Aviation Investigation Final Report

Location:	Upland, California	**Accident Number:**	WPR22LA072
Date & Time:	January 3, 2022, 12:05 Local	**Registration:**	N76646
Aircraft:	Cessna 120	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control in flight	**Injuries:**	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot of the tail wheeled-equipped airplane reported that, he was on an approach to land at an uncontrolled airport behind two helicopters. An airport surveillance video showed the accident airplane flying over the runway about 20 seconds after a helicopter was in a slow hover taxi adjacent to the runway. The pilot reported that he saw the helicopter and decided to land long to maintain separation. He added that while on short final, he saw a helicopter "cross" the runway, so he increased engine power to full and attempted a go-around. About one-third of the way down the length of the runway, the airplane encountered the helicopter's downwash, and the airplane entered an uncommanded steep right bank. The pilot applied opposite aileron, but he was not able to maintain control of the airplane. Subsequently, the airplane impacted right of the runway and sustained substantial damage to the right wing and fuselage. The pilot reported that there were no preaccident mechanical malfunctions or failures with the airplane that would have precluded normal operation.

According to Federal Aviation Administration Advisory Circular No. 90-23G, Aircraft Wake Turbulence, "pilots should avoid taxiing or flying within a distance of three rotor diameters of a helicopter hovering or in a slow hover taxi, as the downwash can contain high wind speeds.

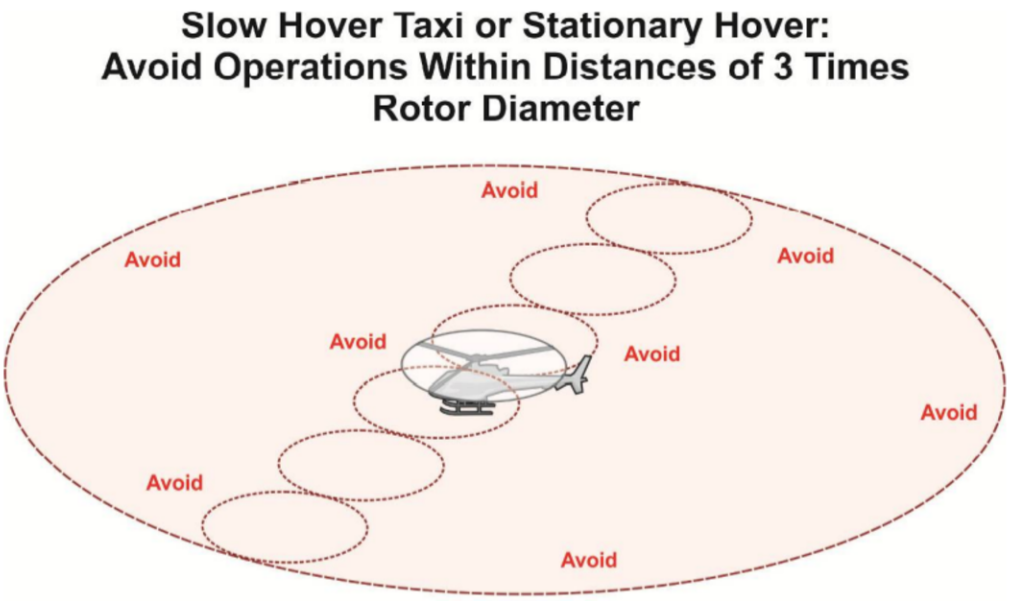

Figure 1. Except of Helicopter Vortices Figure from AC 90-23G

Probable Cause and Findings

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

The pilot's loss of airplane control during a go-around as it encountered wake turbulence from a slow hover taxiing helicopter.

Findings

Aircraft	(general) - Attain/maintain not possible
Personnel issues	Aircraft control - Pilot
Environmental issues	Wake turbulence - Effect on equipment

Factual Information

History of Flight

Landing	Loss of control in flight (Defining event)

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	24,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	Unknown
Instrument Rating(s):	Airplane	**Second Pilot Present:**	
Instructor Rating(s):	Airplane single-engine; Instrument airplane	**Toxicology Performed:**	
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	March 30, 2017
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	March 4, 2021
Flight Time:	(Estimated) 1107.7 hours (Total, all aircraft), 18.8 hours (Total, this make and model), 1007.5 hours (Pilot In Command, all aircraft), 175.9 hours (Last 90 days, all aircraft), 52.9 hours (Last 30 days, all aircraft), 4.3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N76646
Model/Series:	120	**Aircraft Category:**	Airplane
Year of Manufacture:	1946	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	11086
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	Unknown	**Certified Max Gross Wt.:**	1450 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Continental
ELT:		**Engine Model/Series:**	C85
Registered Owner:	NEXTGEN FLIGHT ACADEMY INC	**Rated Power:**	85 Horsepower
Operator:	NEXTGEN FLIGHT ACADEMY INC	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KCCB,1439 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	12:35 Local	**Direction from Accident Site:**	307°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	210°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.16 inches Hg	**Temperature/Dew Point:**	15°C / -10°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Riverside, CA (KRAL)	**Type of Flight Plan Filed:**	None
Destination:	Upland, CA	**Type of Clearance:**	None
Departure Time:	11:34 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	CABLE CCB	**Runway Surface Type:**	Asphalt
Airport Elevation:	1443 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	24	**IFR Approach:**	None
Runway Length/Width:	3863 ft / 75 ft	**VFR Approach/Landing:**	Full stop

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	On-ground
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	1 Minor	**Latitude, Longitude:**	34.111611,-117.68738

Administrative Information

Investigator In Charge (IIC):	Nepomuceno, Eleazar
Additional Participating Persons:	Tony Miller; FAA; Riverside, CA
Original Publish Date:	June 22, 2022
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=104480