Aviation Investigation Final Report

Location:	Galveston, Texas	**Accident Number:**	CEN14LA015
Date & Time:	October 23, 2013, 11:30 Local	**Registration:**	N4151D
Aircraft:	North American P 51D	**Aircraft Damage:**	Substantial
Defining Event:	Controlled flight into terr/obj (CFIT)	**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot and passenger departed on the flight in a vintage warbird airplane. After departure, radar tracked the flight along a bay in a southwestern direction. A witness reported that he heard the airplane overhead heading south and that he then saw the airplane slowly turn north and appear to descend at a high rate of speed before it impacted the water. The airplane was largely fragmented upon impact.

The flight was recorded by an onboard video recording system. A review of the video revealed that, a few minutes into the flight, the pilot asked the passenger if he'd like to fly the airplane. The passenger replied he was not a pilot, but he'd like to try it. The video showed that, with the passenger at the controls, the airplane steeply banked right to about 90 degrees, and the nose dropped; the pilot explained that back pressure was needed on the stick during turns to prevent the loss of lift. The conversation continued as the airplane was rolling to wings level and as the pilot was encouraging the passenger to pull back on the stick. During this time, the video showed the airplane descending toward the water. Neither the pilot nor passenger acknowledged the impending collision. It is likely that the pilot's focused attention on instructing the passenger contributed to the his lack of recognition of the impending collision. It could not be determined if the water's smooth surface contributed to the pilot's loss of situational awareness. The accident is consistent with the pilot's loss of situational awareness resulting in controlled flight into the water.

Probable Cause and Findings

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

The pilot's loss of situational awareness while instructing the passenger, which resulted in the controlled flight of the airplane into the water.

Findings

Personnel issues	Situational awareness - Pilot
Aircraft	Altitude - Not attained/maintained
Environmental issues	Water - Awareness of condition

Factual Information

History of Flight

Enroute	Controlled flight into terr/obj (CFIT) (Defining event)

On October 23, 2013, about 1130 central daylight time, a North American P-51D airplane, N4151D, impacted the waters of Galveston Bay near Galveston, Texas. The airline transport rated pilot and passenger were fatally injured and the airplane was substantially damaged. The airplane was registered to the Texas Aviation Hall of Fame, Galveston, Texas, and operated by the Lone Star Flight Museum, Galveston, Texas, under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed and a flight plan was not filed for the flight. The flight originated from the Scholes International Airport (KGLS), Galveston, Texas, about 1120.

A review of air traffic control (ATC) communications, revealed routine radio communications between ATC and the pilot. Shortly after takeoff, the KGLS tower controller queried the pilot if he wanted to contact Houston Center after leaving the control tower's airspace or remain on the tower frequency. The pilot reported that they would be airborne for 25-30 minutes and would remain on the tower controller's frequency. There was no further communication between the pilot and ATC.

A witness, who was on a fishing boat, reported that he heard the airplane overhead heading south. The airplane made a slow turn to the north. The witness added that it appeared the airplane was descending and traveling at a high rate of speed. The engine sounded like it was at full throttle and the wings were level before impact with the water.

A review of radar data for the accident flight depicted the airplane departing KGLS and climbing. The airplane's track showed the airplane maneuvering and generally heading southwest, over the water of West Bay. The airplane reached an altitude of 3,500 feet, and then descended to 2,800 feet with airspeed about 200 knots, before the radar data ended.

The accident site was located about 13 miles southwest of KGLS, in shallow water between West Bay and Chocolate Bay. The winds at the time of the accident were reported as light.

The airplane fragmented upon impact with the water. The engine, propeller, both wings, pieces of the fuselage, and a majority of the empennage were recovered; the remainder of the wreckage was not recovered.

