Aviation Investigation Final Report

Location:	Grand Forks, North Dakota	**Accident Number:**	CEN23LA234
Date & Time:	May 28, 2023, 12:40 Local	**Registration:**	N771ND
Aircraft:	PIPER AIRCRAFT INC PA-28-181	**Aircraft Damage:**	Substantial
Defining Event:	Dragged wing/rotor/float/other	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor and his student were performing a soft field take off following a touch-and-go landing. The operator reported that the airplane started to drift to the left with a “higher than normal” pitch attitude and the airplane encountered a wind gust. The right wing dropped and contacted the runway surface. According to the flight instructor, during the take-off, the student “instantly” applied right aileron, instead of right rudder, to maintain the runway centerline. The flight instructor took over controls and continued the takeoff. While in the traffic pattern, the flight instructor noticed an “abnormality” on the right wing and landed the airplane without further incident. A visual inspection found that the right aileron sustained substantial damage. The operator stated that there were no mechanical malfunctions or failures that would have precluded normal operation. About the time of the accident wind was recorded as 160° at 17 knots with gusts to 29 knots.

Probable Cause and Findings

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

The student pilot’s failure to attain a proper takeoff attitude while demonstrating a soft field takeoff and his improper control inputs resulting in a dragged wing. Contributing to the accident were the gusting wind conditions.

Findings

Personnel issues	Aircraft control - Student/instructed pilot
Environmental issues	Gusts - Contributed to outcome

Factual Information

History of Flight

Takeoff	Dragged wing/rotor/float/other (Defining event)

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	23,Male
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:**	
Instructor Rating(s):	Airplane single-engine; Instrument airplane	**Toxicology Performed:**	
Medical Certification:	Class 1 With waivers/limitations	**Last FAA Medical Exam:**	July 21, 2022
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	April 11, 2022
Flight Time:	780 hours (Total, all aircraft), 742 hours (Total, this make and model), 532 hours (Pilot In Command, all aircraft), 137 hours (Last 90 days, all aircraft), 50 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	Student	**Age:**	21,Male
Airplane Rating(s):	None	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	None	**Second Pilot Present:**	
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	May 12, 2022
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	June 9, 2023
Flight Time:	75 hours (Total, all aircraft), 75 hours (Total, this make and model), 1 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	PIPER AIRCRAFT INC	**Registration:**	N771ND
Model/Series:	PA-28-181	**Aircraft Category:**	Airplane
Year of Manufacture:	2018	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	2881036
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	May 12, 2023 AAIP	**Certified Max Gross Wt.:**	2550 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	4706 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	IO-360-B4A
Registered Owner:	UNIVERSITY OF NORTH DAKOTA	**Rated Power:**	180 Horsepower
Operator:	UNIVERSITY OF NORTH DAKOTA	**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:	KGFK,839 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	12:53 Local	**Direction from Accident Site:**	248°
Lowest Cloud Condition:	Few / 15000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	17 knots / 29 knots	**Turbulence Type Forecast/Actual:**	None /
Wind Direction:	160°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.94 inches Hg	**Temperature/Dew Point:**	30°C / 4°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Grand Forks, ND	**Type of Flight Plan Filed:**	None
Destination:	Grand Forks, ND	**Type of Clearance:**	VFR
Departure Time:		**Type of Airspace:**	Class D

Airport Information

Airport:	GRAND FORKS INTL GFK	**Runway Surface Type:**	Concrete
Airport Elevation:	845 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	17L	**IFR Approach:**	None
Runway Length/Width:	3900 ft / 75 ft	**VFR Approach/Landing:**	Traffic pattern

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	47.947587,-97.166226(est)

Administrative Information

Investigator In Charge (IIC):	Rutt, Brian
Additional Participating Persons:	Gary Kwasniewski; FAA FSDO; ND
Original Publish Date:	July 27, 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=192337