NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

August 28, 2013

NTSB ON SITE EXAMINATION NOTES

WPR13FA388

This document contains 18 embedded photos.

A. ACCIDENT

Location:	Desert Center, CA
Date:	August 26, 2013
Aircraft:	Grumman AA-1A, Registration Number: N61VT, Serial #: AA1A-0047
NTSB IIC:	Howard Plagens

B. EXAMINATION PARTICIPANTS:

Howard Plagens
Senior Air Safety Investigator
National Transportation Safety Board
Desert Hot Springs, CA 92240

Rod Avery
Aviation Safety Inspector
Federal Aviation Administration
Riverside FSDO
Riverside, CA

Mark Platt
Lycoming Engines
Senior Air Safety Investigator
Williamsport, PA

C. SUMMARY

Investigators from the NTSB, FAA, and Lycoming examined the wreckage. The examination took place at Aircraft Recovery Service, Littlerock, California, on August 28, 2013.

The airframe and engine were examined with no mechanical anomalies identified.

D. DETAILS OF THE INVESTIGATION

1.0 Airframe Examination

The NTSB investigator-in-charge (IIC) examined the airframe.

The airframe sustained severe thermal damage.

The flap position could not be determined.

The fuel selector valve position could not be determined.

Flight control disconnects were angled and irregular.

Photo 1Airplane Data Plate

Photo 2 Cabin Area Aft of Firewall

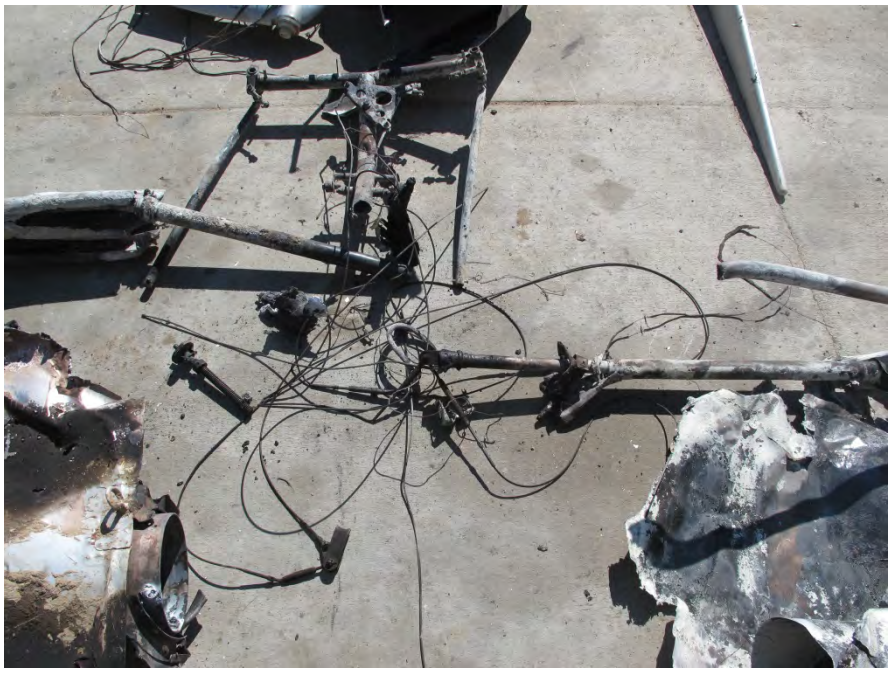

Photo 3 Cockpit Flight Control Components and Cables

Photo 4 Cockpit Control Connections

2.0 Engine Examination

The engine was a Lycoming O-320-E2G, serial number L-48438-27A. It produced 150 hp at 2,700 rpm.

Investigators removed the engine, and slung it from a hoist.

