



National Transportation Safety Board Aviation Accident Final Report

| | | | |
|--------------------------------|--------------------------------------|-------------------------|-------------|
| Location: | Midland, TX | Accident Number: | FTW05LA003 |
| Date & Time: | 10/03/2004, 1620 CDT | Registration: | N6371C |
| Aircraft: | Lockheed 18-56 | Aircraft Damage: | Substantial |
| Defining Event: | | Injuries: | 5 Minor |
| Flight Conducted Under: | Part 91: General Aviation - Personal | | |

Analysis

The 18,000-hour pilot was cleared for takeoff in the vintage twin-engine tail wheel equipped airplane on a 9,501-foot by 50-foot runway. The pilot was aware that there was a tailwind from approximately 160 degrees at 10 knots. Shortly after starting the takeoff roll, the airplane swerved to the right. The pilot was able to correct back to the centerline utilizing rudder control. The airplane then swerved to the left, and full right rudder was applied but the swerve could not be corrected. By the time the airplane reached the left edge of the runway, the airplane had not reached its calculated V₂ speed of 110 knots. The airplane departed the left side of the runway, went airborne and shortly thereafter, the right wing dropped and contacted the ground. The airplane then spun 180 degrees, impacted the ground, slid backward, and came to rest upright. A post-crash fire consumed the aft fuselage and left wing.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain directional control during takeoff. Contributing factors were the choice of runway used and the prevailing tailwind.

Findings

Occurrence #1: LOSS OF CONTROL - ON GROUND/WATER
Phase of Operation: TAKEOFF - ROLL/RUN

Findings

1. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
2. (F) WEATHER CONDITION - TAILWIND
3. (F) WRONG RUNWAY - SELECTED - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: TAKEOFF

Findings

4. TERRAIN CONDITION - GROUND

Factual Information

On October 3, 2004, approximately 1620 central daylight time, a Lockheed 18-56 twin-engine, tail-wheel equipped airplane, N6371C, was destroyed following a loss of control during takeoff from runway 34L at Midland International Airport (MAF), near Midland, Texas. The vintage airplane was owned and operated by American Airpower Heritage Flying Museum, of Midland Texas. The airline transport rated captain, commercial certificated first officer (FO), and three passengers sustained minor injuries. Visual meteorological conditions prevailed, and an instrument flight rules flight plan was filed for the Title 14 Code of Federal Regulations Part 91 personal flight. The cross-country flight was destined for the Boulder Municipal Airport (1V5), near Boulder, Colorado.

According to the 18,000-hour captain, the engine run up was completed before departure and "everything checked perfectly." The captain reported that he was cleared for takeoff on runway 34L, (a 9,501-foot by 50-foot runway), and was aware that a tailwind prevailed from approximately 160 degrees at 10 knots. Shortly after starting the takeoff roll, the airplane swerved to the right. The captain was able to correct back to the centerline utilizing rudder control. The airplane then swerved to the left, and full right rudder was applied but the swerve could not be corrected.

The captain further reported that by the time the airplane reached the left edge of the runway, the airplane had not reached its V₂ speed (takeoff safety speed) of 110 knots. The airplane departed the left side of the runway, became airborne and shortly thereafter, the right wing dropped and contacted the ground. The airplane then spun 180 degrees, impacted the ground and slid backward, coming to rest in an upright position. The captain reported that at no time did he have reason to believe that the engines were not producing power.

According to the FO, the takeoff roll required control efforts to maintain centerline. The FO reported that the control efforts seemed ineffective and the airplane became airborne just as it was leaving the left side of the runway. The airplane then began to yaw to the right and the right wing dropped and struck the ground.

Local law authorities interviewed several eyewitnesses. Summaries of their observations are cited below.

Witness #1, was standing on the airport main ramp when he observed the airplane start its take-off roll. He stated that, " There was a tailwind of approximately 5-10 mph. As the tail came up the aircraft was swinging slightly from left to right as though having some difficulty maintaining directional control, but staying on the runway. Both engines appeared to be operating normally. I looked around to something else and then look back to see the aircraft had gone off the left side of the runway, but was continuing its take-off roll on the grass. It then became airborne slightly left wing high. Very quickly this developed into a very steep bank to the right before the right wing hit the ground. Both engines appeared to remain at full power."

Witness #2, was on the ramp area in front of the Avion Flight Center when he observed the airplane apply full power for take-off. The witness reported that the airplane "veered left then right then left" and departing off the left side of the runway. The witness then observed the tail-wheel digging into the dirt and the airplane veering right before it "lifted off skidding in ground effect." The right wing then contacted the ground and spun the airplane around.

Witnesses #3 and #4, were on the main airport ramp when they observed the airplane take-off and climb to approximately 6-10 feet above the ground before the right wing dropped and contacted the ground.

Witness #5, was on the north airport ramp facing runway 34L when he observed the airplane at an approximately altitude of 50-80 feet off the runway. He stated that, "The plane's engines were running and he didn't notice anything unusual until the right wing started dipping down."

An inspector from the Federal Aviation Administration, who reported to the accident site, evaluated the damage sustained by the airplane. The inspector reported that the aft section of the fuselage and left wing were consumed in the post crash fire.

