

Airworthiness Directive

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [60 FR 32581 NO. 121 6/23/95]

Docket No. 95-ANE-18; Amendment 39-9282; AD 95-08-10

Airworthiness Directives; Teledyne Continental Motors (TCM) Model TSIO-360 and LTSIO-360 Engines

PDF Copy (If Available):

▼ Preamble Information

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule, request for comments.

SUMMARY: This document publishes in the Federal Register Airworthiness Directive (AD) 95-08- 10 that was sent previously to all known U.S. owners and operators of Teledyne Continental Motors (TCM) Model TSIO-360 E, EB, F, FB, G, GB, KB, LB, MB, and Model LTSIO-360 E, EB, and KB reciprocating engines by individual letters. This AD requires replacement of the suspect turbocharger check valves prior to further flight, and prohibits special flight permits. This amendment is prompted by three reported engine failures caused by incorrectly assembled turbocharger oil outlet check valves, resulting in an improperly expanded rivet that held the check valve flapper assembly together as one unit. The actions specified by this AD are intended to prevent complete engine failure due to an incorrectly assembled turbocharger oil outlet check valve.

DATES: Effective July 10, 1995, to all persons except those persons to whom it was made

immediately effective by priority letter AD 95-08-10, issued on April 6, 1995, which contained the

requirements of this amendment.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of July 10, 1995.

Comments for inclusion in the Rules Docket must be received on or before August 22, 1995.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New

England Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 95-ANE-18, 12 New England Executive Park, Burlington, MA 01803-5299.

The applicable service information may be obtained from Teledyne Continental Motors, P.O. Box 90, Mobile, Alabama, 36601, telephone (334) 438-3411, fax (334) 432-2922.

This information may be examined 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.

FOR FURTHER INFORMATION CONTACT: Jerry Robinette, Aerospace Engineer, Atlanta Aircraft Certification Office, FAA, Small Airplane Directorate, Campus Building, 1701 Columbia Avenue, Suite 2-160, College Park, GA, 30337-2748; telephone (404) 305-7371, fax (404) 305-7348.

SUPPLEMENTARY INFORMATION:

On April 6, 1995, the Federal Aviation Administration (FAA) issued priority letter airworthiness directive (AD) 95-08-10, applicable to Teledyne Continental Motors (TCM) Model TSIO- 360 E, EB, F, FB, G, GB, KB, LB, MB, and Model LTSIO-360 E, EB, and KB reciprocating engines, which requires removal of suspect turbocharger oil outlet check valves. That action was prompted by three reported cases of check valve failures, two of which resulted in complete loss of engine power. The three reported failures were caused by incorrectly assembled turbocharger oil outlet check valves, resulting in an improperly expanded rivet which held the check valve flapper assembly together as one unit. The improperly expanded rivet allowed the rivet, washer, retainer, and seal components to separate and shift within the check valve unit.

One reported case showed that a part of the flapper assembly blocked the oil flow to the scavenge pump, and resulted in engine failure. Another reported case showed that the scavenge pump was disabled when one part of the flapper assembly shifted through the unit, again resulting in engine failure. These failures occurred early in the life of the check valve, ranging from one hour to 40 hours total time since new.

The incorrectly assembled check valves were manufactured between August 1, 1994, through March 20, 1995. Accordingly, all have date code ink stamps of either A3Q94, A4Q94, or A1Q95, indicating they were manufactured either during the third quarter of 1994, the fourth quarter of 1994, or the first quarter of 1995. Since an incorrectly assembled check valve can not be visually identified by other than by this date code, this AD must consider all check valves with these date codes as suspect, and require their removal prior to further flight. This condition, if not corrected, could result in damage to the oil scavenge pump, internal engine damage and subsequent loss of complete engine power.

The FAA has reviewed and approved the technical contents of Teledyne Continental Motors (TCM) Critical Service Bulletin (CSB) 95-1A, Revision A, dated April 5, 1995, that describes inspection and replacement of suspect oil outlet check valves.

Since the unsafe condition described is likely to exist or develop on other engines of the same type design, the FAA issued priority letter AD 95-08-10 to prevent damage to the oil scavenge pump, internal engine damage and subsequent loss of complete engine power. The AD requires removal prior to further flight, of suspect turbocharger oil outlet check valves. The actions are required to be accomplished in accordance with the service bulletin described previously.

Since it was found that immediate corrective action was required, notice and opportunity for prior public comment thereon were impracticable and contrary to the public interest, and good cause existed to make the AD effective immediately by individual letters issued on April 6, 1995, to all known U.S. owners and operators of Teledyne Continental Motors (TCM) Model TSIO-360 E, EB, F, FB, G, GB, KB, LB, MB, and Model LTSIO-360 E, EB, and KB reciprocating engines. These conditions still exist, and the AD is hereby published in the Federal Register as an amendment to section 39.13 of part 39 of the Federal Aviation Regulations (14 CFR part 39) to make it effective to all persons. Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified under the caption "ADDRESSES." All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 95-ANE-18." The postcard will be date stamped and returned to the commenter.

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption "ADDRESSES." List of Subjects in 14 CFR Part 39
Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.
Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows: PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. App. 1354(a), 1421 and 1423; 49 U.S.C. 106(g); and 14 CFR 11.89. §39.13 - [AMENDED]

2. Section 39.13 is amended by adding the following new airworthiness directive:

▼ Regulatory Information

95-08-10 Teledyne Continental Motors: Amendment 39-9282. Docket 95-ANE-18.

