Aviation Investigation Final Report

Location:	Hibbing, Minnesota	**Accident Number:**	CEN13LA363
Date & Time:	June 19, 2013, 19:30 Local	**Registration:**	N6240T
Aircraft:	THOMSEN AVID FLYER MK IV	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (total)	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that before takeoff, he switched fuel tanks and waited on the ground with the engine idling for another airplane to land. After takeoff, upon reaching an altitude of 700 feet above ground level, the pilot reduced the engine power to about 5,600 rpm. Shortly thereafter, the engine sputtered and lost all power. The pilot made a forced landing in a marsh area, and the airplane nosed over. Wreckage examination did not reveal any anomalies that would have precluded normal engine operation.

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 for reasons that could not be determined because the postaccident examination of the airframe and engine did not reveal any anomalies that would have precluded normal operation.

Findings

Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Initial climb	Loss of engine power (total) (Defining event)
Landing	Collision with terr/obj (non-CFIT)

On June 19, 2013, about 1930 central daylight time, an experimental amateur built Thomsen Avid Flyer MK IV, N6240T, collided with the terrain following a loss of engine power shortly after takeoff from the Range Regional Airport (HIB), Hibbing, Minnesota. The sport pilot and passenger were not injured. The airplane received substantial damage. The airplane was registered to and operated by the pilot as a 14 Code of Federal Regulations Part 91 personal flight. Visual meteorological conditions prevailed for the flight, which was not operated on a flight plan. The flight originated from HIB shortly before the accident and the intended destination was the Virginia Municipal Airport (EVM), Eveleth, Minnesota.

The pilot stated he landed at HIB to pick up a passenger. He switched fuel tanks prior to takeoff and waited, with the engine idling, approximately 3 minutes for another airplane to land. After takeoff, upon reaching an altitude of 700 feet above ground level, the pilot reduced the engine power to about 5,600 rpm. Shortly thereafter, the engine sputtered and lost all power. The pilot was not able to restart the engine and he subsequently performed a forced landing in a marsh area east of the airport. The landing gear dug into the soft terrain and the airplane nosed over during the landing, which resulted in substantial damage to the fuselage and wings.

A postaccident examination of the airplane and engine was conducted by the Federal Aviation Administration. The examination revealed the spark plugs were in good condition with some oil residue. The oil injector tank was ½ to ¾ full of oil. The fuel lines were intact except for those at the wing roots which were disconnected to facilitate the wing removal during the recovery of the airplane. The fuel filter was clean and it contained residual fuel. The fuel pump contained residual fuel as did the line from the fuel pump to the forward carburetor. The fuel line to the aft carburetor did not contain any fuel. The bowl for the forward carburetor was full of fuel and the bowl for the aft carburetor was about ½ full of fuel. The engine turned freely when the propeller was rotated by hand.

Fuel is gravity fed from the wings through a fuel selector on-off valve for each tank then into a quart size header tank. The fuel from the header tank then passes through a fuel filter and a fuel shutoff valve prior to the engine. The fuel valves that control the fuel flow from the wings into the header tank were located behind the pilot and above the right seat. The selector valves are quarter turn valves with on/off positions. The valves did not contain detents.

The pilot reported the airplane had 18 gallons of fuel on board at takeoff.

Pilot Information

Certificate:	Sport Pilot	**Age:**	61
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:	Sport pilot None	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	June 10, 2011
Flight Time:	552 hours (Total, all aircraft), 405 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	THOMSEN	**Registration:**	N6240T
Model/Series:	AVID FLYER MK IV	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	1045D
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	December 1, 2012 Condition	**Certified Max Gross Wt.:**	1150 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	145 Hrs	**Engine Manufacturer:**	Rotax
ELT:	Installed	**Engine Model/Series:**	582
Registered Owner:	James Chuk	**Rated Power:**	65
Operator:	James Chuk	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KHIB,1354 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	18:53 Local	**Direction from Accident Site:**	270°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots / 16 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	220°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.94 inches Hg	**Temperature/Dew Point:**	27°C / 9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Hibbing, MN	**Type of Flight Plan Filed:**	None
Destination:	Hibbing, MN	**Type of Clearance:**	VFR
Departure Time:	19:28 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	47.389167,-92.804443

Administrative Information

Investigator In Charge (IIC):	Sullivan, Pamela
Additional Participating Persons:	Dave Nelson; FAA; Minneapolis, MN Kevin Morris; FAA-MSP-FSDO; Minneapolis, MN
Original Publish Date:	June 2, 2014
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=87253