



# Aviation Investigation Final Report

<b>Location:</b>	Odessa, Texas	<b>Accident Number:</b>	CEN22LA166
<b>Date &amp; Time:</b>	March 29, 2022, 18:45 Local	<b>Registration:</b>	N469SL
<b>Aircraft:</b>	Beech B200	<b>Aircraft Damage:</b>	None
<b>Defining Event:</b>	Clear air turbulence encounter	<b>Injuries:</b>	1 Serious, 5 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Business		

## Analysis

The pilot reported that while descending at about 160 kts during an instrument approach in visual meteorological conditions with the autopilot engaged, and passing through 5,000 ft msl, the airplane encountered “a sudden pocket” of severe clear air turbulence for one second, resulting in the loss of about 300 ft of altitude. A passenger in the cabin, who was in the process of restraining himself when the turbulence encounter occurred, hit his head on the cabin ceiling and sustained a serious injury. The autopilot was turned off, the pilot continued with the approach, and the airplane landed at the destination airport without further incident.

The airplane did not sustain any damage from the turbulence encounter. The pilot reported there were no preaccident mechanical malfunctions or failures with the airplane that would have precluded normal operation. The pilot reported that at the time of the accident, an AIRMET for moderate turbulence below 12,000 ft msl and high surface winds was active for the area.

The passengers were verbally instructed by the pilot to make sure their restraint systems were fastened. The pilot activated the cabin seatbelt sign as an aural and visual warning as reinforcement.

## Probable Cause and Findings

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

The airplane’s encounter with severe clear air turbulence that was not forecasted, which resulted in a serious injury to an unrestrained passenger.

## Findings

<b>Environmental issues</b>	Clear air turbulence - Effect on personnel
<b>Environmental issues</b>	Clear air turbulence - Awareness of condition
<b>Environmental issues</b>	Clear air turbulence - Contributed to outcome
<b>Environmental issues</b>	Clear air turbulence - Compliance w/ procedure
<b>Personnel issues</b>	Use of equip/system - Passenger
<b>Aircraft</b>	Passenger compartment equip - Not used/operated

## Factual Information

### History of Flight

<b>Approach</b>	Clear air turbulence encounter (Defining event)
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### Pilot Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	31, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	4-point
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	Airplane multi-engine; Airplane single-engine; Instrument airplane	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 1 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	August 2, 2021
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	May 20, 2021
<b>Flight Time:</b>	(Estimated) 4000 hours (Total, all aircraft), 1300 hours (Total, this make and model), 3800 hours (Pilot In Command, all aircraft), 100 hours (Last 90 days, all aircraft), 50 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Beech	<b>Registration:</b>	N469SL
<b>Model/Series:</b>	B200 None	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1982	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	BB-1036
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	10
<b>Date/Type of Last Inspection:</b>	September 14, 2021 AAIP	<b>Certified Max Gross Wt.:</b>	12500 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	2 Turbo prop
<b>Airframe Total Time:</b>	9044 Hrs as of last inspection	<b>Engine Manufacturer:</b>	Pratt & Whitney Canada
<b>ELT:</b>	C126 installed, not activated	<b>Engine Model/Series:</b>	PT6A-52
<b>Registered Owner:</b>	Vole Enterprises, LLC	<b>Rated Power:</b>	850 Horsepower
<b>Operator:</b>	Integrated Pain Associates, PLLC	<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>	Integrated Pain Associates, PLLC	<b>Operator Designator Code:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	KODO,2983 ft msl	<b>Distance from Accident Site:</b>	1 Nautical Miles
<b>Observation Time:</b>	18:53 Local	<b>Direction from Accident Site:</b>	310°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	6 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	26 knots / 33 knots	<b>Turbulence Type Forecast/Actual:</b>	Clear air / Clear air
<b>Wind Direction:</b>	300°	<b>Turbulence Severity Forecast/Actual:</b>	Moderate / Severe
<b>Altimeter Setting:</b>	29.47 inches Hg	<b>Temperature/Dew Point:</b>	29°C / -8°C
<b>Precipitation and Obscuration:</b>	Moderate - None - Haze		
<b>Departure Point:</b>	Temple, TX (TPL)	<b>Type of Flight Plan Filed:</b>	IFR
<b>Destination:</b>	Odessa, TX	<b>Type of Clearance:</b>	IFR
<b>Departure Time:</b>	17:41 Local	<b>Type of Airspace:</b>	Class C

## Airport Information

<b>Airport:</b>	Odessa Airport-Schlemeyer Field ODO	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	3004 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	29	<b>IFR Approach:</b>	Global positioning system;RNAV
<b>Runway Length/Width:</b>	6200 ft / 100 ft	<b>VFR Approach/Landing:</b>	None

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	None
<b>Passenger Injuries:</b>	1 Serious, 4 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Serious, 5 None	<b>Latitude, Longitude:</b>	31.917969,-102.37715(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Hodges, Michael
<b>Additional Participating Persons:</b>	John Sims; FAA Lubbock FSDO; Lubbock, TX
<b>Original Publish Date:</b>	July 1, 2022
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class 4</a>
<b>Note:</b>	The NTSB did not travel to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=104886">https://data.ntsb.gov/Docket?ProjectID=104886</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).