



National Transportation Safety Board Aviation Accident Final Report

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| Location: | KANSAS CITY, MO | Accident Number: | MKC82FA149 |
| Date & Time: | 08/20/1982, 1443 CDT | Registration: | N237AM |
| Aircraft: | SWEARINGEN SA226TC | Aircraft Damage: | Substantial |
| Defining Event: | | Injuries: | 12 None |

Flight Conducted Under: Part 135: Air Taxi & Commuter - Scheduled

Analysis

DURING THE APPROACH TO TOPEKA THE CREW WAS UNABLE TO EXTEND THE LEFT GEAR. THE CREW DIVERTED TO KANSAS CITY, AND AFTER MANY UNSUCCESSFUL ATTEMPTS TO LOWER THE LEFT GEAR ELECTED TO LAND WHEELS-UP. THE LEFT MAIN GEAR WAS JAMMED INTO THE GEARDOORS. THE AFT HINGE BOLT WAS MISSING FROM THE LEFT INBOARD GEAR DOOR, ALLOWING THE GEAR DOOR TO SHIFT JUST ENOUGH TO JAM THE GEAR AS IT STARTED TO EXTEND. 17 DAYS PRIOR TO THE ACCIDENT THE LOOSE AFT HINGE WAS NOTED DURING PREFLIGHT. COMPANY MAINTENANCE WAS UNABLE TO RETORQUE THE BOLT DUE TO THE NUTPLATE ATTACHMENT RIVETS BEING STRIPPED. THIS ITEM WAS BEING CARRIED AS A DELAYED DISCREPANCY. THESE PARTS CAN ONLY BE LUBRICATED BEFORE INSTALLATION. THE ENTIRE ASSEMBLY IS ALMOST IMPOSSIBLE TO INSPECT, REMOVE, LUBRICATE, INSTALL, TORQUE & SAFETY REPLACEMENT OF THE NUTPLATE IS CONSIDERED A MAJOR UNDERTAKING THE MANUFACTURER STATED THAT "SHORT CYCLING" THE GEAR AS MANY AS 18 TIMES WOULD EVENTUALLY BREAK OPEN THE GEAR DOORS. THIS EMERGENCY METHOD OF EXTENDING THE GEAR HAD NOT BEEN DISSEMINATED TO ALL OPERATORS.

Probable Cause and Findings

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

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION

Phase of Operation: APPROACH

Findings

1. (C) LANDING GEAR,NORMAL RETRACTION/EXTENSION ASSEMBLY - JAMMED
2. (C) LANDING GEAR,MAIN GEAR - MOVEMENT RESTRICTED
3. (C) DOOR,LANDING GEAR - ASSEMBLY
4. (C) DOOR,LANDING GEAR - LOOSE
5. (C) DOOR,LANDING GEAR - DISCONNECTED
6. (C) MAINTENANCE,REPLACEMENT - NOT PERFORMED - COMPANY MAINTENANCE PERSONNEL
7. (F) ACFT/EQUIP,INADEQUATE AIRFRAME - MANUFACTURER

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

8. GEAR EXTENSION - ATTEMPTED - PILOT IN COMMAND
9. (F) INFORMATION INSUFFICIENT - MANUFACTURER
10. WHEELS UP LANDING - PERFORMED - PILOT IN COMMAND

Factual Information

Pilot Information

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|----------------------------------|--|--|------------|
| Certificate: | Airline Transport | Age: | 45, Male |
| Airplane Rating(s): | Multi-engine Land; Single-engine Land | Seat Occupied: | Unknown |
| Other Aircraft Rating(s): | | Restraint Used: | |
| Instrument Rating(s): | Airplane | Second Pilot Present: | |
| Instructor Rating(s): | None | Toxicology Performed: | |
| Medical Certification: | Class 1 Valid Medical--no waivers/lim. | Last Medical Exam: | 08/11/1982 |
| Occupational Pilot: | | Last Flight Review or Equivalent: | |
| Flight Time: | 9273 hours (Total, all aircraft), 3456 hours (Total, this make and model), 2742 hours (Pilot In Command, all aircraft), 93 hours (Last 90 days, all aircraft), 3 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|--------------------------------|---|----------------------------|
| Aircraft Manufacturer: | SWEARINGEN | Registration: | N237AM |
| Model/Series: | SA226TC SA226TC | Aircraft Category: | Airplane |
| Year of Manufacture: | | Amateur Built: | No |
| Airworthiness Certificate: | | Serial Number: | TC332 |
| Landing Gear Type: | Retractable - Tricycle | Seats: | 22 |
| Date/Type of Last Inspection: | Unknown | Certified Max Gross Wt.: | 12500 lbs |
| Time Since Last Inspection: | 40 Hours | Engines: | 2 Turbo Prop |
| Airframe Total Time: | 4840 Hours | Engine Manufacturer: | GARRETT |
| ELT: | | Engine Model/Series: | TPE331 |
| Registered Owner: | AVIATION EQUIPMENT LEASING, IN | Rated Power: | 940 hp |
| Operator: | AIR MIDWEST | Air Carrier Operating Certificate: | Commuter Air Carrier (135) |

Meteorological Information and Flight Plan

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|----------------------------------|--------------------|-------------------------------|---------|
| Conditions at Accident Site: | Visual Conditions | Condition of Light: | Day |
| Observation Facility, Elevation: | , 0 ft msl | Observation Time: | 0000 |
| Distance from Accident Site: | 0 Nautical Miles | Direction from Accident Site: | 0° |
| Lowest Cloud Condition: | Clear / 0 ft agl | Temperature/Dew Point: | / 0°C |
| Lowest Ceiling: | Unknown / 0 ft agl | Visibility | 6 Miles |
| Wind Speed/Gusts, Direction: | | Visibility (RVR): | 0 ft |
| Altimeter Setting: | 30 inches Hg | Visibility (RVV): | 0 Miles |
| Precipitation and Obscuration: | | | |
| Departure Point: | WICHITA, KS (ITC) | Type of Flight Plan Filed: | IFR |
| Destination: | TOPEKA, KS (TOE) | Type of Clearance: | |
| Departure Time: | 0000 | Type of Airspace: | |

Airport Information

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|----------------------|------------------|---------------------------|-------------|
| Airport: | DOWNTOWN (MKC) | Runway Surface Type: | Asphalt |
| Airport Elevation: | 0 ft | Runway Surface Condition: | Dry |
| Runway Used: | 3 | IFR Approach: | |
| Runway Length/Width: | 5052 ft / 150 ft | VFR Approach/Landing: | Straight-in |

Wreckage and Impact Information

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|---------------------|---------|----------------------|-------------|
| Crew Injuries: | 2 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | 10 None | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 12 None | Latitude, Longitude: | |

Administrative Information

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|-----------------------------------|---|------------|
| Investigator In Charge (IIC): | Adopted Date: | 08/20/1983 |
| Additional Participating Persons: | | |
| Publish Date: | | |
| Investigation Docket: | NTSB accident and incident docket 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/ . | |

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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