



EMERGENCY MANDATORY PERMIT DIRECTIVE



Number: 2018-005-E

Issue date: 7 June 2018

In accordance with 41(1) of 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: Rolls-Royce	Type/Model Designation(s): Rolls-Royce Avon Mk 20 and 100 series Engines
Title:	Front Compressor Casing, Inspection
Manufacturer:	Rolls-Royce
Applicability:	Rolls-Royce Avon Mk 20 and 100 series Engines, All serial numbers. All applicable Front Compressor Casing Part Numbers (e.g. BR84783A - See Remark 1)
Reason:	<p>Inspection of Rolls-Royce Avon MK122 engines has revealed extensive cracking around the front compressor casing blade retaining lands and grooves.</p> <p>Five engines have been inspected to date and all exhibit the cracking to various degrees. The engines have each accumulated less than 400 hrs Time Since Overhaul (TSO).</p> <p>The cause of the cracking is not known at this time.</p> <p>The cracking and subsequent distortion of the casing causes the stator blades to be incorrectly positioned/loaded and could lead to catastrophic engine failure resulting in the loss of the aircraft.</p>
Effective Date:	7 June 2018

<p>Compliance/Action:</p>	<p>Before further flight:</p> <ol style="list-style-type: none"> 1. Remove the engine from the airframe in accordance with published aircraft manual instructions. 2. Carry out a partial strip of the engine in accordance with the manual requirements to permit the removal and inspection of the upper front compressor casing. 3. Carry out a visual inspection of the stator blade lands and grooves in accordance with the requirements of Rolls-Royce maintenance manual Ref TSD 317 and/or Engine Overhaul Manual Ref: O-Av100. 4. Remove from service all components which exhibit any cracking. 5. Reassemble the engine incorporating serviceable components in accordance with manual requirements. 6. Re-install engine and carry out a pass-off test in accordance with the applicable airframe manufacturer's published data. 7. Repeat paragraphs 1 to 6 (front compressor casing inspection) at intervals not to exceed 25 flight hours or 2 years whichever occurs first. 8. Compliance with this MPD shall be recorded in the aircraft/engine logbooks and future planned inspections are to be included in the aircraft maintenance programme. 9. From the effective date of this MPD, do not install any engine, unless it is determined, prior to installation, that the requirements of paragraphs 1 to 6 of this MPD have been carried out. <p>Notes:</p> <ol style="list-style-type: none"> 1. The inspections specified may only be carried out by a BCAR A8-23 approved organisation with a B1 Turbine Engine rating and the capability to carry out Rolls-Royce Avon series engine partial strip or overhaul under their terms of approval. 2. The above tasks do not constitute a full overhaul of the compressor or the engine and the Time Since Overhaul must not be re-set on completion this maintenance action. 3. Throughout this MPD, "manual requirements" means the applicable servicing, repair and overhaul manuals for the variant of engine in work.
<p>ENSURE COMPLIANCE WITH THIS MPD IS RECORDED IN THE AIRCRAFT LOGBOOK</p>	
<p>Reference Publications:</p>	<p>Refer to the manufacturers data for the relevant engine mark</p>

Remarks:	<ol style="list-style-type: none">1. This MPD covers a large number of applicable part numbers. Due to the urgency of the requirement, a comprehensive list has yet to be established.2. This MPD was not posted for consultation because of the urgency of the requirement.3. Enquiries regarding this Mandatory Permit Directive should be referred to: GA Unit, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex RH6 0YR. <p>Tel: +44 (0)1293 573988 E-mail: ga@caa.co.uk</p>
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