

**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

Airworthiness Directive

93-10-02 Teledyne Continental Motors: Amendment 39-8603. Docket 93-ANE-28.

Applicability: Teledyne Continental Motors (TCM) O-200, O-300, IO/TSIO/LTSIO-360, O/IO/TSIO-470, IO/TSIO/LTSIO/GTSIO-520, and IO/TSIO/TSIOL-550 series reciprocating engines listed by serial number in TCM Mandatory Service Bulletin (MSB) No. 93-12, dated May 12, 1993, or that contain cylinder assemblies purchased from TCM between July 29, 1992, and March 30, 1993; installed on but not limited to: Aeronca Models 15AC and S15AC; American Champion (Bellanca) Models 7ACA and 402; Beagle Model 206S; Beech Models Debonaire, Bonanza, and Baron; Bellanca Models 14-19, 14-19-2, 14-19-3, 14-19-3A, 17-30, 17-31, and 17-31TC; Cessna Models 150, 170, 172, 180, 182, 185, 188, 205, 206, 207, 210, 303, 310, 320, 335, 336, 337, 340, 401, 402, 404, 414, 421, and T41; Aero Commander Models 200, 500, and 685; Champion Models Citabria and Lancer; Maule Models Bee Dee M-4, M-4, M-4C, M-4S, M-4T, M-4-210, M-4-210C, M-4-210S, M-4-210T, and M-5-210C; Mooney Models 231 and 252; Navion series; Piper Models Arrow, Seneca, and PA46-310P; and Taylorcraft Model F-19 aircraft.

Compliance: Required prior to further flight, unless previously accomplished.

To prevent an engine failure due to a missing cylinder valve retainer key, accomplish the following:

(a) For engines that have less than 25 hours time in service (TIS), or unknown TIS, on the effective date of the AD since new, rebuild, or factory overhaul, visually inspect each cylinder to determine if both valve retainer keys are in place on each valve, and if the roto coil, if applicable, is properly positioned, in accordance with TCM MSB No. 93-12, dated May 12, 1993. NOTE: Certain TCM engine models do not incorporate roto coils in the valve assembly.

(1) If a valve retainer key is missing, or if a roto coil, if applicable, is mispositioned, repair or replace the cylinder, as necessary, in accordance with the applicable TCM Overhaul Manual.

(2) If the valve retainer keys are in place, and the roto coil, if applicable, is correctly positioned, return engine to service in accordance with TCM MSB No. 93-12, dated May 12, 1993.

(b) For engines with individually installed new service or chrome plated cylinder assemblies purchased from TCM between July 29, 1992, and March 30, 1993, that have less than 25 hours TIS on the effective date of this AD since installation of any cylinder(s), visually inspect each new service or chrome plated cylinder, and repair or replace the cylinder, as necessary, in accordance with paragraph (a) of this AD.

(c) Uninstalled cylinder assemblies purchased from TCM between July 29, 1992, and

March 30, 1993, must be inspected and repaired, as necessary, in accordance with paragraph (a) of this AD prior to installation on an engine.

(d) For engines that have 25 hours or more TIS on the effective date of this AD, since new, rebuild, or factory overhaul, no inspection is required.

(e) 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. The request should be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Atlanta Aircraft Certification Office. NOTE: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Atlanta Aircraft Certification Office.

(f) The inspections shall be done in accordance with the following service bulletin:

Document No.	Pages	Revision	Date
TCM MSB No. 93-12	1-7	Original	May 12, 1993

Total pages: 7.

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Teledyne Continental Motors, P.O. Box 90, Mobile, AL 36601; telephone (205) 438-3411 ext. 305, fax (205) 438-3411 ext. 179. Copies may be inspected at the FAA, New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(g) This amendment becomes effective August 12, 1993, to all persons except those persons to whom it was made immediately effective by priority letter AD 93-10-02, issued May 17, 1993, which contained the requirements of this amendment.