Aviation Investigation Final Report

Location:	Pahokee, Florida	**Accident Number:**	ERA25LA072
Date & Time:	December 9, 2024, 16:30 Local	**Registration:**	N90874 (A1); N497SJ (A2)
Aircraft:	Piper PA28 (A1); Cessna 172 (A2)	**Aircraft Damage:**	Substantial (A1); Substantial (A2)
Defining Event:	Midair collision	**Injuries:**	2 None (A1); 3 None (A2)
Flight Conducted Under:	Part 91: General aviation - Instructional (A1); Part 91: General aviation - Instructional (A2)		

Analysis

The low-wing airplane and the high-wing airplane were both being operated as instructional flights. Both airplanes arrived from different airports and had completed several uneventful landings at the non-tower-controlled accident airport. The pilots of both airplanes reported that they were transmitting position reports and hearing transmissions on the airport's common traffic advisory frequency. Review of ADS-B data indicated that the low-wing airplane flew a wider left traffic pattern, and the high wing airplane flew a closer left traffic pattern before the airplanes converged on final approach, and the left wing of the high-wing airplane contacted the upper cabin of the low-wing airplane, resulting in substantial damage to both airplanes. The instructors onboard each airplane took control, and landed without further incident.

The circumstances of the accident are consistent with the failure of the pilots to see and avoid the other airplane while operating in the airport traffic pattern, which resulted in a midair collision.

Probable Cause and Findings

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

The pilots' failure to see and avoid the other airplane, which resulted in a midair collision during short final approach.

Findings

Personnel issues (A1)	Monitoring other aircraft - Flight crew
Personnel issues (A2)	Monitoring other aircraft - Flight crew

Factual Information

History of Flight

Approach-VFR pattern final (A1)	Midair collision (Defining event)
Approach-VFR pattern final (A2)	Midair collision

On December 9, 2024, about 1630 eastern standard time, a Piper PA-28-181, N90874, and a Cessna 172S, N497SJ, were substantially damaged when they were involved in a midair collision near Pahokee, Florida. The flight instructor and student pilot onboard the Piper were not injured. The flight instructor, private pilot receiving instruction, and student pilot observer onboard the Cessna were also not injured. Both airplanes were operated as Title 14 *Code of Federal Regulations* Part 91 instructional flights.

Both airplanes had previously completed multiple landings on runway 18 at Palm Beach County Glades Airport (PHK), Pahokee, Florida. The instructor onboard the low-wing Piper reported that, during final approach for a third landing, about 300 to 350 ft above ground level, he heard a “crunching metal noise” and realized that another airplane had collided with the cabin roof from above. He was able to continue and land on the runway. The instructor added that he had been making position reports in the traffic pattern on the airport’s common traffic advisory frequency (CTAF). He remembered a Cessna making a “short approach” report during their previous traffic pattern, but he did not hear anything during the accident traffic pattern.

The pilot and instructor onboard the high-wing Cessna reported that they had completed one full-stop and two touch-and-go landings. During the fourth approach, the student pilot in the rear seat yelled as he saw “something big” on the left side of the airplane. The pilot pulled back on the control yoke, but it was too late, as contact was already made. The instructor took control and landed uneventfully. The pilot and flight instructor stated that they completed position reports on the CTAF during all four approaches. They heard a transmission from a different airplane on the ground at PHK, but never heard from another airplane in the traffic pattern.

Examination of the airplanes by a Federal Aviation Administration inspector revealed substantial damage to the cabin roof fuselage of the Piper and the outboard left wing of the Cessna.

Review of ADS-B data revealed that the Piper flew a wider left traffic pattern and the Cessna flew a tighter left traffic pattern before the two airplanes converged on short final approach.