Applicability: Teledyne Continental Motors (TCM) engine Model TSIO-360 E, EB, F, FB, G, GB, KB, LB, MB, and Model LTSIO-360 E, EB, and KB reciprocating engines with turbocharger oil outlet check valve, TCM part number (P/N) 641068, shipped directly or indirectly from the manufacturer on or after August 1, 1994. These check valves are installed on but not limited to the following serial numbered engines:

New engine model TSIO-360-FB, serial number (S/N) 318019;

new engine model TSIO-360-KB, S/N 320223, 320229, 320233, through 320235, 320239, 320242 through 320250, 320254 through 320259, 320261, 320262, 320264, 320266, 320292, 320293;

new engine model LTSIO-360-KB, S/N 319226, 319232, 319235 through 319237, 319241, 319244 through 319246, 319248 through 319253, 319257, 319258, 319260 through 319268, 319270, 319271, 319273, 319297, 319322;

rebuilt engine model TSIO-360-E, S/N 225140-R;

rebuilt engine model TSIO-360-EB, S/N 265937-R, 265938-R, 265942-R through 265944-R, 265946-R through 265968-R, 265970-R through 265973-R, 265975-R, 265977-R through 265982-R;

rebuilt engine model LTSIO-360-E, S/N 225648-R;

rebuilt engine model LTSIO-360-EB, S/N 266471-R, 266480-R, 266482-R 266486-R, 266487-R, 266489-R through 266495-R, 266497-R through 266499-R, 807251-R through 807254-R, 807256-R through 807259-R, 807261-R through 807265-R, 807267-R, 807268-R, 807271-R through 807275-R, 807276-R;

rebuilt engine model TSIO-360-F, S/N 232814-R through 232817-R;

rebuilt engine model TSIO-360- FB, S/N 281183-R, 281187-R, 281189-R, 281190-R, 281193-R through 281197-R, 281199-R, 299501-R through 299523-R, 299525-R through 299528-R, 299532-R;

rebuilt engine model TSIO-360-KB, S/N 268192-R, 268195-R through 268201-R, 268205-R through 268207-R;

rebuilt engine model LTSIO-360-KB, S/N 268428-R, 268430-R, 268431-R, 268433-R, 268434-R, 268436-R, 268437-R, 268440-R through 268445-R;

rebuilt engine model TSIO-360-LB, S/N 247257-R, 247259-R, 247260-R, 247262-R, 247267-R through 247271-R, 247273-R through 247275-R; and

rebuilt engine model TSIO-360-MB, S/N 279245-R through 279247-R, 279249-R, 279250-R.

These engines are installed on but not limited to: Mooney Model M20K, Piper Models PA28-201T, PA28R-201T, PA28RT-201T, PA34-200T and PA34-220T aircraft. NOTE:

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 use the authority provided in paragraph (e) to request approval from the FAA. This approval may address either no action, if the current configuration eliminates the unsafe condition, or different actions necessary to address the unsafe condition described in this AD. Such a request should include an assessment of the effect of the changed configuration on the unsafe condition addressed by this AD. In no case does the presence of any modification, alteration, or repair remove any engine from the

applicability of this AD.

Compliance: Required as indicated, unless accomplished previously.

To prevent engine failure due to incorrectly assembled turbocharger oil outlet check valve, which could result in complete engine failure, accomplish the following:

(a) Prior to further flight, determine if the turbocharger oil outlet check valve has been installed or repaired on or after August 1, 1994. This AD is not applicable to engines that did not have the turbocharger oil outlet check valve installed or repaired on or after August 1, 1994.

(b) Prior to further flight, inspect the turbocharger oil outlet check valve, TCM P/N 641068, in accordance with section B of Teledyne Continental Motors (TCM) Critical Service Bulletin (CSB) 95-1A, Revision A, dated April 5, 1995, and replace any check valve with an ink stamped date code of A3Q94, A4Q94 or A1Q95, or with no readable date code, with a serviceable check valve as defined in paragraph (c) of this AD.

(c) For the purpose of this AD, serviceable turbocharger oil outlet check valve is defined as one with a date stamp code indicating that it was manufactured before July 1, 1994, i.e., A2Q94, or earlier, or that it was manufactured after March 31, 1995, i.e., A2Q95, or later.

(d) Install replacement valve in the turbocharger oil outlet line with the flow arrow on the valve body pointing in the direction of oil flow toward the scavenge pump in accordance with section B of TCM CSB95-1A, Revision A, dated April 5, 1995.

(e) An alternative method of compliance 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) Special flight permits may not be issued.

(g) Copies of the applicable service information may be obtained from Teledyne Continental Motors, P.O. Box 90, Mobile, Alabama, 36601, telephone (334) 438-3411, fax (334) 432-2922.

(h) The turbocharger oil outlet check valve inspections shall be done in accordance with the following service bulletin:

Document No.	Pages	Revision	Date
TCM CSB95-1A	1, 2	A	April 5, 1995
Total pages: 2.			

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, Alabama, 36601, telephone (334) 438-3411, fax (334) 432-2922. 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.

(i) This amendment becomes effective July 10, 1995, to all persons except those persons to whom it was made immediately effective by priority letter AD 95-08-10, issued April 6, 1995, which contained the requirements of this amendment.

▼ Footer Information

▼ **Comments**

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