



National Transportation Safety Board Aviation Accident Final Report

Location:	SAND POINT, AK	Accident Number:	ANC95TA067
Date & Time:	06/02/1995, 1940 AKD	Registration:	N125FG
Aircraft:	PIPER PA-18-150	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None

Flight Conducted Under: Part 91: General Aviation -

Analysis

THE PILOT REPORTED HE HAD LANDED THE 29' TUNDRA TIRE EQUIPPED TAIL WHEEL AIRPLANE ON THE HARD SURFACED RUNWAY AND WAS SLOWING TO TAXI SPEED WHEN THE AIRPLANE SUDDENLY VEERED TO THE RIGHT. HE APPLIED FULL LEFT BRAKE AND RUDDER, BUT WAS UNABLE TO STRAIGHTEN THE AIRPLANE BEFORE THE LEFT MAIN LANDING GEAR COLLAPSED. SUBSEQUENT EXAMINATION OF THE TAILWHEEL STEERING MECHANISM FOUND THE ANTI-CASTORING LIMITS WERE BELOW THE MANUFACTURER'S RECOMMENDED BREAK FREE FORCE, WHICH ALLOWED THE AIRPLANE TO TURN FASTER AND MORE FREELY TO THE RIGHT THAN COMMANDED BY THE RUDDER CONTROL INPUTS. CONVERSATIONS WITH PILOTS WHO HAVE EXTENSIVE EXPERIENCE WITH TUNDRA TIRES DISCLOSED THAT AIRPLANES SO EQUIPPED ARE MUCH MORE DIFFICULT TO HANDLE ON HARD SURFACED RUNWAYS THAN AIRPLANES WITH CONVENTIONAL TIRES.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The premature castoring of the tailwheel steering mechanism. A factor associated the accident is the added degree of difficulty in handling airplanes equipped with oversize 'tundra' tires.

Findings

Occurrence #1: LOSS OF CONTROL - ON GROUND/WATER
Phase of Operation: LANDING - ROLL

Findings

1. (C) LANDING GEAR, TAILWHEEL LOCK - UNLATCHED
 2. (F) DIRECTIONAL CONTROL - DIMINISHED
 3. DIRECTIONAL CONTROL - NOT MAINTAINED - PILOT IN COMMAND
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Occurrence #2: MAIN GEAR COLLAPSED
Phase of Operation: LANDING - ROLL

Factual Information

On June 2, 1995, about 1940 Alaska daylight time, a Piper PA-18-150 airplane, N125FG, equipped with 29" tundra tires, received substantial damage while landing on runway 31 at Sand Point Airport, Sand Point, Alaska. Neither the airline transport certificated pilot, or the sole passenger aboard were injured. The 14 CFR Part 91 flight was operated by the State of Alaska's Department of Fish and Game. The purpose of the flight was to return a State of Alaska employee to his work station at Sand Point. The flight operated in visual meteorological conditions, and had departed Port Moller, Alaska, about 1900.

The pilot reported that prior to landing, he noted the wind as approximately 5 to 7 knots, straight down the runway. He said in an interview with the NTSB investigator-in-charge (IIC) on June 8, 1995, that he had considered landing in the gravel alongside of the runway because of the better handling qualities of the tundra tires in gravel as compared to those of a hard surfaced runway, but he elected to land on the runway because of the favorable wind and other factors. During the landing roll, he reported the airplane veered to the right. He said he applied hard left brake, full left rudder, and full power. The airplane began to slowly respond to the left, but prior to becoming straight, the left main gear collapsed.

Postaccident conversations with the Chief Pilot/Mechanic for the Department of Fish and Game disclosed that he had discovered no obvious anomalies with the accident airplane's wheels or brakes. He did discover the anti-castoring break free limits of the steerable tailwheel was set below the limit recommended by the manufacturer. He said that as a result, the tailwheel would freely castor to the right at a lower than normal load force, which would make it very difficult to control the airplane once it started going to the right. The Chief Pilot is a certificated Airframe and Powerplant mechanic with inspection authorization (IA).

The NTSB IIC also spoke with the accident pilot, the Chief Pilot, and other pilots who have extensive experience in landing airplanes equipped with tundra tires. All of the pilots indicated that airplanes equipped with tundra tires are much more difficult to land on hard surfaced runways than gravel or sand. They commented that soft landing surfaces are much more forgiving, and allow the larger tires to move and slide more readily than if they were on a hard surface.

Pilot Information

Certificate:	Airline Transport; Flight Instructor	Age:	37, Male
Airplane Rating(s):	Multi-engine Land; Multi-engine Sea; Single-engine Land; Single-engine Sea	Seat Occupied:	Front
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:	01/26/1995
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	2450 hours (Total, all aircraft), 85 hours (Total, this make and model), 2290 hours (Pilot In Command, all aircraft), 62 hours (Last 90 days, all aircraft), 60 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	PIPER	Registration:	N125FG
Model/Series:	PA-18-150 PA-18-150	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal; Utility	Serial Number:	317482
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	05/17/1995, Annual	Certified Max Gross Wt.:	1750 lbs
Time Since Last Inspection:	58 Hours	Engines:	1 Reciprocating
Airframe Total Time:	5382 Hours	Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	O-320-A2B
Registered Owner:	STATE OF ALASKA	Rated Power:	150 hp
Operator:	STATE OF ALASKA	Operating Certificate(s) Held:	None
Operator Does Business As:	ALASKA DEPT. OF FISH AND GAME	Operator Designator Code:	

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 / 2500 ft agl	Visibility	20 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	310°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	10° C
Precipitation and Obscuration:			
Departure Point:	PORT MOLLER, AK	Type of Flight Plan Filed:	VFR
Destination:	(SDP)	Type of Clearance:	None
Departure Time:	1900 ADT	Type of Airspace:	Class E

Airport Information

Airport:	SAND POINT (SDP)	Runway Surface Type:	Asphalt
Airport Elevation:	21 ft	Runway Surface Condition:	Dry
Runway Used:	31	IFR Approach:	None
Runway Length/Width:	4000 ft / 150 ft	VFR Approach/Landing:	Full Stop; Traffic Pattern

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	JAMES D LA BELLE	Report Date:	11/08/1995
Additional Participating Persons:	JOHN HALLINAN; ANCHORAGE, AK		
Publish Date:			
Investigation Docket:	NTSB accident and incident docket 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/ .		

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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](#).