



MEMORANDUM FOR RECORD

Douglass Brazy
Air Safety Investigator
Eastern Region Aviation

October 8, 2020

Subject: N65645, Cessna 172, 8/27/20, Weston, Florida ERA20LA299
Record of Conversation – Juan Garcia (FAA Inspector, Miramar, Florida Flight Standards District Office)

Inspector Garcia scheduled an examination with an A&P mechanic on September 16 and 17, 2020. He provided the following information via telephone:

The Lycoming engine had been previously overhauled by Continental Motors, about 1,600 flight hours prior to the accident. Examination of the engine revealed a hole in the engine case near the base of cylinder No. 4. Metallic debris was found in the oil suction screen. The No.1 and No. 3 cylinder connecting rods were damaged and fracture separated near their crankshaft ends. Damaged remnants of connecting rod material were found in several locations inside the engine. The remnants and fracture surfaces of the rods, as well as the journals on the crankshaft were discolored (blackened and bluish surfaces) consistent with thermal stress/damage. The No.4 connecting rod remained attached to the crankshaft but would not rotate. The crankshaft end of the rod was discolored (black and rust colored), consistent with thermal stress. Bearing material appeared to be extruded between the rod and the crankshaft lobe. The No.2 connecting rod remained attached to the crankshaft and would rotate easily around the crankshaft. The rod appeared undamaged and its color was “normal.”

The engine was retained for a subsequent follow-up examination.

On October 8, 2020, Inspector Garcia performed a follow-up examination of the engine. The engine was removed from the airplane and further disassembled. The oil pump was intact with safety wire installed. The pump rotated smoothly with no binding. A small amount of oil was found inside the pump cavity, with no debris. The oil pump components were undamaged. The three crankshaft main bearings and journals exhibited some minor wear, and did not exhibit any bluing or other indications of excessive heat. There were no obstructions found in the visible oil passages in the crankshaft main journals. The crankshaft No. 1 and No.3 connecting rod journals were partially smeared (heat damaged) and the No.2 and No.4 connecting rods could not be separated from the crankshaft. The bottom of the crankcase had two large irregularly shaped holes, one on each case half, forward of the oil sump.

