



National Transportation Safety Board Aviation Incident Data Summary

Location:	WEST CHICAGO, IL	Incident Number:	CHI911A120
Date & Time:	04/02/1991, 1600 CDT	Registration:	N9592B
Aircraft:	CESSNA 172RG	Injuries:	2 None
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Analysis

AFTER REPEATED ATTEMPTS TO LOWER THE LANDING GEAR, ONLY THE LEFT MAIN AND NOSE GEAR WOULD EXTEND. THE PILOTS ELECTED TO MAKE A WHEELS-UP LANDING. DURING THE LANDING, THE LOWER FUSELAGE AND PROPELLER TIPS RECEIVED MINOR DAMAGE. AN INVESTIGATION REVEALED THE RIGHT MAIN LANDING GEAR PIVOT ASSEMBLY (PN 2441100-1) HAD FAILED. A METALLURGICAL EXAMINATION DISCLOSED THE SPLINED SHAFT ON THE PIVOT ASSEMBLY HAD FRACTURED IN TORSIONAL OVERLOAD. AS A RESULT, MECHANICAL EXTENSION OF THE RIGHT MAIN LANDING GEAR WAS NOT POSSIBLE.

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this incident to be: FAILURE OF THE SPLINED SHAFT ON THE RIGHT MAIN LANDING GEAR PIVOT ASSEMBLY. A FACTOR RELATED TO THE INCIDENT WAS INADEQUATE DESIGN OF THE LANDING GEAR PIVOT ASSEMBLY.

Findings

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

Findings

1. (C) LANDING GEAR,NORMAL RETRACTION/EXTENSION ASSEMBLY - FRACTURED
2. GEAR EXTENSION - NOT POSSIBLE
3. (F) ACFT/EQUIP,INADEQUATE DESIGN - PRODUCTION/DESIGN PERSONNEL

Occurrence #2: GEAR NOT EXTENDED
Phase of Operation: LANDING

Findings

4. WHEELS UP LANDING - INTENTIONAL - PILOT IN COMMAND(CFI)

Pilot Information

Certificate:	Flight Instructor; Commercial	Age:	25
Airplane Rating(s):	Single-engine Land; Single-engine Sea	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine
Flight Time:	1531 hours (Total, all aircraft), 280 hours (Total, this make and model), 1430 hours (Pilot In Command, all aircraft), 25 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	Registration:	N9592B
Model/Series:	172RG 172RG	Engines:	1 Reciprocating
Operator:	AV. TRAINING ENTERPRISE OF IL.	Engine Manufacturer:	LYCOMING
Operating Certificate(s) Held:	None	Engine Model/Series:	O-360-F1A6
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	DPA, 758 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:	None / 0 ft agl	Wind Speed/Gusts, Direction:	10 knots / , 140°
Temperature:	12° C	Visibility	15 Miles
Precipitation and Obscuration:			
Departure Point:	Destination:		

Airport Information

Airport:	DUPAGE (DPA)	Runway Surface Type:	Asphalt
Runway Used:	15	Runway Surface Condition:	Dry
Runway Length/Width:	3400 ft / 100 ft		

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Minor
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Latitude, Longitude:			

Administrative Information

Investigator In Charge (IIC): J. R Vallaster

Adopted Date: 05/28/1993

Investigation Docket: NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at <http://dms.nts.gov/pubdms/>.

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report.