

2000-08-51 TELEDYNE CONTINENTAL MOTORS:

Docket No. 2000-NE-16-AD.

Applicability: This Airworthiness Directive (AD) is applicable to Teledyne Continental Motors (TCM) IO-360, TSIO-360, LTSIO-360, O-470, IO-470, TSIO-470, IO-520, TSIO-520, LTSIO-520, IO-550, TSIO-550 and TSIOL-550 series engines that were assembled, rebuilt, or overhauled using a crankshaft that was manufactured between April 1, 1998, and March 31, 2000, listed by engine and crankshaft serial number (SN) in TCM Mandatory Service Bulletin (MSB) 00-5A, dated April 28, 2000.

NOTE 1: The engines and crankshafts that are the subject of this AD were manufactured by TCM from April 1, 1998 through March 31, 2000. However the dates that the engines and crankshafts were delivered may not coincide with their dates of manufacture. For crankshafts identified in paragraph (a) of this AD, TCM has already determined which engines have a new suspect crankshaft installed and have identified those engines by engine SN. The crankshaft SN is only used to determine the need for taking a core sample for those crankshafts identified in paragraph (a) and (b) of this AD.

NOTE 2: The engine SN can be found in logbooks or other maintenance records. For those engines that were overhauled in the field with factory new crankshafts, the crankshaft SN should be shown in work orders, log books or other maintenance records. If the engine was assembled new, rebuilt, or overhauled on or before March 31, 1998, or on or after April 1, 2000, no action is required.

NOTE 3: This AD applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (d) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Compliance with the following instructions is required within the next 10 hours time-in-service from the receipt of this Emergency AD, unless already accomplished.

To prevent crankshaft failure due to crankshaft connecting rod journal fracture, which could result in total engine power loss, in-flight engine failure and possible forced landing, do the following:

NOTE 4: TCM supplies an instructional video in the tool kit for MSB 00-5A. It is recommended that the technician views and understands "Instructional Video for Compliance with Teledyne Continental Motors Mandatory Service Bulletin MSB 00-5A" before performing these procedures.

Crankshaft Material Inspection

(a) For those engines and crankshafts listed by SN in TCM MSB 00-5A, dated April 28, 2000, perform the crankshaft material inspection (crankshaft propeller flange core sample) as follows:

NOTE 5: The engine SN's listed in TCM MSB 00-5A contain only the numerical portion of the SN. Engines that have been rebuilt by TCM will have a letter "R" at the end of the six digit numerical portion. Disregard the letter "R."

(1) Perform the crankshaft material inspection (crankshaft propeller flange core sample) in accordance with sections A through J of TCM MSB 00-5A, dated April 28, 2000, as follows:

(i) Use the specialized tools and equipment provided by TCM as listed in section A of TCM MSB 00-5A, dated April 28, 2000.

(ii) You may use each rotobroach bit to obtain up to six core samples. Replace the rotobroach after the sixth core sample, or before if the rotobroach does not cut with the maximum torque applied.

(iii) Maintain a record of each core sample obtained with each rotobroach bit used. Contact TCM to obtain additional rotobroach bits.

(iv) Do not exceed the torque limits specified in TCM MSB 00-5A, dated April 28, 2000, when obtaining the core sample.

(2) After obtaining the core sample, disposition the crankshaft as follows:

(i) If TCM notifies you that the crankshaft is not serviceable, replace the crankshaft with a serviceable crankshaft of the same part number prior to further flight.

(ii) If TCM notifies you that the crankshaft is serviceable, the propeller assembly may be reinstalled.

Installation of Crankshafts

(b) After the effective date of this AD, installation of a crankshaft with a SN that is listed in MSB 00-5A, dated April 28, 2000, is prohibited, unless core samples have been taken and TCM approval for return to service has been received.

(c) Crankshaft material inspections (crankshaft propeller flange core samples) performed in accordance with TCM MSB 00-5, dated April 14, 2000, comply with this AD and must not be repeated.

Alternative Methods of Compliance

(d) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Atlanta Aircraft Certification Office (ACO). Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Atlanta ACO.

NOTE 6: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Atlanta ACO.

(e) Copies of the applicable service information may be obtained from Teledyne Continental Motors, PO Box 90, Mobile, AL 36601; telephone toll free 1-888-200-7565, or on the TCM internet site "www.tcmlink.com." This information may also be examined at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA 01803.

(f) Emergency AD 2000-08-51, issued April 28, 2000, becomes effective upon receipt.

FOR FURTHER INFORMATION CONTACT: Jerry Robinette, Senior Engineer, Propulsion, Atlanta Aircraft Certification Office, FAA, Small Airplane Directorate, One Crown Center, 1895 Phoenix Blvd., Suite 450, Atlanta, GA 30349; telephone (770) 703-6096, fax (770) 703-6097.

Issued in Burlington, Massachusetts on April 28, 2000. David A. Downey, Assistant Manager, Engine and Propeller Directorate, Aircraft Certification Service.