



Aviation Investigation Final Report

Location:	PATASKALA, Ohio	Accident Number:	IAD96LA153
Date & Time:	September 25, 1996, 15:45 Local	Registration:	N3619J
Aircraft:	Cessna 188	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

While at 500 feet AGL, en route for an aerial application mission, the pilot noticed a slight loss of power and that fuel flow was below normal. He performed emergency procedures, which did not increase the fuel flow. The pilot started a turn, and about 10 seconds later, the engine completely lost power. The pilot discharged his load of seed to extend his glide, and observed that the engine cowling paint start to blister and smoke. The pilot completed a forced landing in an open field, where the airplane continued to burn. Examination of the wreckage revealed a leaking fuel hose in the engine compartment. The hose was stamped with a date denoting the first quarter of 1984 (1Q84). The airplane service manual stated that fluid carrying hoses in the engine compartment should be replaced during engine overhaul or every 5 years, whichever occurred first. The hose was installed 6 years and 7 months before the accident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: deterioration and fuel leakage from an engine fuel hose (with a service life that had been exceed, due to inadequate maintenance), which resulted in an engine compartment fire and subsequent damage to the airplane.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: CRUISE

Findings

1. (C) FUEL SYSTEM,LINE - DETERIORATED
2. (C) MAINTENANCE,REPLACEMENT - NOT PERFORMED - COMPANY MAINTENANCE PERSONNEL
3. (C) FUEL SYSTEM,LINE - LEAK

Occurrence #2: FIRE

Phase of Operation: CRUISE

Findings

4. (C) ENGINE COMPARTMENT - FIRE

Occurrence #3: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF

Phase of Operation: CLIMB

Occurrence #4: FORCED LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

Factual Information

On September 25, 1996, at 1545 eastern daylight time, a Cessna 188, N3619J, sustained substantial damage during an in-flight fuel fire near Pataskala, Ohio. The certificated commercial pilot, the sole occupant, was not injured. Visual meteorological conditions prevailed and no flight plan was filed for the flight conducted under 14 CFR Part 137. The airplane departed Morrow County Airport in Mount Gilead, Ohio on an aerial application flight.

In the NTSB Form 6120.1/2, the pilot stated that he departed for an application flight and climbed the airplane to 500 feet above ground level. While en route he observed a slight loss of power, and the fuel flow was about "10 gallons an hour below normal." He further stated:

"...Normal emergency procedures, fuel valve okay, mixture rich, emergency fuel pump boost on high with no increase of fuel flow. Started to make turn and 10 seconds later engine failure. Started to discharge wheat seed to extend glide, engine cowling paint blistered and started smoking."

The pilot completed an emergency landing and reported only fire damage to the airplane. An examination of the airplane was performed by a Federal Aviation Administration Aviation Inspector. The Inspector's report stated, "Fuel hose from throttle and control assembly to fuel manifold valve assembly failed a low pressure leak check of 20 PSI air pressure...The band on the hose had P/N 111F417-4S-0430, along with date of 1Q84 (1st quarter 1984), TSO C-53A..."

The owner reported that the hose was installed on February 20, 1990. According to the Cessna Service Manual, Model 188 & T188 Series, "All flexible fluid carrying hoses in the engine compartment should be replaced at engine overhaul or every five years, whichever occurs first."

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	44, Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Center
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	February 9, 1996
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	15393 hours (Total, all aircraft), 8000 hours (Total, this make and model), 15253 hours (Pilot In Command, all aircraft), 400 hours (Last 90 days, all aircraft), 130 hours (Last 30 days, all aircraft), 8 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N3619J
Model/Series:	188 188	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	T18803655T
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	January 14, 1996 Annual	Certified Max Gross Wt.:	4400 lbs
Time Since Last Inspection:	358 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	5006 Hrs	Engine Manufacturer:	Continental
ELT:		Engine Model/Series:	TSIO-520-T
Registered Owner:	CARL R. FISCHER JR.	Rated Power:	310 Horsepower
Operator:	CARL R. FISHER	Operating Certificate(s) Held:	
Operator Does Business As:	FISHER AGRICULTURE SERVICE	Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KCM ,815 ft msl	Distance from Accident Site:	10 Nautical Miles
Observation Time:		Direction from Accident Site:	275°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	0°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	19°C / 5°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	, OH (419)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	15:35 Local	Type of Airspace:	Class G

Airport Information

Airport:		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 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	In-flight
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	40.000118,-82.669769(est)

Administrative Information

Investigator In Charge (IIC):	Rayner, Brian
Additional Participating Persons:	LEE M THIEL; COLUMBUS , OH
Original Publish Date:	August 29, 1997
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=28114

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](#).