

**NATIONAL TRANSPORTATION SAFETY BOARD
Office of Aviation Safety
Washington, DC 20594**

SUMMARY OF AIRFRAME EXAMINATION (ONSITE)

CEN20LA370

A. ACCIDENT

Location: Bryan, Texas
Date: August 30, 2020
Time: 1430 CDT
Aircraft: Piper PA-24-250, N7469P

B. PARTICIPANTS

Stephen Ragin
Principal Operations Inspector
Federal Aviation Administration
Houston, Texas

Jon Hirsch
Air Safety Investigator
Piper Aircraft
Vero Beach, Florida

C. DETAILS OF AIRFRAME EXAMINATION

The airframe was examined at the accident site by the FAA and Piper Aircraft on August 31, 2020.

D. SUMMARY OF AIRFRAME EXAMINATION

Aircraft purchased by pilot (and partner) about 2 weeks prior to accident. Pilot and wife landed at Coulter Field Airport (KCFD), Bryan, TX to visit daughter who was a senior at Texas A&M. No fuel purchased at KCFD. After arrival of daughter and daughter's boyfriend, aircraft taxied to runway 15. A security camera captured the beginning of the takeoff roll, but a tree blocked the view of the departure end of the runway and the accident. A vehicle driving on the road adjacent to the airport called to report an upside-down aircraft resulted in first responders arriving on the scene about 30 minutes after the aircraft attempted to takeoff. The pilot, pilot's wife, and pilot's daughter received fatal injuries. The daughter's boyfriend received serious injuries and was airlifted to a hospital. There was no evidence of fire. No flight plan had been filed.

CREW & OCCUPANT INFORMATION

Pilot (seat #1): David Eric Walker (54, DOB [REDACTED]) – weight = 248lbs
Passenger (seat #2): Victoria Walker (21) – daughter of pilot – weight = 192lbs
Passenger (seat U/K): Tammy Walker (51) – wife of pilot – weight = 193lbs
Passenger (seat U/K): Luke Armstrong (U/K) – boyfriend of Victoria

Pilot Logs and Experience

Certificate: Private Pilot – issued 04-18-2013

Ratings: ASEL

Logbook summary:

~220 hours total flight experience recorded in logbook.

8 flights totaling 14 hours recorded in a PA-24-250

Last flight review on 05-14-2020.

Medical Information

Class: III

Date: 02-07-2020

Limitation: Must have available glasses for near vision.

METEOROLOGICAL INFORMATION

METAR KCFD 301915Z AUTO 16008KT 10SM CLR 36/21 A2978 RMK AO2

T03570207=

METAR KCFD 301935Z AUTO 12008G16KT 10SM CLR 36/21 A2977 RMK AO2

T03580205=

Maintenance Information

An airframe and engine logbook were located in a bag found in the baggage compartment. The airframe logbook was completely blank with no information connecting it to the N7469P and no entries recorded. The engine logbook did not have any information which connected it to N7469P and only contained a single maintenance entry recorded the day prior to the accident stating that a new vacuum pump had been installed. No other airframe, engine, or propeller logbooks were located among the wreckage.

WRECKAGE/IMPACT INFORMATION

Wreckage located just beyond the departure end of runway 15 at Coulter Field Airport (KCFD).

Initial Impact:

Lat: 30° 42.645'N

Long: 096° 19.667'W

Main Wreckage:

Lat: 30° 42.647'N

Long: 096° 19.663'W

Fuselage

Observed during the on-scene examination of the wreckage, the tailcone was separated from the cabin just aft of the baggage compartment and only remained connected by the stabilator and rudder flight control cables. The tailcone and empennage were on the ground and in an upright position. The engine, including the propeller and cowling, were on the ground adjacent to the tailcone and was facing the same direction as the tailcone. The forward part of the fuselage, including the cabin with both wings still attached, was upside-down and laying on top of the tailcone and the engine cowling. The cabin was facing the opposite direction from the tailcone and engine. The cabin door was partially separated from the

fuselage and fractured along the lower edge of the window. The aft baggage door remained attached to the fuselage by its hinge.

