

Revision E of this Service Bulletin replaces the FAA AMOC letter which corrects a reference to the associated Airworthiness Directive. The updated AMOC letter from the FAA is at the end of this Service Bulletin.

Date: 08/12/2020

Subject: Global Alternative Method of Compliance (AMOC) for AD2014-05-29, Para. (i)(2), "When the cylinder reaches 12 calendar years-since-installation"

Application: The products affected by this Global AMOC are the same as those under AD 2014-05-29 and are as follows:

- (1) Continental Motors, Inc. (CMI) IO-520, TSIO-520, and IO-550 series reciprocating engines with replacement Superior Air Parts, Inc. (SAP) parts manufacturer approval (PMA) investment cast cylinder assemblies, part numbers (P/Ns) SA52000-A1, SA52000-A20P, SA52000-A21P, SA52000-A22P, SA52000-A23P, SA55000-A1, or SA55000-A20P, installed.
- (2) All other engine models approved for the use of CMI 520 and 550 cylinder assemblies such as the CMI 470 series engines when modified by Supplemental Type Certificate (STC), with SAP investment cast cylinder assemblies, P/Ns SA52000-A1, SA52000-A20P, SA52000-A21P, SA52000-A22P, SA52000-A23P, SA55000-A1, or SA55000-A20P, installed.
- (3) All serial numbers for the P/Ns listed in paragraphs (c)(1) and (c)(2) of AD 2014-05-29.

AMOC Applicability: Cylinders that have not reached the hourly time in service but have reached the calendar time in service per CMI SIL 98-9C, Revision C, dated July 17, 2013,

Compliance: Upon reaching 12 calendar years TIS, but less than the published engine model hourly Time in Service, perform the following tests and inspections at 50 hour intervals or annually, whichever comes first. Upon reaching 21 years TIS, the remaining affected cylinders must be replaced.

- 1) Visually inspect each affected cylinder assembly per CMI Service Bulletin No. SB96-12, dated September 10, 1996, Part I, Section A, Paragraph (a) cylinder barrel and (b) cylinder head.
 - a. Comply with CMI Service Bulletin No. SB96-12, Table 1.
 - b. Any abnormality or damage Identified in Table I requires cylinder removed from service.
- 2) Compression Check each cylinder per CMI Service Bulletin No. SB96-12, dated September 10, 1996, Part I, Section B.
 - a. Refer to CMI Service Bulletin SB03-3, dated March 28, 2003, Section B for detailed instruction for the Cylinder Differential Pressure Test.
 - b. Warning: It will be necessary to hold the propeller stationary while pressure is applied to the cylinder. Use extreme caution to prevent injury to personnel or damage to equipment.
- 3) Leak check each affected cylinder assembly per CMI Service Bulletin No. SB96-12, dated September 10, 1996, Part I, Section C.
 - a. Note it is recommended that the aircraft is operated on the ground rather than flying for purposes of this Service Bulletin. After the engine has been brought to operating temperature via ground run and shut down, allow 30 minutes, but less than 90 minutes to elapse before proceeding (this step is necessary to ensure that the cylinders are not so hot that the soap/water solution used is not evaporated away before bubbling can occur).
 - b. Warning: It will be necessary to hold the propeller stationary while pressure is applied to the cylinder. Use extreme caution to prevent injury to personnel or damage to equipment.
- 4) Perform a borescope inspection per CMI Service Bulletin No. SB03-3, dated March 28, 2003, Section C. Comply with all replacement instructions. Any abnormality noted identified in Table 2 requires cylinder removed from service. Any observation of heavy corrosion on a cylinder wall will also require that the cylinder be replaced.

SUPERIOR
AIR PARTS
Service Bulletin Number: B14-01 E

FAA Contact Instructions: You may approve your aircraft for return to service after accomplishing this AMOC only if you record the AMOC in your aircraft maintenance records as your method of compliance with the AD. Annotate the maintenance records as follows:

1. Global AMOC approval from the [XXX] ACO (or Directorate) approval authority to [Global AMOC requester's name], dated [MM-DD-YYYY].
2. Additionally, the Order 8110.103 indicates by using the service document as an AMOC, you (owner/operator) are responsible for notifying your Principal Inspector (PI), or lacking a PI, the manager of the FSDO/CHDO before using it.

