# Aviation Investigation Final Report

| | | | |
|---|---|---|---|
| **Location:** | Sweetwater, Texas | **Accident Number:** | FTW04LA113 |
| **Date & Time:** | April 20, 2004, 18:35 Local | **Registration:** | N6257H |
| **Aircraft:** | Piper PA-23-250 | **Aircraft Damage:** | Substantial |
| **Defining Event:** | | **Injuries:** | 2 None |
| **Flight Conducted Under:** | Part 91: General aviation - Ferry | | |

## Analysis

The propeller on the number two engine on a light twin-engine airplane experienced an overspeed while in cruise flight. The 1,430-hour pilot reported that while in cruise flight at 5,500 feet msl, he noticed the propellers were "out of sync." The pilot stated that he made minor adjustments with the propeller levers to synchronize the propellers; however, the propellers continued to be "out of sync." The right propeller began to overspeed by approximately 1,000 RPM's, and adjustments with the right prop lever had no effect. The pilot retarded the throttle, but could not maintain proper engine RPM, so he elected to land at the nearest airport, located approximately 12 miles away. The pilot noticed that the number two engine was starting to overheat, so he retarded the throttle again and increased airspeed to aid in cooling. The airplane started to shake, and he looked outside and observed the propeller was "wobbling." Subsequently, the pilot executed a forced landing into a muddy wheat field. The airplane had an annual inspection on December 12, 2003, and was determined to be in an un-airworthy condition. The airplane was given a special flight permit for maintenance, issued on April 20, 2004, which was to expire on April 30, 2004. The propeller governors were tested on a governor test stand and functioned normally; however, they were out of specification. The maximum RPM on the left governor was 2,394 and the maximum RPM on the right governor was 2,310. The specified RPM is 2,435. The specified feather RPM is 1,700. The left governor achieved 1,671 RPMs and the right governor achieved 1,634 RPMs. Inspection after disassembly was uneventful. Both governors were found to be "old and worn, exhibited similar wear patterns, but were functional." The reason for the reported propeller overspeed could not be determined.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The propeller overspeed for undetermined reasons. A contributing factor was the lack of suitable terrain for the forced landing.

### Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: CRUISE

Findings
1. (C) PROPELLER SYSTEM/ACCESSORIES - OVERSPEED
2. REASON FOR OCCURRENCE UNDETERMINED
---

Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING
---

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings
3. (F) TERRAIN CONDITION - NONE SUITABLE

## Factual Information

On April 20, 2004, approximately 1835 central daylight time, a Piper PA-23-250 twin-engine airplane, N6257H, registered to and operated by a private individual, sustained substantial damage during a forced landing following a propeller overspeed while in cruise flight near Sweetwater, Texas. The commercial pilot and the pilot rated passenger were not injured. Visual meteorological conditions prevailed and a flight plan was not filed for the Title 14 Code of Federal Regulations Part 91 ferry flight. The 424-nautical miles cross-country flight originated at 1730, from the Midland International Airport (MAF), near Midland, Texas, and was destined for the Sallisaw Municipal Airport (JSV), near Sallisaw, Oklahoma.

According to the Pilot/Operator Aircraft Accident Report (NTSB Form 6120.1/2), the 1,430-hour pilot reported that while in cruise flight at 5,500 feet mean sea level (msl), he noticed the propellers were "out of sync." The pilot stated that he made minor adjustments with the prop levers to re-synchronize the propellers; however, the propellers continued to be "out of sync." The right propeller began to overspeed by approximately 1,000 RPM's, and adjustments with the right propeller lever had no effect. The pilot retarded the throttle, but could not maintain proper engine RPM. He elected to land at the nearest airport, located approximately 12 miles away. The pilot noticed the number two engine starting to overheat, so he retarded the throttle again and increased airspeed to aid in cooling. The plane started to shake, and he looked outside and observed the propeller was "wobbling." Subsequently, the pilot executed a forced landing into a muddy wheat field.

Examination of the aircraft by a Federal Aviation Administration (FAA) inspector, who responded to the site of the accident, revealed structural damage to the fuselage. The nose gear and right main gear broke from the fuselage.

A detailed examination and teardown of the propellers and governors was conducted under the supervision of an FAA inspector at Hartzell Propeller Inc., Piqua, Ohio, on June 14, 2004. The propeller governors were tested on a governor test stand and functioned normally; however they were out of specification. The maximum RPM on the left governor was 2,394 and the maximum RPM on the right governor was 2,310. The specified RPM is 2,435. The specified feather RPM is 1,700. The left governor achieved 1,671 RPMs and the right governor achieved 1,634 RPMs. Inspection after disassembly was uneventful. Both governors were "old and worn, exhibited similar wear patterns, but were functional." No anomalies were noted that would have precluded normal operation.

The airplane had an annual inspection on December 12, 2003, and was determined to be in an unairworthy condition. The airplane received a special flight permit for maintenance, issued on April 20, 2004 and was to expire on April 30, 2004.

