



# Aviation Investigation Final Report

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

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## 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.

## Slow Hover Taxi or Stationary Hover: Avoid Operations Within Distances of 3 Times Rotor Diameter

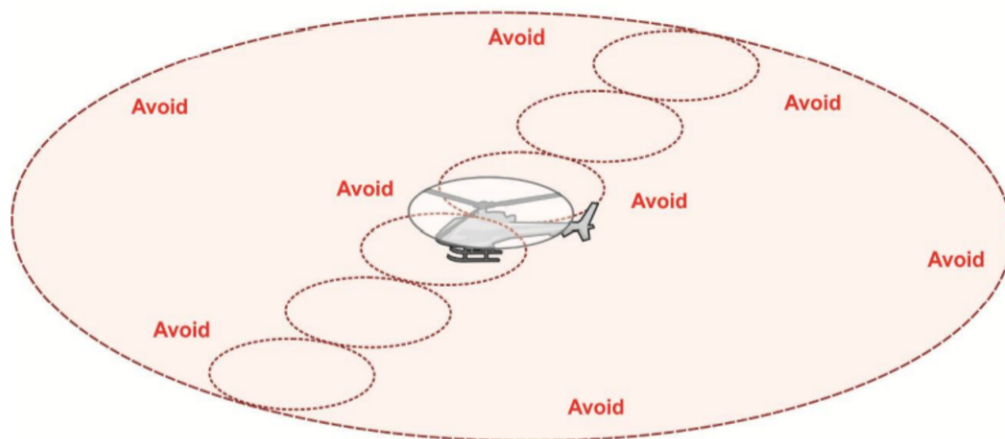


Figure 1. Excerpt of Helicopter Vortices Figure from AC 90-23G

### 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

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

## Factual Information

### History of Flight

<b>Landing</b>	Loss of control in flight (Defining event)
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### Pilot Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	24, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Unknown
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	
<b>Instructor Rating(s):</b>	Airplane single-engine; Instrument airplane	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 1 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	March 30, 2017
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	March 4, 2021
<b>Flight Time:</b>	(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

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

## Meteorological Information and Flight Plan

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

## Airport Information

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

## Wreckage and Impact Information

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

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Nepomuceno, Eleazar
<b>Additional Participating Persons:</b>	Tony Miller; FAA; Riverside, CA
<b>Original Publish Date:</b>	June 22, 2022
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class 4</a>
<b>Note:</b>	The NTSB did not travel to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=104480">https://data.ntsb.gov/Docket?ProjectID=104480</a>

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](#).