Aviation Investigation Final Report

Location:	Kingman, Kansas	**Accident Number:**	CEN19LA315
Date & Time:	September 11, 2019, 12:36 Local	**Registration:**	N328RG
Aircraft:	Piper PA34	**Aircraft Damage:**	Substantial
Defining Event:	Landing gear not configured	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot was on a personal flight when, during final approach for landing, the gear unsafe warning horn sounded. The pilot made a go-around when he saw the gear safe indicator lights were not illuminated. The pilot verified, with another pilot on the ground, that the landing gear were not extended after several attempts to extend the landing gear, including using the emergency extension procedure. The pilot then made a wheels-up landing on the runway, during which the airplane's lower fuselage structural longerons were substantially damaged.

After the accident, the landing gear extended into the down-and-locked position when the airplane was hoisted off the runway surface using a crane and straps. Postaccident examination and testing revealed no issues with the normal landing gear extension/retraction system or the emergency extension procedure. The investigation was unable to duplicate the pilot's report that he was unable to extend the landing gear using the normal and/or emergency procedures during the flight. The reason for the malfunction of the landing gear extension system could not be determined based on the available evidence.

Probable Cause and Findings

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

The malfunction of the landing gear extension system for reasons that could not be determined with the available evidence.

Findings

Aircraft	Gear extension and retract sys - Malfunction
Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Landing	Landing gear not configured (Defining event)
Landing	Abnormal runway contact

On September 11, 2019, about 1236 central daylight time, a Piper PA-34-200T airplane, N328RG, was substantially damaged when it was involved in an accident near Kingman, Kansas. The pilot was not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that he placed the landing gear selector handle to the gear-down position when the airplane was on the downwind leg for runway 18 at Kingman Airport (9K8), Kingman, Kansas, and that he performed a "before landing check" while turning from the base to final legs. As the airplane crossed over the runway threshold at 50 ft he reduced both throttle levers to idle for landing, and the gear unsafe warning horn sounded. The pilot reported that he immediately advanced engine power for a go-around when he saw the gear safe indicator lights were not illuminated. He then asked another pilot, who had just landed, to confirm the position of the airplane's landing gear. The pilot on the ground confirmed that all three landing gear were retracted.

The accident pilot departed the traffic pattern, flew west of the airport, and climbed to 2,500 ft mean sea level to troubleshoot the landing gear malfunction. He verified that the navigation lights were turned off because they automatically dim the landing gear indicator lights for nighttime flying. The pilot then noticed that the 25-ampere circuit breaker for the landing gear hydraulic motor was tripped. The pilot reset the circuit breaker and then selected gear down; however, the circuit breaker tripped again. The pilot returned to the airport for a second time and asked the pilot on the ground to confirm the position of the landing gear. The pilot on the ground stated that the landing gear were still retracted.

The pilot then referred to the pilot operating handbook (POH) emergency landing gear extension procedure. The emergency extension only requires that hydraulic pressure be released from the system, which allows the landing gear to drop due to gravity and is assisted by aerodynamic loads and spring force. Pulling a red emergency handle in the cockpit releases the hydraulic pressure in the system. The pilot reported that he was unable to extend the landing gear using the emergency procedure, and the pilot on the ground also reconfirmed that the landing gear were still retracted.

The accident pilot continued to circle the airport while he continued to troubleshoot the landing gear system malfunction. He stated that he made multiple attempts to extend the landing gear by inducing g-loads without success. The pilot made another pass over the runway and the pilot on the ground again reconfirmed that the landing gear were still retracted.

The accident pilot, now concerned about having minimum fuel, asked the pilot on the ground to call 911 and ask for emergency crews to be sent to the airport. The accident pilot also radioed the Wichita approach controller, declared an emergency, and told the controller that he planned to make a wheels-up landing at 9K8. The pilot reported that he extended the wing flaps for the wheels-up landing. The pilot stated that, as the airplane neared touchdown, a gust of wind caused the airplane to "balloon" to 10 ft above the runway, which was followed by a hard landing on the runway.

Pilot Information

Certificate:	Airline transport	**Age:**	42,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Lap only
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 1 With waivers/limitations	**Last FAA Medical Exam:**	July 4, 2019
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	September 4, 2019
Flight Time:	5760 hours (Total, all aircraft), 225 hours (Total, this make and model), 4932 hours (Pilot In Command, all aircraft), 103 hours (Last 90 days, all aircraft), 19 hours (Last 30 days, all aircraft), 0.8 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N328RG
Model/Series:	PA34 200T	**Aircraft Category:**	Airplane
Year of Manufacture:	1975	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	34-7570061
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	November 8, 2018 Annual	**Certified Max Gross Wt.:**	4000 lbs
Time Since Last Inspection:	100.9 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	2752.2 Hrs at time of accident	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	TSIO-360-EB1
Registered Owner:	Aircraft Resource Management, LLC	**Rated Power:**	200 Horsepower
Operator:	Aircraft Resource Management, LLC	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	HUT,1543 ft msl	**Distance from Accident Site:**	27 Nautical Miles
Observation Time:	12:52 Local	**Direction from Accident Site:**	28°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	17 knots /	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	190°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.01 inches Hg	**Temperature/Dew Point:**	32°C / 20°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Wichita, KS (ICT)	**Type of Flight Plan Filed:**	VFR
Destination:	Kingman, KS (9K8)	**Type of Clearance:**	None
Departure Time:	11:30 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	Kingman Airport 9K8	**Runway Surface Type:**	Concrete
Airport Elevation:	1607 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	18	**IFR Approach:**	None
Runway Length/Width:	4300 ft / 75 ft	**VFR Approach/Landing:**	Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	37.669166,-98.123886(est)

The airport manager reported that the landing gear extended into a down-and-locked position when the airplane was hoisted off the runway surface using a crane and straps. The airplane was subsequently towed to the pilot's hangar for additional examination and testing.

According to a Federal Aviation Administration (FAA) airworthiness inspector, the airplane's lower fuselage structural longerons were substantially damaged during the wheels-up landing. The airplane was placed on jack stands to test the landing gear retraction/extension system. The 25-ampere landing gear motor circuit breaker was reset, and the landing gear retracted normally when the master power switch was turned on and the landing gear position selector handle was placed to the gear up position. The landing gear then extended normally when the landing gear position selector handle was placed to the gear down position. The landing gear was cycled (up/down) two additional times without any issues using the normal extension/retraction procedure.

The landing gear was retracted to test the emergency extension procedure included in the POH. The landing gear immediately dropped into the down-and-locked position when the red emergency extension handle in the cockpit was pulled. The landing gear was retracted for a second emergency extension procedure test, and the landing gear extended without any issues.

The inspection panels were removed from the airplane's nose section to inspect the hydraulic motor assembly. There were no hydraulic leaks observed from the motor assembly or the associated hydraulic lines, and the hydraulic pump contained an adequate amount of fluid. The landing gear was cycled (up/down) a final time using the normal procedures, and there were no issues observed.

Administrative Information

Investigator In Charge (IIC):	Fox, Andrew
Additional Participating Persons:	Jason L Jaworsky; Federal Aviation Administration, Wichita FSDO; Wichita, KS
Original Publish Date:	August 31, 2022
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=100242

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