

## Examination Findings

January 30, 2020

Disassembly Examination at Continental Motors

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Summary & Factual Information: The IO-550-N engine with s/n 1037851 was crated at OJC and shipped to Continental Motors in Mobile, AL, for examination.

The propeller flange was not shipped with the engine and its crankshaft exhibited a separation consistent with overload. Some of the intake tubes exhibited crush deformation. The aft side of the engine exhibited a soot colored coating. The oil sump pan exhibited crush deformation. The top section of the propeller governor had separated from its base. The engine driven fuel pump was in place and its shear shaft was intact. The fuel distribution valve and its lines to the fuel injectors were in place. Many of the cylinder base nuts were cracked consistent with being exposed to heat. The removed magnetos exhibited discoloring consistent with thermal damage. All rocker components were intact when rocker covers were removed. The camshaft, crankshaft, and connecting rods were in place when the engine case was separated. The timing dimple was observed through the hole in an accessory section drive gear. Removed spark plugs exhibited a normal wear condition when compared to a Champion check-a-plug chart. The disassembled oil pump did not exhibit any witness marks consistent with hard particle passage. The No. 4 piston exhibited discoloration and corrosion consistent with being exposed to water. The remaining pistons exhibited coloration consistent with combustion. All bushings exhibited wear patterns consistent with normal wear. The opened oil filter did not exhibit any trapped debris. The fuel injectors were in place and did not exhibit any anomalies when removed. No preimpact anomalies were observed that would have precluded normal operation of the engine.

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I can attest that the above summary is correct to the best of my knowledge:

**Edward F. Malinowski**  
**National Transportation Safety Board**  
**Air Safety Investigator**