



Aviation Investigation Final Report

Location:	Flat Rock, Alabama	Accident Number:	ERA18LA182
Date & Time:	June 30, 2018, 10:45 Local	Registration:	N6307Z
Aircraft:	Piper PA 25	Aircraft Damage:	Substantial
Defining Event:	Landing gear collapse	Injuries:	1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

The pilot was conducting an agricultural application flight. During the takeoff roll and before becoming fully airborne, the right main landing gear (MLG) “snapped,” followed by the right wing dropping and striking the runway. As the right wing and propeller dug into the turf, the airplane spun, departed the runway, and subsequently impacted hay bales before coming to rest. The fuselage and right wing were substantially damaged. Examination of the right steel spring MLG revealed that it had broken off cleanly at the wheel and displayed features that were indicative of a fatigue failure. No maintenance records were available for examination, and the service history of the right MLG could not be determined.

Probable Cause and Findings

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

The failure of the right landing gear during takeoff due to a fatigue failure, which resulted in a runway excursion.

Findings

Aircraft	Main gear strut/axle/truck - Failure
Aircraft	Main gear strut/axle/truck - Fatigue/wear/corrosion

Factual Information

History of Flight

Takeoff	Landing gear collapse (Defining event)
Takeoff	Abnormal runway contact

On June 30, 2018, about 1045 central daylight time, a Piper PA-25, N6307Z, was substantially damaged when it was involved in an accident at Leon’s Landing Airport (4AL7), Flat Rock, Alabama. The pilot was not injured. The airplane was operated as a 14 *Code of Federal Regulations* Part 137 agricultural flight.

According to the pilot, at takeoff, the airplane had 120 gallons of chemicals and 30 gallons of fuel onboard. During the takeoff roll about 40 mph, the tail lifted off the turf runway. When the airplane reached 65 mph, the right main landing gear (MLG) “snapped,” and the right wing to dropped and struck the runway. As the right wing and propeller dug into the turf, the airplane spun, departed the runway, and subsequently impacted hay bales before coming to rest.

Postaccident examination of the airplane revealed that the fuselage aft of the cockpit was twisted and wrinkled, the right wing leading edge was crushed, and the right steel spring MLG was collapsed. Examination of the right MLG revealed that it had broken off cleanly near where it attached to the wheel. The wheel, along with the lower portion of the MLG leg, had separated from the airplane and rolled into a swamp, and it was not recovered. The remaining fracture surface on the upper portion of the right MLG leg exhibited shear lips and ratchet marks with multiple origins of fatigue.

The operator stated that, since recently purchasing the airplane, it had only been operated about 200 hours before the right MLG failed. He thought that the previous owner had sent out the right MLG for overhaul; however, the previous owner stated that he had not done so and that it must have been the previous owner. He added that he only owned the airplane for a short time when he realized that, although airworthy, “it was in rough shape,” so he sold it. None of the airplane’s maintenance logbooks were available for review.

Pilot Information

Certificate:	Airline transport	Age:	65, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Single
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	March 23, 2018
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	November 23, 2017
Flight Time:	(Estimated) 16056 hours (Total, all aircraft), 207 hours (Total, this make and model), 76 hours (Last 90 days, all aircraft), 24 hours (Last 30 days, all aircraft), 10 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N6307Z
Model/Series:	PA 25 Undesignat	Aircraft Category:	Airplane
Year of Manufacture:	1960	Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	25-391
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	February 10, 2018 Annual	Certified Max Gross Wt.:	2299 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	4543 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	Not installed	Engine Model/Series:	O-320 SERIES
Registered Owner:		Rated Power:	230 Horsepower
Operator:		Operating Certificate(s) Held:	Agricultural aircraft (137)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	K4A6,650 ft msl	Distance from Accident Site:	16 Nautical Miles
Observation Time:	15:55 Local	Direction from Accident Site:	270°
Lowest Cloud Condition:	Few / 3000 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	None / None
Wind Direction:		Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.06 inches Hg	Temperature/Dew Point:	30°C / 25°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Flat Rock, AL (4AL7)	Type of Flight Plan Filed:	None
Destination:	Flat Rock, AL (4AL7)	Type of Clearance:	None
Departure Time:	10:45 Local	Type of Airspace:	Class G

Airport Information

Airport:	Leon's Landing Airport 4AL7	Runway Surface Type:	Grass/turf
Airport Elevation:	1430 ft msl	Runway Surface Condition:	Dry
Runway Used:	16	IFR Approach:	None
Runway Length/Width:	2000 ft / 100 ft	VFR Approach/Landing:	None

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:	34.74472,-85.68972(est)

Administrative Information

Investigator In Charge (IIC):	Mccarter, Lawrence		
Additional Participating Persons:	Ken Lancaster; FAA FSDO; Birmingham, AL		
Original Publish Date:	May 25, 2021	Investigation Class:	3
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=97656		

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