



National Transportation Safety Board Aviation Accident Final Report

Location:	JUNEAU, AK	Accident Number:	ANC98LA122
Date & Time:	08/14/1998, 1540 AKD	Registration:	N799AS
Aircraft:	Boeing 737-400	Aircraft Damage:	Substantial
Defining Event:		Injuries:	145 None
Flight Conducted Under:	Part 121: Air Carrier - Scheduled		

Analysis

The captain/check airman reported that the accident flight was the first officer's second Initial Operating Experience (IOE) training flight after being hired by the airline. He stated that the first officer was making a visual approach to runway 26, and on initial touchdown the airplane 'skipped' and became airborne. The captain stated that during the initial touchdown he noted that the throttles were not in the fully retarded position. The captain said that at this point, he closed the throttles and instructed the first officer to maintain attitude as the second touchdown approached. He said that the auto spoilers then deployed, and the airplane settled onto the runway in a nose high attitude. The captain characterized the second touchdown as 'firm', but well within acceptable limits. After landing rollout, the airplane was taxied to the gate, and all of the 140 passengers disembarked the airplane uneventfully. A subsequent inspection by ground personnel discovered a 1 foot by 4 feet scrape located on the belly of the airplane, between station 887 and 941.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The flight crew's inadequate recovery from a bounced landing.

Findings

Occurrence #1: DRAGGED WING, ROTOR, POD, FLOAT OR TAIL/SKID
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

1. (C) RECOVERY FROM BOUNCED LANDING - INADEQUATE - FLIGHTCREW

Factual Information

On August 14, 1998, about 1540 Alaska daylight time, a Boeing 737-400 airplane, N799AS, sustained substantial damage during landing at the Juneau International Airport, Juneau, Alaska. The flight was being conducted under Title 14, CFR Part 121, as a scheduled domestic passenger flight, operated by Alaska Airlines, Inc., as Flight 75. There were no injuries to the two pilots, three flight attendants, or the 140 passengers aboard. Visual meteorological conditions prevailed, and an instrument flight plan had been canceled prior to initiating the visual approach. The flight originated at the Seattle-Tacoma International Airport, Seattle, Washington, about 1350 Pacific daylight time.

During a telephone conversation with the National Transportation Safety Board (NTSB) investigator-in-charge, on August 17, the Captain/Check Airman reported the accident flight was the First Officer's second Initial Operating Experience (IOE) training flight after being hired by Alaska Airlines. He stated that the First Officer was making a visual approach to runway 26, and on initial touchdown the airplane "skipped" and became airborne. The captain said that during the initial touchdown he noted that the throttles were not in the fully retarded position. At this point, the Captain closed the throttles and instructed the first officer to maintain attitude as the second touchdown approached. He said that the auto spoilers then deployed, and the airplane settled onto the runway in a nose high attitude. The Captain characterized the second touchdown as "firm", but well within acceptable limits.

After landing rollout, the airplane was taxied to the gate, and all of the 140 passengers disembarked uneventfully.

A subsequent inspection by ground personnel discovered a 4 feet by 1 foot scrape located on the belly of the airplane, between stations 887 and 941.

The airplane was later flown to Seattle, unpressurized, for further inspection, and repair. Maintenance personnel were required to replace a 2 feet by 7 feet section of aircraft skin, prior to returning the airplane to service.

The airplane's flight data recorder (FDR) was removed and shipped to the NTSB's Washington, D.C., laboratory for analysis. The FDR readout showed that the first flare attained a pitch angle of 7 degrees. After the "skip," the pitch angle was lowered to 5 degrees, and then raised to about 8 degrees. The nose continued to rise prior to the second touchdown, and attained a pitch angle of 9.65 degrees.

The operator's flight crew/instructor training guide states: "Maintain pitch attitude awareness during flare and landing. Aft fuselage contact will occur at approximately 9.5 degrees."

A representative from the airline's flight safety department noted that the subject of landing pitch angle limitations will be placed on the agenda during the next instructor meeting, and addressed as an item of increased emphasis.

Pilot Information

Certificate:	Airline Transport	Age:	48, Male
Airplane Rating(s):	Multi-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim.	Last Medical Exam:	08/03/1998
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	14762 hours (Total, all aircraft), 2607 hours (Total, this make and model), 7135 hours (Pilot In Command, all aircraft), 101 hours (Last 90 days, all aircraft), 33 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Boeing	Registration:	N799AS
Model/Series:	737-400 737-400	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	29270
Landing Gear Type:	Retractable - Tricycle	Seats:	149
Date/Type of Last Inspection:	Continuous Airworthiness	Certified Max Gross Wt.:	143500 lbs
Time Since Last Inspection:		Engines:	2 Turbo Jet
Airframe Total Time:	723 Hours	Engine Manufacturer:	Cfm
ELT:	Installed, not activated	Engine Model/Series:	CFM56-3C-1
Registered Owner:	ALASKA AIR GROUP	Rated Power:	22000 lbs
Operator:	ALASKA AIR GROUP	Air Carrier Operating Certificate:	Flag carrier (121)
Operator Does Business As:	ALASKA AIRLINES, INC	Operator Designator Code:	ASAA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	PAJ, 19 ft msl	Observation Time:	1553 ADT
Distance from Accident Site:	0 Nautical Miles	Direction from Accident Site:	0°
Lowest Cloud Condition:	Unknown / 0 ft agl	Temperature/Dew Point:	17° C / 13° C
Lowest Ceiling:	Broken / 8000 ft agl	Visibility	10 Miles
Wind Speed/Gusts, Direction:	Calm	Visibility (RVR):	0 ft
Altimeter Setting:	29 inches Hg	Visibility (RVV):	0 Miles
Precipitation and Obscuration:			
Departure Point:	SEATTLE, WA (SEA)	Type of Flight Plan Filed:	IFR
Destination:	(JNU)	Type of Clearance:	VFR
Departure Time:	1350 PDT	Type of Airspace:	Class D

Airport Information

Airport:	JUNEAU INTERNATIONAL (JNU)	Runway Surface Type:	Asphalt
Airport Elevation:	19 ft	Runway Surface Condition:	Dry
Runway Used:	26	IFR Approach:	Visual
Runway Length/Width:	8456 ft / 150 ft	VFR Approach/Landing:	Full Stop; Traffic Pattern

Wreckage and Impact Information

Crew Injuries:	5 None	Aircraft Damage:	Substantial
Passenger Injuries:	140 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	145 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	CLINTON O JOHNSON	Adopted Date:	02/11/2000
Additional Participating Persons:	JAMES MCCOY (FAA); JUNEAU, AK		
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/ .		

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