



National Transportation Safety Board Aviation Accident Final Report

Location:	BOISE, ID	Accident Number:	SEA00LA025
Date & Time:	11/27/1999, 0134 MST	Registration:	N216SA
Aircraft:	Dassault DA-20	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled		

Analysis

After extending the gear for landing, the down-and-locked indication (green light) for the left main gear was not illuminated. The crew performed the emergency checklist procedures for abnormal gear extension with no success. The aircraft subsequently landed with the left main landing gear retracted. Inspection of the landing gear revealed that the pin (part number MY20248-001), which is part of the forward gear door lock, was corroded and cracked at the point of rotation, preventing proper movement of the gear door uplock.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Failure of the forward gear door lock pin. An inoperative landing gear door and inadequate maintenance inspection of the aircraft were factors.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings

1. (F) DOOR, LANDING GEAR - INOPERATIVE
2. (C) MISCELLANEOUS, DOWEL/PIN - FAILURE, TOTAL
3. (F) MAINTENANCE, INSPECTION - INADEQUATE - OTHER MAINTENANCE PERSONNEL

Occurrence #2: DRAGGED WING, ROTOR, POD, FLOAT OR TAIL/SKID
Phase of Operation: LANDING - ROLL

Factual Information

On November 27, 1999, about 0134 mountain standard time, a Dassault Falcon DA-20 twin turbo fan jet, N216SA, registered to RBS Aviation Group, Incorporated, and operated by Smith Air, Incorporated, as a 14CFR135 non-scheduled domestic cargo flight, was substantially damaged while landing at Boise Air Terminal, Boise, Idaho. Visual meteorological conditions prevailed and an instrument flight plan was filed. The captain, an airline transport pilot, and commercially-rated first officer were uninjured. The flight originated from Eppley Field, Omaha, Nebraska, approximately two hours and 45 minutes prior to the accident.

In a written statement prepared by both the captain and first officer, the pilots reported that while on final approach to runway 10L, the captain instructed the first officer to lower the landing gear. After the gear handle was placed in the down position, the pilots noted that the down-and-locked indication (green light) for the left main gear was not illuminated. The pilots completed the abnormal gear extension procedures (A through C) as outlined by the checklist, (see attached Landing Gear checklist) but were unable to extend the left main gear.

After confirming that the left main gear was not extended, the pilot was cleared to land on runway 10L. During the landing roll-out, the aircraft skidded off the runway, and came to rest on the north side of the runway. The aircraft received substantial damage to the left aileron and leading edge devices.

After the accident, a maintenance crew lifted the left wing and then opened the emergency gear panel and pulled the left hand cable for the left-hand main gear uplock. The door lock released, and the left main gear door opened and the gear extended. The maintenance crew then pushed the gear into the down locks.

Further inspection of the landing gear revealed that the pin, (part number MY20248-001) which is part of the forward gear door lock, (part number VTS4424) was corroded (rusted) and cracked at the point of rotation (see attached Illustrated Parts Catalog and Figures).

The mechanic performing the inspection reported that a more detailed inspection of the landing gear door locks might have prevented this accident.

Pilot Information

Certificate:	Airline Transport; Flight Instructor; Commercial	Age:	48, Male
Airplane Rating(s):	Multi-engine Land; Single-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):	Airplane Multi-engine; Airplane Single-engine	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	11/05/1999
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	19519 hours (Total, all aircraft), 341 hours (Total, this make and model), 17143 hours (Pilot In Command, all aircraft), 208 hours (Last 90 days, all aircraft), 106 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Dassault	Registration:	N216SA
Model/Series:	DA-20 DA-20	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	16
Landing Gear Type:	Retractable - Tricycle	Seats:	2
Date/Type of Last Inspection:	10/27/1999, AAIP	Certified Max Gross Wt.:	28660 lbs
Time Since Last Inspection:	142 Hours	Engines:	2 Turbo Fan
Airframe Total Time:	28855 Hours	Engine Manufacturer:	GE
ELT:	Not installed	Engine Model/Series:	CF-700
Registered Owner:	RBS AVIATION GROUP	Rated Power:	4500 lbs
Operator:	SMITH AIR, INC.	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	ETHA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	BOI, 2868 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0156 MST	Direction from Accident Site:	0°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	10 Miles
Lowest Ceiling:	Broken / 7000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	9 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	140°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	6° C / 2° C
Precipitation and Obscuration:			
Departure Point:	OMAHA, NE (OMA)	Type of Flight Plan Filed:	IFR
Destination:	(BOI)	Type of Clearance:	IFR
Departure Time:	0110 EST	Type of Airspace:	Class C

Airport Information

Airport:	BOISE AIR TERMINAL (BOI)	Runway Surface Type:	Asphalt
Airport Elevation:	2868 ft	Runway Surface Condition:	Dry
Runway Used:	10L	IFR Approach:	None
Runway Length/Width:	10000 ft / 150 ft	VFR Approach/Landing:	Full Stop

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	DENNIS J HOGENSON	Report Date:	05/17/2001
Additional Participating Persons:	JUDY L PEDERSEN; BOISE, ID		
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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