



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

INITIAL MAGNETO EXAMINATION

WPR19LA011

Accident Date: October 21, 2018
Exam Date: November 15, 2018

This document contains 5 embedded images

A. ACCIDENT

Location: Indianapolis, IN
Date: October 21, 2018
Aircraft: Piper PA-32-300, N2920Q
NTSB IIC: Maja Smith

B. EXAMINATION PARTICIPANTS:

Michael Huhn
Air Safety Investigator
NTSB
Western Pacific Region

Christopher Lang
Air Safety Investigator
Continental Motors
Mobile, AL

Philip Grice
Manager, Product Field Performance
Continental Motors
Mobile, AL

Kurt Gibson
Air Safety Investigator
Continental Motors
Mobile Alabama

C. SUMMARY

The pilot reported a complete loss of engine power in flight, which resulted in a forced off-airport landing.

The dual magneto unit was removed and shipped to CMG Mobile, Alabama for testing and examination.

The magneto was examined at CMG. All 12 ignition leads were attached and intact. The unit it displayed no external indications of damage or other mechanical deficiencies. The cover was removed, and a visual inspection of the interior components (with no further disassembly) revealed no indications of damage. The unit was reassembled and installed on the test bench device for operational checks.

No sparks were observed at any leads.

Due to the unavailability of CMG's magneto specialist (Mr. Tim Davis), the decision was made to re-box the magneto, and conduct further examination and testing with the in-person assistance of Mr. Davis at a later date.

D. EXAMINATION INFORMATION

1.0 General

- The magneto appeared to be in very good condition
- It bore two placards on the body
 - One was a dataplate-like placard, that CMG personnel determined was not a CMG dataplate
 - The other contained the name and repair station information of a maintenance facility
- There was also a paper tag on one of the ignition leads



Figure 1 - Magneto Body



Figure 2 - Non-CMG Placard



Figure 3 - Repair Station Placard

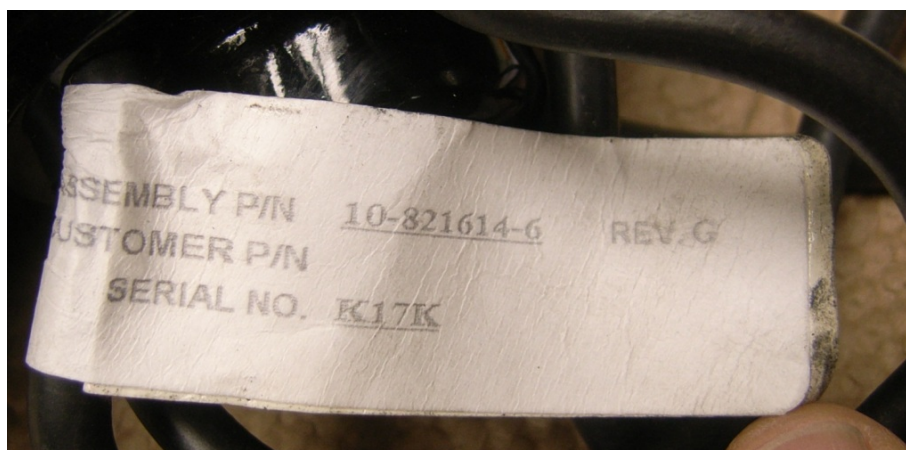


Figure 4 - Harness Paper Tag

2.0 Operational Testing

- After the cover was removed, the magneto drive was rotated slowly by hand
 - The impulse coupling was heard to operate
 - Both sets of contact points opened and closed with rotation
- The cover was reinstalled and the internal timing/operation of the two contact point sets was tested via an electronic timing device
 - No electrical/functional anomalies were detected; the magneto tested normally for this check
 - Both sets of contact points opened concurrently
- The magneto was installed on the test bench, and all 12 leads were connected to the test equipment
- The test motor was rotated at various speeds
 - The impulse coupling was heard at low speeds
 - Regardless of RPM, no sparks were observed at any of the 12 spark gaps on the test equipment
 - All connections were reverified, the magneto was rotated again with the motor, and all results were the same – no sparks were observed
- The magneto was removed from the test bench and securely boxed up
 - It will be examined/tested at a future date in the presence of the CMG magneto specialist, at the discretion of the NTSB IIC



Figure 5 - Magento with Cover Removed