Aviation Investigation Final Report

Location:	Rockwall, Texas	**Accident Number:**	CEN21LA055
Date & Time:	November 12, 2020, 13:06 Local	**Registration:**	N7306H
Aircraft:	Cessna 182R	**Aircraft Damage:**	Substantial
Defining Event:	Collision with terr/obj (non-CFIT)	**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot was on approach to the destination airport and elected to land on runway 35, which was the opposite direction of other aircraft in the traffic pattern. A pilot in the traffic pattern reported that he made radio transmissions to the accident pilot to inform him that runway 17 was in use, but the accident pilot did not respond.

Multiple surveillance cameras captured the accident sequence and showed that the airplane did not touch down on the runway until about one-half way down the usable runway area. After the airplane touched down and passed the segmented circle, smoke from the main landing gear wheels could briefly be seen. Immediately afterward, the airplane overran the departure end of the runway and descended toward lower terrain before the airplane ascended slightly and impacted power lines that were located about 440 ft north of the departure end of the runway. The airplane impacted the ground in a right-wing-low attitude and sustained substantial damage to both wings and the fuselage.

A postaccident inspection of the automated weather observing system revealed that a missing mounting screw allowed the crossarm to be misaligned at some point before the accident. As a result, the wind was reported as 30° to 40° to the west of the actual wind direction at the time of the accident flight. This misalignment resulted in the airplane landing with a slight tailwind as opposed to the headwind the pilot was expecting based upon the reported wind condition.

Probable Cause and Findings

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

The pilot's decision to continue an unstabilized approach and his delayed go-around decision, which resulted in the airplane's impact with power lines and the ground. Contributing to the accident was the inaccurate wind direction reporting as a result of a misaligned crossarm on the weather reporting station.

Findings

Personnel issues	Decision making/judgment - Pilot
Environmental issues	Wire - Contributed to outcome
Environmental issues	Tailwind - Accuracy of related info

Factual Information

History of Flight

Approach-VFR go-around	Collision with terr/obj (non-CFIT) (Defining event)

On November 12, 2020, about 1307 central standard time, a Cessna 182, N7306H, was substantially damaged when it was involved in an accident near Rockwall, Texas. The private pilot and passenger sustained fatal injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The airplane departed from Abilene Regional Airport (ABI), Abilene, Texas, about 1139 on an instrument flight rules flight plan. The pilot's last communications with air traffic control occurred at 1303 when he canceled the flight plan and proceeded to Rockwall Municipal Airport (F46), Rockwall, Texas.

A review of archived Federal Aviation Administration (FAA) automatic dependent surveillance-broadcast data showed that, as the airplane approached F46, it appeared to enter a left downwind leg for runway 35. The traffic pattern indicators as part of the segmented circle indicated a right traffic pattern for runway 35.

Another pilot who was in the traffic pattern reported that he did not hear the accident pilot make any radio transmissions on the airport's common traffic advisory frequency. This pilot stated that he made an announcement that runway 17 was in use but received no response.

A helicopter pilot who was hovering over a taxiway stated that he heard the accident pilot announce that his airplane was 10 miles away and that he intended to land on runway 35. The helicopter pilot told the accident pilot that runway 17 was in use, but no acknowledgment or reply was received. The accident pilot announced shortly afterward that his airplane was on a 3-mile final for runway 35. The helicopter pilot repeated that runway 17 was in use, and once again, no reply of acknowledgment was received.

Multiple surveillance cameras positioned around F46 captured the accident sequence. The first camera, located at a fixed-base operator on the southeast corner of the airport and adjacent to the runway 35 threshold, captured the airplane when it was about 10 ft over the runway's surface; the airplane did not appear to touch down in that video. A second camera, located on the northwest side of the runway and adjacent to the windsock, captured the airplane shortly after cresting the peak of the sloped runway. In that video, the airplane appeared to have touched down on the runway. The camera angle was limited to the displaced threshold for runway 17; when the airplane passed from the camera's field of view, the airplane was still on the runway surface.

A third camera captured the remaining runway and accident sequence. Shortly after the airplane passed the segmented circle, smoke from the main landing gear wheels could briefly be seen. Immediately afterward, the airplane overran the departure end of the runway and descended toward lower terrain before ascending slightly. The airplane appeared to be in a nose-high pitch attitude before the left wing impacted power lines that were located about 440 ft north of the departure end of the runway. Subsequently, the airplane spiraled to the ground and out of the camera's field of view. The figure below shows the information that the surveillance videos captured. The airplane impacted the ground in a right-wing-low attitude.

Pilot Information

Certificate:	Private	**Age:**	75,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Lap only
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	September 1, 2020
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	2175 hours (Total, all aircraft)		

Pilot-rated passenger Information

Certificate:	Private	**Age:**	64,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):		**Restraint Used:**	
Instrument Rating(s):		**Second Pilot Present:**	No
Instructor Rating(s):		**Toxicology Performed:**	
Medical Certification:		**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 600 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N7306H
Model/Series:	182R	**Aircraft Category:**	Airplane
Year of Manufacture:	1981	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	18267901
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:		**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	CONT MOTOR
ELT:		**Engine Model/Series:**	O-470 SERIES
Registered Owner:	M W J INDUSTRIES LTD	**Rated Power:**	230 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KF46,575 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	12:55 Local	**Direction from Accident Site:**	169°
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Broken / 7000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots / None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	290°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	23°C / 12°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Abilene, TX (KABI)	**Type of Flight Plan Filed:**	IFR
Destination:	Rockwall, TX	**Type of Clearance:**	IFR
Departure Time:	11:39 Local	**Type of Airspace:**	

At 1255 CST, the automated weather observing system (AWOS) reported the wind from 290° at 6 knots. About 12 minutes later, when the airplane is visible on the surveillance videos, windsocks located at different positions on the airport property depicted a more southerly wind.

On the day after the accident, a maintenance technician was requested to inspect the AWOS and its equipment. During the inspection, the technician found that the AWOS crossarm was misaligned due to a missing mounting screw. The technician estimated that, as a result of the misaligned crossarm, the reported wind direction on the day of the accident differed from the actual wind direction by 30° to 40° to the west. With the wind reported as being 290°, this would equate to an actual wind direction of between 260° and 250°, which would change the perceived headwind into an actual tailwind.

Although the available evidence for this investigation did not indicate how long the crossarm had been misaligned, annual maintenance of the AWOS on October 22, 2020 (3 weeks before the accident), showed the item, "verification of wind direction" was marked with a line through an adjacent box.

Airport Information

Airport:	Rockwall Municipal Airport F46	**Runway Surface Type:**	Asphalt
Airport Elevation:	574 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	35	**IFR Approach:**	Visual
Runway Length/Width:	3373 ft / 45 ft	**VFR Approach/Landing:**	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	32.936653,-96.436255(est)

Postaccident examination at the wreckage site found that the right wing had separated into two pieces that were lying on the left side of the airplane. The left wing was found flat on the ground with wire strike marks on the outboard 2 ft of the wing's leading edge.

Both main wheels with no flat spots noted. Flight control continuity was established to the ailerons, elevators, and rudder, and the flaps were found in the retracted position. Cylinder compression and rotational continuity throughout the engine and valve train were confirmed. Additionally, the left and right magnetos produced spark on connected ignition leads. No

mechanical anomalies or malfunctions were found that would have precluded normal airplane operation.

Administrative Information

Investigator In Charge (IIC):	Williams, David
Additional Participating Persons:	Henry Soderlund; Textron Aviation; Wichita, KS Robert Bennett; FAA; Irving, TX
Original Publish Date:	July 7, 2022
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=102275

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