Australian Government
Civil Aviation Safety Authority

AIRWORTHINESS BULLETIN

TCM Engine Oil Pump Shaft

AWB 79-002 **Issue** : 2
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1. Effectivity

All Teledyne Continental Motors (TCM) O-300, IO-360, TSIO-360 and LTSIO-360 model engines, not incorporating improved design oil pump gears per TCM SB 96-4.

2. Purpose

This AWB recommends incorporation of TCM SB 96-4 which will reduce probability of the oil pump failure and resultant engine seizure.

3. Background

A TCM IO-360-HB engine installed on a Pacific Aerospace single-engine aircraft model CT-4A, seized during flight due to failure of the oil pump. The aircraft made a forced landing and was extensively damaged.

The subsequent investigation identified that the oil pump drive gear had failed at the threaded section of the driveshaft.

In a pre-SB 96-4 pump configuration, the oil pump gears are driven by friction created by the clamping force generated by the nut on the end of the driveshaft. Under-torque or over-torque of the nut during assembly compromises the required clamping force and may lead to failure of the oil pump.

TCM Service Bulletin (SB) SB96-4 introduced a tang drive design which removes reliance on the clamping load friction. This design provides a positive means of engagement between driveshaft and gear.

4. Recommendations

CASA strongly recommends that, unless already installed as per provisions of TCM SB 97-6 (Mandatory Replacement Parts), improved design oil pump gears should be installed per SB 96-4 at the earliest opportunity.

5. Reporting

All defects relating to and occurrences of TCM oil pump failure should be reported to CASA via the SDR system.

6. Enquiries

Enquiries with regard to the content of this Airworthiness Bulletin should be made via the direct link e-mail address:

AirworthinessBulletin@casa.gov.au

or in writing, to:

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