



National Transportation Safety Board Aviation Accident Data Summary

Location:	Fort Pierce, FL	Accident Number:	ERA15FA175
Date & Time:	04/01/2015, 1100 EDT	Registration:	N224BD
Aircraft:	BEDECORP LLC BD-22	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Flight Test		

Analysis

The commercial pilot was tasked with performing high-speed taxi tests and familiarization with the experimental airplane. After performing two high-speed taxis, the pilot requested taxi clearance to the active runway, received a takeoff clearance, and departed from the runway. Witnesses reported that, after departure and while in the traffic pattern, the airplane's pitch oscillated and that, when it turned onto the final leg of the traffic pattern, it continued to pitch up and down. The airplane subsequently descended and impacted terrain about 1 mile from the approach end of the runway.

Images captured by an onboard video recorder provided information about where the pilot's attention was directed, his interaction with the flight controls, and the status of cockpit instruments and engine indicators. The information indicated that the pilot did not pin his left arm to the armrest and that he used his entire forearm to move the airplane's sidestick flight control. In addition, the pilot released and re-gripped the sidestick several times, which exacerbated the negative g maneuvers. These control inputs were indicative of the pilot overcontrolling the airplane. As the pilot flew the right-hand traffic pattern, he repeatedly turned his head right and/or reached right. These movements and distractions resulted in the airplane beginning to oscillate. In each of the pitch excursions, except for one that occurred during the takeoff, the pilot's left arm moved fore and aft, and negative gs were present. During the flight, as the speed increased, each pitch oscillation increased; the final adjustment of the flight control by the pilot resulted in an overstress of the airframe and its subsequent in-flight breakup.

A postaccident examination of the airframe, flight controls, and engine revealed no evidence of mechanical malfunctions or failures that would have precluded normal operation. Although the pilot reported a high level of total flight experience, he had accumulated less than 1/2 hour of total flight experience in the accident airplane make and model at the time of the accident. The airplane manufacturer's flight test policy indicated that, to gain experience, pilots should first taxi the airplane, then perform high-speed taxis, then perform high-speed taxis with the nose gear off the ground, and finally, after the pilot was comfortable with the airplane, to perform a takeoff. The pilot decided to perform the takeoff without the requisite experience; therefore, he was operating contrary to the manufacturer's flight test policy.

Flight Events

Approach-VFR pattern final - Abrupt maneuver
Approach-VFR pattern final - Loss of control in flight
Approach-VFR pattern final - Collision with terr/obj (non-CFIT)

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be:
 The pilot's excessive pitch control inputs to the airplane's sidestick control, which resulted in an overstress of the airframe and its subsequent in-flight breakup. Contributing to the accident was the pilot's decision to operate the airplane contrary to the manufacturer's flight test policy.

Findings

Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Dynamic load-Capability exceeded - C

Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C

Personnel issues-Action/decision-Info processing/decision-Decision making/judgment-Pilot - F

Pilot Information

Certificate:	Flight Instructor; Commercial	Age:	66
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	Airplane Single-engine
Flight Time:	4500 hours (Total, all aircraft), 0.4 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	BEDECORP LLC	Registration:	N224BD
Model/Series:	BD-22	Engines:	1 Reciprocating
Operator:	BEDECORP LLC	Engine Manufacturer:	Lycoming Engines
Operating Certificate(s) Held:	None	Engine Model/Series:	O-235-L2C
Flight Conducted Under:	Part 91: General Aviation - Flight Test		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	FPR, 23 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:	None	Wind Speed/Gusts, Direction:	8 knots / , 280°
Temperature:	22° C	Visibility	10 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Fort Pierce, FL (FPR)	Destination:	Fort Pierce, FL (FPR)

Airport Information

Airport:	ST LUCIE COUNTY INTL (FPR)	Runway Surface Type:	Asphalt
Runway Used:	28L	Runway Surface Condition:	Dry
Runway Length/Width:	6492 ft / 150 ft		

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:	None
Latitude, Longitude:	27.497222, -80.338889		

Administrative Information

Investigator In Charge (IIC):	Heidi Moats	Adopted Date:	07/25/2016
Note:	The NTSB traveled to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=90970		

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