



National Transportation Safety Board Aviation Accident Data Summary

Location:	Lufkin, TX	Accident Number:	CEN13LA406
Date & Time:	07/03/2013, 1140 CDT	Registration:	N255SF
Aircraft:	AMERICAN CHAMPION AIRCRAFT 7GCBC	Injuries:	2 None
Flight Conducted Under:	Part 91: General Aviation - Aerial Observation		

Analysis

The pilot was flying a pipeline patrol flight about 500 feet above ground level. About 6 miles south of the destination, the engine abruptly lost power. The pilot observed that both fuel tanks contained a usable level of fuel. Additionally, he saw no obvious issues with the mixture setting, carburetor heat, magnetos, throttle position, and fuel shutoff valve. The pilot landed the airplane in a field with high vegetation, which resulted in strut damage.

The pilot did not report any fuel or oil leaks. During a postaccident examination, the engine was intermittently operational. The engine would produce power when the carburetor was “tapped” after the engine stopped. A carburetor examination revealed that the accelerator pump was operational and that the fuel screens were clear of debris. However, the forked needle valve’s movement within its seat was restricted. The valve clip forks were observed resting on the valve seat when the carburetor’s throttle body was inverted. The carburetor maintenance manual specified that a minimum clearance must exist between the forked valve clip and the valve seat. It is likely that the restricted movement of the carburetor’s forked needle valve resulted from the mechanic’s misadjustment of the valve clip forks, which subsequently caused the engine to lose power due to fuel starvation.

Flight Events

Maneuvering-low-alt flying - Loss of engine power (total)
Emergency descent - Off-field or emergency landing
Emergency descent - Collision with terr/obj (non-CFIT)

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be:
The restricted movement of the carburetor’s forked needle valve within its seat due to the mechanic’s misadjustment of the valve clip forks, which resulted in fuel starvation.

Findings

Aircraft-Aircraft power plant-Engine fuel and control-Fuel control/carburetor-Malfunction - C
Aircraft-Aircraft power plant-Engine fuel and control-Fuel control/carburetor-Incorrect service/maintenance - C
Personnel issues-Task performance-Maintenance-Installation-Maintenance personnel - C

Pilot Information

Certificate:	Airline Transport; Flight Instructor	Age:	51
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane
Flight Time:	4046 hours (Total, all aircraft), 995 hours (Total, this make and model), 3473 hours (Pilot In Command, all aircraft), 281 hours (Last 90 days, all aircraft), 118 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	AMERICAN CHAMPION AIRCRAFT	Registration:	N255SF
Model/Series:	7GCBC	Engines:	1 Reciprocating
Operator:	KCSI AERIAL PATROL INC	Engine Manufacturer:	LYCOMING
Air Carrier Operating Certificate:	None	Engine Model/Series:	O-320-B2B
Flight Conducted Under:	Part 91: General Aviation - Aerial Observation		

Meteorological Information and Flight Plan

Observation Facility, Elevation:	KLFK, 316 ft msl	Weather Information Source:	Weather Observation Facility
Conditions at Accident Site:	Visual Conditions	Lowest Ceiling:	None
Condition of Light:	Day	Wind Speed/Gusts, Direction:	6 knots, Variable
Temperature:	29° C / 18° C	Visibility	10 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	ANGLETON/LAKE JACKSON, TX (LBX)	Destination:	Lufkin, TX (LFK)

Airport Information

Airport:	ANGELINA COUNTY (LFK)	Runway Surface Type:	
Runway Used:	N/A	Runway Surface Condition:	Unknown
Runway Length/Width:			

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

Administrative Information

Investigator In Charge (IIC): Edward F Malinowski

Adopted Date: 07/30/2014

Investigation Docket: <http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=87455>

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