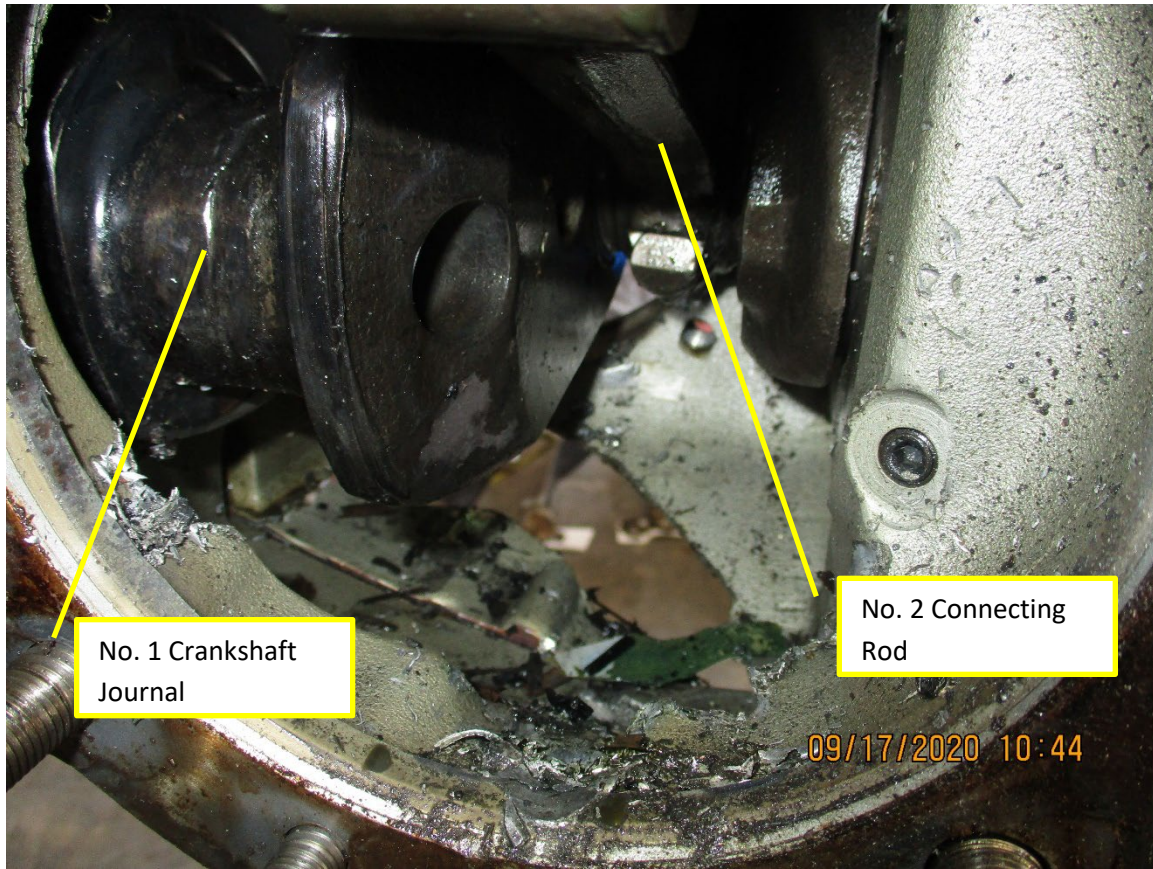


Figure 1 View Through Cylinder No. 2

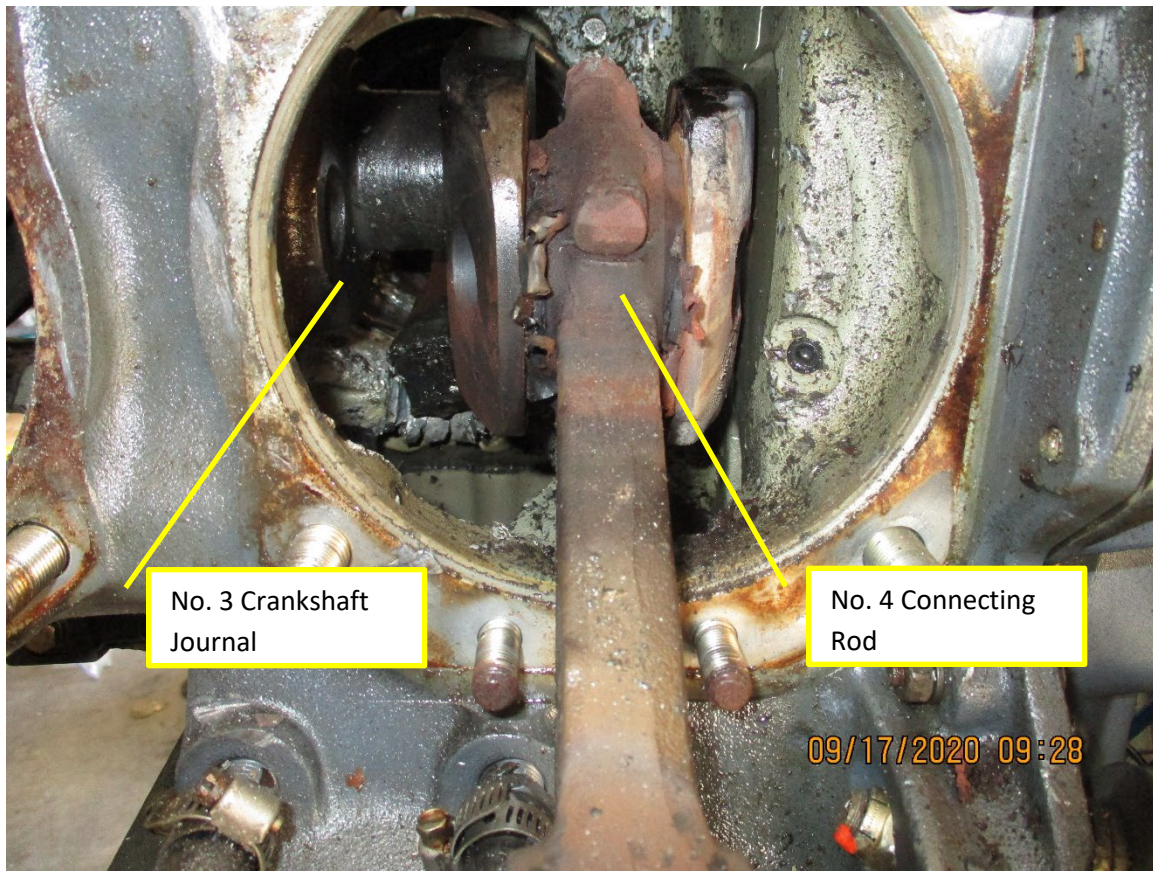


Figure 2 - View Through Cylinder No. 4

