

Communication Summary

March 16, 2020



Summary & Factual Information: An operator that used IO-520 type engines had information in reference to piston pin bushing migration forwarded to the IIC. The information, in part, included that piston pin bushing damage was discovered while examining connecting rod components during cylinder replacement, with a low oil pressure event from bushing material trapped underneath the oil pump pressure relief valve seat, and during engine core disassembly for major overhaul.

The bushing damage observed included retained bushing sections that were cracked in the area of the split line clinch, fragmented and bushing material loss, and migrated bushing with fragmented and bushing material loss. The maximum bushing material fragmented and missing was observed to be approximately 20 percent.

The first occurrence identified was during a core return engine in early to mid-2014. This was a factory engine that had reached its TBO time of approximately 2700 hours. Five of the six bushings exhibited the listed abnormal operational signatures.

Between 2014 through 2019, the total number of bushing damage instances was approximately 25.

Majority of these instances were connecting rods with bushing part number SA530658.

Average engine (bushing) operational hours at time of discovery was approximately 2000.

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