



Aviation Investigation Final Report

Location:	SANTA FE, Texas	Accident Number:	FTW98LA302
Date & Time:	July 4, 1998, 12:08 Local	Registration:	N106BK
Aircraft:	Keith MAX 1600R	TEAM MINI	Aircraft Damage: Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot was en route and approximately 7 miles from his destination airport, when he observed 'a rise in the cylinder head temperature of the number 1 cylinder.' He attempted to control the temperature by 'coming completely out of the throttle and then going back to full throttle.' At 1,200 feet AGL, the Rotax 503 engine lost power. The pilot stated that he immediately 'put the plane into the best glide rate' and landed the aircraft in a field 'without problems.' During the landing roll, the right wing struck a steel object which was obscured by weeds. Examination of the engine by the owner revealed that the lost of engine power was the result of engine overheating due to the failure of the fan belt to the engine cooling fan.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The loss of engine power as result of the failure of the cooling fan belt. A factor was the lack of suitable terrain for the pilot to execute the forced landing.

Findings

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

Findings

1. (C) COOLING SYSTEM - FAILURE, TOTAL

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

Occurrence #3: ON GROUND/WATER COLLISION WITH OBJECT
Phase of Operation: LANDING - ROLL

Findings

2. TERRAIN CONDITION - HIDDEN OBSTRUCTION(S)
3. (F) TERRAIN CONDITION - NONE SUITABLE

Factual Information

On July 4, 1998, at 1208 central daylight time, a Keith Team Mini Max 1600R, experimental airplane, N106BK, was substantially damaged during a forced landing following a loss of engine power while in cruise flight near Santa Fe, Texas. The private pilot, the sole occupant of the homebuilt airplane, was not injured. The aircraft was owned and operated by the pilot under Title 14 CFR Part 91. The personal flight originated from Clover Field (T02) near Houston, Texas, at 1115. Visual meteorological conditions prevailed. No flight plan was filed for the flight to Dickenson, Texas.

According to the pilot, he was en route from Clover Field to the Volk Airport, near Dickenson, Texas. Approximately 7 miles from Volk Airport, "a rise in the cylinder head temperature of the number 1 cylinder" was observed. He attempted to control the temperature by "coming completely out of the throttle and then going back to full throttle." At 1,200 feet agl, the Rotax 503 engine "quit running". The pilot stated that he immediately "put the plane into the best glide rate" and landed the aircraft in a field "without problems." During the landing roll, the right wing struck a steel object which was obscured by weeds.

Examination of the engine by the owner revealed that the loss of engine power was the result of engine overheating due to the failure of the fan belt to the engine cooling fan. Examination of the wreckage revealed that the right wing was "destroyed" which rendered the airplane "unrepairable."

Pilot Information

Certificate:	Private	Age:	44, 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 3 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	July 7, 1998
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	1200 hours (Total, all aircraft), 100 hours (Total, this make and model), 1200 hours (Pilot In Command, all aircraft), 20 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Keith	Registration:	N106BK
Model/Series:	TEAM MINI MAX 1600R TEAM MINI	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	1676P
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	Continuous airworthiness	Certified Max Gross Wt.:	560 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	130 Hrs	Engine Manufacturer:	Rotax
ELT:	Not installed	Engine Model/Series:	503
Registered Owner:	BOBBY W. KEITH	Rated Power:	52 Horsepower
Operator:		Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	5 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	0°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	35°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	HOUSTON , TX (T02)	Type of Flight Plan Filed:	None
Destination:	DICKENSON , TX (NONE)	Type of Clearance:	None
Departure Time:	11:15 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:	29.37981,-95.090476(est)

Administrative Information

Investigator In Charge (IIC):	Casanova, Hector
Additional Participating Persons:	JOHN G HUEY; HOUSTON , TX
Original Publish Date:	February 11, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=43162

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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](#).