Aviation Investigation Final Report

Location:	Tucson, Arizona	**Accident Number:**	WPR23LA013
Date & Time:	October 15, 2022, 12:00 Local	**Registration:**	N7746Y
Aircraft:	Piper PA-30	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control in flight	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that, while on short final to land, the airplane yawed to the right. The pilot stated that full left rudder was needed to keep the airplane straight. The airplane subsequently touched down hard and departed the right side of the runway. All three landing gear collapsed and the left wing buckled, which resulted in substantial damage to the airplane.

A postaccident examination of the airplane and engines was conducted, including test runs of both engines. No anomalies were noted that would have precluded normal operation or contributed to the loss of control during landing. Engine data from the accident flight were recovered, and no anomalies were noted in the data. Thus, the reason for the pilot's loss of control during landing could not be determined based on the available evidence for this investigation.

Probable Cause and Findings

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

The pilot's loss of control during landing for reasons that could not be determined based on the available evidence.

Findings

Not determined	(general) - Unknown/Not determined
Aircraft	Directional control - Unknown/Not determined

Factual Information

History of Flight

Approach-VFR pattern final	Unknown or undetermined
Approach-VFR pattern final	Loss of control in flight (Defining event)
Landing	Runway excursion
Landing	Landing gear collapse

On October 15, 2022, about 1200 mountain standard time, a Piper PA-30, N7746Y, was substantially damaged when it was involved in an accident near Ryan Field Airport (RYN), Tucson, Arizona. The pilot and passenger were not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that, on short final to land at RYN, the airplane yawed "hard right." He stated that full left rudder was needed to keep the airplane straight. The pilot stated that he thought that he heard an engine surge. The airplane subsequently touched down hard and departed the right side of the runway. The pilot reported that all three landing gear collapsed and that the airplane then slid to a stop. The left wing buckled during the accident sequence. No wind gusts were reported during the approach or landing.

A postaccident examination of the wreckage was conducted. Flight control continuity was verified to all flight controls, and all flight control surfaces moved freely and as commanded when the aileron, elevator, and rudder controls were manipulated in the cockpit. Engine control continuity was verified by manipulating the throttle, mixture, and propeller controls in the cockpit and observing the associated controls move at each engine. The engine control manipulation was normal except for the constant-speed propeller control for the right engine. Excessive resistance was felt while manipulating the right engine propeller control, but the control lever was able to move throughout the full range of motion. The pilot recalled no unusual resistance in the engine controls before the accident.

An engine run was accomplished on both engines. Before attempting the engine run on the right engine, the propeller control cable was disconnected at the propeller governor control arm. The control arm on the propeller controller operated normally and without restriction after the cable was disconnected. The resistance remained when the propeller control lever was manipulated while disconnected. The cable was then reconnected to the propeller control on the engine. The source of the resistance was not identified.

Both engines started normally using onboard battery power and ran normally as engine power was increased to about 1,700 rpm. Engine power was not increased beyond 1,700 rpm due to

vibration from damaged propeller blades. Each engine responded appropriately when individual magnetos were selected, and each propeller cycled normally when commanded. No anomalies were noted with either engine.

A JPI engine data monitor was recovered from the airplane. The downloaded data correlated to the accident flight. No anomalies were noted in the recovered data.

Pilot Information

Certificate:	Airline transport	**Age:**	69,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine	**Toxicology Performed:**	
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	March 22, 2022
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	November 30, 2021
Flight Time:	11005 hours (Total, all aircraft), 642 hours (Total, this make and model), 9080 hours (Pilot In Command, all aircraft), 22.9 hours (Last 90 days, all aircraft), 16.9 hours (Last 30 days, all aircraft), 5.8 hours (Last 24 hours, all aircraft)		

Passenger Information

Certificate:		**Age:**	Female
Airplane Rating(s):		**Seat Occupied:**	Right
Other Aircraft Rating(s):		**Restraint Used:**	3-point
Instrument Rating(s):		**Second Pilot Present:**	No
Instructor Rating(s):		**Toxicology Performed:**	
Medical Certification:		**Last FAA Medical Exam:**	
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N7746Y
Model/Series:	PA-30	**Aircraft Category:**	Airplane
Year of Manufacture:	1965	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	30-837
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	June 23, 2022 Annual	**Certified Max Gross Wt.:**	3720 lbs
Time Since Last Inspection:	18 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	6113 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	C91 installed, not activated	**Engine Model/Series:**	IO-320 B1A
Registered Owner:	On file	**Rated Power:**	160 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KRYN,2418 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	11:45 Local	**Direction from Accident Site:**	39°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	330°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.91 inches Hg	**Temperature/Dew Point:**	24°C / 16°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Odessa, TX (KODO)	**Type of Flight Plan Filed:**	IFR
Destination:	Tucson, AZ	**Type of Clearance:**	IFR
Departure Time:	10:30 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	Ryan Field Airport RYN	**Runway Surface Type:**	Asphalt
Airport Elevation:	2419 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	6L	**IFR Approach:**	None
Runway Length/Width:	4900 ft / 75 ft	**VFR Approach/Landing:**	Full stop;Traffic pattern

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:**	32.142211,-111.17457(est)

Administrative Information

Investigator In Charge (IIC):	Baker, Daniel
Additional Participating Persons:	Scott Boek; FAA; Scottsdale, AZ
Original Publish Date:	September 8, 2023
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=106137