



National Transportation Safety Board Aviation Accident Final Report

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| Location: | DETROIT, MI | Accident Number: | CHI94LA112 |
| Date & Time: | 03/17/1994, 0139 EST | Registration: | N327K |
| Aircraft: | DASSAULT-BREGUET FALCON 900 | Aircraft Damage: | Substantial |
| Defining Event: | | Injuries: | 9 None |

Flight Conducted Under: Part 91: General Aviation - Executive/Corporate

Analysis

After takeoff from Washington National Airport, the flight crew reported a loud air noise coming from the nose gear area after landing gear retraction. The crew elected to continue to their destination, Detroit Metro Airport. At their destination, the nose landing gear did not extend. The pilot made a landing with the nose gear UP. When the nose gear was retracted on takeoff the nose gear door hooks missed the gear door rollers on the lower nose gear strut. In the wheel well, the gear door rollers were above the gear door hooks. The gear will not extend when this configuration exists. The nose gear strut pressure was found to be below minimum acceptable pressure. The inspection program required a dimensional check of the nose strut extension to determine if there was acceptable strut pressure. It was found that the proper dimension can exist without minimum pressure in the strut.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the nose landing gear jammed in the UP position due to low pressure in the nose gear strut. A factor associated with the accident is the manufacturer's insufficient standards/requirements for determining the amount of nose strut inflation.

Findings

Occurrence #1: GEAR NOT EXTENDED
Phase of Operation: LANDING

Findings

1. LANDING GEAR, NOSE GEAR - JAMMED
2. (C) LANDING GEAR, NOSE GEAR STRUT - PRESSURE TOO LOW
3. (F) INSUFFICIENT STANDARDS/REQUIREMENTS - MANUFACTURER

Factual Information

On March 17, 1994, at 0139 eastern standard time, a Dassault-Breguet Falcon 900, N327K, operated by the Ford Motor Company, Detroit, Michigan, sustained substantial damage when the pilot made an intentional landing at the Detroit Metropolitan Wayne County Airport with the nose landing gear in the UP position. The three crewmembers and six passengers aboard the airplane were not injured. The corporate flight originated at Washington National Airport, Washington, D.C.. An IFR flight plan was filed, and visual meteorological conditions prevailed at the time.

The flight crew reported there was a loud air noise coming from the nose gear area upon gear retraction when they departed Washington National. The gear indicated UP. The crew elected to continue to their destination, Detroit Metro.

The examination of the nose gear revealed that the nose gear door hooks had missed the rollers on the lower portion of the nose gear when the gear was retracted. After retraction the nose gear rollers were above the nose gear door hooks. The gear can not extend with the rollers above the door hooks.

The strut pressure in the nose gear was found to be below minimum required pressure. The daily inspection criteria for acceptable strut pressure was a dimensional check. It was found that the proper dimension could be obtained without minimum pressure in the strut.

Pilot Information

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|----------------------------------|--|--|----------------------------|
| Certificate: | Airline Transport; Flight Instructor | Age: | 54, Male |
| Airplane Rating(s): | Multi-engine Land; Single-engine Land; Single-engine Sea | Seat Occupied: | Right |
| Other Aircraft Rating(s): | Glider; Helicopter | 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 Medical Exam: | 12/07/1993 |
| Occupational Pilot: | | Last Flight Review or Equivalent: | |
| Flight Time: | 14000 hours (Total, all aircraft), 1200 hours (Total, this make and model), 10500 hours (Pilot In Command, all aircraft), 110 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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|-------------------------------|--------------------------------------|------------------------------------|---------------|
| Aircraft Manufacturer: | DASSAULT-BREGUET | Registration: | N327K |
| Model/Series: | FALCON 900 FALCON 900 | Aircraft Category: | Airplane |
| Year of Manufacture: | | Amateur Built: | No |
| Airworthiness Certificate: | Provisional; Transport | Serial Number: | 003 |
| Landing Gear Type: | Retractable - Tricycle | Seats: | 14 |
| Date/Type of Last Inspection: | 02/14/1994, Continuous Airworthiness | Certified Max Gross Wt.: | 46500 lbs |
| Time Since Last Inspection: | 36 Hours | Engines: | 3 Turbo Fan |
| Airframe Total Time: | 3397 Hours | Engine Manufacturer: | GARRETT |
| ELT: | Installed, not activated | Engine Model/Series: | TFE731-5AR-IC |
| Registered Owner: | FORD MOTOR CO. | Rated Power: | 4500 lbs |
| Operator: | FORD MOTOR CO. | Air Carrier Operating Certificate: | None |

Meteorological Information and Flight Plan

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|----------------------------------|----------------------|-------------------------------|---------------------------|
| Conditions at Accident Site: | Visual Conditions | Condition of Light: | Night/Dark |
| Observation Facility, Elevation: | DTW, 639 ft msl | Observation Time: | 0143 EST |
| Distance from Accident Site: | 0 Nautical Miles | Direction from Accident Site: | 0° |
| Lowest Cloud Condition: | Clear / 0 ft agl | Temperature/Dew Point: | -7° C / -16° C |
| Lowest Ceiling: | None / 0 ft agl | Visibility | 15 Miles |
| Wind Speed/Gusts, Direction: | 8 knots, 310° | Visibility (RVR): | 0 ft |
| Altimeter Setting: | 30 inches Hg | Visibility (RVV): | 0 Miles |
| Precipitation and Obscuration: | | | |
| Departure Point: | WASHINGTON, DC (DCA) | Type of Flight Plan Filed: | IFR |
| Destination: | | Type of Clearance: | IFR |
| Departure Time: | 1040 EST | Type of Airspace: | Class B; Class D; Class E |

Airport Information

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|----------------------|---------------------|---------------------------|----------------------------|
| Airport: | DETROIT METRO (DTW) | Runway Surface Type: | Concrete |
| Airport Elevation: | 639 ft | Runway Surface Condition: | Dry |
| Runway Used: | 3R | IFR Approach: | |
| Runway Length/Width: | 10000 ft / 150 ft | VFR Approach/Landing: | Full Stop; Traffic Pattern |

Wreckage and Impact Information

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|---------------------|--------|----------------------|-------------|
| Crew Injuries: | 3 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | 6 None | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 9 None | Latitude, Longitude: | |

Administrative Information

Investigator In Charge (IIC): MARK E DOUB, **Adopted Date:** 02/14/1995

Additional Participating Persons: RICHARD GASTRICH; BELLEVILLE, MI
ARTHUR A WARNER; BELLEVILLE, MI

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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