



Continental Motors

Component Examination Report

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

Date Received:	05/04/2015				Analytical Date:	08/07/2015					
Warranty Claim #:	N/A				RGA #:	00.455.920					
Engine Model:	TSIO-550-G5B				Engine S/N:	1010446					
Component P/N:	10-500556-101				Component S/N:	D14EA112					
Component P/N:	10-500556-101				Component S/N:	D14EA110					
Component P/N:	649368-60A6				Component S/N:	B14LA163					
Component P/N:	656785-1				Component S/N:	A14HA140					
Component P/N:	646433-12A6				Component S/N:	C14CA033					
Engine:		Component:	☒	New:	☒	Rebuilt:		Overhaul:		Date:	
Aircraft Make/Model:	Mooney M20TN				Aircraft S/N:	31-0132		Reg. #:	N608MR		
Engine Position:	Single:	☒	Left:		Right:		Front:		Rear:		
Engine Build Date:	05/23/2014		Date in Service:	07/14/2014		Date Removed:	04/22/2015				
Occurrence Date:	04/20/2015										
Occurrence Location:	Lakeland, Florida				Returned By:	Shawn Etcher					
Reason for Return:	Disassembly and examination of fuel system and ignition system components for an NTSB accident investigation.										
Customer Comments:	N/A										
Inspection Performed By:	Phillip Grice					Search Code:	15-12-68				

Analytical Report: No pre-accident anomalies were noted with any of the components.

Comments: Oversight for the component examinations was conducted by NTSB investigator, Doug Brazy. The magnetos could not be functionally tested. Rotation of the drive shafts resulted in a coinciding rotation of the distributor gears (observed through the pressurization plug). Disassembly of the magnetos revealed that their internal magneto timing was correct. The internal wires sustained thermal damage and some of the internal components were corroded. The right magneto's distributor gear sustained thermal damage that bubbled and deformed some of the gear teeth, but all were intact. One of the attach flanges of the left magneto's distributor block was cracked; however, no irregular wear was noted on the rotating or stationary electrodes. The points opened and closed appropriately during drive shaft rotation. No pre-accident anomalies were noted with any of the internal components.

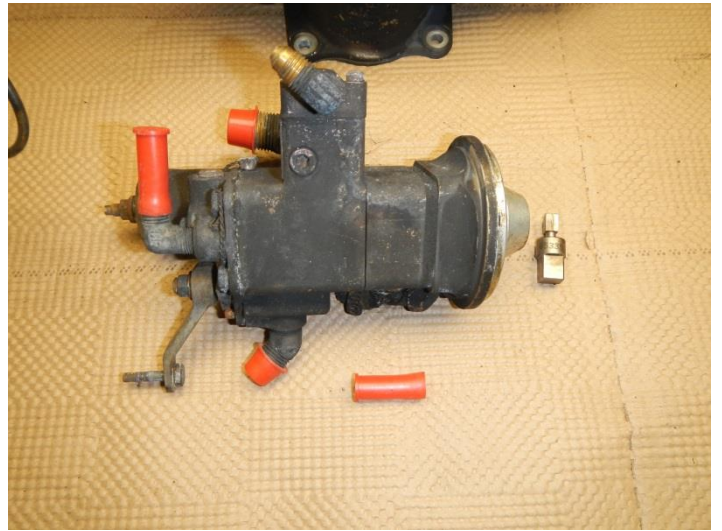
The fuel pump mixture control lever was in place and secured to the shaft. The fuel pump's insulator was charred and shrunk due to the fire damage. The fuel pump was disassembled and the pump shaft and vanes remained intact with no pre-accident anomalies noted. The aneroid bellows were thermally damaged; however, they did not appear to be expanded. The O-ring around the mixture control shaft was in place; however, it was thermally damaged and partially melted. The internal diaphragm and gaskets were thermally damaged. Re-solidified melted hose material was observed in the swirl chamber coming from the fuel inlet fitting. No pre-accident anomalies were noted with any of the components.

