Service Instruction ENGINE COMPONENTS, INC.	S.I. No.: **04-2** Page: **1 of 1**
Title: **CONTINUING AIRWORTHINESS OF ALTERNATOR CLUTCH GEAR ASSEMBLIES AEC646655** *Technical Portions are FAA DER Approved.*	Issued: **02/03/04** Revision: **0**

1.0 **PURPOSE:** This service instruction identifies the continuing airworthiness information for ECi alternator clutchgear assemblies AEC646655.

2.0 **MODELS AFFECTED:** All engines, which have ECi AEC646655 alternator clutchgear installed

3.0 **TIME OF COMPLIANCE:** At engine TBO as recommended by TCM service information letter SIL98-9A or later approved revision

4.0 **HISTORY:**

The gear driven alternator system, which is used on TCM front drive and GTSIO engines, has traditionally been somewhat of a burden to engine maintenance personnel because of two major reasons. The first is the difficult inspection criteria, which is required per TCM service bulletin SB89-5. Secondly, in spite of the inspection, this system has been most troublesome because the rubber in the clutchgear assembly has been known to break down and send rubber pieces throughout the engine, which can block vital oil passages and cause catastrophic failure to such critical components as oil pumps, connecting rods, and crankshafts.

It is well known that rubber breaks down as it ages, which is probably a justification for the TCM inspection criteria outlined in SB89-5. The rubber used in the manufacture of these components is particularly resistant to aging. However, it still loses elasticity as it ages. Therefore, it is the opinion of ECi that the rubber component cannot be guaranteed to last more than one TBO.

5.0 **RECOMMENDATION:**

It is for this reason that ECi does not support the re-use of the alternator clutchgear assembly after the engine has reached TBO. ECi recommends that alternator clutchgear AEC646655 be replaced at major overhaul.

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