



National Transportation Safety Board Aviation Accident Final Report

Location:	BETHEL, AK	Accident Number:	ANC92FA002
Date & Time:	10/03/1991, 1435 AKD	Registration:	N20024
Aircraft:	CESSNA 172M	Aircraft Damage:	Substantial
Defining Event:		Injuries:	5 None

Flight Conducted Under: Part 135: Air Taxi & Commuter - Non-scheduled

Analysis

DURING CRUISE FLIGHT THE PILOT HEARD A LOUD POP IN THE ENGINE COMPARTMENT AND THE ENGINE STOPPED PRODUCING POWER. DURING THE SUBSEQUENT FORCED LANDING ON THE TUNDRA, THE AIRPLANE NOSED OVER AND RECEIVED SUBSTANTIAL DAMAGE. EXAMINATION OF THE ENGINE REVEALED THAT THE CRANKSHAFT TIMING GEAR, PART NUMBER LW-15269, WAS EXTREMELY WORN AND ALL BUT NINE OF THE GEAR TEETH WERE MISSING. ACCORDING TO TEXTRON LYCOMING, THE GEAR WAS THE ORIGINAL MANUFACTURED GEAR.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A POWER LOSS OVER UNSUITABLE TERRAIN WHICH RESULTED IN A NOSE OVER.

Findings

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

Findings

1. (C) ENGINE ASSEMBLY, TIMING GEAR - WORN

Occurrence #2: NOSE OVER
Phase of Operation: LANDING - ROLL

Findings

2. (F) TERRAIN CONDITION - TUNDRA

Factual Information

Pilot Information

Certificate:	Flight Instructor; Commercial	Age:	26, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane Single-engine	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	01/31/1991
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	2475 hours (Total, all aircraft), 620 hours (Total, this make and model), 2324 hours (Pilot In Command, all aircraft), 304 hours (Last 90 days, all aircraft), 124 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	Registration:	N20024
Model/Series:	172M 172M	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	17260940
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	09/25/1991, Annual	Certified Max Gross Wt.:	2300 lbs
Time Since Last Inspection:	15 Hours	Engines:	1 Reciprocating
Airframe Total Time:	8251 Hours	Engine Manufacturer:	LYCOMING
ELT:	Installed, activated, aided in locating accident	Engine Model/Series:	O-320-H2AD
Registered Owner:	VILLAGE AVIATION CORP	Rated Power:	160 hp
Operator:	VILLAGE AVIATION CORP	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:	CAMAI AIR	Operator Designator Code:	HYQA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	, 0 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0000	Direction from Accident Site:	0°
Lowest Cloud Condition:	Scattered / 1000 ft agl	Visibility	20 Miles
Lowest Ceiling:	Broken / 2000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	290°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	7°C / 6°C
Precipitation and Obscuration:			
Departure Point:	BETHEL, AK (BET)	Type of Flight Plan Filed:	Company VFR
Destination:	AKIACHAK, AK (KKI)	Type of Clearance:	None
Departure Time:	1424 ADT	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	4 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	5 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	GEORGE KOBELNYK	Report Date:	03/31/1993
Additional Participating Persons:	JOHN ELGEE; ANCHORAGE, AK THOMAS DUDDY; WILLIAMSPORT, PA		
Publish Date:			
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/ .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).