



National Transportation Safety Board Aviation Incident Final Report

Location:	KODIAK, AK	Incident Number:	ANC961A077
Date & Time:	06/01/1996, 1430 AKD	Registration:	N9608G
Aircraft:	Cessna 206	Aircraft Damage:	Minor
Defining Event:		Injuries:	1 None

Flight Conducted Under: Part 91: General Aviation - Positioning

Analysis

The pilot reported that he was landing on a beach near a remote river to pick up fishermen. During the landing roll-out, the pilot slowed the airplane to about 5 knots and was beginning to turn the airplane around. The nose wheel encountered an area of soft sand during the turn and the nose wheel strut fractured. The airplane was equipped with 10.5 X 28.5 X 15 tundra tires, wheels, and hubs that were installed on the main landing gear under an FAA Supplemental Type Certificate. The STC requires that the airplane must be equipped with an FAA approved nose wheel/tire installation. The airplane had an oversized 8.50 nose wheel tire and tube installed that was approved by an FAA FSDO inspector under a field approval. The FAA's handbook for airworthiness inspectors indicates that modifications to landing gear are major alterations and require an STC.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be: The pilot's selection of unsuitable terrain for landing. Factors in the accident were: soft terrain, the use of an oversize nose wheel tire, and the FAA's inadequate field approval process for tundra tires.

Findings

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

Findings

1. (F) TERRAIN CONDITION - SOFT
2. (C) UNSUITABLE TERRAIN OR TAKEOFF/LANDING/TAXI AREA - SELECTED - PILOT IN COMMAND
3. (F) INADEQUATE CERTIFICATION/APPROVAL,AIRCRAFT - FAA(ORGANIZATION)

Factual Information

On June 1, 1996, about 1430 Alaska daylight time, a tundra tire equipped Cessna 206, N9608G, sustained a broken nose wheel strut during landing on a remote beach, about 74 miles southwest of Kodiak, Alaska. The airplane was being operated as a visual flight rules (VFR) cross-country positioning flight under Title 14 CFR Part 91 when the incident occurred. The airplane, registered to Redemption Inc., Kodiak, Alaska, and operated by Island Air Service, sustained minor damage. The certificated airline transport pilot, the sole occupant, was not injured. Visual meteorological conditions prevailed. VFR company flight following procedures were in effect. The flight originated at the Kodiak airport about 1350.

The pilot reported that he was landing on a beach near the Ayakulik River to pick up fishermen. During the landing roll-out, the pilot slowed the airplane to about 5 knots and was beginning to turn the airplane around. The nose wheel encountered an area of soft sand during the turn and the nose wheel strut fractured. The airplane received damage to the engine cowling and propeller.

The airplane is equipped with Bushmaster Management Company, 10.5 X 28.5 X 15 (Model SWS-1100-A) tundra tires, wheels, and hubs that were installed on the main landing gear under a Federal Aviation Administration (FAA) Supplemental Type Certificate (STC) SA3611NM. The STC requires that the airplane must be equipped with an FAA approved nose wheel/tire installation. The airplane did have an 8.50 tire and tube installed that was field approved by an FAA airworthiness inspector from the Anchorage Flight Standards District Office (FSDO) on 5/11/89.

A review of the FAA's Airworthiness Inspectors Handbook, order 8300.10, revealed that in Volume 2, Chapter 1, Perform Field Approval of Major Repairs and Major Alterations, Paragraph 7, Required Engineering Approval, states in part: "...A. Many alterations that are commonly called major alterations are actually major design changes and will require a Supplemental Type Certificate. Previously unapproved major changes to structural strength, reliability, and operational characteristics affect the airworthiness of the product and therefore require engineering approval. Typical major alterations in the category include the following:...(2) Installation or relocation of equipment and systems or changes that may adversely affect structural integrity, flight, or ground handling characteristics of the aircraft...(5) Changes in basic dimensions or external configurations of the aircraft, such as wing and tail platform or incidence angles, canopy, cowlings, contour or radii, or location of wing and tail fairings...(6) Changes to landing gear, such as internal parts of chock struts, length, geometry of members, or brakes and brake systems...(8) Changes to primary structure that may adversely affect strength or flutter and vibration characteristics."

Pilot Information

Certificate:	Airline Transport; Flight Instructor	Age:	25, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	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 Multi-engine; Airplane Single-engine	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	02/07/1996
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	1950 hours (Total, all aircraft), 160 hours (Total, this make and model), 1850 hours (Pilot In Command, all aircraft), 250 hours (Last 90 days, all aircraft), 90 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N9608G
Model/Series:	206 206	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	U20601808
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	05/04/1996, 100 Hour	Certified Max Gross Wt.:	3600 lbs
Time Since Last Inspection:	21 Hours	Engines:	1 Reciprocating
Airframe Total Time:	8091 Hours	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	IO-520-F48B
Registered Owner:	REDEMPTION INC.	Rated Power:	300 hp
Operator:	ISLAND AIR SERVICE	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	RI9A

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:	Clear / 0 ft agl	Visibility	60 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	270°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	10° C
Precipitation and Obscuration:			
Departure Point:	, AK (ADQ)	Type of Flight Plan Filed:	Company VFR
Destination:		Type of Clearance:	None
Departure Time:	1350 ADT	Type of Airspace:	Class G

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	SCOTT R ERICKSON	Report Date:	03/31/1998
Additional Participating Persons:			
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 pubinquiry@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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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](#).