



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Arcadia, Florida	Accident Number:	ERA09LA520
Date & Time:	August 27, 2009, 14:00 Local	Registration:	N40VS
Aircraft:	Luscombe 8A	Aircraft Damage:	Substantial
Defining Event:	Landing gear collapse	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

According to the pilot, the left wing began to rise during the takeoff roll. He applied left aileron, leveled the airplane, and then "released the aileron for a normal takeoff at which time the plane continued to fall right." The pilot reduced power, aborted the takeoff, and then the airplane departed the left side of the runway. Both occupants egressed the airplane and noted that the right main landing gear had collapsed. The pilot mentioned that the airplane "may have bounced a few times" during the takeoff. The maximum allowable gross weight for the airplane was 1,260 pounds. Calculations revealed that the airplane weighed approximately 1,315 pounds at takeoff. Examination of the collapsed landing gear in the NTSB Materials Laboratory revealed no preexisting defects, and that the component failed in overstress bending due to landing gear loads consistent with forward movement of the airplane.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's bounced takeoff roll, which resulted in a collapsed landing gear. Contributing to the accident was the airplane's overweight condition.

Findings

Personnel issues	Weight/balance calculations - Flight crew
Aircraft	Main landing gear - Capability exceeded
Personnel issues	Incorrect action performance - Pilot
Aircraft	Directional control - Attain/maintain not possible

Factual Information

History of Flight

Takeoff	Preflight or dispatch event
Takeoff	Landing gear collapse (Defining event)
Takeoff	Runway excursion

HISTORY OF FLIGHT

On August 27, 2009, about 1400 eastern daylight time, a Luscombe 8A, N40VS, was substantially damaged when the right main landing gear collapsed during takeoff at Arcadia Municipal Airport (X06), Arcadia, Florida. The certificated private pilot and owner/passenger were not injured. Visual meteorological conditions prevailed for the local personal flight that was originating at the time and was conducted under the provisions of 14 Code of Federal Regulations Part 91.

Both the pilot and the owner provided written statements. According to the pilot, the left wing began to “raise” during the takeoff roll. He applied left aileron, leveled the airplane, and then “released the aileron for a normal takeoff at which time the plane continued to fall right.” The pilot reduced power, aborted the takeoff, and then the airplane departed the left side of the runway. Both occupants egressed the airplane and noted that the right main landing gear had collapsed. The owner’s written account of the event was consistent with the pilot’s.

In a subsequent interview with a Federal Aviation Administration (FAA) aviation safety inspector, the pilot mentioned that the airplane “may have bounced a few times” during the takeoff.

PERSONNEL INFORMATION

A review of FAA airman records revealed that the pilot held a private pilot certificate with a rating for airplane single engine land. His most recent FAA third class medical certificate was issued December 10, 1998. The pilot reported about 6,000 total hours of flight experience, of which 16 hours were in the accident airplane make and model.

The pilot reported that the airplane was a recent purchase by the owner, and that his experience flying the airplane was accrued during delivery of the airplane from Wisconsin to Florida. He said he was operating the airplane in the “Light Sport” category.

The owner did not possess a pilot certificate, and neither did he have an FAA medical certificate.

AIRCRAFT INFORMATION

According to FAA records, the airplane was manufactured in 1940 and had accrued 2,210 total aircraft hours. Its most recent annual inspection was completed April 1, 2009, at 2,191 total aircraft hours.

Weight and balance calculations were completed by the FAA inspector who used the occupant, baggage, and fuel weights volunteered by the pilot and owner. Calculations revealed that the airplane weighed approximately 1,315 pounds at takeoff. The maximum allowable gross weight for the airplane was 1,260 pounds.

METEOROLOGICAL INFORMATION

At 1353, the weather reported at Charlotte County Airport (PGD), Punta Gorda, Florida, 19 miles southwest, included few clouds at 4,300 feet and winds from 120 degrees at 7 knots. The visibility was 10 miles. The temperature was 32 degrees Celsius (C) and the dew point was 22 degrees C.

WRECKAGE AND IMPACT INFORMATION

The accident was not reported until examination of the airplane by a certificated airframe and powerplant mechanic revealed substantial damage to the airframe. Examination of the airplane by the FAA inspector revealed corrosion in the areas of the landing gear that had buckled or fractured. These areas were sectioned from the airplane's landing gear and forwarded to the NTSB materials laboratory in Washington, DC, for further examination.

TESTS AND RESEARCH

On October 19, 2009, the sectioned pieces of the right main landing gear were examined in the NTSB materials laboratory. Examination revealed the component failed in overstress bending due to landing gear loads consistent with forward movement of the airplane. There were no indications of preexisting defects, and the corrosion observed did not affect the overall integrity because it was "shallow compared to the overall thickness of the [landing gear] tube."

Pilot Information

Certificate:	Private	Age:	60,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Sport pilot Unknown	Last FAA Medical Exam:	April 1, 2001
Occupational Pilot:	No	Last Flight Review or Equivalent:	January 10, 2008
Flight Time:	6000 hours (Total, all aircraft), 16 hours (Total, this make and model)		

Information

Certificate:	None	Age:	49,Male
Airplane Rating(s):	None	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	None	Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Luscombe	Registration:	N40VS
Model/Series:	8A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	1306
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	April 1, 2009 Annual	Certified Max Gross Wt.:	1260 lbs
Time Since Last Inspection:	19 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	2210 Hrs at time of accident	Engine Manufacturer:	CONT MOTOR
ELT:	Installed, not activated	Engine Model/Series:	A&C65 SERIES
Registered Owner:	Edward Siwicki	Rated Power:	65 Horsepower
Operator:	Edward Siwicki	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	PGD, 26 ft msl	Distance from Accident Site:	19 Nautical Miles
Observation Time:	13:53 Local	Direction from Accident Site:	240°
Lowest Cloud Condition:	Few / 4300 ft AGL	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	7 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	120°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.95 inches Hg	Temperature/Dew Point:	32°C / 22°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Arcadia, FL (X06)	Type of Flight Plan Filed:	None
Destination:	Arcadia, FL (X06)	Type of Clearance:	None
Departure Time:	13:00 Local	Type of Airspace:	

Airport Information

Airport:	Arcadia Municipal Airport X06	Runway Surface Type:	Asphalt
Airport Elevation:	60 ft msl	Runway Surface Condition:	Dry
Runway Used:	05	IFR Approach:	None
Runway Length/Width:	3700 ft / 75 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	27.191944,-81.837219(est)

Administrative Information

Investigator In Charge (IIC):	Rayner, Brian
Additional Participating Persons:	Hector Diaz; FAA/FSDO; Tampa, FL
Original Publish Date:	January 7, 2011
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=74725

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](#).