Photo 5 Engine Data Plate

Photo 6 Front View of Engine

Photo 7 Right Side of Engine

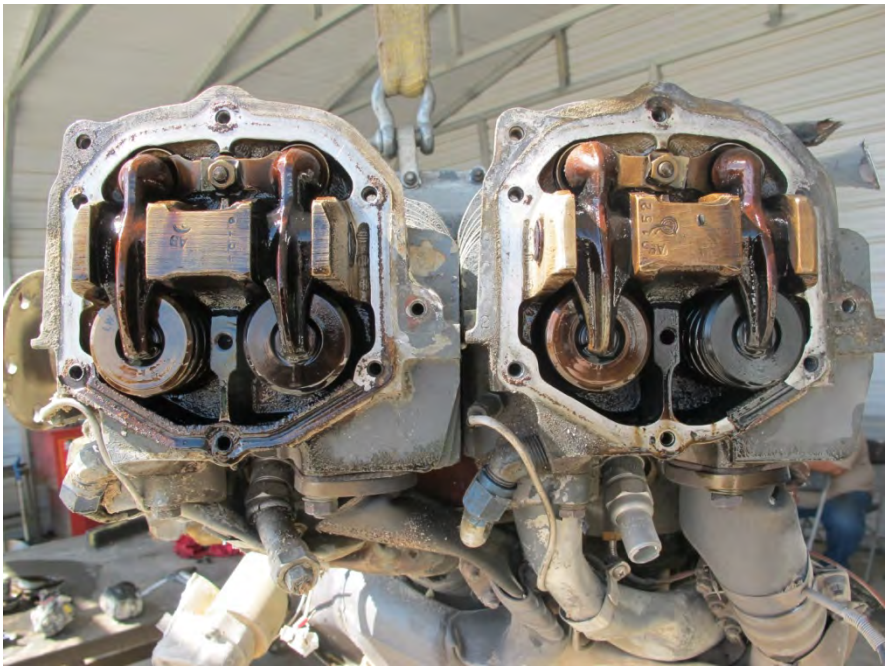

Photo 8 Left Side of Engine

Photo 9 Rear of Engine

Photo 10 Bottom of Engine

Investigators removed the top spark plugs; all center electrodes were circular, and clean with no mechanical deformation. Number one was wet from a black fluid; the other three spark plug electrodes were gray, which corresponded to normal operation according to the Champion Aviation Check-A-Plug AV-27 Chart.

Photo 11 Top Spark Plugs

A borescope inspection revealed no mechanical deformation on the valves, cylinder walls, or internal cylinder head. Investigators manually rotated the crankshaft with a tool in an accessory drive gear. The crankshaft rotated freely, and the valves moved approximately the same amount of lift in firing order. The gears in the accessory case turned freely. Investigators obtained thumb compression on all cylinders in firing order.

The ignition harness was attached to each magneto and each spark plug, but sustained thermal damage. The left magneto was a Slick 4371, serial number 95080150, and it had an impulse coupling. The right magneto was a Slick 4370, serial number 94010184. Investigators manually rotated the magnetos, and both magnetos produced spark at all posts.

Photo 12 Magnetos

The oil suction screen and the oil pressure screen were clean.

Photo 13 Oil Suction and Oil Pressure Screens

The Marvel Shebler MA-4SPA carburetor, serial number BL 198648, sustained crush damage. The throttle and mixture controls remained securely attached at their respective control arms. The metal floats exhibited inward hydraulic crush damage. One float separated, and was in the bottom of the float bowl; the float had a molten solder joint. The finger screen was clean.

