



Aviation Investigation Final Report

Location:	PANTHER BURN, Mississippi	Accident Number:	ATL99LA106
Date & Time:	July 13, 1999, 07:18 Local	Registration:	N731VR
Aircraft:	Cessna A188B	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Serious
Flight Conducted Under:	Part 137: Agricultural		

Analysis

The pilot departed the airstrip with a load of 57 gallons of Fyfanon, a chemical used to spray boll weevils. After performing a series of spray runs, the airplane veered off course, collided with a tree line, then impacted the ground and burned. A review of the airplane's maintenance records disclosed that the Differential Global Position System (DGPS) installed on the airplane had been serviced twice during the week leading to the accident. The DGPS is installed on a shelf behind the pilot's seat near where the shoulder harness is attached, and was required to be operational for use during the flight under the conditions of the spraying contract. According to stored information downloaded from the DGPS, the lock on the DGPS was lost shortly after the pilot had completed a right turn on the southeast side of the field. The airplane was located one and a half miles northwest of where the last DGPS signal was received.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain clearance that resulted in the in-flight collision with trees. A factor was his diverted attention following the failure of the DGPS.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: MANEUVERING - AERIAL APPLICATION

Findings

1. (F) COMM/NAV EQUIPMENT, GLOBAL POSITIONING SYSTEM (GPS) - FAILURE, TOTAL
2. (F) DIVERTED ATTENTION - PILOT IN COMMAND
3. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
4. (F) OBJECT - TREE(S)

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: MANEUVERING - AERIAL APPLICATION

Findings

5. TERRAIN CONDITION - CROP

Factual Information

On July 13, 1999, at 0718 central daylight time, a Cessna A188B, N731VR, collided with trees and the ground following an aerial application maneuver in Panther Burn, Mississippi. The airplane was operated by the commercial pilot under the provisions of Title 14 CFR Part 137, and visual flight rules. Visual meteorological conditions prevailed and no flight plan was filed for the local agricultural application flight. The pilot received serious injuries, and the airplane sustained substantial damage. The flight originated from a private airstrip in Anguilla, Mississippi, at 0650.

According to the pilot, he departed the airstrip with a load of 57 gallons of Fyfanon, a chemical used to spray boll weevils. After performing a series of spray runs, the airplane veered off course, collided with a tree line, then impacted the ground and burned. According to the pilot, he did "not recall" anything with regard to the events leading up to and subsequent to the accident.

Following the accident, an FAA inspector and an engineer from the Cessna Aircraft Company attended the accident scene. The airplane was found approximately one and a half miles northwest of the field the pilot was spraying. The airplane traveled on an easterly heading through a line of trees running north to south located 30 feet from the initial ground scar. The fuselage and part of the left wing were found approximately 100 feet east of the tree line. The left wingtip, a portion of the left wing and the left landing gear were found west of the tree line. The right wing was found in the tree line, and the right landing gear was located east of the tree line. The engine was located 75 feet south east of the main wreckage. One of the propeller blades was found partially embedded in a tree, and the second propeller blade was not located. The right wing and fuselage from the instrument panel forward sustained fire damage following a post-impact fire.

An examination of the engine was performed. Fuel was present in the fuel manifold. The spark plugs were removed and appeared normal. One of the magnetos was removed and produced spark when rotated by hand. The engine's crankshaft was unable to be rotated. A large section of a tree was found on the engine's left side between cylinders and the push rod housings.

A review of the airplane's maintenance records disclosed that the Differential Global Position System (DGPS) installed on the airplane had been serviced on two separate occasions (July 7 and July 12) during the week leading to the accident. The DGPS is installed on a shelf behind the pilot's seat near the shoulder harness attachment point, and was required to be operational for use during the flight under the conditions of the spraying contract. According to stored information downloaded from the airplane's DGPS, the lock on the DGPS was lost shortly after the pilot had completed a right 180-degree turn along the southeast side of the field the pilot

had sprayed (see attached map of downloaded DGPS flight track).

Pilot Information

Certificate:	Commercial	Age:	20, 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--no waivers/lim.	Last FAA Medical Exam:	February 19, 1999
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	1000 hours (Total, all aircraft), 300 hours (Total, this make and model), 900 hours (Pilot In Command, all aircraft), 250 hours (Last 90 days, all aircraft), 75 hours (Last 30 days, all aircraft), 8 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N731VR
Model/Series:	A188B A188B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	18803194T
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	February 1, 1999 Annual	Certified Max Gross Wt.:	4200 lbs
Time Since Last Inspection:	250 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	5970 Hrs	Engine Manufacturer:	Continental
ELT:	Not installed	Engine Model/Series:	IO-520
Registered Owner:	GREGORY FLYING SERVICE INC.	Rated Power:	285 Horsepower
Operator:	MICHAEL A. JOHNSON	Operating Certificate(s) Held:	
Operator Does Business As:		Operator Designator Code:	YGRR

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	5 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:	0°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	29°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	ANGUILLA , MS (PVT)	Type of Flight Plan Filed:	None
Destination:	(PVT)	Type of Clearance:	None
Departure Time:	06:50 Local	Type of Airspace:	Class G

Airport Information

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

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	33.060379,-90.869613(est)

Administrative Information

Investigator In Charge (IIC):	Wilson, Butch
Additional Participating Persons:	HARRY MCGEE; JACKSON , MS
Original Publish Date:	March 2, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=46816

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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](#).