

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

SUMMARY OF AIRCRAFT EXAMINATION

CEN22FA168

A. ACCIDENT

Location: Marlin, Texas

Date: April 5, 2022

Time: 12:31 pm Central Daylight Time

Aircraft: Cessna TU206F (S/N TU20603437) N858JA

B. PARTICIPANTS

David Bowling
Senior Air Safety Investigator
National Transportation Safety Board
Denver, Colorado

Christopher Wright
Air Safety Inspector
Federal Aviation Administration
Irving, Texas

Henry Soderlund
Air Safety Investigator
Textron Aviation
Wichita, Kansas

Sean Dey
Corporate Vice president
New ERA Technology, Inc
Boardman, Ohio

C. ACCIDENT SUMMARY

On April 5, 2022, about 1231 central daylight time, a Cessna TU206F airplane, N858JA, was substantially damaged when it was involved in an accident near Marlin, Texas. The 2 pilots

were fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 aerial observation flight.

The airplane departed the Houston Executive Airport (TME), Houston, Texas, on a pipeline inspection flight with a destination of Waco, Texas. Preliminary radar and Automatic Dependent Surveillance-Broadcast (ADS-B) data indicated the airplane first appeared at 1038 near TME. The airplane tracked north northeast toward Waco, Texas, and climbed to 4,000 ft msl. About an hour and a half into the flight, the airplane turned southwest and began a series of maneuvering turns over the area where the pipeline was located. The airplane continued to maneuver southwest and worked its way to a location 20 miles south of Waco. It then turned to the east toward the Marlin Airport (T15), Marlin, Texas. The pilot contacted Waco Approach Control and informed them that he was landing at T15.

The airplane overflew the airport and entered a left downwind traffic pattern for runway 17. The airplane continued to a left base leg and then final. An Armory security camera located on the airport recorded the airplane on final approach. The airplane touched down just past the approach end of the runway and bounced back into the air. It touched down a second time in the grass just right of the runway, struck a runway light, veered back on the runway, crossed the runway, and departed the left side of the runway. The airplane then disappeared behind a building. Mode C position reporting data showed three more airplane positions in close proximity just east of the airport. All track data was lost at 1231. The airplane was about 1,800 ft. southeast of the approach end of runway 17 at T15 when track data was lost.

