



Civil Aviation Authority

MANDATORY PERMIT DIRECTIVE

Number: 2018-003

Issue date: 13 April 2018



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

Type Approval Holder's Name:

N/A

Type/Model Designation(s):

Ex-military aircraft equipped with Aircraft Assisted Escape Systems

Title:

Pyrotechnic Component Life Limitations

Manufacturer:

Various

Applicability:

Ex-military aircraft equipped with Aircraft Assisted Escape Systems

Reason:

Historically, the CAA has accepted that for Aircraft Assisted Escape Systems (AAES) in ex-military aircraft, pyrotechnic component lives are recommended by the responsible design organisation or manufacturer rather than being required fixed lives. Accordingly, the CAA has accepted that aircraft maintenance organisations can vary these recommended lives, subject to certain conditions.

As a result of the AAIB's investigation into the accident to Hawker Hunter G-BXFI on 22 August 2015 and the CAA's review of ejection seats in ex-military aircraft (the first phase of which concluded in December 2016), the CAA has identified the potential for an unsafe condition to arise if the recommended lives of pyrotechnic components in AAES are exceeded without appropriate mitigating measures. The unsafe condition would be that the pyrotechnic component does not operate correctly when initiated.

This MPD mandates the manufacturers recommended lives of AAES pyrotechnic components for which appropriate mitigating measures are not in place.

This MPD also defines the conditions under which AAES pyrotechnic component life extensions will be accepted by the CAA.

The option of a temporary limited extension to the total life of pyrotechnic components is introduced because CAA Safety Directive SD-2015/003 (Hawker Hunter grounding order) complicated the procurement of some new pyrotechnic components and that the lead time of replacement, new manufacture, pyrotechnic components is more than 12 months.

A glossary of terms is provided at Appendix A and provides definitions of the underlined text.

Effective Date:

16 April 2018

Compliance/ Action:	Note: This MPD consists of two parts: • Part 1 includes the required compliance actions for all applicable aircraft. • Part 2 defines the procedure to allow some pyrotechnic components to continue in service beyond the total life for a period of up to 24 months from the effective date of this MPD. The CAA considers this an interim measure until replacement pyrotechnic components become available. Part 1: Compliance: Required within 60 days of the effective date of this MPD 1. For all applicable aircraft, determine from the aircraft records and/or physical inspection of the items, the status of the lives of each pyrotechnic component in the AAES on the aircraft. Compare the actual life status of each pyrotechnic component with its <u>installed life</u> and <u>total life</u>. 2. Remove from service, before further flight, any pyrotechnic component which has exceeded the installed life or total life. 3. Remove from service, before further flight, any pyrotechnic component for which the life status cannot be determined from the aircraft records or a physical inspection. 4. From the effective date of this MPD, do not install any pyrotechnic component which has exceeded the installed life or total life on any aircraft. 5. Pyrotechnic components, other than rocket motors, that have exceeded either or both of the installed life or total life can potentially be returned to service by completing an inspection procedure in accordance with Part 2 of this MPD. 6. Rocket Motors that have exceeded the installed life or total life cannot be returned to service. Note: 1. Any pyrotechnic component life extensions which might previously have been approved or accepted by the CAA by means of an AMOC, by inclusion in a Company Exposition or Aircraft Maintenance Programme prior to the effective date of this MPD are now invalid and are superseded by this MPD. 2. Any installed life is deemed to have started from the date of first installation and runs continuously from that date, irrespective of whether it remains installed in the aircraft.
	Part 2: Limited Life Extension of pyrotechnic components which have exceeded the installed life or total life