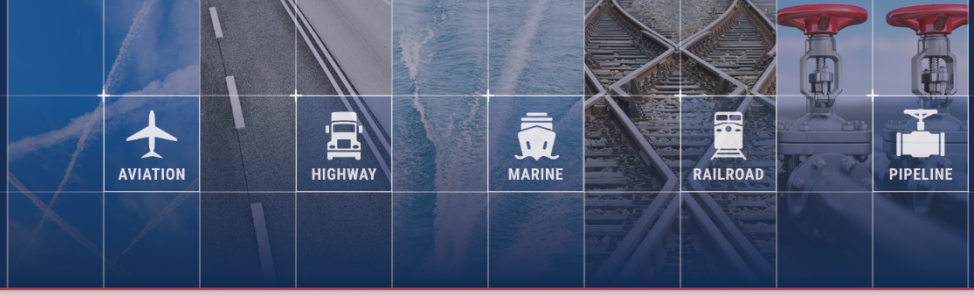

Aviation Investigation Final Report

Location:	KODIAK, Alaska	**Incident Number:**	ANC93IA076
Date & Time:	May 31, 1993, 13:15 Local	**Registration:**	N5847M
Aircraft:	CESSNA 310	**Aircraft Damage:**	Minor
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

THE AIRPLANE JUST COMPLETED AN ANNUAL INSPECTION AND WAS ON A MAINTENANCE TEST FLIGHT. UPON GEAR RETRACTION THE NOSE GEAR MADE A LOUD NOISE AND THEN WOULD NOT LOCK IN THE DOWN POSITION OF THE SUBSEQUENT EXTENSION. EXAMINATION OF THE SYSTEM SHOWED THE LANDING MECHANISM WAS IN RIG AND THE NOSE GEAR CENTERING MECHANISM WAS OPERATIONAL. METALLURGICAL EXAMINATION SHOWED THAT THE FRACTURES REVEALED FEATURES TYPICAL OF OVERSTRESS SEPARATIONS.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be: THE FAILURE OF THE NOSE GEAR IDLER BELL CRANK DUE TO OVERSTRESS BY AN UNDETERMINED SOURCE.

Findings

Occurrence #1: NOSE GEAR COLLAPSED
Phase of Operation: LANDING - ROLL

Findings
1. (C) LANDING GEAR,NOSE GEAR - FAILURE,PARTIAL

Factual Information

On May 31, 1993, at 1315 Alaska daylight time, a retractable wheel equipped Cessna 310 airplane, N5847M, registered to and operated by the Pilot-in-Command, experienced a collapse of the nose gear upon landing at the Kodiak Airport, Kodiak, Alaska. The personal flight, operating under 14 CFR Part 91, departed Kodiak for a local maintenance test flight. Visual meteorological conditions prevailed and no flight plan was filed. The Airline Transport Pilot-in-Command and the mechanic/passenger were not injured and the airplane received only minor damage.

According to the Pilot-in-Command, the nose gear made a loud noise upon retraction and then would not lock down during the subsequent extension. Examination of the system showed a failure of the nose gear idler bell crank.

Metallurgical examination of the idler bell crank by use of the bench binocular microscope showed that the fractures revealed features typical of over stress separations.

According to the Pilot-in-Command/owner and the mechanic, after the mishap, they simply replaced the idler bell crank and performed a gear extension and retraction check while the airplane was on jacks. The gear performed perfectly and they were not able to duplicate the problem. The nose wheel centering mechanism was examined and no anomalies were noted. According to the mechanic, the landing gear was rigged properly.

Pilot Information

Certificate:	Airline transport; Commercial	**Age:**	39,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Left
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 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	June 19, 1991
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	4300 hours (Total, all aircraft), 400 hours (Total, this make and model), 4250 hours (Pilot In Command, all aircraft), 5 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	**Registration:**	N5847M
Model/Series:	310 310	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal; Provisional (Special)	**Serial Number:**	310P0147
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	May 31, 1993 Annual	**Certified Max Gross Wt.:**	5200 lbs
Time Since Last Inspection:	0 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	3000 Hrs	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	IO-520-C
Registered Owner:	BOB MAIN AND ASSOCIATES	**Rated Power:**	300 Horsepower
Operator:	MAIN, ROBERT	**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:		**Distance from Accident Site:**	
Observation Time:		**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	20 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	80°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	13°C / 10°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(ADQ)	**Type of Flight Plan Filed:**	None
Destination:	(ADQ)	**Type of Clearance:**	VFR
Departure Time:	13:00 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	KODIAK ADQ	**Runway Surface Type:**	Asphalt
Airport Elevation:	73 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	28	**IFR Approach:**	None
Runway Length/Width:	5400 ft / 150 ft	**VFR Approach/Landing:**	Full stop;Straight-in

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Minor
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	57.789299,-152.400634(est)

Administrative Information

Investigator In Charge (IIC):	Kobelnyk, George
Additional Participating Persons:	RALPH PACK; ANCHORAGE , AK
Original Publish Date:	February 14, 1996
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=2318