



MEMORANDUM FOR RECORD

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January 24, 2023

Subject: Engine Case through-bolts and nuts exposed to fire. (e-mail excerpt from ASI Kurt Gibson)

Per our discussion earlier today regarding my experience with Continental engines and released through-bolt nuts. It was not unusual for me to find released through-bolt nuts on an engine that had been in a fire. In one investigation, one nut from each of the through-bolts had been released from an engine that had extensive thermal damage...

As far as what would happen if the through-bolts were loose during the last cylinder change/overhaul/engine assembly, my experience has been on the larger engines (520 series and above), if the nuts were loose enough to fall off the through-bolt, the engine will generally not run for more than 100 hours before a bearing shift event will occur. This will either cause a crack in the crankshaft followed by a break the crankshaft or cause a spun bearing and oil starve the rods that are fed by the spun main bearing. I did go through Henry's file and the photos that were sent during the teardown of the engine and I did not see any signs of a bearing shift event from the photos given.

[END]