

SERVICE LETTER

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JFE/GP/CL

Service Letter No. 3024/19/ARL2 - 2nd issue
This Service Letter supersedes the issue dated 18 June 2019.

Subject: ARRIEL 2 All variants
Reduce the occurrences of centrifugal compressor rubbing.

Erratum: Read: Service Letter No. 3024/19/ARL2 - 2nd issue
Instead of: Service Letter No. 3024/19/ARL2

Dear Sir or Madam,

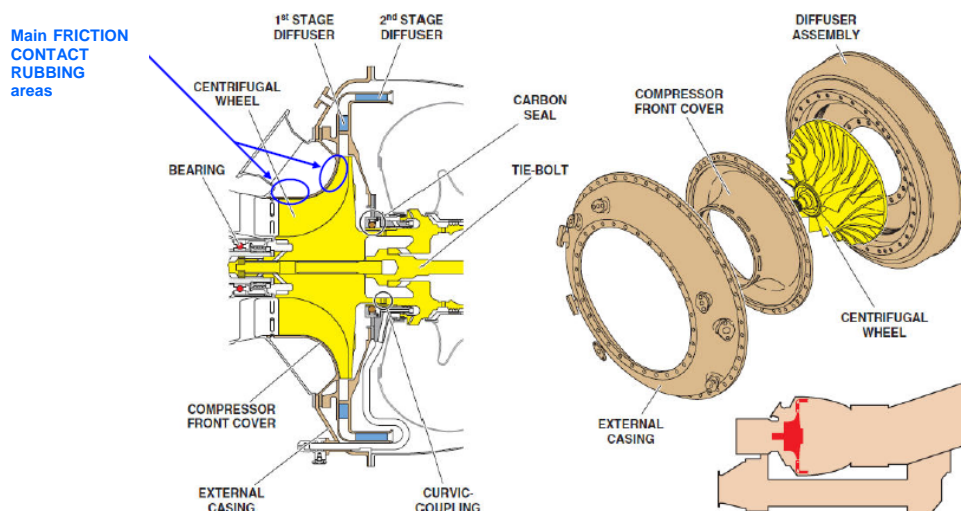
Safran Helicopter Engines was informed of several cases of centrifugal compressor rubbing, particularly ground incidents linked to compressor seizing that mainly prevents the engine from starting.

There were no reported events of uncommanded in-flight engine shutdown, commanded in-flight engine shutdown or sudden power loss.

The occurrence of a rubbing phenomenon between the centrifugal compressor and its cover may lead to in-flight effects such as non-sustained surges, drops or N1 variations. Ground effects such as friction noises, seizing or non-free rotations of the compressor may also occur.

Rubbing may be detected by abnormal noises when the free rotation of the gas generator rotating assembly is being inspected.

Damaged covers and centrifugal impellers may also cause high repair costs related to exceeded dimensional criteria.



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Safran Helicopter Engines performed instrumented engine tests that showed the need to observe a stabilization time of approximately 30 seconds after engine start-up and before engine shutdown in order to avoid centrifugal compressor rubbing caused by fast thermal transient conditions.

Thus, to prevent centrifugal compressor rubbing, Safran Helicopter Engines recommends:

- **After engine start-up:** Respect a minimum stabilization time of 30s from the stabilized N1 rating **in FLIGHT position**, with full low collective pitch before pulling collective power.
- **Before engine shutdown:** Respect a minimum stabilization time of 30s from the stabilized N1 rating **in IDLE position**. Transient ratings from FLIGHT position to IDLE position should not be counted as part of this stabilization time.

These recommendations, which are complementary to the Flight Manual procedures, have been shared and approved by the Aircraft Manufacturers concerned.

For your information, the Health Monitoring Premium Service ([link to EngineLife Customer Portal](#)), enables you to consult these stabilization times.

Please contact us for any further information or assistance.

Yours sincerely,

Technical Support Department



J.F. ESCURET