Photo 14 Top View of Carburetor

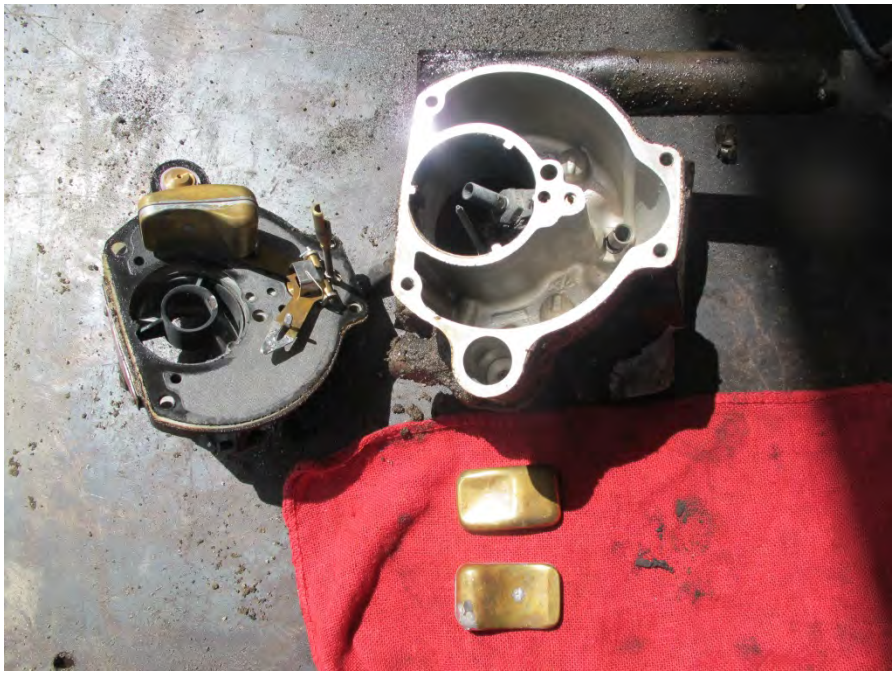

Photo 15 Disassembled Carburetor

The fuel pump remained attached to the engine at its mounting pad, and the fuel lines were secure at their respective fittings. Disassembly of the fuel pump revealed that the rubber diaphragm was unbroken, and there were no visible obstructions.

Photo 16 Disassembled Fuel Pump

3.0 Propeller Examination

The propeller was a Sensenich Model 74DM6-0-60, serial number A53918.

The spinner was crushed aft to the hub. One blade had leading edge polishing, and was twisted toward the low pitch, high rpm position. The other blade was twisted toward the low pitch, high rpm position.

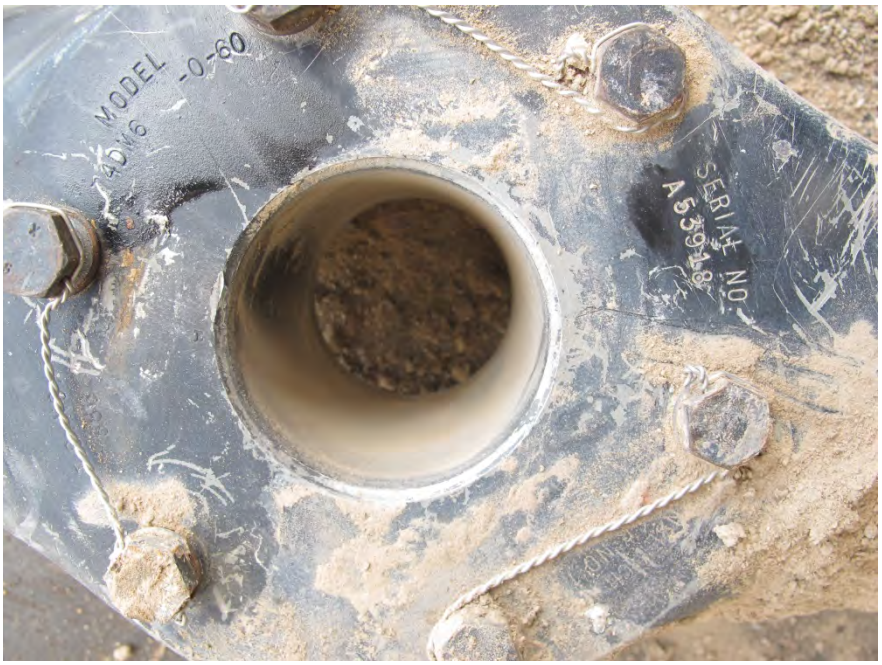

Photo 17 Propeller Hub


Photo 18 Propeller