)

CIRCUMSTANCES:

Departed VFR from SEE

Filed a VFR flight plan

Low-level fog

2 dogs on-board

Male – Australian Shepherd 54.8lbs

Female – Australian Shepherd mix 34.8lbs

ON-SCENE 02/06-07/18

The airplane impacted a flatbed trailer with its left wing; the impact was in a left-wing, nose-low attitude and came to rest on magnetic heading of 242 degrees at an elevation of 262 ft mean sea level (msl) in an industrial storage area that belonged to Tower Glass Inc.

Lat/long 32.831044, -116.986363

The airplane remained intact and flight control continuity was established on-scene. The fuel selector handle was selected to BOTH, and the fuel boost pump was OFF. During the accident sequence the lower portion of the firewall had pushed up and aft into the cabin area. There were no holes in the engine case.

First responders noted puddles of fuel under the left wing. During recovery of the airplane fuel drained from the right wing. On-board the airplane were two dogs that were not secured in kennels.



Photo 02 – Rear view of main wreckage (San Diego Sheriff Dept)



Photo 03 – Main Wreckage (NTSB)

OUTBRIEF

Pilot logbook:

No actual instrument time

62.6 hours of simulated instrument time (total)

Most recent experience was November 11, 2017 – 1.6 simulated instrument

2.0 Engine Examination

Airplane examined at Air Transport on February 8, 2018.

No obvious signs of a mechanical malfunction that would have precluded normal operation.

The airplane was equipped with two vacuum pumps. The rear-mounted (top) vacuum pump partially separated; the separation face exhibited overload signatures. The drive and rotor/vane assembly remained intact. The rear-mounted (bottom) vacuum pump remained secure at the mounting pad. It was removed and examined; the drive, rotor/vane assembly remained intact.

Fuel manifold valve “spider” was disassembled; the component was not damaged and was free of debris, the diaphragm was intact. Fuel injectors were clear of debris

Top spark plugs were removed, and signatures were consistent with normal operation.

Borescoped the engine, no foreign object debris was identified. No evidence of detonation or discoloration. Operating signatures were consistent with normal operation.

Mufflers showed normal operating signatures; no FOD present.

Mechanical continuity established. Manual rotation of the propeller hub produced thumb compression, rocker valve arm movement, heard the impulse coupler when rotated engine.

Both magnetos were manufactured by Slick Champion Aerospace, Liberty, South Carolina. The right magneto was at 25-degrees before top dead center. Secured at its mounting flange and was undamaged. Left magneto could not be timed to the engine due to a broken mounting flange. It was removed, and manual rotation of the drive activated the impulse coupling.

The oil filter was removed and examined; the filter was free of debris.



Photo 04 – Propeller Blades (NTSB)

The propeller was a McCauley 3-bladed propeller. All 3 propeller blades fully separated from the hub, and a portion of the propeller hub remained attached to the engine. All 3-propeller blades had leading and trailing edge nicks and gouge marks, torsional twisting and chordwise striations across the

cambered surface of propeller blades "B" and "C." Blade "A" was missing about 6 inches of the outboard portion of the blade. Blade "C" also was missing the tip.

The propeller governor remained secure at its mounting pad with the pitch control rod securely attached at the control arm. The propeller governor was removed and disassembled; the drive was intact and free to rotate, and the gasket screen was free of debris.

ELT ARTEX Products (ACR Electronics)

ME406

TSO C91a/C126

DEC 2021

The attitude indicator was disassembled with no scoring noted on the internal components.

Airplane was weighed on October 25, 2017, by Choice Aviation, Hamilton, Montana; the new empty weight was 2,010.87 lbs, and the new useful load was 1,099.13 lbs.

Submitted by: Investigator Cornejo