



Aviation Investigation Final Report

Location:	Augusta, Georgia	Accident Number:	ERA22LA434
Date & Time:	September 26, 2022, 09:00 Local	Registration:	N745EP
Aircraft:	Cessna 414	Aircraft Damage:	Substantial
Defining Event:	Landing gear collapse	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that after an uneventful cross-country flight, while on short final approach to the runway, he received an unsafe nose landing gear (NLG) indication and performed a go-around. The pilot reported that the main landing gear indicator lights showed that the landing gear were down and locked; however, the NLG indicator light was flickering on and off. The pilot cycled the landing gear with the landing gear switch while in the traffic pattern and received confirmation from the tower controller that the landing gear appeared down. Subsequently, the pilot continued the traffic pattern to landing and, upon touchdown, the NLG collapsed and the airplane skidded to a stop on the runway. The fuselage sustained substantial damage.

Examination of the landing gear system found no anomalies that would have prevented normal operation of the nose landing gear. Damage sustained to the airframe prevented the landing gear system from being tested. The manual landing gear extension crank was found in an intermediate position, which likely would have prevented the nose landing gear from fully extending and locking into place. The investigation was not able to determine whether the crank was improperly stowed, or not fully engaged, during flight, or whether the crank was moved after the accident during recovery operations.

Probable Cause and Findings

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

The failure of the nose landing gear to fully extend and lock into position for reasons that could not be determined, which resulted in its collapse during landing.

Findings

Aircraft	Nose/tail landing gear - Malfunction
Aircraft	Gear extension and retract sys - Unknown/Not determined

Factual Information

History of Flight

Landing-flare/touchdown	Landing gear collapse (Defining event)
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On September 26, 2022, about 0900 eastern daylight time, a Cessna 414 airplane, N745EP, was substantially damaged when it was involved in an accident at Augusta Regional Airport at Bush Field (AGS), Augusta, Georgia. The private pilot and passenger were not injured. The airplane was operated by the pilot as a personal flight conducted under the provisions of Title 14 *Code of Federal Regulations* Part 91.

The pilot reported that during a visual approach to runway 35, while crossing over the runway numbers, he received a landing gear unsafe warning horn alert. He also observed a flickering nose landing gear (NLG) down light indication. He performed a go-around and, while in the traffic pattern, he cycled the landing gear up and down with the landing gear switch. The NLG light continued to flicker on and off, and the main landing gear lights were steady green, indicating they were down and locked. The pilot reported that the tower controller advised that the landing gear appeared to be down, so he continued in the traffic pattern for landing. Upon touchdown the NLG collapsed, and the airplane skidded to a stop on runway 35. The forward fuselage area sustained substantial damage.

An examination of the landing gear system found that the NLG adjusting bell crank and actuator rod were connected. The NLG actuator rod was disconnected from the adjusting bell crank to facilitate recovery of the airplane. The NLG locked into place when moved into position by hand and three green lights were observed in the cockpit. There were no anomalies discovered with any linkages, bell cranks, or actuator arms, that would have resulted in the partial extension of the NLG. The landing gear system could not be otherwise functionally tested due to the airframe damage that prevented normal main and nose landing gear movement.

The manual landing gear extension crank in the cockpit was found in an intermediate position, neither fully stowed nor extended. The crank was found to catch on the pilot seat when it was attempted to be stowed; however, the crank was able to be stowed when it was rotated approximately 1/4 turn.

According to the Airplane Flight Manual, the landing gear emergency extension procedure stated in part: "Hand Crank – Push Button and Stow." According to the Cessna 414 service manual, information was provided on troubleshooting the landing gear system when all three landing gear were not observed to be down and locked. Several possible issues were listed

with corrective actions. The first item listed was, “manual extension crank improperly stowed” with a corrective action being “stow crank properly.”

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:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	April 12, 2022
Occupational Pilot:	No	Last Flight Review or Equivalent:	October 24, 2021
Flight Time:	1207 hours (Total, all aircraft), 498 hours (Total, this make and model), 1071 hours (Pilot In Command, all aircraft), 25 hours (Last 90 days, all aircraft), 8 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N745EP
Model/Series:	414 Undesignated Series	Aircraft Category:	Airplane
Year of Manufacture:	1974	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	414-0498
Landing Gear Type:	Retractable - Tricycle	Seats:	7
Date/Type of Last Inspection:	November 1, 2021 Annual	Certified Max Gross Wt.:	6800 lbs
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:	6358.3 Hrs as of last inspection	Engine Manufacturer:	Continental Motors Inc
ELT:	Installed, not activated	Engine Model/Series:	TSIO-520-NCNB
Registered Owner:	On file	Rated Power:	325 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:	AGS,134 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	09:53 Local	Direction from Accident Site:	100°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	10°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.91 inches Hg	Temperature/Dew Point:	24°C / 19°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Adel, GA (15J)	Type of Flight Plan Filed:	IFR
Destination:	Augusta, GA	Type of Clearance:	IFR
Departure Time:	08:00 Local	Type of Airspace:	Class D

Airport Information

Airport:	Augusta Regional Airport AGS	Runway Surface Type:	Concrete
Airport Elevation:	145 ft msl	Runway Surface Condition:	Dry
Runway Used:	35	IFR Approach:	Visual
Runway Length/Width:	8001 ft / 150 ft	VFR Approach/Landing:	Full stop;Go around

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:	33.365375,-81.966542

Administrative Information

Investigator In Charge (IIC):	Gerhardt, Adam
Additional Participating Persons:	Al Van Lengen; FAA/FSDO; Atlanta, GA
Original Publish Date:	January 30, 2024
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=106141

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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](#).