



# Aviation Investigation Final Report

<b>Location:</b>	Cotton Plant, Arkansas	<b>Accident Number:</b>	FTW04LA150
<b>Date &amp; Time:</b>	June 4, 2004, 18:00 Local	<b>Registration:</b>	N3166U
<b>Aircraft:</b>	Air Tractor AT-301	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 137: Agricultural		

## Analysis

The 300-hour pilot reported that after performing an aerial application of fertilizer on a field for about 4 hours, the "engine started to sputter." The pilot initiated a forced landing to an adjacent field. During the landing roll, the airplane nosed over and came to rest inverted. Examination of the airplane revealed both fuel tanks remained intact and contained less than one gallon of fuel.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The loss of engine power due to fuel exhaustion. A contributing factor was the lack of suitable terrain for the forced landing.

## Findings

Occurrence #1: LOSS OF ENGINE POWER  
Phase of Operation: MANEUVERING - AERIAL APPLICATION

### Findings

1. (C) IN-FLIGHT PLANNING/DECISION - INADEQUATE - PILOT IN COMMAND
  2. FLUID,FUEL - EXHAUSTION
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Occurrence #2: FORCED LANDING  
Phase of Operation: EMERGENCY DESCENT/LANDING

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Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER  
Phase of Operation: EMERGENCY LANDING

Findings

3. (F) TERRAIN CONDITION - NONE SUITABLE

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Occurrence #4: NOSE OVER  
Phase of Operation: LANDING - ROLL

## Factual Information

On June 4, 2004, approximately 1800 central daylight time, an Air Tractor AT-301 single-engine agricultural airplane, N3166U, was substantially damaged during a forced landing following a loss of engine power while maneuvering near Cotton Plant, Arkansas. The commercial pilot was not injured. The airplane was registered to Neal Aircraft Inc., of Slaton, Texas, and operated by Southern Air, Inc., of Cotton Plant, Arkansas. Visual meteorological conditions prevailed for the 14 Code of Federal Regulations Part 137 aerial application flight. The local flight originated from a private airstrip near Cotton Plant, Arkansas, at an unknown time.

The 300-hour pilot reported in the Pilot/Operator Aircraft Accident Report (NTSB Form 6120.1/2) that he was performing an aerial application of fertilizer on a field for about 4 hours. On the second to last pass, the "engine started to sputter" and he initiated a forced landing to an adjacent field. During the landing roll, the airplane nosed over and came to rest inverted.

Examination of the airplane by an Federal Aviation Administration (FAA) inspector, who responded to the accident site, reported that the vertical stabilizer, rudder and elevators were structurally damaged. The engine mounts were also damaged.

Both fuel tanks remained intact. No fuel residue was observed on the soft ground. The inspector added that about a cup of fuel was found in each of the fuel cells. Recovery personnel were asked to evaluate any remaining fuel after the aircraft was up-right, and all estimates were that there was less than one gallon of fuel remaining in the aircraft.

### Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	21, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Center
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	July 28, 2003
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	May 13, 2003
<b>Flight Time:</b>	300 hours (Total, all aircraft), 50 hours (Total, this make and model), 250 hours (Pilot In Command, all aircraft), 50 hours (Last 90 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Air Tractor	<b>Registration:</b>	N3166U
<b>Model/Series:</b>	AT-301	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Restricted (Special)	<b>Serial Number:</b>	301-0551
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	1
<b>Date/Type of Last Inspection:</b>	Annual	<b>Certified Max Gross Wt.:</b>	7000 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	Pratt & Whitney Canada
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	R1340
<b>Registered Owner:</b>	Neal Aircraft Inc.	<b>Rated Power:</b>	600 Horsepower
<b>Operator:</b>	Robert Ferguson	<b>Operating Certificate(s) Held:</b>	
<b>Operator Does Business As:</b>	Southern Air Inc.	<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Dusk
<b>Observation Facility, Elevation:</b>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>		<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	10 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	230°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>		<b>Temperature/Dew Point:</b>	
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Cotton Plant, AR	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Cotton Plant, AR	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>		<b>Type of Airspace:</b>	Class E

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 None	<b>Latitude, Longitude:</b>	34.880001,-91.176391

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Casanova, Hector
<b>Additional Participating Persons:</b>	Michael L Wilson; Federal Aviation Administration; Little Rock, AR
<b>Original Publish Date:</b>	October 28, 2004
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=59384">https://data.ntsb.gov/Docket?ProjectID=59384</a>

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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](#).