



Aviation Investigation Final Report

Location:	ST. PAUL, Minnesota	Accident Number:	CHI86LA228
Date & Time:	September 17, 1986, 19:58 Local	Registration:	N707HB
Aircraft:	PIPER PA-31-310	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled		

Analysis

AT THE END OF AN UNEVENTFUL FLIGHT THE PILOT LOWERED THE LANDING GEAR AND NOTED THREE GEAR DOWN INDICATOR LIGHTS. UPON LANDING ROLLOUT THE NOSE GEAR COLLAPSED. AN INSPECTION FOLLOWING THE ACCIDENT REVEALED THAT A HYDRAULIC LEAK WAS PRESENT NEAR THE HYDRAULIC POWER PACK. THE HYDRAULIC RESERVOIR (WHICH NORMALLY HOLDS 54 OZ OF FLUID) WAS REFILLED WITH 42 OZ OF FLUID. THERE IS NO HYDRAULIC FLUID LEVEL INDICATOR IN THE COCKPIT OF THIS AIRCRAFT.

Probable Cause and Findings

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

Findings

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

Findings

1. (F) FLUID, HYDRAULIC - LOSS, PARTIAL
 2. (C) MAINTENANCE, INSPECTION - INATTENTIVE - COMPANY MAINTENANCE PERSONNEL
 3. (F) FLUID, HYDRAULIC - LEAK
-

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

Factual Information

Pilot Information

Certificate:	Airline transport	Age:	64, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Glider	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	Last FAA Medical Exam:	August 28, 1986
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	5736 hours (Total, all aircraft), 250 hours (Total, this make and model), 5612 hours (Pilot In Command, all aircraft), 167 hours (Last 90 days, all aircraft), 8 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	PIPER	Registration:	N707HB
Model/Series:	PA-31-310 PA-31-310	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	31-40
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	November 15, 1986 Annual	Certified Max Gross Wt.:	6500 lbs
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:		Engine Manufacturer:	LYCOMING
ELT:	Installed	Engine Model/Series:	T10-540-A1A
Registered Owner:	TARNOWSKI SALES, INC.	Rated Power:	310 Horsepower
Operator:	NORTHLAND AVIATION, INC.	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:	Instrument (IMC)	Condition of Light:	Night/dark
Observation Facility, Elevation:	MSP ,841 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	19:52 Local	Direction from Accident Site:	220°
Lowest Cloud Condition:	Unknown	Visibility	1 miles
Lowest Ceiling:	Overcast / 800 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	130°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	16°C / 16°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	ABERDEEN , SD (ABR)	Type of Flight Plan Filed:	IFR
Destination:		Type of Clearance:	IFR
Departure Time:	18:30 Local	Type of Airspace:	Class D

Airport Information

Airport:	MINNEAPOLIS/ST. PAUL INTL MSP	Runway Surface Type:	Asphalt
Airport Elevation:	841 ft msl	Runway Surface Condition:	Dry
Runway Used:	11R	IFR Approach:	ILS
Runway Length/Width:	10000 ft / 200 ft	VFR Approach/Landing:	None

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:	44.949348,-93.089942(est)

Administrative Information

Investigator In Charge (IIC): Benzon, Robert

Additional Participating Persons:
J. VERGENZ; MINNEAPOLIS , MN
T. ZEIDLER; MINNEAPOLIS , MN

Original Publish Date:

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=13527>

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](#).