



National Transportation Safety Board Aviation Accident Final Report

Location:	KILL DEVIL HILL, NC	Accident Number:	MIA98LA235
Date & Time:	09/01/1998, 1702 EDT	Registration:	N50009
Aircraft:	Cessna 150H	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 Minor
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The pilot stated he applied full power and was climbing to a higher altitude as he crossed a bay. The engine suddenly made a loud noise and lost power. He turned back to the closest shore and an airport. He was unable to reach the airport and made a forced landing in a sandy area, at which time the aircraft nosed over. Postcrash examination of the engine by an FAA inspector showed the No. 1 cylinder exhaust valve head had broken off from the stem resulting in the No. 1 piston breaking and the No. 1 connecting rod bending. The No. 1 exhaust valve had accumulated 1,527 flight hours since new.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Failure of the number one cylinder exhaust valve resulting in loss of engine power and a forced landing on unsuitable terrain at which time the aircraft nosed over.

Findings

Occurrence #1: LOSS OF ENGINE POWER

Phase of Operation: CLIMB

Findings

1. (C) ENGINE ASSEMBLY, VALVE, EXHAUST - FAILURE
2. ENGINE ASSEMBLY, PISTON - FAILURE
3. ENGINE ASSEMBLY, CONNECTING ROD - BENT

Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: NOSE OVER

Phase of Operation: EMERGENCY LANDING

Findings

4. TERRAIN CONDITION - NONE SUITABLE
5. TERRAIN CONDITION - SOFT

Factual Information

On September 1, 1998, about 1702 eastern daylight time, a Cessna 150H, N50009, registered to New Market Airport, Inc., nosed over while making a forced landing following a loss of engine power at Kill Devil Hills, North Carolina, while on a Title 14 CFR Part 91 personal flight. Visual meteorological conditions prevailed at the time and no flight plan was filed. The aircraft received substantial damage and the commercial-rated pilot and one passenger received minor injuries. The flight originated from Hatteras, North Carolina, the same day, about 1615.

The pilot stated he had refueled at Manteo, North Carolina, and then flew to Hatteras, which took about 45 minutes. After being on the ground at Hatteras for about 1 hour, he departed for the return trip to Manteo. As he crossed over Kill Devil Hills, he started to climb to a higher altitude to cross over the bay. About 1/4 of the way across the bay, the engine suddenly snapped and made a thud noise and then began to lose power and vibrate. He turned back toward Kill Devil Hills, and tried to make it to First Flight Airport. The aircraft would not maintain altitude and he made a forced landing in a sandy area, at which time the aircraft nosed over.

Postcrash examination of the engine by an FAA inspector showed that the No. 1 cylinder exhaust valve head had broken off and caused the No. 1 piston to break and the No. 1 connecting rod to bend. Damage to the No. 1 cylinder exhaust valve prevented metallurgical examination. Logbook records showed the No. 1 cylinder exhaust valve had been installed in the cylinder during engine overhaul on April 25, 1979, at aircraft and engine total time 2324.6. The No. 1 and No. 4 cylinders were removed for repair on November 10, 1981. At the time of the accident the aircraft and engine had accumulated 1,527 flight hours since the engine overhaul and 1,236 flight hours since the No. 1 cylinder repair. (See FAA inspector statement and aircraft maintenance records attached to this report)

Pilot Information

Certificate:	Commercial	Age:	41, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	06/05/1998
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	361 hours (Total, all aircraft), 120 hours (Total, this make and model), 298 hours (Pilot In Command, all aircraft), 8 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N50009
Model/Series:	150H 150H	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal; Utility	Serial Number:	15069006
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	05/04/1998, Annual	Certified Max Gross Wt.:	1600 lbs
Time Since Last Inspection:	52 Hours	Engines:	1 Reciprocating
Airframe Total Time:	3852 Hours	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	O-200-A
Registered Owner:	NEW MARKET AIRPORT, INC.	Rated Power:	100 hp
Operator:	NEW MARKET AIRPORT, INC.	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	MQI, 14 ft msl	Distance from Accident Site:	10 Nautical Miles
Observation Time:	1655 EDT	Direction from Accident Site:	200°
Lowest Cloud Condition:	Clear / 0 ft agl	Visibility	4 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	30°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	28° C / 23° C
Precipitation and Obscuration:			
Departure Point:	HATTERAS, NC (HSE)	Type of Flight Plan Filed:	None
Destination:	MANTEO, NC (MQI)	Type of Clearance:	None
Departure Time:	1615 EDT	Type of Airspace:	Class G

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC): JEFFREY L KENNEDY **Report Date:** 02/22/2001

Additional Participating Persons: JAMES C REID; WINSTON-SALEM, NC

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.nts.gov/pubdms/>.

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