



National Transportation Safety Board Aviation Accident Final Report

Location:	Arlington, WA	Accident Number:	SEA06LA003
Date & Time:	10/01/2005, 1230 PDT	Registration:	N924GF
Aircraft:	Beech B-60	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None

Flight Conducted Under: Part 91: General Aviation -

Analysis

In a written statement the pilot reported that he lowered the landing gear before entering the downwind to runway 34. He reported that after the landing, during the rollout, the landing gear "collapsed and the airplane slid to a stop." A witness reported that the airplane's left wing "dropped" during landing and he heard what was described as the airplane's engines power up, followed by a rapid deceleration of the airplane's engines. The witness reported that as the engines decelerated, the airplane settled to the ground eventually coming to rest on its belly. Examination of the airplane's main landing gear system showed that the main landing gear assembly was whole and intact. The forward and aft attach fittings (both left and right) were undamaged and no deformation to the immediate area of the attach points was noted. The outboard landing gear doors were intact and remained attached at their respective mounting points. Nominal damage was noted to the outboard gear door assemblies. The inboard landing gear doors remained attached to the wing assembly; however, both sustained extensive damage. Erosion type damage, to include longitudinal striations, was noted to both doors. Extensive damage was noted to the distal ends of both inboard doors. The outboard section of the left inboard gear door was bent, approximately 45 degrees, in the direction of the gear hinge. The outboard section of the right inboard gear door was curled inboard, opposite the direction of the hinge. The airplane's retractable courtesy step, which actuates simultaneously with the landing gear, was observed in the down and locked position. No damage was noted to the courtesy step assembly. The operator reported that with the exception of a leaking landing gear strut (left) there were no mechanical malfunctions or failures with the airplane prior to the accident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Main landing gear collapse during the landing rollout for undetermined reasons.

Findings

Occurrence #1: GEAR COLLAPSED
Phase of Operation: LANDING

Findings

1. (C) LANDING GEAR,MAIN GEAR - COLLAPSED

Factual Information

On October 1, 2005, at 1230 Pacific daylight time, a twin engine Beech B-60 (Duke), N924GF, sustained substantial damage following a landing gear collapse during the landing rollout at Arlington Municipal Airport, Arlington, Washington. The airplane, which is registered to Precision Approach Management, LLC, was being operated as a visual flight rules (VFR) cross-country flight under the provisions of Title 14, CFR Part 91, when the accident occurred. The airline transport pilot, the sole occupant of the airplane, was not injured. Visual meteorological conditions prevailed for the cross-country flight that originated at Bellingham, Washington, approximately 30 minutes prior to the accident.

In a written statement dated October 11, the pilot reported that he lowered the landing gear before entering the downwind to runway 34. He reported that after the landing, during the rollout, that the landing gear "collapsed and the airplane slid to a stop."

A witness reported that the airplane's left wing "dropped" during landing and he heard what was described as the airplane's engines power up, followed by a rapid deceleration of the airplane's engines. The witness reported that as the engines decelerated, the airplane settled to the ground eventually coming to rest on its belly.

Airport maintenance personnel reported that the airplane come to rest approximately 3,400 feet beyond the threshold of runway 34, adjacent to the alpha three taxiway. Propeller slashes were observed on the runway surface in three separate locations. The first grouping of slash marks was noted approximately 1,280 feet beyond the landing threshold of runway 34. The second grouping of slash marks (approximately 246 feet in length) was noted approximately 1,720 feet beyond the landing threshold. The third set of slash marks was noted approximately 843 feet south of the wreckage and continued to the point where the airplane came to rest.

On February 7, 2006, the NTSB IIC examined the airplane's main landing gear system at the operator's hangar facility in Arlington, Washington. The main landing gear assembly was whole and intact. The forward and aft attach fittings (both left and right) were undamaged and no deformation to the immediate area of the attach points was noted. The outboard landing gear doors were intact and remained attached at their respective mounting points. Nominal damage was noted to the outboard gear door assemblies. The inboard landing gear doors remained attached to the wing assembly, however, both sustained extensive damage. Erosion type damage, to include longitudinal striations, was noted to both doors. Extensive damage was noted to the distal ends of both inboard doors. The outboard section of the left inboard gear door was bent, approximately 45 degrees, in the direction of the gear hinge. The outboard section of the right inboard gear door was curled inboard, opposite the direction of the hinge.

The airplane's retractable courtesy step, which actuates simultaneously with the landing gear, was observed in the down and locked position. No damage was noted to the courtesy step assembly.

Further examination of the landing gear system revealed bending type deformation to the right side landing gear retraction rod and inboard landing gear door retraction rod. No damage was noted to the left side retraction rods.

The operator reported that with the exception of a leaking landing gear strut (left) there were no mechanical malfunctions or failures with the airplane prior to the accident.

Pilot Information

Certificate:	Airline Transport	Age:	71, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With Waivers/Limitations	Last FAA Medical Exam:	11/01/2004
Occupational Pilot:		Last Flight Review or Equivalent:	08/01/2005
Flight Time:	10340 hours (Total, all aircraft), 15 hours (Total, this make and model), 8420 hours (Pilot In Command, all aircraft), 12 hours (Last 90 days, all aircraft), 7 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	Registration:	N924GF
Model/Series:	B-60	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	435
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	04/01/2005, Annual	Certified Max Gross Wt.:	7000 lbs
Time Since Last Inspection:	18 Hours	Engines:	2 Reciprocating
Airframe Total Time:	1935 Hours at time of accident	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	TSIO-541
Registered Owner:	Precision Approach Management LLC	Rated Power:	380 hp
Operator:	Precision Approach Management LLC	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Scattered / 2000 ft agl	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	BELLINGHAM, WA (BLI)	Type of Flight Plan Filed:	None
Destination:	Arlington, WA (AWO)	Type of Clearance:	VFR
Departure Time:	1200 PDT	Type of Airspace:	

Airport Information

Airport:	ARLINGTON MUNI (AWO)	Runway Surface Type:	Asphalt
Airport Elevation:	137 ft	Runway Surface Condition:	Dry
Runway Used:	34	IFR Approach:	None
Runway Length/Width:	5333 ft / 100 ft	VFR Approach/Landing:	Traffic Pattern

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	48.160833, -122.158889

Administrative Information

Investigator In Charge (IIC):	Dennis J Hogenson	Report Date:	05/30/2006
Additional Participating Persons:	Bill Jackson; FAA FSDO; Renton, WA		
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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