



Aviation Investigation Final Report

Location:	Farnsworth, Texas	Accident Number:	CEN13LA341
Date & Time:	June 8, 2013, 19:00 Local	Registration:	N4421S
Aircraft:	AIR TRACTOR INC AT-301	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (partial)	Injuries:	1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

The pilot of the agricultural airplane reported that, as he was beginning a spray pass, the airplane sustained a partial loss of engine power. He attempted to dump his chemical load but was unable to maintain altitude and executed a forced landing to a field. He said that the engine continued to run smoothly but at a reduced power setting during the event. Postaccident examination of the engine revealed no anomalies that would explain the partial loss of engine power. The temperature and dew point were within a range of susceptibility for carburetor icing during glide and cruise power settings. However, the sudden reduction of power with the engine continuing to run smoothly described by the pilot was not consistent with the gradual reduction in power and rough running typically associated with carburetor icing.

Probable Cause and Findings

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

The partial loss of engine power for reasons that could not be determined because the postaccident engine examination revealed no anomalies.

Findings

Aircraft	(general) - Malfunction
Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Maneuvering-low-alt flying	Loss of engine power (partial) (Defining event)
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On June 8, 2013, about 1900 central daylight time, an Air Tractor AT-301 airplane, N4421S, sustained substantial damage to its right wing and fuselage during a forced landing following a loss of engine power near Farnsworth, Texas. The pilot was not injured. The aircraft was registered to an individual and operated by Terhune Flying Service under the provisions of 14 Code of Federal Regulations Part 137 as an aerial application flight. Visual meteorological conditions prevailed for the flight, which was not operated on a flight plan. The local flight originated from a private airstrip near the accident site.

The pilot reported that he had flown two flights on the morning of the accident, and had to stop flight operations due to adverse weather. When the weather conditions improved he again began flight operations. The accident flight was the first flight after resuming flight operations. He reported that while starting his first spray pass, the engine lost partial power and he was unable to maintain altitude. He attempted to dump his load of chemical but the airplane continued to descend and the pilot attempted to land in a field. During the ensuing forced landing, the right main landing gear collapsed and the airplane came to rest on its nose and right wing. The pilot reported that during the event, the engine continued to run smoothly but at a reduced power output that wasn't sufficient to maintain altitude.

Postaccident examination did not reveal any anomalies that would explain the partial loss of engine power. The engine was intact with no external evidence of pre-impact damage. Further examination revealed no damage to pistons, cylinders, or valves and no anomalies were noted with regard to the fuel system.

The temperature and dew point recorded at a nearby airport about the time of the accident were 26 degrees Celsius and 15 degrees Celsius, respectively. According to a carburetor icing probability chart, the recorded temperature and dew point were in the range of susceptibility for carburetor icing during glide and cruise power settings.

Pilot Information

Certificate:	Commercial	Age:	34
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Single
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	January 24, 2013
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	AIR TRACTOR INC	Registration:	N4421S
Model/Series:	AT-301	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	301-0081
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	January 10, 2013 100 hour	Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	1138 Hrs as of last inspection	Engine Manufacturer:	Pratt & Whitney
ELT:	Not installed	Engine Model/Series:	R1340 AN-1
Registered Owner:	DICKSON SHANNON L DBA	Rated Power:	600 Horsepower
Operator:	TERHUNE FLYING SERVICE INC	Operating Certificate(s) Held:	Agricultural aircraft (137)
Operator Does Business As:		Operator Designator Code:	TYWG

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	PYX,2918 ft msl	Distance from Accident Site:	13 Nautical Miles
Observation Time:	18:55 Local	Direction from Accident Site:	45°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	20 knots / 25 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	230°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.95 inches Hg	Temperature/Dew Point:	26°C / 15°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Farnsworth, TX	Type of Flight Plan Filed:	Unknown
Destination:	Farnsworth, TX	Type of Clearance:	None
Departure Time:	12:00 Local	Type of Airspace:	

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:	36.321109,-100.966392

Administrative Information

Investigator In Charge (IIC):	Brannen, John
Additional Participating Persons:	Dan Vengen; Lubbock FSDO; Lubbock, TX
Original Publish Date:	March 13, 2014
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=87157

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