Flight instructor Information (A1)

Certificate:	Commercial; Flight instructor	**Age:**	22,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Helicopter	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane single-engine	**Toxicology Performed:**	
Medical Certification:	Class 1 With waivers/limitations	**Last FAA Medical Exam:**	December 20, 2022
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	September 23, 2024
Flight Time:	398 hours (Total, all aircraft), 267 hours (Total, this make and model), 273 hours (Pilot In Command, all aircraft), 90 hours (Last 90 days, all aircraft), 54 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Student pilot Information (A1)

Certificate:	None	**Age:**	17,Male
Airplane Rating(s):	None	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	None	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	1 hours (Total, all aircraft), 1 hours (Total, this make and model), 1 hours (Pilot In Command, all aircraft), 1 hours (Last 90 days, all aircraft), 1 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Pilot Information (A2)

Certificate:	Private	**Age:**	20,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	January 31, 2023
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	June 18, 2024
Flight Time:	252 hours (Total, all aircraft), 141 hours (Total, this make and model), 157 hours (Pilot In Command, all aircraft), 22 hours (Last 90 days, all aircraft), 7 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Flight instructor Information (A2)

Certificate:	Commercial; Flight instructor	**Age:**	25,Female
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane single-engine; Instrument airplane	**Toxicology Performed:**	
Medical Certification:	Class 2 Without waivers/limitations	**Last FAA Medical Exam:**	February 2, 2024
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	February 7, 2024
Flight Time:	809 hours (Total, all aircraft), 761 hours (Total, this make and model), 149 hours (Last 90 days, all aircraft), 44 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information (A1)

Aircraft Make:	Piper	**Registration:**	N90874
Model/Series:	PA28 181	**Aircraft Category:**	Airplane
Year of Manufacture:	1985	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	28-8690014
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	November 15, 2024 100 hour	**Certified Max Gross Wt.:**	2550 lbs
Time Since Last Inspection:	71 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	5427 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	C91 installed, not activated	**Engine Model/Series:**	O-360
Registered Owner:	On file	**Rated Power:**	181 Horsepower
Operator:	SkyBlue Aviation	**Operating Certificate(s) Held:**	None

Aircraft and Owner/Operator Information (A2)

Aircraft Make:	Cessna	**Registration:**	N497SJ
Model/Series:	172 S	**Aircraft Category:**	Airplane
Year of Manufacture:	2000	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	172S8497
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	November 27, 2024 100 hour	**Certified Max Gross Wt.:**	2550 lbs
Time Since Last Inspection:	44 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	7678 Hrs as of last inspection	**Engine Manufacturer:**	LYCOMING
ELT:	C91A installed, not activated	**Engine Model/Series:**	IO-360-L2A
Registered Owner:	FXE FLIGHTCENTER CORP	**Rated Power:**	180 Horsepower
Operator:	FXE FLIGHTCENTER CORP	**Operating Certificate(s) Held:**	Pilot school (141)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	2IS,16 ft msl	**Distance from Accident Site:**	20 Nautical Miles
Observation Time:	16:35 Local	**Direction from Accident Site:**	260°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots / None	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	140°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.1 inches Hg	**Temperature/Dew Point:**	26°C / 15°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	West Palm Beach, FL (F45) (A1); Pahokee, FL (A2)	**Type of Flight Plan Filed:**	None (A1); None (A2)
Destination:	Pahokee, FL (A1); Pahokee, FL (A2)	**Type of Clearance:**	None (A1); None (A2)
Departure Time:	15:30 Local (A1)	**Type of Airspace:**	Class G (A1); Class G (A2)

Airport Information

Airport:	Palm Beach County Glades Airport PHK	**Runway Surface Type:**	Asphalt
Airport Elevation:	15 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	18	**IFR Approach:**	VOR
Runway Length/Width:	4116 ft / 75 ft	**VFR Approach/Landing:**	Touch and go;Traffic pattern

Wreckage and Impact Information (A1)

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	26.795833,-80.6945

Wreckage and Impact Information (A2)

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	3 None	**Latitude, Longitude:**	26.795833,-80.6945

Administrative Information

Investigator In Charge (IIC):	Gretz, Robert
Additional Participating Persons:	Robert Perez; FAA/FSDO; Miramar, FL
Original Publish Date:	April 2, 2025
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=199402

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.