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### LETTER TO OWNERS/OPERATORS NO 2257 TEXTRON LYCOMING SERIES ENGINES CLARIFICATION OF FAA AIRWORTHINESS DIRECTIVE 96-09-10

FAA AD 96-09-10 applies to a large number of Textron Lycoming engines and concerns the replacement of certain types of oil pump gears. Compliance with this AD was required by 15 July 2001, five years after the effective date of the AD.

The CAA continues to receive queries as to the applicability of the AD, especially in relation to engines fitted with idler gear shafts which are secured by cotter pins. In order to clarify the position, the following is an extract from FAA Advisory Circular (AC) 43-16A, No. 275, June 2001. The AC may be viewed in full at the FAA website:

[http://av-info.faa.gov/data/alerts/2001\\_06.pdf](http://av-info.faa.gov/data/alerts/2001_06.pdf)

'In order to determine if an engine is affected by AD 96-09-10, an owner/operator must know the oil pump configuration currently in the engine. The original factory shipped configuration with sintered iron impellers can be determined from Lycoming SB 524, List 1. Contact Lycoming for the original factory shipped configuration with aluminium impellers. If repairs, and/or overhauls have been accomplished, the engine records must be reviewed to determine the oil pump impeller configuration currently in the engine. Some engines, regardless of the engine serial number, may still be affected by the AD because of overhauls, including Lycoming overhauled and remanufactured engines, field repairs, compliance with AD 81-18-04R2 and other Lycoming SB's.

If the oil pump impeller configuration cannot be determined by the engine records, the inspection, described in Lycoming SB 385C can be performed to determine if the original configuration, a fixed shaft retained by a cotter pin, is still in place. If a fixed shaft retained by a cotter pin is still in place, the engine is not affected by this AD. If a fixed shaft retained by a cotter pin is not present, the oil pump cover must be removed and the gears compared to the figure on page 2 of SB 524 in order to determine if hardened steel gears are installed and the engine is in compliance with the AD. (A set of hardened steel impellers can be identified by the letter "N" on one impeller and the letter "C" on the other impeller. Lycoming only sells these parts in sets. However, they may be available individually in the after-market.) These letters have been mechanically marked on the face of the impeller. A copy of Lycoming SB 524 can be obtained from the Lycoming website at: [www.lycoming.textron.com](http://www.lycoming.textron.com).

*continued overleaf*

AD 96-09-10 applies to all sintered iron impellers and aluminium oil pump impeller and shaft assemblies P/N LW-13775. This is confirmed in the AD SUMMARY that precedes the AD. This statement appears in paragraph (c) of the AD as, "... replace any aluminium oil pump impeller and shaft assembly with a ...", however, P/N LW-13775 does not appear in this sentence. P/N LW-13775 is an aluminium impeller attached to a shaft and the assembly of these two parts (impeller and shaft) rotate together. This P/N LW-13775, aluminium oil pump impeller and shaft assembly is the only aluminium impeller that is required to be replaced by AD 96-09-10. P/N 60747, aluminium oil pump impeller is NOT an impeller and shaft assembly. It is an impeller that rotates on a fixed, non-rotating shaft. This shaft is retained by a cotter pin passing through the oil pump housing and shaft. This configuration is not effected by this AD.

Lycoming SB 524 requires P/N 60747 aluminium oil pump impeller to be replaced, however, AD 96-09-10 (written after the release of SB 524) does not require its replacement – the SUMMARY that precedes the AD explains that, "... only aluminium impellers, P/N LW 13775, are affected." Therefore a visual inspection of the oil pump, as described in Lycoming SB 385C, can be made and if the original configuration, a fixed shaft retained by a cotter pin, is still in place, the engine is not affected by AD 96-09-10 or by AD 81-18-04 R2.'

Enquiries regarding this LTO should be referred to Mr Ben Alcott, Propulsion Department, (Telephone No 01293 573950 ) at the above address.

**Lynda Gillett**  
Applications and Certification Section