



National Transportation Safety Board Aviation Accident Final Report

Location:	Price, TX	Accident Number:	CEN17FA095
Date & Time:	01/31/2017, 1540 CST	Registration:	N2810X
Aircraft:	CESSNA 177	Aircraft Damage:	Destroyed
Defining Event:	Low altitude operation/event	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Aerial Observation		

Analysis

The commercial pilot was conducting an aerial observation flight of pipelines in visual meteorological conditions. According to the operator, the pilot was transitioning the airplane to the east between two pipelines, which were about 112 miles apart. During the flight the airplane's left wing contacted the top guy-wire of a 449-ft tall communications tower. The airplane impacted terrain and a post-impact fire consumed the airplane.

Although the wreckage was significantly fragmented and damaged by fire, examination of the airframe and engine revealed no evidence of any preimpact mechanical malfunctions or failures that would have precluded normal operations. Separated sections of the left wing were found between the communications tower and main wreckage. Portions of the wing exhibited wire strike markings consistent with the diameter of the tower guy-wire, and white paint marks consistent with the left wing's paint color were found on the top guy-wire about 430 ft above ground level (agl). GPS data indicated that, for the last 10 minutes of flight, the airplane's altitude varied between 219 and 552 ft agl. The last data point showed the airplane at 403 ft. GPS data and wreckage and impact information are consistent with the pilot failing to maintain clearance from the communications tower guy-wire while flying a long-distance transition flight at low altitude.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's failure to maintain clearance from a communications tower guy-wire. Contributing to the accident was the pilot's decision to conduct a long distance transition flight at a low altitude.

Findings

Aircraft	Altitude - Not attained/maintained (Cause)
Personnel issues	Identification/recognition - Pilot (Cause) Decision making/judgment - Pilot (Factor)
Environmental issues	Tower/antenna (incl guy wires) - Effect on operation (Cause)

Factual Information

History of Flight

Maneuvering-low-alt flying	Low altitude operation/event (Defining event) Collision with terr/obj (non-CFIT)
-----------------------------------	---

On January 31, 2017, at 1540 central standard time, a Cessna 177 single-engine airplane, N2810X, impacted wooded terrain after striking a communications tower guy-wire near Price, Texas. The commercial pilot sustained fatal injuries, and the airplane was destroyed. The airplane was registered to and operated by Eagle Sky Patrol, Deadwood, South Dakota, as a Title 14 *Code of Federal Regulations* (CFR) Part 91 aerial observation flight. Visual meteorological conditions prevailed near the accident site at the time of the accident and a flight plan was not filed. The flight departed from Athens Municipal Airport (F44), Athens, Texas, at 1509.

According to the operator, the pilot departed from Houston Southwest Airport, Houston, Texas, on the morning of the accident to perform aerial observation of pipelines. After performing a portion of the planned aerial observation flight, the pilot refueled the airplane at F44. After departure and while transitioning to the east between two pipelines, which were about 112 miles apart, the airplane's left wing contacted the top guy-wire of a 449-ft tall communications tower. The airplane impacted terrain and a post-impact fire consumed most of the airplane. GPS data showed that, for the last 10 minutes of flight, the airplane's altitude varied between 219 and 552 ft above ground level (agl). The last data point showed the airplane at 403 ft agl.

A witness, who was located at his residence adjacent to the accident site, reported he heard an airplane engine "rev up", an initial explosion, and a secondary explosion. Two additional witnesses reported observing the airplane "tumbling end over end" and crashing in a wooded area.

Pilot Information

Certificate:	Commercial	Age:	24, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 2 Without Waivers/Limitations	Last FAA Medical Exam:	01/18/2016
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	(Estimated) 1700 hours (Total, all aircraft), 1000 hours (Total, this make and model)		

According to the operator, the pilot was hired in July 2016, and had flown about 200 hours per month since that time. Per the pilot's resume submitted at the time of his hire, the pilot had 715.5 total flight hours, 629.8 hours of which were as pilot-in-command.

Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	Registration:	N2810X
Model/Series:	177	Aircraft Category:	Airplane
Year of Manufacture:	1967	Amateur Built:	No
Airworthiness Certificate:	Normal; Utility	Serial Number:	17700210
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	06/06/2016, Annual	Certified Max Gross Wt.:	2350 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	5941.02 Hours as of last inspection	Engine Manufacturer:	LYCOMING
ELT:	C91 installed, not activated	Engine Model/Series:	O-320-E2D
Registered Owner:	EAGLE SKY PATROL INC	Rated Power:	160 hp
Operator:	EAGLE SKY PATROL INC	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	RFI, 442 ft msl	Distance from Accident Site:	6 Nautical Miles
Observation Time:	1555 CST	Direction from Accident Site:	80°
Lowest Cloud Condition:	Clear	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	11 knots / 15 knots	Turbulence Type Forecast/Actual:	/ None
Wind Direction:	190°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.98 inches Hg	Temperature/Dew Point:	24° C / 1° C
Precipitation and Obscuration:	No Precipitation		
Departure Point:	Athens, TX (F44)	Type of Flight Plan Filed:	None
Destination:	Frierson, LA	Type of Clearance:	None
Departure Time:	1509 CST	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	On-Ground
Total Injuries:	1 Fatal	Latitude, Longitude:	32.130833, -94.954167 (est)

Separated sections of the left wing were located between the communications tower and the main wreckage. Portions of the left wing, near wing station 110.00, exhibited wire strike markings consistent with the diameter of the tower guy-wire. A tower employee who responded after the accident to check the condition of the tower, observed white paint marks which were consistent with the left wing's paint color on the top guy-wire about 430 ft. agl. The main wreckage came to rest about 820 ft east of the tower in wooded terrain, and consisted of the right wing, a portion of the left wing, fuselage, empennage, and engine.

