



Aviation Investigation Final Report

Location:	SCHOOLCRAFT, Michigan	Accident Number:	CHI88DEM01
Date & Time:	February 24, 1988, 13:10 Local	Registration:	N14142
Aircraft:	NORTH AMERICAN T-28A	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Minor, 1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

WHILE THE PILOT WAS CLIMBING THROUGH 7800 MSL HE NOTICED A VAPOR TRAIL COMING FROM THE RIGHT EXHAUST AREA. THE PILOT NOTIFIED APPROACH CONTROL THAT HE WAS RETURNING TO THE DEPARTURE AIRPORT AND THEY SUPPLIED RADAR VECTORS. THE PILOT STARTED A DESCENT AND DURING THIS TIME THE ENGINE POWER FADED FAST. CONSEQUENTLY HE DECIDED HE WAS NOT GOING TO MAKE IT BACK. THE PILOT CONTACTED APPROACH WHO THEN VECTORED HIM TO A SMALL AIRPORT APPROXIMATELY 2 MILES AWAY. THE PREMATURE DESCENT ALSO PLACED THE ALTERNATE AIRPORT OUT OF RANGE. THE PILOT CHOSE AN OPEN FIELD TO LAND IN. ABOUT 15 FT ABOVE THE GROUND THE AIRCRAFT STALLED. IT IMPACTED THE GROUND HARD ON ALL THREE LANDING GEAR. THE NOSE WHEEL COLLAPSED CAUSING THE AIRCRAFT TO NOSE OVER. INVESTIGATION REVEALED THAT THE #4 CYLINDER EXHAUST VALVE HAD FAILED.

Probable Cause and Findings

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

Findings

Occurrence #1: LOSS OF ENGINE POWER(PARTIAL) - MECH FAILURE/MALF
Phase of Operation: CRUISE - NORMAL

Findings

1. (C) ENGINE ASSEMBLY, VALVE, EXHAUST - FAILURE, TOTAL

Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

Findings

2. (F) EMERGENCY PROCEDURE - IMPROPER - PILOT IN COMMAND

Occurrence #3: HARD LANDING

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

3. (F) STALL/MUSH - INADVERTENT - PILOT IN COMMAND

4. TERRAIN CONDITION - OPEN FIELD

5. LANDING GEAR, NOSE GEAR - OVERLOAD

Occurrence #4: NOSE OVER

Phase of Operation: LANDING - ROLL

Factual Information

Pilot Information

Certificate:	Commercial	Age:	50, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Front
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 1 Valid Medical--w/ waivers/lim	Last FAA Medical Exam:	March 27, 1986
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	4915 hours (Total, all aircraft), 450 hours (Total, this make and model), 4710 hours (Pilot In Command, all aircraft), 40 hours (Last 90 days, all aircraft), 13 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	NORTH AMERICAN	Registration:	N14142
Model/Series:	T-28A T-28A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Experimental (Special)	Serial Number:	51-3756
Landing Gear Type:	Retractable - Tricycle	Seats:	2
Date/Type of Last Inspection:	December 17, 1987 Annual	Certified Max Gross Wt.:	7400 lbs
Time Since Last Inspection:	5 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	3100 Hrs	Engine Manufacturer:	WRIGHT
ELT:	Installed, not activated	Engine Model/Series:	R-1820-86D
Registered Owner:	GRAFTON INSURANCE AGENCY, INC.	Rated Power:	1200 Horsepower
Operator:		Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	Condition of Light:	Day
Observation Facility, Elevation:	AZO ,874 ft msl	Distance from Accident Site:	7 Nautical Miles
Observation Time:	13:10 Local	Direction from Accident Site:	25°
Lowest Cloud Condition:	Unknown	Visibility	2 miles
Lowest Ceiling:	Overcast / 1200 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	15 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	290°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	-6°C / -10°C
Precipitation and Obscuration:	N/A - Blowing - Snow		
Departure Point:	KALAMAZOO , MI (AZO)	Type of Flight Plan Filed:	IFR
Destination:	HARTFORD , WI (C31)	Type of Clearance:	IFR
Departure Time:	13:01 Local	Type of Airspace:	Class E

Airport Information

Airport:		Runway Surface Type:	Dirt
Airport Elevation:	0 ft msl	Runway Surface Condition:	Snow
Runway Used:	0	IFR Approach:	None
Runway Length/Width:	0 ft / 0 ft	VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor, 1 None	Latitude, Longitude:	42.10958,-85.63005(est)

Administrative Information

Investigator In Charge (IIC):	Hansen, Paul
Additional Participating Persons:	ELLIOTT T WILLARD; GRAND RAPIDS , MI
Original Publish Date:	August 8, 1989
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=13863

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](#).