

Continuing Airworthiness Notice 70-001



Safran (formerly Turbomeca) Arriel Engines – Counting and Recording Engine Cycles

10 November 2022

Issued by the Civil Aviation Authority of New Zealand in the interests of aviation safety. A Continuing Airworthiness Notice (CAN) is intended to alert, educate, and make recommendations to the aviation community. A CAN contains information and guidance about an airworthiness concern that does not meet the criteria for an Airworthiness Directive (AD). The inspections and practices described in this CAN must still be carried out in accordance with the applicable NZCAR Parts 21, 43 and 91.

CAN numbering is by ATA Chapter followed by a sequential number for the next CAN in that ATA Chapter.

Applicability:

AS350 series helicopters fitted with a Safran (formerly Turbomeca) Arriel engine, which does not have an automatic cycle counting system.

Purpose:

This Continuing Airworthiness Notice (CAN) is issued to draw attention to a safety concern that was recently reported to the CAA. An Arriel 1D1 engine installed on an AS350 aircraft is understood to have been in service with life limited parts that had exceeded the manufacturers Airworthiness Limitations (AWL). A contributing factor appears to be the complexities involved with the manufacturer's requirements regarding the recording and calculation of engine cycles.

Background:

Components that are life limited in accordance with manufacturer AWL must be removed from service prior to reaching their specific operating limitation as mandated by Civil Aviation Rules. Failure to comply with Airworthiness Limitations poses a flight safety risk. Non-compliance with an engine AWL could result in loss of engine power, or an uncontained engine failure.

Recommendation:

Operators are responsible to ensure that their aircraft is maintained in an airworthy condition, which includes compliance with relevant Airworthiness Limitations. The Arriel engine Airworthiness Limitations can be found in the relevant Safran engine maintenance manual.

Operators of Arriel engines should familiarise themselves with the requirements for monitoring engine operating cycles, including any specific Instructions for Continued Airworthiness (ICA) requirements.

For helicopters that are not fitted with an automatic cycle counting system, operators should pay particular attention to the requirements to manually count, calculate, and record engine cycles. This information must be captured by the pilot during every flight.

Information about engine operation cycles and the methodology for calculating engine cycles are detailed in the relevant Arriel engine maintenance manual. If operators have any concerns about the methodology for capturing and calculating engine cycles, they should consult their maintenance provider, or the engine manufacturer.

Reference:

Safran General Service Letter (GSL) 2283/04, Issue 7, dated 31 May 2022, or later revision - All Engines Cycle Counting. This GSL is available on the Safran Engines website at: [EngineLife Customer Portal \(safran-helicopter-engines.com\)](https://www.safran-helicopter-engines.com)