A majority of the main wreckage was consumed by a post-impact fire. The propeller had separated from the engine crankshaft and came to rest adjacent to the main wreckage. One propeller blade exhibited twisting at the blade tip, and one propeller blade exhibited S-shape bending. A tree trunk, adjacent to the main wreckage, exhibited a 6-inch-wide cut consistent with contact from a propeller blade. The engine crankshaft flange was rotated by hand, and mechanical continuity was established throughout the engine and accessories. Thumb compression was noted on the Nos. 1 and 3 cylinders. The oil sump screen was absent of

debris.

Flight control continuity was confirmed from the cockpit controls to the elevator, rudder, right flap, and the left flap actuator. The left flap was disconnected from the flap actuator during the accident sequence. The aileron cables were attached to the aileron bell cranks in the wing. The left aileron cables exhibited broomstrawing features in the wing area that contacted the guy-wire. The flaps were in the retracted position based on the actuator measurement.

The firewall fuel strainer was partially consumed by fire, and the filter was absent of debris. The fuel selector handle displayed thermal damage, but remained attached to the fuel selector valve, which was in the "both" position.

Due to the post-impact fire, no paperwork recognizable as visual flight rules (VFR) sectional maps, was found within the wreckage area.

Medical And Pathological Information

The Forensic Medical Management Services, Tyler, Texas, performed an autopsy on the pilot. The listed cause of death was "blunt impact injuries as a result of an accident."

The Federal Aviation Administration's (FAA) Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, performed toxicological testing on the pilot. The tests were negative in cavity blood for all screened drugs, carbon monoxide, and alcohol.

Additional Information

The operator's representative, who responded to the accident site, stated that the company's minimum altitude was 500 ft agl during transitional flight between pipelines. The National Transportation Safety Board (NTSB) investigator-in-charge (IIC) requested copy of the operator's procedures manual; however, the company did not provide a copy for review.

According to the Federal Communications Commission (FCC) Antenna Structure Registration, the communications tower that was struck was referenced as FCC Registration Number 1297752 and was constructed on January 4, 2016. Another tower, FCC Registration Number 1047526, which was located about 0.48 miles south-southwest of the accident tower, was dismantled on August 10, 2016.

The Memphis VFR sectional chart, effective from September 15, 2016, to March 30, 2017, depicted the FCC 1047526 tower obstruction and noted that the elevation of the tower's top was 873 ft mean sea level and 460 ft agl, but it did not depict the FCC 1297752 tower. The Memphis VFR sectional chart effective from March 30, 2017, to September 14, 2017, depicted

tower information according to obstacle data available as of February 2, 2017, which included the FCC 1047526 and 1297752 towers.

The NTSB IIC and an NTSB air traffic control specialist asked the FAA about the Memphis VFR sectional chart and the procedures for updating sectional charts for new obstructions. The FAA responded, in part, that it received data from a large variety of sources. The data changes are then analyzed and processed until the information cutoff date, which is 56 days before the sectional chart effective date. The depiction of the tower information near the accident site on the Memphis VFR sectional chart effective from September 15, 2016, to March 30, 2017, was correct according to data that were provided at that time to the FAA for publication. The FAA was notified in November 2016 of a new tower (FCC 1297752) located about 1/2 mile north of the original tower depicted on the chart. However, at that time, the FAA had not yet received confirmation of the dismantlement of the FCC 1047526 tower.

The FAA added that the FAA's Obstruction and Evaluation Group (OEG) obtained notification of tower construction and dismantling from tower owners or sponsors, and the information was passed to the FAA's Charting Office (AJV-5). Per 14 *CFR* Part 77 section 11, Supplemental Notice Requirements, tower owners must file a supplemental notice with the FAA when the construction or alteration is higher than 200 ft agl at its site, within a time limit specified by the FAA, or if no time limit is specified, the notice of construction must be submitted within 5 days after the structure reaches its greatest height. AJV-5 received updates from many sources, not just OEG, for making changes to sectional charts. AJV-5 had a quality control process in place to ensure the accuracy of the changes to the charts, and because of that, there was a time delay.

For the FCC 1297752 tower involved in this accident, the FAA stated,

"The owner of this new tower notified the OEG via the supplemental form about the construction on November 2, 2016. This date is long past the construction date of January [2016] and well past the July 21 [2016] cutoff date for the September [2016] chart. The information on the supplemental form submitted in November was not completely correct so another supplemental form was submitted in February 2017 to correct the wrong information. OEG was aware of the tower because of [a] study back in October 2015, and the sponsor is to notify the OEG within 5 days of construction and that did not happen in this case. Once the OEG has the information for constructing or dismantling a tower, then that information is passed onto AVJ-5."

Administrative Information

Investigator In Charge (IIC):	Aaron M Sauer	Report Date:	04/09/2018
Additional Participating Persons:	Gary Watson; Federal Aviation Administration; Dallas, TX Henry Soderlund; Textron Aviation; Wichita, KS Cameron McSpadden; Eagle Sky Patrol; Deadwood, SD		
Publish Date:	04/09/2018		
Note:	The NTSB traveled to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=94676		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).