The firewall was partially separated from the forward cabin. The instrument panel exhibited impact damage and fragmentation throughout. Seat #1 and the aft bench seat (seat #3 & seat #4) remained attached to their respective mounts and within the cabin. Seat #2 was separated from the cabin and located in the debris field. The seat belt for seat #1 was cut through at both ends near the fuselage attach points consistent with first responder activity. The seat belt for seat #2 remained buckled and was cut through on the inboard side consistent with first responder activity. The seat belt buckles remained clasped for seat #3 and seat #4 and the webbing for both were cut through consistent with first responder efforts.

The lower instrument panel was impact damaged so that the position of the throttle, propeller, and mixture controls could not be determined. The engine primer sustained impact damage making it loose in its mount on the lower instrument panel. The primer plunger was in the forward position but with the locking pin visible in the collar.

The fuel selector handle was in the RIGHT MAIN position. The fuel selector handle was able to smoothly rotate through all of the other positions with the detents plainly noticed in each position. The fuel strainer bowl was in place in the lower fuselage. The bowl was removed to observe the filter screen which appeared free from blockage. No fuel was observed in the strainer or bowl as they were upside down with the fuselage. The electric fuel boost pumps were impact damaged but remained attached to the engine mount. The aircraft battery, which had separated from the fuselage and located in the debris field, was used to provide electrical power to the electric fuel pumps. One of the electric pumps was heard to operate normally. The other electric fuel pump would “click” and “bump” when power was applied but it would not operate continuously. The cross-over fuel line connecting the two electric fuel pumps was removed which allowed a small amount of liquid having an odor consistent with 100LL avgas to drain from the line. The end caps of the electric fuel pumps were removed to expose the filters. The filters appeared intact and free from blockage.

The instrument panel switch panel was impact damaged and separated from the rest of the instrument panel. The master switch was in the off position. The fuel pump switch was in the up or “on” position. The ignition switch was in the BOTH position but the key was separated from the switch.

The stabilator, rudder, and aileron flight control cables were continuous from the forward cockpit to each of the respective flight control surfaces. The turnbuckles connecting the forward aileron chain segments appeared intact. The flap control handle and surrounding floor structure were impact damaged so that the handle position was not determined. The tachometer displayed ~750 RPM and the hour meter showed 3325.52

Left Wing

Observed during the on-scene examination of the wreckage, the left wing remained attached to the fuselage and was upside-down. The aileron and flap remained attached to their respective hinges. The aileron appeared undamaged. The flap was extended and had impact damage to the outboard end. The flap hinges were deformed which prevented the flap from moving. The pitot mast and lift detector were both intact and appeared undamaged. The landing gear was in the extended position and appeared undamaged. The leading edge of the wing appeared undamaged except for approximately 2' of the inboard end. The wing had

come to rest on top of the engine and propeller with one blade of the propeller puncturing through the wing just forward of the inboard (main) fuel filler cap. The upper surface of the wing (lower side due to being upside down) exhibited blue stains, consistent with 100LL avgas, at three locations along the wing skin joints running spanwise.

Right Wing

Observed during the on-scene examination of the wreckage, the right wing remained attached to the fuselage and was upside-down. The flap remained attached to its hinges. The flap was in the up/retracted position but could not be moved on its hinges. The aileron remained partially attached to the wing. The aileron was impact damaged with the outboard end bent upwards. The landing gear was in the extended position and appeared undamaged. The leading edge of the wing exhibited crushing and crumpling along its span and an upward bend beginning at the outboard end of the flap. The right auxiliary fuel cell was torn and breeched. The right main fuel cell was visible from the wing root. The inboard forward portion of the right main fuel cell was observed with no tears or damage noted. Manual manipulation of the fuel cell did not reveal the presence of any fuel in what appeared to be the lowest portion of the fuel cell. The right main fuel cell access door was opened to reveal the fuel filler cap. The filler cap was secure in the opening and appeared normal when removed and examined.