If you intend to use Superior Air Parts Service Bulletin No. B14-01 as a Global AMOC for AD2014-05-29, Para. (i)(2), you must notify your FSDO PI, or if you have no PI, your local FSDO manager, prior to doing so. To ensure that the contact is a permanent record, it should include an email or letter. If you or your organization and/or, the aircraft, move to a different FSDO jurisdiction, notification of the new FSDO is required, prior to continuing compliance to this Global AMOC. For your convenience, the following letter format can be used:

Example notification to FAA of use of this Global AMOC

Date

Your organizations name, address and contact information

FAA Flight Standards District Office

FSDO address

Attention PI's name or "Manager"

Subject: Intention to use Superior Service Bulletin No. B14-01 as a Global AMOC for AD2014-05-29, Para. (i)(2).

Dear Sir or Madam:

It is our intention to use Superior Service Bulletin No. B14-01 as an AMOC for AD2014-05-29, paragraph (i)(2). The aircraft to which this AMOC will be applied is/are:

Aircraft make _____

Aircraft Model _____

Aircraft N Number _____

Aircraft S/N _____

Engine Model _____

Engine S/N _____

(Repeat as necessary)

Please contact the undersigned if additional information is required.

Regards,

Your signature

Your name and title

Supplemental Guidance:

1. The AFS Order 8900.1, Volume 3, Chapter 59, Section 1 states: "Regarding the records for an AD, the "method of compliance" means a concise description of the action taken to comply with the requirements of the AD. If the AD or its service instructions permit the use of more than one method of compliance, the record must include a reference to the specific method of compliance used. If the operator uses an AMOC to comply with an AD, the method of compliance means a description of the AMOC and a copy of the FAA approval of the AMOC."
2. The rule 43.9 requires maintenance performed by the AMOC requires an appropriate maintenance record entry made by maintenance personnel.
3. The rule 43.10 Disposition of Life Limited Parts should also be considered to be mentioned as any cylinder removed from service should to be treated as a life limited article by maintenance personnel.
4. The owner/operator also has requirements under 91.417 for keeping records for the current status of life limited parts (if these are considered to be) and the current status of applicable Airworthiness Directives.



U.S. Department
of Transportation
**Federal Aviation
Administration**

Aircraft Certification Service
Compliance & Airworthiness Division

Fort Worth ACO Branch
10101 Hillwood Parkway
Fort Worth, TX 76177

In reply refer to: 7F0-20-4438

Mr. Christopher Cooper
Superior Air Parts, Inc.
621 South Royal Lane, Suite 100
Coppell, TX 75019

Dear Mr. Cooper:

Global Alternative Method of Compliance (AMOC) to
Airworthiness Directive (AD) 2014-05-29, Docket Number FAA-2007-0051

The Federal Aviation Administration (FAA) received your letter, dated February 28, 2020, requesting FAA approval of a global AMOC to AD 2014-05-29. AD 2014-05-29 requires that IO 520 series engines with certain Superior Air Parts, Inc. (SAP) investment cast cylinder assemblies installed, complete initial and repetitive inspections and compression tests to detect cracks in those cylinders.

You are proposing an AMOC to paragraph (i)(2) of AD 2014-05-29, which requires replacement of the cylinder assembly upon reaching 12 calendar years since installation. Subsequent to issuance of AD 2014-05-29, the FAA approved a global AMOC on December 13, 2013, to increase this compliance time to 19-years Time-In-Service (TIS). You propose to extend the calendar limit to 2-years TIS by following the same tests and inspections every 50 hours TIS or annually, whichever comes first, that were identified in the previous AMOC. You contend that continued compression checks, visual inspections, leak checks, and borescope inspections will continue to adequately mitigate the unsafe condition identified in the AD. You also mention that there have been no incidents or accidents caused by cylinder head separation since issuance of the AD and approval of the subsequent AMOC..

The Fort Worth ACO Branch approves your AMOC proposal to paragraph (i)(2) of AD 2014-05-29 to extend the calendar limit by an additional two years, to 21-years TIS, as requested.

In accordance with FAA Order 8110.103B, the following conditions apply:

- This AMOC is transferable with the aircraft to another operator who operates the aircraft under U.S. registry.
- Before using this AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local Flight Standards District Office/Certificate Holding District Office.

- All provisions of AD 2014-05-29 that are not specifically referenced above remain fully applicable and must be complied with accordingly.

If you have any questions or need additional information, please contact Justin Carter by telephone at (817)222-5146 or by email at Justin.Carter@faa.gov.

Sincerely,

JAMES A
GRIGG

Digitally signed by
JAMES A. GRIGG
Date: 2020.04.07
12:43:42 -05'00'

Jim Grigg

Manager, Fort Worth ACO Branch
Compliance & Airworthiness Division
Aircraft Certification Service

cc: Jonas Perez, AIR-7F2 COS Focal
Bill Ross, Superior Air Parts