



Aviation Investigation Final Report

Location:	WINONA, Mississippi	Accident Number:	MIA96LA225
Date & Time:	September 3, 1996, 12:30 Local	Registration:	N53109
Aircraft:	Cessna A188B	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

The airplane owner/pilot stated that after completion of an aerial application flight, while returning to reload, he noticed smoke in the cockpit, then the engine lost power. The pilot initiated a forced landing in a cotton field. During the landing roll, the left main landing gear wheel separated after contact with a depression. Examination of the airplane at the accident site revealed oil on the fuselage and in the engine compartment area. The oil had come from a hole in a flexible hose that was connected to the outlet of the oil cooler. The hole was adjacent to a heat shield. The owner/pilot, who was not an A & P mechanic, had performed repairs to a baffle in the engine compartment area about 2 to 3 weeks before the accident. After the repair, there was insufficient clearance between the flexible oil hose and the heat shield.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: improper maintenance of the airplane by the unqualified pilot/owner, by providing inadequate clearance between a flexible oil hose and a heat shield, which resulted in chafing of the hose, an oil leak, and subsequent oil starvation. A factor relating to the accident was: rough terrain in the emergency landing area.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: CRUISE

Findings

1. (C) LUBRICATING SYSTEM,OIL HOSE - CHAFED
2. (C) MAINTENANCE - IMPROPER - UNQUALIFIED PERSON
3. (C) FLUID,OIL - LEAK
4. (C) FLUID,OIL - STARVATION

Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: GEAR COLLAPSED

Phase of Operation: EMERGENCY LANDING

Findings

5. (F) TERRAIN CONDITION - ROUGH/UNEVEN
6. LANDING GEAR,MAIN GEAR - OVERLOAD

Factual Information

On September 3, 1996, about 1230 central daylight time, a Cessna A188B, privately registered, experienced a loss of engine power and was substantially damaged during a forced landing near Winona, Mississippi. Visual meteorological conditions prevailed at the time and no flight plan was filed for the 14 CFR Part 137 aerial application flight. The commercial-rated pilot was not injured. The time of departure has not been determined.

The pilot/airplane owner stated to an FAA inspector that he had completed his spray operations and was returning to his base of operation when smoke entered the cockpit. He then reduced power and the smoke dissipated, but when he reapplied power the engine did not respond. He landed in a cotton field and after touchdown with obstructions ahead, he attempted to maneuver to avoid the obstructions. The left main landing gear traveled into a depression separating the landing gear wheel, and the airplane then nosed up and came to rest upright.

Examination of the airplane revealed oil externally on the fuselage and in the engine compartment area. Examination of the engine compartment revealed a hole chaffed in a flexible hose from the outlet of the oil cooler. Only 2 quarts of oil registered on the oil dipstick. The oil capacity of the engine is 12 quarts.

The airplane owner/pilot stated that he is not an airframe or powerplant mechanic and he had about 2 or 3 weeks before the accident, repaired engine baffling located on the right forward side of the engine. This required loosening of "B" nuts at the engine crankcase for the inlet and outlet hoses to and from the oil cooler. After tightening of the "B" nuts for the hoses following repair to the baffle, the outlet hose was too close to a heat shield between the engine exhaust for cylinder Nos. 1, 3, and 5. The owner/pilot also stated that he performed the repair after the annual inspection which was performed on March 14, 1996. The airplane had been operated for about 50 hours since the repair to the baffle.

Pilot Information

Certificate:	Commercial	Age:	51, 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:	July 9, 1996
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	5800 hours (Total, all aircraft), 4000 hours (Total, this make and model), 5800 hours (Pilot In Command, all aircraft), 75 hours (Last 90 days, all aircraft), 75 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N53109
Model/Series:	A188B A188B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	18801628T
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	March 14, 1996 Annual	Certified Max Gross Wt.:	4200 lbs
Time Since Last Inspection:	44 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	5372 Hrs	Engine Manufacturer:	Continental
ELT:	Not installed	Engine Model/Series:	IO-520-D
Registered Owner:	JOSEPH C. HARMON JR.	Rated Power:	300 Horsepower
Operator:	WINONA FLYING SERVICE	Operating Certificate(s) Held:	
Operator Does Business As:		Operator Designator Code:	ZOZG

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	GWO ,162 ft msl	Distance from Accident Site:	
Observation Time:	11:50 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Scattered / 4000 ft AGL	Visibility	7 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	330°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	29°C / 18°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 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:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	33.479225,-89.719779(est)

Administrative Information

Investigator In Charge (IIC):	Monville, Timothy
Additional Participating Persons:	JAMES H MCGEE; JACKSON , MS
Original Publish Date:	April 29, 1997
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=38083

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](#).