



Aviation Investigation Final Report

Location:	BISMARCK, North Dakota	Accident Number:	DEN82DA079
Date & Time:	May 6, 1982, 21:07 Local	Registration:	N4504Q
Aircraft:	CESSNA 402A	Aircraft Damage:	Substantial
Defining Event:		Injuries:	8 None
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled		

Analysis

THE PILOT DISCOVERED THAT THE GEAR WOULD NOT EXTEND ELECTRICALLY. MANUAL EXTENSION WAS ATTEMPTED, BUT THE CRANK WOULD NOT TURN IN EITHER DIRECTION. WHILE APPLYING PRESSURE TO THE CRANKS, THE CHAIN DRIVE FAILED. THE PLANE WAS LANDED WITH THE GEAR RETRACTED. DISASSEMBLY OF THE EMERGENCY EXTENSION SYSTEM REVEALED THAT A SHAFT, PN 0843400-50, WAS BENT AND GOUGE MARKS WERE FOUND ON A TOOTH OF A BEVEL GEAR, PN 0843400-49. ALSO, THE MANUAL EXTENSION CHAIN, PN 500000-52, BETWEEN THE HAND CRANK AND BEVEL GEARS, HAD BROKEN. NO OTHER DISCREPANCIES WERE EVIDENT IN THE LANDING GEAR SYSTEM.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

1. (C) LANDING GEAR, EMERGENCY EXTENSION ASSEMBLY - JAMMED
2. WHEELS UP LANDING - PERFORMED - PILOT IN COMMAND

Factual Information

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	64, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Unknown
Other Aircraft Rating(s):		Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	September 10, 1981
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	30000 hours (Total, all aircraft), 179 hours (Total, this make and model), 30000 hours (Pilot In Command, all aircraft), 102 hours (Last 90 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	Registration:	N4504Q
Model/Series:	402A 402A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:		Serial Number:	402A0004
Landing Gear Type:	Retractable - Tricycle	Seats:	10
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	6885 lbs
Time Since Last Inspection:	3 Hrs	Engines:	2 Reciprocating
Airframe Total Time:	3378 Hrs	Engine Manufacturer:	CONTINENTAL
ELT:	Installed	Engine Model/Series:	TSIO-520-E
Registered Owner:	CAPITAL AVIATION CORPORATION	Rated Power:	300 Horsepower
Operator:	CAPITAL AVIATION CORPORATION	Operating Certificate(s) Held:	On-demand air taxi (135)
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Dusk
Observation Facility, Elevation:	BIS	Distance from Accident Site:	
Observation Time:	21:07 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	12 miles
Lowest Ceiling:	Unknown	Visibility (RVR):	
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	320°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	40°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	FARGO (FAR)	Type of Flight Plan Filed:	VFR
Destination:	MONTEREY	Type of Clearance:	
Departure Time:	19:30 Local	Type of Airspace:	

Airport Information

Airport:	BISMARCK MUNICIPAL BIS	Runway Surface Type:	Asphalt
Airport Elevation:	0 ft msl	Runway Surface Condition:	Dry
Runway Used:	35	IFR Approach:	
Runway Length/Width:	4009 ft / 100 ft	VFR Approach/Landing:	Straight-in

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	7 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	8 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):

Additional Participating
Persons:

Original Publish Date: May 6, 1983

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=69966>

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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](#).