



Emergency Airworthiness Directive

AD No.: 2023-0114-E

Issued: 31 May 2023

Note: This Emergency Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 of that Regulation.

This AD is issued in accordance with Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 Annex I Part M.A.301, or Annex Vb Part ML.A.301, as applicable, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [Regulation (EU) 1321/2014 Annex I Part M.A.303, or Annex Vb Part ML.A.303, as applicable] or agreed with the Authority of the State of Registry [Regulation (EU) 2018/1139, Article 71 exemption].

Design Change Approval Holder's Name: SMA AERO ENGINES GmbH
Modification(s): SMA SR305-230E engine installation

Effective Date: 02 June 2023

EASA STC Number(s): Supplemental Type Certificate (STC) 10013975, formerly EASA.A.S.00774

Foreign AD: Not applicable

Supersedure: None

ATA 71, 75 – Powerplant / Air – Turbocharger Compressor Housing – Inspection / Modification

Manufacturer(s):

SMA AERO ENGINES GmbH, formerly Société de Motorisations Aéronautiques (SMA), SAFRAN Aircraft Engines

Applicability:

Textron Aviation Inc. (formerly Cessna) Model 182M, 182N, 182P, 182Q, 182R, all serial numbers; and (Reims-manufactured) F182P and F182Q aeroplanes, all serial numbers; if modified in accordance with EASA STC 10013975, or (formerly) STC EASA.A.S.00774.

Definitions:

For the purpose of this AD, the following definitions apply:

Affected turbocharger: Turbochargers, having Part Number (P/N) 1500003322-1 or P/N 1500003322-2.

The inspection SB: SMA Aero Engines Service Bulletin (SB) SB-C182-71-009 Revision 3.

The modification SB: SAFRAN Aircraft Engines SB-C182-75-006.



Groups: Group 1 aeroplanes are those having an affected turbocharger, a BEHR intercooler P/N SF01170195-0 and turbocharger-to-intercooler tubing P/N 1500006334-0 installed.

Group 2 aeroplanes are those having an affected turbocharger, a BEHR intercooler P/N SF01170195-0 and turbocharger-to-intercooler tubing P/N 1500013543-0 installed; and those having an affected turbocharger, an AeroClassic intercooler P/N 8002475 and turbocharger-to-intercooler tubing P/N 1500008721-0 installed.

Group 3 aeroplanes are those which are not Group 1 or Group 2.

Reason:

Occurrences were reported of finding cracks on the turbocharger compressor housing.

This condition, if not detected and corrected, could lead to significant power loss and a consequent forced landing, possibly resulting in damage to the aeroplane and injury to occupants.

To address this potential unsafe condition, SMA Aero Engines GmbH issued the inspection SB, as defined in this AD, providing inspection instructions. Investigations are still on-going to identify the root cause of the cracks.

For the reason described above, this AD requires repetitive inspections of the affected turbocharger's compressor housing and, depending on findings, accomplishment of applicable corrective action(s). For certain aeroplanes, this AD also provides an optional terminating action modification.

Required Action(s) and Compliance Time(s):

Required as indicated, unless accomplished previously:

Inspection(s):

- (1) For Group 1 and Group 2 aeroplanes: Before next flight after the effective date of this AD, inspect the affected turbocharger's compressor housing in accordance with the instructions of section 1.E, item (1), of the inspection SB.
- (2) For Group 1 and Group 2 aeroplanes: Within 50 flight hours (FH) after the effective date of this AD, inspect the affected turbocharger's compressor housing in accordance with the instructions of section 1.E, item (2), of the inspection SB.
- (3) For Group 1 aeroplanes: Within 50 FH after the effective date of this AD, and, thereafter, at intervals not to exceed 50 FH, inspect the affected turbocharger's compressor housing in accordance with the instructions of section 1.E, item (4), of the inspection SB.
- (4) For Group 2 aeroplanes: Within 50 FH after the inspection as required by paragraph (2) of this AD, and, thereafter, at intervals not to exceed 100 FH, inspect the affected turbocharger's compressor housing in accordance with the instructions of section 1.E, item (4), of the inspection SB.

Corrective Action(s):

- (5) If, during the inspection as required by paragraph (2) of this AD, it is found that the intersection of turbo compressor housing and outlet nozzle is not deburred, before next flight,



deburr the intersection of turbo compressor housing and outlet nozzle in accordance with the instructions of section 1.E, item (3), of the inspection SB.

- (6) If, during any inspection as required by paragraph (1), (2), (3) or (4) of this AD, as applicable, cracks are detected, before next flight, contact SMA for approved corrective action instructions and accomplish those instructions accordingly.

Terminating Action:

- (7) Accomplishment on an aeroplane of any corrective action as required by paragraph (5) or (6) of this AD, as applicable, does not constitute terminating action for the repetitive inspections as required by paragraph (3) or (4) of this AD, as applicable, for that aeroplane, unless otherwise stated in those instructions.
- (8) For Group 1 aeroplanes: Modification of an aeroplane in accordance with the instructions of SAFRAN Aircraft Engines SB-C182-75-005 or the modification SB constitutes terminating action for the repetitive inspections as required by paragraph (3) of this AD for that aeroplane. After this modification, the aeroplane is considered to be a Group 2 aeroplane.

Parts Installation:

- (9) For Group 1 and Group 2: It is allowed to install a turbocharger P/N 1500003322-1 or P/N 1500003322-2, or a turbocharger-to-intercooler tubing P/N 1500013543-0 or P/N 1500008721-0, provided that the inspection as required by paragraph (2) of this AD and the deburring as required by paragraph (5), as applicable, is accomplished.
- (10) Do not install on any aeroplane a turbocharger-to-intercooler tubing P/N 1500006334-0, as required by paragraph (10.1) or (10.2) of this AD, as applicable.
- (10.1) For Group 1 aeroplanes: After modification of the aeroplane as specified in paragraph (8) of this AD.
- (10.2) For Group 2 and Group 3 aeroplanes: From the effective date of this AD.

Ref. Publications:

SMA Aero Engines GmbH SB-C182-71-009 Revision 3 dated 02 March 2023.

SAFRAN Aircraft Engines SB-C182-75-005 original issue dated 30 June 2019.

SAFRAN Aircraft Engines SB-C182-75-006 original issue dated 30 April 2023.

The use of later approved revisions of the above-mentioned documents is acceptable for compliance with the requirements of this AD.

Remarks:

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.



2. The results of the safety assessment have indicated the need for immediate publication and notification, without the full consultation process.
3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.
4. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the [EU aviation safety reporting system](#). This may include reporting on the same or similar components, other than those covered by the design to which this AD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.
5. For any question concerning the technical content of the requirements in this AD, please contact: SMA Aero Engines GmbH, Am Flugplatz, 63329 Egelsbach, Germany; Telephone: +49 (0) 6103 4002 710; E-Mail: design21J@roeder.aero.

