



Aviation Investigation Final Report

Location:	SMITHVILLE, Georgia	Accident Number:	ATL94LA128
Date & Time:	July 2, 1994, 08:05 Local	Registration:	N3649B
Aircraft:	AIR TRACTOR AT-301	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Minor
Flight Conducted Under:	Part 137: Agricultural		

Analysis

THE PILOT HAD STARTED HIS THIRD SWATH RUN WHEN THE NUMBER TWO CYLINDER FAILED. OIL WAS SPRAYED ON THE WINDSHIELD AND PREVENTED THE PILOT FROM HAVING FORWARD VISION. THE PILOT SELECTED AN EMERGENCY LANDING AREA AND ESTABLISHED AN APPROACH. BECAUSE OF THE LIMITED FORWARD VISIBILITY, THE AIRPLANE TOUCHED DOWN PAST THE INTENDED TOUCH DOWN POINT, AND ROLLED INTO A STAND OF TREES. EXAMINATION OF THE ENGINE CONFIRMED THAT THE NUMBER TWO CYLINDER HEAD HAD FAILED. ACCORDING TO THE MECHANIC WHO RECOVERED THE AIRPLANE, THE CRACK IN THE CYLINDER HEAD WAS TYPICAL OF MOST HEAD FAILURES HE HAD SEEN ON OTHER R-1340 ENGINES.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE FAILURE OF # 2 CYLINDER HEAD.

Findings

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

Findings

1. (C) ENGINE ASSEMBLY,CYLINDER - FAILURE,TOTAL

Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: OVERRUN
Phase of Operation: LANDING

Occurrence #4: ON GROUND/WATER COLLISION WITH OBJECT
Phase of Operation: LANDING - ROLL

Findings
2. OBJECT - TREE(S)

Factual Information

On July 2, 1994, at 0805 eastern daylight time, an Air Tractor AT-301, N3649B, overshot an emergency landing area following a complete loss of engine power near Smithville, Georgia. The aerial application flight operated under 14 CFR Part 137, with no flight plan filed. Visual weather conditions prevailed at the time of the accident. The airplane was destroyed, and the pilot sustained minor injuries. The flight departed Smithville, at 0745 hours.

According to the pilot, he had started the third swath run when the engine lost power. The pilot selected a field for the forced landing, but his forward vision was hampered by engine oil on the windshield from the number two cylinder. The airplane touched down about ninety yards from a tree line. As the aircraft collided with the trees, both wings were torn from the airplane.

According to the mechanic who recovered the airplane, the crack in the number two cylinder head was typical of cracks he had seen in other failed R-1340 heads. The pilot stated that the engine was 1197 hours since the last engine overhaul; the recommended time between overhauls (TBO) for this engine is 1000 hours. According to 14 CFR Part 137. 17d, Part 137 operators are not required to comply with TBO recommendations.

Pilot Information

Certificate:	Commercial	Age:	50, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Front
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 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	July 16, 1993
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	8431 hours (Total, all aircraft), 1980 hours (Total, this make and model), 8366 hours (Pilot In Command, all aircraft), 200 hours (Last 90 days, all aircraft), 100 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	AIR TRACTOR	Registration:	N3649B
Model/Series:	AT-301 AT-301	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	301-0236
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	January 18, 1994 Annual	Certified Max Gross Wt.:	5000 lbs
Time Since Last Inspection:	258 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	6114 Hrs	Engine Manufacturer:	P&W
ELT:	Not installed	Engine Model/Series:	R-1340-AN1
Registered Owner:	GOSA, JOHNNY R.	Rated Power:	600 Horsepower
Operator:		Operating Certificate(s) Held:	
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	ALB ,197 ft msl	Distance from Accident Site:	15 Nautical Miles
Observation Time:	08:48 Local	Direction from Accident Site:	180°
Lowest Cloud Condition:	Scattered / 1800 ft AGL	Visibility	7 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	140°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	25°C / 22°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:		Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	07:45 Local	Type of Airspace:	Class G

Airport Information

Airport:	NONE	Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	31.900953,-84.250503(est)

Administrative Information

Investigator In Charge (IIC):	Powell, Phillip
Additional Participating Persons:	ROBERT WEST; COLLEGE PARK , GA
Original Publish Date:	January 25, 1995
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=3408

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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](#).