



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

March 28, 2014

ENGINE/AIRFRAME EXAMINATION SUMMARY

WPR14LA061

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A. ACCIDENT

Location:	Fair Oaks, California
Date:	December 5, 2013
Aircraft:	Piper PA-24-250, N6595P
NTSB Investigator-in-Charge:	Lawrence Lewis

B. SUMMARY

Examination of the recovered wreckage was conducted at the facility of Faeth Aircraft, Sacramento, California, on March 28, 2014. The examination of the recovered engine did not reveal any evidence of any preexisting mechanical malfunction that would have precluded normal operation.

C. DETAILS OF THE INVESTIGATION

1.0 Recovered Wreckage Examination

Examination of the airplane revealed that the Lycoming O-540-A1A5 engine, serial number L-613-40-(illegible) remained attached to the engine mount; however, the engine mount was partially displaced from the airframe firewall. All oil and fuel lines remained intact and secure to their respective mounts. The oil dip stick indicated about 9 quarts of oil was within the oil sump. All engine accessories and cylinders remained attached to their respective mounts. The air intake box was crushed upward around the carburetor float bowl. Throttle, mixture, propeller, and carburetor heat control continuity was established from the cockpit controls to the engine. The exhaust was intact and remained intact, however, the exhaust stack extending from the muffler was impact damaged and flattened.

The top spark plugs, rocker box covers, and propeller were removed. The engine crankshaft was rotated by hand using a hand tool attached to the crankshaft propeller flange. Rotational continuity was established throughout the engine and valve train. Thumb compression and suction was obtained on all six cylinders. Equal movement was observed on all of the intake and exhaust valve rocker arms. When the crankshaft was rotated, the impulse couplings of both the left and right magneto functioned. A blue spark was observed on all 12 ignition leads. The number one cylinder top spark plug exhibited black deposits within the electrode area and the remainder exhibited dark gray to light gray deposits within the electrode area. All six top spark plugs exhibited normal operational signatures.

The carburetor was removed, disassembled, and examined. The throttle and mixture control arms functioned from stop to stop freely by hand. The accelerator pump functioned when the throttle arm was actuated by hand. The metal floats were found intact and undamaged. Residual fuel was observed within the float bowl and a slight amount of debris was observed within the float bowl. The residual fuel tested negative for water using water finding paste. The needle valve and seat assembly were unremarkable. The carburetor fuel screen was removed and found to be free of debris.

Submitted by: Joshua Cawthra