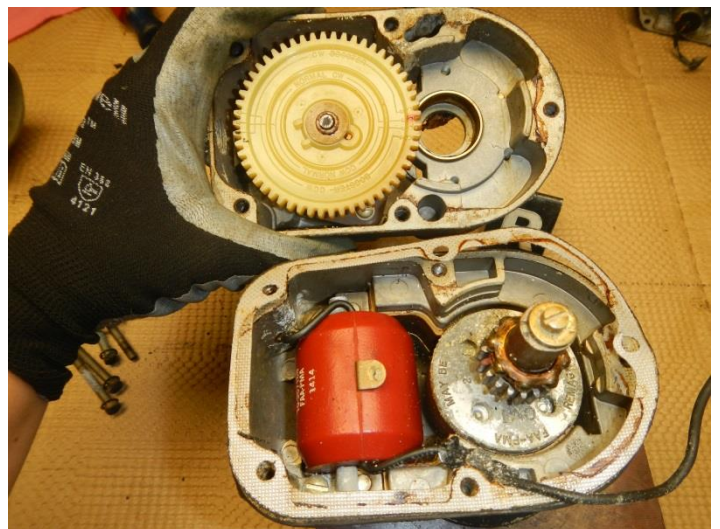
The throttle body and fuel metering unit were examined. The throttle lever remained secured to the throttle shaft. The external components were thermally damaged. Disassembly of the metering unit revealed that the O-rings were in place, and no pre-accident anomalies were noted with the internal components.

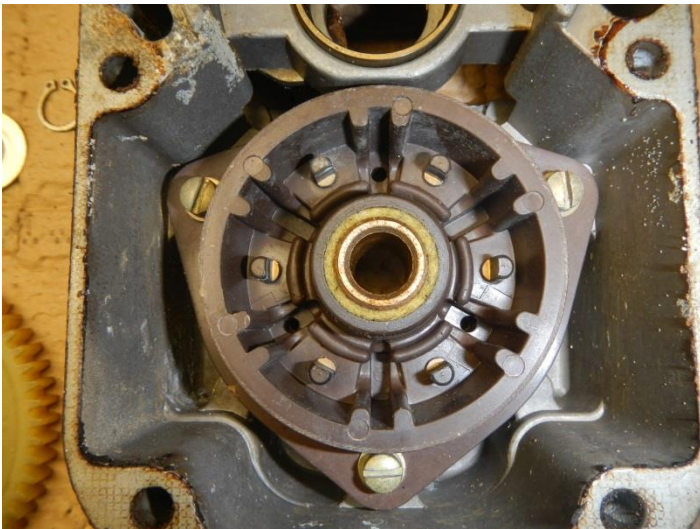
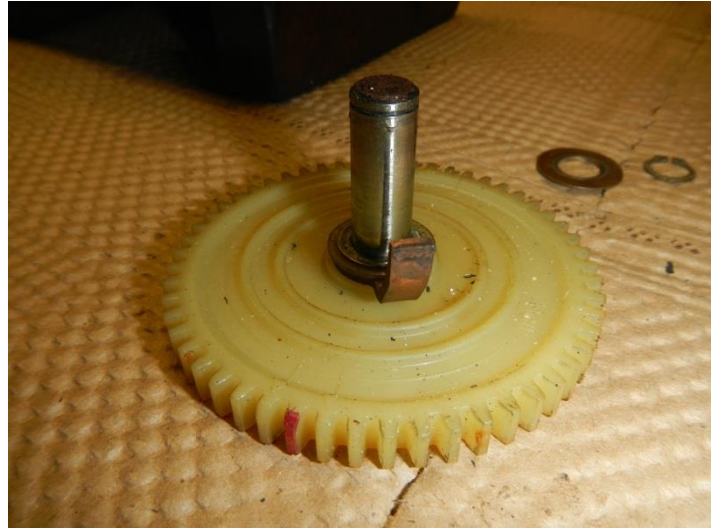
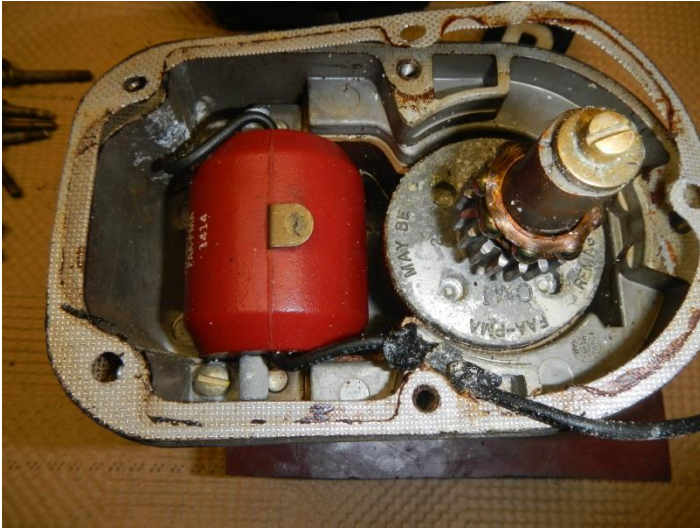
The fuel manifold valve was disassembled and the diaphragm was intake and the plunger remained secured to the diaphragm. The spring was in place and the screen was clear. No pre-accident anomalies were noted with the fuel manifold valve.