The airplane was equipped with an on-board video recording system. The system records two camera views along with audio. One fish-eye lensed camera is mounted in the vertical stabilizer and captures a view of the airplane and horizon. The fish-eye camera view is looking forward, with the cockpit canopy in the center; images of the surrounding terrain can generally be seen in the background. The second camera is mounted in the cockpit and captures a view of the rear seat occupant. The system records an inset image of the passenger in the lower right portion of the airplane view.

With the assistance of the Galveston County Sheriff Office, Marine Patrol and the Federal Bureau of Investigations Evidence Response Team, the video recording unit with SD card was located in the wreckage, and recovered from the bay. The unit was shipped to the National Transportation Safety Board (NTSB)'s Vehicle Recorder Laboratory in Washington, DC.

A video file was recovered from the SD card that captured the accident flight. A video group that consisted of representatives from the NTSB, Federal Aviation Administration and the operator was convened in at the NTSB Recorders Laboratory, Washington, DC, to view and document the video. The video depicted the airplane's departure and flight over the bay; the video also captures the conversation between the pilot, air traffic control, and the passenger. After leveling off, the pilot demonstrated several turns. After a few minutes, the pilot asked the passenger if he'd like to fly the airplane. The passenger stated he was not a pilot, but he'd like to try it. With the passenger on the controls, the pilot explained left and right turns. The airplane was viewed maneuvering with reference to the conversation between the pilot and passenger [A full detailed transcript of the video and audio is available in the NTSB public docket]. With the passenger still at the controls, the airplane was seen steeply banking to the right to almost 90 degrees, with the nose of the airplane dropping; the pilot explained that back pressure is needed during turns, to prevent the loss of lift. The conversation continued as the airplane was rolling wings level and the pilot was encouraging the passenger to pull back on the stick. During this time, the video depicted the airplane in a descent towards the water. Neither the pilot nor passenger acknowledged the impending collision. The review of the video also noted that the surface of the bay's water appeared smooth, almost glass like. The video did not capture the actual impact with the water, due to a delay in the recording to the SD card and the interruption of power to the unit.

Pilot Information

Certificate:	Airline transport	**Age:**	51
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):	Glider	**Restraint Used:**	5-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Glider; Instrument airplane	**Toxicology Performed:**	Yes
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	September 3, 2013
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 11300 hours (Total, all aircraft), 100 hours (Total, this make and model)		

Passenger Information

Certificate:		**Age:**	
Airplane Rating(s):		**Seat Occupied:**	Rear
Other Aircraft Rating(s):		**Restraint Used:**	
Instrument Rating(s):		**Second Pilot Present:**	No
Instructor Rating(s):		**Toxicology Performed:**	No
Medical Certification:		**Last FAA Medical Exam:**	
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	North American	**Registration:**	N4151D
Model/Series:	P 51D	**Aircraft Category:**	Airplane
Year of Manufacture:	1944	**Amateur Built:**	
Airworthiness Certificate:	Limited (Special)	**Serial Number:**	44-73458A
Landing Gear Type:	Retractable - Tailwheel	**Seats:**	
Date/Type of Last Inspection:	February 18, 2013 Condition	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Packard
ELT:	Installed	**Engine Model/Series:**	V-1650
Registered Owner:		**Rated Power:**	
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KGLS	**Distance from Accident Site:**	13 Nautical Miles
Observation Time:	11:52 Local	**Direction from Accident Site:**	245°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.15 inches Hg	**Temperature/Dew Point:**	23°C / 10°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Galveston, TX (KGLS)	**Type of Flight Plan Filed:**	None
Destination:	Galveston, TX (KGLS)	**Type of Clearance:**	None
Departure Time:	11:20 Local	**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	29.166666,-95.10028

Administrative Information

Investigator In Charge (IIC):	Hatch, Craig
Additional Participating Persons:	Jeff Riff; FAA FSDO; Houston, TX David Gerlach; FAA AVP-100; Washington, DC Clint Crookshanks; AS-40 Aviation Engineering; Denver, CO Larry Gregory; Lone Star Museum; Galveston, TX
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Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=88291