



# National Transportation Safety Board Aviation Accident Data Summary

<b>Location:</b>	Fort Pierce, FL	<b>Accident Number:</b>	ERA15FA175
<b>Date &amp; Time:</b>	04/01/2015, 1100 EDT	<b>Registration:</b>	N224BD
<b>Aircraft:</b>	BEDECORP LLC BD-22	<b>Injuries:</b>	1 Fatal
<b>Flight Conducted Under:</b>	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

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

## Aircraft and Owner/Operator Information

<b>Aircraft Manufacturer:</b>	BEDECORP LLC	<b>Registration:</b>	N224BD
<b>Model/Series:</b>	BD-22	<b>Engines:</b>	1 Reciprocating
<b>Operator:</b>	BEDECORP LLC	<b>Engine Manufacturer:</b>	Lycoming Engines
<b>Air Carrier Operating Certificate:</b>	None	<b>Engine Model/Series:</b>	O-235-L2C
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Flight Test		

## Meteorological Information and Flight Plan

<b>Observation Facility, Elevation:</b>	FPR, 23 ft msl	<b>Weather Information Source:</b>	Weather Observation Facility
<b>Conditions at Accident Site:</b>	Visual Conditions	<b>Lowest Ceiling:</b>	None
<b>Condition of Light:</b>	Day	<b>Wind Speed/Gusts, Direction:</b>	8 knots, 280°
<b>Temperature:</b>	22° C / 16° C	<b>Visibility</b>	10 Miles
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Fort Pierce, FL (FPR)	<b>Destination:</b>	Fort Pierce, FL (FPR)

## Airport Information

<b>Airport:</b>	ST LUCIE COUNTY INTL (FPR)	<b>Runway Surface Type:</b>	Asphalt
<b>Runway Used:</b>	28L	<b>Runway Surface Condition:</b>	Dry
<b>Runway Length/Width:</b>	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

## 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:	<a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=90970">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=90970</a>		

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