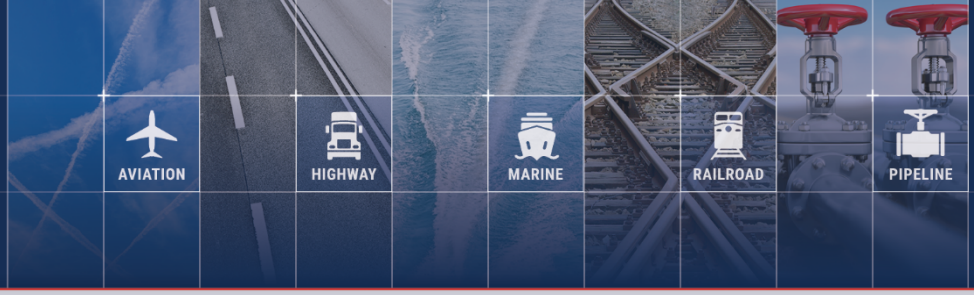

Aviation Investigation Final Report

Location:	Cahokia, Illinois	**Accident Number:**	CEN23LA150
Date & Time:	April 9, 2023, 08:45 Local	**Registration:**	N372PA
Aircraft:	HELICOPTERES GUIMBAL CABRI G2	**Aircraft Damage:**	Substantial
Defining Event:	Sys/Comp malf/fail (non-power)	**Injuries:**	1 Minor, 1 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor stated that during an instructional flight he lost left cyclic control during an approach for landing. The student pilot's right cyclic controls continued to function, and the flight instructor coached him on cyclic control inputs to maintain control of the helicopter. The student's cyclic control became unresponsive to control inputs during the attempted landing and the helicopter impacted the ground resulting in substantial damage to the main rotor blades. Postaccident examination of the flight control system revealed that retaining hardware for the pins used to attach the left cyclic control were not installed. Maintenance personnel were unable to provided information regarding previous maintenance performed on the cyclic controls. The left cyclic control did not have any deformation/damage.

Probable Cause and Findings

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

The lack of proper attachment of the cyclic control that resulted in a loss of control during a landing approach and impact with terrain. Contributing to the accident was the improper maintenance performed.

Findings

Aircraft	(general) - Not specified

Factual Information

History of Flight

Landing-flare/touchdown	Sys/Comp malf/fail (non-power) (Defining event)
Landing-flare/touchdown	Loss of control in flight
Landing-flare/touchdown	Attempted remediation/recovery
Landing-flare/touchdown	Collision with terr/obj (non-CFIT)

On April 9, 2023, at 0845 central daylight time, a Helicopteres Guimbal Cabri G2, N372PA, was involved in an accident near Cahokia, Illinois. The helicopter sustained substantial damage. The flight instructor received minor injuries and the student pilot was uninjured. The helicopter was operated under Title 14 *Code of Federal Regulations* Part 91 as an instructional flight.

The flight instructor stated that during the approach for landing at the departure airport, his left cyclic had "a little bit of play," and the helicopter was not responding fully to his control inputs. He then completely lost cyclic control upon lining up with the taxiway of intended landing site. He stated that he still had collective and rudder control. The student pilot's cyclic controls continued to function, and the flight instructor coached him on cyclic control inputs to maintain control of the helicopter, but the student pilot's cyclic control then ceased to function. The helicopter impacted the ground during the attempted landing and sustained substantial damage to the main rotor blades.

Postaccident examination of the flight control system revealed that the helicopter's Illustrated Parts Catalog part #34 (Reference HG17-0545) - Pin and part #36 (Reference HG21-0803) – Safety Pin were found not inplace on the left cyclic control. Part #43.0 (Reference G41-41-300) – Pin Locker, part # 44 (Reference HG20-2036) – Bolt and part #7 (Reference HG12-0332) – Nut were not installed. Ideal Aviation was unable to a date when these parts were removed. There was no evidence indicating these parts were impacted by the crash. The left cyclic control did not have any deformation/damage.

Flight instructor Information

Certificate:	Commercial; Flight instructor; Private	**Age:**	27,Male
Airplane Rating(s):		**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	4-point
Instrument Rating(s):	Helicopter	**Second Pilot Present:**	Yes
Instructor Rating(s):	Helicopter; Instrument helicopter	**Toxicology Performed:**	
Medical Certification:	Class 2 Without waivers/limitations	**Last FAA Medical Exam:**	January 2, 2023
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	June 5, 2022
Flight Time:	545 hours (Total, all aircraft), 542 hours (Total, this make and model), 483 hours (Pilot In Command, all aircraft), 87 hours (Last 90 days, all aircraft), 40 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	Private	**Age:**	41,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	4-point
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	Class 2 Without waivers/limitations	**Last FAA Medical Exam:**	June 7, 2021
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	July 2, 2010
Flight Time:	131 hours (Total, all aircraft), 17 hours (Total, this make and model), 34 hours (Pilot In Command, all aircraft), 17 hours (Last 90 days, all aircraft), 9 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	HELICOPTERES GUIMBAL	**Registration:**	N372PA
Model/Series:	CABRI G2	**Aircraft Category:**	Helicopter
Year of Manufacture:	2016	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	1150
Landing Gear Type:	Skid	**Seats:**	2
Date/Type of Last Inspection:	April 7, 2023 Annual	**Certified Max Gross Wt.:**	1543 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Lycoming
ELT:	C126 installed, activated, did not aid in locating accident	**Engine Model/Series:**	O-360
Registered Owner:	Rotor Leasing LLC	**Rated Power:**	145 Horsepower
Operator:	Ideal Aviation	**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:	CPS,413 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	08:45 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	130°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.4 inches Hg	**Temperature/Dew Point:**	11°C / -1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Cahokia, IL	**Type of Flight Plan Filed:**	None
Destination:	Cahokia, IL	**Type of Clearance:**	VFR
Departure Time:		**Type of Airspace:**	Class D

Airport Information

Airport:	St Louis Downtown Airport CPS	**Runway Surface Type:**	Concrete
Airport Elevation:	413 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	Taxiway A	**IFR Approach:**	None
Runway Length/Width:	2000 ft / 50 ft	**VFR Approach/Landing:**	Straight-in;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 Minor, 1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	1 Minor, 1 None	**Latitude, Longitude:**	38.570361,-90.155083(est)

Administrative Information

Investigator In Charge (IIC):	Gallo, Mitchell
Additional Participating Persons:	Robert Prenger; Federal Aviation Administration, St. Louis FSDO; St. Ann, MO Bernard Boudaille; Bureau d'Enquêtes et d'Analyses pour la sécurité de l'aviation civile Dennis Mueller; Federal Aviation Administration, St. Louis FSDO; St. Ann, MO
Original Publish Date:	July 10, 2024
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=107038