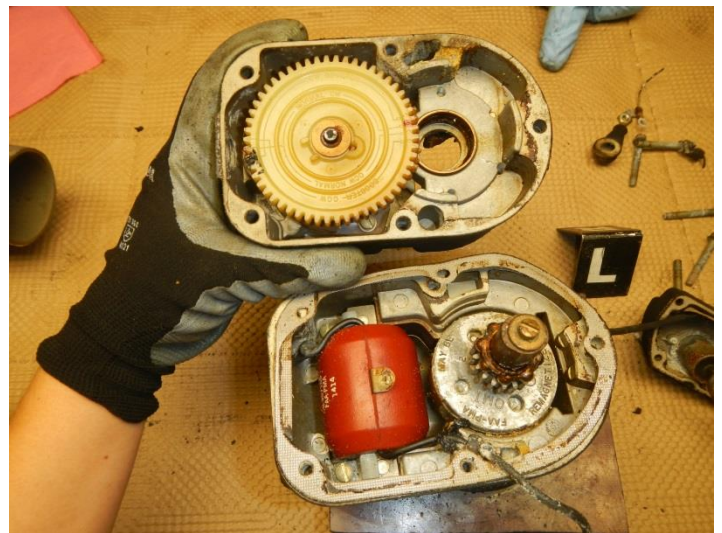
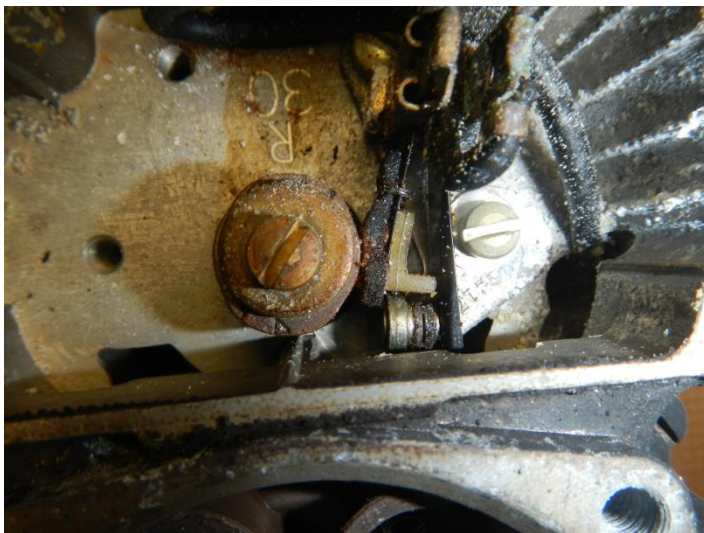
As an additional test for this investigation, the NTSB investigator oversaw the functional test of an exemplary fuel pump on an exemplary engine in the production test cell. The exemplary fuel pump was assembled with the O-ring intentionally missing from the mixture control shaft to simulate a fuel leak. The fuel pump was adjusted for the exemplary engine and run through various power settings with no loss of engine power or hesitation noted.

