



Aviation Investigation Final Report

Location:	Friendly, Maryland	Accident Number:	NYC01LA164
Date & Time:	July 5, 2001, 11:00 Local	Registration:	N6647M
Aircraft:	Stinson 108-3	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Serious, 1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot started the engine, taxied to runway 24, and performed a magneto check. No anomalies were observed, and he initiated a takeoff roll. However, the engine began to run rough, and the pilot aborted the takeoff. He then ran the engine at different RPM, and performed a second satisfactory magneto check. During the second takeoff roll, the engine ran rough again, and the pilot aborted the takeoff. The pilot then let the engine run for 5 minutes at different RPM, and it passed a third magneto check. On the third takeoff attempt, the engine "had good power," but as the airplane climbed above the trees, the engine lost all power and the pilot performed a forced landing into trees. Examination of the wreckage revealed that the right-side muffler baffling was mostly disintegrated, consistent with a baffling failure and subsequent blockage of the engine exhaust. The muffler baffling was required to be inspected for cracks and wear during the annual inspection of the airplane. The last annual inspection of the airplane was performed about 3 months and 2 weeks prior to the accident, and the airplane had accumulated approximately 28 hours of operation since that inspection.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A baffling failure within the exhaust system. Factors were an inadequate annual inspection and the pilot's operation of the airplane with known deficiencies in equipment.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF

Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (C) EXHAUST SYSTEM,BAFFLE - FAILURE
2. (F) MAINTENANCE,ANNUAL INSPECTION - INADEQUATE - OTHER MAINTENANCE PERSONNEL
3. (F) OPERATION WITH KNOWN DEFICIENCIES IN EQUIPMENT - PERFORMED - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - EMERGENCY

Factual Information

On July 5, 2001, about 1100 eastern daylight time, a Stinson 108-3, N6647M, was substantially damaged during a forced landing, after takeoff from Potomac Airfield (VKX), Friendly, Maryland. The certificated private pilot sustained minor injuries, and the passenger was seriously injured. Visual meteorological conditions prevailed, and no flight plan was filed for the personal conducted under 14 CFR Part 91.

The pilot reported that he purchased fuel at VKX, and intended to return to his home airport, Washington Executive Airport (W32), Clinton, Maryland, located about 2 miles to the east. The pilot added that he started the engine, taxied to runway 24, and performed a magneto check. No anomalies were observed, and the pilot initiated a takeoff roll. However, the engine began to run rough, and the pilot aborted the takeoff. He then ran the engine at different RPM, and performed a second satisfactory magneto check. During the second takeoff roll, the engine ran rough again, and the pilot aborted the takeoff. The pilot then let the engine run for 5 minutes at different RPM, and it passed a third magneto check. On the third takeoff attempt, the engine "had good power," but as the airplane climbed above the trees, the engine lost all power. The pilot performed a forced landing into trees, and the airplane settled to the ground in a wooded area.

A Safety Board investigator and Federal Aviation Administration (FAA) inspector examined the engine after the wreckage was recovered. They observed that the right-side muffler baffling was mostly disintegrated, consistent with a baffling failure and subsequent blockage of the engine exhaust. The FAA inspector stated that the muffler was manufactured by Hanlon Wilson Muffler Systems, and the baffling was required to be inspected for cracks and wear during the annual inspection of the airplane.

The last annual inspection of the airplane was performed on March 22, 2001, and the airplane had accumulated approximately 28 hours of operation since that inspection.

Pilot Information

Certificate:	Private	Age:	45, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
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 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	March 19, 2001
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	March 13, 2001
Flight Time:	192 hours (Total, all aircraft), 67 hours (Total, this make and model), 86 hours (Pilot In Command, all aircraft), 13 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Stinson	Registration:	N6647M
Model/Series:	108-3	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	108-4647
Landing Gear Type:	Tailwheel	Seats:	4
Date/Type of Last Inspection:	March 22, 2001 Annual	Certified Max Gross Wt.:	2400 lbs
Time Since Last Inspection:	28 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	1409 Hrs at time of accident	Engine Manufacturer:	Franklin
ELT:	Installed, not activated	Engine Model/Series:	6A4165
Registered Owner:	Alan L. Williams	Rated Power:	165 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	DCA,15 ft msl	Distance from Accident Site:	8 Nautical Miles
Observation Time:	10:51 Local	Direction from Accident Site:	340°
Lowest Cloud Condition:	Few / 6000 ft AGL	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	250°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.89 inches Hg	Temperature/Dew Point:	27°C / 19°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Friendly, MD (VKX)	Type of Flight Plan Filed:	None
Destination:	Clinton, MD (W32)	Type of Clearance:	None
Departure Time:	11:00 Local	Type of Airspace:	Class G

Airport Information

Airport:	Potomac Airfield VKX	Runway Surface Type:	Asphalt
Airport Elevation:	115 ft msl	Runway Surface Condition:	Dry
Runway Used:	24	IFR Approach:	None
Runway Length/Width:	2665 ft / 40 ft	VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	1 Serious	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious, 1 Minor	Latitude, Longitude:	38.729728,-77.000595(est)

Administrative Information

Investigator In Charge (IIC):	Gretz, Robert
Additional Participating Persons:	Brian Dunlop; Dulles, VA
Original Publish Date:	February 20, 2002
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=52621

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](#).