



Continental Motors, Inc. Fuel System Component Test and Analysis Report

N/R = Not Reported / N/A = Not Applicable

Date Received:		06/05/2013 and 07/09/2013		Analytical Date:		07/16/2013	
Warranty Claim #:		N/A		RGA #:		N/A	
Engine Model:		IO-550-B39		Engine Serial #:		684677	
Component P/N:		Metering Unit 649468-2		Component S/N:		A00HA381	
Component P/N:		Fuel Pump 646212-18		Component S/N:		B00HA286	
Component P/N:		Fuel Nozzles		Component S/N:		N/A	
Component P/N:		Fuel Flow Transducer		Component S/N:		Unknown	
Engine:	Component:	<input checked="" type="checkbox"/> New:	<input type="checkbox"/> Rebuilt:	<input type="checkbox"/> Overhaul:	Date:	Unknown	
Aircraft Make/Model:		Raytheon Aircraft Co. A36		Aircraft S/N:		E3380	Reg. #: N999PK
Engine Position:		Single:	<input checked="" type="checkbox"/> Left:	<input type="checkbox"/> Right:	Front:	<input type="checkbox"/> Rear:	
Engine Build Date:		11/22/2000		Date in Service:		03/06/2001	
Date of Occurrence:		05/28/2013		Engine/Component Hours:		Approx. 960 hours	
Inspection Performed By:		Phillip Grice – CMI		Search Code:		20-07-36, 23-11-44	
Party to the Inspection:		Nicole Charnon – CMI					
Party to the Inspection:		Kris Wetherell – Beechcraft					
Party to the Inspection:		Mike Huhn – NTSB					
Components Returned:		Fuel pump and drive coupling, fuel metering unit, six fuel nozzles and fuel flow transducer.					
Returned By:		Mike Huhn – NTSB investigator-in-charge (IIC)					
Reason for Return:		NTSB Accident Investigation – WPR1FA244					
Analytical Report:		<p>The engine-driven fuel pump and the fuel metering unit sustained significant thermal damage which prevented functional testing of the components. However disassembly of the fuel pump and fuel metering unit did not reveal any anomalies that would have prevented their ability to function. It should be noted that the fuel pump's swirl chamber and the vapor return outlet port were contaminated with a gummy brown material. The fuel pump vanes and pump walls did not appear to be coated with the material. The NTSB Materials Laboratory will evaluate the material. The fuel system components were released for return to the salvage facility, while the NTSB IIC retained the fuel pump's swirl chamber.</p>					



Fuel Pump

Manufacturer: CMI

Part Number: 646212-18

Serial Number: B00HA286

Condition:

The fuel pump remained intact with its safety-wire in place, though the lead seal was thermally damaged. White tape was placed over the inlet and vapor return ports. Disassembly of the pump revealed that all of the pump's internal components were intact and in place, though many of the components sustained thermal damage. Significant amounts of brown, gummy material were found to be obstructing the vapor return ejector and coating the pump's swirl chamber. The NTSB Materials Laboratory will evaluate the material.





Fuel Metering Unit

Manufacturer: CMI

Part Number: 649468-2

Serial Number: A00HA381

Condition: The fuel metering unit remained intact though the fuel outlet fitting was fractured inside the metering unit body. The unit sustained significant thermal damage that consumed portions of the data plate and leaving only a small amount of the safety-wire lead seal in place. The fuel inlet screen was removed during a post-accident examination at the salvage facility. The throttle and mixture control shafts would not rotate within the fuel metering body. A penetrating catalyst was sprayed into all of the metering unit ports. After soaking in the catalyst, the throttle and mixture control shafts could be rotated within the body and removed from the unit. Removal of the mixture and throttle control shafts revealed that their o-rings sustained thermal damage, but the unit's internal components remained intact, sustaining only thermal discoloration.