The reason for the reported propeller overspeed could not be determined.

## Pilot Information

| | | | |
|---|---|---|---|
| **Certificate:** | Commercial; Flight instructor | **Age:** | 27,Male |
| **Airplane Rating(s):** | Single-engine land; Multi-engine land | **Seat Occupied:** | Left |
| **Other Aircraft Rating(s):** | None | **Restraint Used:** | |
| **Instrument Rating(s):** | Airplane | **Second Pilot Present:** | No |
| **Instructor Rating(s):** | Airplane multi-engine; Airplane single-engine; Instrument airplane | **Toxicology Performed:** | No |
| **Medical Certification:** | Class 1 With waivers/limitations | **Last FAA Medical Exam:** | April 16, 2002 |
| **Occupational Pilot:** | Yes | **Last Flight Review or Equivalent:** | January 24, 2004 |
| **Flight Time:** | 1430 hours (Total, all aircraft), 4 hours (Total, this make and model), 1323 hours (Pilot In Command, all aircraft), 229 hours (Last 90 days, all aircraft), 75 hours (Last 30 days, all aircraft), 8 hours (Last 24 hours, all aircraft) | | |

## Aircraft and Owner/Operator Information

| | | | |
|---|---|---|---|
| **Aircraft Make:** | Piper | **Registration:** | N6257H |
| **Model/Series:** | PA-23-250 | **Aircraft Category:** | Airplane |
| **Year of Manufacture:** | | **Amateur Built:** | |
| **Airworthiness Certificate:** | Special flight (Special) | **Serial Number:** | 277654057 |
| **Landing Gear Type:** | Retractable - Tricycle | **Seats:** | 6 |
| **Date/Type of Last Inspection:** | December 12, 2003 Annual | **Certified Max Gross Wt.:** | 5200 lbs |
| **Time Since Last Inspection:** | | **Engines:** | 2 Reciprocating |
| **Airframe Total Time:** | 4000 Hrs at time of accident | **Engine Manufacturer:** | Lycoming |
| **ELT:** | Installed, activated, did not aid in locating accident | **Engine Model/Series:** | IO-540-C4B5 |
| **Registered Owner:** | Michael Finck | **Rated Power:** | 250 Horsepower |
| **Operator:** | Brian Carnes | **Operating Certificate(s) Held:** | None |

## Meteorological Information and Flight Plan

| | | | |
|---|---|---|---|
| **Conditions at Accident Site:** | Visual (VMC) | **Condition of Light:** | Day |
| **Observation Facility, Elevation:** | SWW,2380 ft msl | **Distance from Accident Site:** | 0 Nautical Miles |
| **Observation Time:** | 18:25 Local | **Direction from Accident Site:** | 0° |
| **Lowest Cloud Condition:** | Clear | **Visibility** | 10 miles |
| **Lowest Ceiling:** | None | **Visibility (RVR):** | |
| **Wind Speed/Gusts:** | 7 knots / | **Turbulence Type Forecast/Actual:** | / |
| **Wind Direction:** | 250° | **Turbulence Severity Forecast/Actual:** | / |
| **Altimeter Setting:** | 29.75 inches Hg | **Temperature/Dew Point:** | 26°C / -5°C |
| **Precipitation and Obscuration:** | No Obscuration; No Precipitation | | |
| **Departure Point:** | Midland, TX (MAF ) | **Type of Flight Plan Filed:** | None |
| **Destination:** | Sallisaw, OK (JSV ) | **Type of Clearance:** | None |
| **Departure Time:** | 17:30 Local | **Type of Airspace:** | Class E |

## Airport Information

| | | | |
|---|---|---|---|
| **Airport:** | Avenger Field Airport SWW | **Runway Surface Type:** | Grass/turf |
| **Airport Elevation:** | 2380 ft msl | **Runway Surface Condition:** | Wet |
| **Runway Used:** | | **IFR Approach:** | None |
| **Runway Length/Width:** | | **VFR Approach/Landing:** | Forced landing |

## Wreckage and Impact Information

| | | | |
|---|---|---|---|
| **Crew Injuries:** | 1 None | **Aircraft Damage:** | Substantial |
| **Passenger Injuries:** | 1 None | **Aircraft Fire:** | None |
| **Ground Injuries:** | N/A | **Aircraft Explosion:** | None |
| **Total Injuries:** | 2 None | **Latitude, Longitude:** | 32.466945,-100.459724 |

## Administrative Information

| | |
|---|---|
| **Investigator In Charge (IIC):** | Lemishko, Alexander |
| **Additional Participating Persons:** | Mark McDougall; Flight Standards District Office; Lubbock , TX |
| **Original Publish Date:** | September 1, 2004 |
| **Last Revision Date:** | |
| **Investigation Class:** | Class |
| **Note:** | |
| **Investigation Docket:** | https://data.ntsb.gov/Docket?ProjectID=59102 |