



Aviation Investigation Final Report

Location:	Natchez, Louisiana	Accident Number:	CEN14LA450
Date & Time:	August 24, 2014, 17:30 Local	Registration:	N91968
Aircraft:	AIR TRACTOR INC AT-401	Aircraft Damage:	Destroyed
Defining Event:	Loss of engine power (partial)	Injuries:	1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

The pilot reported that during climbout for an agricultural flight, about 75 feet above the runway, he heard a loud "pop," and the engine started to lose power. He dumped the 250 gallons of chemical that weighed about 2,000 pounds. The airplane continued to lose altitude, and the pilot executed a forced landing to a cotton field. A postimpact engine fire ensued, consuming the airplane. An examination of the engine revealed that the No. 2 cylinder exhaust rocker boss was cracked, which likely allowed oil to escape, which led to the loss of engine power and the subsequent fire.

Probable Cause and Findings

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

The loss of power due to the failure of the No. 2 exhaust valve and rocker boss during takeoff.

Findings

Aircraft	Recip eng cyl section - Failure
Aircraft	Recip eng cyl section - Damaged/degraded

Factual Information

History of Flight

Takeoff	Loss of engine power (partial) (Defining event)
Post-impact	Fire/smoke (post-impact)

On August 24, 2014, about 1730 central daylight time, an Air Tractor AT-401, N91968, was destroyed by a post-impact ground fire after a forced landing due to a loss of engine power near Natchez, Louisiana. The pilot was not injured. The airplane was registered to and operated by Red River Dusting Inc. under the provisions of the 14 Code of Federal Regulations Part 137 as an aerial application flight. Visual meteorological conditions prevailed at the time of the accident. No flight plan was filed. The airplane was departing from a private grass airstrip near Natchez, Louisiana, at 1730 on a local flight.

The pilot reported that during climbout about 75 above the runway, he heard a loud "pop" and the engine started to lose power. He dumped the 250 gallons of chemical that weighed about 2,000 pounds. The airplane continued to lose altitude. He executed a forced landing to a cotton field, and during the landing roll, the airplane hit a ditch which spun the airplane around. A post impact engine fire ensued and the airplane was consumed by fire.

The pilot reported that the No. 2 cylinder "swallowed the exhaust valve" and broke the top of the jug. An examination of the engine revealed that the No. 2 cylinder exhaust rocker boss was cracked. The 600-horsepower radial engine had a total of 11,534 hours of operation. The time since the last inspection was 229 hours, and the time since the last overhaul was 1,314 hours.

Pilot Information

Certificate:	Commercial	Age:	47
Airplane Rating(s):	Single-engine land	Seat Occupied:	Single
Other Aircraft Rating(s):	None	Restraint Used:	4-point
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 29, 2014
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	January 11, 2013
Flight Time:	6904 hours (Total, all aircraft), 2591 hours (Total, this make and model), 100 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	AIR TRACTOR INC	Registration:	N91968
Model/Series:	AT-401	Aircraft Category:	Airplane
Year of Manufacture:	1994	Amateur Built:	
Airworthiness Certificate:	Utility; Restricted (Special)	Serial Number:	401-0942
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	May 9, 2014 Annual	Certified Max Gross Wt.:	7860 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	7846 Hrs at time of accident	Engine Manufacturer:	Pratt & Whitney
ELT:	Not installed	Engine Model/Series:	R-1340-S3H1-G
Registered Owner:	RED RIVER DUSTING INC	Rated Power:	600 Horsepower
Operator:	RED RIVER DUSTING INC	Operating Certificate(s) Held:	Agricultural aircraft (137)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	IER,121 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	22:35 Local	Direction from Accident Site:	350°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	60°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.89 inches Hg	Temperature/Dew Point:	34°C / 22°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Natchez, LA (RRDI)	Type of Flight Plan Filed:	None
Destination:	Natchez, LA (RRDI)	Type of Clearance:	None
Departure Time:	17:30 Local	Type of Airspace:	

Airport Information

Airport:	Private Airstrip RRDI	Runway Surface Type:	Grass/turf
Airport Elevation:	120 ft msl	Runway Surface Condition:	Dry
Runway Used:	36	IFR Approach:	None
Runway Length/Width:	3000 ft / 100 ft	VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	30.606666,-92.951667(est)

Administrative Information

Investigator In Charge (IIC):	Silliman, James
Additional Participating Persons:	Shane Benedetto; FAA Baton Rouge FSDO; Baton Rouge, LA
Original Publish Date:	January 14, 2015
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=89941

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