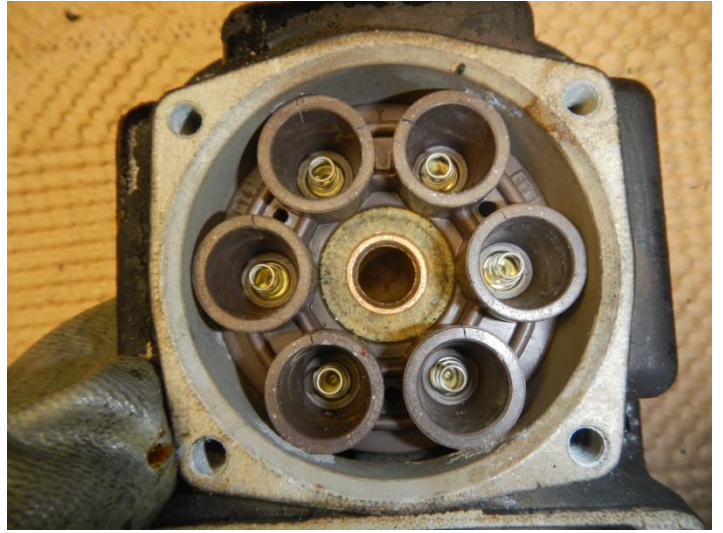
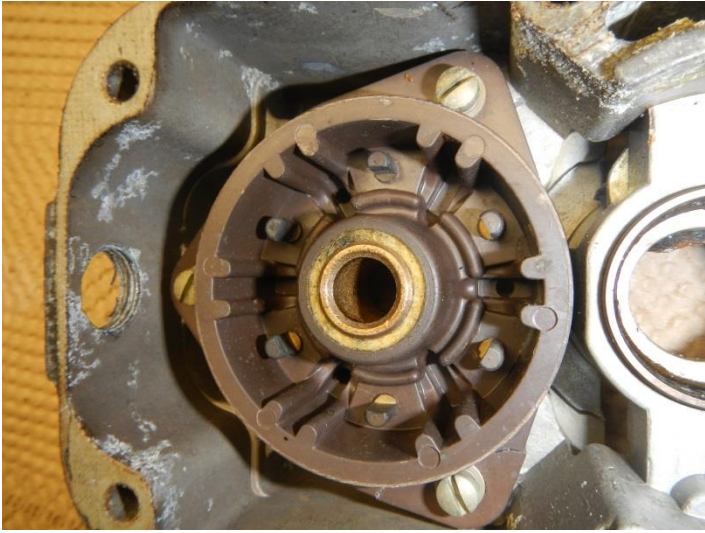




