



# Aviation Investigation Final Report

<b>Location:</b>	Grand Coteau, Louisiana	<b>Accident Number:</b>	FTW01LA178
<b>Date &amp; Time:</b>	August 9, 2001, 09:00 Local	<b>Registration:</b>	N10140
<b>Aircraft:</b>	Air Tractor AT-401	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 137: Agricultural		

## Analysis

The agricultural airplane had completed a spray pass from south to north, and during a turn around maneuver, the engine lost power. The pilot emptied the airplane's load and initiated a forced landing to a dirt road; however, the aircraft was unable to reach the road. The airplane touched down in a sweet potato field perpendicular to the rows with its right wing first. Subsequently, as the airplane touched down, its main landing gear collapsed. The airplane came to rest upright. An examination of the engine revealed that the #4 cylinder head had fractured at the exhaust valve rocker arm boss. A review of the maintenance records revealed that on August 4, 2001 (4.4 hours prior to the accident), the Pratt & Whitney R-1340-AN-1 engine's cylinder heads were inspected for cracking in accordance with Airworthiness Directive 99-11-02. No cylinder head cracking was noted.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the loss of engine power while maneuvering, which resulted from a fractured #4 cylinder head at the exhaust valve rocker arm boss. A contributing factor was the lack of suitable terrain for the forced landing.

## Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF  
Phase of Operation: MANEUVERING - AERIAL APPLICATION

Findings

1. (C) ENGINE ASSEMBLY,CYLINDER - FRACTURED

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Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

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Occurrence #3: GEAR COLLAPSED

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

2. (F) TERRAIN CONDITION - NONE SUITABLE

3. TERRAIN CONDITION - SOFT

## Factual Information

On August 9, 2001, at 0900 central daylight time, an Air Tractor AT-401 agricultural airplane, N10140, was substantially damaged during a forced landing following a loss of engine power while maneuvering near Grand Coteau, Louisiana. The airplane was registered to Worthy Flying Service, Inc., of Gore Springs, Mississippi, and operated by Aerial Crop Care, Inc., of Port Barre, Louisiana. The commercial pilot, sole occupant, was not injured. Visual meteorological conditions prevailed, and a flight plan was not filed for the 14 Code of Federal Regulations Part 137 aerial application flight. The local flight originated from a private strip near Arnaudville, Louisiana, at 0845.

According to the pilot, the airplane had completed a spray pass from south to north, and during a turn around maneuver, the "#4 jug blew." The pilot emptied the airplane's load and initiated a forced landing to a dirt road; however, the aircraft was unable to land on the road. The airplane touched down in a sweet potato field perpendicular to the rows with its right wing first. Subsequently, as the airplane touched down, its main landing gear collapsed. The airplane came to rest upright.

Examination of the airplane by the FAA inspector, who responded to the accident site, revealed that the right main landing gear was separated, and the left main landing gear was folded aft. The fuselage at the right wing attach point was buckled, and the right wing tip was damaged. An examination of the engine revealed that the #4 cylinder head had fractured at the exhaust valve rocker arm boss.

A review of the maintenance records revealed that on August 4, 2001 (4.4 hours prior to the accident), the Pratt & Whitney R-1340-AN-1 engine's cylinder heads were inspected for cracking in accordance with Airworthiness Directive 99-11-02. No cylinder head cracking was noted.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	39, 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-w/ waivers/lim	<b>Last FAA Medical Exam:</b>	February 9, 2001
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	February 7, 2001
<b>Flight Time:</b>	2600 hours (Total, all aircraft), 400 hours (Total, this make and model), 2500 hours (Pilot In Command, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Air Tractor	<b>Registration:</b>	N10140
<b>Model/Series:</b>	AT-401	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Restricted (Special)	<b>Serial Number:</b>	401-0732
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	1
<b>Date/Type of Last Inspection:</b>	August 4, 2001 100 hour	<b>Certified Max Gross Wt.:</b>	6000 lbs
<b>Time Since Last Inspection:</b>	4.4 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	4280.3 Hrs at time of accident	<b>Engine Manufacturer:</b>	P&W
<b>ELT:</b>		<b>Engine Model/Series:</b>	R-1340-AN-1
<b>Registered Owner:</b>	On file	<b>Rated Power:</b>	600 Horsepower
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	
<b>Operator Does Business As:</b>	On file	<b>Operator Designator Code:</b>	EBLG

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<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>	Scattered / 1500 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	2 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	135°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>		<b>Temperature/Dew Point:</b>	29°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Arnaudville, LA (NONE)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	08:45 Local	<b>Type of Airspace:</b>	Class G

## 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>	30.43053,-92.049499(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Wigington, Douglas
<b>Additional Participating Persons:</b>	Mark S Evans; BTR FSDO; Baton Rouge, LA
<b>Original Publish Date:</b>	February 20, 2002
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	The NTSB traveled to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=52988">https://data.nts.gov/Docket?ProjectID=52988</a>

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](#).