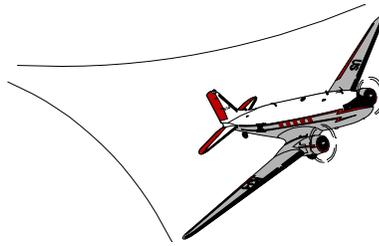


SPECIAL AIRWORTHINESS INFORMATION BULLETIN



U.S. Department
of Transportation

**Federal Aviation
Administration**

No. NE-02-41
August 8, 2002

Aircraft Certification Service
Washington, DC

We post SAIBs on the internet at "av-info.faa.gov"

This is information only. Recommendations are not mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) recommends that you, an owner of certain Teledyne Continental Motors (TCM) series engines listed below and equipped with starter adapter part number (P/N) 642087 or 646757, inspect these components for indications of oil leakage at the shaft oil seal.

Models Affected
IO-520-BA, -BB, -C, -CB, -M, -MB
TSIO-520-B, -BB, -BE, -D, -DB, -E, -EB, -J, -JB, -K, -KB, -L, -LB, -UB, -VB, -WB
IO-550-B, -C, -E, -G, -N, -R
TSIO-550-A, -B, -C, -E

Background

The FAA is aware of the failure of 7 TCM starter adapter shaft gears. These shaft gears and others are used in starter adapters on the engines listed above. The failure mode is a fracture that originates in the machined circlip groove forward of the shaft gear oil seal installed in the scavenge pump housing. Analysis of the fracture area indicates initiation results from a misalignment of the scavenge pump housing to the starter adapter cover. Failure of the shaft gear results in loss of engine oil that can result in possible internal engine damage and/or subsequent engine failure. The time-in-service (TIS) prior to failure ranges from a low of 8 hours to a high of 139 hours. There have been no failures since December 2001 and sales of replacement parts indicate that failures have ceased to occur as well.

Production changes have been initiated by TCM to the starter adapter cover, scavenge pump housing and starter shaft gear. The first two changes are to address the misalignment issue and the change to the shaft gear is to eliminate the circlip groove. Affected and new part numbers as well as inspection criteria are presented in TCM Critical Service Bulletin CSB 02-2B dated May 6, 2002. The inspection procedure is a check for visible oil leakage at the shaft gear/oil seal interface on affected starter adapters. The presence of an oil leak could indicate the shaft gear problem; absence of an oil lead indicates no problem but the area should be inspected at 25 hour TIS intervals until the accumulation of 250 hours TIS.

In addition to the TCM solution, a Canadian company, Canadian Aero Manufacturing (CAM), has obtained Canadian approval for a modification to utilize the old parts. CAM has applied for a FAA Supplemental Type Certificate (STC), which should be granted in the near future. The owners of U.S. registered aircraft should wait until issuance of the FAA STC before modifying their engines.

Recommendation

Based on currently available information, the FAA is only recommending the following actions. However, we will continue to monitor this issue and may find it necessary to issue an Airworthiness Directive based on future analysis.

The FAA recommends either compliance with the inspection/replacement requirements of TCM CSB 02-2 or the modification of the engine per the CAM STC. Again, modification of any U.S. registered aircraft/engine **is not recommended** until the FAA STC for this modification has been issued.

For a free copy of TCM CSB 02-2, call the TCM Customer Service Department at (888) 221-6442 or write them at Teledyne Continental Motors, P.O. Box 90, Mobile, AL 36601. In addition, the complete text of CSB 02-2 is available on the TCM website at: www.TCMLINK.com

Information about the cost, availability, etc of the CAM STC can be obtained by writing to them at Canadian Aero Manufacturing, 2648 Ego Side Road, R.R. #3, Orilla, Ontario, Canada L3V 6H3. You can call them at (705) 326-1368 (U.S. only (800) 565-4268) or fax (705) 326-8105. Their website is: www.niagaraairparts.com

For Further Information Contact

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