NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

February 19, 2015

ENGINE EXAMINATION

WPR14FA316

A. ACCIDENT

Location:	Lolo Pass, Idaho
Date:	July 28, 2014
Aircraft:	Meyer-Lancair Legacy, N22MM, Serial #: L2K-197
NTSB IIC:	Albert Nixon

B. EXAMINATION PARTICIPANTS:

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Aviation Accident Investigator
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C. SUMMARY

Examination of the recovered airframe and engine was conducted on February 18 and 19, 2015, at the facilities of Continental Motors, Mobile, Alabama.

D. DETAILS OF THE INVESTIGATION

1.0 Engine Examination

The engine was received with the baffle, right magneto, and electronic ignition system (installed in the left magneto position), fuel system, vacuum pump propeller, governor and oil filter attached. The alternator, starter, and exhaust headers had separated from the engine. The right magneto was tested and operated satisfactory.

Initial examination of the engine revealed a hole on the top left side of the crankcase at the left magneto position. The crankshaft flange was separated. No measurable oil was observed in the engine. During the engine disassembly, the oil pump and filter were removed and examined. A small amount of metal contamination was observed on the filter folds. The spark plugs were removed and the number one cylinder bottom spark plug was observed to be oily with metal

contamination imbedded in the electrode area and all the other spark plugs electrode areas exhibited normal operating signatures. The oil sump was removed and the connecting rod bolts and nuts and metal debris were observed at the bottom.

The cylinder nut torque was checked and all cylinder nut torques were determined to be at the manufacturer's specification. The cylinders were removed and all cylinders were unremarkable with the exception of the number 1 and 2 cylinder skirts. The engine crankcase halves were then separated. The main bearings were intact and no anomalies were noted. No signatures of oil starvation or loss of oil pressure were noted. All rods and main journals had a normal appearance with no bluing or scoring observed.

Initial examination of the cylinder number 1 and 2 connecting rods revealed that both rods had fractured. The cylinder number 1 and 2 connecting rods were shipped to the NTSB Material Laboratory for further examination.

Submitted by: Albert Nixon