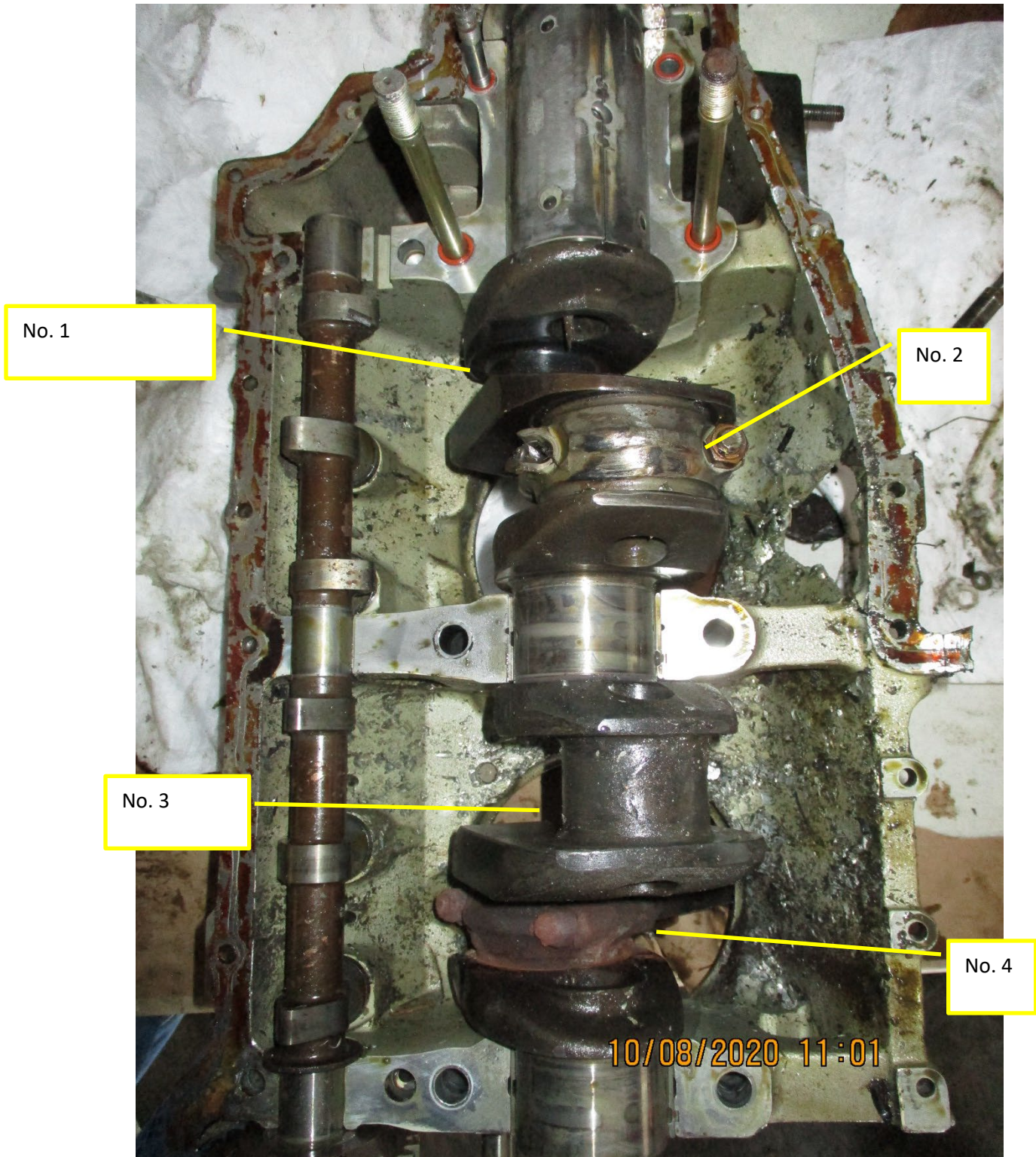


Figure 3 View of Crankshaft



Figure 4 View of Crankcase Bottom Side

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