Empennage

Observed during the on-scene examination of the wreckage, the vertical stabilizer remained attached to the tailcone and the rudder remained to the vertical stabilizer. The leading edge of the vertical stabilizer sustained some impact damage from the leading edge of the right wing which was on top of the tailcone. The rudder displayed some wrinkles in the skin along its span. The stabilator remained attached to the tailcone and was generally intact except for some wrinkling of the skin on the right and side and the outer third of the left end which was bent upwards. The pitch trim tab remained attached to the stabilator. The trim tab jackscrew was extended above the drum about .5" which corresponds to a partial aircraft nose up trim setting.

Engine

Observed during the on-scene examination of the wreckage, the engine was partially separated from the firewall and was upright on the ground beneath the left wing. The right magneto was separated from its drive pad. The left magneto was impact damaged with the case partially split open. The engine driven fuel pump was impact damaged and separated from its drive pad. One port on the engine driven fuel pump was fracture separated from the housing. No fuel was observed in the engine driven fuel pump.

Propeller

The three-blade McCauley propeller remained attached to the crankshaft propeller flange. One propeller blade exhibited chordwise scratches across the cambered face. Another blade exhibited polishing and chordwise scratches on the cambered face. The third blade was punctured through the left wing and did not appear to have the chordwise scratches similar to the other two blades.

NEWS AND MEDIA INFORMATION

The pilot's daughter posted three photos of the airplane on Snapchat prior to the flight. One photo shows the right side of the instrument panel and includes the fuel gauges. The fuel gauge

for the right main fuel cell indicates between $\frac{1}{4}$ and empty. The daughter captioned the photo, "I'm the pilot now".

ADDITIONAL INFORMATION

Coulter Field airport manager was working to obtain copy of security camera video showing taxi and beginning of takeoff roll.

----- *end of summary* -----

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B. PARTICIPANTS

Craig Hatch
Aerospace Engineer
National Transportation Safety Board
Denver, Colorado

Mark Platt
Senior Air Safety Investigator
Lycoming Engines
Williamsport, Pennsylvania

Jon Hirsch
Air Safety Investigator
Piper Aircraft
Vero Beach, Florida

C. DETAILS OF ENGINE/AIRFRAME EXAMINATION

A post-recovery engine/airframe examination was conducted at Air Salvage of Dallas, Lancaster, Texas, on May 5, 2021. The airplane sustained significant impact damage and was destroyed.

D. SUMMARY OF ENGINE/AIRFRAME EXAMINATION

Airframe – Piper PA-24, N7469P
Engine – Lycoming O-540

Engine

- Engine with part of the firewall/instrument panel on a pallet was examined.
- The 3 bladed propeller remained attached to the crankshaft. The blades had minor damage (see photos).
- The engine had impact damage with no obvious pre-impact abnormalities.
- Valve covers removed and rockers/springs were in place.
- Top set of spark plugs were removed.
- The prop governor was removed; screen was clear of debris/contaminants.
- The 3 bladed propeller was removed; crankshaft flange was bent (impact).
- Carburetor remained in place, mixture control was not connected, however, appeared to be impact separated from unit.
- Both magnetos in place had impact damage. Magnetos were removed and produced spark on each terminal when rotated.
- Accessory gearbox removed. Gears were in place and condition was okay.
- Continuity was established thru the valve train, rear accessory section, when engine was rotated by hand.
- Fuel pump had impact damage, the pump was removed and displayed evidence of water damage.
- The carburetor was removed from the engine and opened, the bowl and accelerator pump area displayed rust, in both areas, consistent with water contamination at some point.
- The fuel screen for the carburetor contained some debris/contamination.
- A thumb suction and compression test were performed on each cylinder, no abnormalities noted.

Airframe

- Fuel caps appeared to be correct and fit firm into fuel tank filler neck.
- A “needle slap” appeared present on airplane’s airspeed indicator.
- No evidence of a post-impact fire.

----- *end of summary* -----