



Roto-Master / Rayjay Turbocharger
Turbine Housing Cracks

AWB 81-002 **Issue** : 1
Date : 10 October 2013

1. Applicability

Turbocharged engines with Roto-Master Turbocharger Part Number (P/N) 600510-04 (Teledyne Continental Motors (TCM) P/N 643931 turbine housings.

2. Purpose

Advise operators and maintainers of the continuing need to inspect the improved turbine housings for cracking.

3. Background

CASA AD TURBO/1 Rayjay Turbochargers - Inspection and replacement (FAA AD 82-27-03) mandated Rajay Industries Inc. Service Letter No 27A which required several models of turbocharger to have an inspection of the turbine housing every 200 hours flight hours in service. The inspection was necessary to detect cracking, which, if allowed to propagate beyond a certain limit could allow hot exhaust gases to exit in the engine nacelle area creating a potential fire hazard.

Installation of the improved turbine housing P/N 600510-04 (Teledyne Continental Motors (TCM) P/N 643931) was terminating action for the AD, however, a defect report received by CASA and other reports described cracking of the improved turbine housing P/N 600510-04.

The manufacturer then issued SL 29 to advise industry that cracks were still possible in the improved turbine housing P/N 600510-04, and that

- (a) any cracks in the new P/N 600510-04 D5S Ductile Ni-Resist turbo charger housing do not propagate rapidly and therefore, any P/N 600510-04 housing with cracks may be serviceable and should be inspected in accordance with the Service Letter No 27A.
- (b) Cracking was caused by overheating due to exhaust gas temperature exceedance.

4. References

AD/TURBO/1 Rayjay Turbochargers - Inspection and replacement

FAA AD 82-27-03

Rajay Industries Inc. Service Letter No 27 (Current Revision)

Rajay Industries Inc. Service Letter No 29 (Current Revision)



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5. Recommendation

CASA recommends that operators and maintainers inspect the improved turbine housing P/N 600510-04 turbine housing:

- (a) After any indication of exhaust gas temperature exceedance or discovery of faulty exhaust gas temperature instrumentation.
- (b) In accordance with the rejection/acceptance criterion and at the periods specified by Rajay Industries Inc. Service Letter SL 27 following the discovery of any cracking in the P/N 600510-04 turbine housing.

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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