



Aviation Investigation Final Report

Location:	WASCO, California	Accident Number:	LAX98LA090
Date & Time:	February 17, 1998, 17:34 Local	Registration:	N3656C
Aircraft:	Air Tractor AT-301	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

The pilot heard a loud bang and felt a strong engine vibration after takeoff and crashed during the attempt to return to the runway. The number two cylinder was found cracked between the two spark plug portholes. The owner/operator reported that cracked cylinders are typical on these engines, usually due to the pilot overboosting the engine on takeoff. He stated that the pilot had cracked a cylinder on the accident aircraft on five previous occasions, as well as on other aircraft. The owner further stated that he trains all his pilots in emergency procedures. The pilot of the aircraft did not respond to requests for the accident report and no longer works for the operator.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot overboosting the engine on takeoff which resulted in a cracked cylinder and subsequent loss of engine power.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. ENGINE ASSEMBLY,CYLINDER - CRACKED

Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY LANDING AFTER TAKEOFF

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: EMERGENCY LANDING AFTER TAKEOFF

Findings

2. TERRAIN CONDITION - GROUND

Factual Information

On February 17, 1998, at 1734 hours Pacific standard time, an Air Tractor AT-301, N3656C, lost power during the takeoff initial climb and collided with the ground during an attempted return to the runway at the Wasco, California, airport. The aircraft sustained substantial damage and the commercial pilot, the sole occupant, was not injured. The local area aerial application flight was originating at the time of the accident. Visual meteorological conditions prevailed and no flight plan was filed.

The pilot reported that at rotation from runway 30, he heard a loud bang followed by a strong engine vibration. He initiated a left turn in an attempt to return to the runway and saw a puff of smoke and a flash of flame emitting from the engine. The engine then quit completely. The pilot reported that the aircraft impacted the ground before he was able to return to the runway. The landing gear separated from the aircraft, the aircraft nosed over, and came to rest inverted.

A Federal Aviation Administration inspector from the Fresno, California, Flight Standards District Office, conducted an on-site examination of the aircraft. He reported that the number two cylinder was cracked between the aft spark plug porthole to the forward spark plug porthole. The engine had approximately 559 hours since the last major overhaul.

The aircraft owner/operator reported that a cracked cylinder was typical on the R1340 series engines, usually due to the pilot overboosting the engine on takeoff. He stated that the pilot had cracked a cylinder on the accident aircraft on five previous occasions, as well as on other aircraft. The owner stated that normally they would just replace the cylinder. He further reported that he rigorously trains all his pilots in emergency procedures.

The pilot of the aircraft did not respond to the Safety Board's requests for the pilot/operator report. The pilot no longer works for the owner.

Pilot Information

Certificate:	Commercial	Age:	46, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Center
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:	December 30, 1997
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	13900 hours (Total, all aircraft), 1957 hours (Total, this make and model), 86 hours (Last 90 days, all aircraft), 32 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Air Tractor	Registration:	N3656C
Model/Series:	AT-301 AT-301	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	301-0304
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	December 1, 1997 Annual	Certified Max Gross Wt.:	5000 lbs
Time Since Last Inspection:	48 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	7454 Hrs	Engine Manufacturer:	P&W
ELT:		Engine Model/Series:	R1340
Registered Owner:	DELBERT WILLIAMS	Rated Power:	600 Horsepower
Operator:		Operating Certificate(s) Held:	
Operator Does Business As:	TRI STAR CROP AGRINAUTICS	Operator Designator Code:	RQDG

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	BFL	Distance from Accident Site:	
Observation Time:	01:56 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Unknown	Visibility	10 miles
Lowest Ceiling:	Broken / 5500 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	20°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	9°C / 6°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:		Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	00:00 Local	Type of Airspace:	Class E

Airport Information

Airport:	WASCO L19	Runway Surface Type:	Asphalt
Airport Elevation:	313 ft msl	Runway Surface Condition:	Dry
Runway Used:	30	IFR Approach:	None
Runway Length/Width:	3380 ft / 60 ft	VFR Approach/Landing:	None

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:	35.640087,-119.439086(est)

Administrative Information

Investigator In Charge (IIC):	Rich, Jeff
Additional Participating Persons:	JOE SALAZAR; FRESNO , CA
Original Publish Date:	July 12, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=30035

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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](#).