



Aviation Investigation Final Report

Location:	Boise, Idaho	Accident Number:	WPR12TA445
Date & Time:	May 10, 2012,	Registration:	N14CP
Aircraft:	Beech C90	Aircraft Damage:	Substantial
Defining Event:	Unknown or undetermined	Injuries:	1 None
Flight Conducted Under:	Public aircraft		

Analysis

The airplane had been contracted to the Bureau of Land Management (BLM) for 6 months, and it was primarily used in fire management activities in low-level lead airplane and air attack missions; these type of operations were susceptible to turbulent conditions. BLM provided the pilots, and the contract company provided the airplane and maintenance personnel. During a postcontract inspection, maintenance personnel found substantial damage to the outer left wing.

The BLM reported that, about 1 month into the 6-month contract period, a BLM pilot and contract mechanic noted deformation and wrinkling damage to the left wing; the mechanic inspected the area, and it was subsequently monitored for further damage. Three months later, the BLM pilot reported to a relief mechanic that he had encountered moderate turbulence. The mechanic subsequently completed a turbulent air inspection but noted no damage and considered the airplane airworthy. When the contract mechanic returned to work, he inspected the airplane and told the pilot that the wrinkle appeared to be "a little worse"; however, no actions were taken. The airplane was subsequently flown until the contract expired without incident. A review of the maintenance logbooks found no entries related to any maintenance actions or inspections of the damaged left wing.

About 2 months after the contract expired, the contract company's maintenance personnel observed that the damage had worsened. The damage was consistent with the wing assembly having experienced loading in excess of its normal operating limits, likely during turbulent conditions. The airplane was then taken out of service for repairs. The damage was likely cumulative as the airplane was flown in turbulent conditions.

If the maintenance inspections had been documented in the logbooks, it likely would have necessitated further inspection by maintenance personnel and resulted in the airplane's removal from service at an earlier date.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

Excessive loading on the left wing, which occurred over a period of time. Contributing to the accident was maintenance personnel's failure to adequately inspect and document the left wing damage.

Findings

Aircraft	Plates/skins (on wing) - Capability exceeded
Aircraft	(general) - Inadequate inspection
Personnel issues	Aircraft/maintenance logs - Maintenance personnel
Personnel issues	(general) - Maintenance personnel
Aircraft	(general) - Related records

Factual Information

History of Flight

Unknown

Unknown or undetermined (Defining event)

On January 28, 2013, the National Transportation Safety Board was notified that a Beech King Air C90, N14CP, while on contract from Dynamic Aviation to the Bureau of Land Management (BLM), sustained substantial damage to the left wing at an undetermined time and location. BLM was operating the airplane under an exclusive contract as a public aircraft between April 2, 2012, and October 21, 2012. During a post contract inspection on January 21, 2013, substantial damage to the left wing was discovered. There were no reported injuries during this time frame.

The accident airplane was on an exclusive use contract to be primarily used in BLM fire management activities in the low-level lead airplane and air attack missions. BLM provided the pilots and crew. Dynamic Aviation provided the airplane and maintenance personnel.

During the term of the contract, the airplane had been operated for a total of 318 hours, which consisted of 113 flights; 110 flights were flown by the BLM pilot, and 3 flights, which totaled 5.2 hours, were flown by the relief BLM pilot.

About May 10, 2012, government pilots and the contract mechanic first observed deformation/wrinkles to the left wing outboard of the nacelle. The mechanic inspected the area, and after consultation with company supervisors, it was decided to monitor the area for further damage. No entries were made in the maintenance logbooks.

On August 15, 2012, the BLM pilot reported to a relief mechanic that he had encountered moderate turbulence and requested the mechanic perform a "turbulent air inspection." The mechanic reported to the pilot that he had completed the turbulent air inspection and found nothing.

The BLM pilot stated that when the primary mechanic returned, he stated that the wrinkle appeared to be a little worse. No further action was taken, and the airplane continued to fly under the contract until October 31, 2012.

A review of the airplane records showed no entries by either of the pilots or maintenance personnel regarding the noted damage to the left wing.

On November 9, 2012, the airplane was flown from Boise, Idaho, to Redmond, California, and returned to the control of Dynamic Aviation.

On December 10, 2012, maintenance personnel discovered the damage to the left wing and observed that it had progressed since previous observations.

The Hawker Beechcraft repair design office was sent photographs and a description of the damage to have an assessment completed. The assessment revealed that "the damage was consistent with conditions known to exist when the wing assembly has experienced loading in excess of normal operating limits." It was determined that the left outer wing assembly would need to be replaced with a new or serviceable assembly.

The Department of the Interior Office of Aviation Services conducted a mishap investigation and submitted a report of the findings on May 17, 2013; a copy of the report is included in the accident docket.

As a result of the investigation of this accident, it was determined that the contractor did possess the required FAR 135 certificate, and the contracted airplane was properly certificated for the contract. However, the contracted airplane was neither on the contractor's FAR 135 certificate, nor was it required to be under the contract. The Department of the Interior will require that contracted aircraft to be on the contractor's FAR 135 certificate and/or in the Operations Specifications as appropriate.

Also, the Department of the Interior now requires load monitoring equipment on various aircraft to monitor the dynamic loads during low-level flight operations.

Information

Certificate:	Age:
Airplane Rating(s):	Seat Occupied:
Other Aircraft Rating(s):	Restraint Used:
Instrument Rating(s):	Second Pilot Present:
Instructor Rating(s):	Toxicology Performed:
Medical Certification:	Last FAA Medical Exam:
Occupational Pilot:	Last Flight Review or Equivalent:
Flight Time:	

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	Registration:	N14CP
Model/Series:	C90	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	LJ-585
Landing Gear Type:	Retractable - Tricycle	Seats:	9
Date/Type of Last Inspection:	August 10, 2012 100 hour	Certified Max Gross Wt.:	10485 lbs
Time Since Last Inspection:	27 Hrs	Engines:	2 Turbo prop
Airframe Total Time:	12595 Hrs as of last inspection	Engine Manufacturer:	P&W
ELT:	Installed, not activated	Engine Model/Series:	PT6A SER
Registered Owner:	DYNAMIC AVLEASE INC	Rated Power:	680 Horsepower
Operator:	DOI Bureau of Land Management	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Unknown	Condition of Light:	Not reported
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:		Visibility	
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	
Precipitation and Obscuration:			
Departure Point:		Type of Flight Plan Filed:	Unknown
Destination:		Type of Clearance:	Unknown
Departure Time:		Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	43.565834,-116.221664(est)

Administrative Information

Investigator In Charge (IIC):	Jones, Patrick
Additional Participating Persons:	Wayne Skaggs; Federal Aviation Administration; Dulles, DC Ben Coleman; Dynamic Aviation; Bridgewater, VA Rusty Warbis; BLM- National Aviation Office; Boise, ID John Miles; Office of Aviation Services; Boise, ID
Original Publish Date:	February 17, 2016
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=86097

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).