Airworthiness Directive

AD No.: 2019-0241R1

Issued: 29 November 2021

Note: This 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, 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 agreed with the Authority of the State of Registry [Regulation (EU) 2018/1139, Article 71 exemption].

Design Approval Holder's Name:

POWERJET S.A.

Type/Model designation(s):

SaM146 engines

Effective Date:	Revision 1: 06 December 2021 Original issue: 10 October 2019
TCDS Number(s):	EASA.E.034
Foreign AD:	Not applicable
Revision:	This AD revises EASA AD 2019-0241 dated 26 September 2019.

ATA 72 – Engine – High Pressure Compressor and High Pressure Turbine Rotating Parts – Life Limit Reduction / Replacement

Manufacturer(s):

SAFRAN Aircraft Engines, formerly SNECMA; UEC Saturn, formerly OAO NPO Saturn

Applicability:

SaM146-1S17, SaM146-1S17C, SaM146-1S18 and SaM146-1S18C engines, all serial numbers (s/n).

These engines are known to be installed on, but not limited to, Sukhoi RRJ-95B aeroplanes.

Definitions:

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

The S/B: Powerjet S.A. SaM146-1S Service Bulletin (S/B) 72-0227 Revision 3.

Affected part: High pressure compressor (HPC) Stage 1 blade integrated discs (blisks), HPC Stage 2 blisks, high pressure turbine (HPT) discs, HPT front rotating air seals and HPT rear shafts having a Part Number (P/N) and a s/n as listed in the S/B, as defined in this AD.

Serviceable part: HPC Stage 1 blisks, HPC Stage 2 blisks, HPT discs, HPT front rotating air seals and HPT rear shafts, eligible for installation, which are not an affected part.

Reason:

The airworthiness limitations for the SaM146 engines, which are approved by EASA, are currently defined and published in the Engine Shop Manual, chapter 05. Recently, a batch of parts was identified which cannot be operated up to the published life limit.

This condition, if not corrected, could lead to engine failure and consequent release of high energy debris, possibly resulting in damage to, and reduced control of, the aeroplane.

To address this potential unsafe condition, Powerjet published S/B 72-0227 original issue (later revised), providing the list of affected parts and their associated reduced life limit. Consequently, EASA issued AD 2019-0241 to require replacement of each affected part with a serviceable part. That AD also specified the conditions for installation of an affected part.

Since that AD was issued, EASA has approved extended life limits for both affected and non-affected parts. In the context of this activity, an additional affected part has been identified and its specific/reduced life limit has been approved. The specific life limit for that part is lower than the newly approved life limit of non-affected parts. All currently approved life limits are published in the S/B, as defined in this AD.

For the reasons described above, this AD is revised to add the additional affected part and to require replacement of each affected part within its applicable life limit, as defined in the S/B. This AD also retains the conditions for installation of an affected part.

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

Required as indicated, unless accomplished previously:

Replacement:

(1) Before exceeding the applicable life limit, as specified in the S/B, replace each affected part with a serviceable part. This can be accomplished in accordance with the instructions of the applicable Engine Shop Manual.

Part(s) Installation:

(2) From the effective date of this AD, it is allowed to install an affected part on any engine, provided it has not exceeded the applicable life limit, as specified in the S/B, and that, following installation, it is replaced as required by paragraph (1) of this AD.

Ref. Publications:

Powerjet S.A. SaM146-1S S/B No. 72-0227 original issue dated 02 August 2019, or Revision 1 dated 27 September 2019, or Revision 2 dated 05 May 2021, or Revision 3 dated 12 October 2021.

The use of later approved revisions of the above-mentioned document 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 original issue of this AD was posted on 26 August 2019 as PAD 19-160 for consultation until 23 September 2019. No comments were received during the consultation period.

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: PowerJet Customer Support Centre, Telephone: +33 1 64 14 81 46, Fax: +33 1 64 14 80 89, E-mail: powerjet.csc@safrangroup.com.