



# Aviation Investigation Final Report

---

<b>Location:</b>	Harvard, Illinois	<b>Accident Number:</b>	CHI02LA161
<b>Date &amp; Time:</b>	June 7, 2002, 08:35 Local	<b>Registration:</b>	N756TK
<b>Aircraft:</b>	Cessna R182	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	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 accomplished 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 accomplished 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

<b>Certificate:</b>	Private	<b>Age:</b>	54, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Valid Medical-w/ waivers/lim	<b>Last FAA Medical Exam:</b>	February 11, 2002
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	May 5, 2002
<b>Flight Time:</b>	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

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N756TK
<b>Model/Series:</b>	R182	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	R18201150
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	May 24, 2002 100 hour	<b>Certified Max Gross Wt.:</b>	2250 lbs
<b>Time Since Last Inspection:</b>	11.6 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	4263.9 Hrs at time of accident	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	O-540-J3C5D
<b>Registered Owner:</b>	Stick and Rudder Club Inc	<b>Rated Power:</b>	235 Horsepower
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	ORD,668 ft msl	<b>Distance from Accident Site:</b>	25 Nautical Miles
<b>Observation Time:</b>	08:56 Local	<b>Direction from Accident Site:</b>	95°
<b>Lowest Cloud Condition:</b>	Few / 4000 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	Broken / 25000 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	9 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	200°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.15 inches Hg	<b>Temperature/Dew Point:</b>	18°C / 12°C
<b>Precipitation and Obscuration:</b>	N/A - None - Haze		
<b>Departure Point:</b>	Waukegan, IL (UGN )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Boone, IA (BNW )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	07:55 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

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

## Wreckage and Impact Information

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

## Administrative Information

**Investigator In Charge (IIC):** BRANNEN, JOHN

**Additional Participating Persons:** Tom Duellman; Federal Aviation Administration DPA FSDO; West Chicago, IL

**Original Publish Date:** December 6, 2002

**Last Revision Date:**

**Investigation Class:** [Class](#)

**Note:**

**Investigation Docket:** <https://data.nts.gov/Docket?ProjectID=55118>

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](#).