At 1644 central daylight time, the weather observation facility at Midland International Airport, Midland, Texas, was reporting the wind from 160 at 10 knots, thunderstorms, visibility 10 statute miles, few clouds at 1,900 feet, temperature 70 degrees Fahrenheit, dew point 62 degrees Fahrenheit, and barometric pressure setting of 30.19 inches of Mercury. The density altitude was calculated by the NTSB IIC at 4,192 feet.

Pilot Information

| | | | |
|----------------------------------|---|--|------------|
| Certificate: | Airline Transport | Age: | 61, Male |
| Airplane Rating(s): | Multi-engine Land; Single-engine Land; Single-engine Sea | Seat Occupied: | Left |
| Other Aircraft Rating(s): | None | Restraint Used: | Seatbelt |
| Instrument Rating(s): | Airplane | Second Pilot Present: | Yes |
| Instructor Rating(s): | Airplane Single-engine | Toxicology Performed: | No |
| Medical Certification: | Class 1 Valid Medical--w/ waivers/lim. | Last FAA Medical Exam: | 09/02/2004 |
| Occupational Pilot: | | Last Flight Review or Equivalent: | 09/04/2004 |
| Flight Time: | 18000 hours (Total, all aircraft), 50 hours (Total, this make and model), 15000 hours (Pilot In Command, all aircraft), 120 hours (Last 90 days, all aircraft), 18 hours (Last 30 days, all aircraft) | | |

Co-Pilot Information

| | | | |
|----------------------------------|---|--|------------|
| Certificate: | Commercial | Age: | 63, Male |
| Airplane Rating(s): | Multi-engine Land | Seat Occupied: | Right |
| Other Aircraft Rating(s): | | Restraint Used: | Seatbelt |
| Instrument Rating(s): | None | Second Pilot Present: | Yes |
| Instructor Rating(s): | Airplane Single-engine | Toxicology Performed: | No |
| Medical Certification: | Class 2 Valid Medical--no waivers/lim. | Last FAA Medical Exam: | 06/29/2004 |
| Occupational Pilot: | | Last Flight Review or Equivalent: | |
| Flight Time: | 2600 hours (Total, all aircraft), 20 hours (Total, this make and model), 24000 hours (Pilot In Command, all aircraft) | | |

Aircraft and Owner/Operator Information

| | | | |
|--------------------------------------|--|---------------------------------------|-----------------|
| Aircraft Make: | Lockheed | Registration: | N6371C |
| Model/Series: | 18-56 | Aircraft Category: | Airplane |
| Year of Manufacture: | | Amateur Built: | No |
| Airworthiness Certificate: | Transport | Serial Number: | 18-2598 |
| Landing Gear Type: | Retractable - Tailwheel | Seats: | 13 |
| Date/Type of Last Inspection: | 10/15/2003, AAIP | Certified Max Gross Wt.: | 22500 lbs |
| Time Since Last Inspection: | 4.6 Hours | Engines: | 2 Reciprocating |
| Airframe Total Time: | 8999 Hours as of last inspection | Engine Manufacturer: | Wright |
| ELT: | Installed, activated, did not aid in locating accident | Engine Model/Series: | R-1820 72A |
| Registered Owner: | American Airpower Heritage Flying Museum | Rated Power: | 1400 hp |
| Operator: | Commemorative Air Force | Operating Certificate(s) Held: | None |

Meteorological Information and Flight Plan

| | | | |
|----------------------------------|----------------------|--------------------------------------|------------------|
| Conditions at Accident Site: | Visual Conditions | Condition of Light: | Day |
| Observation Facility, Elevation: | MAF, 2871 ft msl | Distance from Accident Site: | 0 Nautical Miles |
| Observation Time: | 1644 CDT | Direction from Accident Site: | |
| Lowest Cloud Condition: | Few / 1900 ft agl | Visibility | 10 Miles |
| Lowest Ceiling: | Broken / 2400 ft agl | Visibility (RVR): | |
| Wind Speed/Gusts: | 10 knots / | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | 160° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 30.19 inches Hg | Temperature/Dew Point: | 21° C / 17° C |
| Precipitation and Obscuration: | | | |
| Departure Point: | Midland, TX (MAF) | Type of Flight Plan Filed: | IFR |
| Destination: | Boulder, CO (1V5) | Type of Clearance: | IFR |
| Departure Time: | 1620 CDT | Type of Airspace: | Class C |

Airport Information

| | | | |
|----------------------|-------------------------------------|---------------------------|---------|
| Airport: | Midland International Airport (MAF) | Runway Surface Type: | Asphalt |
| Airport Elevation: | 2871 ft | Runway Surface Condition: | Dry |
| Runway Used: | 34L | IFR Approach: | None |
| Runway Length/Width: | 9501 ft / 50 ft | VFR Approach/Landing: | None |

Wreckage and Impact Information

| | | | |
|---------------------|---------|----------------------|------------------------|
| Crew Injuries: | 2 Minor | Aircraft Damage: | Substantial |
| Passenger Injuries: | 3 Minor | Aircraft Fire: | On-Ground |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 5 Minor | Latitude, Longitude: | 31.933333, -102.204722 |

Administrative Information

| | | | |
|-----------------------------------|--|--------------|------------|
| Investigator In Charge (IIC): | Alexander Lemishko | Report Date: | 07/07/2005 |
| Additional Participating Persons: | Arturo Castillo; Lubbock, Texas FSDO; Lubbock, TX | | |
| 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/ . | | |

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.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).