Aviation Investigation Final Report

Location:	Bellingham, Washington	**Accident Number:**	GAA19CA148
Date & Time:	February 25, 2019, 10:50 Local	**Registration:**	CFHGQ
Aircraft:	Cessna 172	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control on ground	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that, while taxiing to the runway for takeoff with the yoke "left and push[ed] in," a wind gust from the right lifted the right wing. The pilot was unable to maintain control and the wind continued to push the airplane to the left off the runway. The airplane subsequently nosed over.

The airplane sustained substantial damage to the fuselage and empennage.

The pilot reported that there were no preimpact mechanical failures or malfunctions with the airplane that would have precluded normal operation.

The airport's automated surface observation system reported that, about the time of the accident, the wind was from 030° at 20 knots, gusting to 29 knots. The pilot was turning the airplane right onto runway 34. Based on this information, the calculated crosswind component while taxiing into takeoff position was about 19 knots. The airplane manufacturer reported that the maximum demonstrated crosswind component was 15 knots.

The Federal Aviation Administration's Airplane Flying Handbook, FAA-H-8083-3B, "Taxiing" stated, in part, the following:

When taxiing with a quartering headwind, the wing on the upwind side (the side that the wind is coming from) tends to be lifted by the wind unless the aileron control is held in that direction (upwind aileron UP). Moving the aileron into the UP position reduces the effect of the wind striking that wing, thus reducing the lifting action. This control movement also causes the downwind aileron to be placed in the DOWN position, thus a small amount of lift and drag on the downwind wing, further reducing the tendency of the upwind wing to rise.

Probable Cause and Findings

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

The pilot's improper crosswind correction during taxi operations in gusting crosswind conditions.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	Crosswind correction - Not attained/maintained
Environmental issues	Crosswind - Effect on operation
Environmental issues	Crosswind - Use of related info

Factual Information

History of Flight

Taxi-into takeoff position	Other weather encounter
Taxi-into takeoff position	Loss of control on ground (Defining event)

Pilot Information

Certificate:	Private	**Age:**	45,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Unknown
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	February 2, 2018
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 380 hours (Total, all aircraft), 90 hours (Total, this make and model), 142.8 hours (Pilot In Command, all aircraft), 1.7 hours (Last 90 days, all aircraft), 0.6 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	CFHGQ
Model/Series:	172 M	**Aircraft Category:**	Airplane
Year of Manufacture:	1974	**Amateur Built:**	
Airworthiness Certificate:	Utility	**Serial Number:**	17262358
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	October 24, 2018 Annual	**Certified Max Gross Wt.:**	2400 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	4245 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed	**Engine Model/Series:**	O320-E2D
Registered Owner:		**Rated Power:**	150 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:	KBLI,149 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	18:53 Local	**Direction from Accident Site:**	239°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	20 knots / 29 knots	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	30°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	29.86 inches Hg	**Temperature/Dew Point:**	2°C / -12°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Delta (CZBB)	**Type of Flight Plan Filed:**	VFR
Destination:	Bellingham, WA (BLI)	**Type of Clearance:**	VFR
Departure Time:	09:56 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	Bellingham Intl BLI	**Runway Surface Type:**	Asphalt
Airport Elevation:	171 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	34	**IFR Approach:**	None
Runway Length/Width:	6700 ft / 150 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	48.795555,-122.533058(est)

Administrative Information

Investigator In Charge (IIC):	Gutierrez, Eric
Additional Participating Persons:	Mark S Brock; FAA; Seattle, WA
Original Publish Date:	November 6, 2019
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=99020