SERVICE LETTER

SUPPORT AND SERVICE DIVISION
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JFE/HL/CL

Service Letter No. 3066/21/ARS2

Subject: ARRIUS 2 B1 – B1A – B2 – G1 – K1 – K2 – F Borescope inspection of the rear part of the High Pressure (HP) turbine.

Dear Sir or Madam,

1) Event

Safran Helicopter Engines would like to inform you of an event of “HP turbine blade rupture” that happened on an Arrius 2F engine, while the helicopter was hovering 3 m above ground. This event resulted in a sudden loss of power and a hard landing without any further incident.

2) Analysis

Upon disassembly of the engine after the event, Safran Helicopter Engines observed the rupture of an HP turbine blade on the gas generator. The investigation showed that this rupture was the consequence of a progressive displacement of this blade forwards.

This phenomenon is a “slow” movement. Its origin remains undetermined, but the presence of laterite inside the engine may be considered as a contributing factor.

An excessive displacement of an HP turbine blade could lead to the seizing of the gas generator at start-up or even a rupture of this HP turbine blade in flight. The rupture of an HP turbine blade could result in an uncommanded in-flight engine shut-down or a sudden and significant loss of power, as well as the release of low energy debris.

3) Recommendations

Safran Helicopter Engines has already noticed this phenomenon on Arrius 2 B1, B1A, B2, F, K1, K2 variants and since 2011 has introduced a periodic borescope inspection of the rear area of the HP turbine as specified in the maintenance task 71-02-30-280-804 of the Maintenance Manuals of the engine variants subject to this Service Letter.

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Accomplishing this inspection in compliance with the frequencies specified in the Maintenance Manual Chapter 5.20 allows you to detect such movements of HP turbine blade(s) – if any.

Safran Helicopter Engines recommends that operators be particularly vigilant when applying the task 71-02-30-280-804 “Borescope inspection of the rear area of the HP turbine”:

- All the HP turbine blades must be inspected
- The criteria of relative axial positioning of the blades must be strictly applied
- Any displacement of HP turbine blade beyond the defined criterion must lead to the removal of the gas generator module.

Please contact us if you require further information or assistance.
Yours faithfully,

Technical Support Department

J.F. ESCURET