



Aviation Investigation Final Report

Location:	Herlong, Nevada	Accident Number:	WPR23LA018
Date & Time:	October 14, 2022, 19:05 Local	Registration:	N21486
Aircraft:	Piper J3F-60	Aircraft Damage:	Substantial
Defining Event:	Aerodynamic stall/spin	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that, while flying in formation inbound for landing, during the base leg to final approach turn, the airplane in front of his slowed down too much and he had to maneuver to give the airplane room to land. During the maneuver, the accident airplane encountered the preceding airplane's wake turbulence and subsequently entered a spin at about 100 ft above ground level. The pilot was able to recover from the spin and collided with the ground hard in a wings level attitude. The wings and fuselage were substantially damaged. The pilot reported that there were no preaccident mechanical failures or malfunctions with the airplane that would have precluded normal operation.

Probable Cause and Findings

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

The pilot's failure to maintain adequate separation during a formation flight, which resulted in an encounter with wake turbulence, an aerodynamic stall, and collision with terrain.

Findings

Personnel issues	Monitoring other aircraft - Pilot
Environmental issues	Wake turbulence - Effect on operation
Personnel issues	Aircraft control - Pilot
Aircraft	Airspeed - Not attained/maintained
Aircraft	Angle of attack - Not attained/maintained

Factual Information

History of Flight

Landing	Aerodynamic stall/spin (Defining event)
Landing	Hard landing

Pilot Information

Certificate:	Commercial	Age:	25, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Rear
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	
Instructor Rating(s):	Airplane single-engine	Toxicology Performed:	
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	April 6, 2021
Occupational Pilot:	No	Last Flight Review or Equivalent:	May 26, 2021
Flight Time:	4045 hours (Total, all aircraft), 700 hours (Total, this make and model), 3924 hours (Pilot In Command, all aircraft), 88 hours (Last 90 days, all aircraft), 69 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Passenger Information

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

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N21486
Model/Series:	J3F-60	Aircraft Category:	Airplane
Year of Manufacture:	1938	Amateur Built:	
Airworthiness Certificate:	Normal; Special light-sport (Special)	Serial Number:	2342
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	October 1, 2021 Annual	Certified Max Gross Wt.:	1170 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	3132.1 Hrs as of last inspection	Engine Manufacturer:	Continental
ELT:	C91 installed, activated, did not aid in locating accident	Engine Model/Series:	C85
Registered Owner:	On file	Rated Power:	85 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Dusk
Observation Facility, Elevation:	KRTS, 5053 ft msl	Distance from Accident Site:	28 Nautical Miles
Observation Time:	19:55 Local	Direction from Accident Site:	177°
Lowest Cloud Condition:	Clear	Visibility:	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	None / Clear air
Wind Direction:	250°	Turbulence Severity Forecast/Actual:	N/A / Light
Altimeter Setting:	30.04 inches Hg	Temperature/Dew Point:	16°C / -7°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Herlong, NV	Type of Flight Plan Filed:	None
Destination:	Herlong, NV	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Airport Information

Airport:	Dead Cow Lakebed Airstrip US-0986	Runway Surface Type:	
Airport Elevation:	4845 ft msl	Runway Surface Condition:	
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	40.140351,-119.89186(est)

Administrative Information

Investigator In Charge (IIC):	Johnson, Scott
Additional Participating Persons:	Paul Bruk; Federal Aviation Administration; Reno, NV Ron Green; Federal Aviation Administration; Reno, NV
Original Publish Date:	January 9, 2023
Last Revision Date:	
Investigation Class:	Class 4
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=106159

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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](#).