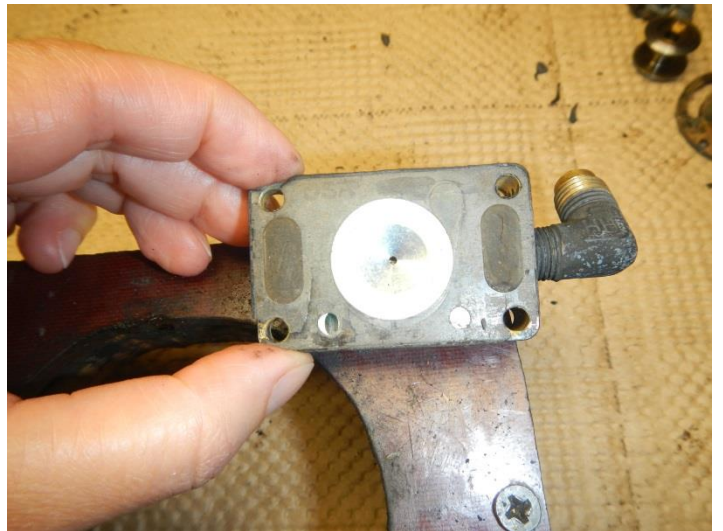
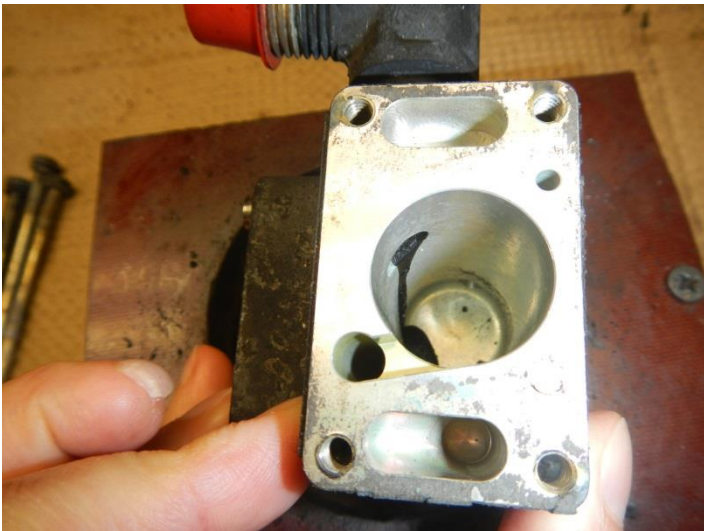
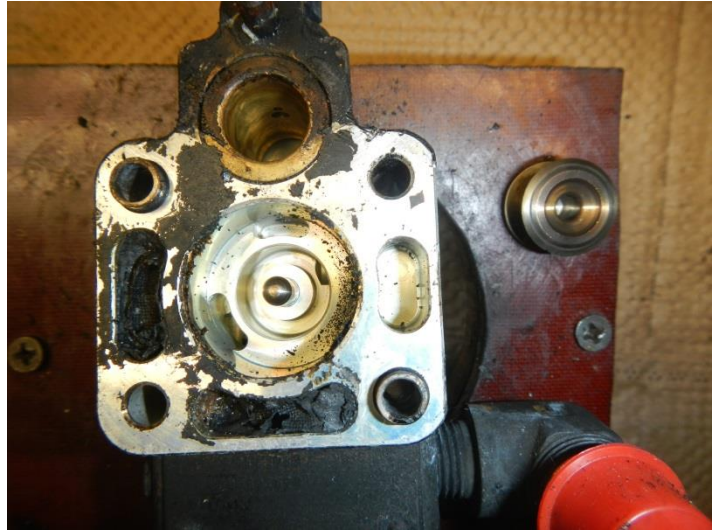


