



Investigator Name: Leah D. Read
Title: Sr. ASI
Division: ERA

Subject: ERA24LA066

Contact: Gennaro Arena,
Chief, Office of Airworthiness
Austro Engine

Mr. Arena stated that Austro Engine had been a history of inner main bearing cap screw failures on the E4 model engines due to certain batches of screws that were produced at the lower end of the material strength tolerance for class 8.8 strength screws installed on this engine. However, these failures were not associated with failure of the connecting rod bolts. There had been no reported fatigue failures of connecting rod bolts in the absence of a main bearing cap screw failure.

Mr. Arena informed the NTSB that there have been no reported failures of the 12.9 strength main bearing cap screws since EASA, and the FAA issued their respective Airworthiness Directives that mandated the 8.8 strength screws to be replaced with the 12.9 strength screws.

Austro Engine attributed the failure of the inner main bearing cap screws to deviations in fuel delivery from contamination in the fuel injectors. These deviations can result in an increase in combustion peak pressure and the associated load on the main bearing cap screws. The lower strength screws are more susceptible to failure under this load.

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