

Aviation Investigation Final Report

Location:	Tarzan, Texas	Accident Number:	FTW04CA141
Date & Time:	May 26, 2004, 11:30 Local	Registration:	N61407
Aircraft:	Air Tractor AT-502	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

The airplane began to settle back down on the ground just after take-off from runway N (a 2,650-feet long by 150-feet wide turf runway). The 3,370-hour pilot emptied the load of chemicals, but was still unable to gain altitude. The automated surface observing station at Midland International Airport (MAF), near Midland, Texas, located approximately 12 miles southwest of the airport, reported winds at 170 at 10 knots, gusting to 15 knots, visibility 10 statute miles, sky clear, temperature 88 degrees Fahrenheit, dew point 63 degrees Fahrenheit, and a barometric pressure of 29.88 inches of Mercury. The density altitude was calculated as 5,320 feet based on the outside air temperature of 31 degrees Celsius, a dew point of 17 degrees Celsius, and an altimeter setting of 29.88 inches of mercury. The field elevation at the private airstrip was 2,740 feet msl.

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 proper airspeed suitable for flight. Contributing factors were the high density altitude and tail wind condition.

Findings

Occurrence #1: ON GROUND/WATER COLLISION WITH OBJECT Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND

- (F) WEATHER CONDITION TAILWIND
 (F) WEATHER CONDITION HIGH DENSITY ALTITUDE
- 4. TERRAIN CONDITION BERM

Factual Information

On May 26, 2004, approximately 1130 central daylight time, an Air Tractor AT-502 singleengine agricultural airplane, N61407, was substantially damaged when it impacted a berm at the departure end of the runway following a loss of control during take-off from Ryan Aerodrome (7TX7), a private field near Tarzan, Texas. The commercial pilot, sole occupant of the airplane, was not injured. The airplane was registered to and operated by the pilot. Visual meteorological conditions prevailed, and a flight plan was not filed for the 14 Code of Federal Regulations Part 137 aerial application flight. The flight was originating at the time of the accident

According to the Federal Aviation Administration (FAA) inspector, who responded to the accident site, the airplane began to settle back down on the ground just after take-off from runway N (a 2,650-feet long by 150-feet wide turf runway). The 3,370-hour pilot emptied the load of chemicals, but was still unable to gain altitude. The right wing impacted the ground first, followed by the left main landing gear. The airplane came to rest approximately 180 degrees from the direction of take-off.

Examination of the airplane by the FAA inspector revealed that the left main landing gear and tailwheel separated from the airplane. The outboard section of the right wing was bent up and aft approximately 45 degrees. The left wing-tip was wrinkled and the left aileron was almost completely separated. The rudder and elevator trim tab was completely separated from the airplane. All three propeller blades exhibited S-bending.

The automated surface observing station at Midland International Airport (MAF), near Midland, Texas, located approximately 12 miles southwest of the airport, at 1153, reported winds at 170 at 10 knots, gusting to 15 knots, visibility 10 statute miles, sky clear, temperature 88 degrees Fahrenheit, dew point 63 degrees Fahrenheit, and a barometric pressure of 29.88 inches of Mercury.

The density altitude was calculated as 5,320 feet based on the outside air temperature of 31 degrees Celsius, a dew point of 17 degrees Celsius, and an altimeter setting of 29.88 inches of mercury. The field elevation at the private airstrip was 2,740 feet msl.

Despite repeated attempts by the NTSB investigator in charge (IIC) to acquire a completed Pilot/Operator Aircraft Accident Report (NTSB Form 6120.1/2) from the pilot, one was not obtained.

Pilot Information

Certificate:	Commercial	Age:	49,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Center
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medicalw/ waivers/lim	Last FAA Medical Exam:	April 28, 2004
Occupational Pilot:		Last Flight Review or Equivalent:	April 30, 2003
Flight Time:	3370 hours (Total, all aircraft), 910 h all aircraft)	ours (Total, this make and model), 210) hours (Last 90 days,

Aircraft and Owner/Operator Information

Aircraft Make:	Air Tractor	Registration:	N61407
Model/Series:	AT-502	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	502B-0313
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	December 18, 2003 Annual	Certified Max Gross Wt.:	
Time Since Last Inspection:	113 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	4837 Hrs at time of accident	Engine Manufacturer:	Pratt & Whitney
ELT:	Not installed	Engine Model/Series:	PT6A-34AG
Registered Owner:	Roy Cooper	Rated Power:	500 Horsepower
Operator:	Cooper Flying Service	Operating Certificate(s) Held:	
Operator Does Business As:	Aerial Application	Operator Designator Code:	CF7G

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	MAF,2863 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	11:53 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	10 knots / 15 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	170°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.87 inches Hg	Temperature/Dew Point:	31°C / 17°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Tarzan, TX (NONE)	Type of Flight Plan Filed:	None
Destination:	(NONE)	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Airport Information

Airport:	Cooper Flying Service Airstrip NONE	Runway Surface Type:	Grass/turf
Airport Elevation:	2871 ft msl	Runway Surface Condition:	Dry
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:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	32.597778,-101.123054

Administrative Information

Investigator In Charge (IIC):	Yeager, Leah
Additional Participating Persons:	Mona Roberts; FAA Flight Standards District Office; Lubbock, TX
Original Publish Date:	September 29, 2004
Last Revision Date:	
Investigation Class:	<u>Class</u>
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=59321

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, "accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person" (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB's statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available here.