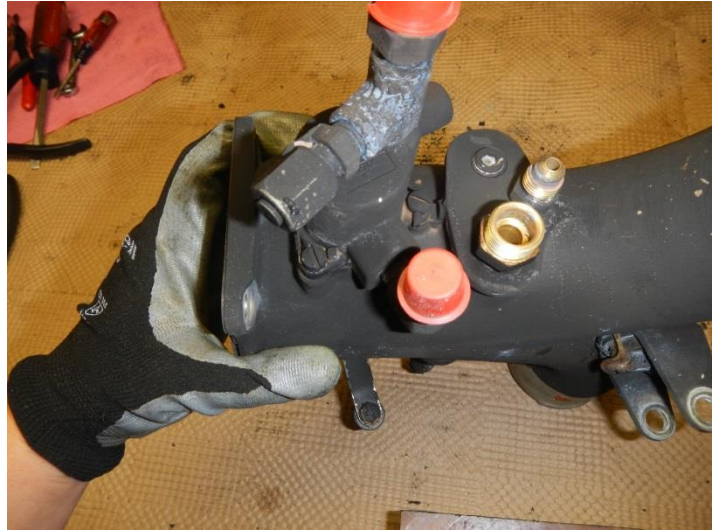


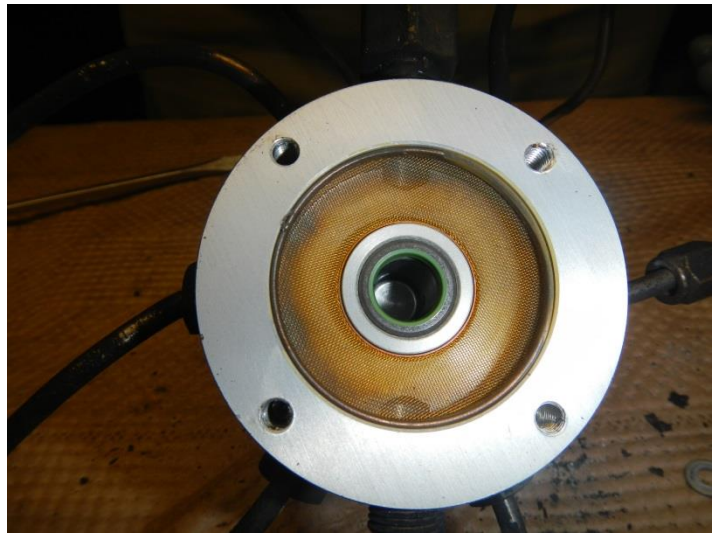
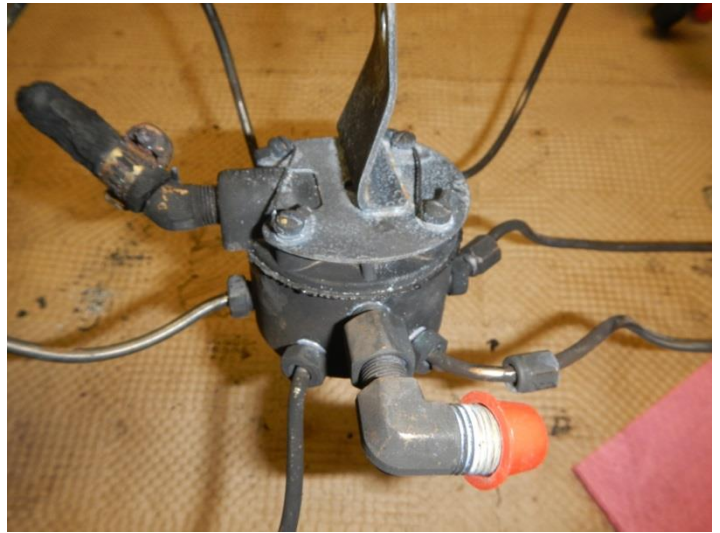
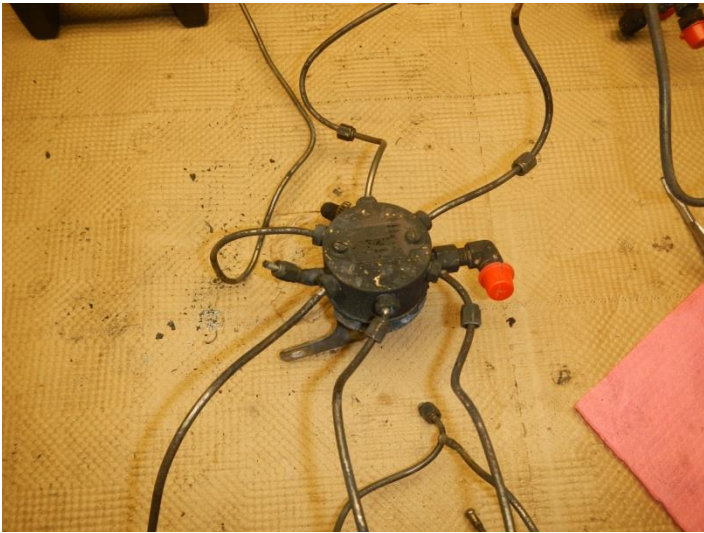


