



National Transportation Safety Board Aviation Accident Final Report

Location:	HUNTER, AR	Accident Number:	FTW94FA258
Date & Time:	08/01/1994, 1030 CDT	Registration:	N23358
Aircraft:	AIR TRACTOR AT-301	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Fatal
Flight Conducted Under:	Part 137: Agricultural		

Analysis

AT APPROXIMATELY 50 FEET ABOVE THE GROUND, THE PILOT TURNED OFF THE SPRAYING NOZZLES AND INITIATED A CLIMBING TURN-AROUND MANEUVER. OBSTRUCTIONS BLOCKED THE WITNESSES VIEW OF THE AIRPLANE DURING THE TURN-AROUND AND IMPACT. THE AIRPLANE CAME TO REST IN A VERTICAL POSITION WITH THE AIRPLANE HOPPER AND ENGINE BURIED IN 2 1/2 FEET OF WATER AND MUD IN A RICE FIELD. THE COMMERCIAL PILOT'S TRAINING INCLUDED AERIAL APPLICATION. HIS COMMERCIAL CERTIFICATE WAS OBTAINED ON MAY 18, 1994. SCHOOL PERSONNEL REPORTED THAT INSTRUCTORS CAUTIONED THE PILOT ON NUMEROUS OCCASIONS TO HAVE RESPECT FOR THE AIRPLANE AND TO PERFORM A SLOW PULL UP DURING THE TURN-AROUND MANEUVER. ASSOCIATES STATED THEY OBSERVED THE PILOT PERFORM STEEP TURN-AROUND MANEUVERS ON NUMEROUS OCCASIONS.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: INADVERTENT STALL DUE TO PILOT'S FAILURE TO MAINTAIN AIRSPEED. A FACTOR WAS THE PILOT'S OVER CONFIDENCE IN HIS PERSONAL ABILITY.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: MANEUVERING - AERIAL APPLICATION

Findings

1. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
2. STALL - INADVERTENT - PILOT IN COMMAND
3. (F) OVERCONFIDENCE IN PERSONAL ABILITY - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

HISTORY OF FLIGHT:

On August 1, 1994, at 1030 central daylight time, an Air Tractor AT-301, N23358, was substantially damaged while maneuvering near Hunter, Arkansas. The commercial pilot received fatal injuries. Visual meteorological conditions prevailed for the aerial application flight.

Witnesses and the operator reported the following information. The aerial application flight departed from a private grass airstrip at the rice farm. The pilot started spraying about 0900 and was dispensing fungicide on the rice field. During the pilot's second spray run, he was dispensing the fungicide in a west to east flight path above the rice field. At approximately 50 feet above the ground, the pilot turned off the spraying nozzles and initiated a climbing turn-around maneuver. Obstructions blocked the witnesses view of the airplane during the turn around. Witnesses heard the impact, reported the accident, and assisted the pilot.

PERSONNEL INFORMATION:

The pilot began flight training on June 21, 1993, and obtained his private pilot rating on February 28, 1994. A review of the pilot's logbook revealed that he accumulated a total flight time of 28.6 hours (17.3 spraying training) in the PA-18-150, 20 hours of spraying training in the PA-25-235, and 31.5 hours of spraying training in the AT-301. He satisfactorily completed the commercial rating on May 18, 1994. The Pilot/Operator Report states 150 hours total time in the AT-301.

During interviews, associates and training personnel reported the following information. The pilot was among the top 5 percent of the students trained in the agricultural training school. Instructors at the school had to make the pilot wear his helmet during the agricultural training. They recalled telling the pilot on numerous occasions to have respect for the airplane. They emphasized to the pilot how important it was for a slow pull up during the turn around maneuver. Associates described the pilot as wearing a cowboy hat instead of the helmet and "cowboying the airplane." They observed the pilot perform steep turn-around maneuvers on numerous occasions.

WRECKAGE AND IMPACT INFORMATION:

Local authorities stated the airplane remained intact and came to rest in a vertical position. The airplane hopper and engine was found buried in 2 1/2 feet of water and mud in the rice field. The top of the cabin was facing in an easterly direction with the leading edges of the wings resting in the rice plants.

Major components were recovered prior to the on scene arrival of the investigator-in-charge. The leading edges of the wings were crushed and buckled. Horizontal stabilizer rods were separated consistent with overload. Flight control continuity was established.

The engine exhibited impact damage on the cylinders and accessories. There were no anomalies found with the engine or accessories. The metal chip detector and oil filter were clean. Fuel continuity was established to the engine. The propeller blades exhibited bending and torsional twisting. Fuel tank lines were compromised.

MEDICAL AND PATHOLOGICAL INFORMATION:

Autopsy and toxicology were not ordered.

ADDITIONAL DATA:

The airplane was released to the operator following the investigation.

Pilot Information

Certificate:	Commercial	Age:	19, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Center
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	05/12/1994
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	400 hours (Total, all aircraft), 150 hours (Total, this make and model), 400 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	AIR TRACTOR	Registration:	N23358
Model/Series:	AT-301 AT-301	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Restricted	Serial Number:	301-0378
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	04/27/1994, Annual	Certified Max Gross Wt.:	1500 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	P&W
ELT:	Not installed	Engine Model/Series:	R-1340-AN1
Registered Owner:	MELVIN, LARRY	Rated Power:	600 hp
Operator:	MELVIN, LARRY	Operating Certificate(s) Held:	
Operator Does Business As:	L. M. AERIAL SERVICE, INC.	Operator Designator Code:	LM7G

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	JBR, 262 ft msl	Distance from Accident Site:	50 Nautical Miles
Observation Time:	1052 CDT	Direction from Accident Site:	25°
Lowest Cloud Condition:	Clear / 0 ft agl	Visibility	10 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	240°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	27° C / 18° C
Precipitation and Obscuration:			
Departure Point:		Type of Flight Plan Filed:	None
Destination:	, AR	Type of Clearance:	None
Departure Time:	1000 CDT	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	JOYCE M SMITH,	Report Date:	03/27/1995
Additional Participating Persons:	RAY B MOORE; LITTLE ROCK, AR		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinquiry@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).