



**Bulkstrip Inspection Workscope for AWB 85-005 Issue : 1**  
**Piston Engine Calendar Life Extension Date : 12 December 2005**

## 1. Applicability

All owners, registered operators and maintainers of aircraft piston engines.

## 2. Purpose

This Airworthiness Bulletin (AWB) provides guidance on engine bulkstrip for the purpose of extending calendar life.

CASA approval for calendar life extension is required where such limit is mandatory (by requirements of an Airworthiness Directive, for example). Bulkstrip in accordance with this AWB can be used as a condition for such an extension.

## 3. Background

Elastomers, such as gaskets, seals, flexible hoses and fuel pump diaphragms, can dry out, harden or deteriorate over time. Similarly, corrosion can occur internally and externally on the engine. This naturally occurring process can affect continued airworthiness of the engine, components and accessories. Accordingly, engine original equipment manufacturers (OEM) recommend overhaul based on:

- Calendar time; and
- Engine operating hours

In the instances where engine time between overhaul (TBO) is mandatory and engine calendar life limit is reached before reaching the hourly TBO, calendar life extension to complete hourly TBO may be approved by CASA based on the compliance with the recommendations of this AWB.

Bulkstrip is likely to vary for each engine according to:

- Engine utilization
- Operating environment
- Type of operation
- Engine history and the reason of engine removal

It is to be noted that the registered operator is responsible for continuing airworthiness of the aircraft. Final workscope should therefore be finalised in consultation with the registered operator and an approved maintenance organization.

## 4. Recommendation

Bulkstrip for the purpose of calendar life extension should include, but not be limited to the following:

- A. Visual inspection of all internal parts for condition, evidence of corrosion, wear patterns, surface anomalies, cracks and evidence of oil leaks.



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- B. Visual inspection of crankshaft for internal corrosion (especially in the crankshaft journal radii) and removal of sludge.
- C. Visual inspection for seized valves in valve guides and for corroded camshaft and associated parts.
- D. Removal of the sump for inspection of the oil pickup screen, if applicable. In some engine types, removal of sump may allow inspection of cam lobes and followers.
- E. Replacement of all consumable parts and elastomers which are disturbed in the course of engine bulkstrip inspection (e.g. gaskets, seals, packings, o-rings, cotter-pins, lock-washers, lock-plates, safety-wires and circlips, as applicable).
- F. Assessment of all engine parts that are considered 'Mandatory Replacement Parts' (per latest revisions of Lycoming MSB 240 or TCM SB97-6 or equivalent applicable document) and which are removed in the course of bulk-strip inspection for reinstallation, in accordance with the manufacturer's serviceability criteria (e.g. flexible baffle seals, self-locking nuts, stressed bolts & fasteners).
- G. Assessment of engine mounted components and accessories for any rework required, keeping component history and life limits in perspective. (Component or accessory life limits may differ from that of engine).
- H. In terms of compliance with Airworthiness Directive (AD) requirements, engine bulkstrip is deemed to be equivalent to 'an engine overhaul' or 'next access to the part' (e.g. If an AD requires crankshaft replacement at 'next overhaul' or 'next access to the part', the crankshaft shall be replaced during bulkstrip). Contact CASA regarding specific AD requirements.
- I. Review of the engine logbook and engine maintenance history to identify additional actions required, where necessary.
- J. Engine disassembly and reassembly should be performed in accordance with the manufacturer's approved maintenance data.
- K. Engine test per manufacturer's approved engine testing procedures.

## 5. Enquiries

Enquiries with regard to the content of this Airworthiness Bulletins should be made via the direct link e-mail address: [AirworthinessBulletin@casa.gov.au](mailto:AirworthinessBulletin@casa.gov.au)

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