Aviation Investigation Final Report

Location:	Harvard, Illinois	**Accident Number:**	CHI02LA161
Date & Time:	June 7, 2002, 08:35 Local	**Registration:**	N756TK
Aircraft:	Cessna R182	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The aircraft sustained substantial damage when the main landing gear collapsed on landing rollout. The pilot reported that he decided to terminate the flight and land at Dacy Airport in Harvard, Illinois due to deteriorating visibility and the inability to communicate with Air Traffic Control. He said that the panel mounted radio displays went blank but the charge indicator indicated a normal charge rate. The pilot reported that he lowered the landing gear and that the gear down indicator light, "...appeared to be green." The main landing gear collapsed during the landing. The airplane landing gear operation is accomplised by hydraulic actuators powered by an electrically-driven hydraulic power pack. An emergency gear extension hand pump is used for emergency landing gear extension. A representative of the maintenance facility that performed the repairs to the airplane stated that the landing gear system was examined and no defects were found. The checks included the normal retraction system, the emergency retraction system, and the position indicating system. He stated that the charging system was not operating when the airplane was recovered. He said that the alternator was replaced during the repairs to the airplane.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to verify the extension of the landing gear. Factors were the alternator failure, and the main landing gear down locks not engaged.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: CRUISE

Findings
1. (F) ELECTRICAL SYSTEM,ALTERNATOR - FAILURE

Occurrence #2: MAIN GEAR COLLAPSED
Phase of Operation: LANDING - ROLL

Findings
2. PRECAUTIONARY LANDING - INITIATED - PILOT IN COMMAND
3. (F) LANDING GEAR,GEAR LOCKING MECHANISM - NOT ENGAGED
4. (C) GEAR EXTENSION - NOT VERIFIED - PILOT IN COMMAND

Factual Information

On June 7, 2002, at 0835 central daylight time, a Cessna R182, N756TK, piloted by a private pilot sustained substantial damage when the main landing gear collapsed on landing rollout on runway 27 (3,589 feet by 105 feet, dry/turf) at Dacy Airport (0C0), Harvard, Illinois. Visual meteorological conditions prevailed at the time of the accident. The personal flight was operating under the provisions of 14 CFR Part 91 without a flight plan. The pilot, the sole occupant, reported no injuries. The flight originated at Waukegan Regional Airport, Waukegan, Illinois at 0755 central daylight time with the intended destination of Boone Municipal Airport, Boone, Iowa.

According to the pilot's written statement, he was approximately 18 nautical miles east of the Greater Rockford Airport (RFD), Rockford, Illinois, when the decision was made to " ... terminate the flight due to deteriorating visibility and the inability to communicate with [air traffic control]." The pilot stated that a 180 degree turn was made with the intent of landing at the Galt Airport (10C), Wonder Lake, Illinois, to evaluate the communications and electrical problems and to re-evaluate the weather conditions. The pilot said that shortly after making the 180 degree turn to 10C, 0C0 came into view and he elected to land at 0C0. He said that the panel mounted radio displays went blank but the charge indicator indicated a normal charge rate. The pilot reported that he lowered the landing gear and that the gear down indicator light, "...appeared to be green." The main landing gear collapsed during the landing at 0C0.

The airplane landing gear operation is accomplised by hydraulic actuators powered by an electrically-driven hydraulic power pack. An emergency gear extension hand pump is used for emergency landing gear extension.

In a telephone interview, a representative of the maintenance facility that performed the repairs to the airplane stated that the landing gear system was examined and no defects were found. The checks included the normal retraction system, the emergency retraction system, and the position indicating system. He stated that the charging system was not operating when the airplane was recovered. He said that the alternator was replaced during the repairs to the airplane.

Pilot Information

Certificate:	Private	**Age:**	54,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	February 11, 2002
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	May 5, 2002
Flight Time:	380 hours (Total, all aircraft), 16 hours (Total, this make and model), 296 hours (Pilot In Command, all aircraft), 12 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N756TK
Model/Series:	R182	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	R18201150
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	May 24, 2002 100 hour	**Certified Max Gross Wt.:**	2250 lbs
Time Since Last Inspection:	11.6 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	4263.9 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	O-540-J3C5D
Registered Owner:	Stick and Rudder Club Inc	**Rated Power:**	235 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:	ORD,668 ft msl	**Distance from Accident Site:**	25 Nautical Miles
Observation Time:	08:56 Local	**Direction from Accident Site:**	95°
Lowest Cloud Condition:	Few / 4000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	Broken / 25000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	9 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	200°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.15 inches Hg	**Temperature/Dew Point:**	18°C / 12°C
Precipitation and Obscuration:	N/A - None - Haze		
Departure Point:	Waukegan, IL (UGN)	**Type of Flight Plan Filed:**	None
Destination:	Boone, IA (BNW)	**Type of Clearance:**	None
Departure Time:	07:55 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	Dacy Airport 0C0	**Runway Surface Type:**	Grass/turf
Airport Elevation:	913 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	27	**IFR Approach:**	None
Runway Length/Width:	3500 ft / 105 ft	**VFR Approach/Landing:**	Full stop

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	42.419166,-88.610671(est)

Administrative Information

Investigator In Charge (IIC):	BRANNEN, JOHN
Additional Participating Persons:	Tom Duellman; Federal Aviation Adminstration DPA FSDO; West Chicago, IL
Original Publish Date:	December 6, 2002
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=55118