



Aviation Investigation Final Report

Location:	Greeley, Colorado	Incident Number:	DEN011A108
Date & Time:	May 8, 2001, 12:56 Local	Registration:	N725MC
Aircraft:	Beech 200	Aircraft Damage:	Minor
Defining Event:		Injuries:	6 None
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled		

Analysis

After takeoff and during climb out, the pilot heard an unusual noise, "like a chain popping or slipping around a sprocket" when the landing gear was retracted. He then noticed the left main tire and inboard gear doors were visible beneath the engine nacelle. Unable to extend or retract the landing gear, the pilot diverted to another airport and made an intentional wheels up landing. Later disassembly and examination of the nose landing gear actuator (p/n 50-820208-5) revealed the nut assembly had been painted white while it was in the EXTEND position. After cleaning off the paint and reassembling the actuator, it moved freely in and out as required. The disassembly report stated, "The nut assembly is a chromed metal shaft that is not to be painted." According to the operator, the airplane had recently been repainted.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be: jamming of the nose landing gear actuator due to improper painting procedures by other maintenance personnel which resulted in a wheels up landing.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (C) LANDING GEAR, NOSE GEAR ASSEMBLY - JAMMED

2. (C) MAINTENANCE - IMPROPER - OTHER MAINTENANCE PERSONNEL

Occurrence #2: WHEELS UP LANDING

Phase of Operation: LANDING

Findings

3. WHEELS UP LANDING - INTENTIONAL - PILOT IN COMMAND

Factual Information

On May 8, 2001, at 1256 mountain daylight time, a Beech 200, N725MC, operated by Mountain Aviation, Inc., sustained minor damage during an intentional wheels up landing at Greeley-Weld County Airport, Greeley, Colorado. The pilot and 5 passengers were not injured. Visual meteorological conditions prevailed, and an IFR flight plan had been filed for the non-scheduled domestic passenger flight being conducted under Title 14 CFR Part 135. The flight originated in Broomfield, Colorado, approximately 0805.

After takeoff and during climb-out, the pilot heard an unusual noise "like a chain popping or slipping around a sprocket" when the landing gear was retracted. He then noticed the left main tire and inboard gear doors were visible beneath the engine nacelle. He attempted to extend the landing gear manually but without success. The pilot circled the area to burn off fuel, then diverted to Greeley-Weld County Airport, where he performed a wheels up landing. Damage was confined to the landing gear doors, antennae, and one propeller tip.

The airplane was later hoisted by crane and the nose landing gear actuator was disconnected. The main landing gear was then cranked down, the gears were pinned, and the airplane towed to Beegles Aircraft Service. The nose landing gear actuator was then packaged, sealed, and shipped to FAA's Aircraft Certification Office in Wichita, Kansas. On May 22, 2001, the landing gear actuator (p/n 50-820208-5) was examined at Raytheon Aircraft Corporation under the auspices of the Federal Aviation Administration. In its report, Raytheon noted that the nut assembly would rotate but would not move in and out. After x-rays were taken, the nut assembly was forced out of the cylinder. It was discovered that the nut assembly had been painted white while in the EXTEND position. After cleaning off the paint and reassembling the actuator, it moved freely in and out as required. The report stated, "The nut assembly is a chromed metal shaft that is not to be painted."

According to Mountain Aviation's director of maintenance, the airplane had recently undergone a complete refurbishment, including new engines and propellers and upholstery. It was then painted by a company in Cheyenne, Wyoming.

Pilot Information

Certificate:		Age:	31, Male
Airplane Rating(s):		Seat Occupied:	Left
Other Aircraft Rating(s):		Restraint Used:	
Instrument Rating(s):		Second Pilot Present:	No
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	December 21, 2000
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	2478 hours (Total, all aircraft), 28 hours (Total, this make and model), 2059 hours (Pilot In Command, all aircraft), 65 hours (Last 90 days, all aircraft), 22 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	Registration:	N725MC
Model/Series:	200	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	BB169
Landing Gear Type:	Retractable - Tricycle	Seats:	10
Date/Type of Last Inspection:	January 15, 2001 100 hour	Certified Max Gross Wt.:	12500 lbs
Time Since Last Inspection:	82 Hrs	Engines:	2 Turbo prop
Airframe Total Time:	8050 Hrs as of last inspection	Engine Manufacturer:	P&W
ELT:	Installed, not activated	Engine Model/Series:	PT6A-41
Registered Owner:	725MC, LLC	Rated Power:	850 Horsepower
Operator:	Mountain Aviation, Inc.	Operating Certificate(s) Held:	On-demand air taxi (135)
Operator Does Business As:		Operator Designator Code:	VQMA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	GXY,4820 ft msl	Distance from Accident Site:	
Observation Time:	13:15 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.26 inches Hg	Temperature/Dew Point:	23°C / -1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Broomfield, CO (BJC)	Type of Flight Plan Filed:	IFR
Destination:	(LAM)	Type of Clearance:	IFR
Departure Time:	08:05 Local	Type of Airspace:	Class E

Airport Information

Airport:	GREELEY-WELD COUNTY GXY	Runway Surface Type:	Asphalt
Airport Elevation:	4658 ft msl	Runway Surface Condition:	Dry
Runway Used:	090	IFR Approach:	None
Runway Length/Width:	6200 ft / 100 ft	VFR Approach/Landing:	Full stop

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Minor
Passenger Injuries:	5 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	6 None	Latitude, Longitude:	40.439208,-104.670944(est)

Administrative Information

Investigator In Charge (IIC):	Scott, Arnold
Additional Participating Persons:	Robert J Loflin; FAA Flight Standards District Office; Denver, CO
Original Publish Date:	September 19, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this incident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=52391

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](#).