Title: **REPAIR PROCESS FOR LYCOMING FOUR-CYLINDER CRANKSHAFTS AFFECTED BY LYCOMING SB505**

Technical Portions are FAA DER Approved.

Issued: **12/30/97**

Revision: **1 (02/12/07)**

Models Affected: Textron Lycoming four cylinder crankshafts (hollow front main journal) installed on 235 Series, 290 Series, and 320 Series rated at 150 hp; and used with fixed pitch propellers.

Background: Lycoming four cylinder crankshafts having hollow front main journals and used with fixed pitch propellers are subjected to a corrosive environment inside the bore of the front main journal. Some of these crankshafts develop corrosion pits that can become extensive enough to degrade airworthiness. Lycoming Service Bulletin 505 details repair procedures and limits.

ECi Repair: During development of new replacement crankshafts under FAA Project PM4401SC-E, ECi developed new processing and limits for crankshafts having corrosion described in SB 505B. These processes and limitations were tested to FAR Part 33.43 (vibration and fatigue tests), 33.45 (calibration tests), 33.49 (endurance tests), and include grinding the bore to remove corrosion to a maximum diameter of 1.92 inch. This repair may be accomplished at ECi under Repair Station AG2R689K.

AD 98-02-08: Airworthiness Directive 98-02-08 issued March 30, 1998 requires that all 320 engines rated at 160 hp and all 360 engines be inspected in accordance with SB 505B and be repaired only in accordance with SB 530B. Although ECi obtained approval of this repair from the FAA prior to issuance of this AD, ECi has not sought Alternate Means of Compliance to this AD and has therefore limited this approved repair to those crankshafts that are not affected by this AD (i.e. 150-hp installations).

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