



MANDATORY PERMIT DIRECTIVE

Number: 2020-003

Issue date: 21 July 2020



In accordance with Article 41(1) of The Air Navigation Order 2016, as amended, the following action required by this Mandatory Permit Directive (MPD) is mandatory for applicable aircraft registered in the United Kingdom operating on a UK CAA Permit to Fly.

Type Approval Holder's Name:	Type/Model Designation(s):
Rolls-Royce	Rolls-Royce Derwent Engines (All marks)
Supersedure:	none
Title:	Engine Calendar Life Limits
Manufacturer:	Rolls-Royce
Applicability:	Rolls-Royce Derwent Engines (All marks)
Reason:	Following a review of accidents, incidents, published data and physical inspections of gas turbine engines installed in historic ex-military jets it has been established that aging effects identified in Rolls-Royce Avon engines are not limited to this type. Additionally, the original Design Approval Holders did not envisage extended low utilisation operation so previously defined calendar life limits may not be valid. This MPD requires operators of Derwent engines to review existing overhaul and inspection requirements and establish a basis for continued service. Note: The following applies to Derwent engines installed in Gloster Meteor. In military service the Derwent engine overhaul life was limited by RR at 900 hours subject to a 'Hot End Inspection' at 450 hours. No calendar life was stated. In subsequent civil service, Rolls-Royce published a 'Life Management Plan for Derwent engines [DNS 100032] and critical component inspection requirements and acceptance standards [E/Hist/50001]. The content of these documents was published as QinetiQ SI/1001. This established a requirement for critical parts inspection every 15 years or 225 hrs. The requirement for critical parts inspection every 225 hrs cannot be extended.
Effective Date:	04 August 2020

Compliance/ Action:	1) Within 1 month from the effective date of this MPD, determine from engine/aircraft records: a) the date of the last Engine Overhaul; b) the uninstalled history of the engine since last Engine Overhaul; c) the installed history of the aircraft since last Engine Overhaul; Note: Engine Overhaul here means overhaul in accordance with the Manufacturers Requirements (Ref. 1). 2) If the records show that the engine was overhauled less than 15 years ago or inspected in accordance with QinetiQ SI/1001 and; a) the uninstalled history since overhaul shows that the engine was stored immediately after overhaul in accordance with the manufacturers long-term storage requirements before recommissioning and; b) the installed history of the engine since last Engine Overhaul shows that the engine has been maintained in accordance with the Manufacturers Requirements (Ref 2.) the requirements of this MPD have been met and paragraphs 4 to 6 of the MPD are not applicable until the engine reaches 15 years since overhaul. 3) If the records show that the engine was overhauled more than 15 years ago or inspected in accordance with QinetiQ SI/1001 and; a) the uninstalled history since overhaul shows that the engine was stored immediately after overhaul in accordance with the manufacturers long-term storage requirements before recommissioning and; b) the installed history of the engine since last Engine Overhaul shows that the engine has been maintained in accordance with the Manufacturers Requirements (Ref 2.) and; c) the calendar time in 3.b) has not reached 15 years since recommissioning; the requirements of this MPD have been met and paragraphs 4 to 6 of the MPD are not applicable until the engine reaches 15 years since recommissioning. Note: Recommissioning here means removing the engine from a controlled storage/maintenance regime and installing in an airframe from which time the maintenance requirements are in accordance with the manufacturers Maintenance Manual (Ref. 2). If the engine is subsequently uninstalled, stored and reinstalled; all time periods shall be included when calculating the time since overhaul. 4) Engines that cannot be shown to comply with 2 or 3 must be removed from service. 5) From the effective date of this MPD do not install any engine that cannot be shown to comply with 2 or 3.
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