



Aviation Investigation Final Report

Location:	Detroit, Michigan	Accident Number:	CHI02LA127
Date & Time:	May 4, 2002, 08:10 Local	Registration:	N1199L
Aircraft:	Cessna 310L	Aircraft Damage:	Substantial
Defining Event:		Injuries:	3 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

While in cruise flight the airplane lost all electrical power and the pilot extended the landing gear using the emergency gear extension hand crank. During landing the main and nose landing gear collapsed resulting in substantial damage. According to the Cessna 310L Pilot Operating Handbook (POH), when the landing gear does not extend electrically the pilot is to rotate the emergency landing gear hand crank, "Clockwise four turns past point where gear down lights come on (approximately 52 turns)." Due to the electrical failure the gear position indicating lights were inoperative.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The total failure of the electrical system, the landing gear indicating system not operating, and the unsuccessful emergency landing gear extension.

Findings

Occurrence #1: GEAR COLLAPSED
Phase of Operation: LANDING

Findings

1. (C) ELECTRICAL SYSTEM - FAILURE, TOTAL
2. (C) GEAR EXTENSION - NOT SUCCESSFUL
3. (C) LANDING GEAR, GEAR INDICATING SYSTEM - NOT OPERATING

Factual Information

On May 4, 2002, at 0810 eastern daylight time, a Cessna 310L, N1199L, owned and piloted by a private pilot, sustained substantial damage when the landing gear collapsed while landing on runway 33 (5,090 feet by 100 feet, dry/asphalt) at the Detroit City Airport (DET), Detroit, Michigan. Visual meteorological conditions prevailed at the time of the accident. The personal flight was operating under the provisions of 14 CFR Part 91 on an instrument flight rules (IFR) flight plan. The pilot and his two passengers reported no injuries. The flight departed DET at 0735 and was returning due to an in-flight electrical system failure.

According to the pilot's written statement, the flight was intended to be a cross-country to Dekalb-Peachtree Airport (PDK), Atlanta, Georgia. The pilot reported that when he was handed-off to Toledo approach control he noticed that the instrument lights were blinking off and on. The pilot stated he informed Toledo approach control that he was having electrical problems and wanted to return to DET. The pilot reported while returning to DET the airplane lost all electrical power. The pilot stated, "Upon arriving at DET we hand crank[ed] the landing gear down, the landing gear did not lock." The pilot reported that during the landing the nose and main landing gear collapsed and the airplane swerved off the runway.

According to the Cessna 310L Pilot Operating Handbook (POH), when the landing gear does not extend electrically the pilot is to rotate the emergency landing gear hand crank, "Clockwise four turns past point where gear down lights come on (approximately 52 turns)."

Pilot Information

Certificate:	Private	Age:	50, Male
Airplane Rating(s):	Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	July 19, 2000
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	February 15, 2002
Flight Time:	1200 hours (Total, all aircraft), 600 hours (Total, this make and model), 1200 hours (Pilot In Command, all aircraft)		

Information

Certificate:	Private	Age:	49, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	January 15, 2002
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	March 12, 2001
Flight Time:	1500 hours (Total, all aircraft), 610 hours (Total, this make and model), 1500 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N1199L
Model/Series:	310L	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	0033
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	August 1, 2001 Annual	Certified Max Gross Wt.:	5200 lbs
Time Since Last Inspection:	83 Hrs	Engines:	2 Reciprocating
Airframe Total Time:	7272 Hrs at time of accident	Engine Manufacturer:	Continental
ELT:	Installed	Engine Model/Series:	IO-470-VO
Registered Owner:	Jerome Morgan	Rated Power:	270 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KDET,626 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	08:16 Local	Direction from Accident Site:	0°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	3 knots / 0 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	160°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.29 inches Hg	Temperature/Dew Point:	7°C / -1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Detroit, MI (DET)	Type of Flight Plan Filed:	IFR
Destination:	Atlanta, GA (PDK)	Type of Clearance:	IFR
Departure Time:	07:35 Local	Type of Airspace:	Class D

Airport Information

Airport:	Detroit City Airport DET	Runway Surface Type:	Asphalt
Airport Elevation:	600 ft msl	Runway Surface Condition:	Dry
Runway Used:	33	IFR Approach:	None
Runway Length/Width:	5090 ft / 100 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	2 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 None	Latitude, Longitude:	42.329429,-83.049003(est)

Administrative Information

Investigator In Charge (IIC):	FOX, ANDREW
Additional Participating Persons:	Melvin Beasley; Federal Aviation Administration Grand Rapids FSDO; Grand Rapids, MI
Original Publish Date:	April 18, 2003
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=54684

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](#).