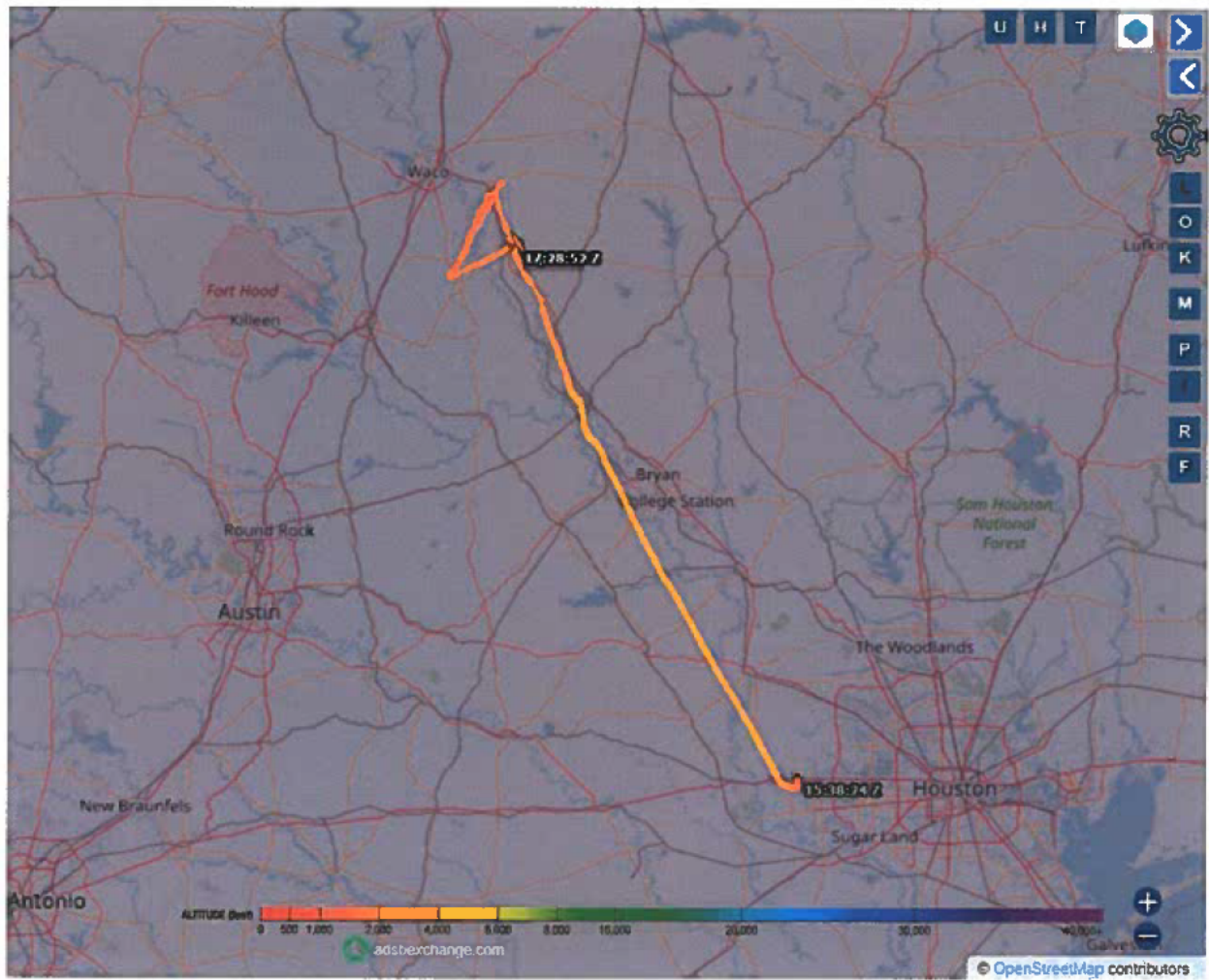


Figure 1. ADS-B Flight Track.



Figure 2. Enlarged ADS-B Image depicting the end of the End of the Flight Track.

The Automated Surface Observing System (ASOS) located at Waco Regional Airport (ACT), Waco, Texas, located about 25 miles south-southeast of the accident location, at 1151 reported clear skies, 10 miles visibility with temperature 86° F, dew point 64° F, wind 240° at 15 knots, and altimeter 29.62 in. HG.

E. DETAILS OF THE EXAMINATION

A post-accident examination was conducted at the accident site by the NTSB investigator-in-charge with the assistance of the Federal Aviation Administration, a technical representative from Textron Aviation, and a representative from the operator, New Era Technology, Inc. Following the examination, the airplane was recovered by Texas Aircraft Recovery Services and taken to Air Salvage of Dallas, Lancaster, Texas.

F. DESCRIPTION OF THE ACCIDENT SITE

The accident site was in a treed pasture located on the east side of a gravel road that ran along the east side of T15, and 1 mile northeast of Marlin, Texas. The elevation of the accident site was 410 ft and the terrain was predominately flat.

The airplane impacted in a near vertical attitude and rested upright on its main landing gear and nose on a heading of 281° at approximate coordinates of 31°20'23"N and 096°51'01"W.

The airplane main wreckage was located about 340 ft east of the runway and consisted of the fuselage, both wings, main landing gear, engine, and empennage. The propeller and nose landing gear were located west of the airplane. A debris field that contained broken pieces of the windscreen, cowling, glareshield, and instrument panel was located between the airplane and the propeller. An additional area of debris that consisted of the left wing tip was located beneath a tree about 90 ft west-northwest of the airplane. A broken tree branch was located among the debris.

The airplane's propeller was located 33 ft. west of the airplane main wreckage and was embedded about 1 ft into the ground. The propeller was broken torsionally at the flange. All three blades showed S-bending and chordwise scratches. A 4 ft by 4 ft impact crater was located beneath the propeller. Pieces of the windscreen were found in the crater. Two 6 in wide and 15 ft long impressions in the ground extended east and west from the impact crater. At the end of the east impression were pieces of the right wing tip and position light.

A second tree located 15 ft south of the impact crater showed several broken branches, which were found on the ground between the propeller and the tree.

G. SUMMARY OF AIRCRAFT EXAMINATION

Airframe – Cessna TU206F (s/n TU20603437)

The forward fuselage was crushed and broken aft and fragmented. The engine and bottom bowing were bent upward and to the left. The instrument panel, glareshield, and wind screen were broken aft and fragmented. The forward cabin was bent upward and aft. The cabin floor was bent upward and aft. The right cabin door was bent outward and broken. The door window was broken out. The door handle was in the closed and locked position and the door bayonet was extended. The left cabin door was intact, the handle in the closed and locked position, and the bayonet extended. The left seat was intact, and the lap belt was connected. The right seat was broken out. The lap belts to both seats were connected. First responders had cut the belts to remove the occupants. The airplane was not equipped with shoulder harnesses. Main landing gear were intact. The tires and brakes were undamaged. The forward right side aft door was broken out. The aft cabin where the DPM box and sensor were located was intact. The aft right side rear door was connected and intact.

