National Transportation Safety Board
Aviation Accident Final Report

Location:	Ashland, AL	**Accident Number:**	ATL05LA001
Date & Time:	10/02/2004, 0900 CDT	**Registration:**	N40129
Aircraft:	Stinson 108	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	3 Minor, 1 None
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The pilot stated they were in cruise flight at 2,500 feet with a private pilot flying the airplane. The engine began to run rough and shudder. The pilot stated, "I have the controls" and the private pilot responded, "you have the controls." The pilot looked for a forced landing area and observed a country road and a field. He completed the emergency checklist and entered a downwind to land on the highway. He turned base and observed power poles, but he could not see any power lines running between the poles and decided to land in the field. He made a left 35-degree turn towards a field and propeller struck a tree, yawed to the left colliding with the ground separating the landing gear and bending the engine firewall. Examination of the engine assembly revealed the exhaust valve in the No.4 cylinder had failed. Examination of the exhaust valve revealed fatigue cracks had propagated from opposite sides of the stem adjacent to the beginning of the radius between the stem and the valve head.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A total loss of engine power in cruise flight due to the fatigue failure of the No.4 cylinder exhaust valve.

Findings

Occurrence #1: LOSS OF ENGINE POWER(PARTIAL) - MECH FAILURE/MALF
Phase of Operation: CRUISE

Findings
1. (C) ENGINE ASSEMBLY,VALVE,EXHAUST - FATIGUE
2. (C) ENGINE ASSEMBLY,VALVE,EXHAUST - FAILURE

Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - EMERGENCY

Findings
3. OBJECT - TREE(S)
4. TERRAIN CONDITION - NONE SUITABLE
5. TERRAIN CONDITION - GROUND

Factual Information

On October 2, 2004, at 0900 central daylight time, a Stinson 108, N40129, registered to and operated by a private owner, as a 14 CFR Part 91 personal flight collided with trees during a forced landing to unsuitable terrain following a loss of engine power near Ashland, Alabama. Visual meteorological conditions prevailed and no flight plan was filed. The airplane received substantial damage. The airline transport rated pilot, private pilot passenger, and one rear seat passenger reported minor injuries. The remaining rear seat passenger reported no injuries. The flight originated from Birmingham, Alabama on October 2, 2004, at 0835.

The pilot stated they were in cruise flight at 2,500 feet MSL with a private pilot flying the airplane. The engine began to run rough and shudder. The pilot stated, "I have the controls" and the private pilot responded, "you have the controls." The pilot looked for a forced landing area and observed a country road and a field. He completed the emergency checklist and entered a downwind to land on the highway. He turned base and observed power poles, but he could not see any power lines running between the poles and decided to land in the field. He made a left 35-degree turn towards a field and propeller struck a tree, yawed to the left colliding with the ground separating the landing gear and bending the engine firewall.

Examination of the engine assembly revealed the exhaust valve in the No.4 cylinder had failed. The No. 4 cylinder and exhaust valve were forwarded to the NTSB Materials Laboratory for further analysis. Examination of the exhaust valve revealed fatigue cracks had propagated from opposite sides of the stem adjacent to the beginning of the radius between the stem and the valve head.

The No. 4 cylinder and exhaust valve was returned to the registered owner on January 24, 2005.

Pilot Information

Certificate:	Airline Transport; Flight Instructor; Commercial	**Age:**	54, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	**Seat Occupied:**	Right
Other Aircraft Rating(s):	Glider; Gyroplane; Helicopter	**Restraint Used:**	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Glider; Helicopter; Instrument Airplane	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	**Last FAA Medical Exam:**	10/30/2004
Occupational Pilot:		**Last Flight Review or Equivalent:**	05/20/2004
Flight Time:	9387 hours (Total, all aircraft), 55 hours (Total, this make and model), 7833 hours (Pilot In Command, all aircraft), 74 hours (Last 90 days, all aircraft), 22 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Stinson	**Registration:**	N40129
Model/Series:	108	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	108-59
Landing Gear Type:	Tailwheel	**Seats:**	4
Date/Type of Last Inspection:	09/03/2004, Annual	**Certified Max Gross Wt.:**	2150 lbs
Time Since Last Inspection:	6 Hours	**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Franklin
ELT:	Installed, not activated	**Engine Model/Series:**	GA4-150 B3
Registered Owner:	James R. Brandt	**Rated Power:**	150 hp
Operator:	James R. Brandt	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Day
Observation Facility, Elevation:	ANB, 612 ft msl	**Distance from Accident Site:**	29 Nautical Miles
Observation Time:	0953 CDT	**Direction from Accident Site:**	180°
Lowest Cloud Condition:	Clear	**Visibility**	7 Miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	Calm /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.22 inches Hg	**Temperature/Dew Point:**	23°C / 17°C
Precipitation and Obscuration:			
Departure Point:	Birmingham, AL (BHM)	**Type of Flight Plan Filed:**	None
Destination:	Ashland, AL (26A)	**Type of Clearance:**	None
Departure Time:	0835 CDT	**Type of Airspace:**	Class E

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:	2 Minor, 1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	3 Minor, 1 None	**Latitude, Longitude:**	33.287500, -85.803889

Administrative Information

Investigator In Charge (IIC):	Carrol A Smith	**Report Date:**	06/08/2005
Additional Participating Persons:	Edward M Dasilva; Birmingham FSDO-09; Vestavia Hills, AL		
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 pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at http://dms.ntsb.gov/pubdms/.		

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