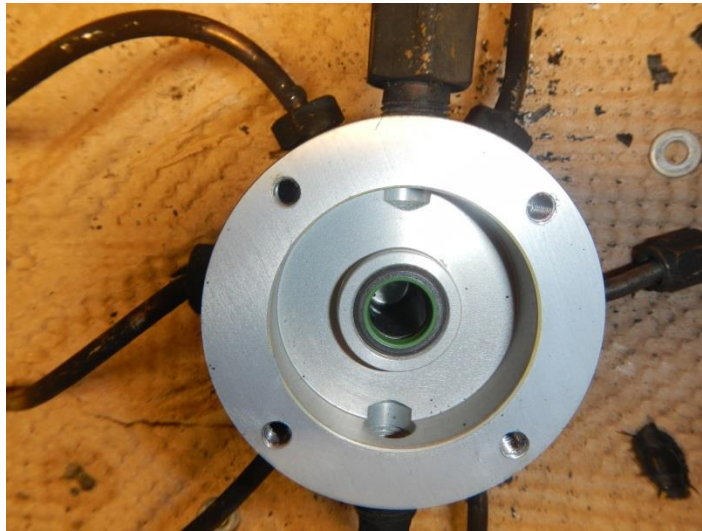
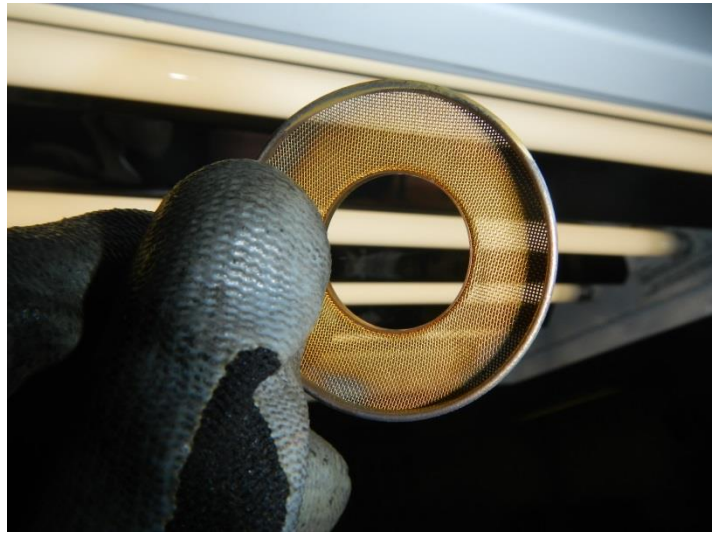


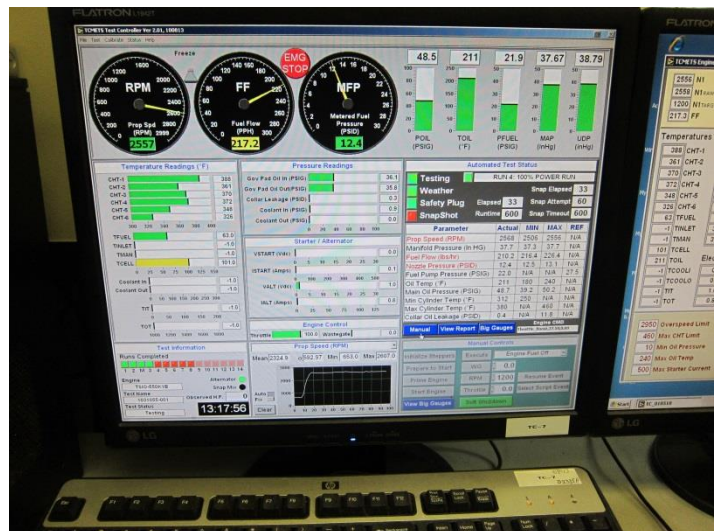
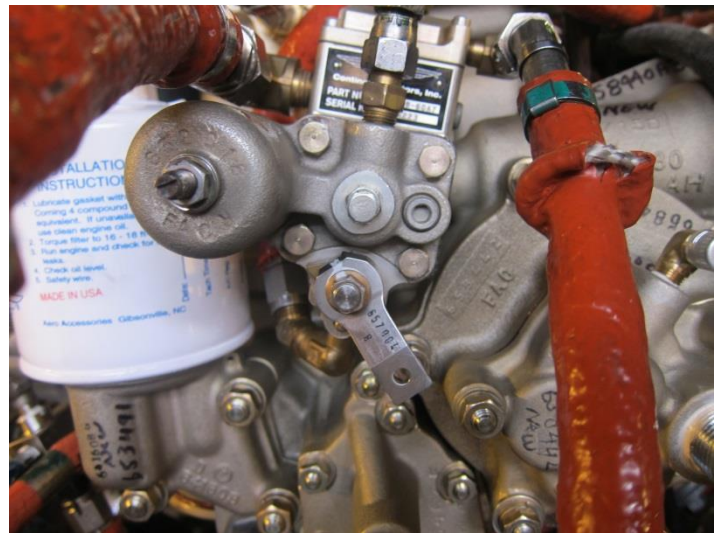












Engine / Component Disposition

Release for core salvage:		Date/Sign:	
Release to Repair Station:		Date/Sign:	
Scrap:		Date/Sign:	
Return to Salvage Facility:	X	Date/Sign:	08/07/2015
Customer Name/Company:	Quality Aircraft Recovery		
Address:	Groveland, FL 34736		