The aft fuselage was bent and bucked. The empennage was broken laterally to the left, just forward of the leading edges of the vertical and horizontal stabilizers. The left horizontal stabilizer and elevator and vertical stabilizer and rudder were undamaged. The right horizontal stabilizer and elevator were broken just outboard of mid-span. A C-shaped impact mark was located in the stabilizer's leading edge about 15 in inboard of the tip. The elevator trim tab was bent downward near midspan about 90°. Flight control continuity from the cockpit to the elevator and rudder was confirmed.

The left wing was broken aft at the root and remained attached to the fuselage at the forward attach bolts. The left flap was intact and extended full down. The left aileron was intact and showed some buckling. Flight control continuity to the left aileron was confirmed. The left wing strut was mostly undamaged. It was broken at the fuselage mount and the wing cuff was fractured. The left wing tip was broken aft longitudinally and fragmented. The left wing leading edge was crushed aft and bent upward from mid-span outboard to the tip. Tree debris was embedded in the top wing skin about 5 ft inboard of the tip. The left fuel cap was intact in place. The smell of 100 low lead fuel was present.

The right wing leading edge was crushed aft 6 ft outboard of the root to the wing tip. The right wing strut was intact and connected to the wing and fuselage. The outer 9 ft. of the right wing leading edge was bent upward and crushed aft. The right wing tip was broken aft longitudinally and fragmented. The right aileron was intact and showed no damage. Flight control continuity to the right aileron was confirmed. The right wing flap was slightly buckled but mainly intact. It was slightly extended. The flap actuator showed the flap position at 10 degrees. The top wing skin just forward of the flap was buckled. The right wing fuel cap was intact and in place. The smell of 100 low lead fuel was present. 100 low lead fuel was dripping from the right wing fuel vent.

An inspection of the instrument panel and airplane controls and its associated systems showed the following:

The fuel selector was on the right fuel tank.

The tachometer showed 1,800 rpm and a time of 7831.4 hours.

Two fuel quantity gauges read zero.

The ammeter read zero

Cylinder head temperature read zero

Oil temperature read zero

Oil pressure read 100 psi

The flap handle was up

The fuel flow and fuel pressure indicators were broken.

The Hobs meter was broken. The time read as 535.1 hours.

The altimeter read 685 ft, and a setting of 29.6a inches Hg.

The attitude indicator showed a 90° left bank.

The heading indicator showed a heading 116°.

The turn and bank indicator showed a right ball and a 20° bank.

Auxiliary fuel pump was off.

Ignition switch was Both.

Airspeed indicator read zero.

Circuit breakers was all in with the exception of the pitot heat, landing lights, and the alternator.

Master switch was on.

Conclusion with the airframe: no preaccident failures or malfunctions were found that would have precluded normal operations.

Engine – Continental TSIO-520C, (s/n 1033512)

The engine was examined in the field. The top spark plugs were removed and inspected and showed normal wear. Both magnetos were removed and sparked, showing electrical continuity to the engine. The fuel distribution manifold was opened and showed fuel present. The fuel screen was clean and showed no debris. The cylinders were examined using a borescope. The pistons and valves were in the proper positions and showed no excessive wear. Conclusion, there were no preaccident malfunctions or failures with the engine that would have precluded normal operation.

Propeller – Manufacturer: McCauley

The propeller was removed from the impact crater. The spinner was crushed inward and aft around the piston. The three propeller blades were examined. All three blades showed S-bending indicative of being under power when the airplane impacted the front. The front faces of the blades exhibited chordwise scratches, paint removal, and gouging. The propeller flange was broken and showed rotational scoring and circumferential fracture indicative of power at impact. Conclusion, there were no preaccident malfunctions or failures with the propeller that would have precluded normal operation.

H. CERTIFICATION AND AGREEMENT

I certify that the field notes presented reflect the observations and information made and collected during the time we were at the accident scene of N858JA. The concurrency of the party members reflect only that these observations are true by the IIC and are open to continued discussion as the investigation continues.


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National Transportation Safety Board

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